



A University of Sussex PhD thesis

Available online via Sussex Research Online:

<http://sro.sussex.ac.uk/>

This thesis is protected by copyright which belongs to the author.

This thesis cannot be reproduced or quoted extensively from without first obtaining permission in writing from the Author

The content must not be changed in any way or sold commercially in any format or medium without the formal permission of the Author

When referring to this work, full bibliographic details including the author, title, awarding institution and date of the thesis must be given

Please visit Sussex Research Online for more information and further details

The social consequences of organized crime groups

Pierfrancesco Rolla*

Submitted in partial fulfilment of the requirements for the degree of

PhD in Development Studies

University of Sussex - Institute of Development Studies

PhD supervisors: Gauthier Marchais and Patricia Justino

August 16, 2022

*Corresponding author: Institute of Development Studies, Email: P.Rolla@ids.ac.uk

Declaration

I hereby declare that this thesis has not been and will not be, submitted in whole or in part to another University for the award of any other degree.

Acknowledgements

My research journey started in 2017. At the time I was doing an internship in New Delhi when I received an email from Dr. Julie Litchfield and Dr. Farai Jena asking me if I wanted to join an exciting project on the role of remittances on food security in Zimbabwe. I did not hesitate a day and I took the first flight. Working with Julie and Farai has shown me what it means to do research at an academic level, with integrity, curiosity and kindness. For this, I owe them a great debt.

As I moved to Brighton, I got to meet a bunch of Italian PhDs (Daniele, Nicolò, Bernardo, Andrea and Filippo). One thing impressed me - they were all absolutely brilliant. As I wanted to have just about one-hundredth of their brilliance, I started looking for PhD opportunities.

One early morning in 2018, Julie forwarded me an email for a research job from Prof. Patricia Justino. I sent her the CV and three hours later I was doing an interview which would have changed the next four years of my life. I started working in a research project with Patricia and Marinella Leone. They are the most hard-working and competent researchers I know and they have taught me all the little secrets and the nitty-gritty details of the job. I would have not completed a PhD thesis if I had not worked for four years with them in an environment in which I was constantly learning.

In 2019, I started my doctoral degree in IDS with a group of PhDs, mostly qualitative researchers, that pushed me to use methods and read papers I did not know even existed. I have been supervised by Patricia Justino and Gauthier Marchais and I could have not been luckier. They have helped me every step of the way, they have always been available, providing professional, but also personal advice. If these three years of PhD seemed like they flew by so fast, it is only because of their help. They have also taught me one important lesson - in academia most of the people you know tend to be smart, but you can distinguish yourself by also being kind. This is a lesson I will carry with me forever.

My PhD was also made possible by ISTAT which hosted me to use their confidential data. The data used is part of the survey Aspetti della Vita Quotidiana and the analysis was conducted through the Laboratorio per l'Analisi dei Dati ELEMENTARI following the normative on data privacy and protection of personal data. The results I will present are my own exclusive responsibility and do not constitute official statistics. I also need to thank Giorgio Nuzzo for sharing his historical data on social capital, and to the interviewees I had the privilege of interviewing.

In the past three years I have also been surrounded by people that have been crucial in my research journey even if they had nothing to do with my PhD. A gigantic thank you goes to Pasquale Emanuele de Girolamo. The thesis you will read in the next pages would

look very different without is daily feedback - we had not missed a lunch without speaking about our research. I also need to thank Margherita Bove; having worked in similar teams and projects, we immediately understood each other and she managed to make my research journey a bit lighter (it is difficult to find a friend who makes me laugh louder). A special mention needs to be given to Juan Manuel del Pozo Segura. In these three years he acted as a friend and as my econometric oracle of Delphi - it is rare to find people like him. As I moved to Genoa for my fieldwork, I also need to thank my historic company of friends who has made my time there an absolute joy. Finally, as I started my PhD, I have met Federica. She has been my constant reminder that, for as much as work can be challenging, there are many more important and wonderful things in life, and among these, she is what matters the most.

I dedicate this PhD to Papà, Daniele and Elisa, but especially, to my mother Rita. Her mother (my grandmother) barely finished primary school. However, my grandma had one small obsession that she kept repeating her, "The most important thing in life is to study". My mother closely followed this motto and was the first in her family to get a University degree. She has spent her life, time and energies to give me the possibility to study; as I am completing a PhD degree, she is the person to whom, first and foremost, I will dedicate this title to.

Contents

Summary	1
Introduction	4
1 Empirical chapter 1: history and direction of causality	15
1.1 Origins of organized crime groups: 1800s	16
1.1.1 Cosa Nostra	17
1.1.2 'Ndrangheta	20
1.1.3 Camorra	21
1.1.4 Empirical evidence	23
1.2 Fascism and two world wars: 1900-1950	27
1.3 Expansion of organized crime groups: 1950-1990	29
1.3.1 The three causes	29
1.3.2 Empirical evidence	35
1.4 Mafia groups today: 2000s	37
1.5 The rest of the world	39
1.6 Concepts and data	41
1.6.1 Social capital	41
1.6.2 Exposure to organized crime groups	47
1.6.3 Control variables	56
2 Empirical chapter 2: the social effects of organized crime	58
2.1 Main results	59
2.1.1 Political participation	59
2.1.2 Civic engagement	59
2.1.3 Institutional trust	61
2.1.4 Interpersonal trust	61
2.1.5 Main results' tables	62
2.2 Heterogeneity analysis	66
2.2.1 Heterogeneity analysis across organized crime groups	66
2.2.2 Additional heterogeneity analysis	67
2.2.3 Heterogeneity analysis across social outcome distributions	69
2.2.4 Long shadow of the past?	70
2.2.5 Heterogeneity tables and figures	72
2.3 Comparison with related literature	75

2.4	Robustness checks	79
2.4.1	Selection on observables	79
2.4.2	Alternative organized crime index	79
2.4.3	Weighted mean index	81
2.4.4	Social desirability bias	81
2.4.5	Matching	82
2.4.6	Robustness checks' tables and figures	84
2.5	Synthetic control approach	92
2.5.1	Synthetic main results	96
2.5.2	Synthetic robustness checks and placebos	98
3	Empirical chapter 3: mechanisms	104
3.1	Why Genoa	104
3.2	Theorised mechanisms	111
3.2.1	Psychological factors	111
3.2.2	Propensity to investment in social capital	113
3.2.3	Polarisation of views	114
3.2.4	Capacity for collective action	115
3.2.5	State capacity	116
3.2.6	Social proximity	117
3.3	Results	119
3.4	Discussion	125
4	Conclusions	127
A	Appendix Figures and Tables	159
B	Validity checks	176
B.1	Coefficient stability test	176
B.2	Romano Wolf step-down procedure	177
C	Data Appendix: data, variables and qualitative	178
C.1	Data table	178
C.2	Construction of the alternative municipality-level objective organized crime indicator	187
C.3	Police mapping and digitisation of DIA reports	194
C.4	Qualitative data and analysis	200

List of Figures

1	Cross-sectional OLS: reverse causality test of the origins of organized crime groups (1885-1900)	26
2	Pooled OLS: the effect of organized crime index on social capital (2000-2018)	60
3	Pooled OLS: the heterogeneous effect of organized crime index on social capital (2000-2018)	72
4	Quantile regression: the effect of organized crime index on social capital (2000-2018)	73
5	Pooled OLS: testing alternative OC index (2000-2018)	86
6	Synthetic control: social capital in the treated region and in the synthetic control (1861-2020)	97
7	Synthetic control: Basilicata treated with Apulia (1861-2020)	100
8	Synthetic control: robustness check (1861-2020)	101
9	Synthetic control: placebo test (1861-2020)	102
10	Map: assets seized from organized crime in Genoa's historic city centre (prior to 2022)	109
A.1	Line plot: exposure to organized crime in Italy (2000-2018)	160
A.2	Line plot: municipalities dismissed because of Mafia infiltration (1993-2018) .	161
A.3	Line plot: murder per 100,000 inhabitants in Apulia, Italy base = 100 (1887-2012)	162
A.4	Synthetic control: interpersonal trust in the treated region and in the synthetic control (1861-2020)	163
A.5	Synthetic control: political participation in the treated region and in the synthetic control (1861-2020)	164
A.6	Synthetic control: civic engagement in the treated region and in the synthetic control (1861-2020)	165
A.7	Line plot: murder per 100,000 inhabitants in Basilicata, Italy base = 100 (1887-2012)	166
C.1	Image: example of text analysis of a DIA report (2018)	198

List of Tables

1	Cross-sectional OLS: reverse causality test of the expansion of organized crime in the second half of the XX th century (1968-1983)	36
2	Summary statistics: governance score index calculated from the questionnaire administered to specialists (2021)	51
3	Correlation matrix of organized crime indicators (2000-2018)	55
4	Pooled OLS: the effect of organized crime index on political participation (2000-2018)	62
5	Pooled OLS: the effect of organized crime index on civic engagement (2000-2018 with gaps)	63
6	Pooled OLS: the effect of organized crime index on institutional trust (2010-2018 with gaps)	64
7	Pooled OLS: the effect of organized crime index on interpersonal trust (2010-2018 with gaps)	65
8	Cross-sectional OLS: the persistent effect of past organized crime on social capital (2000-2018)	74
9	Pooled OLS: selection on observables (2000-2018)	85
10	Pooled OLS: weighted mean index (2016)	87
11	Pooled OLS: testing for social desirability bias (2000-2013; 2000-2018)	88
12	Balance table: differences in observables between those exposed and not exposed to organized crime (2000-2018)	90
13	PSM, IPW and AIPW: alternative estimators (2000-2018)	91
14	Synthetic control: pre-treatment characteristics in Apulia and in the synthetic control (average 1861-1961)	95
15	Synthetic control: differences in social capital between the treated unit and the synthetic control (1861-2020)	98
16	Synthetic control: differences in institutional trust between the treated unit and the synthetic control (1973-2001)	103
17	Pooled OLS: mediation analysis on social capital (2012-2014)	121
18	Pooled OLS: mediation analysis on civic engagement (2000-2018)	124
19	Summary statistics: policy suggestions by the interviewees (2021-2022) . . .	131
A.1	Summary statistics: socio-economic indicators of Genoa (2020)	167
A.2	Summary statistics: social outcomes in Italy (2000-2018)	168
A.2	Summary statistics: social outcomes in Italy (2000-2018)	169
A.3	Summary statistics: exposure to organized crime groups in Italy (2000-2018)	170

A.4	Pooled OLS: the effect of organized crime index on social capital (2000-2018)	171
A.5	Pooled OLS: the heterogeneous effect of organized crime index on social capital (2000-2018)	172
A.6	Pooled OLS: testing alternative OC index (2000-2018)	173
A.7	Cross-sectional OLS: the effect of social capital on number of resettled Mafiosi per 100,000 inhabitants (1968-1972)	174
A.8	Summary statistics: specialists and community leaders (2021-2022)	175
C.1	List of variables, data and sources	179

Acronyms

CSOs Civic society organisations. 43

GDP Gross domestic product. 6

OC Organized crime. 55

OC index Organized crime index. 54

OLS Ordinary least squares. 2

SSA Sub-Saharan Africa. 48

US United States. 4

Summary

Organized crime has adverse effects on security, development and democracy, but little is known about its social consequences. This thesis investigates empirically the effect of individual exposure to the presence of organized crime groups in Italy on a set of key social outcomes: political participation, civic engagement, institutional trust and interpersonal trust. The thesis includes one introductory chapter, three empirical chapters and one concluding chapter.

In the introductory chapter, I review the academic literature related to my thesis. My work builds upon three main bodies of literature on: (a) the causes and consequences of social capital, (b) the economic, political and social effects of rebel groups governance, gangs presence and crime and conflict victimisation, and (c) a qualitative sociological literature on how organized crime groups manipulate the social capital of those that surround them to expand and govern areas. This chapter examines these bodies of literature, discusses my contributions to each, and shows how my focus on the social consequences of organised crime in Italy brings them together.

The first empirical chapter starts by providing the historical context and existing theories on the origins of the Mafia and other organised crime groups in Italy. I pay particular attention to one theory directly related to my main research question, namely that the emergence of organized crime groups can be viewed as a response to endemic distrust in southern Italy. This ‘cultural explanation’ for the emergence of organized crime has come under scrutiny recently. While it is unquestionable that organized crime groups emerged in areas in southern Italy which in the 1800s experienced a pervasiveness of distrust and very low levels of social capital, these arguments overlook two important points. I present both historical and empirical evidence that (i) organized crime groups did not appear in many areas in southern Italy with very low levels of social capital and (ii) organized crime groups also emerged in areas with very high levels of social capital. This historical review allows me to clarify the direction of causality of my research by attenuating the probability that the direction of causality goes from (low) social capital to organized crime. This then allows me to reverse the question and dedicate the rest of my thesis to study the effect of organized crime on social capital. In the second half of this first empirical chapter, I then present a conceptualisation of social capital, with a focus on the four dimensions I focus on, and organized crime in Italy and describe the data I use to study this relationship.

In the second empirical chapter, I attempt to provide a causal explanation for the social consequences of organized crime groups using two identification strategies. First, I leverage a survey of almost 800,000 respondents on social capital and exposure to organized crime

conducted in Italy between 2000 and 2018. I use a pooled OLS with province-year fixed effects. I address possible omitted variable biases through the use of a rich set of controls included in the dataset. Second, I rely on a newly digitised dataset, which includes data at the regional level on social capital in Italy since 1861, covering 160 years. I use this dataset to exploit the exogenous arrival of organized crime in Apulia in the 1970s, a region in southern Italy where organised crime was largely absent before the 1970s. I compare the level of social capital in Apulia with a synthetic control of regions with no organized crime presence.

The pooled OLS results show that exposure to organized crime reduces social capital by -0.066SD. In percentage terms, this results in a reduction in social capital by 8.1% on average across Italy between 2000 and 2018. This negative effect of the social capital aggregate index is explained largely by three of its components: lower political participation (-0.01SD), lower institutional trust (-0.20SD) and lower interpersonal trust (-0.11SD). In contrast, being exposed to the presence of organized crime groups has a positive effect on civic engagement (+0.02SD). Results from the synthetic control approach shows that in the decade between 1971 and 1981 the level of social capital in Apulia drastically fell by approximately 30%. The gap between the actual and counterfactual social capital remains constant until today. This drop in social capital happens in the same decade in which organized crime groups settled in Apulia. Results from the synthetic control confirm the pooled OLS results, but are of larger magnitude given the focus on a region with heavy presence of organized crime since the 1970s. In addition to the main results, I also present a quantile analysis, detailed heterogeneity analysis and a battery of robustness checks (coefficient stability test, multiple hypothesis testing, alternative indicators of organized crime and social capital, social desirability bias and the use of alternative estimators - such as matching techniques - to study the same relationship). All results are robust to the use of these robustness tests.

In the third empirical chapter, I provide qualitative and quantitative evidence on key mechanisms that may explain the results. To analyse plausible mechanisms, I firstly conducted a series of interviews and conversations with professionals with extensive experience on organized crime in Italy (policemen, army officers and prosecutors) and a number of research specialists on organized crime (criminologists, political scientists and economists) to theorise inductively the possible mechanisms at play. I then tested these mechanisms using a number of detailed key informant interviews with community leaders in Genoa, which were exposed directly to organized crime. The key informant interviews focus on the city of Genoa for two important reasons. First, for budgetary reasons I was not able to extend this work to the whole of the Italian territory. I needed therefore to find a location which would represent the 'median' experience of Italians with organized crime. According to available socio-economic data, Genoa is the ideal representation of this 'median' view. Second, the

choice of Genoa allows for some degree of external validity as it is a city much more similar in terms of organized crime presence to cities in other developed contexts, in contrast with more common studies focused on rural Sicily where only one particular form of the Mafia (Cosa Nostra) has persisted. Genoa's historic city centre is home to criminals with linkages to the Mafia families in the South of Italy, Mafia groups with specific business interests (international drug trafficking and money laundering), largely connected to the Ndrangheta, and foreign organized crime groups with interests in local illicit drug trade and pimping and pandering. The interviews to the community leaders were centred on the effect of the exposure to organized crime groups on their social capital and the social capital of their community.

In particular, I was interested in answering the 'why' behind the effect and I coded the transcripts deductively according to theorized mechanisms. This detailed qualitative work was conducted alongside an empirical mediation analysis that quantifies the relative importance of each mechanism. By combining experts' interviews, oral testimonies of community leaders and the quantitative mediation analysis, I find that two key mechanisms are mostly relevant in explaining the negative effect of organised crime on social capital. The first is a psychological mechanism, in the form of fear and resignation, which explains almost 45% of the overall effect. The second is the state (in)capacity in dealing with the problems created by the presence of an organized crime group with adverse effects on institutional trust and political participation. The positive effect on civic engagement seems to be instead explained by indignation and the economic opportunities of investing in social capital.

My thesis concludes by illustrating areas for future research and policy implications. At the policy level, the results I discuss in the thesis give rise to important questions about the effectiveness of policies typically used to reduce the presence of organized crime groups. Given the effects of organised crime on social capital, policies such as more state or police presence may fail because those affected by social capital will have low levels of trust towards the very same institutions that try to eliminate organised crime. Leveraging collective mobilisation may yield more promising results by harnessing the fact that those exposed to organised crime tend to organise themselves collectively to fight it.

Introduction

Economists and political scientists have only recently gained an interest in studying criminal groups. This research endeavour has instead been, for a long time, a leading area of study in sociology; a thriving criminologist literature can be found in Europe and particularly in the UK starting from the seminal work by Patrick (1973) in Glasgow. Similar research efforts can be found in the US, particularly in Chicago with the influential work by Thrasher (1936). The economic and political science literatures have recently focused on organized crime because of the now well-established fact that organized crime groups are one of the largest threats to security, development and democracy. Conflicts involving organized crime groups have grown to be one of the world's deadliest kinds of violence (Magaloni et al., 2020). This is a worldwide problem as in Latin America there are almost 26 million people who live under some form of criminal governance (Lessing et al., 2019), in the United States, a survey of law enforcement agencies found that virtually all agencies serving cities with more than 100,000 residents experienced gang problems (Bruhn, 2021) and, similarly, in Europe, almost one individual out of five has declared organized crime as the main global challenge for the European future (Eurobarometer, 2021, p.81).

Organized crime in Italy

Organized crime groups in Italy firstly emerged in the mid-1800s in Sicily (*Cosa Nostra*), Campania (*Camorra*) and Calabria (*'Ndrangheta*). Organized crime groups in Italy comprise (illicit) businesses that co-exist with the state and include Mafia groups who have a certain degree of governance over defined territories and exercise business functions, more covert Mafia groups operating in specific businesses and foreign organized crime groups. These organized crime groups in Italy firstly emerged in the 19th century to fill the state vacuum and to profit from the different business opportunities that were arising. As I will maintain throughout this thesis, the emergence of organized crime groups in Italy is linked to an economic-driven explanation, namely, organized crime groups found a fertile ground where to grow in areas where they could make a profit, and when in juncture with specific historical events or pre-conditions of the area (for example state absence). In particular, in all the three regions, organized crime groups profited from providing protection and mediating prices in the most profitable areas. In Sicily, close to citrus fields, sulphur mines and in rural areas where landowners requested their services against rioting peasants. In Calabria, next to the export areas of wood and olive production. In Campania, where these groups were first recorded extorting money in the gambling deans in Naples and outside of Naples in the areas where there were food and animal markets. These groups resisted the fascism rule

(1922-1943) thanks to their contacts with the public administration and managed to expand in other regions of Italy starting from the second half of the XXth century. These groups were involved in the illicit tobacco trade in the 1960s and 1970s, which led to the emergence of a strong presence of organized crime groups in Apulia, a southern region of Italy. Finally, the groups moved to the highly profitable illicit drug trade and started laundering the money in the legal economy; a business model that is still functioning today and which facilitated the arrival of these groups in different regions in Italy, and elsewhere in the world, where they had never been present before.

The problem of organized crime

These features of organized crime are not unique to Italy and are observed in many other urban areas in Western Europe, north America and Asia. There are for this reason a number of studies in these developed contexts such as in different cities in the US: Chicago, Los Angeles, Saint Louis and Washington (see review in Bruhn (2021)). On the opposite side of the globe, studies have been made on the *Triads* gangs that are found in Hong Kong (Chu, 2002), on the organized crime groups found in China with their pervasive territorial and online presence (Wang, 2017), on the *Yakuza* group found in Japan (Hill, 2003), on the *vory v-zakone* present in Russia (Varese, 2001).

A large literature is also found in Latin America which has studied how gangs are organized, the causes of their origins and their consequences on the economy and the democratic process. There is today a wealth of evidence showing the causal consequences of these gangs in Colombia (Blattman et al., 2021a), in Brazil (Bullock, 2019; Lessing and Willis, 2019; Magaloni et al., 2020), in Mexico (Dell, 2015; Kalyvas, 2015), and other Central and Caribbean countries (Melnikov et al., 2020; Sviatschi, 2022). These studies provide strong evidence of how gangs operate and are structured (Kalyvas, 2015; Lessing and Willis, 2019) and their negative effects on state legitimacy (Magaloni et al., 2020; Blattman et al., 2021a), voting (Bullock, 2019) and economic development in terms of education, material well-being and income (Melnikov et al., 2020).

The economic and political consequences of organized crime in Italy

This thesis focuses on the case of Italy, a country with an historical presence of organized crime groups. Italy has also at the centre of economists' work in the past decade using a variety of causal empirical strategies. The first negative impact of organized crime in Italy we know of is on the per capita development expenditure and the infant mortality in Sicily in the early 1900s (De Feo et al., 2019). Organized crime also lowered the level of schooling in the areas where it settled, which was shown to persist in time through the outbreak of the

first world war in Sicily (Di Vita and Di Vita, 2019) until the 1980s (De Feo et al., 2019). The same detrimental effect was found with up-to-date data on schooling levels in a similar context, in Calabria, another region historically affected by Mafia groups (Coniglio et al., 2010).

More recently, Pinotti (2015b) presents synthetic control estimates showing how the arrival of organized crime groups in two regions decreased their GDP. Panel data analysis by Daniele and Marani (2011) document a negative effect on foreign directed investments. Organized crime also reduces the public spending of a municipality (Acconcia et al., 2014; Daniele and Dipoppa, 2022), while it increases the amount of subsidies to businesses (Barone and Narciso, 2015), in particular in those businesses that are strategic to the organized crime such as the construction sector (Lavezzi, 2008; De Feo and De Luca, 2017; Di Cataldo and Mastrorocco, 2017). Albanese et al. (2016) show that municipalities plagued by the presence of organized crime tend to have more autonomous local suppliers which has been shown to led to episodes of corruption in the public administration sector (Barone and Narciso, 2015). These rich procurement contracts drastically drop when a municipality is dismissed because of Mafia presence (Fenizia and Saggio, 2022), with additional spillover effects in the neighbouring municipalities because of a plausible law enforcement influence reducing misconduct in the proximate areas (Galletta, 2017). As expected, areas plagued by the presence of organized crime witness a reduction in value of the housing market (Battisti et al., 2022) and banks lend money to individuals at higher interest rates and pledge more collateral (Bonaccorsi di Patti, 2009).

On a firm level, exploiting a regression discontinuity design, Le Moglie and Sorrenti (2022) show how organized crime groups affect firm’s performance. Companies with at least a director with a Mafia-related criminal record have lower levels of cash holdings and lower profitability (Bianchi, Pietro A and Marra, Antonio and Masciandaro, Donato and Pecchiari, Nicola, 2017). Firms working in areas with organized crime also tend to be less innovative (Caglayan et al., 2018; Slutzky and Zeume, 2018) and less productive (Ganau and Rodríguez-Pose, 2018).

The negative impact of organized crime is not confined to the Italian economy. A recent literature has also investigated the linkages between organized crime and politics.¹ Apart from compelling evidence from the media and the press on the involvement of organized crime into electoral politics, using different empirical strategies (for example instrumental variables), it was shown that Mafia presence in Sicily reduces political competition (De Feo et al., 2019), reduces the share of votes for the left-wing parties (Di Cataldo and Mastrorocco, 2017; Daniele, 2019; Alesina et al., 2019), and its presence has been consistently linked to a

¹See Pinotti (2015a) for a global correlational evidence between organized crime and politics

larger share of votes for the party *Democrazia Cristiana* until the early 1990s (De Feo and De Luca, 2017; Dipoppa, 2021) and for Berlusconi’s party *Forza Italia* until 2013 (Buonanno et al., 2016). This is particularly true when there is single-party dominance and bipartisanship since these groups have fewer opportunities to access the political arena (Moro et al., 2016).

Organized crime not only influences electoral outcomes, but it also aims at influencing politicians’ behaviour. There is mixed evidence in understanding whether organized crime commit political murders before the elections to discourage honest candidates, as discussed in Sberna and Olivieri (2014) and in Alesina et al. (2019) or after the elections to condition the policy decisions of the politicians, as reported for municipality-level politicians in Daniele and Dipoppa (2017). Nonetheless, there is an effect in the actions taken by the politicians after a political homicide; Alesina et al. (2019) analyse the transcripts from parliamentary debates and find that left-wing politicians talk less about organized crime after the latter has committed a political homicide.

The gap

Both the literature on gangs in Latin America and the literature on organized crime groups in urban areas in Western Europe, north America and Asia have overlooked their focus on social outcomes, which is instead the main contribution of this thesis. While there is a general consensus about the origins, *modus operandi* and the economic and political consequences of organized crime, its impact on social outcomes has remained elusive. Much has been written about the rise of organized crime groups as a response to lack of social capital (Putnam, 1994; Skaperdas, 2001), but what happens to social capital once organized crime groups arrive and settle?

This thesis seeks to address this question by investigating empirically the effect of individual exposure to the presence of organized crime groups on a set of key social outcomes: political participation, civic engagement, institutional trust and interpersonal trust.

Only two related literatures have worked on a similar question. First, an emerging literature on rebel groups found in Latin America and Sub-Saharan Africa. This literature has focused on estimating the effect of rebels group presence on political participation, civic engagement and trust. In their seminal paper on Colombia, Gáfaró et al. (2022) show that rebel group presence has a positive effect on political participation, largely explained by coercion from rebel groups. Arjona (2017) show that households living in communities across Colombia where armed groups exercised strong governance and rule are better-off economically in the longer term. However, these households are less likely to comply and accept the rule of law. In the Democratic Republic of Congo, Marchais et al. (2018) show the consequences of armed groups presence on state legitimacy. I contribute to this literature as I present a

study on a different type of actor: organized crime groups. These groups do not want to replace the state, co-exist with it, and are less likely to be driven by political ideology, as opposed to the rebel groups cited above (Kalyvas, 2015; Lessing, 2020). It is not then clear *a-priori* whether the results found in this literature apply to my study. Second, the thesis is also related to the studies on the effects of victimisation. Bateson (2012) analyses global survey data to document that crime victimisation decreases institutional trust but increases the respondent's cooperative and pro-social behaviour. Bauer et al. (2016) review the same effect of victimisation, but focusing on conflict, and they generally find similar results. Victimisation is a different event from the constant daily exposure to organized crime groups in the area where one lives. As opposed to victimisation, which has been studied as experienced individually, this constant presence is experienced by the entire community, not just the victimised person, and doesn't necessarily involve violence. It is again not clear whether the exposure to organized crime groups has similar effects to victimisation, something I aim at answering in this research.

To the best of my knowledge, this is the first rigorously evaluated empirical study of the social consequences of organized crime in a developed context. There is a large criminologist literature, mostly qualitative, that has worked more generally on the consequences of organized crime and how the latter interact with the community (Block, 1982; Adler, 1985; Gambetta, 1993; Venkatesh, 2009). A number of sociologists have studied how organized crime groups manipulate the social capital of those that surround them to expand and govern areas and to build safe houses where to store drugs or appoint individuals to act as lookouts (Densley, 2014; Harding, 2014; McLean et al., 2019), interact with institutional, political, economic and civil society actors (Sciarrone, 2015), and enter in relations of collusion and complicity to advance their economic advantage (Dagnes et al., 2018). While there is an absence of empirical rigorous studies on the social consequences of organized crime, one exception is Meier et al. (2016) who use trust and prisoners' dilemma games to study trust outcomes between Mafiosi, simple criminals and students in Palermo (the provincial capital of Sicily). This was, however, a snapshot study of one city using a small non-representative sample. In Latin America, a number of studies have looked at the more general effect of gangs on the social fabric of communities (Arias, 2017, 2019; Córdova, 2019; Magaloni et al., 2020; Blattman et al., 2021a). Differently from this thesis, the context where these gangs operate, generally, is characterised by a much lower presence of the state and the governance functions that the gangs implement in the area are much more extensive, as discussed in Lessing (2020); Melnikov et al. (2020). I will return to this point later in the first empirical chapter of this thesis when I will outline the governance functions of organized crime groups in Italy.

Social capital matters

Since the seminal work of Banfield (1967), Coleman (1988) and Putnam (1994, 2000), in recent decades, social scientists have shown that social capital, as comprised by behaviours (political participation and civic engagement) and perceptions (trust), plays a major role in a variety of important outcomes. Using cross-country analysis, for example, scholars have shown that social capital matters for economic growth (Knack and Keefer, 1997; Algan and Cahuc, 2010, 2014). Social capital drives this substantial contribution through a number of potential channels. The list of such channels includes, among others, the formation of large and more profitable firms (Fukuyama, 1995), innovation and productivity (Zak and Knack, 2001; Bloom et al., 2012; Massa et al., 2022), financial development (Guiso et al., 2004), and trade expansion (Guiso et al., 2009). Social capital also matters for some crucial governance outcomes, from the delivery of public goods (Knack, 2002) to fiscal capacity (Besley, 2020) and political accountability (Nannicini et al., 2013).²

Given its relevance, understanding the causes of social capital, what affects it and how, is crucial to help us understanding how our societies and communities can evolve in the future. Most of the scholarship on social capital has stressed how the social capital determinants of an individual depend on intrinsic characteristics and long-gone persistent causes. The intrinsic individual characteristics derive from inter-generational values and norms passed down by the family (Bisin and Verdier, 2001; Dohmen et al., 2012; Moscona et al., 2017) and genetic similarities (Glaeser et al., 2002; Guiso et al., 2009; Uslander, 2013). Additionally, there are several past determinants of social capital. These include historical events such as the slave trade and colonialism (Michalopoulos and Papaioannou, 2020; Nunn, 2020), the economic models and technologies of production used (Alesina et al., 2013), the governance models (Putnam, 1994; Alesina and Fuchs-Schündeln, 2007; Acemoglu et al., 2014), the environment and the factor endowments (Voigtländer and Voth, 2012; Buggle and Durante, 2021; Giuliano and Nunn, 2021) the culture and norms (for example religion) (Hoff et al., 2011; Bloom et al., 2012; DellaVigna et al., 2012; Lowes et al., 2017; Dell et al., 2018) and the community heterogeneous composition (Alesina and La Ferrara, 2000; Vigdor, 2004).

The main conclusion of this literature is that behaviours (like political participation and civic engagement) and perceptions (like trust) have a persistent component. However, this does not mean that social capital is completely invariant. There are signals that social capital is eroding. Putnam (2000) documented this for the United States, showing how a decline in engagement and trust started in the 1960s and accelerated in the 1990s. This decline has

²For an overall review on the social capital consequences see Durlauf and Fafchamps (2005), a review on economic growth see Algan and Cahuc (2014) and a review on governance see Alesina and Giuliano (2015).

been profound, long lasting and shared by many countries worldwide (Inglehart and Welzel, 2005). More recently, a number of studies have shown how more rapid, even if persistent, changes to social capital exist. A number of studies focus on the role of natural shocks in changing social capital (Buonanno et al., 2021), some have studied the effect of large macro factors on social capital, such as war (Guriev and Melnikov, 2016), regulation (Aghion et al., 2010), corruption (Banerjee, 2016), income (Ananyev and Guriev, 2019), education (Algan et al., 2013), technology (Olken, 2009; Geraci et al., 2022). At the same time, smaller events can directly change the behaviours and perceptions that are comprised in social capital, like a wave of exciting new studies has shown (Alesina et al., 2018; Depetris-Chauvin et al., 2020; Mousa, 2020; Alan et al., 2021; Alrababa’H et al., 2021; Weiss, 2021). In other words, as Algan and Cahuc (2014) eloquently put it, there are two conflict views on social capital: ‘Putnam I’, which is based on Putnam (1994), for which social capital is highly persistent and largely determined by history and ‘Putnam II’, which is based on Putnam (2000), for which social capital can change in time. In short, social capital includes both persistent and more malleable components and for this reason may be affected by a transient shock such as the arrival of an organized crime group.

Research design

In this thesis I investigate to what extent, and why, organized crime groups affect social capital. Organized crime is a strong candidate for affecting social capital. However, knowing beforehand the direction of the effect is far from trivial. As discussed above, while there are no rigorous empirical studies available on the social consequences of organized crime groups, the literature on the consequences of gangs and organized crime groups has shown possible pathways through which organized crime group may affect social capital. The pervasive negative effects of organized crime groups on the free democratic process may reduce social capital by eroding institutional trust and in turn political participation. On the other hand, as a compensation mechanism, this lower institutional engagement may boost the civic independent engagement of the residents. Similarly to the effects of other forms of violence, organized crime may also increase mistrust because of fear. In addition, the presence of a group with separate objectives from the ones of the community may also break ties of collaboration and foster distrust and resignation, eventually eroding social capital. However, this may induce civilians to cooperate among themselves and thus increasing trust towards the proximate, while reducing trust towards the outside. Finally, the presence of organized crime may attract state forces to be more present and more heavily intervene in the area, with the risk, however, to turn down the expectations of the citizens. Giving an answer to this research question is then a matter of empirical investigation, which I aim at providing

by the end of this thesis.

Social capital has been used to indicate several - often quite divergent - concepts. Social capital has been defined as both a characteristics of a community (Putnam, 1994) and a characteristics of an individual (Bourdieu, 1986). However, since the work of Bourdieu (1986) and Putnam (1994), much has been written to criticise the concept of social capital because it is comprised by components that might contrast with one another (Uslaner, 2002) and because generally the concept adds little to the sum of its elements (Bjørnskov and Sønderskov, 2013). Given the complexity of defining social capital in operational terms, as discussed in large bodies of literature in sociology, political science and economics, following the seminal work of Banfield (1967), Coleman (1988), Putnam (1994, 2000), in this thesis I refer to social capital as a shorthand for the four separate indicators I consider in the thesis. Because there are so many definitions and possible indicators of social capital in the literature, definition of the components of the concept has long been a research focus (Bjørnskov and Sønderskov, 2013). To select the separate indicators that comprise social capital I then rely on the Uphoff (1999)’s definition of social capital, whereby social capital is defined by a set of behaviours (political participation and civic engagement) and perceptions (trust). I will come back to the conceptualisation and operationalization of social capital later in the first empirical chapter.

Measuring the presence of organized crime groups is also far from trivial. In this thesis I measure exposure to organized crime groups using a subjective on-the-ground measure which allows me to overcome a common challenge in crime literature with the use of administrative police data. These data often reflect times when organized crime groups are at their weakest because they are caught or when the state is at its strongest, under-representing the presence of groups that are able to function without being discovered or apprehended by state authorities. Because this measure is collected at the individual level, it allows for a finer-grained analysis than more commonly used municipal-level administrative measures, which make it difficult to identify the fact that organized crime is often limited to specific neighbourhoods and streets within those neighbourhoods. It is for this reason one of the first studies to look at the effects of organized crime on individuals.

To study the effect of organized crime groups in social capital I employ two identification strategies. As a first empirical strategy, I obtained data on social outcomes at the individual level from ISTAT (2019) for over 800,000 respondents across the entire Italian territory over 19 years (2000 to 2018). To determine the presence of organized crime groups, I use a question from that dataset about the presence of organized crime groups in the respondent’s area. I utilise a pooled OLS model with province-level and year fixed effects, as well as a particularly rich set of controls assembled from the ISTAT (2019) dataset and other data

sources, to identify the effects of the presence of organized criminal organisations on social outcomes. The use of province-level fixed effects accounts for the historical importance of provinces in Italy, each with its own culture, social norms, and dialects, from the country's founding in 1861.

I report a battery of robustness checks; to attenuate any potential omitted variable bias, in all regressions I report beta-adjusted effects for omitted variable bias as in Oster (2019) and I then test for selection on observables by progressively adding a battery of relevant control variables. To control for statistical issues linked to testing multiple outcomes, I report the Romano and Wolf p-values to control for family-wise error rate (Romano and Wolf, 2005) and I create aggregate indices (Kling et al., 2007). To attenuate any measurement error bias, I check that the results hold when using alternative indicators of the dependent and independent variable. Further, I also test for social desirability bias (i) by comparing the answers of the respondents when alone in the room or when in presence of an enumerator and/or family member and (ii) by studying how the answers on exposure to organized crime groups change at the variation of organized crime governance. Finally, to validate the Pooled OLS regression results, I present results from the same relationship using matching estimators: a propensity score matching at the individual level, an inverse probability weighting regression and a doubly robust augmented inverse probability weighting.

I also expand this analysis by conducting a quantile regression to study whether there is an heterogeneous effect across the social capital distribution. Also, I present an heterogeneous analysis highlighting how the effect changes: (i) comparing individuals that live in regions that are historical Mafia strongholds as opposed to individuals that live outside historic Mafia strongholds; (ii) comparing individuals that live in municipalities with varying degrees of governance of the organized crime groups. Finally, I study whether and how the effect of organized crime on social capital is inherited from the past by analysing whether in Sicily, for which I have past data, the effect of organized crime on social capital happens at the onset of the arrival of the group and how the effect changes in time.

As a second empirical strategy, I exploit the unique arrival of organized crime groups in a southern Italian region in the 1970s (Apulia). The determinants of the arrival are linked to two reasons: a resettlement policy in 1956 whose intention was to cut mafiosi linkages with the Sicilian Mafia by resettling these in the rest of Italy - Apulia received the largest share of mafiosi among southern regions in Italy. In addition, the closure of the tax-free port of Tangier moved the illicit tobacco trade from there to Apulia. These two causes, largely independent from the social environment of Apulia, let me attempt the study of the causal effect of organized crime on social capital. I rely on a newly compiled 160 years worth of data on social capital at the regional level and I employ a synthetic control approach comparing

the social capital in Apulia with a synthetic comparison unit composed by regions outside historic organized crime strongholds, before and after the arrival of organized crime groups. The social capital data comes from my own digitisation process of census surveys that were administered in Italy, every decade, from the birth of Italy in 1861 up until today.

Finally, I study the mechanisms using a mix of qualitative and quantitative strategies. I have firstly interviewed professionals that have spent their life fighting organized crime groups (policemen, army officers and prosecutors) and a number of specialists that have studied them in Italy (criminologists, political scientists and economists) to shortlist the mechanisms that could link the individual's exposure to organized crime groups presence to social capital. Thanks to these interviews I theorized a number of mechanisms to test. Then, I have conducted a number of key informant interviews with community leaders in the historic city centre of Genoa, a city in the north-west of Italy. While the city is outside the typical Mafia historic stronghold in the South of Italy, the historic city centre of Genoa is a particularly suitable area where to conduct interviews. I did not have the budget to extend the analysis to the whole Italian territory and I therefore needed a city which could represent the 'median' experience of Italians with organized crime. According to the data available, Genoa is such a city. A municipality-level indicator of the presence of organized crime in Italy reveals that Genoa has a score of 62 out of 100. As points of comparison, Palermo, where the presence of *Cosa Nostra* is strong, has an indicator of 69, whilst Reggio Calabria, where *'Ndrangheta* has its headquarter has an indicator of 87, and finally Naples, where *Camorra* is well-established, has an indicator of 89. In addition, Appendix Table A.1 shows that Genoa scores average values in all main socioeconomic indicators in relation to other Italian regions. Finally, Genoa is an interesting site for fieldwork as it is home to different types of organized crime groups, as conceptualised later in the first empirical chapter, which allows a higher degree of external validity, as opposed to many studies that have in the past focused only on Sicily, where one single type of organized crime group (*Cosa Nostra*) is present.

The effect of exposure to organized criminal groups on their social capital and the social capital of their community was the focus of these key informant interviews. I was particularly interested about the 'why' behind the effect, so I coded the transcripts deductively according to my hypothesised mechanisms. This in-depth qualitative research was combined with an empirical mediation analysis that measured the relative impact of each mechanism using a nationally representative dataset.

Roadmap

This thesis is organized as follows. Section 1 presents the first empirical chapter in which I discuss the historical and empirical evidence of how organized crime groups originated and

expanded in Italy. I particularly put under scrutiny one theory of the origins of organized crime groups, namely the ‘cultural explanation’ which argues that organized crime groups emerged in areas with low levels of social capital. As I will discuss in the first half of the first empirical chapter, this theory is not supported by neither history nor data, while a more convincing economic-driven theory arises out of both historical accounts and empirical evidence. This section then continues by presenting the conceptualisation and operationalization of social capital and organized crime. For the latter, I have interviewed a number of specialists to detail out the different governance functions that organized crime groups conduct in Italy. This exercise allowed me to better tailor my conceptualisation of organized crime groups in Italy

Section 2 presents the second empirical chapter in which I outline the empirical strategy and present the effect of exposure to organized crime group on individual social capital outcomes using two different identification strategies. As mentioned above, I will present results from a pooled OLS with an extensive battery of robustness checks. I will present heterogeneity analyses to better understand what drives the effect. I will also present analyses that look at the historical effect of organized crime on the current levels of social capital. I will also compare all the results I find with the existing literature. In the final part of the empirical chapter, I will also present results from a synthetic control approach to better understand whether my main results can be interpreted as a causal effect of organized crime on social outcomes. Also in this case, I will augment the analysis with a number of robustness checks and placebo tests.

Section 3 presents the third empirical chapter in which I study the mechanisms that may explain the different effects of organized crime on social capital. This chapter is presented in the way I conducted this analysis chronologically. I firstly present the theory and the mechanisms that may link organized to social capital as discussed with a number of specialists that have worked on organized crime in Italy. Then, I test this theory on community leaders that live in an area plagued by the presence of organized crime in Genoa. Finally, I revert back to the main dataset and I attempt at quantifying each mechanism and calculate the mediating effect for each mechanism. At the end of this section, I have a final discussion section to better interpret and generalise the results I have found.

Section 4 concludes by presenting a number of policy recommendations and suggesting new areas for future research.

1 Empirical chapter 1: history and direction of causality

In this first empirical chapter I provide a brief historical context and a summary of the existing theories on the origins of the Mafia and other organized crime groups in Italy. I pay particular attention to one theory that is directly related to my main research question, namely that the emergence of organized crime groups can be viewed as a response to the low levels of social capital in southern Italy. This ‘cultural explanation’ for the emergence of organized crime has recently been subject to scrutiny. The historical review presented here discusses this theory in depth, and in so doing, also allows me to clarify, both historically and empirically, the direction of causality of my research by attenuating the probability that the direction of causality is from (low) social capital to organized crime. Then, I reverse the question and for the remainder of the thesis I study the effect of organized crime on social capital. To do that, in the second half of this first empirical chapter, I present a conceptualisation of social capital and organized crime in Italy and describe the data I use to study this relationship.

For this first empirical chapter, I am in debt to the seminal work of Gambetta (1993). I have attempted to expand his historical review with the evidence produced over the past twenty-five years by empirical researchers working on the study of organized crime in Italy. I have also lengthened the time-scope of his work by providing evidence of what happened between the end of the second world war and today. Finally, I have also enlarged the geographic scope of his book, as this historical review is not limited to Sicily, but as far as possible takes into account all of Italy, with a particular attention to the two southern Italian regions of Calabria and Campania which are home to two different historic Mafia groups. This was feasible thanks to the recent historical work of, among others, Sales (2015) and Ciconte (2019).

1.1 Origins of organized crime groups: 1800s

Historically, it is difficult to say anything with certainty about the presence of organized crime groups before the 1800s. Organized crime groups first emerged in Italy in the 1800s, in Sicily (*Cosa Nostra*), Calabria (*'Ndrangheta*) and Campania (*Camorra*), all regions that were part of the Kingdom of the two Sicilies (Reign of Naples and Reign of Sicily).³ These groups emerged in areas that were ruled by the Spanish, in particular by the Spanish Hapsburg dynasty from 1516, and by the Bourbon dynasty from 1735. Both dominions left these areas under-developed in terms of human capital, infrastructure, and commerce, and the accumulation of wealth was hindered in comparison to that of the rest of Italy (Gambetta, 2000). De Feo et al. (2019) show that Sicily in the late 1800s had fewer roads, less primary school teachers and university students and a weaker state presence than the rest of the country. For instance, there were only 350 policemen on the entire island (Smith, 1968). The lack of state presence was eloquently summarised by the English writer Elliot (1987, p.108), after a trip to Sicily: "*What struck me the most was the sight in the lobby of a table literally covered with all sorts of weapons, handguns, revolvers, knives, sticks, daggers, left by the people invited, together with their hats! Such is life in Palermo!*". In contrast to other European monarchies in the 1800s which reduced the power and the demands of the aristocrats, the Bourbon dynasty allocated their power to regional governors - the *Viceré* of Naples and the *Viceré* of Palermo - who employed no strong, centralised form of governance (Sales, 2015, p.122,123).

In addition to being responsible for the under-development of southern Italy, argued Paolo Mattia Doria and other 18th century Neapolitan philosophers, the Habsburgs and the Bourbons also contributed to the endemic distrust in southern Italy of the state and of outsiders (Pagden, 1988), a view that is still shared by contemporary political scientists such as Putnam (1994, p.146). These two dynasties "*systematically promoted mutual distrust and conflict among their subjects, and destroyed horizontal ties of solidarity in order to maintain the primacy of vertical ties of dependence and exploitation*" (Putnam, 1994, p.136). The Habsburgs' policy of *dividi et impera* (divide and conquer) further undermined trust in the ruling institutions on the part of oppressed citizens. Gambetta (2000) notes that Alexis de Tocqueville, while in Sicily in 1814 for a journey, had already commented on the lack of trust

³The members of these organized crime groups have promoted a number of myths on their origins. The most famous one is the myth of *Oso*, *Mastrosso* and *Carcagnosso*, three Spanish soldiers who were part of a secret association in Toledo called *Garduna*. They escaped to Spain after having murdered the rapist of their sister, who violated her honour. They moved to Favignana (Sicily) and from there, after 29 years *Oso* stayed in Sicily and created *Cosa Nostra*, *Mastrosso* went to Calabria and created *'Ndrangheta* and finally *Carcagnosso* went to Campania and founded the *Camorra* (Sales, 2015, p.67). While this myth is historically inaccurate, it contains some interesting facts with links to the real origins of these groups; for example, the context of Spanish rule, the culture of honour and the regions in which these groups actually originated.

among the Sicilians. The Sicilian economist Ferrara (1837, p.144) summarised this as follows: "*In Sicily (...) there lacks that feeling of mutual trust which brings together the wealth of the idle man and the skills of the active one*".

As a result of these historical accounts, for a long time, scholars viewed the emergence of Mafia groups in southern Italy as a response to endemic distrust. This ‘cultural explanation’ for the emergence of the Mafia has been subject to scrutiny. While it is unquestionable that organized crime groups emerged in areas in southern Italy which in the 1800s were characterised by pervasive distrust and very low levels of social capital, these arguments overlook two important points. First, organized crime groups did not appear in specific locations and many areas in southern Italy with very low levels of social capital. Second, organized crime groups also emerged in areas with very high levels of social capital. These two points are discussed below.

The first opponent to the ‘cultural explanation’ was the most prominent Italian intellectual of the early 20th century, Benedetto Croce, who criticised this prevalent theory of the origins of the Mafia by arguing that the United Provinces (today the Netherlands) were equally affected by Spanish oppression, without substantial effects on social capital or the emergence of Mafia groups. Neither did Mafia groups emerge in other countries ruled by the Spanish, such as Argentina, Mexico, Chile and Peru, or in Greece or Spain itself. Many areas ruled by the Spanish dynasties in Italy also did not experience the emergence of the Mafia, including Milan and Lombardy (Sales, 2015, p.66), nor did areas with similar levels of under-development and low social capital, such as Basilicata, Cilento, Abruzzo or Molise (Sales, 2015, p.15-16; 105). Within traditional Mafia historic strongholds, Mafia groups did not expand to all areas. For instance, some areas of eastern Sicily, some municipalities in western Sicily, some areas in the interior of Campania and parts of Calabria (Cosentino and Crotonese) have not experienced the emergence of Mafia groups (Gambetta, 1993, p.78).

These historical accounts of the expansion of the Mafia bring into question why areas with the same initial social and cultural conditions did not experience the arrival of Mafia groups. Historians today seem to have converged upon a more economic-driven explanation: the emergence of organized crime groups across the Italian territory has been driven by business opportunities in specific areas and times. This is discussed in detail below.

1.1.1 Cosa Nostra

Mafia groups in Sicily, later called *Cosa Nostra*, emerged in the 1800s as a protection racket (Gambetta, 1993).⁴ This was particularly true in Sicily because the demand for protection

⁴Throughout these sections I use the terms ‘Mafia groups in Sicily’ and *Cosa Nostra* interchangeably. I do this for readers’ clarity, while I acknowledge that the term *Cosa Nostra* appeared later on in history and

increased after the end of feudalism (Romano, 1966; Smith, 1968; Brancato, 1976; Bandiera, 2003). The Bourbons passed a series of laws aimed at eliminating all residual feudal structures and promoting land redistribution. The most important legislation was passed in 1812 when feudalism was officially abolished and common land privatised. Additionally, once the Italian state was formed in 1861, it further confiscated and redistributed a considerable portion of public and church landholdings to the private sector. The abolition of feudalism and the subsequent land reforms resulted in a remarkable growth in the number of landowners with private property rights, increasing from 2,000 to 20,000 between 1812 and 1860 (Smith, 1968; Bandiera, 2003). These new landowners needed protection as the state failed to control the monopoly of violence across the island. This failure is indirectly explained by the significant institutional shift initiated by the end of feudalism. While all feudal jurisdictions were legally transferred to the state and the landowners' influence over their domains was eroded, the King had little power over the island which was instead in the hands of a parliament mostly dominated by the landowners (Buonanno et al., 2015). Thus, as the state did not have a firm control over the security of Sicily and the number of new landowners that wanted protection increased exponentially, the monopoly of violence from the feud moved to the market.

Demand for protection by landowners was highest in the most profitable areas: close to the urban centres, on the western side of the island where citrus fruits were produced and close to the sulphur mines. Demand for protection was particularly strongly correlated with the large export boom in sulphur and citrus fruits in the mid-1800s (Buonanno et al., 2015; Dimico et al., 2017).

Sulphur became a critical input for industrial production in France and the UK in the 19th century. As explained in detail in Buonanno et al. (2015), it was utilised in a range of manufacturing processes, for the creation of gunpowder and for a variety of medicines. Despite the fact that commercial alternatives for sulphur have been found since the 1840s, its usage as a fungicide in grape cultivation reawakened its popularity. Sicily accounted for more than 80% of the global sulphur market in the 1800s and was the main export of the Sicilian economy (Buonanno et al., 2015). *Mafiosi* exploited this opportunity as they created cartels of owners of sulphur mines to protect their businesses (Gambetta, 1993, p.88). One such cartel was the *Fratellanza of Favara* that was created to control the market for sulphur protection. To have an idea of the pervasiveness of the presence of *Mafiosi* in these cartels, in the *Fratellanza of Favara* more than 200 affiliates out of 500 were eventually arrested (Dickie, 2004). Because there was no organized law enforcement, the provision of protection was essential. Buonanno et al. (2015) documents that the workers of the sulphur mines had to safeguard the sulphur they collected throughout the week as they were not paid until the

that in Sicily there are also additional Mafia groups, such as *La Stidda*.

end of the week and the payment was conditional on the receipt of the output collected in the previous seven days.

For what regards citrus, before the 19th century, it was uniquely used by the aristocracy for decorative purposes and for the extraction of essences (Dimico et al., 2017). Citrus export steeply increased a few years after Dr James Lind demonstrated - in the first ever recorded randomised controlled trial - that the introduction of citrus fruits in the diet decreased the likelihood of developing scurvy after months at sea (Lind, 1753). The findings spread around the world and became known as the Captain Cook's recipe, made famous by the British explorer Captain Cook who used to buy large reserves of citrus fruits in each port before sailing. The *Conca d'Oro* area, at the heart of the lemon production industry in Sicily, became the second most profitable in Europe after the *Ile de France* region (Dickie, 2019). Citrus production profited landowners who spent the majority of their time in urban areas such as in Palermo (the provincial capital of Sicily) and rented out their properties to local tenants. These tenants oversaw a very profitable yet turbulent enterprise that demanded substantial investments. In the case of citrus production, the landowner needed to invest in irrigation systems, security fences, roads to transport lemons to ports, and structures to store the produce. These investments were highly risky as the lemon trees production can be dampened by severe climatic conditions and the output can then vary a great deal from one season to the next. Nonetheless, the profit per hectare from citrus was so much larger than that per hectare from the rest of the island (in some cases up to 60 times greater) that the business flourished (Dickie, 2004, p.39). As discussed in detail in Dimico et al. (2017), the tenants had contracts with the landowners that resembled the sharecropping agreements, where the tenant's share was conditional on the quality of the produce grown in a given season. As a third actor in this business, there were brokers who connected the landlords and tenants with the exporters at the harbour. The *Cosa Nostra* entered the business as a fourth actor, frequently involved in negotiations as a contract enforcer, filling the legal vacuum created by the absence of the state and responding to the prevalent ambiguity linked to a business dominated by informal connections (Dimico et al., 2017).

Up until the mid-1800s, because of the booming citrus and sulphur market, *Cosa Nostra* was present on the west and in a few central areas of Sicily. Until the late 1800s, it was instead absent in eastern Sicily, and had only a weak presence guaranteeing the safe transport of goods for farmers from rural to urban markets (Gambetta, 1993, p.96). There are two possible reasons why its presence was not requested: (1) the area was divided amongst only a few landowners with very large plots of land which meant that its protection was not particularly profitable as the cost of protection was marginally high; and (2) these same landowners were more present on their land, were less hostile to the Italian state and had established their

own private army (Gambetta, 1993, p.91). *Cosa Nostra* eventually managed to expand to eastern Sicily at the end of the 1800s thanks to: (i) the agricultural sector's fragility; (ii) a drought in 1893; and (iii) the spread of the Socialist Peasant *Fasci* organisations.

As reviewed in De Feo et al. (2019), close to the farms, peasants were living in abject poverty. After feudalism ended, peasants hoped to gain more rights, which had for a long time been denied them. As the *status quo* persisted throughout the 1800s, peasants began to rise against the wealthy landowners and their tenants, demanding better salaries and working conditions, as well as other contracts such as longer land leases or a return to share cropping, tax reliefs, and land distributions. The formation of the first Socialist Peasant *Fasci* organisations in several towns across Sicily in late 1892 marked a turning point in the revolts. It was the first mass socialist movement since the fall of feudalism to demand the basic rights that peasants requested. Arguably, a mass socialist movement can thrive when living conditions are at their worst, as they were in rural Sicily in the late 1800s when the harvest was poor, coupled with growing competition from other European countries, particularly from Spain. When an exceptional drought struck Sicily in 1893, reducing the agricultural output by up to 50% in certain municipalities (as the main crop cultivated was wheat which was heavily dependent on rainfall), the obvious result was a rise in discontent and a greater number of peasants joining the *Fasci* groups (Damiani, 1884). By the end of 1893, hundreds of thousands of peasants were members of the 177 *Fasci* organisations, most of which were linked with the Socialist Party. De Feo et al. (2019) accurately shows that the spread of affiliations to the Socialist Peasant *Fasci* groups took particular root in those areas most heavily hit by the drought. Peasant revolts were of such an unprecedented dimension that landowners, after a failed request to the Italian army to intervene in their defence, were forced to turn to a form of rural guardianship. They gathered a team of guards - ex-soldiers and ex-convicts - who were experienced in the use of violence and had perfect knowledge of the local context. In short, effective protectors or, as we call them today, *Mafiosi*.

1.1.2 'Ndrangheta

In the 1800s, a second organized crime group named *'Ndrangheta* emerged in Calabria, a southern Italian region close to Sicily. Despite its long history, *'Ndrangheta* is the least studied and known of the Mafia groups. The historical evidence for this group, as it is for *Camorra* in Campania (discussed later), is much more limited than for Sicily and *Cosa Nostra*. Thus, for this section and the next, I owe a great debt to the recent historical reviews by Sales (2015) and Ciconte (2019).

In Calabria, the public authorities began to be concerned about the *'Ndrangheta* only in the 1860s. In 1861, prosecutor Giuseppe Cornero famously said about Reggio Calabria (the

provincial capital of Calabria): "*In June and July of 1861, the Camorristi have infected this city in a deplorable way*" (Ciconte, 2017, p.26). The prosecutor used the term *Camorristi* to refer to the *'Ndranghetisti*, since they did not yet have a label of their own. In 1869 Reggio Calabria was also the first municipality in Italian history whose municipal council was dismissed due to infiltration by the *'Ndranghetisti* (Sales, 2015, p.61). Almost two decades later, in the 1890s, more than 200 people were incriminated as *'Ndranghetisti* and in 1900, under the court of Palmi, 500 *'Ndranghetisti* were put on trial for Mafia-type crimes in the province of Reggio Calabria and in the cities of Cosenza and Catanzaro (Ciconte, 2017, p.39). The court recognised an organisation with a structure and with its own codes and rituals. The following year, in 1901, in the municipality of Madonna Di Polsi, a holy area for the *'Ndrangheta*, the first annual gathering of the *'Ndranghetisti* was recorded (Sales, 2015, p.61).

'Ndrangheta also emerged in the most profitable areas, where business opportunities in the form of protection and extortion were particularly plentiful. It emerged in two specific areas: the Aspromonte region, where there was a rich wood market, and in the Piana di Gioia Tauro, where olive production was particularly profitable (Ciconte, 2017, p.17). Olives were used in cuisine and as a source of combustible material for lighting, and exported across Italy (Ciconte, 2017, p.17). It is important to note that there were other areas which had olive oil or wood markets in southern Italy, but did not generate Mafia groups. As in the case of eastern Sicily, historical sources seem to suggest that in these areas the demand for protection and mediation was met directly by the landowners and that in addition these areas lacked the presence of an export market which made the offer of protection less advantageous for the organized crime groups (Gambetta, 1993, p.91).

1.1.3 Camorra

In the 1800s, the third and final Mafia group, named the *Camorra*, emerged in Campania, a southern Italian region close to Calabria. Some historians argue that the *Camorra* was the first organized crime group to appear in Italy, even before the *Cosa Nostra*. There is proof of this in the form of a letter from Palermo (the provincial capital of Sicily) in 1861, written by the general Alessandro Della Rovere, who said of the Sicilian Mafia: "*Here there is also Camorra, that it is not less bad than the Neapolitan one. They call it Maffia*" (Sales, 2015, p.73). The term *Mafioso* also derives from the theatre play *I mafiusi della Vicaria*, written in 1863, in which the main characters are in fact *Camorristi* to whom the title *Mafioso* is given, as in 'nice' or 'brave'. *Mafioso* was in fact initially conceived as an adjective of the *Camorrista* (Sales, 2015, p.74).

Yet again, *Camorra* emerged where opportunities for business were high. It initially

originated in Naples, which in the 1800s was the third most populated city in the world after London and Paris. *Camorristi* were seen extorting money in the gambling dens of the city and in the prisons, where every asset owned by prisoners was taxed at 10% (Sales, 2015, p.78-80). The *Camorra* also emerged in areas close to the city with large land plots and export markets where it was involved in the provision of protection and mediating the prices of goods. These Mafia groups outside Naples were the ones that historically had an interest in the local market of the city, present in the streets where the goods were traded, in the contraband routes of food (ports and customs) and in those municipalities where there were animals, vegetables and fruits markets (Sales, 2015, p.307). Those involved in this value chain were called ‘Presidents of prices’ and if they succeeded in this, they were then formally recognised as a ‘Unique President’. They mediated prices but also disputes as they were considered to be real authorities: when one of these ‘Presidents of Prices’, Calogero Vizzini died, it is recorded that thousands of people from Naples went to his funeral (Sales, 2015, p.308-309).⁵

Because of these historical events, the economic-driven explanation has gained momentum among historians. One of the factors particularly linked to the explanation, which appears to have played a major role in the emergence of organized crime groups, is the presence of an export market. To counter-validate this, we can look at the case of Basilicata, a region which borders Campania, Calabria and Apulia (where organized crime groups emerged later, as discussed in Section 2.5). Basilicata had very similar macro-economic indicators to those in these three regions, but historically the presence of organized crime groups there has been rather low. Basilicata is also the same region where Edward Banfield’s theory of ‘amoral familism’ was tested (Banfield, 1967). Basilicata may not have generated a strong Mafia group presence because it produced goods which were consumed only internally and were not exported across Italy or Europe. This is what happened in Basilicata, but also in the (similar) region of Abruzzo, and some internal areas of Campania, where there was not, and still is not, a strong Mafia group presence. Export creates a business opportunity for the Mafia groups to provide private protection and mediation, as exemplified by Sicily (citrus and sulphur), Calabria (olives and wood) and Campania (animal, vegetable and fruit markets) (Sales, 2015, p.288). As a matter of fact, Mafia groups are even today mostly close to port cities: in Campania, Castellammare di Stabia, Salerno, Pozzuoli, Torre Annunziata and Naples; in Calabria in Gioia Tauro and Reggio Calabria. Mafia groups are also found where there were animal, fruit and vegetable markets for export, such as in Nola, Nocera Inferiore and Pagani (Sales, 2015, p.290).

⁵Calogero Vizzini later became a source of inspiration in the 1980s for the famous *Camorra* boss Raffaele Cutolo.

1.1.4 Empirical evidence

Mafia groups seem to have emerged throughout the 1800s where there was a business opportunity in conjunction with a lack of state presence and where protection was requested privately by the landowners. As Pezzino (1987, p.939) cites from the parliamentary inquiry into the Mafia dated 1875: "*Where wages are low and peasant life is less comfortable, in Patti, Castoreale, and Trapani, there are no symptoms of Mafia (...) by contrast in Misilmeri, and Partinico, Monreale and Bagheria, where property is divided, where there is plenty of work for everyone, and the orange trees enrich landowners and growers alike - these are the typical sites of Mafia influence*".

From this initial historical review, I now move on quantitative assessments. I directly add social capital into the equation, and quantitatively test the ‘cultural explanation’, by studying whether social capital has been a determinant of the emergence of organized crime groups. Even though history seems to contest this interpretation, it is still possible that empirically levels of social capital may affect the arrival of different organized crime groups in specific areas. Assessing potential reverse causality bias using data is challenging due to the time scale. I have, however, compiled a dataset which allows me to test for possible reverse causality. I aggregate data on Mafia presence in Sicily in the 19th century, compiled by De Feo et al. (2019) and Buonanno et al. (2015).⁶ Figure 1 illustrates the relationship between the presence of *Cosa Nostra* in Sicily in 1900 and the possible determinants of its presence in the 1800s. The dependent variable is *Cosa Nostra* presence in 1900 as mapped out by police officer Cutrera. Cutrera was a Sicilian police officer who aggregated this information based on his work on the field and research. Importantly, he not only considered the number of crimes, as he wrote: "*We have already seen that the Mafia does not always commit crimes, and that the crimes perpetrated by them are not exclusive to the Mafia (...) For this reason we drew this map using our personal appraisal of the different densities of the Mafia from town to town*" (Cutrera, 1900, p.114-115). The variable has values ranging from 0 (no *Cosa Nostra*) to 3 (major *Cosa Nostra* presence). The indicator of the *Cosa Nostra* is dated to the year 1900, which I use not only based upon the data availability, but also because while the *Cosa Nostra* started to emerge in the 1850s, and more especially from the 1880s, for the reasons explained above, the first evidence of an organisational structure of the *Cosa Nostra* similar to the organized crime group found in Sicily today was only few years before 1900, specifically in 1895, as uncovered and detailed by the judges of Agrigento (a province of Sicily) (Ciconte, 2017, p.39).

To measure possible determinants of *Cosa Nostra* presence, I use two variables digitised

⁶Authors digitised historical information from a number of sources which are described in detail in the Data Appendix C.1.

by Dimico et al. (2017) from a parliamentary inquiry addressed to the Sicilian lower court judges in 1885.⁷ The first is the degree of trust citizens have in the law, captured by a dummy variable equal to 1 if citizens trust the law, and 0 if they mistrust or do not care about the law. The second variable is expressed as a dummy equal to 1 if access to credit is easy, and 0 if credit is either expensive or difficult to access. Difficulties related to accessing credit, especially when these are related to the high interest rates, have been associated in the past with low interpersonal trust which makes every money-transaction more uncertain and thus more expensive (Gambetta, 1993, p.285-286). The variable measuring social capital in 1885 is an equally weighted indicator of these two variables. I use also other determinants of the presence of *Cosa Nostra* compiled from Buonanno et al. (2015). The first is the number of sulphur mines in each Sicilian municipality in 1886, which captures the emergence of *Cosa Nostra* next to booming sulphur mines. The second is citrus land suitability, to proxy the presence of *Cosa Nostra* next to the highly profitable citrus fields. The third variable is land fragmentation, which increased the request for private protection as a higher number of landowners asked for protection to *Mafiosi* (Bandiera, 2003), measured using a dummy variable equal to 1 if in a municipality small and medium landholdings were present, and zero otherwise. Fourth, as argued by Buonanno et al. (2015), *Cosa Nostra* had a crucial role in controlling the presence of underground water supply basins. I capture this feature with a dummy variable equal to 1 if the municipality had underground water basins in early 1924, assuming that the number of aqueducts (typically with origins in the Roman Empire) did not change between the late 1800s and 1924. Fifth, I also consider the arrival of *Cosa Nostra* as a response to the 1893 drought. De Feo et al. (2019) provide historical information on rainfall, extracted from thirty-nine stations in Sicily in the early 1890s, matched to rainfall data from 1941.⁸ Finally, I consider the presence of Peasant *Fasci*, using a list of all the *Fasci* organisations present in Sicily between 1891 and 1894 provided by De Feo et al. (2019).

Figure 1 shows the results of this analysis. Each row is a separate Pooled OLS regression and both the dependent and the independent variables have been standardised for ease of interpretation. I use the same set of geographic control variables as in De Feo et al. (2019). These are log population in 1861, log area of the municipality, maximum and average altitude and the elevation of the town centre, distance to Palermo in 1856, distance to the closest port in 1856, number of roads in 1799, the average temperature, the variance of rainfall, and average value of rainfall.⁹ Due to data availability, each regression has a different number of

⁷In 1881-1886, Damiani conducted a parliamentary investigation into Sicilian municipalities, where *pretori* (lower court judges) supplied responses.

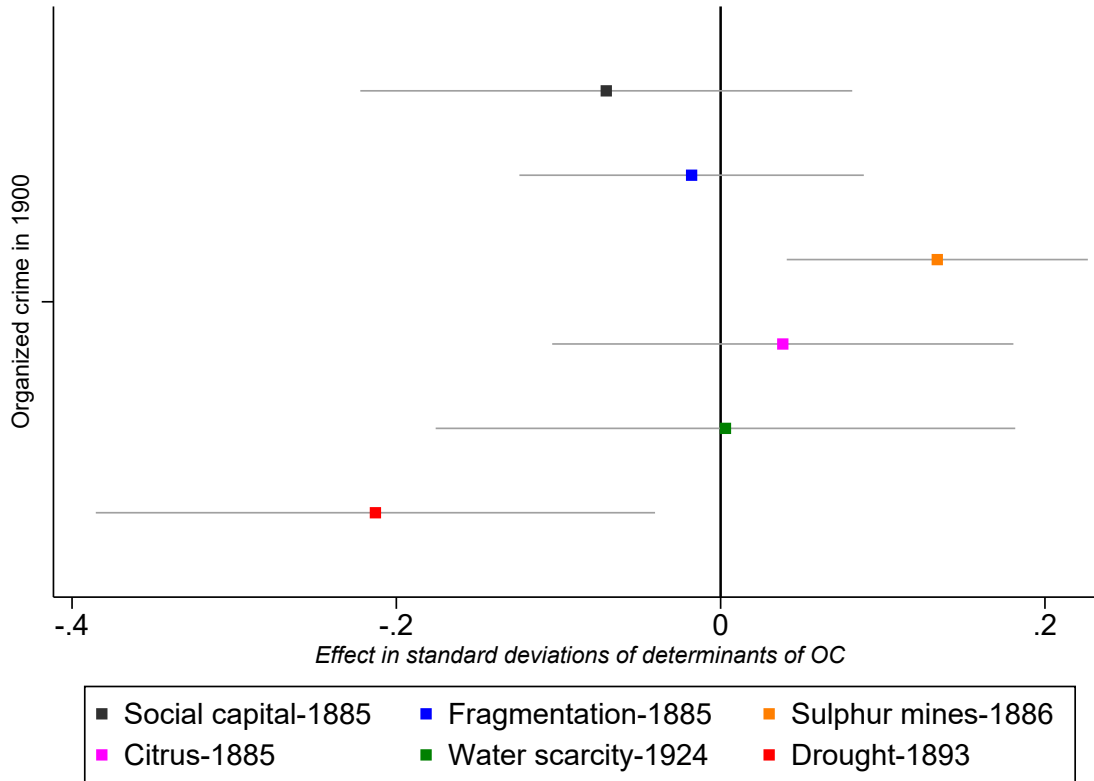
⁸I will refer to rainfall as the variable for the inverse of drought.

⁹Results (available upon request) are consistent when using the base model with no control variables added.

observations.¹⁰ Results show that social capital and citrus land suitability are not statistically significant, while a 1SD increase in sulphur mines in a municipality is associated with a 0.13SD increase in *Cosa Nostra* presence in 1900 and a 1SD increase in the interaction between rainfall and Peasant *Fasci* is associated with a 0.21SD decrease in the presence of *Cosa Nostra*. This exercise excludes social capital in 1885 as a main determinant of *Cosa Nostra* presence in 1900.

¹⁰The regression that has as a determinant social capital uses 133 municipalities, the fragmentation uses 213 municipalities, the sulphur mines uses 248 municipalities, the citrus uses 253 municipalities, the water scarcity uses 253 municipalities and then Rainfall X Riots uses 245 municipalities. I acknowledge the limitations of this quantitative exercise as each regression is based on a different sample which makes the comparison across regressions not trivial. However, this quantitative exercise is based on all the available data at my disposal.

Figure 1: Cross-sectional OLS: reverse causality test of the origins of organized crime groups (1885-1900)



Notes: This figure presents the OLS estimates of the effects of the determinants of organized crime on the presence of organized crime groups in 1900 in Sicily. Each row is a regression. Both the dependent and the independent variables are standardised with mean 0 and standard deviation 1. The dependent variable is *Cosa Nostra* presence in 1900. Row 1 shows the effect of social capital in 1885. Row 2 shows the effect of land fragmentation in 1885. Row 3 shows the effect of the number of sulphur mines in 1886. Row 4 shows the effect of citrus land suitability in 1885. Row 5 shows the effect of water scarcity in 1924. Row 6 shows the effect of the interaction between rainfall and the presence of Peasant *Fasci* in 1893. The control variables are the same geographic controls as in De Feo et al. (2019). Province fixed effects are added. Description of the data used and the construction of the variables is in Section 1.1.4 and Data Appendix C.1. Standard errors are clustered at the municipality level. Confidence intervals are calculated at the 95% level.

1.2 Fascism and two world wars: 1900-1950

Between 1900 and 1945, Italy fought in two world wars and was under fascist rule between 1922 and 1943. In this period, organized crime groups were largely repressed, as their business of private protection was adversely affected by war and fascist antagonism. Protection is not requested when there is a strong centralised government which monopolises it and by doing so, steals large shares of the organized crime market.

Under fascist rule, *Cosa Nostra* was weaker than at any other time in its two century history. This was especially so from 1925, under the harsh administration of the Prefect Cesare Mori.¹¹ The three years between 1926 and 1929 witnessed a very energetic repression of the *Cosa Nostra*. For this reason, in a speech in Parliament on 27th May 1927, Benito Mussolini promised the soon-to-be-realised defeat of *Cosa Nostra*. Prefect Cesare Mori used harsh methods to imprison *Mafiosi*; the simple testimonies of a public official, without any burden of proof, were enough to send someone to prison (Ciconte, 2019, p.70). In 1929, the Prefect Cesare Mori was sent away because, according to the fascist central government, *Cosa Nostra* had been defeated. Today, historians like Ciconte (2019) speculate that he was sent away as soon as he began to prosecute the ‘high Mafia’ as opposed to the ‘low Mafia’, for example prosecuting the prominent fascist politician Alfredo Cucco or the minister of Mussolini’s government Antonino Di Giorgio. Several court investigations have revealed that the *Cosa Nostra* was far from defeated. In Eraclea in 1935 a Mafia group composed of 245 members was put under arrest, and in 1937 in Favara and Palma di Montechiaro, 211 *Mafiosi* were imprisoned (Ciconte, 2017, p.70-73). *Cosa Nostra* re-emerged after the second world war, thanks again to its protection racket activities. This is because, in 1944, a state law established that all non-cultivated land should be distributed to peasants. A multitude of peasants tried to grab this now-free-land, and half a million people took to the streets. As in the past, landowners paid *Cosa Nostra* for protection. More than 40 union leaders and presidents of agricultural cooperatives were murdered by *Mafiosi* between 1945 and 1948 (Sales, 2015, p.269). The peak of the violence was reached on the 1st May 1947 in what is today called the ‘Massacre of Portella della Ginestra’, where *Cosa Nostra* members killed 11 people and injured 27. Post 1945, *Cosa Nostra* began to assume a prominent role in regional politics, in particular in connivance with the Christian Democrats (DC) who governed Sicily (and Italy) until the 1990s during the so called ‘*Prima Repubblica*’ (1946-93) (Falcone and Padovani, 1991; De Feo and De Luca, 2017).

¹¹The fascist propaganda circulated a tale about Benito Mussolini arriving at Piana degli Albanesi, a municipality in Sicily, where he was met by the mayor affiliated to *Cosa Nostra*. The latter reassured him of his security because of *Cosa Nostra* presence. The highly centralised nature of Fascist governance could not permit this and Benito Mussolini requested a full monopoly on violence on the island and, to do the job, he sent the Prefect Cesare Mori.

The fate of *'Ndrangheta* during this period was different to that of the *Cosa Nostra*. Between the end of the 1800s and the beginning of the 1900s, *'Ndrangheta* acquired close links with the institutions in Calabria. For example, historians like Ciconte (2019) refer to the head of the Police, Giuseppe Delfino, signing secret deals with *'Ndrangheta* bosses in order to maintain the public order. This 'treaty' between the police and *'Ndrangheta* led to a number of quiet years in which Calabria avoided being at the centre of attention of the fascist regime. *'Ndrangheta* took advantage of this period - remaining silent while it was alive and growing (Ciconte, 2017, p.74-75).

The fate of the *Camorra* was also different from that of the aforementioned Mafia groups. In 1900 the newspaper *La Propaganda* accused a member of parliament named Aniello Casale of having obtained votes from the *Camorra*. The national government took advantage of this public accusation against *Camorra* and nominated a commission whose function was to repress the Mafia group (Ciconte, 2017, p.57-58). This repression was exacerbated six years later when, in 1906, the infamous *Case Cuocolo* erupted. A member of the *Camorra*, a man named Cuocolo, was accused of having murdered his wife, and was then murdered immediately after in a secret meeting organized by the *Camorra*. As the case became more complex, the linkages between *Camorra* and police began to appear. The head of police, Carlo Fabroni, arrested many *Camorristi* in response to these findings, at times resorting to fake testimonies (Ciconte, 2017, p.65). After this period, the *Camorra* was decimated by the police force and by one 'maxi-trial' in which most of the *Camorristi* were imprisoned. In 1915 the remaining *Camorra* members met in a cemetery, the *Cimitero delle Fontanelle*, in a neighbourhood in Naples and agreed to disband the group. It is noteworthy that the almost complete defeat of a Mafia-type group is an absolute exception in the history of organized crime groups in Italy. There are a number of reasons why this happened, but certainly the most relevant are: (i) their systematic repression; (ii) the reconstruction of the most downtrodden suburbs; and (iii) the industrialisation of the city (Sales, 2015, p.316). During Fascism, many of the remaining *Camorristi* enrolled in the Fascist party and avoided any type of repression, which instead hit the *Camorristi* in other areas, such as in the province of Aversa where almost 4,000 people were arrested (Ciconte, 2017, p.76). As with the other two groups, however, fascism did not manage to completely defeat the *Camorra* and some members survived especially in Aversa, Caserta, Nola and in Agro Socerino-Sarnese (Ciconte, 2017, p.76).

1.3 Expansion of organized crime groups: 1950-1990

Not only was the expansion of the Mafia not uniform across underdeveloped areas with high levels of mistrust, but several groups also emerged in areas of high social capital. I argued in the previous section that there was a second omission in the ‘cultural explanation’ of the emergence of organized crime. The second omission of this theory is that there is both historical and empirical evidence that shows that organized crime groups emerged in areas with high levels of social capital. As we have just seen, while the Mafia groups were to some extent repressed, these groups were far from gone. Mafia groups re-emerged in the second half of the 1900s and expanded in areas in the centre and north of Italy, which Putnam (1994) defined paradoxically as the ‘cradle’ of social capital. This is discussed below.

1.3.1 The three causes

When investigating the expansion of organized crime across Italy from the 1950s, the most reliable source of information is the Parliamentary Anti-Mafia Commission (PAC) which was initiated in 1962 to report on the activity of organized crime in the country. In addition to this source, a number of recent empirical studies have shown how and why the geography of organized crime groups has changed in Italy in the second half of the 20th century. There are three main causes of this expansion.

Cause 1: Resettlement law

The resettlement law forced individuals convicted or suspected of belonging to *Cosa Nostra* to move to a different municipality in Italy. In the words of PAC (1994, p.19), "*According to an absolutely unanimous evaluation, the most important reason for the spread of organized crime in Italy is attributable to the unique resettlement law*" that was passed in 1956, modified in 1965, and remained in force until 1988 (Gazzetta Ufficiale, 1965). To enact this forced resettlement of *Mafiosi*, the judge did not need to go through a trial or judicial process, while it actually aimed to isolate potentially dangerous individuals for whom there was insufficient evidence for an indictment. Although its aim was to cut the ties between members of *Cosa Nostra*, it actually facilitated the arrival of Mafia groups in areas from which they had been (almost) absent before (PAC, 1991, 1994).¹² This resettlement law is a textbook example of legislative action with good intentions but unexpected adverse outcomes. Based on the widespread view that organized crime presence was a by-product of low social capital in southern regions, it was assumed that re-settled *Mafiosi* in areas with more state pres-

¹²The sparsity of the Mafia outside their strongholds in the south was extensively documented in the late 1960s (Lupo, 2004; Varese, 2006, 2011; Dalla Chiesa, 2017; Dipoppa, 2021).

ence and a more civic-binding and lawful culture would change their criminal behaviour. Instead, these resettled *Mafiosi* facilitated the expansion of organized crime groups to new areas as a number of studies have in fact shown (Varese, 2006; Buonanno and Pazzona, 2014; Scognamiglio, 2018).

Importantly, judges who headed the provincial tribunal where the Mafia suspect was living had the power to decide where to send the suspect. The law was written in such vague terms that it did not specify the characteristics of the place to which the suspect should be sent. This was changed in 1982 with the *Rognoni-La Torre law* which introduced the Article 416-bis of the penal code, specifically against Mafia association crimes, which specified that the relocation order had to involve a municipality with less than 5,000 inhabitants, far from large metropolitan areas, and with a police station. In the period of time in which the resettlement policy was ongoing, there is no evidence that levels of social capital meant that some provinces were preferred to others for forced resettlement because statistics to support this possibility were not readily available for that period (Scognamiglio, 2018). Additionally, there is no historical evidence which suggests that *Mafiosi*, through forms of power and influence, managed to move in areas of their preference. Once *Mafiosi* were resettled, they were monitored by police and could not leave the municipality; those who did could be punished with a period in prison of between six months and two years. Nonetheless, Mafia bosses were often sent to villages (for example Abbiategrasso and Grugliasco) close to cities such as Milan and Turin with a thriving business environment. Due to weak control by the police, it was not uncommon for them to move about on daily business trips without facing prison time for violating the law (Dalla Chiesa, 2017, p.46-47). Hundreds of Mafia kidnappings, which require a great deal of local governance and perfect understanding of the local context, were made during the 1970s close to the municipalities where the bosses were resettled (Dalla Chiesa, 2017, p.30). Gaspare Mutolo, former *Mafioso*, who became a collaborator with the judiciary summarised the usefulness of the resettlement policy for expanding in new areas, as cited in Varese (2011): "*The policy of forced resettlement was a good thing, since it allowed us to contact other people, to discover new places, new cities*". This law was crucial in exporting Mafia groups to other areas, as available data on forced resettlement show that 2,360 people suspected of belonging to criminal organizations were transferred between 1961 and 1972, with 80% of those resettled being moved to the northern and central provinces (Varese, 2006; Buonanno and Pazzona, 2014; Caglayan et al., 2018; Scognamiglio, 2018).

The resettlement law also assisted the re-emergence of *Camorra* in Campania, as *Cosa Nostra* bosses like Stefano Bontade, Vincenzo Sparato, Gaetano Riina, and Salvatore Bagarella were sent close to Naples and became associated with many *Camorristi* (for example the

Mafia families Zaza, Bardellino, Nuvoletta and Alfieri) (Cicone, 2017, p.107-108). At the same time, the resettlement law was particularly relevant to the southern region of Apulia, as it was the southern region that had the highest number of resettled *Mafiosi* (Pinotti, 2015b). The resettlement policy was finally abrogated between 1988 and 1993.

Cause 2: Closure of the tax-free port of Tangier

American *Mafiosi* arrived in Tangier in 1946 and initiated a large scale illicit tobacco trade in the Mediterranean. Then when the tax-free port of Tangier was closed in 1960, it facilitated the development of a similar trade in the south of Italy (PAC, 1993b) that was mostly conducted by *Cosa Nostra* and the Marseille French organized crime group. After a conflict with *Cosa Nostra* and the arrest of most of the prominent members of the Marseille organized crime group in 1972, *Camorra* replaced them and took a prominent role in the said tobacco trade.¹³ *Camorra* had extensive previous experience in contraband and the historical reason can be traced back to the presence of US American troops in 1943 in a neighbourhood of Naples called *Forcella*. The troops had unused stocks of foods and items which they sold to the black market. This favoured the ascent of the *Camorra* Giuliano family which dominated the neighbourhood for years (for example resolving conflicts, paying for the funeral services of people in need, as well as through other forms of involvement in the life of the community) (Sales, 2015). Contraband was ultimately a stable job for many people in Naples, especially in 1973 when a cholera outbreak spread and many workers in the food industry lost their jobs (Sales, 2015, p.340-341). The tobacco smugglers even had a trade union called *Collettivo Autonomo Contrabbandieri*. This was such a relevant business for them at the time that in popular folklore it was said that "*Cigarettes are related to Naples as the FIAT automotive industry is related to Turin*" (Sales, 2015).

The illicit tobacco trade particularly affected the southern region of Apulia when the closure of the tax-free port of Tangier disrupted the old route between Morocco and Marseille. A new route was established from Eastern Europe (Albania and Yugoslavia), where the new deposits of tobacco were relocated, to Turkey and Cyprus, passing through Apulia. This route change attracted Mafia groups to Apulia in the 1970s and tobacco smuggling became the most important criminal business in the Italian peninsula (Pinotti, 2015b).

Cause 3: Drug trade, money laundering and construction sector

In the late 1970s, the *Cosa Nostra*, *'Ndrangheta* and *Camorra* moved from the illicit trade

¹³More precisely, to begin with, the *Camorra* families Zaza, Bardellino, Nuvoletta and Gionta were all affiliated to *Cosa Nostra* and joined the illicit tobacco trade as smugglers (Sales, 2015, p.339). The trade initially involved *Cosa Nostra* and *Camorra*, but then also the *'Ndrangheta* and the *Sacra Corona Unita* (the Mafia group present in Apulia, as discussed later).

in tobacco to the highly profitable drug trade.¹⁴ The large profits from the drug trade (especially heroin) needed to be laundered through investments in the legal economy, and organized crime groups particularly exploited the construction sector for this. The construction sector is ideal for laundering large amounts of money relatively easily. It is a sector where innovation is extremely low and the use of intimidation and violence can bring to the Mafia group a real competitive advantage which allowed them to obtain monopolistic positions in all the productive processes from the production of concrete to sale (Sciarrone, 1998; Saviano, 2007).¹⁵

In Sicily and Calabria, the re-investments in the construction sector further reinforced the presence of Mafia groups in those regions.¹⁶ In Sicily, an example is provided by the infamous mayor of Palermo, Salvo Lima, and the member of his council designated to oversee the city's construction sector, Vito Ciancimino. A number of judicial investigations found that they assigned roughly 80% of the available funds for the construction sector to *Cosa Nostra* families (Scognamiglio, 2018). In Calabria, the *'Ndrangheta* in the mid-1970s was involved in the completion of the *Autostrada del Sole* highway between Salerno and Reggio Calabria. It was later discovered that the construction companies from the north of Italy paid the *'Ndrangheta* 15% extra to carry out construction there without interference (Ciconte, 2017, p.105-106). Additional construction sector works include the 5th iron and steel industrial centre in Gioia Tauro and the train line between Reggio Calabria and Villa San Giovanni. For the *Camorra*, an important opportunity for money laundering opened up after the Irpinia earthquake in 1980, a major quake on the border between Basilicata and Campania. It affected a massive area of 10,000 square miles across 687 municipalities. The earthquake caused 2,735 deaths, 8,848 people were injured and 280,000 were evacuated from their homes (Scalfaro, 1991). The aftermath led to large inflows of relief money to the region (roughly 25 billion euros), which ended up largely favouring *Camorra* groups through profitable public procurement

¹⁴Beginning in the 1970s, *Cosa Nostra* in particular played a major role in the heroin trade thanks to Lucky Luciano, head of the American *Cosa Nostra*, who was extradited to Italy. Lucky Luciano initially moved to Cuba, which was the perfect location from which to logistically control the export of illicit drugs to the United States. Then, in 1959, a geopolitical event - Castro's revolution in Cuba - rendered Sicily highly strategic for the heroin trade as Cuba could no longer be used as a logistical hub. In the 1970s, *Cosa Nostra* had the human capital to export heroin to the US from Pakistan and Turkey and the island became a lab for transforming morphine from the Middle East (Sales, 2015, p.327-332).

¹⁵De Feo and De Luca (2017) look at the impact of organized crime on electoral competitiveness and show that the Mafia received economic benefits in the construction sector in exchange for electoral support.

¹⁶Also, because of the huge profits from the drug trade there were a number of internal conflicts which vastly changed the geography and power structures of the three Mafia organisations. A summary of these conflicts is beyond the scope of this thesis, but in short, *Cosa Nostra* had three internal conflicts in 1962, in 1968 and between 1981 and 1984, at the end of which the infamous *Cosa Nostra* boss Toto Riina emerged as a winner. *'Ndrangheta*'s internal conflicts were in 1967 and 1975. The *Camorra* had a large-scale internal conflict at the end of the 1970s between the *Nuova Camorra Organizzata* which was founded by *Camorra* boss Raffaele Cutolo and the *Nuova Famiglia* led by the Alfieri *Camorra* group.

contracts (PAC, 1993a; Pinotti, 2015b). The first legislative action by the Government was to send relief to the 104 municipalities seriously hit by the earthquake. Within a year the number increased to 315, and then 642 municipalities (Gazzetta Ufficiale, 1981). Using the words from the final and most complete Parliamentary commission on the Irpinia earthquake reconstruction: "*The variation in the selected municipalities was only marginally explained by the damages. Among the damaged municipalities, some with less than 5% of damages were included (...) all the pressures were successful by those who wanted to be beneficiary of the money for relief (...) many of these municipalities largely received more money than the ones needed for the reconstruction*" (Scalfaro, 1991, p.84,118)

Judicial inquiries and parliamentary commissions proved that the relief money was largely misappropriated through the intimidation of local public officials; 384 people were arrested throughout all the legal processes and 28 clans were involved (Scalfaro, 1991). As mentioned by Barbagallo (1997): the "*Camorra did not lose a single day. Its firms immediately got the public contracts for the removal of the wreckage and installed the first prefabricated houses*". Similar episodes recurred frequently, extending to the most extreme acts of violence, such as the murder of local politicians. Scalfaro (1991, p. 155,537) writes: "*The murder of the vice-mayor responsible for the reconstruction of the highway in Sant'Agata dei Goti, where (ed. later) in 1990, the town-hall was burnt down to destroy all the documentation on the reconstruction (...) Camorra infiltrations were recorded for the assignment of the public procurement. The most favoured sectors were in the provision of concrete, demolitions, excavation (...) these activities resulted in essential channels for the strengthening of new organized crime groups such as the Mafia group Nuvoletta, the Mafia group Alfieri and the Mafia group D'Alessandro*".¹⁷

The relationship between earthquake damages and the rise of organized crime groups is not limited to the Irpinia earthquake. Gennaioli et al. (2010) studied how organized crime had spread 30 years later (in 1997) because of the receipt of public funds in central Italy after an earthquake. Most recently, Marcolongo (2020) showed that, following an earthquake, criminal firms boost their participation in public procurement auctions in emergency-designated localities, and this happens mostly because the attention of the authorities is at its lowest.¹⁸

The construction sector was also critical in attracting Mafia groups to the centre and north of Italy (Buonanno and Pazzona, 2014; Dipoppa, 2021). Dipoppa (2021) provides evidence of this by showing that in those cities that had a construction boom there was also an increase in organized crime presence thanks to the group's ability to compete at a very

¹⁷This was not a single case. Marcello Torre who was the mayor of Pagani, a municipality in Campania, was also killed by the *Camorra*.

¹⁸Earthquake exploitation for organized crime is not new. It was, for example, discussed in Leeson and Sobel (2008) for the case of the US.

low cost by exploiting migrants from mafia historic strongholds. Because of the post-war economic development in the north, nearly 4 million people emigrated from the southern regions to the centre and north from the late 1950s to the early 1970s (Buonanno and Pazzona, 2014). In 1962 more than 70% of construction sector workforce in Genoa, Turin and Milan came from the south of Italy (Dipoppa, 2021). As reviewed by Dipoppa (2021), in Turin, the majority of the construction workforce was subject to racketeering. The author argues that these people would have found it difficult to fit in the north of Italy because they were without formal documents and because the state did not have in place any real policy to integrate this wave of new internal migrants. For this reason, they were then victims of the Mafia groups that employed them as a form of very cheap labour, without a legal contract and insurance. At the same time, Mafia groups might have found it simpler to relocate in areas with pre-existing migrant communities as the latter were more familiar with this type of presence (Pinotti and Stanig, 2016).

These three sets of events led to the expansion of organized crime to the centre and north of Italy during the 1990s and early 2000s, including in Lazio, Tuscany, Liguria, Emilia Romagna, Piedmont, Lombardy, Veneto and Valle d'Aosta as shown in Sciarrone (2014, 2021) and by a number of judicial inquiries such as *Infinito* in Lombardia and *Minotauro* and *Albachiara* in Piedmont (Ciconte, 2010; DDA, 2015; Corte di Cassazione, 2015). This expansion of internal Mafia groups throughout the 1990s was accompanied also by the arrival of foreign organized crime groups. These included groups from Albania and China, and more recently, Nigeria. The arrival of the Albanian organized crime group was prompted by the collapse of Yugoslavia and the consequent Balkans civil war in the 1990s. The Albanian groups penetrated the illicit drug market and were involved in the illicit immigrants trafficking from Eastern Europe, while signing temporary deals with the Mafia groups (Ciconte, 2019, p.132).¹⁹ The Chinese organized crime group is present mostly in Florence, Prato, Rome and Milan. The typical recruit of the Chinese gangs is the Chinese migrant whose plane ticket to Italy is paid for by the gang. The migrant has then to pay back his/her debt by working for the group. They have to work in the counterfeit business, particularly in the market of fake passports. Other businesses include drug trafficking of methamphetamine, international waste management and pimping & pandering (DIA, 2019, p.611,623). Finally, the newest organized crime group to have gained relevance in Italy is from Nigeria. Similar to Mafia groups, this group is an organization of secret cults (DIA, 2010, p.614). Its main business is selling drugs, especially heroin and cocaine. They appear to be managing the whole

¹⁹As an example of these flexible alliances between organized crime groups, ten million euros worth of goods were recently seized and 23 people were arrested in a police operation named *Infectio* which discovered a group composed of members of both the Albanian organized crime groups and the *'Ndrangheta* (DIA, 2019, p.631).

of the drug trafficking chain, from production, to import, and selling it on the streets (DIA, 2019, p.611). They are also involved in pimping & pandering and counterfeiting (Ciconte, 2019, p.131-132).

1.3.2 Empirical evidence

As a second piece of evidence, from this historical review of the expansion of organized crime groups across Italy after the second world war, I am able to show that social capital did not determine the emergence of organized crime groups in the country in the second half of the 1900s, again empirically testing the ‘cultural explanation’. In Table 1 I present the results of this exercise. The dependent variable used is a province-level indicator of the presence of organized crime groups in 1983 based on a series of variables related to violence perpetrated by Mafia groups (number of Mafia murders, number of Mafia association crimes, number of extortion payments, and number of crime association) and the Mafia economic presence (assets and firms seized from the Mafia, drug trade, and pimping & pandering).²⁰

To measure social capital, I use province-level data from the Italian National Election Studies of 1968 and 1972 (ITANES, 1972), employing variables that are available in both years. The variables are: (i) an ordinal variable, ranking (from 1 to 4) whether the individual was interested in politics; (ii) a dummy variable, equal to 1 if the individual participated in strikes; (iii) a dummy variable, equal to 1 if the individual was a member of any civic organisation; (iv) a variable rating the honesty of the politicians in the government (ranging between 1 and 3); (v) a dummy variable, equal to 1 if the individual thought the politicians cared about what people thought; (vi) a variable ranking government wastefulness from 1-3; and (vii) a dummy variable, equal to 1 if the individual thought that politics were not too complicated. All variables are reverse coded so that a higher value represents a positive indicator. Social capital in 1968-1972 is an equally weighted index of the standardised measures above.

Column (1) of Table 1 shows the baseline effect of social capital in 1968-1972 on organized crime in 1983. Column (2) adds a number of control variables that were available in the 1951 census, as provided by ISTAT. These include altitude of the municipality, log of surface area; ratio of male population to female population; ratio of population less than 6 years old to total population; ratio of 65-year old population to total population aged between 15 and 64; average household size; ratio of houses owned to the total number of available houses; an index of available services (drinking water, bathroom and hot water); inhabitants per square meter; ratio of males with a diploma to females with a diploma; ratio of illiterate population to total population above 6 years old; employment rate; population size; share of

²⁰See Data Appendix C.2 for details on how I constructed each of these variables and their data sources.

industrial sector; and share of individuals with a university degree in relation to those with middle school. To reduce multicollinearity, I exclude those indicators that are the inverse of an already added variable. I also exclude those indicators that are not strictly the inverse of others but are redundant (for example the number of elderly people who live alone is already captured by other variables). Column (3) adds region fixed effects.

In all three regressions, social capital in the late 1960s and early 1970s is not a statistically significant determinant of the presence of organized crime groups, a decade later, in 1983.

Table 1: Cross-sectional OLS: reverse causality test of the expansion of organized crime in the second half of the XXth century (1968-1983)

	Organized crime 1983 (1)	Organized crime 1983 (2)	Organized crime 1983 (3)
Social capital 1968-1972	0.154 (0.118)	0.164 (0.122)	0.112 (0.125)
Base model	Yes	Yes	Yes
Control variables	No	Yes	Yes
Region FE	No	No	Yes
Observations	70	70	70
R^2	0.011	0.587	0.701

Notes: This table presents the OLS estimates of the effect of social capital between 1968 and 1972 on the presence of organized crime in 1983. Data excludes the Mafia historic strongholds (Sicily, Calabria and Campania). Both the dependent and the independent variables are standardized with mean 0 and SD 1. The dependent variable is the organized crime presence as proxied by its violent presence (number of mafia murders, number of mafia association crimes, number of extortions and number of crime association) and economic presence (assets and firms seized to the mafia, money-laundering crimes and a list of typical economic crimes: drug trade, pimping and pandering and counterfeit). The variable of interest is the social capital aggregate index between 1968 and 1972. In column (1) we present the base-model. In column (2) we add the full list of control variables from the census in 1951 (ISTAT). In column (3) we add region fixed effects. Description of all the variables used is in Section 1.1.4 and in Online Appendix C.1. Standard errors in parenthesis clustered at the province level with the borders of provinces in 1968. *p <10%, **p <5%, ***p <1%.

1.4 Mafia groups today: 2000s

The 2000s appear to be one of the weakest times in the history of *Cosa Nostra*. The turning point was in the late 1980s and was due to a confrontation by two prosecutors (Giovanni Falcone and Paolo Borsellino) who conducted what is known as the ‘maxi-trial’ against *Cosa Nostra* bosses. A record number of 475 *Mafiosi* were imprisoned for a multitude of crimes. In the years between 1992 and 1993, *Cosa Nostra* reaction resulted in an open conflict with the state. This period, which is commonly referred to as one of ‘*Cosa Nostra* terrorism’, led to the homicides of the two prosecutors, Giovanni Falcone and Paolo Borsellino, and three terrorist attacks, in Florence, in Rome and in Milan. This terrorist period led to a backlash against *Cosa Nostra* because of their loss of legitimacy among the local population and because of the strong confrontation with the state. By 1997 the Italian police had managed to imprison almost all of the *Cosa Nostra* bosses. As of today, *Cosa Nostra* maintains its pyramidal structure, but with only a few men of honour who are painstakingly selected to deal with the most delicate issues (DIA, 2018a). Since Mafia bosses Toto Riina and Bernardo Provenzano died in 2016 and 2017, respectively, *Cosa Nostra* seems not to have found a successor (DIA, 2019).

As mentioned earlier, the *’Ndrangheta* was silent throughout the first half of the 20th century and was never much threatened by the state repression, especially since the attention of the state was channelled towards the political terrorism in the 1970s and 1980s (the period of the left-wing group known as the *Brigate Rosse*) and in the 1990s by the ‘*Cosa Nostra* terrorism’ (Allum et al., 2019). After the second world war, the *’Ndrangheta* business of provision of protection and mediation expanded to smuggling between Switzerland and Italy, diamond trafficking and gambling (Allum et al., 2019, p.145). In the 1970s the *’Ndrangheta* also specialised in kidnappings in the north of Italy with highly profitable requests for bounties (Barbieri and Mete, 2021). Starting from the 1990s, it slowly became the most powerful organized crime group in Italy and among the most relevant worldwide. Apart from being able to avoid state repression, there are three additional reasons why the *’Ndrangheta* might have expanded so rapidly on a global scale: (i) the high demand for capital and the little attention paid to its provenance (Buonanno and Pazzona, 2014); (ii) the absence of the Mafia-type aggravating crime in foreign countries, which is instead present in the Italian judicial codes (for example the *’Ndranghetisti* risk far fewer years in prison abroad for the same crimes and the same chances of making a profit) (Allum et al., 2019, p.50); and (iii) *’Ndrangheta* members are willing to ‘get their hands dirty’ by working in low paid jobs, something the other Mafia groups were not willing to do (Sciarrone, 1998) (Allum et al., 2019, p.153). The *’Ndrangheta* has a large number of associates. According to DIA (1997)’s estimates, the group employs one associate per 345 inhabitants in Calabria

and one associate per 165 residents in the province of Reggio Calabria. These numbers are particularly striking when compared to *Cosa Nostra*, which employs one associate every 902 inhabitants in Sicily, and *Camorra* which employs one associate every 840 inhabitants in Campania. According to the DIA (1994, p.5) and DIA (1995, p.11), since the early '90s, the *'Ndrangheta* has adopted a more pyramidal organisational structure. Each family governs its territory quite autonomously and the upper level simply coordinate, design strategies and regulate internal struggles (Coniglio et al., 2010). The people coordinating this vast criminal network are the *'Capibastone'*, residing in the province of Reggio Calabria and controlling the local units, called *'locale'*, which are present across Italy. The wealth of the families differs, some are very wealthy, but there are masses who have little economic clout (Allum et al., 2019, p.49).

Finally, with regard to the *Camorra*, as previously mentioned, it took advantage of the resettlement law, the illicit tobacco trade and the construction sector to re-emerge after the second world war. The group regained a national role when in the 1970s Raffaele Cutolo became the *Camorra* boss. He created the *New Organized Camorra*, the *Nuova Camorra Organizzata* or *NCO*, and strategically adopted actions that allowed him to accumulate and maintain power through fear and respect. Currently, analysts prefer to distinguish between *Camorra* in the city of Naples (very small fragmented groups controlling the drug market) and the *Camorra* of the province, which is much more stable and organized and with strong infiltration into the legal markets (for example waste management). Naples could be described as particularly dynamic because only a few Mafia groups control the territory in the north of the city, such as the alliance of families known as the *Alleanza di Secondigliano*, while in the rest of the city new, less able leaders emerge, but soon subside. The alliances are changeable and unstable, and the leadership roles now belong to third-generation *Camorristi*, young people who have replaced the old traditional leaders without, however, having inherited their strategic capability and authority. They have taken possession of the local districts in Naples through daily and continuous violence, the likes of which have not previously been seen (DIA, 2017, p.111).

1.5 The rest of the world

One video which recently circulated on Youtube made the news. In the video, a group of *'Ndranghetisti* were recorded reciting the oath of *'Ndrangheta* which mentions the legend of *Osso*, *Mastrosso* and *Carcagnosso*, referred to in footnote 3. The video made the news because the *'Ndranghetisti* were not in some remote area of Italy, but were located in Singen, a city in the south-west of Germany (Ciconte, 2019, p.160). As I discussed throughout this section, it seems that organized crime groups in Italy have emerged in areas with both low and high levels of social capital and that the presence of these groups may be better explained by economic-driven determinants. As a final exercise to test the 'cultural explanation', below I present a short overview of where and why Mafia groups have successfully moved outside Italy.

Mafia groups have found places to establish themselves in countries of the world with very different characteristics. It is estimated that they are now present in 13 European and 11 extra-European countries (DIA, 2018a). The first such country was the United States where they emerged when the vast and lucrative market for protection arose during the Great Depression, and also in response to the Prohibition policies against alcohol in the 1920s (Gambetta, 1993, p. 252). The first Mafia-type group which emerged was the *Mano Nera* which was followed by the US branch of *Cosa Nostra* (Ciconte, 2017, p.66-70). Interestingly, a 'cultural explanation' was also given for the emergence of organized crime groups in the US; the appearance of these groups was primarily linked to the backward Italian people and their mentality and culture. Actually, a more relevant interpretation of why they arrived in the US is given by Nelson Moe, president of the Investigative Commission against Mafia at the American Senate, who said: "*The organized crime groups found a country exposed to the strong temptations of the money, to them it was permitted everything that was possibly permitted, thanks to the possibility to corrupt the police authorities*" (Sales, 2015, p.40-41).²¹

In other areas of the world, native organized crime groups have also grown out of contexts in which there was a business opportunity. In a drastically different context, like Russia, where there were few owners who held a monopoly on violence, the Russian Mafia successfully arose by providing private protection (Varese, 2001, p.7). The same story can be told for the *Yakuza Group* in Japan where the former Samurai began to offer protection in the 1600s on the road connecting Kyoto and Tokyo (Frye, 2000; Milhaupt and West, 2000; Hill, 2003), or for the development of criminal groups in Marseille in France (Sales, 2015, p.38). In the case of Brazil, Lessing (2021) shows that the Brazilian gang *Primeiro Comando da Capital* arrived in the richest parts of the country, notwithstanding the level of state capacity in

²¹For a review of Mafia groups in the US, see Lupo (2004, Ch.4) and Dickie (2004, Ch.5).

those areas. Another example is El Salvador, a country with a far higher state capacity than Honduras, but with a far greater presence of criminal groups.

Whilst it cannot be ruled out, the historical and empirical evidence presented in this initial part of the chapter reassure us that reverse causality is unlikely in this case. For the remainder of the thesis I revert to my research question: ‘To what extent, and why, does exposure to organized crime groups affect the social capital of civilians?’. To answer that, in the second half of this first chapter I present a conceptualisation of social capital and organized crime groups in Italy, along with the data used to study their relationship.

1.6 Concepts and data

I discuss below the conceptualisation and the main data sources used in the thesis. Details of all data and variables constructed are provided in Data Appendix C.1.

1.6.1 Social capital

Conceptualisation

The questions ‘*What makes a civic community?*’ and ‘*What makes a civic individual?*’ have been at the centre of a long debate which dates back to ancient history. To the best of my knowledge, the first written text which mentioned what a citizen could do for his community occurred in the pre-Socratic era with the Greek philosopher Protagoras in the 5th century BC. It was then discussed in the Republic, in the 4th century BC, by Plato, and also by Aristotle, who in the Politics famously wrote: “*He who is unable to live in society or who has no need because he is sufficient for himself, must be either a beast or a god*”. Ancient Greece was home to one of the earliest forms of democracy and, especially because of this type of governance, philosophers at the time were interested in understanding the role of citizens in the community. With the crisis of the *polis* in Ancient Greece in the 4th BC, the discussion on the role and responsibilities of citizens became much more limited in the manuscripts that were preserved and that are available to us today.

In the Latin Roman culture, a similar common discussion among the aristocratic intellectuals was on what characteristics an individual should have had to show the quality of *humanitas*, that perfect equilibrium in knowledge, morality, physical fitness, that makes the perfect citizen. We have some excerpts by Cicero in the *De Officiis*, who was writing at the time in which the Roman Republic was falling, where he argues that the citizen who has *humanitas* is the one who is at the service of the community and aspires at social harmony.

The role of the individual in the community then lost its prominence in the western culture with the emergence of Christianity, as most of the philosophical and intellectual debates converged on the role of the State (temporal power) against the role of the Church (spiritual power), rather than the role of the individual. Nonetheless, in the Low Middle Ages, between 1000 and 1492, there are traces of the importance of being a good citizen in the western culture of the time. Just to name the most famous ones, there are signs of it in the painting *The Allegory of Good and Bad Government* by Ambrogio Lorenzetti, dated 1330, in the townhall of Siena (an independent Comune-Free state in the Middle Ages), where the Good Government is represented by dancing individuals which show ‘Harmony’ among citizens. Also, Dante in the *Divina Commedia* mentions the relationship between the citizen, the community and the state, such as in the *Inferno*, where he argues that those

who make sins against the State are worse than those who make sins against the family. The role of the community was then re-awakened by Machiavelli in the 1500s and the so called ‘Republicans’ who believed that the success of an institution depended on the civic virtue of its citizens. This idea was later debated by the ‘Liberals’, a group listing thinkers such as Hobbes and Locke among others, who stressed individualism over community. Moving across centuries these same concepts were discussed by De Tocqueville (1835) in his seminal book ‘Democracy in America’, and are still debated today.

All these intellectual debates were taken into the greatest consideration by those contemporary academics who conceptualised what is today called ‘social capital’. The latter has been used to indicate several - often quite divergent - concepts. Its definition has been the subject of several discussions, and many researchers have attempted (unsuccessfully) to reduce it to a one-size-fits-all definition.²² This is not realistic, as social capital - by nature - is a multidimensional concept.

Social capital has been defined as both a characteristics of a community and a characteristics of an individual. Putnam (1994), in work which was grounded for almost a quarter of a century in Italy, traces the reasons why social capital is higher in the north of the country than in the south. He relates social capital in Italy to the characteristics of a civic community and uses a broad definition: "*features of social organisation, such as trust, norms and networks that can improve the efficiency of society*".²³ On the other hand, Bourdieu (1986) defines social capital as a personal property derived primarily from one’s social position and status, rather than a collective property.

My conceptualisation, interpretation of the results, and the theory on the mechanisms, take the contention that social capital is both a community-level characteristic and an individual-level characteristic into consideration. At the same time, however, since the work of Bourdieu (1986) and Putnam (1994), much has been written to criticise the concept of social capital. Some studies show how social capital comprises components that might contrast with one another (Uslaner, 2002) and how, when reviewing the whole literature on social capital, the concept adds little to the sum of its elements (Bjørnskov and Sønderskov, 2013). For this reason, when I refer to social capital, I use the concept mostly as a shorthand for the four separate indicators I consider in the thesis.

²²A synthesised review of the main scholars between the 1980s and the 1990s would include: Bourdieu (1986), Coleman (1988), Putnam (1994), Burt (1995), Fukuyama (1995), Narayan (1999), and Putnam (2000).

²³Please note that his work has been criticised on many levels, mostly for the analysis he undertook and the quantitative indicators he used to support his arguments. See for example Boix and Posner (1996). Nonetheless, as Bjørnskov and Sønderskov (2013, p.1240) argue: "*Putnam’s unitary concept is not a good concept, but by saying something that turned out to be partially wrong, he re-energised an entire research area covering several diverse fields*".

Because there are so many definitions and possible indicators of social capital in the literature, definition of the components of the concept has long been a research focus (Bjørnskov and Sønderskov, 2013). To select the separate indicators that comprise social capital I then rely on the work of Uphoff (1999) who, by combining theory and empirical studies, tested the concept of social capital in real world case-studies. The author distinguishes between structural and cognitive dimensions of social capital. Behaviours make up the structural components of social capital and include participation and engagement of the individual. Perceptions make up the cognitive elements of social capital and include trust, values, and beliefs that encourage the pro-social behaviour of the individual.

I then further unpack each of the structural and cognitive dimensions into two components. The structural (behavioural) component of social capital can take the form of **political participation** or **civic engagement**. This distinction is what has been referred to as the ‘*Olson-Putnam controversy*’ as elaborated upon by Knack and Keefer (1997) and more recently by Geraci et al. (2022). Olson-type organisations are those with a re-distributive goals and therefore comprise participation in political parties and trade unions. Putnam-type organisations are civil society organisations (CSOs, henceforth) that foster in their members the values of collaboration, solidarity, and public service. In short, what defines a civic community are civic individuals who actively participate in public affairs through both local politics and independently, and through CSOs.

The cognitive (perception) component of social capital can be split between **institutional trust** and **interpersonal trust**, as discussed in large bodies of literature in sociology, political science and economics, following the seminal work of Gambetta (1988) and Alesina and La Ferrara (2002). In short, institutional trust refers to a civic community made up of citizens who should treat institutions with respect and expect the same in return (Putnam, 1994, p.111). Interpersonal trust captures the idea of cooperation and reciprocal interactions which bind a civic community together. Citizens in the civic community remain cooperative, tolerant, and reliable, even when they differ on major issues (Putnam, 1994, p.89).

Operationalisation

To analyse the effects of organized crime on social outcomes, I compiled data from the Italian annual household survey collected by ISTAT (2019) between 2000 and 2018.²⁴ Individual-level data are collected annually among 24,000 households drawn from a pooled random sample of 900 municipalities (selected from 7,926 Italian municipalities). The data is representative at the regional level and public access to this dataset is available only at the

²⁴ISTAT (2019) has implemented this survey every year with the exception of 2004, when the period of data collection moved from the last trimester (of 2003) to the first trimester (of 2005).

regional level. Access to the municipality codes is confidential, approved only after clearance from an ethical committee and accessible only from a secured location in ISTAT offices. I obtained such clearance and all data used in this thesis was compiled under strict measures of security and confidentiality from inside the ISTAT office in Genoa.²⁵ Municipalities are randomly selected with probabilities proportional to their demographic dimension and without replacement to provide a nationally and regionally representative dataset of all variables. Households are randomly selected with equal probabilities, without replacement, from the municipality registry office.²⁶ The final pooled sample I use in the thesis comprises a total of 765,718 individuals.²⁷

Political participation. I measure individual political participation using two variables. The first is a dummy equal to 1 if the respondent answered yes (and 0 otherwise) as to whether in the 12 months preceding the interview they: (i) were informed about politics by attending political meetings; (ii) volunteered in a political party; (iii) sent money to a political party; (iv) voted online (in the past 3 months); (v) participated in political rallies; and (vi) participated in demonstrations. A second set of variables captures individual participation in trade unions. These variables measure, also using a 0-1 scale, whether the respondents volunteered in a trade union in the past three months and were informed about politics through union meetings. To avoid possible multiple hypothesis testing bias (or family-wise error rate, FWER henceforth), I first standardised each question by subtracting the mean and dividing it by the standard deviation of the relevant survey wave. Then, for each set of variables, I created a mean index by taking the average of the standardised scores and then re-standardised it (Kling et al., 2007). This results in two mean indices measuring, respectively, participation in politics and participation in unions. I also constructed a standardised single outcome for each question. I follow this same procedure for all my dependent variables.

Civic engagement. This variable captures the participation of individuals in community affairs and activities, as well as civic participation in CSOs. The first set of variables I use capture individual participation in community affairs and were only collected in 2016 as part of a special questionnaire on civic engagement by ISTAT (2019). These variables measure (using a dummy equal to 1 if the answer is yes and 0 otherwise) whether, in the 12

²⁵Please note that some questions are available in the online questionnaire online but not present in the dataset. According to the ISTAT employee responsible for this survey, these questions are not available because they had never been validated (for instance through comparison with other sources and by validation by experts).

²⁶All of the sampling process is presented in detail online [here](#) (in Italian).

²⁷This is the final cleaned sample, which excludes individuals below 14 years old and those for whom questions on social outcomes are missing.

months preceding the interview, the respondents: (i) discussed local issues on social media (for example Facebook or Twitter); (ii) contacted the radio, the television or a local newspaper to engage in local issues; (iii) contacted the public office or competent entity to solve local issues; (iv) participated in meetings to solve local issues; (v) participated in protests or collected signatures with respect to local issues; (vi) volunteered in local groups; (vii) participated in activities to maintain and look after green areas in the community; and (viii) organized local feasts, cultural gatherings or sport events in the community. A second set of variables measures whether, in the 12 months preceding the interview, the respondents: (i) volunteered in a CSO; (ii) volunteered in a for-profit CSOs that works in the same areas as the non-for-profit CSO; or (iii) sent money to a CSO.

Institutional trust. I capture this variable in three ways. The first set of variables captures the individual's level of trust towards the political institutions. These variables measure (using a scale from 1=low to 10=high) to what extent the respondents trust: (i) political institutions in Europe; (ii) political institutions in Italy; (iii) political institutions of the region; (iv) political institutions of the province; (v) political institutions of the municipality; (vi) political parties; and (vii) the political system. The second set of variables captures individual levels of trust (using the same 1-10 scale) in the judicial institution and the police. The third set of variables captures individual attitudes towards the rule of law. These questions were only asked in 2016 as part of a special questionnaire by ISTAT (2019). These variables include: (i) whether the respondents think that not paying the taxes is bad (using a scale from 0=completely disagree to 10=completely agree); (ii) a dummy variable equal to 1 if the respondents believe it is never justified to evade taxes, and 0 otherwise (for instance, it is always acceptable or it is fine to evade taxes when the services are not efficient, or when not everyone pays them); (iii) a dummy equal to 1 if the respondents insist on receiving a fiscal receipt when the shop owner does not give it to them, and 0 otherwise (for instance, they prefer not to ask for it to avoid any discussion or they do not even notice); (iv) a dummy equal to 1 if the respondent does not pay under the table when asked by a self-employed professional (for instance, doctor, lawyer, mechanic, plumber) and 0 otherwise (for instance, they prefer not to say anything to avoid discussion or they do not even notice); (v) to what extent the respondents think it is bad to offer in-kind gifts or money to a public administrator to gain a personal favour (using a scale from 0=completely disagree that is bad to 10=completely agree that is bad); (vi) to what extent the respondents think that it is bad to offer in-kind gifts or money in exchange for a vote in elections (using a scale from 0=completely disagree that is bad to 10=completely agree that is bad); (vii) a dummy equal to 1 if the respondent does not think that corruption is natural and inevitable,

and 0 otherwise (for instance, corruption is very much natural or a lot natural or a little natural); (viii) a dummy equal to 1 if the respondent thinks that denouncing corruption is not useless, and 0 otherwise (for instance, very much useless or a lot useless or a little useless); (ix) whether the respondents think that it is important to respect the law (using a scale from 0=a lot to 3=not at all, reversed); and (x) whether the respondents think that it is important to behave honestly (using a scale from 0=a lot to 3=not at all, reversed).

Interpersonal trust. Interpersonal trust is defined as whether others (known or unknown) have their own or other people's interests at heart (Gambetta, 1988). This variable is usually disaggregated into trust in immediate (known) relations, and generalised trust (in unknown others). I first measure levels of individual trust in the proximate using information on the extent to which respondents have: (i) relatives (excluding parents, children, siblings, grandparents, nephews and nieces) on whom they can count (yes or no); (ii) friends on whom they can count (yes or no); and (iii) neighbours on whom they can count (dummy equal to 1 if the respondent has at least one, and 0 otherwise). To measure generalised trust, I use a dummy equal to 1 if the respondent thinks most people in society can be trusted (and 0 if they feel they need to be careful), in line with the existing literature (Alesina and La Ferrara, 2002). I include in addition a measure of trust extracted from a vignette a survey in which respondents were asked to assess a real case scenario. In this scenario, they were asked, if they lost their wallet, did they believe that it would be returned to them by: (a) their neighbours; (b) the police; or (c) an unknown person. Each respondent was asked to assign values (using a scale from 1=very likely to 4=not at all likely, reversed) to each of the three entities. Finally, I use also a set of measures that capture individual altruistic behaviour as a wider measure of pro-social behaviour more generally. These variables measure (using a scale from 0=not at all, to 4=a lot) whether the respondents think that: (i) it is not important to think primarily of their own interests; (ii) it is not important to put only their family first; (iii) it is not important to have success and emerge above all the others through any possible means; and (iv) it is important to help those who are worse off.

Aggregate index of social outcomes (social capital). I constructed an average aggregate index of social capital by taking the mean indices and then standardising it. Between 2000 and 2018, the region with the highest social capital index was Trentino Alto Adige, while the region with the lowest social capital index was Sicily. Appendix Table A.2 presents the summary statistics of the social outcomes in Italy between 2000 and 2018.²⁸

²⁸A general background on the regional levels of social capital is given in Putnam (1994) and descriptively shown in Sabatini (2009).

1.6.2 Exposure to organized crime groups

Conceptualisation

There are more than 200 definitions of organized crime in the literature (Von Lampe, 2015). To guide my conceptualisation I have adapted the criminal governance conceptualisation developed by Lessing (2020) for the organized crime groups in Latin America to the organized crime groups which are present in Italy. Starting with a broad definition, civilians in Italy are exposed to an organized crime group which is

A business with varying degrees of governance which co-exists with the state.

This definition clarifies that: (i) organized crime groups in Italy are a business and for this reason - almost mechanically - are always found in areas where they can make a profit; (ii) organized crime groups in Italy are not (and do not intend to become) a parallel state, they co-exist with it; and (iii) while organized crime groups in Italy do not want to replace the state, these groups, nonetheless, have varying degrees of governance which then influence the type of business they do. I have already discussed point (i) at length in the first half of the first chapter, by reviewing the economic-driven emergence of organized crime groups. Points (ii) and (iii) are discussed below.

Organized crime groups are not a parallel state: The idea of organized crime groups as a parallel state comes from the Tillyan theory which suggests that the state has as essential defining characteristics the use of coercion for resource extraction. Based on this characteristics, it may be tempting to associate a successful organized crime to a ‘mini state’ (Lessing, 2020). However, this reversed concept is misleading and not accurate for organized crime groups that are established in areas which are embedded in a larger domain of state power. Organized crime groups in Italy lack a real territorial control and do not possess a monopoly on violence. These groups are not parallel states, as the world in which they operate - where they live, work and profit - is characterised by the strong presence of a state authority. This has clear variations throughout the Italian territory, with areas in the South of Italy, especially rural villages or some specific neighbourhoods in main cities (Naples, Reggio Calabria, Palermo) where organized crime groups may have more state-wise functions. Nonetheless, these are exceptions, and even in these cases, a full territorial control is far from being realised, as it may instead happen in some *favelas* in Rio de Janeiro, in few *comunas* in Medellin and in some other specific neighbourhoods in Latin and Central American cities or in some villages in sub-saharan Africa.

Notwithstanding its conceptual and practical flaws, the idea that an ‘organized crime group is equal to a parallel state’ is not new. Historically, the state-wise functions were

associated particularly with *Cosa Nostra*. As mentioned by Gambetta (1993, p.5), who cites the infamous words of Sicilian scholar Santi Romano: "*Such associations (ed. Cosa Nostra) can comprise institutions, organisations, and codes which, intrinsically and in isolation, are lawful (...) these associations therefore create their own order, like the state and its legal institutions*".²⁹ However, not only do organized crime groups in Italy not want to replace the state, neither do they want to be legitimised by it or recognised by the public as an entity.³⁰ The lack of legitimacy is particularly relevant because if the group is not recognised publicly, it is also less likely to be able to act as a parallel state. Their mere existence has always been denied by their members. An example is provided by the confession of the *Mafioso* Giovanni Bontade; while he was disassociating himself from the murder of a child, he specifically said to the judge in court: "*We want to be cleared of every suspicion (...) We reject the hypothesis that such a barbaric act could be even faintly connected with us. We are men. We have children (...) We want to express our sympathy to Claudio's family*". That 'We', added to his confession, cost him his own life. Judicial investigations suggest that he may have been killed by *Mafiosi* because he defined, for the first time, *Cosa Nostra* as a group, as an entity (Gambetta, 1993, p.103).

Finally, while (some) organized crime groups in Italy use politicians and influence them, historically we do not have evidence that the members of organized crime groups have a strong political ideology. As above, having an ideology, as it may happen for armed groups in Latin America and SSA, sustain the legitimacy of a state-wise organisation which effectively leads the organisation to behave more similarly to a parallel state. For example, they make no distinction between putting pressure on left- or right-wing candidates, to pursue their interests. De Feo and De Luca (2017) mention the results from the 'Parliamentary Committee on the Mafia' on the relationship between *Cosa Nostra* and local politics. This parliamentary committee repeatedly documents the ideological neutrality of the Mafia groups (CPM, 1993). This is not unique to organized crime groups in Italy. For instance, Kalyvas (2015) explains that he does not describe the violent activities of the Mexican *Narcos* as civil war, because that would imply a political ideology and the objective of replacing the state which the *Narcos* completely lack, or if they do have that objective, simply use it to legitimise and glorify their own actions. In short, a civilian in Italy is not exposed to an organized crime group which functions as a parallel state.

The degree of governance of organized crime groups in Italy: Organized crime

²⁹For a list of examples in which scholars or politicians have recognised a state-wise role to organized crime groups in Italy, see Sales (2015, p.175-188).

³⁰There are a very few exceptions, such as the attempt by *Cosa Nostra* boss Toto Riina to start his own political party, *Sicilia Viva*, which failed in less than a year, and the *Nuova Camorra Organizzata* created by the *Camorra* boss Raffaele Cutolo which aspired to be recognised nationally.

groups in Italy are not a simple business as their governance extends beyond their employees, or as conceptualised by Lessing (2020): "*Organized crime groups are not simple businesses because of the imposition of rules or restriction on behaviour by a criminal organisation. This includes governance over members, non-member criminal actors, and non-criminal civilians*" (Lessing, 2020, p.3).

Understanding the degree of governance of organized crime groups in Italy is far from trivial, especially due to the absence of quantitative indicators that can be used to approximate it. This is a well-known problem in the crime literature (Campana and Varese, 2018). In the absence of available data, I held a series of interviews and conversations with professionals who had extensive experience of organized crime in Italy (policemen, army officers and prosecutors), who have a privileged on-the-ground observational standpoint of the day-by-day functions of the different organized crime groups, and with a number of research specialists on organized crime (criminologists, political scientists and economists). The details on these interviews are outlined later, in empirical chapter 3. This is because, as mentioned in the introduction, these interviews were particularly centred on the theory and the mechanisms, which are discussed later in the thesis.

The first step in studying the degree of governance of organized crime groups across Italy is to gauge whether there is any variation in that governance across the country and across different types of groups. If variation is detected, an attempt can be made to conceptualise organized crime groups according to their ‘varying degrees of governance’, as per the definition above. To determine whether there is any variation, I administered a questionnaire, developed by Lessing (2020) on 14 different functions of governance that organized crime groups may or may not implement,³¹ to the 24 specialists I interviewed. These governance functions are divided into five macro-areas: policing and enforcement, judicial, fiscal, regulatory and political. For each governance function, I asked the interviewee about the levels of governance of the organized crime group (from low to high). I have used a vignette in which the specialists were asked to assess the level of governance of three groups: (1) Mafia groups in historic strongholds including *Cosa Nostra* in Sicily, *'Ndrangheta* in Calabria, *Camorra* in Campania and the *Sacra Corona Unita* in Apulia; (2) Mafia groups outside historic strongholds, including the Mafia groups that were established in the centre and north of Italy in the second half of the 20th century; and (3) foreign organized crime groups, such as those from Albania, China and Nigeria. I acknowledge the limitations of dividing the first two Mafia groups (1) and (2) by geographical area. Nonetheless, having piloted this question-

³¹The only difference between this and Lessing (2020)’s conceptualisation was that one governance function on ‘licit markets’ was excluded. I was *a-priori* certain of the lack of variation as it is widely known that all types of organized crime groups in Italy use the licit markets to launder money. This group of questions was then removed to reduce the time constraints of the interview.

naire I noticed it greatly facilitated the comprehension and administration of the questions. Also, I use such a large geographic division (inside or outside historic strongholds) because while Mafia groups have certain distinct features, by learning from each other they have demonstrated a process of isomorphism, operating fairly similarly inside their own regions of birth (Lupo, 2004; Sciarrone, 2015; DIA, 2019) and outside their own regions of birth (DIA, 2018b, p.9).

The instructions for the questionnaire were as follows:

Organized crime groups in Italy have been categorised into three types:

(1) Mafia group inside strongholds (Sicily, Calabria, Campania and Apulia)

(2) Mafia group outside strongholds (centre and north of Italy)

(3) Foreign organized crime

In the following questionnaire, please pick the level of governance of the group in the area where it is present, for each of the 14 functions of governance. The reference period is from 2000 onward. If the group does not carry out the specified function in the territory, choose 'No'. If the group performs the specified function, there are three possible levels: 'Low', 'Medium' or 'High'. Choose the one that is most appropriate. For clarity, I have added some examples for each level. If you prefer not to choose an answer, pick 'Don't know'.

As mentioned in the instructions, I provided an example for each level of governance. So, for example, for the first governance function, 'Does the organized crime group prohibit thefts and enforce property rights?', the respondent could reply 'No'; the respondent could reply 'Low' if he believed the organized crime group posts prohibition, but does not enforce it; the respondent could reply 'Medium' if he believed the organized crime group posts prohibition and manages to enforce it quite well; and the respondent could reply 'High' if he believed the organized crime group posts prohibition and fully enforces it.

The full questionnaire, with the examples given for each level of governance, can be accessed online [here](#). To summarise responses from the specialists', I calculated a 'Governance score index' for each group and for each governance function, giving 0 points to the 'No' answer, 1 point to the 'Low' answer, 2 points to the 'Medium' answer and 3 points to the 'High' answer. 'Don't know' was measured as a missing value. The 'Governance score index' is the average of the points, which is calculated as the sum of all the points divided by the number of specialists interviewed.

The results in Table 2 show a clear variation across the levels of governance functions and between the three groups, with the Mafia groups inside historic strongholds having a higher 'Governance score index' than those outside historic strongholds, which in turn, have a higher 'Governance score index' than foreign organized crime groups. Given that there is

variation in the degrees of governance across Italy and groups, as a second step, I better tailored my conceptualisation by removing the division of the Mafia groups by geographic area, which was simply a way to facilitate the administration of the questionnaire, and I divided the groups by their varying degrees of governance and by the functions they perform. As with most concepts, the real-world cases are conditional to the specific context and these concepts are a mere approximation. Thus, this exercise does not claim to be either novel or representative.³²

Table 2: Summary statistics: governance score index calculated from the questionnaire administered to specialists (2021)

Governance function	Mafia group inside historic strongholds	Mafia group outside historic strongholds	Foreign organized crime group
The organized crime group...			
<i>Policing and enforcement</i>			
Prohibits thefts and enforces property rights	1.84	0.58	0.05
Prohibits sexual and domestic violence	0.74	0.32	0.11
Regulates inter-groups violence	1.89	1.00	0.58
Enforces omertá	2.32	1.63	1.05
Controls entrance, exit, and movement of people	1.42	0.26	0.74
Controls weapons in the area	1.37	0.95	0.74
<i>Judicial</i>			
Solves disputes in the area	2.16	1.21	0.63
Collects debts and enforces contracts	1.63	1.00	0.42
<i>Fiscal</i>			
Collects taxes	1.95	1.26	0.53
Provides public good and welfare	1.68	0.84	0.11
Provides credit and usury	2.47	2.26	1.00
<i>Regulatory</i>			
Controls the illicit markets	2.26	1.58	1.32
<i>Political</i>			
Influences electoral politics	2.47	1.74	0.37
Influences community politics	2.05	1.28	0.42

Notes: This table presents the calculation of the ‘Governance score index’ as based on the responses of specialists to the Governance questionnaire. The governance functions are presented in the rows and the responses were divided by the three types of organized crime group: (1) Mafia group inside historic strongholds (Sicily, Calabria, Campania and Apulia); (2) Mafia group outside historic strongholds (centre and north of Italy); and (3) foreign organized crime groups. I have calculated a ‘Governance score index’ (from 0 to 3) for each group and for each governance function by giving 0 points to the ‘No’ answer, 1 point to the ‘Low’ answer, 2 points to the ‘Medium’ answer and 3 points to the ‘High’ answer. ‘Don’t know’ is measured as a missing value. The ‘Governance score index’ is the average of the points, which is calculated as the sum of all the points divided by the number of specialists.

Informed by the results in Table 2, the first groups conceptualised are **Mafia groups with well-defined territorial and business functions**. These groups have middle levels of governance, reaching quite high levels of governance only when enforcing omertá, solving disputes in the area, when dealing with fiscal functions and when they link with the political world. These are most commonly found in the Mafia historic strongholds in the

³²See for example Sciarrone (1998) for previous conceptualisations’ efforts made in Italy.

south of Italy, although some are found in other Italian regions, such as Genoa, as will be discussed later. These groups not only profit from the classic illicit businesses (illicit drug trade, pimping & pandering, counterfeiting), but also from businesses related to territorial control (especially the provision of protection, extortion and usury). They generally re-invest their profits in legal businesses (for example waste management, construction and tourism). The second type are **Mafia groups with more covert business operations** which are less in the public eye. These groups have a low level of governance across almost all areas, apart from high levels of governance for what concerns fiscal functions and linkages with politics. They are most commonly found in areas outside Mafia historic strongholds such as the centre and north of Italy, and they adopt a covert approach to ensure the protection of their illicit business (mostly drug trafficking) and re-invest and launder their profits through the legal economy. As with more traditional Mafia groups, these groups invest largely in social relationships with corruptible public administrators, judges, policemen and politicians. The third are **foreign organized crime groups** involved in drug trafficking, pimping & pandering, weapons dealing, smuggling, counterfeiting, and robbery. These groups have no, to low, levels of governance across almost all governance functions. In contrast with the other groups, their links to politicians and the Italian administration are usually weak.

Operationalisation

These above three groups are those (especially Mafia groups) that, in the past, the crime literature has attempted to approximate with municipality-level objective indicators.

Researchers have used municipality-level indicators, based on administrative police and judicial information, to approximate exposure to the presence of organized crime groups, using data on: violent events related to organized crime (such as Mafia-related murders and other violent crimes committed by both Mafia groups and foreign organized crime groups); the economic presence of organized crime (assets and firms seized from Mafia groups, extortion, drug trafficking, pimping and pandering, usury); and the political presence of Mafia groups (such as municipalities dismissed because of Mafia infiltration). A detailed description of how these variables are constructed is available in Data Appendix C.2. While these data are valuable, conducting empirical analyses using municipality-level administrative data on organized crime is problematic because, as discussed in the introduction, these data risk capturing the strength of state action against organized crime groups rather than the actual presence of the group, relying upon judicial material that is already a number of years old (Crost and Felter, 2020; Dipoppa, 2021).

There are two ways in which administrative data have been used so far in the literature. Economists have limited their analyses to only one of the available indicators (violence,

perpetration of economic crimes or links to politicians).³³ This is not an ideal solution because organized crime groups in Italy are not exclusively violent, do not have exclusive economic interests and are not only linked to the political world. Using only one indicator may cause us to miss out on other dimensions of the presence of organized crime. As a result, there have also been a number of empirical efforts to construct a holistic municipality-level indicator that aggregates some of these indicators (Calderoni, 2011; Transcrime, 2013; Dugato et al., 2019). While an holistic indicator could be more precise, few studies make available the disaggregated data and/or data is only available for a large fee. In addition, as documented in Bernardo et al. (2021), there is a large variation in the presence of organized crime groups across Italian provinces depending on the type of crimes used as indicators.

For all these reasons, I use in my main empirical analysis a subjective indicator of the presence of organized crime groups in each municipality based on a question in the household surveys that asked the respondents about the presence of organized crime groups in the area where they live (ISTAT, 2019).³⁴ This approach is in line with research in Latin America on criminal gang presence (see for example Lessing et al. (2019)) and on armed group presence Gáfaró et al. (2022) using survey-based data. These studies have found survey data to be a valuable tool for capturing the realities of organized crime ‘on the ground’, which may be then very different from administrative data compiled from judicial and police (or military) sources. As with any self-reported data, the indicator I use may entail some measurement error. First, the self-reported indicator may be more likely to capture some types and forms of organized crime groups than others. For example, foreign organized crime groups tend to be more visible than Mafia-type groups (for instance a foreign organized crime group selling drugs in a neighbourhood may be easier to notice for the average resident than a *Mafioso* whose core business is laundering money in a waste management firm). This might overestimate the presence of some types of organized crime groups in some areas, while underestimating them in other places.³⁵ Second, the respondent may not consider the local organized crime group as criminal because they are either used to living alongside the group or because they simply do not consider the group to be criminal. Finally, the individual may not respond accurately about the presence of criminal group in the area because they are scared about the possible consequences of their answers.

While I cannot exclude some of these issues, I believe the self-reported indicator is suitable

³³Most of the studies I cited in the thesis use these municipality-level administrative data. See Pinotti (2015b); Buonanno et al. (2016); Alesina et al. (2019), among others.

³⁴The interviewee was asked ‘From 1 to 4 (with 1 = not at all, 2 = a little, 3 = quite a lot and 4 = a lot), what is the risk of criminal group presence in the area where you live?’.

³⁵To attenuate this measurement error bias, I control for immigration rate in the regression analysis as discussed in more detail in the next section.

for the analysis at hand. From a conceptual point of view, the views of the respondents are what really matter to answer my research question, as these are the stakeholders who act on those views: ultimately, individuals will (dis)invest in social capital depending on the way in which they *perceive* the presence of organized crime groups. From a statistical point of view, using an individual-level indicator allows me to capture richer variation in the outcome variables than would be possible with more aggregated municipality-level indicators. This reduces the error variance and allows me to compare individuals who live in the same province who are similar, apart from their exposure to organized crime groups. This is particularly important given the nature of organized crime groups that might occupy some specific neighbourhoods and not others, some streets and not others (Weisburd et al., 2012). A municipality-level indicator is not fine-grained enough to well represent the presence of organized crime groups. This feature makes this thesis one of the first to study the impact of organized crime at the individual level.

The scale of the self-reported indicator of organized crime group presence I use ranges between 0 and 3. While index measures are commonly used in research, they are based on scales that may or may not reflect constant effects. For this reason, as slightly more than 25% of the respondents were exposed to ‘quite a lot’ or ‘a lot’ of organized crime presence between 2000 and 2018, I created a dummy equal to 1 if the respondents replied ‘quite a lot’ or ‘a lot’, 0 if the respondent replied ‘none’ or ‘a little’ or “when the individual cannot say” (Justino and Stojetz, 2019).³⁶ Between 2000 and 2018, in half of the regions in Italy, more than 25% of the population was exposed to ‘quite a lot’ or ‘a lot’ of organized crime presence in their area.³⁷ Throughout the thesis this dummy variable is named interchangeably as ‘exposure to organized crime’ and ‘OC index’ with the latter mostly used in the tables for readers’ clarity.

Notwithstanding the caveats discussed above, I compare this individual-level, survey-based indicator with municipality-based indicators using administrative data on organized crime presence. For this purpose, I digitised 36 police reports (one for each semester between 2000 and 2018) to construct a dummy variable that takes the value of 1 if the police reports detail the presence of organized crime groups in the municipality in that semester. These are precise reports written by the police based on judicial material available to them, and corroborated by confidential information and expert oversight by specialised analytical units.

³⁶In the main analysis I coded this latter answer as 0. Results obtained by dropping these few observations (3% of the replies) are consistent and presented later in empirical chapter 2. The use of a dummy also allows me to compare my findings with the ones from the related crime, conflict and rebel groups literature (Bateson, 2012; Bauer et al., 2016; Arjona, 2016), which normally use exposure to crime/conflict/rebel groups presence as a ‘yes or no’ event.

³⁷The region with the highest level is Campania, where 47% of the population is exposed to a high presence of organized crime.

Table 3 shows a correlation matrix of all indicators. The construction of these indicators is explained in Data Appendix C.2. Noticeably, the survey-based indicator is almost three times more correlated with the indicator constructed from police reports on the territorial presence of the organized crime groups than with the other indicators more commonly used in the literature.³⁸ Appendix Figure A.1 presents the line plot of exposure to organized crime groups in the past 20 years which shows an increase since the financial crisis in 2009 and a small reduction in the past two years. Appendix Table A.3 presents the exposure to organized crime groups across regions in Italy between 2000 and 2018.

I recognise a final limitation of using this individual-level indicator as it is not capable of distinguishing between the three groups conceptualised above. Unfortunately, the question I use asks about a general exposure towards organized crime, without any distinction by group. Nonetheless, in empirical chapter 2, I will present an heterogeneity analysis which attempts to distinguish between the effects of the exposure to organized crime on social capital for: (i) individuals living inside or outside Mafia historic strongholds; (ii) individuals that live in municipalities where there are varying levels of presence of the three different groups (using administrative indicators); and (iii) individuals that live in municipalities controlled by organized crime groups with different degrees of governance, as proxied by the few available administrative indicators at my disposal.

Table 3: Correlation matrix of organized crime indicators (2000-2018)

Correlation between OC index and administrative indicators	
OC index	1
Police reports	0.1657
Economic presence	0.0799
Economic presence (Mafia)	0.0625
Economic presence (foreign)	0.0742
Political presence	0.0200
Violent presence	0.0875
Violent presence (Mafia)	0.1058
Violent presence (foreign)	-0.0076

Notes: This table presents the correlation matrix between the dummy for the exposure to organized crime (OC index) and the municipality-level administrative indicators for the period between 2000-2003 and 2005-2018. Descriptions of the data used and the construction of the variables can be found in Section 1.6 and Data Appendix C.1.

³⁸Data Appendix C.3 describes in detail the digitising process of the police reports I employed to construct this indicator. In empirical chapter 2 I present also results using different constructions of the self-reported index and interact it with the municipality-level indicators. All the results, discussed later in the thesis, remain broadly consistent.

1.6.3 Control variables

The estimation strategy is conditional on a wide variety of control variables that might influence both the social outcomes I measure and organized crime presence. From the main ISTAT (2019) dataset, I control for individual-level control variables: age, gender, marital status of the respondent.³⁹ I then add a set of less conservative controls which are important predictors of social capital, as found in a number of studies (Wilson and Musick, 1997; Alesina and La Ferrara, 2002; Glaeser et al., 2002; Buonanno et al., 2016; Mastroiocco and Minale, 2018; Velásquez et al., 2020). These are: a categorical variable for the education of the individual, a dummy equal to 1 if the individual has a job, whether the respondent interviewed lives and works in another city, and an asset index which is the result of a principal component analysis of a number of assets (PCA, henceforth).⁴⁰

I further control for a group of geographic characteristics of the municipality, which were shown to be related to the organized crime presence and can arguably shape the social capital of the individuals: altitude, elevation, whether the municipality is mountainous, whether the municipality is coastal, an indicator for arable land, an indicator of the presence of fruit trees, an indicator of the presence of meadows and an indicator of the presence of woods (Guiso et al., 2016).

I also control for a group of socioeconomic characteristics of the municipality. These include a dummy equal to 1 if the municipality is a provincial capital, as this could give the city a different standing, possibly impacting its social capital (for example with greater presence of CSOs), as discussed in Guiso et al. (2016). I control for the size of the municipality, which can influence both the level of social capital and organized crime presence, by adding the log of the surface of the area and the population size, which also proxy for the rural-urban differences (Buonanno et al., 2016). These data come from Guiso et al. (2016) and ISTAT (2019). I also control for immigration rate with data from ISTAT (2018), as this could affect the perception of organized crime presence (especially the foreign organized crime) and interpersonal trust in others, as discussed in Buonanno et al. (2016). Glaeser et al. (2002) find that income is associated with social capital. I add information on income per capita of the municipality using data from the Ministero dell'Economia e delle Finanze (2019). Alesina

³⁹Wilson and Musick (1997) find that volunteering is associated to gender, age and health. I also control for age squared as I seek to capture the inverse U-shape relationship, whereby social capital rises with age but then decreases, as found in Glaeser et al. (2002).

⁴⁰This includes the number of rooms in the house, presence of a terrace, presence of a garden, presence of a heating system, presence of a washing machine, presence of a dish-washing machine, a dummy equal to one if the house is small and 0 otherwise, a dummy equal to 1 if the house is in poor conditions and 0 otherwise, and the same values for the presence/absence of a landline, a video recorder, a video-camera, a hi-fi sound system, a computer, a modem, internet access, a landline phone, a fax, a television, a mobile phone, a car, a bike, a scooter, a motorbike, a debit card and a credit card.

and La Ferrara (2002) and Battisti et al. (2019) found that inequality is a predictor of social capital and organized crime groups, respectively. I add into the regression the Gini index, calculated from the average income in bands and number of individuals living in a municipality, using data provided by the Ministero dell'Economia e delle Finanze (2019). Finally, social outcomes and organized crime presence can be directly affected by the institutional quality of the municipality. I control for the average years in education of the politicians in the municipality council, the average age of the politicians in the municipality council, and include a measure of inclusiveness using data on gender equality in the distribution of the municipality seats from the Interior Ministry (Ministero dell'Interno, 2019).

2 Empirical chapter 2: the social effects of organized crime

We can think of individual levels of social capital as formed of both individual characteristics (Bourdieu, 1986) and community characteristics (Putnam, 1994) and shaped by persistent cultural and normative factors (which form the persistent dimension of social capital across time for each individual) and by transient shocks that may change the different components of social capital both in the short- and in the long-term. I postulate that organized crime operates as a transient shock to all four social outcomes I consider in the thesis. My main estimating equation is the following:

$$y_{it} = \alpha + \beta_1 OCindex_{it} + \beta_2 X_i + \beta_3 X_{geo} + \beta_4 X_{mun} + \beta_5 ProvinceFE + \beta_6 YearFE + e_{it} \quad (1)$$

where y_{it} denotes one of my four social outcomes (political participation, civic engagement, institutional trust and interpersonal trust). $OC index_{it}$ is my main independent variable of interest and denotes a dummy equal to 1 if the individual is exposed to ‘quite a lot’ or ‘a lot’ of organized crime group presence, in each year, and 0 otherwise. Because social outcomes are affected by idiosyncratic and community-level characteristics, in addition to the presence of the organized crime group, I add to the model (i) individual observables X_i , (ii) geographical variables X_{geo} , and (iii) the socio-economic and institutional quality of the municipality X_{mun} . β_1 is thus the effect of organized crime on each dimension of social capital, conditional on other individual and environmental characteristics that also shape social capital. Equation (1) includes province and year fixed effects to control for province-level and time unobservable characteristics that may affect both the persistent and malleable dimensions of social capital. While the dataset is created to have a regionally representative sample, to gain precision in the estimates - as individuals living within the same province are much more comparable than within the same region - I prefer using province fixed effects. This is possible because for each province the number of observations in this survey is above the minimum (10 observations) needed to construct an average value according to ISTAT methodological guidelines (Camussi et al., 2018). There are also important historical reasons to use province-level fixed effects since at least the birth of Italy in 1861, Italian provinces are well-defined cultural spaces with own norms, food and dialects. In addition, as I cannot fully exclude that some groups (for example city-dwellers or the better-educated) might be over-sampled in some provinces, later I present results using region fixed effects in the Table 9. These are statistically and economically the same as the results using province fixed effects. e_{it} is the error clustered at the municipality level. All the variables used are described in Section 1.6 and in Data Appendix C.1.

2.1 Main results

Figure 2 and its corresponding Appendix Table A.4 show a negative effect of the presence of organized crime groups on individual political participation, institutional trust and interpersonal trust between 2000 and 2018. In contrast, the effect on civic engagement is positive. The aggregate effect is overall negative: an individual exposed to the presence of organized crime groups has a reduced social capital aggregate index ($-0.067SD$), in comparison to those individuals that are not exposed to the presence of organized crime groups. In percentage terms, this represents a reduction in aggregate social outcomes of 8.1%, on average.

In what follows, I discuss in more detail the main results (summarised in Figure 2) in Table 4 , 5 , 6 and 7. The tables, which are presented at the end of the section, display the average effect of organized crime presence on each social outcome with the full set of parsimonious and enriched controls, report beta-adjusted effects for the mean index (see Appendix B.1) and report the Romano and Wolf p-values to control for the family-wise error rate, FWER (see Appendix B.2).

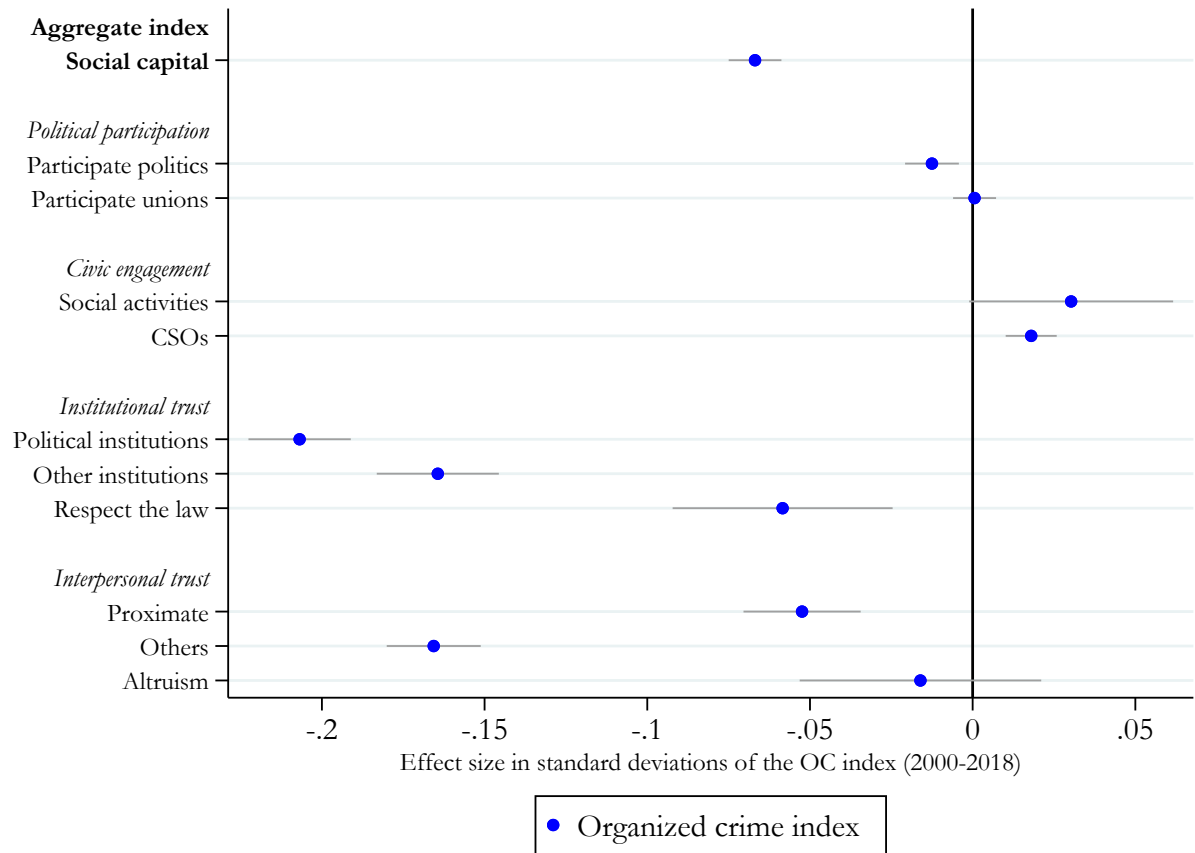
2.1.1 Political participation

Exposure to organized crime groups has a small negative effect on political participation. Panel A of Table 4 shows that exposure to organized crime groups is statistically significant and negatively correlated with participation in politics ($-0.013SD$), with the effect being largely driven by attendance of political meetings, volunteering in and sending money to a political party, and participation in political rallies. Of these indicators only sending money to a political party is statistically significant when using the Romano and Wolf p-values, while attendance of political meetings, volunteering in a political party and participating in political rallies are almost significant at 90% significance level (p-value: 0.112, 0.104 and 0.112, respectively). Panel B of Table 4 shows null and not statistically significant effects of exposure to organized crime groups on participation in unions.

2.1.2 Civic engagement

Exposure to organized crime groups has a small positive effect on civic engagement. Panel A of Table 5 shows that individual exposure to the presence of organized crime groups increases the social engagement by $0.030SD$. The effect is largely driven by discussions on social media and contacts with local offices. The other indicators are not statistically significant. Panel B of Table 5 indicates that exposure to organized crime groups increases individual participation in CSOs by $0.018SD$, with the effect being driven by volunteering in a CSO, volunteering in a for-profit CSO and sending money to a CSO.

Figure 2: Pooled OLS: the effect of organized crime index on social capital (2000-2018)



Notes: This figure presents the Pooled OLS estimates of the effect of exposure to organized crime on the social capital of individuals interviewed between 2000-2003 and 2005-2018. All estimates show results from the Pooled OLS regressions based on equation 1. Each row is a regression. The dependent variables are standardised with mean 0 and standard deviation 1. The dependent variables are the social capital aggregate index and the mean indices of political participation, civic engagement, institutional trust and interpersonal trust. The variable of interest is the organized crime index which measures the individual's exposure to organized crime groups' presence and takes the value of 1 if the individual's exposure to organized crime groups is (i) quite a lot or (ii) a lot, for each year, and 0 if the individual's exposure is (iii) none, (iv) a little or (v) when the individual cannot say. The control variables are the individual-level control variables, municipality-level socioeconomic variables and geographic variables. Year fixed effects and province fixed effects are added. Description of the data used and the construction of the variables is in Section 1.6 and Data Appendix C.1. Standard errors clustered at the municipality level. Confidence intervals are calculated at the 95% level.

2.1.3 Institutional trust

Exposure to organized crime group presence has a large negative effect on institutional trust. Panel A of Table 6 shows that exposure to the presence of organized crime groups decreases trust towards political institutions by 0.207SD, with similar effects across all political institutions ranging from European-level institutions to municipal governments. Panel B of Table 6 illustrates a similar pattern: exposure to organized crime groups reduces trust in other institutions by 0.164SD, including trust towards the judicial system (-0.175SD) and the police (-0.111SD). Panel C of Table 6 shows that exposure to the presence of organized crime groups reduces respect towards the law by 0.058SD. An individual exposed to the presence of organized crime groups is more likely to evade taxes and thinks that evading taxes is justifiable. In addition, individuals exposed to the presence of organized crime groups pay under the table more frequently, agree that corruption is natural, agree that is useless to denounce corruption and that is not important to live honestly.

2.1.4 Interpersonal trust

Exposure to organized crime group presence has a negative effect on trust towards the people close to the individual and those that live in their community. Panel A of Table 7 shows that an individual exposed to the presence of organized crime groups trusts less the proximate (-0.052SD), including their own relatives (-0.041SD), friends (-0.033SD) and neighbours (-0.048SD). Panel B of Table 7 shows that this individual exhibits also reduced trust towards the people outside of their circle, the so called ‘others’ by 0.166SD. These include the majority of people (-0.148SD). When asked if their lost wallet would be returned, individuals exposed to organized crime do not believe their neighbour will return the wallet (-0.120SD), nor the police (-0.093SD) or any other stranger (-0.094SD). Exposure to organized crime groups has null and non-statistically significant effects on altruism (Panel C).

2.1.5 Main results' tables

Table 4: Pooled OLS: the effect of organized crime index on political participation (2000-2018)

	OC index β /SE (1)	Oster β (2)	RW p-value (3)	R^2 (4)	Obs (5)
Panel A: participate politics					
Mean index	-0.013*** (0.004)	-0.003		0.034	765718
Attend political meetings	-0.007** (0.003)		0.112	0.013	765718
Volunteer in a political party	-0.007** (0.003)		0.104	0.011	745008
Send money to a political party	-0.014*** (0.004)		0.003	0.024	745001
Voted online	0.005 (0.008)		0.644	0.024	150561
Participate in political rallies	-0.010** (0.005)		0.112	0.045	746370
Participate in demonstrations	-0.005 (0.006)		0.644	0.026	745144
Panel B: participate unions					
Mean index	0.001 (0.003)	0.000		0.016	765718
Attend union meetings	0.003 (0.003)		0.516	0.011	765718
Volunteer in an union	-0.003 (0.003)		0.516	0.012	744640

Notes: This table presents the Pooled OLS estimates of the effect of exposure to organized crime on the political participation of individuals interviewed between 2000-2003 and 2005-2018. All estimates show results from the Pooled OLS regressions based on equation 1. Each row is a regression in which the outcome Y is in the row and the independent variable X is in the column. Column (1) presents the β effect. Column (2) presents the Oster bias-adjusted β . Column (3) presents the Romano and Wolf p-values. Column (4) presents the R^2 . Column (5) presents the number of observations. The dependent variables are standardised with mean 0 and standard deviation 1. The dependent variables are the mean indices of political participation: participate in politics and participate in unions, along with their single components. The variable of interest is the organized crime index which measures the individual's exposure to organized crime groups' presence and takes the value of 1 if the individual's exposure to organized crime groups is (i) quite a lot or (ii) a lot, for each year, and 0 if the individual's exposure is (iii) none, (iv) a little or (v) when the individual cannot say. The control variables are the individual-level control variables, municipality-level socioeconomic variables and geographic variables. Year fixed effects and province fixed effects are added. Description of the data used and the construction of the variables is in Section 1.6 and Data Appendix C.1. Standard errors in parenthesis clustered at the municipality level. *p <10%, **p <5%, ***p <1%.

Table 5: Pooled OLS: the effect of organized crime index on civic engagement (2000-2018 with gaps)

	OC index β /SE (1)	Oster β (2)	RW p-value (3)	R^2 (4)	Obs (5)
Panel A: Social activities					
Mean index	0.030* (0.016)	0.034		0.046	38078
Discuss on social network local issues	0.036*** (0.012)		0.028	0.026	38078
Contact radio/tv for local issues	-0.001 (0.014)		0.959	0.008	38078
Contact local office for local issues	0.051*** (0.015)		0.004	0.030	38078
Participate to meetings	0.012 (0.015)		0.784	0.030	38078
Participate to protest	0.019 (0.013)		0.536	0.018	38078
Volunteer	0.022 (0.014)		0.531	0.028	38078
Participate to green activity	-0.005 (0.015)		0.920	0.013	38078
Organize local event	-0.012 (0.012)		0.784	0.021	38078
Panel B: CSOs					
Mean index	0.018*** (0.004)	0.037		0.099	746651
Volunteer in a CSO	0.020*** (0.004)		0.001	0.050	745262
Volunteer in a for-profit CSO	0.006* (0.003)		0.067	0.037	744526
Send money to a CSO	0.013*** (0.004)		0.011	0.097	744530

Notes: This table presents the Pooled OLS estimates of the effect of exposure to organized crime on the civic engagement of individuals interviewed between 2000-2003 and 2005-2018. The dependent variables are standardised with mean 0 and standard deviation 1. The dependent variables are the mean indices of civic engagement: social activities, political interests and CSOs, along with their single components. For all Table details see Table 4.

Table 6: Pooled OLS: the effect of organized crime index on institutional trust (2010-2018 with gaps)

	OC index β /SE (1)	Oster β (2)	RW p-value (3)	R^2 (4)	Obs (5)
Panel A: political institutions					
Mean index	-0.207*** (0.008)	-0.220		0.038	273698
Europe	-0.170*** (0.008)		0.001	0.029	272948
Italy	-0.177*** (0.008)		0.001	0.032	273346
Region	-0.177*** (0.008)		0.001	0.050	273064
Province	-0.180*** (0.008)		0.001	0.063	270712
Municipality	-0.189*** (0.008)		0.001	0.081	273078
Political party	-0.171*** (0.008)		0.001	0.028	272938
Panel B: other institutions					
Mean index	-0.164*** (0.010)	-0.179		0.028	273732
Judicial	-0.175*** (0.009)		0.001	0.030	272846
Police	-0.111*** (0.009)		0.001	0.032	273367
Panel C: respect the law					
Mean index	-0.058*** (0.017)	-0.073		0.080	37593
Don't evade taxes	-0.071*** (0.017)		0.001	0.047	37233
Unjustifiable to evade taxes	-0.096*** (0.017)		0.001	0.036	37363
Ask for fiscal receipt	-0.022 (0.018)		0.607	0.045	37156
Don't pay under the table	-0.030* (0.017)		0.377	0.026	37132
Don't offer money or in-kind for favors	0.003 (0.019)		0.991	0.041	37286
Don't receive money or in-kind for votes	0.001 (0.020)		0.991	0.041	37264
Don't agree corruption is natural	-0.033* (0.019)		0.377	0.031	37046
Don't agree is useless to denounce corruption	-0.107*** (0.020)		0.001	0.032	37087
Important to respect the law	-0.002 (0.017)		0.991	0.058	37244
Important to live honestly	0.033* (0.018)		0.353	0.060	37289

Notes: This table presents the Pooled OLS estimates of the effect of exposure to organized crime on the institutional trust of individuals interviewed between 2000-2003 and 2005-2018. The dependent variables are standardised with mean 0 and standard deviation 1. The dependent variables are the mean indices of institutional trust: trust towards political institutions, trust towards other institutions and respect the law, along with their single components. For all Table details see Table 4.

Table 7: Pooled OLS: the effect of organized crime index on interpersonal trust (2010-2018 with gaps)

	OC index β /SE (1)	Oster β (2)	RW p-value (3)	R^2 (4)	Obs (5)
Panel A: trust the proximate					
Mean index	-0.052*** (0.009)	-0.040		0.070	238609
Relatives	-0.041*** (0.009)		0.001	0.049	238387
Friends	-0.033*** (0.008)		0.001	0.109	223629
Neighbours	-0.048*** (0.009)		0.001	0.024	237670
Panel B: trust in others					
Mean index	-0.166*** (0.007)	-0.156		0.094	357871
Majority	-0.148*** (0.007)		0.001	0.041	356804
Wallet returned by neighbour	-0.120*** (0.010)		0.001	0.078	355632
Wallet returned by police	-0.093*** (0.008)		0.001	0.046	355742
Wallet returned by strangers	-0.094*** (0.008)		0.001	0.048	354955
Panel C: altruism					
Mean index	-0.016 (0.019)	-0.017		0.059	37329
Not important to think of own interests	-0.014 (0.017)		0.443	0.046	37055
Not important to put family first	-0.024 (0.019)		0.334	0.049	37154
Not important individual success	0.032* (0.018)		0.199	0.074	37064
Important to help most disadvantaged	-0.035** (0.016)		0.110	0.025	37135

Notes: This table presents the Pooled OLS estimates of the effect of exposure to organized crime on the interpersonal trust of individuals interviewed between 2000-2003 and 2005-2018. The dependent variables are standardised with mean 0 and standard deviation 1. The dependent variables are the mean indices of interpersonal trust: trust the proximate, trust in others and altruism, along with their single components. For all Table details see Table 4.

2.2 Heterogeneity analysis

I further explore the results above with a number of additional analyses. I present each additional analysis below. The tables and figures are presented at the end of this section.

2.2.1 Heterogeneity analysis across organized crime groups

As discussed in the introduction and conceptualised in empirical chapter 1, Italy is home to three broad types of organized crime groups. The first are Mafia groups with well-defined territorial and business functions. The second type are Mafia groups with more covert business operations which are less in the public eye. The third are foreign organized crime groups. In Figure 3, and its corresponding Appendix Table A.5 I study how the effect changes across groups. In Panel A I present the estimate from the main analysis for comparison purposes. Panel B of Figure 3 shows that by removing the province fixed effects and by splitting the sample by macro-regions, an individual exposed to the presence of organized crime groups in a non-stronghold Mafia regions experiences a larger and statistically different effect on social capital ($p\text{-value} = 0.057$) than an individual exposed to organized crime groups in a stronghold Mafia region (Sicily, Calabria, Campania and Apulia). A possible explanation is that the negative effect is stronger the more recent is the arrival of organized crime groups, an effect which then adjusts itself on a negative stable equilibrium. I will present two similar results later in the thesis.

Panel C of Figure 3 uses the available municipality-level objective indicators of organized crime using administrative data to study whether the effect changes when the individual is in areas with high violent presence, economic presence and political presence across different group types. The detailed description of the construction of these variables is presented in Data Appendix C.2 while its source is presented in Data Appendix C.1. Below I provide a summary.

For what regards the violent presence, Mafia violent crimes can be identified on the territory thanks to data published by the Interior Ministry every year at the province level. Since 1981 there is in fact the aggravating factor for a crime of being ‘Mafia-type’ (*‘Associazione a delinquere di stampo mafioso’*). I have used data on murders and crimes which have been identified as being committed by a Mafia group. In addition, as there is judicial evidence that prosecutors outside Mafia historic strongholds were reluctant to use the ‘Mafia-type’ aggravating factor (Pinotti and Stanig, 2016), I have also added an indicator on crimes related to extortion. This indicator - even if it is not uniquely identified with the Mafia by the judicial authorities - is part of the Mafia groups’ core business. As suggested to me by a number of prosecutors I interviewed, one of the greatest difficulties for them is in fact to

assign the ‘Mafia-type’ crime in absence of intimidation (as specified by the 1981 judicial law) and many times extortion crimes committed by Mafia groups are not labelled ‘Mafia-type’ for this lack of intimidation (Specialist interview 2.1, March 2021; Specialist interview 2.5, March 2021).⁴¹ For what regards the foreign organized crime groups’ violent presence I have used data on individuals charged of crime association ‘*Associazione a Delinquere*’ in each province every year. Importantly, these have not been considered as ‘Mafia-type’ by the judge and hence do not fall under the ‘*Associazione a delinquere di stampo mafioso*’.

For what regards the economic presence, Mafia economic presence can be identified thanks to data from the Interior Ministry on firms and assets seized to Mafia groups since 1980s at the municipality level. To these two indicators, I add an indicator on money-laundering crime, which is more typically done by Mafia groups. For foreign-type economic crime presence, as informed by the conceptualisation in empirical chapter 1, I have a list of crimes associated to their typical businesses, at the province level. These include drug trade, pimping & pandering and counterfeit. Importantly, these have not been considered as Mafia-type by the judge and hence do not fall under the ‘*Associazione a delinquere di stampo mafioso*’.⁴²

For the political presence, as informed by the conceptualisation in empirical chapter 1, this applies only to Mafia groups. I have data from the Interior Ministry at the municipality level since 1991 on the number of municipal councils dismissed because of Mafia groups infiltrations. Appendix Figure A.2 plots the number of municipality councils dissolved between 1993 and 2018 and shows an increasing number of political infiltrations in the past few years.

To analyse how the effect changes across groups, I have created a dummy equal to 1 if the individual lives in a municipality where these crime were above the 75th percentile of the distribution in year t , and 0 otherwise.⁴³ Results suggest that there is no statistically significant heterogeneous effect across these categories.

2.2.2 Additional heterogeneity analysis

In Panel D of Figure 3, I firstly analysed if the effects on social capital vary according to the level of governance and violence of the organized crime groups in the municipality where the individual lives. The theory coming from the literature on rebel groups, such as in Arjona

⁴¹One may argue that this crime if not committed by the Mafia could then be committed by foreign groups. While most of the foreign groups practice extortion, they tend to do it only within their own ethnic group, and it is very uncommon for the Italian police to catch it (DIA, 2019, p.614).

⁴²To note that these are not the only type of economic crimes provided by the Interior Ministry, but I have selected the ones that are the most prominent for the businesses of foreign organized crime groups, to attenuate possible measurement errors.

⁴³Exception to this construction is for the ‘Political presence’ which does not need any transformation as it is already constructed as a dummy variable equal to 1 if the individual lives in a municipality whose municipality council was dismissed because of Mafia infiltration.

(2016), suggests that if there is a high number of groups in an area, the level of violence is high and the degree governance is low. For example, Aziani et al. (2020) finds that Mafia groups on average, when they manage to govern their territory, prefer avoiding any type of violence in the area. In addition, Bruhn (2021) shows that most of the violence between gangs in Chicago happens on the border of territories disputed by different gangs, suggesting that a higher number of groups in one area may correlate with higher levels violence.

I have compiled data from police reports on whether there is more than one organized crime group in a municipality. This variable is only available between 2013 and 2018 in the Mafia strongholds (Calabria, Campania and Apulia).⁴⁴ I have compared the Pooled OLS between those individuals that live in a municipality with more than one group (-0.127SD) with the individuals that live in a municipality where there is only one group (-0.188SD), not shown in the Figure. According to this result, individuals that live in a municipality with only one organized crime groups have a lower social capital than those that live in a municipality with more than one. Nonetheless, the statistical two-sided t-test between the two groups is only close to 90% significance level ($p\text{-value} = 0.11$) and the fact that the municipality has more than one group can be endogenous and related to specific characteristics of that municipality. This result need to be then taken with caution, however even if only speculatively, a higher degree of governance and lower levels of violence of the organized crime group in the municipality (when the group is alone in the municipality) may have worse effects on the social capital of the individual than when a group exerts a lower degree of governance and a higher level of violence (when there is more than one group in the municipality). There are a number of possible explanations as the presence of a single group in the municipality with high degrees of governance and low levels of violence may: (i) allow the group to have strong links with the political world, further reducing the residents' institutional trust and political participation and (ii) allow the group to have a firm strong influence over the community by preventing any form of collective mobilisation from taking place.

Second, I analyse if the effects on social capital vary across levels of institutional strength of the municipality. The argument here is that organized crime groups may be less able to affect the social capital characteristics of individuals living in municipalities with a long his-

⁴⁴I have taken the first and final year available, 2013 and 2018, as the number of groups in a municipality is quite stable in time. For what regards the regions, Sicily is excluded because according to the police reports, apart from the few big cities, all municipalities have only one Mafia group present. The digitisation process for Sicily would also be made difficult as the police reports only associates the name of the municipality with the name of the *Cosa Nostra* family present in the municipality, as it is traditionally done for *Cosa Nostra*. This does not allow the possibility to disentangle the name of the municipality from the name of the Mafia group(s). For the other regions in Italy instead, there is not enough detailed information in the police reports to get data on number of organized crime groups.

tory of strong institutions, in line with similar arguments made by Gáfaró et al. (2022) for the effects of armed groups in Colombia. To proxy for the historical strength of institutions at the municipality level, I compiled information on the presence of institutions in the middle ages (Free state-*Comune* and Bishop city-*Comune*) with data from Guiso et al. (2006). The *Comune* was in the Middle Ages a Free City state which produced a unique autonomous and prosperous form of governance. I restrict the sample to the individuals that live in municipalities in the north of Italy where the *Comuni* emerged and I have created a dummy equal to 1 if the individual lives in a municipality which was a *Comune* in the Middle Ages, and 0 otherwise. Similarly, I have also used a dummy variable which is equal to 1 if the individual lives in a city which was a bishop city in the Middle Ages, and 0 otherwise. Bishop cities in the High Middle Ages (476AD - 1000AD) in Italy managed to remain quite autonomous and were more likely to become *Comuni* later on in the Low Middle Ages (1000AD - 1492AD). Always from Guiso et al. (2006), I have also used a variable dummy equal to 1 if individual lives in a municipality which was awarded a gold medal for its fight against Nazi/fascist rule. Results do not differ across the historical institutional strength of the municipality. Finally, it is likely that organized crime groups may have different effects on social capital across the size of municipalities given that, as an anti-Mafia prosecutor mentioned to me, organized crime groups seem to be able to particularly exert more governance functions in small towns (Specialist interview 2.1, March 2021). However, results show that the size of municipality do not affect the impact of organized crime on social capital in Italy.

2.2.3 Heterogeneity analysis across social outcome distributions

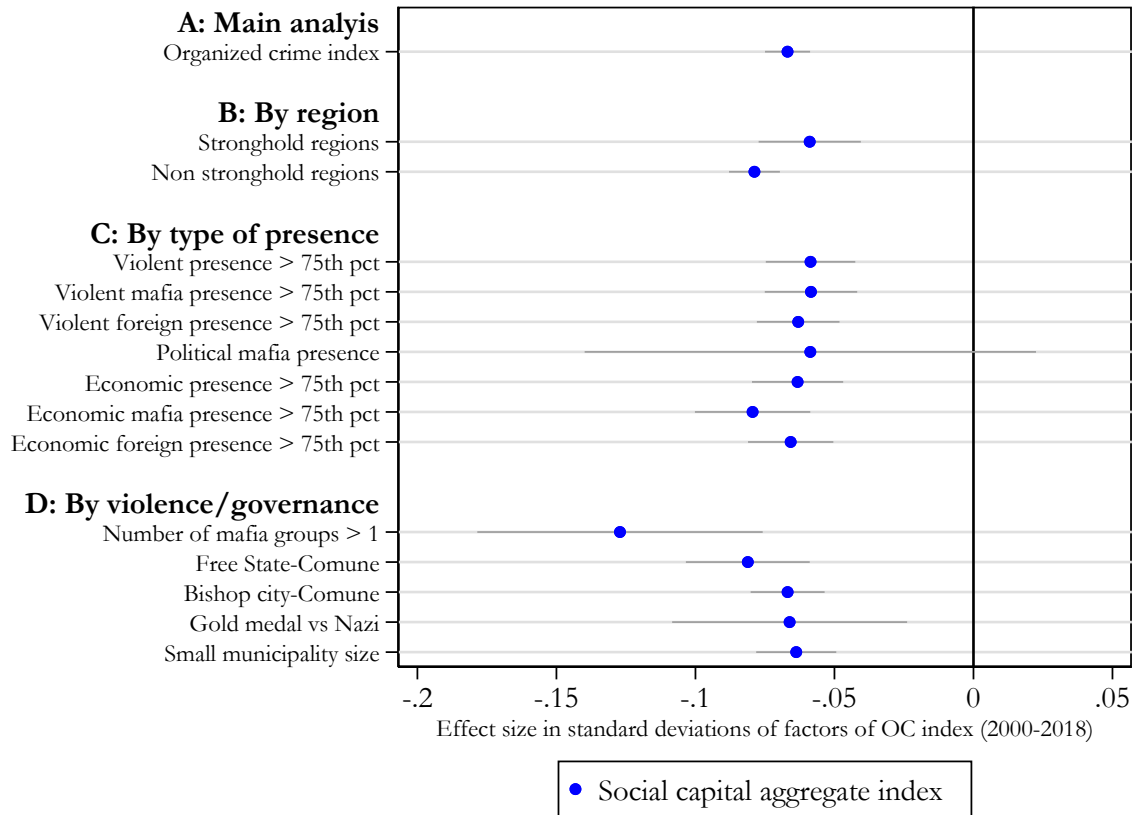
To assess if the exposure to organized crime groups had any heterogeneous effect across the distribution of the social capital outcome, I estimated a quantile regression. Figure 4 reveals some heterogeneity in the effect of the exposure to organized crime groups showing larger coefficients at the low and at the top end of the distribution of the social capital aggregate index. These quantile effects differences are economically significant. Individuals with low and high levels of social capital to start with, when exposed to organized crime groups have a negative effect that is twice as much as that of other individuals at the centre of the social capital distribution. In other words, organized crime groups seem to affect the most both individuals that invest the least and the individuals that invest the most in social capital. I return to this result in the empirical chapter 3.

2.2.4 Long shadow of the past?

I test whether, in Mafia historic strongholds, the effect found on the current social capital outcomes is: (i) due to the current organized crime presence or is a heritage from the past presence of Mafia groups and (ii) what is the effect of organized crime on social capital at the onset of their emergence, and if any, how it evolves in time. To do that, I reduce the scope of the analysis geographically to Sicily for which I have numerous data digitised by the recent empirical literature on the origins of organized crime (Buonanno et al., 2015; Dimico et al., 2017; De Feo et al., 2019). In Column (1) of Table 8 I regress social capital today on a dummy equal to 1 if in 1885 there was *Cosa Nostra* presence in a municipality according to the Damiani inquiry, and 0 otherwise. Damiani ran a parliamentary inquiry in 1881-1886 on Sicilian towns where *pretori* (lower court judges) provided answers on what was the most important cause of crime in the district. *Cosa Nostra* was given as an option in the possible answers. In Column (2) of Table 8 I regress a dummy equal to 1 if the police office Cutrera in 1900 reported high *Cosa Nostra* presence in a municipality, as opposed to none, low or medium level. Finally, in column (3) Table 8, I present a dummy equal to 1 if the individual is exposed to high presence of *Cosa Nostra* today, between 2000 and 2018. Table 8 shows that while not statistically significant, the past results have a similar negative relationship between the exposure to organized crime presence and social capital. Interestingly, the effect seems to be the largest once *Cosa Nostra* became really established in Sicily in the 1900, after the citrus and sulphur boom in the 1880s and the drought and rise of the Peasant *Fasci* in 1893 (the determinants of the emergence of *Cosa Nostra*, as reviewed in the empirical chapter 1). After the first negative shock in 1900, the effect remains on a stable negative equilibrium and it is only slightly smaller a century later (between 2000 and 2018). It appears that Sicily has currently inherited from the past a reduced level of social capital and does not manage to recover to its previous levels. As presented in the synthetic control estimates later, I have found a similar result, namely, a negative shock which adjusts on a smaller but always negative equilibrium, in Section 2.5 for Apulia. I will return to this result in the discussion section of the next empirical chapter. For as relevant as this finding is, this should not come as a surprise, as this result is in line with recent literature that traces social capital outcomes to historical causes (see reviews in Nunn (2020) and Michalopoulos and Papaioannou (2020)).

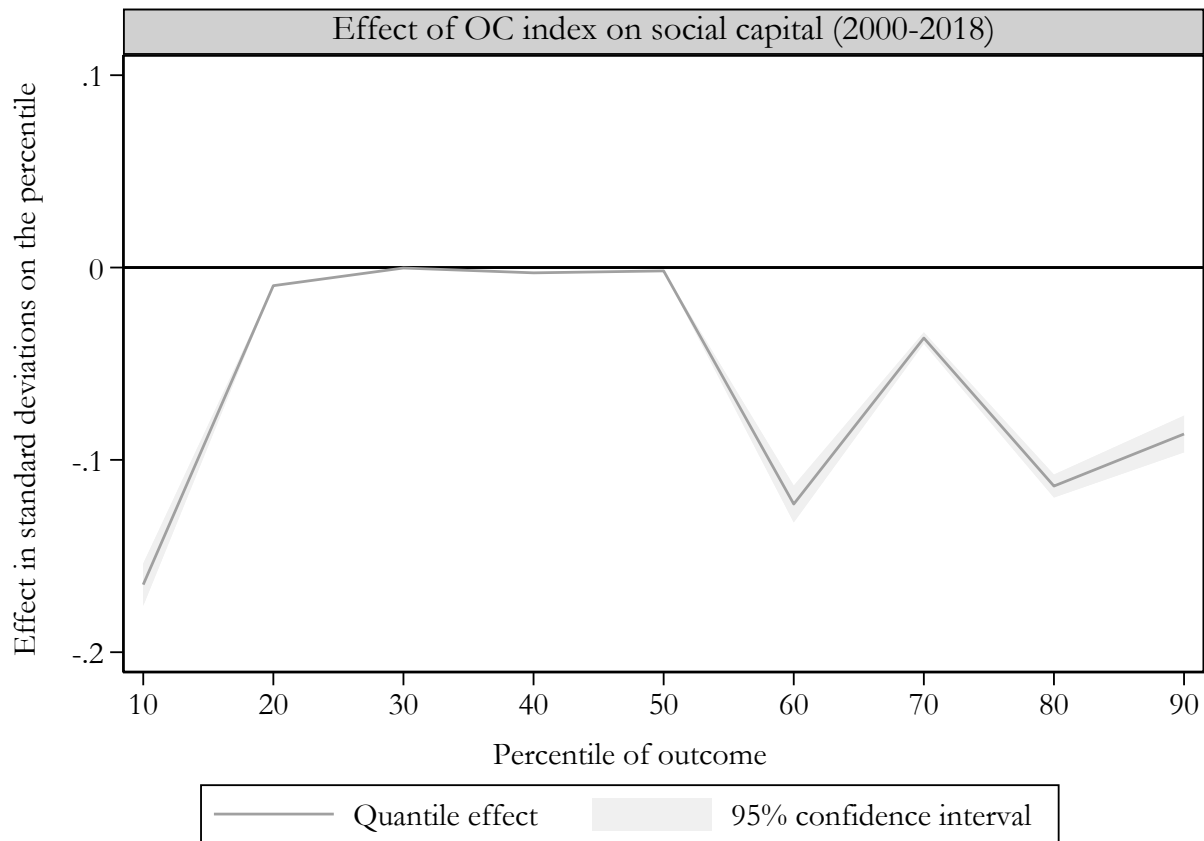
2.2.5 Heterogeneity tables and figures

Figure 3: Pooled OLS: the heterogeneous effect of organized crime index on social capital (2000-2018)



Notes: This figure presents the heterogeneous Pooled OLS estimates of the effect of exposure to organized crime on the social capital of individuals interviewed between 2000-2003 and 2005-2018. All estimates show results from the Pooled OLS regressions based on equation 1. Each row is a regression. The dependent variable is standardised with mean 0 and standard deviation 1. The dependent variable is the social capital aggregate index. The variable of interest is the OC index. In Panel A, the baseline effect of exposure to organized crime on the social capital aggregate index is presented. In Panel B, the results split in two samples are presented: in the first row, the analysis keeps individuals that only live in the regions which are Mafia historic strongholds (Sicily, Calabria, Campania and Apulia), while in the second row the analysis drops all the individuals that live in the Mafia historic strongholds. In Panel C, the analysis compares individuals that live (or not) in a municipality where the violent crimes (general, Mafia or foreign) or political crimes or economic crimes (general, Mafia or foreign) or economic crimes (general, Mafia or foreign) are above the 75th percentile of the distribution in year t . In Panel D, the analysis compares individuals that live (or not) in municipality with varying levels of violence and governance of the organized crime groups. The control variables are the individual-level control variables, municipality-level socioeconomic variables and geographic variables. Year fixed effects and province fixed effects are added. Description of the data used and the construction of the variables is in Section 2.2 and Data Appendix C.1. Standard errors clustered at the municipality level. Confidence intervals are calculated at the 95% level.

Figure 4: Quantile regression: the effect of organized crime index on social capital (2000-2018)



Notes: This figure presents the quantile effects of exposure to organized crime on the social capital of individuals interviewed between 2000-2003 and 2005-2018 for nine decils with their corresponding 95 % confidence intervals (shaded area). The dependent variable is standardised with mean 0 and standard deviation 1. The dependent variable is the social capital aggregate index. The variable of interest is the organized crime index which measures the individual's exposure to organized crime groups' presence and takes the value of 1 if the individual's exposure to organized crime groups is (i) quite a lot or (ii) a lot, for each year, and 0 if the individual's exposure is (iii) none, (iv) a little or (v) when the individual cannot say. To reach convergence in the calculations and for the excessive computational waiting time, the figure presents a baseline estimate of the outcome on the variable of interest, without controlling for additional variables. Description of all the variables used is presented in section 1.6. Confidence intervals are constructed based on bootstrapped standard errors (2000 iterations).

Table 8: Cross-sectional OLS: the persistent effect of past organized crime on social capital (2000-2018)

	Outcome: Social capital aggregate index		
	(1)	(2)	(3)
Organized crime in 1885	-0.008 (0.048)		
Organized crime in 1900		-0.031 (0.037)	
Organized crime index 2000-2018			-0.025 (0.034)
Observations	218	218	218
R^2	0.279	0.281	0.281

Notes: This table presents the OLS estimates of the effect of past and current organized crime presence in Sicily on the social capital of individuals interviewed between 2000-2003 and 2005-2018. Each row is a regression. The dependent variable is standardized with mean 0 and standard deviation 1. The dependent variable is the social capital aggregate index. Column (1) presents the effect of a dummy equal to 1 if organized crime is present in 1885 and 0 otherwise. Column (2) presents the effect of a dummy equal to 1 if organized crime presence in 1900 is high, and 0 otherwise. Column (3) presents the effect of the organized crime index used in the main analysis, between 2000 and 2018. The control variables are the individual-level control variables, municipality-level socioeconomic variables and geographic variables. Year fixed effects and province fixed effects are added. Description of the data used and the construction of the variables is in Section 2 and Online Appendix C.1. Standard errors in parenthesis clustered at the municipality level. *p <10%, **p <5%, ***p <1%.

2.3 Comparison with related literature

Political participation: I found that exposure to organized crime groups has a small negative effect on political participation. Overall, this result is in contrast with the effects found in the literature of victims of crime. Bateson (2012) find that being victims of crime is positively correlated with political participation (+0.07SD). Crime victims talk about politics more than their peers, have a higher level of political engagement, and are more likely to attend marches and political gatherings. This is even the case if the person is not directly affected by crime, but perceives a threat to individual security, as found in Ishiyama et al. (2018). Pazzona (2020) finds a small positive effect on political participation and in participation to all social organisations. Berens and Dallendörfer (2019) study the effect by types of victimisation (violent and non-violent) and documents that victimisation seems to increase political participation only through non-violent crimes, with null effects from the violent crimes such as intrusion and aggression (a result which is opposed to what was found in Bateson (2012) who find similar results notwithstanding the typology of crime).

Similar to the crime victimisation literature, Bauer et al. (2016) reviewing the papers studying the political effects of conflict, find that the latter increases political participation in the form of likelihood of voting and the knowledge and interest in politics. Justino and Stojetz (2019) find that exposure to conflict in Angola increases political participation through a higher interest in politics, but with null effect on engagement in local politics.

As I will discuss later in the empirical chapter 3, a plausible explanation for the differences between my results and the ones of the papers in the the victimisation literature may depend on the strong negative effect the presence of organized crime groups has on institutional trust. This is due to the lack of state capacity in solving the problems created by organized crime that in turn decreases the institutional trust of civilians who then step away from institutional engagement (for instance political participation). In addition, more generally, the experience of being a victim of crime or conflict, is much stronger, more direct and - essentially - a rather different (pre-post) event than living every day in an area with the constant presence of an organized crime group. It is for this reason reassuring to notice that the only study - to my knowledge - on the effects of the presence of gangs on political participation, by Córdova (2019) in El Salvador, finds that there is a linear negative relationship between the (higher) control of the gang and the (lower) the political participation of the community. Finally, for what regards the literature on rebel groups, Gáfaró et al. (2022) finds that the presence of rebel groups increases political participation, but the effect is explained by the coercion from the rebel groups themselves.

Importantly, the results presented in this thesis focus on political participation, but not on voting. A compelling large literature has already studied the relationship between the

presence of organized crime groups and voting in Italy and it finds that organized crime groups increase voting, mostly because of vote-buying, reducing the share of votes for the left-wing parties (Di Cataldo and Mastrorocco, 2017; Daniele, 2019; Alesina et al., 2019) and increasing the votes for right-wing parties; De Feo and De Luca (2017) document a higher share of votes for the Christian Democrats in Sicily between 1946 and 1992 in areas plagued by the presence of the Mafia and Dipoppa (2021) finds the same result in the centre and north of Italy. More recently, between 1994 and 2013, Buonanno et al. (2016) find that in municipalities with the presence of organized crime groups there were on average more votes for Silvio Berlusconi's party '*Forza Italia*'. Sberna and Olivieri (2014) find that as elections get close, the violence expressed by the organized crime groups increases and this is particularly relevant when there is single-party dominance and/or bipartisanship, as the organized crime groups have fewer opportunities of accessing the political arena (Moro et al., 2016).

Civic engagement: I found that exposure to organized crime groups has a small positive effect on civic engagement. This positive result is in line with the crime and conflict victimisation literature which finds that victims increase their participation in community meetings (Bateson, 2012; Bauer et al., 2016; Guriev and Melnikov, 2016) and have a more pro-social behaviour (Gilligan et al., 2014; Bogliacino et al., 2019). The possible reasons discussed in these literatures are the emotional and moral reactions of the citizens (Wood, 2003), a protective aspect of social capital which comes into play (Jennings and Sanchez-Pages, 2017) and a reallocation of investments from private to social capital which may have a higher payoff after these types of negative events (Wood, 2003; Voors et al., 2012). Some authors do not interpret this positive effect on civic engagement in a positive fashion. Grosjean (2014b) finds that those that have higher civic engagement are also the same that have the lowest trust in political institutions, leading the author to suggest a not particularly positive type of engagement. Another interpretation is provided by Calvo et al. (2020) who argues that victims of conflict increases individual participation, but in in-ward looking organisations such as their family. To the best of my knowledge, the only work on the presence of gangs and their effects on civic engagement is by Arias (2019) who finds an heterogeneous effect depending on the relationship between the citizens, the state and the criminal groups. The literature on the presence of rebel groups and its social effects has particularly stressed the importance of pre-existing institutions, as these are an essential condition for the community to be able to respond to the rebel groups' presence through civic engagement, as found in Colombia (Arjona, 2016; Gáfaró et al., 2022). Another reason why individuals invest in civic engagement is ideology, as found in Masullo (2020), that documents how civilians react if they have opposed ideologies to the armed group present. Finally, the (absence) of institu-

tions that promote security may explain higher collective action and enrolment in militias in the Democratic Republic of Congo (Marchais et al., 2021).

Institutional trust: I found that the exposure to organized crime group presence has a large negative effect on institutional trust. This result is in line with Meier et al. (2016) who use trust and prisoners' dilemma games to study trust outcomes between Mafiosi, simple criminals and students in Palermo (the provincial capital of Sicily). Authors find that the presence of organized crime decreases institutional trust. This result is also in line with both the crime and conflict victimisation literature (Fernandez and Kuenzi, 2010; Ceobanu et al., 2011; Blanco, 2013; Carreras, 2013; Grosjean, 2014a; Corbacho et al., 2015; Ishiyama et al., 2018; Pazzona, 2020). For what regards my results showing that individuals are less likely to respect the law, García-Ponce et al. (2021) similarly reports that victimised individuals in Mexico have lower respect towards the law and higher willingness to accept corruption. This lower respect towards the law may culturally be transmitted by the organized crime groups members. Nese et al. (2018) presents evidence, from a study conducted in a prison, that *Camorristi* have a strong tendency to punish defectors and reject the imposition of external rules, even at great personal sacrifice.

The effects on institutional trust have also been a focus of the literature that studies the consequences of the presence of gangs. These studies find similar results. However, importantly, the studies on gangs tend to focus on areas with much lower state capacity than Italy and the mechanisms explaining these negative effects may then be different. Magaloni et al. (2020) in Rio de Janeiro, for example, find that the negative effect on institutional trust (towards the police in particular) depends on how gangs relate to the community. When gangs form 'benign' relationships with the community and provide local security, police interventions frequently increase crime and violence. Police interventions are more likely to be effective and win community approval when criminal rule is aggressive, authoritarian, or predatory. In Medellin, Blattman et al. (2021a) find that a higher presence of the state leads to a higher gang governance, which in turn reduces the perceptions of state governance among the residents. In a context with even lower state capacity, in the Democratic Republic of Congo, Marchais et al. (2018) find that the presence of armed groups erodes state legitimacy because some local state chiefs flee and lose any form of legitimacy. If they stay instead, as they are perceived as cooperating with an illegitimate armed group, the state legitimacy is further eroded as the chief is accountable to both the armed group and the population.

Interpersonal trust: I found that the exposure to organized crime group presence has

a negative effect on trust towards the people close to the individual and those that live in their community. This result is in line with Meier et al. (2016) who find that the presence of organized crime in Palermo (the provincial capital of Sicily) decreases trust in others. On the other hand, as opposed to my results, authors find that the presence of organized crime has a positive effect on trust in the proximate. A possible explanation is that my results are based on a nationally representative sample, while the authors' results are only limited to a non-representative sample in Palermo where the context-specific cultural traits of the interviewees might condition this result. The crime victimisation literature finds negative effects on interpersonal trust (Corbacho et al., 2015; Pazzona, 2020), while the conflict victimisation literature finds mixed evidence with either null results (Grosjean, 2014b) or negative results (Colletta and Cullen, 2000; Cassar et al., 2013; Rohner et al., 2013; Besley and Reynal-Querol, 2014). The limited number of studies of conflict victimisation on interpersonal trust may explain this mixed evidence (Bauer et al., 2016).

2.4 Robustness checks

The results above remain consistent across a number of robustness checks. I present each robustness check below. The tables and figures showing the results of these analyses are presented at the end of this section.

2.4.1 Selection on observables

Table 9 shows how the effect of exposure to organized crime groups changes when adding different sets of control variables. Column (1) presents the base results. Column (2) includes individual conservative controls which comprise individual age and gender and whether the individual is married. Column (3) includes individual non-conservative controls such as the level of education of the individual, whether the individual has a job, and the asset index of the household. Column (4) adds the municipality conservative controls (geographic): altitude, elevation, whether the municipality is on the mountain, whether the municipality is on the coast, an indicator of arable land, an indicator of presence of fruit trees, an indicator of the presence of meadows, an indicator of presence of woods, whether the municipality is a provincial capital, and the log of surface of the municipality. Column (5) adds the non-conservative municipality controls such as population size, immigration rate, income per capita, GINI income, ratio of women in the municipality council, years of education and age of the politicians in municipality. Column (6) adds the year fixed effects. Column (7) adds the region fixed effects. Column (8) adds the province fixed effects. Column (9) adds the strata which is the interaction between region and municipality size. The latter is not needed in the main analysis as the variables are already weighted, but as per confidentiality agreements I did not have access to the specific weights themselves, I also tested this by setting the survey design characteristics myself. Column (10) replaces the cluster at the municipality level with cluster at the regional level, the highest level.

The magnitude of the exposure to the presence of organized crime groups on social capital is stable across specifications reassuring me of a low likelihood that omitted variables bias might heavily affect my estimates.

2.4.2 Alternative organized crime index

Measurement error can affect my estimates if the organized crime index does not accurately measure organized crime groups presence. In this section, I use different combinations of the organized crime index.

In Row 1 of Figure 5 I present the main result as shown in Section 2. My main variable is the organized crime index in the form of a dummy, and thus, uses a coarsened treatment. As

the estimate could be susceptible to coarsening bias (Marshall, 2016), in row 2 I present the continuous organized crime index. Results are still negative and statistically significant but, as expected, are of smaller magnitude. In Row 3, I present the results using the organized crime index which also includes, as equal to 1, the answer ‘when the individual cannot say’, which was answered in this way by 3.28% of the sample. In Row 4 instead, I present the results using the organized crime index but dropping the observations that answer ‘when the individual cannot say’. In both cases the results are consistent. The main analysis uses the organized crime index as a dummy equal to 1 if the respondents replied ‘quite a lot’ or ‘a lot’, an 0 if the respondent replied ‘none’ or ‘a little’ or ‘when the individual cannot say’. In Row 5, I present the results using a dummy equal to one which also includes the answer ‘a little’. Results are still negative and statistically significant but, as expected, are of smaller magnitude. In Row 6, I use the organized crime index as a dummy equal to 1 if the respondents replied "a lot", an 0 if the respondent replied ‘none’ or ‘a little’ or ‘quite a lot’ or ‘when the individual cannot say’. Results are still negative and statistically significant but, as expected, are of larger magnitude. In Row 7, I present the results using the municipality-level organized crime indicator, whose construction is explained in Data Appendix C.2. This index is the equally weighted average of four organized crime presence municipality-level indicators (territorial presence, violent presence, economic presence and political presence). Result using the municipality-level indicator is not statistically significant. In Row 8, I present the results using an equally weighted average between the organized crime index and the municipality-level organized crime indicator presented in Row 7. In Row 9, I present the inverse co-variance weighted index developed by Anderson (2008) between the organized crime index and the municipality-level organized crime indicator. This weighted average, explained in more detail the next Section 2.4.3 gives more weight to those indicators that are less correlated with the others (those that bring new information in the index). In Row 10, I present the results using an equally weighted average between the organized crime index and the Mafia Index developed by Dugato et al. (2019), which includes reported and attempted Mafia-type murders, reported Mafia type associations, city councils dissolved due to Mafia infiltration, assets confiscated from organized crime, and counts of the presence Mafia groups, as reported by the National Anti Mafia Directorate (DNA) and Investigative Anti Mafia Department (DIA).⁴⁵

All results remain broadly consistent and the effect is not statistically significant only when using the municipality-level indicator alone, possibly for some of the limitations of this indicator which I mentioned in Section 1.6.

⁴⁵As the index is not publicly available I have used all its indicators, apart from the DNA reports which I did not digitise, and without applying the smoothing procedure the authors adopt.

2.4.3 Weighted mean index

Figure 2 shows the main estimates using the social capital aggregate index which is constructed as an unweighted mean. This means that each social outcome in the index is given the same weight. In this section I apply an inverse co-variance weighted index to estimate the models. Anderson (2008) developed the inverse co-variance weighted index, often known as the weighted mean index. When a group of various outcomes is considered, this process gives less weight to highly correlated outcomes within the group, while rewarding new information by giving a larger weight to outcomes that have a weaker correlation within the group's outcomes. The procedure gives a weight for each outcome which is the sum of the inverted co-variance matrix comprising all the outcomes in the group under consideration. Results in Table 10 shows in column (1) the main Pooled OLS results. Column (2) show the results with social capital constructed as a weighted mean index. The only year in which all outcomes have been compiled is 2016 and the weighted mean index is then created only for that year. For comparison purposes, I show the Pooled OLS main results and the weighted ones only for 2016. Results while statistically different are broadly similar in economic and statistical significance.

2.4.4 Social desirability bias

I use self-reported variables to measure social capital and exposure to organized crime groups. This could incorporate social desirability bias into the respondent's answers, raising issues about measurement inaccuracy if the respondent gives biased answers as a result of peer pressure or probable social stigma. Social desirability bias would result if social norms about appearing more invested in social capital become stronger in areas affected by the presence of organized crime groups. This is a particularly relevant problem for those questions that are more prone to be answered with some degree of social desirability bias (such as the questions on the respect towards the law). I investigated whether the effects of organized crime on social capital vary depending on whether the response was self-reported alone in the room or self-reported with the enumerator or family members in the same room to test for social desirability bias in reporting. In Panel A of Table 11 I compare the main results (Column (1)) with social capital as self-reported by the interviewee alone in the room (Column (2)) and with social capital as self-reported by the interviewee when someone else was in the room (Column (3)). The main assumption driving these comparisons is that while answering questions in the presence of another person in the room, respondents may be more prone to social desirability biases. I find that the effect of organized crime group are not statistically different across both types of answers.

I also examine patterns of non-response. Respondents who do not want to talk about their exposure to organized crime groups may say ‘Cannot say’. Just 3.28% of the sample answered ‘Cannot say’. If these were primarily driven by worries about organized crime, as tested in Blattman et al. (2021a), I might expect a correlation between organized crime degree of governance and the proportion of questions unanswered. In Panel B of Table 11 I test this by using the variables that proxy organized crime groups’ governance (see Section 2.2 for an explanation of these variables). Table 11 shows the respondent’s ‘Cannot say’ answers against municipality-level measures of organized crime governance strength. I see neither economically nor statistically significant correlations, and if anything, in the opposite direction to the one theorised (column (5)).

I recognise that social desirability biases cannot be fully excluded in this study. However, these two tests show that the amount of any potential bias is unlikely to be significant, with minor implications on the validity of the major findings. This mitigates the possibility of measurement error due to social desirability bias.

2.4.5 Matching

Equation 1 shows that in my main analysis I control for a battery of control variables. Another way to study the relationship between exposure to organized crime groups and social capital is by constructing comparison groups that are similar according to a set of matching control variables. As expected, in Table 12, I show that those individuals exposed to the presence of organized crime groups differ in almost all the control variables (both conservative and non-conservative) to those that are not exposed to the presence of organized crime groups. In what follows, I employ matching techniques to take this imbalance into account.

Panel A of Table 13 presents matching estimates using propensity score matching. I have firstly specified the probability model for the propensity scores by estimating a logit model to predict the probability of being exposed to the presence of organized crime groups. I add in the model all the set of observable characteristics that are imbalanced in Table 12. I then check the common support rule and keep only the predictions which overlap between the control and the treatment group. This applies to 99.9% of the cases and only 79 individuals are excluded from the common support area, leaving me with a sample of 765,639 individuals. The overlap of the propensity score distributions suggest that the population assumption of common support is reasonably fulfilled in the sample. Finally, I apply the kernel matching method which uses all the observations within the common support as a match, with the closest matches given a higher weighting than more distant ones. Results in Panel A from the propensity score matching show that exposure to the presence of organized crime groups decreases the social capital aggregate index by 0.076SD, in line with the Pooled

OLS estimates.

In Panel A, I also provide matching estimates using an inverse probability weighting (Cattaneo, 2010). I estimated a model that gives less or more weights to those observations exposed to the presence of organized crime groups that show imbalances in the control variables in comparison to the individuals that are not exposed to the presence of organized crime groups. In other words, I correct for selection by weighting observations and, if the property of balance on propensity scores holds, this correction provides consistent estimation of the average treatment effect. I estimated the probability of being exposed to the presence of organized crime groups (using a logit model) on the imbalanced variables of table 12 and use the resulting predictions to weight the observations.⁴⁶ Results using inverse probability weighting show that the exposure to organized crime groups decreases the social capital aggregate index by 0.065SD, in line with the Pooled OLS estimates.

In Panel B, I combine regression and matching with a doubly robust estimation which ensures that the estimate is corrected if either the outcome model or the treatment model is misspecified. I estimated an augmented inverse probability weighted estimator (AIPW) in which I estimate both a treatment model with the exposure to organized crime groups as a dependent variable on the set of imbalanced variables as in the inverse probability weighting regression above. In addition, I also present a outcome model with social capital aggregate index as a dependent variable and exposure to organized crime groups, along with a set of conservative control variables that are not influenced by the exposure to organized crime groups. Thus, I have added the control variables from the main model which are either time invariant or not affected by the exposure to organized crime presence: age of the individual, age squared, gender of the individual, whether the individual is married and the geographic controls of the municipality where the individual lives (altitude, elevation, whether the municipality is on the mountain, whether the municipality is on coast, an indicator of arable land, an indicator of presence of fruit trees, an indicator of the presence of meadows, an indicator of presence of woods, whether the municipality is a provincial capital and the log of surface of the municipality). The AIPW adds an argumentation term in the outcome model that adjusts the results based on the degree of misspecification in the matching model. Results using AIPW shows that the exposure to organized crime groups decreases the social capital aggregate index by 0.067SD. These results are consistent with the main estimates.

⁴⁶I excluded from the treatment model those predictors that show near collinearity which do not allow the logit estimator to achieve convergence (population size which is highly collinear with the log of surface of the municipality).

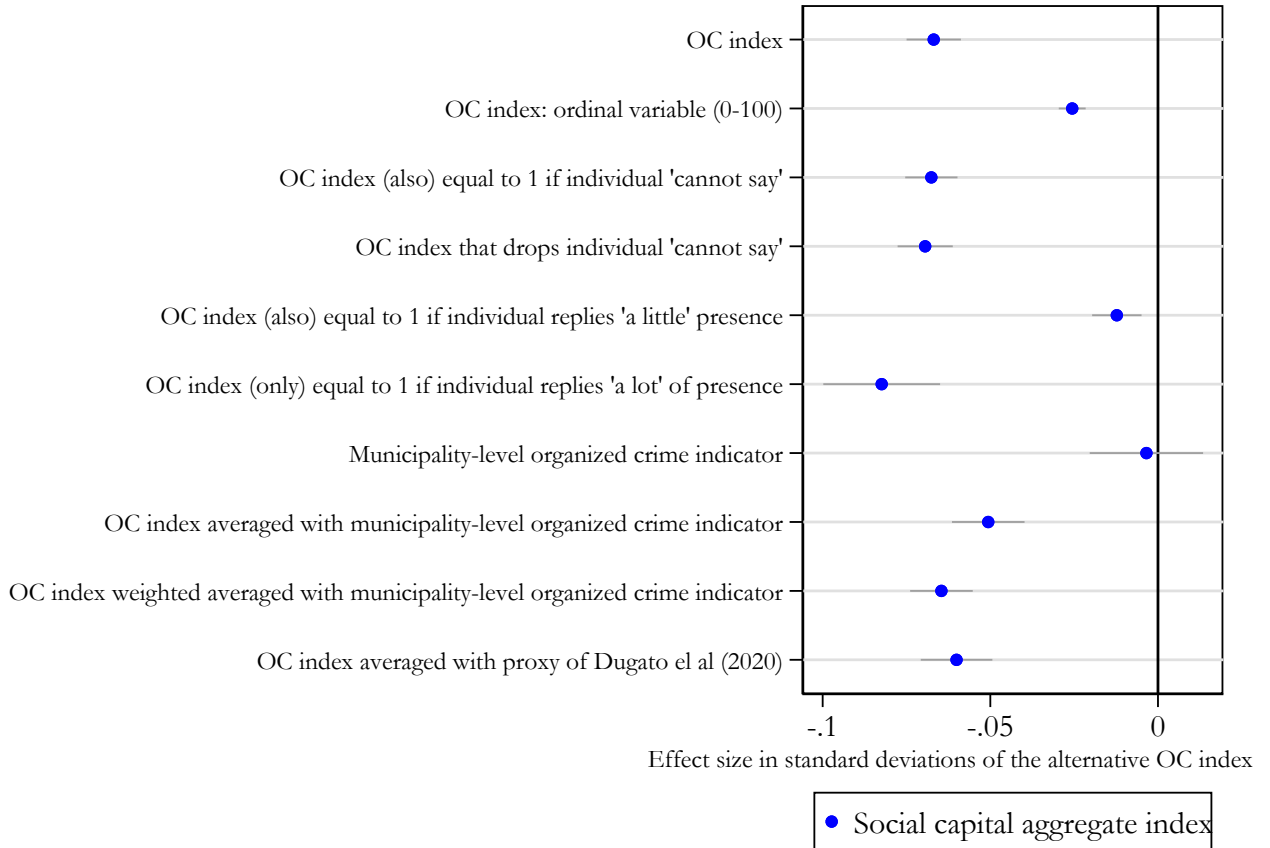
2.4.6 Robustness checks' tables and figures

Table 9: Pooled OLS: selection on observables (2000-2018)

	Outcome: Social capital aggregate index									
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Organized crime index	-0.096*** (0.011)	-0.097*** (0.011)	-0.102*** (0.006)	-0.073*** (0.004)	-0.070*** (0.005)	-0.070*** (0.005)	-0.068*** (0.004)	-0.067*** (0.004)	-0.067*** (0.004)	-0.067*** (0.006)
Base	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Individual controls conservative	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Individual controls non-conservative	No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Municipality controls conservative	No	No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Municipality controls non-conservative	No	No	No	No	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	No	No	No	No	No	Yes	Yes	Yes	Yes	Yes
Region FE	No	No	No	No	No	No	Yes	No	No	No
Province FE	No	No	No	No	No	No	No	Yes	Yes	Yes
Strata: Region X Municipality size	No	No	No	No	No	No	No	No	Yes	No
Cluster region	No	No	No	No	No	No	No	No	No	Yes
Observations	765718	765718	765718	765718	765718	765718	765718	765718	765718	765718
R^2	0.002	0.015	0.063	0.067	0.068	0.069	0.072	0.074	0.074	0.074

Notes: Description of all the variables used is in section 1.6. Standard errors in parenthesis clustered at the municipality level (apart from column (9) and column (10)). *p <10%, **p <5%, ***p <1%

Figure 5: Pooled OLS: testing alternative OC index (2000-2018)



Notes: This figure presents the Pooled OLS estimates of the effect of exposure to organized crime on the social capital of individuals interviewed between 2000-2003 and 2005-2018 using a range of different indicators for the variable of interest. All estimates show results from the Pooled OLS regressions based on equation 1. Each row is a regression. The dependent variable is standardised with mean 0 and standard deviation 1. The dependent variable is the social capital aggregate index. The variable of interest is the OC index. In the first row, the baseline effect of exposure to organized crime on the social capital aggregate index is presented. In the following rows, different combinations of the OC index are presented. The control variables are the individual-level control variables, municipality-level socioeconomic variables and geographic variables. Year fixed effects and province fixed effects are added. Description of the data used and the construction of the variables is in Section 2.4.2. Standard errors clustered at the municipality level. Confidence intervals are calculated at the 95% level.

Table 10: Pooled OLS: weighted mean index (2016)

	Outcome: Social capital aggregate index	
	Main (1)	Weighted mean index (2)
Organized crime index	-0.153*** (0.017)	-0.128*** (0.017)
<i>t-test between (1) and (2)</i>		
p-value	0.016	<i>ibid</i>
Observations	36621	36621
R^2	0.112	0.083

Notes: This table presents the Pooled OLS estimates of the effect of exposure to organized crime on the social capital of individuals interviewed in 2016 by using both the social capital aggregate index (column (1)) and the social capital weighted mean index (column (2)). Description of the data used and the construction of the variables is in Section 2.4.3. Observations and R^2 at the bottom of the table. Standard errors clustered at the municipality level. *p <10%, **p <5%, ***p <1%. <1%

Table 11: Pooled OLS: testing for social desirability bias (2000-2013; 2000-2018)

Panel A: Questionnaire administration	Outcome: Social capital aggregate index				
	Main (1)	Alone (2)	W. enumerator in room (3)		
Organized crime index	-0.032*** (0.005)	-0.033*** (0.007)	-0.030*** (0.006)		
<i>t-test between (2) and (3)</i>					
p-value		0.717	<i>ibid</i>		
Observations	548461	163075	267911		
R^2	0.074	0.084	0.076		
Panel B: Correlation 'Cannot say' and OC governance	Cannot say	Cannot say	Cannot say	Cannot say	Cannot say
Mafia group > 1, 0 otherwise (2013-2018)	-0.011 (0.008)				
Municipality was a <i>Comune</i>		-0.002 (0.005)			
Municipality was a Bishop city			-0.002 (0.004)		
Municipality was assigned gold medal for anti nazi/fascism				-0.004 (0.005)	
Individual lives in small town					-0.008*** (0.002)
Observations	45378	465828	765718	465828	765718
R^2	0.026	0.007	0.010	0.007	0.011

Notes: This table presents the Pooled OLS estimates of the effect of exposure to organized crime on the social capital of individuals interviewed by testing for social desirability bias. The dependent variable is standardised with mean 0 and standard deviation 1. The dependent variable is the social capital aggregate index. Panel A presents the results by dividing the sample between the main sample (column (1)), the sample of individuals that answer alone in the room (column (2)) and the sample of individuals that answer with either an enumerator or a family member in the room (column (3)). Data is available between 2000 and 2013. Panel B presents the correlations between the variables that proxy the varying degrees of governance of the organized crime and patterns of non-response. Each row is a separate regression. Data is available for the years between 2000 and 2018. Description of the data used and the construction of the variables is in Section 2.4.4. Observations and R^2 at the bottom of the table. Standard errors clustered at the municipality level. *p <10%, **p <5%, ***p <1%.

Table 12: Balance table: differences in observables between those exposed and not exposed to organized crime (2000-2018)

Variable	(1) Exposed to OC Mean/SE	(2) No or little exposure to OC Mean/SE	(3) Total Mean/SE	T-test Difference (2)-(1)
Age	48.513 (0.042)	48.512 (0.026)	48.513 (0.022)	-0.001
Age squared	2726.531 (4.288)	2735.855 (2.675)	2733.319 (2.270)	9.324
Gender	0.528 (0.001)	0.518 (0.001)	0.521 (0.001)	-0.010***
Individual is married	0.537 (0.001)	0.541 (0.001)	0.540 (0.001)	0.005*
HH size	3.024 (0.003)	3.017 (0.002)	3.019 (0.001)	-0.008
Education level	1.022 (0.001)	1.009 (0.001)	1.012 (0.001)	-0.013***
Individual is employed	0.418 (0.001)	0.426 (0.001)	0.424 (0.001)	0.008***
Principal component analysis: Asset index	0.033 (0.005)	-0.020 (0.003)	-0.005 (0.002)	-0.053***
Individual regularly lives away from municipality for work	0.029 (0.000)	0.033 (0.000)	0.032 (0.000)	0.004***
Altitude	153.835 (0.400)	268.585 (0.371)	237.369 (0.297)	114.750***
Elevation	484.076 (1.119)	674.248 (0.863)	622.515 (0.705)	190.171***
Municipality is in the mountain	0.031 (0.000)	0.030 (0.000)	0.030 (0.000)	-0.001***
Municipality is on the coast	0.191 (0.001)	0.179 (0.001)	0.182 (0.000)	-0.012**
Arable land	0.439 (0.001)	0.386 (0.000)	0.400 (0.000)	-0.052***
Fruit trees	0.209 (0.001)	0.183 (0.000)	0.190 (0.000)	-0.026***
Meadows	0.104 (0.000)	0.138 (0.000)	0.129 (0.000)	0.034***
Forest	0.161 (0.000)	0.204 (0.000)	0.192 (0.000)	0.043***
Municipality is the provincial capital	0.398 (0.001)	0.232 (0.001)	0.277 (0.001)	-0.166***
Log of surface	8.803 (0.003)	8.610 (0.002)	8.663 (0.001)	-0.192***
Population size	2.88e+05 (1342.966)	1.07e+05 (498.437)	1.56e+05 (523.022)	-1.81e+05***
Immigration rate	0.060 (0.000)	0.050 (0.000)	0.053 (0.000)	-0.010***
Income pro capite	11988.839 (8.586)	11164.836 (5.078)	11388.990 (4.393)	-824.003***
Gini income index	0.418 (0.000)	0.404 (0.000)	0.408 (0.000)	-0.014***
Municipality council: gender balance	0.196 (0.000)	0.197 (0.000)	0.197 (0.000)	0.001***
Municipality council: average years of education	14.694 (0.003)	14.137 (0.002)	14.288 (0.002)	-0.557***
Municipality council: average age	47.269 (0.007)	46.722 (0.005)	46.871 (0.004)	-0.547***
N	208299	557419	765718	

Notes: This table presents a balance between individuals exposed and not exposed to the presence of organized crime groups. *p <10%, **p <5%, ***p <1%

Table 13: PSM, IPW and AIPW: alternative estimators (2000-2018)

Outcome: Social capital aggregate index	OC index (1)	Observations (2)
Panel A: Matching		
Propensity score matching	-0.076*** (0.002)	765639
Inverse probability weighting	-0.065*** (0.002)	765718
Panel B: Regression and Matching		
Augmented inverse probability weighting	-0.067*** (0.002)	765718

Notes: This table presents estimates of the effect of the exposure to organized crime groups on social capital of individuals interviewed between 2000-2003 and 2005-2018, using a number of different estimators. Each row is a regression in which the Y is in the rows and the variable of interest is in the column. Column (1) presents the β effect. Column (2) presents the number of observations. The dependent variable is standardized with mean 0 and standard deviation 1. The dependent variable is the social capital aggregate index. The variable of interest is the OC index. Panel A presents the matching results: propensity score matching with kernel weights and the inverse probability weighting. Panel B presents the mix regression and matching results: the augmented inverse probability weighting procedure. Standard errors in parenthesis clustered at the municipality level. *p <10%, **p <5%, ***p <1%

2.5 Synthetic control approach

The emergence of organized crime groups in Apulia happened only in the late 1960s and 1970s. Historians speculate that organized crime groups did not emerge in Apulia earlier because of a lack of request of protection by landowners (Sales, 2015, p.381), possibly because the landowners in some of these areas had their own private army (Gambetta, 1993, p.80-83). Appendix Figure A.3 shows the homicide rate per 100,000 inhabitants since 1887, using data from Alesina et al. (2019). Until the 1970s, Apulia's level of violence was in line with the Italian base value (100). The 1970 represents a turning point when Apulia becomes one of the most violent regions in Italy.

As discussed in empirical chapter 1, organized crime groups expanded to Apulia due to two largely exogenous events. First, the resettlement law had a particularly strong effect on Apulia, which became the southern region with the highest number of resettled *Mafiosi* (Pinotti, 2015b). As previously mentioned, judges who headed the provincial tribunal where the Mafia suspect was living had the power to decide where to send the suspect. In the period of time in which the resettlement policy was ongoing, there is no evidence that levels of social capital meant that some provinces were preferred to others for forced resettlement because statistics to support this possibility were not available for that period (Scognamiglio, 2018). Additionally, there is no historical evidence which suggests that *Mafiosi*, through forms of power and influence, managed to move in areas of their preference.

In addition to this historical evidence, I add some empirical one. In Appendix Table A.7 I study the effect of social capital between 1968-1972 at the province level (the same used in Section 1.3 to test for reverse causality) on the number of resettled *Mafiosi* per 100,000 inhabitants in 1972. Results shows that the social capital of the province does not seem to influence the receipt of resettled *Mafiosi*.

Second, the closure of the tax-free port of Tangier and the development of the illicit tobacco trade in the 1960s (PAC, 1993b) meant that Apulia became the main tobacco trading port in Italy. There does not seem to be any direct relationship between the closure of a port in Morocco and the social capital of Apulia. In addition, the emergence of the illicit tobacco trade happened in Apulia mostly for geographic reason as Apulia was: (i) region close to the Mafia historic strongholds and so easily reachable by these; and (ii) in a strategic position in the middle of the new trading route between Eastern Europe (where the new tobacco depots were built) and Turkey and Cyprus (where the tobacco was sent).

To note, however, that the emergence of organized crime group is not - by nature - a purely exogenous event. These two historical events may also not be completely orthogonal to the level of social capital of the region as they may have affected social capital through other channels. However, having reviewed the history of organized crime groups in all of

Italy since the 19th century, these historical events may be the most credible opportunity to attempt at finding a causal effect. In other words, while I cannot claim a full causal analysis, this identification strategy is to the best of my knowledge the analysis that more closely gets to a causality.⁴⁷

Because of these two events, the ‘fourth Mafia’ emerged in Apulia and is normally referred to as the *Sacra Corona Unita*. The group’s founding father is Pino Rogoli, who created the group in 1983 in an attempt to contain and regulate the issues arising between prisoners and between the more structured *Camorra* groups which arrived in Apulia since the 1970s (Allum et al., 2019, p.57). Also, *Sacra Corona Unita* originated thanks to the strong ties with the *’Ndrangheta* which also wanted to benefit from the illicit tobacco trade from Eastern Europe (Allum et al., 2019, p.58). This ‘fourth Mafia’ group had a period of crisis in the 1990s because of a high number of former affiliates who turned state’s witnesses (Allum et al., 2019, p.63). However, nowadays, Mafia groups in Apulia are strongly present, even if in different forms. As reported by DIA (2009, p.266), there are *Salento Mafia groups* in the Salento area, the *Garganic Mafia* in the Garganic area and the *Società Foggiana* in Foggia, while in the provincial capital of Bari there are some remaining members of the *Sacra Corona Unita*. This group has been particularly active in the illicit tobacco trade, in the illicit drug trade, in the weapons trade with organized crime groups in Montenegro and Turkey, and it also profited from the transport of immigrants thanks to its contacts with the Albanian organized crime group (DIA, 2000).

I exploit Apulia’s unique experience with the largely exogenous arrival of Mafia groups to better understand whether my main results can be interpreted as a causal effect of organized crime on social outcomes. I analyse Apulia’s social outcomes before and after organized crime groups arrived, against a (synthetic) control group of regions that were not notably exposed to the development of criminal organisations. I weighed the control group to construct a synthetic control that closely follows the initial conditions in Apulia decades before the arrival of organized crime, following the approach originally thought by Abadie and Gardeazabal (2003) to estimate the economic costs of terrorism in the Basque country and by Pinotti (2015b) to estimate the economic costs of organized crime in Italy (before 1960).

The outcome of interest is a measure of social capital calculated from every census year (every decade) between 1861 and 2020. The construction of this variable builds on Nuzzo (2006), who compiled this variable at the regional level between 1901 and 2001. I expanded

⁴⁷I have also tried using an instrumental variable approach using Sicilian data as Buonanno et al. (2015); Dimico et al. (2017); De Feo et al. (2019) do for their studies, but I do not find convincing the (claimed) exogeneity of the economic drivers of the emergence of organized crime the authors use (presence of sulphur mines in a municipality, citrus land suitability and drought intensity interacted with the presence of rioting peasants).

this time series from 1861 until 1891 and between 2001 and 2020. The series is interrupted during the fascist rule between 1931 and 1941 because the information is either not available or is heavily biased by the political (fascist) context (Nuzzo, 2006).

Social capital includes three available indicators largely comparable to those used in the previous section: political participation, civic engagement and interpersonal trust. Political participation is measured as (i) number of political associations per capita and (ii) the number of male voters over the total electorate at the Senate elections.⁴⁸ Civic engagement is measured as number of CSOs per capita. Interpersonal trust is measured as number of civic court disputes per capita (reverse coded). This latter measure has been used in the literature to proxy the litigiousness of individuals which strongly correlates with low levels of interpersonal trust (Nuzzo, 2006). These three indicators are normalised to the Italian base value of 100 and averaged into the social capital aggregate index.

I chose a vector of weight that minimise the difference between treated and control regions for a period when neither had been exposed to the treatment, prior to the 1960s. This means that I had to exclude from the control regions the Mafia historic strongholds (Sicily, Calabria and Campania).⁴⁹ The vector of variables that minimise the difference between treated and control regions before 1961 are the outcome of interest pre-treatment and a number of control variables. These are the percentage of female in the population, household size, population size, GDP per capita, productivity calculated as per worker GDP, occupation rate, human development indicator (index of life expectancy, education and income), value added per capita, value added in the industrial sector per capita, share of workers in the industry, share of workers in agriculture, share of workers in other sectors, number of migrants per capita that leave the region, train connectivity, road connectivity, percentage of people living in mountainous areas and percentage of people living in small municipalities.⁵⁰

Table 14 confirms that the synthetic control matches the treated region well in terms of social capital and the main socioeconomic variables, with the exception of variables connected with the population size, as in Pinotti (2015b). The region with the largest weight is Basilicata. Interestingly, despite the fact that no geographical variable is expressly included in control variables, the synthetic weighting technique gives Basilicata, a region which borders to Apulia, the largest weight. Sardinia, Liguria, and Tuscany are also weighed against Apulia.

⁴⁸The choice of male voters guarantees consistency in time as women were not allowed to vote before 1945.

⁴⁹Unfortunately, I also had to exclude Valle d'Aosta, Trentino Alto Adige, Veneto, Friuli Venezia Giulia, Lazio and Molise as there is no data available on social capital for some of the census years.

⁵⁰Description of these variables is provided in Data Appendix C.1.

Table 14: Synthetic control: pre-treatment characteristics in Apulia and in the synthetic control (average 1861-1961)

Pre-treatment characteristics	Apulia (1)	Synthetic control (2)
Social capital aggregate index (Italy base - 100)	58.21	61.53
Percentage of female population	.49	.50
Average household size	4.1	4.06
Population size	2137111	899997
GDP per capita (Italy base - 100)	87.12	82.99
Productivity per capita (Italy base - 100)	95.37	83.91
Occupation rate (Italy base - 100)	91.50	100.43
HDI per capita (Italy base - 1)	.42	.42
Value added per capita (Italy base - 1)	.84	.82
Value added in industry per capita active population (in mln)	218.88	213.14
Share of occupation in the industry	22.63	20.15
Share of occupation in the agriculture	61.86	65.19
Share of occupation in other sectors	15.50	14.65
Outflow migration per capita	.006	.0129
Number of railways per 100,000 inhabitants	53.70	62.88
Number of roads per 100,000 inhabitants	275.33	383.53
Percentage of individuals that live in mountain (coastal or internal)	.015	.419
Percentage of individuals that live in small municipalities	.183	.465

Notes: This table presents a comparison of the characteristics of Apulia and its synthetic control between 1861–1961. Column (1) presents the average value in Apulia. Column (2) presents the average value in the synthetic control. For details on the synthetic control method, see Figure 6. Description of the data used and the construction of the variables is in Section 2.5 and Online Appendix C.1.

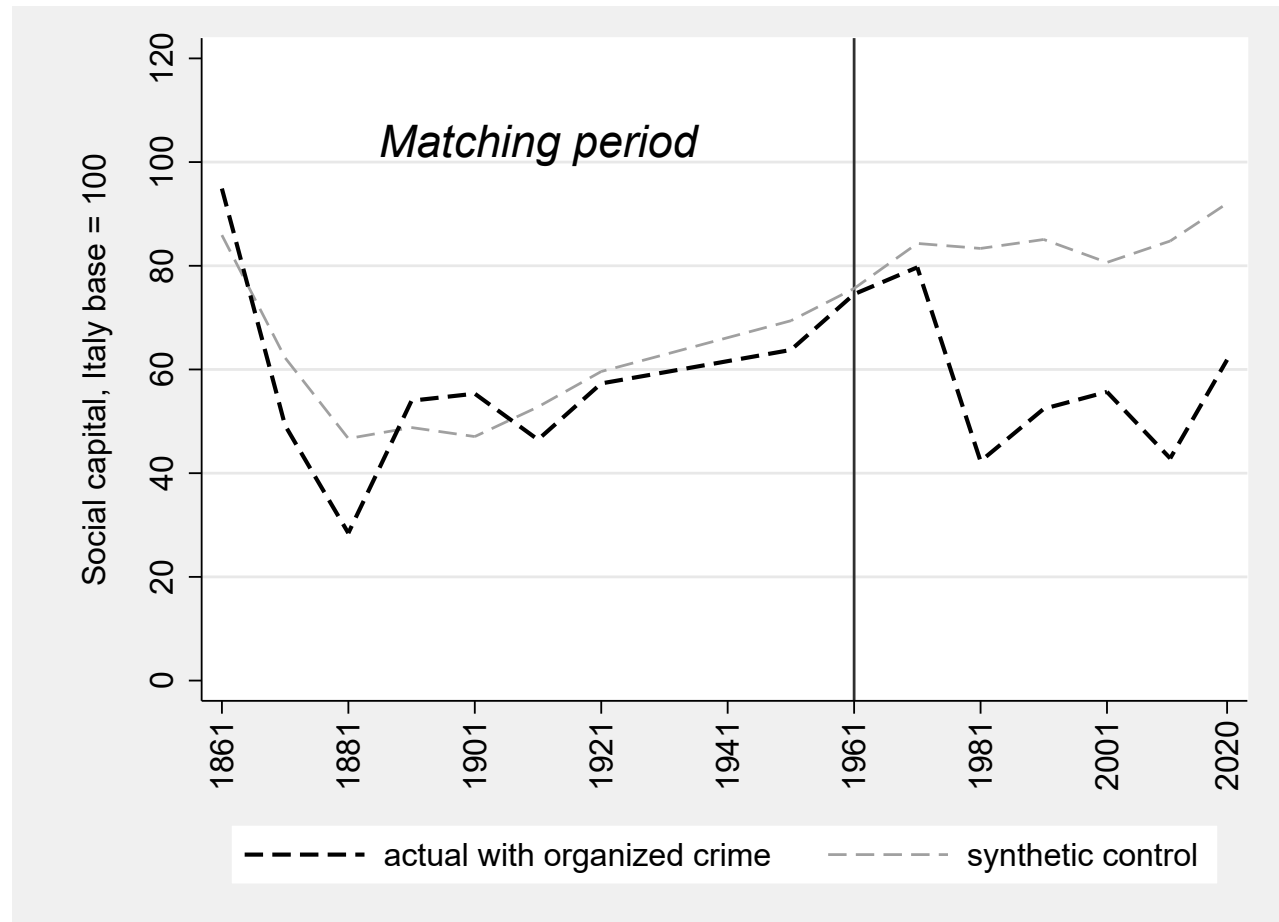
2.5.1 Synthetic main results

Figure 6 shows that in the decade between 1971 and 1981 the level of social capital in Apulia drastically fell by roughly 30%. The gap between the actual and counterfactual social capital remains constant until today. The drop in social capital happens in the same decade in which organized crime groups settle in Apulia. Results from the synthetic control confirm the pooled OLS results, but are of larger magnitude. This has three plausible explanations. First, the pooled OLS effects are an average effect for all Italy and not specifically for Apulia, one of the regions in Italy with the highest presence of organized crime. Second, the indicators used to proxy social capital while similar are not the same. Finally, it is possible that the pooled OLS results underestimate the true effect of exposure to organized crime groups and social capital, which is instead more causally approximated by the synthetic control approach.

Similarly to the pooled OLS results, the synthetic control results also show that most of the social effect of organized crime is driven by a reduction in interpersonal trust (Appendix Figure A.4). I find a small negative effect on political participation (Appendix Figure A.5). On the other hand, I cannot interpret the effect on civic engagement as the divergence between Apulia and the synthetic control happens before the arrival of the organized crime groups and the gap remains constant until today (Appendix Figure A.6).

Table 15 shows that between 1971 and 1981, concurrent with the establishment of organized crime groups, there is a clear turning point as the gap in social capital compared to the synthetic control group moves from -5% to -49% and then remain stable to -30% for 40 years until today. This is a similar result as the one found in Section 2.2 where the arrival of organized crime groups has a first strong negative shock on social capital to then adjust to a negative equilibrium of a slightly smaller negative magnitude. I will return to this result in the discussion section of the next empirical chapter.

Figure 6: Synthetic control: social capital in the treated region and in the synthetic control (1861-2020)



Notes: This figure presents the synthetic control estimates of the effect of the arrival of organized crime groups in Apulia in the 1970s on the social capital of the region compared to a group of synthetic control regions. The black dotted line is the level of social capital of Apulia between 1861 and 2020, every decade. The grey dotted line is the level of social capital of the synthetic control regions (Basilicata, Sardinia, Liguria and Tuscany). The dependent variable is the social capital aggregate index normalised to the average Italy base-value of 100. The matching period in which the synthetic control approach minimises the differences between Apulia and the control regions is before 1961 (the time period on the left of the vertical black line in 1961). The calculation of the weights uses the social capital of the regions and a set of socioeconomic indicators before 1961. Description of the data used and the construction of the variables is in Section 2.5 and Data Appendix C.1.

Table 15: Synthetic control: differences in social capital between the treated unit and the synthetic control (1861-2020)

Time period	Apulia	Synthetic control	Gap in %
1861-1871	94.89	85.91	10.45
1871-1881	49.19	62.25	-20.98
1881-1891	28.44	46.68	-39.07
1891-1901	53.97	48.80	10.58
1901-1911	55.33	47.06	17.57
1911-1921	46.47	52.78	-11.95
1921-1951	57.31	59.61	-3.85
1951-1961	63.76	69.40	-8.12
1961-1971	74.53	75.62	-1.44
1971-1981	79.69	84.31	-5.47
1981-1991	42.31	83.34	-49.22
1991-2001	52.41	85.07	-38.38
2001-2011	55.67	80.65	-30.96
2011-2020	52.36	88.40	-41.10

Notes: This table presents a comparison of the levels of social capital between Apulia (treated) and its synthetic control between 1861 and 2020, every decade. For details on the synthetic control method, see Figure 6. Description of the data used and the construction of the variables is in Section 2.5 and Data Appendix C.1.

2.5.2 Synthetic robustness checks and placebos

In contrast to Pinotti (2015b), I do not include Basilicata as a treated region as more recent historical work has shown how Basilicata, along with Abruzzo and some internal areas of Campania has been exempted by the presence of organized crime groups (Sales, 2015, p.288). Evidence of this can be found in Appendix Figure A.7 which shows how the murder rate per 100,000 inhabitants, as opposed to Apulia, starts decreasing from the 1970s. I nonetheless re-estimate my results including Basilicata in Figure 7. Results are of smaller magnitude but remain consistent.

One additional concern is that the estimates are sensitive to the particular performance of a small number of control regions. To address this concern, I show in Figure 8 that results are similar in magnitude when excluding one-by-one each of the control regions (Basilicata in Panel A, Sardinia in Panel B, Liguria in Panel C and Tuscany in Panel D).

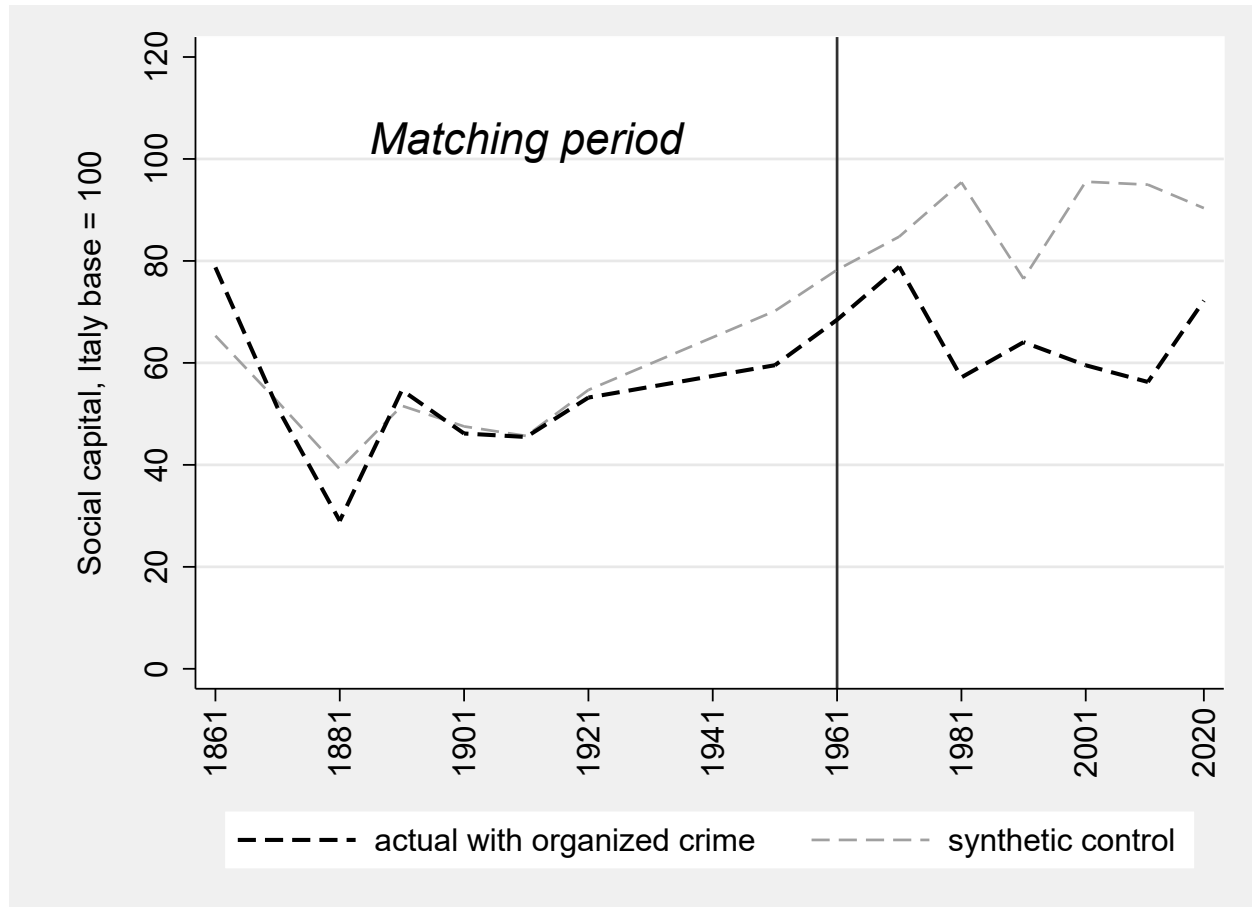
One remaining question is whether the estimated effects of the synthetic control approach are also significant in a statistical sense. Large sample inferential approaches are not ideal for comparative case studies with a small number of treatment and control units, as Abadie et al. (2010) points out. As a result, they suggest another placebo test based on the distribution of (placebo) effects for each region in the control group. If the effect estimated for the ('real') treated unit is abnormal relative to the distribution of placebo estimates, the null hypothesis that organized crime has no effect can be rejected.

Figure 9 explore the robustness of the main finding using this placebo test and shows the distribution of estimates for the placebo and the treated unit.⁵¹ No other placebo unit shows a similar drop in social capital. We can then reject the null hypothesis that the effect of the organized crime in Apulia is equal to zero (Abadie et al., 2010).

While I am not able to test the effect on institutional trust due to lack of an appropriate indicator before the arrival of the organized crime groups in Apulia in the 1970s, I can nonetheless present some descriptive evidence on the level of institutional trust of Apulia and the synthetic control regions (Basilicata, Sardinia, Liguria and Tuscany) using data from the Eurobarometer (1973). The Eurobarometer survey which runs in Italy since 1973 (almost yearly), has two questions that proxy institutional trust: (i) the level of satisfaction with how democracy works in the country (1=not at all satisfied and 4=very satisfied) and (ii) a dummy equal to 1 if the interviewee does not want to change society and, if he does, he would like to do that only through institutional means, and 0 if the interviewee would want to do that only through a revolution. In both cases, I expect the two indicators to be positively correlated with a higher level of institutional trust. While these are not perfect proxy, an individual with high levels of satisfaction towards democracy is likely to have also high levels of trust towards the institutions that govern that democracy. Additionally, if the individual wants to make change through institutional means, it is plausible that he poses high levels of trust towards the institutions to implement that change. In Table 16, I compare in percentage points the difference in level of institutional trust between Apulia and synthetic regions. With the exception of the first year in 1973, there is a clear lower level of institutional trust in Apulia. On average, this amounts to a lower institutional trust by 8%.

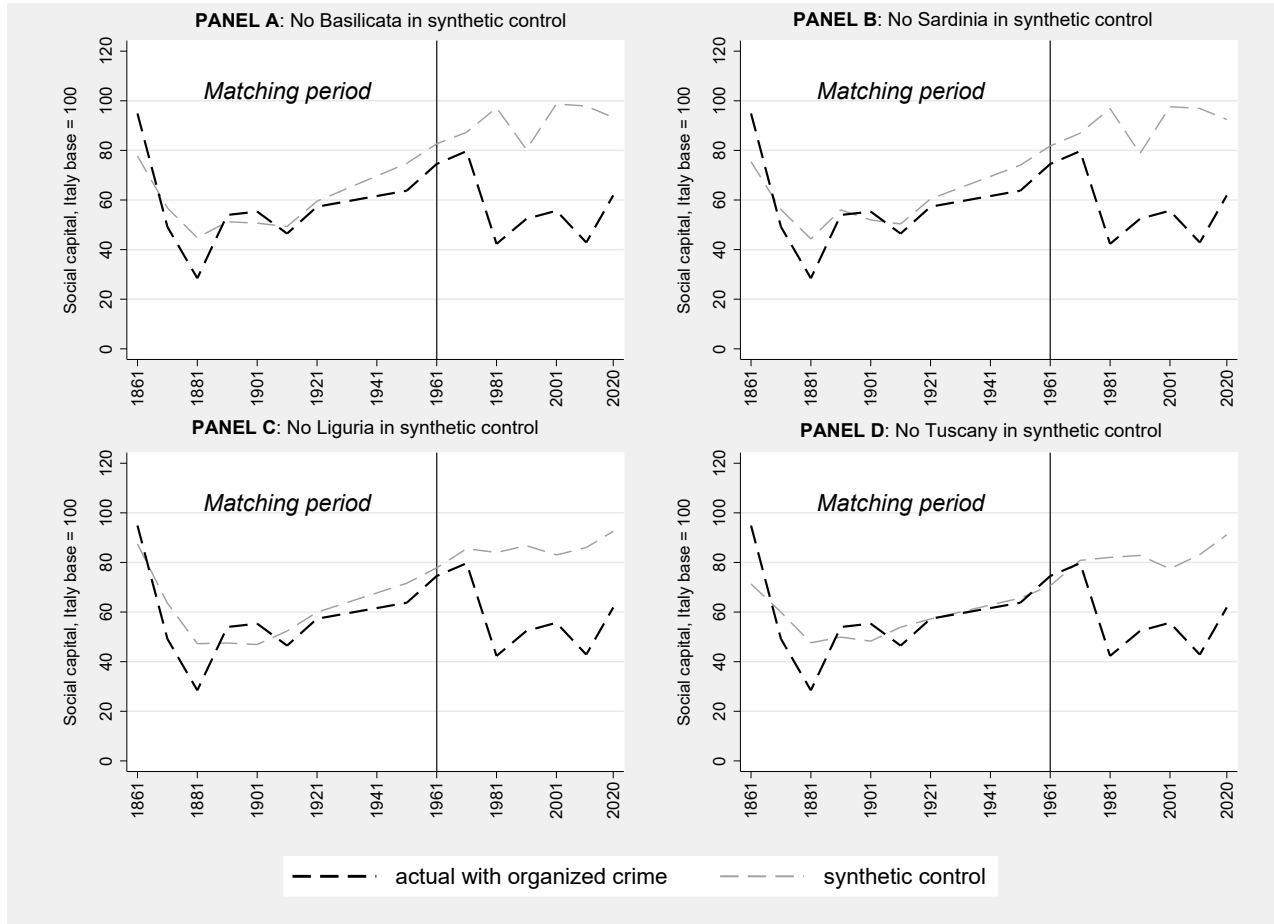
⁵¹I drop Sardinia from this placebo test as a large surge of civic proceeding occurred after the second world war because of land grabbing and arson, but that had nothing to do with the presence of organized crime groups. This choice is in line with Pinotti (2015b).

Figure 7: Synthetic control: Basilicata treated with Apulia (1861-2020)



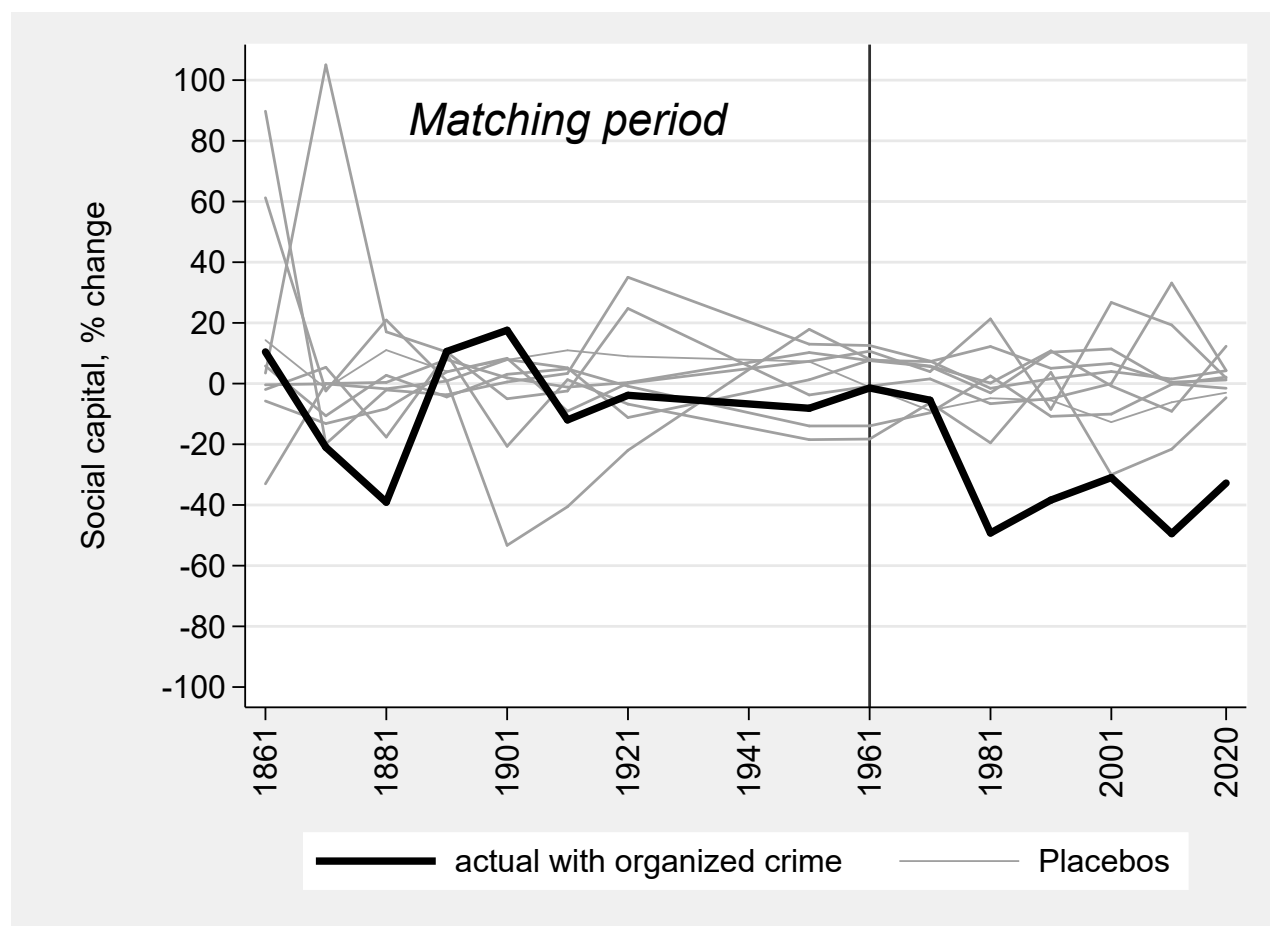
Notes: This figure presents the synthetic control estimates of the effect of the arrival of organized crime groups in Apulia and Basilicata in the 1970s on the social capital of the two regions compared to a group of synthetic control regions. For details on the synthetic control method, see Figure 6. Description of the data used and the construction of the variables is in Section 2.5 and Data Appendix C.1.

Figure 8: Synthetic control: robustness check (1861-2020)



Notes: This figure presents the synthetic control estimates of the effect of the arrival of organized crime groups in Apulia in the 1970s on the social capital of the region compared to a group of synthetic control regions. Panel A drops Basilicata from the pool of synthetic control regions. Panel B drops Sardinia. Panel C drops Liguria. Panel D drops Tuscany. For details on the synthetic control method, see Figure 6. Description of the data used and the construction of the variables is in Section 2.5 and Data Appendix C.1.

Figure 9: Synthetic control: placebo test (1861-2020)



Notes: This figure presents a placebo test to study the statistical significance of the synthetic control results. The black line shows the estimates obtained for Apulia, and the grey lines show the estimates obtained when each of the control units is as if it were treated. Description of the data used and the construction of the variables is in Section 2.5 and Data Appendix C.1.

Table 16: Synthetic control: differences in institutional trust between the treated unit and the synthetic control (1973-2001)

Year	Apulia	Control regions	Gap in %
1973	95.67	95.25	0.44
1976	92.63	103.83	-10.78
1977	88.41	105.75	-16.39
1978	96.21	101.22	-4.94
1979	97.05	99.37	-2.33
1980	94.44	102.56	-7.91
1981	96.71	100.75	-4.00
1982	98.02	101.25	-3.18
1983	95.14	101.98	-6.70
1984	92.70	102.16	-9.26
1985	95.28	102.33	-6.89
1986	100.36	100.00	.36
1987	93.32	105.22	-11.30
1988	100.76	99.58	1.18
1989	91.34	105.78	-13.65
1990	97.56	99.03	-1.49
1991	100.06	102.17	-2.06
1992	99.58	103.24	-3.54
1993	96.13	98.83	-2.73
1994	88.21	113.83	-22.50
1995	92.41	104.89	-11.89
1997	89.71	101.85	-11.91
1998	95.12	105.83	-10.11
1999	87.72	106.28	-17.46
2000	92.17	108.01	-14.66
2001	95.93	99.52	-3.61

Notes: This table presents a comparison of the levels of institutional trust between Apulia (treated) and the control regions used in the synthetic control between 1973 and 2001, with gaps. Description of the data used and the construction of the variables is in Section 2.5 and Data Appendix C.1.

3 Empirical chapter 3: mechanisms

So far, the evidence suggests that organized crime has a significant detrimental impact on social capital with the exception of a positive effect on civic engagement in the national-level data. I discuss in this section the mechanisms that may link individual exposure to organized crime groups and social capital. To identify relevant mechanisms, I followed three approaches. First, I worked with 24 specialists who have spent their lives fighting organized crime groups (policemen, army officers, prosecutors and judges) or studied them in Italy (criminologists, political scientists and economists) to theorise inductively a number of relevant mechanisms that might explain the relationship between exposure to organized crime groups and social capital. The interviews were conducted using open-ended questions and took place after I obtained the results discussed in empirical chapter 2, which I shared with all interviewees. All interviews were analysed to identify patterns in answers which may point towards key mechanisms. Second, I road-tested these mechanisms by administering semi-structured in-depth interviews to 29 community leaders exposed to the presence of organized crime groups in Genoa. The community leaders I interviewed included members of residents' associations, CSO volunteers, business owners and local politicians. The interviews covered three themes: (i) the social capital of the individual and of the community; (ii) the type of exposure to organized crime groups; and (iii) how the exposure to organized crime groups may have had an effect on their social capital and the social capital of their community. Their answers were transcribed and I applied deductive coding, using the set of theorized mechanisms identified with the specialists, to further refine the initial list. Summary statistics of the interviewees are presented in Appendix Table A.8. All details of the qualitative sampling, ethical considerations, the questionnaire used, and the qualitative coding are all presented in Data Appendix C.4. Finally, I made use of a small body of literature on the consequences of armed group and gang presence in developing countries (Blattman et al., 2021a; Gáfaró et al., 2022), and a larger body of literature on the determinants of social capital to further validate the choice of mechanisms.

3.1 Why Genoa

As I mentioned in the introduction, the historic city centre of Genoa is the most suitable location in which to answer my research question for three reasons: (i) for budgetary reasons I was not able to extend this work to the whole of the Italian territory and I needed to find a location which would represent the 'median' experience of Italians of organized crime; (ii) Genoa allows for some degree of external validity because it is similar, in terms of the presence of organized crime, to cities in other developed contexts, whilst other studies have commonly

focused on rural Sicily where only one form of the Mafia (*Cosa Nostra*) has persisted; and (iii) because all the three of the types of organized crime groups which I presented in the empirical chapter 1 are to be found within its territory. Below I describe in more detail the forms that organized crime groups take in Genoa.

Outside the historic Mafia strongholds, only a few cities in Italy have shown a consistent and relevant presence of organized crime. Among this restricted group of cities (which includes Rome, Milan and Turin), there is Genoa, where the presence of organized crime groups dates back to after the second world war. At that time, a few individuals linked to *Camorra* managed the counterfeit and illicit tobacco trade. The organized crime was not 'that organized', but its perpetrators mostly consisted by a handful of *Camorristi* and a small native crime group called the *Ergastolani*. This changed with the arrival of the heroin trade which required much stronger logistical skills and an ability to divide the territory into areas in which the drugs could be sold. This territory was conquered by the Mafia groups thanks to their power of intimidation. Dal Lago and Quadrelli (2003, p.120) describe how Mafia groups managed to conquer these illicit markets through intimidation beginning with a single homicide in which the accountant of the *Ergastolani*, Genoa's native criminal organization, was killed. Many of the small crime groups were then replaced by Mafia groups, not only in the illicit drug trade, but also in smaller illicit businesses: robbery, usury, video-poker and slot machines.

Today, Genoa is a city in the north of Italy with some of the highest indicators of municipality-level organized crime indicator. In the historic city centre, in its hidden streets, in an area of only 2x1 kilometers, commonly known as *Vicoli* of Genoa, most of the organized crime groups can be found. This is a peculiarity of Genoa, a city where two worlds collide, a city of the wealthy and of the rich buildings of the historic city centre, which are embedded in a city of poor streets (Dal Lago and Quadrelli, 2003, p.10).

In some of these streets, in the neighbourhoods of Maddalena, Ghetto and Pré, in the city centre area, organized crime groups exercise some degree of governance. These groups resemble the **Mafia groups with well-defined territorial and business functions**. In the past, as pointed out by a top executive of the Carabinieri in Genoa: "*there were members of Camorra in the aftermath of the second world war, then Cosa Nostra in the 1980s-2000s (families Fiandaca and Emmanuello), and most recently, between the 1990s and today, 'Ndrangheta with the families Asciutto, Grimaldi and Comande profiting from extortions and the family Gangemi in the 2000s connected to the families in Reggio Calabria (ed. the provincial capital of Calabria) which were all condemned for Mafia crimes (...) the presence of Mafia-type groups is history, is reality, is public and published in the police reports and journalistic investigations, but most importantly, in judicial rulings: 'Maglio I', 'Maglio*

II' and 'Maglio III' by the ROS (Special Forces Unit of the Carabinieri) that identified a locale of 'Ndrangheta in Genoa and also the judicial investigation 'I conti di Lavagna' by the Police forces which identified a locale of 'Ndrangheta in Lavagna (a village in the province of Genoa)" (Specialist interview 5.2, June 2021).

The territorial presence is mostly non-violent and quite hidden. According to a top executive in the Carabinieri the groups also leverage their territorial control through intimidation *"an intimidation which is not presented in the form of arson or shootings as might happen in the Mafia historic strongholds, but is more subtle. The intelligence of these people is the skill of adapting in the context where they live"* (Specialist interview 5.2, June 2021). Nonetheless, as suggested by an anti-Mafia prosecutor: *"While we never had a 'Mafia emergency' in the historic city centre, if you go and talk to those who live and work there such as [anonymized], who is an historical memory of the historic city centre, he can tell you exactly where the criminal families are present in the area where he lives"* (Specialist interview 2.1, March 2021)

I talked to some of these long-term residents. A priest told me: *"When I arrived here, there was this individual (ed. criminal) who was acting as a mayor. He was sitting in one of the main streets with a small table and a book. For those who needed help, he actually helped them"* (Community leader 6.7, November 2021). He continued, telling me how the groups provide protection and security in the area: *"Here the largest profit for the organized crime groups is from pimping & pandering. The customers are between 50 and 80 years old, so the petty crimes don't exist here. This is among the safest neighbourhoods in Genoa, because the organized crime groups cannot afford to lose profits because a customer does not come to this area because he is scared of being robbed"* (Community leader 6.7, November 2021).

The members of the organized crime groups do not live separately from the other residents, their two worlds co-exist. The same priest told me that for a local community feast *"There was a dinner with a long table outdoors stretching along the main road and if you pushed the table up to a point, the presence of organized crime groups started from there, if you retracted the table a bit, organized crime groups took that little of territory (...) so there is respect here, it is a melting pot, you cannot separate one thing from the other"* (Community leader 6.7, November 2021). Similarly, these two worlds coincide when *"you see a map of the seized assets of organized crime groups, you immediately see that there is a relational map of people that pay their rent to criminals...also because these are people they probably grew up with"* (Community leader 6.3, November 2021). These criminals are, for some, *"important individuals in the life of the neighbourhood"*, as one long-standing resident regretfully told me (Community leader 6.1, November 2021). Part of the community has attempted to fight against the organized crime groups. However, if someone tries to directly denounce a

group to the public authorities, the groups will react. I have spoken to a business owner who had his shop window covered with excrement because he publicly denounced some of these criminals (Community leader [anonymized], November 2021), business owners who had to leave after multiple retaliations because they had denounced to the public authorities some of the crimes happening on the streets (Community leader 8.18, January 2022), and even to CSO volunteers who had been directly intimidated by the organized crime groups which stole some of the community-rental bikes because the local party they organized was too popular and encroached on the territory which is usually used for pimping & pandering and drug trafficking (Community leader 6.7, November 2021, Community leader 6.8, November 2021).

Also present are **Mafia groups with more covert business operations**, which are mostly interested in international drug trafficking and in money laundering through legal businesses, thanks to the relationships with a grey area between entrepreneurs, politicians and local administrators (DIA, 2019, p.331). *'Ndrangheta* is present in Genoa because of its port, which is at the core of the Genoan identity, as much of its history since 1000 - in particular when the city was a maritime republic - was built around the port.⁵² For the *'Ndrangheta*, Genoa's port is crucial to its business because, as both a prosecutor in the National Anti-Mafia Directorate and a General of the Carabinieri told me: "*It is today the harbour in Europe with the largest import of cocaine*" (Specialist interview 2.5, March 2021; Specialist interview 5.6, March 2021).⁵³ This is possible for two reasons: (i) as documented by Padovano (2016), among unionised port workers and port employees there have been some "*rotten apples*" who have facilitated illicit drugs smuggling, and (ii) as recorded in Sergi (2020), only 5% of the containers are scrutinised.⁵⁴ From Genoa, *'Ndrangheta* coordinates extra-regional and international drug trafficking (DIA, 2019, p.332). In the port, *'Ndrangheta*, along with other multi-ethnic and ever-changing organized crime groups, also traffic in illicit tobacco and counterfeit goods. In terms of outbound trafficking, it is mostly involved in waste trafficking towards north and west Africa (Sergi, 2020). Also, for this reason, *'Ndrangheta* - and more specifically the family Gangemi from Reggio Calabria - has chosen Genoa as the *Camera di controllo* (logistical hub) from which to coordinate the other Mafia groups in the north of Italy.⁵⁵ In the past years, *'Ndrangheta* also attempted to build relationships

⁵²It is the largest harbour in Italy, ranks 68th amongst the world's largest container ports and 8th in Europe and it contributes a 12.6% of the workforce of the city and represents the 8.3% of the total workforce of the region (Invitalia, 2017; Lloyd's, 2018, p.73).

⁵³Most recently, on the 23rd of January 2019, in a police operation called 'Genoan snow', the Italian police seized two tons of cocaine at the port of Genoa which the *'Ndrangheta* had imported from Latin America and was sending to Barcelona.

⁵⁴On the challenges of policing the port of Genoa, see Sergi (2020).

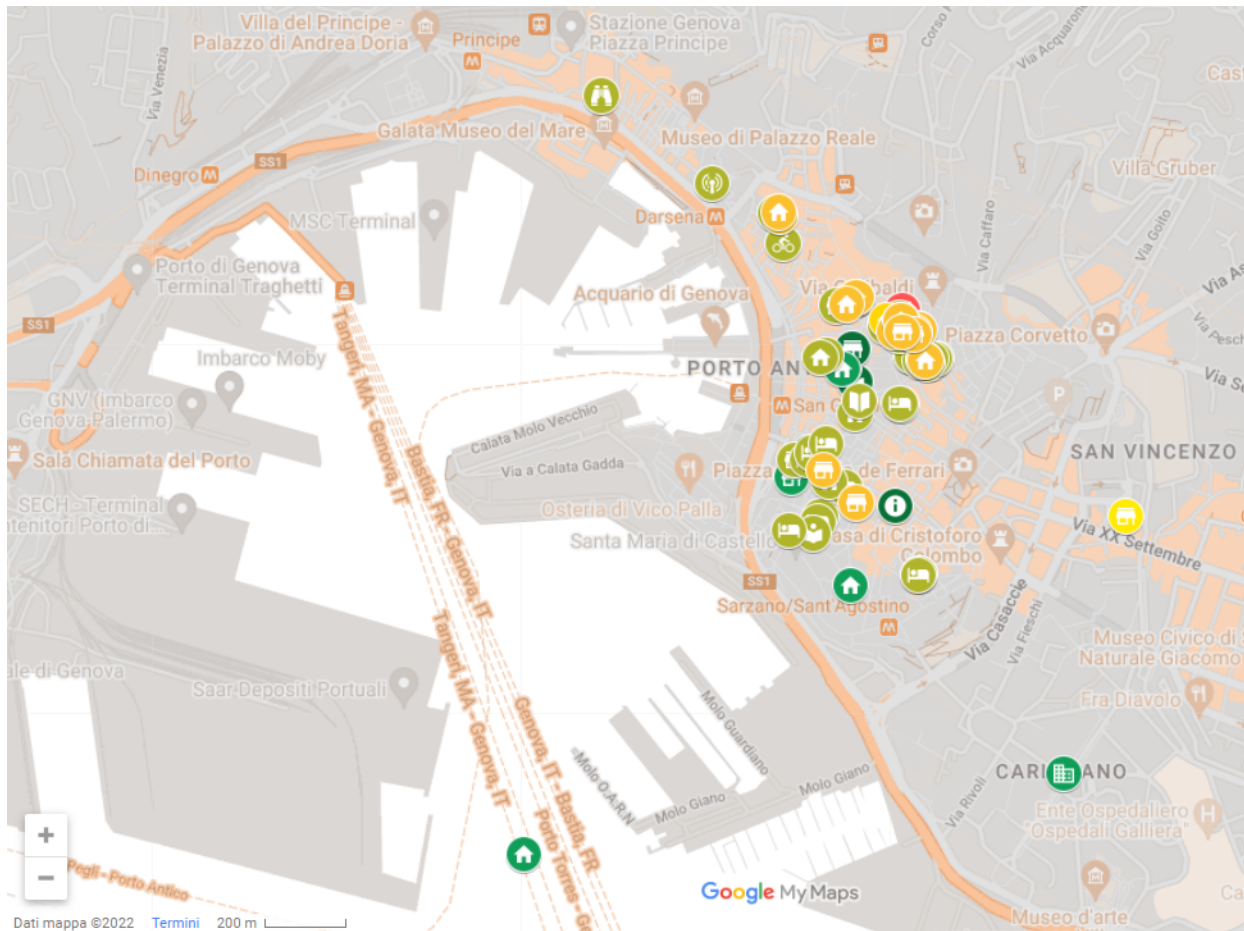
⁵⁵The Mafia boss was arrested in 2017 in the trial named *Crimine* which recognised the presence of

with the local politicians. In 2010 a local politician organized a ‘Calabrian party’ in Genoa to which the *’Ndrangheta* boss Gangemi was invited. Similarly, another local politician was phone tapped asking the boss for 1,000 votes for the upcoming regional elections.

While *’Ndrangheta* is predominant in Genoa (as it is in general in northern Italy), a family with linkages to *Cosa Nostra* is also present in the territory for economic reasons. More than 100 firms (restaurants mostly) and assets were seized in 2017 in the *Maglio 3* trial in the historic city centre of Genoa. These assets are now being used for social purposes, but many talked of how the criminals from whom these assets were seized, some of whom are still out of jail, from time to time pass in front of these buildings and properties, to signal their presence (Community leader 6.3, November 2021; Community leader 6.20, December 2021). A map depicting the assets seized in the city centre is presented in Figure 10.

’Ndrangheta in Genoa (DIA, 2019, p. 333). Seven of the members of the family were also arrested in 2019 (DIA, 2019, p. 334).

Figure 10: Map: assets seized from organized crime in Genoa's historic city centre (prior to 2022)



Notes: This figure presents the spread of assets seized from organized crime groups prior to 2022 in Genoa's historic city centre. The area in white is the sea, the area in grey next to it is Genoa's touristic harbour and the area in orange is part of the historic city centre. The map is taken from the website of Osservatorio Boris Giuliano (2022), an NGO monitoring organized crime groups in Genoa.

Finally, **foreign organized crime groups** are also present in Genoa. In the early 2000s there was an Albanian organized crime group involved in the illicit drug trade (Specialist interview 5.7, March 2021). In the historic city centre, after an escalation of violence in 2017 due to internal conflicts, the DIA (2018b, p.238) has described the presence of Latin American organized crime groups from Ecuador known as the *Latin King*. The DIA (2019, p.335) suggests in its most recently available report - and as was confirmed to me by a prominent official of the DIA in Genoa - that the local illicit drug trade has been taken over by "*sub-Saharan organized crime groups with members from Tunisia, Nigeria and Senegal*" (Specialist interview 5.7, March 2021). In greater detail, a General of the Carabinieri told

me: "90% or 95% of the crimes are committed by foreign organized crime groups, mostly from Ecuador, whose population is roughly 60 thousand people (...) while all the illicit drug trade is in the hands of Moroccans, Senegalese and Nigerians (...) there does not seem to be a Chinese organized crime group, while Eastern European groups are mostly involved in cyber crimes" (Specialist interview 5.2, June 2021). An anti-Mafia prosecutor in Genoa worryingly mentioned that the foreign organized crime groups are more 'organized' than ever: "Unfortunately there has been a breakthrough of the new Mafias, Nigerian and Senegalese. These are not composed of simple illicit drug dealers on the street, but real structured and organized foreign groups which are present in Maddalena and Pré (...) I remember an arrest we did in Pré, a squad of criminals appeared to avoid arresting one of their peers. This might happen in the south of Italy or in some cinematographic scenes in Mexico with El Chapo, so let me say this, pay attention to this phenomenon because there has been a breakthrough of these groups and we need to start discussing of the Nigerian and Senegalese 'Mafia groups'" (Specialist interview 2.1, March 2021).

The presence in the city centre of Genoa of these three types of groups is not casual. It is an ideal place for an organized group to settle because of its closeness to the harbour, its closeness to the most economically successful regions of Italy (Piedmont and Lombardy), its touristic appeal which creates money laundering opportunities in the firms linked to the tourism sector (one of the sectors of interest to Mafia groups) and, finally, it is a perfect hiding place for criminals and an ideal area from which to make money from the pimping & pandering and illicit drug trades (DIA, 2018a, p.299). To sum up, a sociologist who worked on organized crime groups in Genoa documents that: "*the criminal underworld is not divided by areas of control, but by illicit goods which are sold. There are groups that control the logistics, groups that control the port, groups that control the illicit drug trade (...) and in terms of criminal reputation, 'Ndrangheta is the most important one*" (Specialist interview 1.6, June 2021). One of the prosecutors of Genoa defined the presence of organized crime groups in the city as 'in evolution' (Specialist interview 5.2, June 2021), while another specialist defined it as 'magmatic' (Specialist interview 2.2, June 2021). A long-time resident and business owner eloquently summarised the criminal context in the historic city centre, saying: "*The politicians change, the police change, the shops change, but the presence of organized crime groups never changes*" (Community leader 6.1, November 2021).

However, the historic city centre is also the area of Genoa with the greatest number of expressions of social capital both in the city and in the region of Liguria. It is an area where there are present political associations and CSOs, where most cultural events and market places are organized, and which has cafes, bars and restaurants that are crowded with young people during the week-end. Interestingly for the analysis, the intensity of these

expressions of social capital has varied significantly over time, and the areas with a presence of organized crime have been side-lined for a long period. Nonetheless, in the first months of 2021, there was renewed and heated debate on how to re-qualify the area. This was initiated by a promise by the city council of a large investment (roughly 130 million euros) to be directed at the historic city centre. CSOs and the local churches were invited by the city council to propose projects with the aim at re-qualifying the area and (also) crowding-out the presence of organized crime groups. In the months in which this discussion was ongoing, I began my fieldwork in the area.

3.2 Theorised mechanisms

I identified six key mechanisms, with three mechanisms operating at the individual level (Bourdieu, 1986) - psychological factors, propensity to invest in social capital and polarisation of views - and three mechanisms operating at the community level (Putnam, 1994) - capacity for collective action, state capacity, and social proximity between community members. Once these mechanisms were identified and validated across the processes described above, I tried to match each with appropriate quantitative measures from the national-level data (ISTAT, 2019). I discuss each mechanism in turn below.

3.2.1 Psychological factors

Exposure to organized crime groups can induce a number of psychological and emotional reactions which negatively affect social capital (Bauer et al., 2016; Depetris-Chauvin et al., 2020). The most important factors I identified in the interviews were fear and resignation. For some, fear only slightly impacts their behaviours. There is a resident that "*would think it twice*" before buying an apartment below his house which was seized to a *Mafioso* (Community leader 6.12, December 2021). For a member of the Scout association, fear implies that he cannot do an activity with children in an area plagued by the presence of organized crime because the parents would be opposed to it (Community leader 7.14, January 2022). Fear seem to affect mainly the elderly. When I asked the head of a resident association what was in general the effect of exposure to organized crime groups, he told me: "*Total closure. There are people in the neighbourhood that do not go out because are scared of being robbed. There are people that ask their children to go shopping for them, because they are fearful*" (Community leader 7.5, December 2021). An old resident with a CSO that gives toys to children from a low-income background told me that because they are old and fearful: "*We immediately said publicly, as a first message, that in this CSO there are no money*" (Community leader 8.7, January 2022). Fear has also large implications for those individuals who have received

direct intimidation from *Mafiosi*. Some have decided to simply leave, as a couple that was repeatedly threatened after starting a business in the area. They left because "*we could not resist anymore*" (Community leader 8.18, January 2022). A long-time resident and business owner further unpacked the fear component, telling me how the *Mafiosi* hope that fear is a common feeling among the residents: "*I received a number of intimidations. These could be of different kinds. You can even yourself intimidate me when you tell me: 'Oh wow, it is very brave of you to have a shop here', because indirectly you are telling me that you would not have a shop here and that I should be scared. This word of mouth is something organized crime counts on and results with people not denouncing*" (Community leader 6.1, November 2021).

Some of the specialists I interviewed mentioned how individuals responding to a trauma can fall into resignation, with a general lack of desire to engage with people and maintain close relationships. A CSO volunteer that has lived and worked in Genoa since 1985 explained the feeling of resignation like this: "*Unfortunately, you find yourself in an area (ed. plagued by organized crime groups) where you are always in a constant movement between the Good and the Bad, a step forward and a step backward. You have a community party, the area looks cleaned up but ten minutes later, it is worse than before*" (Community leader 6.5, November 2021). Resignation can also turn into rage and anger towards the 'visible' organized crime groups. A CSO volunteer that had in the past worked in a social project with the prostitutes that operate in the neighbourhood told me: "*Pimping and pandering, drug trafficking, illicit alcohol sales during the lockdown for Covid-19, all this leaves a sense of 'lack of rules on the territory'...a resignation...and this channel the anger towards the prostitutes. I saw residents from feminist groups that exclaim 'Oh enough! I saw 70 of them today, enough with these [obscenity]'*". She continued: "*the rage is channelled in what is visible, while the organized crime groups do not have a visible face, are far from my reach, are far from my scope of action...this leads to resignation*" (Community leader 7.6, December 2021). The owner of a business incubator, that worked for 4 years in the area, pointed out that the problem are the type of business brought by the organized crime groups: "*The groups tend to impose themselves and if there is the mono-culture of pimping & pandering and of drug trafficking, clearly these activities suffocate the others, including the right to move freely, to feel at ease, to live following the rules and of appropriateness towards the neighbourhood. As a result, this generates a depressive lived experience*" (Community leader 6.3, November 2021).

To measure fear quantitatively, using data from ISTAT (2019), I used a dummy equal to 1 if the interviewee feels scared, quite scared, very scared or scared to the point of not leaving the house when walking alone in the area where they live. The variable takes the value 0 if the respondent feels quite safe or very safe. For the resignation mechanism, I constructed a

dummy equal to 1 if the individual has low expectations for the future (believes it will be worse), and 0 if the individual thinks it will be the same or get better.

3.2.2 Propensity to investment in social capital

Exposure to organized crime groups can induce individuals to think more carefully about the opportunity cost of investing in social capital. Many find it easier, safer and economically advantageous to divest in social capital. Adverse events have been shown to affect individual propensity to (dis)invest in social capital through increase in individual opportunistic behaviour (Winkler, 2021). In addition, investing in social capital could be more costly to those that work in sectors of organized crime interest in which human capital is low and the use of intimidation and violence by the organized crime group may be more effective. For example, Battisti et al. (2018) found that the firms that are less likely to join anti-racket organisations in Palermo are those that have a low human capital. As an economist suggested me: *"If the human capital (ed. in an area with organized crime) is low, while the physical capital is high (...) if you have a construction firm that needs local workers and local costumers, your options are not many. If you fight...you risk to lose it all"* (Specialist interview 1.42, June 2021). This type of reasoning seems to have become a popular belief as suggested by an economist: *"there is a cultural aspect, typically Italian, but more evident in Mafia strongholds, which is the following: since you are a child, the family teaches you: "Mind your business and you will live for 100 years"* (Specialist interview 1.6, June 2021; Specialist interview 1.40, June 2021).

In Genoa, this mechanism has its own context-specific peculiarity. In particular, the apartments in the historic city centre were described to me as a vertical society where at the bottom there are the recent immigrants, in the middle there is the Italian middle class and in the top floors there is the Italian upper class. I interviewed a local priest that arrived in the area recently. He described how this upper class reacts when the presence of organized crime groups becomes too visible: *"Residents disappear (...) these (ed. upper-class) residents do not want to have nothing to do with the neighbourhood, they stay here because they are in downtown, they like the 'central location'. At maximum, some of these help the grocery shop with the electricity bills so that they can have the ground floor of the palace illuminated"* (Community leader 6.7, November 2021). To measure the propensity to investment in social capital, leveraging on the data from ISTAT (2019), I used a dummy equal to 1 if the individual works in a sector which is of interest for the organized crime groups (and 0 otherwise), which include waste management, the construction sector, wholesale, and tourism (bar and restaurants). While it does not cover all the different costs and benefits of investing in social capital, this variable proxy the fact that an interviewee working in

a competing sector of the organized crime groups is likely to more carefully calibrate the opportunity cost of investing in social capital. Among the whole community, this interviewee may be the one who has the most to lose.

3.2.3 Polarisation of views

The arrival of organized crime usually forces individuals to take a position, which tends to polarise the community. As a result, some individuals become extra-civic minded because they need to testify that they are firmly against the group and do not accept any compromise with organized crime groups. Other individuals remain indifferent. This polarisation affects individuals' sense of belonging in the community. More generally, Bazzi et al. (2019) provides evidence that polarisation may reduce social capital and drive a decline in public goods. A similar mechanism was found in conflict-affected societies by Grossman et al. (2015) and after civil wars by Wood (2008).

Speaking to a political scientist living in a rural village in a Mafia historic stronghold, this mechanism strongly came out: *"Where I live, there have been important homicides, of the mayor and of union leaders, for example. The initial reaction was of public indignation, but in time one minor part of the community accused the other part of wanting to criminalise the image of the community (...) this is divisive. It is divisive from an historical point of view as it creates historical fractures and communities cannot recover a sense of unity back again. And it is divisive in terms of social composition because in front of an homicide you need to position yourself, there is a narration and this narration you have to accept it or not (...) this brings a personification of the memory and these historical facts become a battleground between factions"* (Specialist interview 1.23, March 2021). One community leader, citing Bauman (1999), told me how the area "does not allow you to be liquid, to let it go" (Community leader 8.20, January 2022). A resident and CSO volunteer summarised this: *"Organized crime groups 'split the shore'...there are people that are conscious of the situation and commit to make it better, while there are others that do not like this sort of commitment because it spots light on things that, for them, are fine like they are"* (Community leader 6.8, November 2021).

In Genoa, this mechanism has again its own peculiarities. I found that the polarised extra-civic individuals are also those have a strong connection to the territory where they live and their municipality. This also implies that, in the moment in which you leave the area, you are accused of being guilty of something. A long time resident and business owner told us: *"There is funny thing happening, you need to justify yourself when you leave, because if you leave then you are seen as a [obscenity]...but I mean, we are not made of steal, right?"* (Community leader 6.1, November 2021). I noticed also when speaking with community leaders how the

extra-civic residents are also the ones that are more likely to distance themselves from local politics, as they believe it to be useless and often in collusion with organized crime. Five community leaders mentioned that the efforts that have been made in the past to create a network of CSOs have always failed when the different CSOs had to decide their relationship with politics. Essentially, there are individuals that want to work with the local government that are accused of being ‘quisling with politics’ (Community leader 6.12, December 2021; Community leader 6.18, December 2021), of being ‘blackmailable’ by politics (Community leader 6.1, November 2021).

I used two variables to capture this sense of polarisation. The first uses a question in which the interviewee is asked whether they feel they belong as part of the local municipality (using a scale from 0=a lot to 3=not at all, reversed). I created a variable at the municipality level for each year averaging the answers by the respondents. I created then a dummy equal to 1 if the interviewee lives in a municipality in the top 25th percentile of municipalities where there is a strong feeling of belonging. Second, to capture how exposure to organized crime groups polarise individuals politically, I used a dummy equal to 1 if the respondent believes her vote for the municipality and regional election matters (dummy, reversed). I created a variable at the municipality level for each year averaging the answers by the respondents, and I then created a dummy equal to 1 if the interviewee lives in a municipality in the top 25th percentile of municipalities where there is a sense that voting does not matter.⁵⁶

3.2.4 Capacity for collective action

Organized crime groups affect the social and economic fabric of local communities and forces people to move away from their communities or distrust other community members. This, in turn, reduces the social capital of the area as old businesses close and people stop interacting or move. This mechanism was firstly theorised by Boyd and Richerson (1988) in their seminal work detailing how individuals make decision according to the environmental constraints they have. More recently, for example, Geraci et al. (2022) find that broadband connection boosts civic engagement and their potential mechanism is collective agency as the internet brings about new tools for participation of citizens by facilitating coordination and supporting collective action.

In Genoa, the owner of a business incubator who spent four years implementing a development plan in the area told me: *"In the neighbourhood we realised that the area was so compromised by the mono-cultures of illicit drugs and prostitution that there was no hope...in*

⁵⁶For the polarisation mechanisms, the two questions were asked only in 2016. Thus, I used the value obtained in 2016 and assigned to the municipalities in 2012, 2013 and 2014 that match those sampled in 2016. As the municipalities sampled in 2016 are not always the same as those sampled in 2012, 2013 and 2014, the sample for this analysis is reduced from 117,086 observations to 95,479 observations.

2008 in the main street of the neighbourhood one shop per month was shutting down, it looked like a 'Vietnam'" (Community leader 6.3, November 2021). Two historic residents remembered the days in which they could go from a shop to the next freely, where the area was alive, and how organized crime groups have now "*switched off the light*" (Community leader 6.18, December 2021) and how they "*made the area empty...ugly...and the ugly attracts ugly*" (Community leader 7.1, December 2021). This has consequences on social capital as participation is not a solely individual choice, as a political scientist told me: "*The presence of organized crime groups sterilises any form of participation. This does not mean that it does so directly, but there is a socio-economic and political context which is sterile and this reduces any hope you might have for the future. You participate and mobilise not individually, but with other people with whom you share values with and when the benefits of participating are more than its costs*" (Specialist interview 1.22, March 2021).

An historic resident told me the following anecdote on people that leave: "*With some other residents, we bet on how long someone new to the area can resist - on average no more than 3 months*" (Community leader 6.1, November 2021). The people that leave could be very important for the resident as a sociologist commented: "*The family of the individual matters a lot (...) if you know you have a family that can back you up, your propensity to participate can change. There are many stories I have heard of individuals that left Naples because they could not manage alone, because the family was not ready to go against the local boss*" (Specialist interview 1.32, June 2021). Two community leaders backed up this theory - when they were intimidated by the local *Mafioso* they told me that they managed to resist the pressure thanks to the support from their colleagues (Community leader 6.3, November 2021; Community leader 6.20, December 2021). On the other hand, two shop-owners had to leave an area after multiple intimidations and confessed to me that they would have stayed, but they were forced to leave because "*we were fighting alone*" (Community leader 8.18, January 2022).

To measure these effects quantitatively, I used a dummy equal to 1 if a family-member moved out of the house in the previous 12 months, and 0 otherwise. This variable captures one aspect of capacity for collective action: the probability that the interviewee has recently had a reduced capacity for collective action as a very important person in his network has left the area.

3.2.5 State capacity

The presence of organized crime groups creates very practical problems that need to be solved including urban decay, people conducting illicit activities openly and criminals controlling the territory. Citizens expect the state to solve these problems. Failing to do so has negative

effects on the social capital of communities, in the form of lower institutional trust and lower political participation. A similar mechanism was used by Buonanno et al. (2021) to explain why an earthquake may affect social capital through the ineffectiveness of the state in providing public goods, which fostered returns to social cooperation. Similarly, Armingeon and Guthmann (2014); Armingeon and Ceka (2014) find that citizens have lower institutional trust after economic recessions because people realise state institutions are not able to protect them.

Almost all community leaders told me that the state inefficiency in solving the problems caused by organized crime groups, on a daily basis, for years, destroys any type of institutional trust and, in turn, political participation. The inefficiency of the state is well illustrated by groups of policemen that are on watch and move in groups throughout the neighbourhood. I did not find a single community leader that did not think this was done only ‘*for appearances’ sake*’. Many told me how the criminals in the area retract in some hidden streets when hearing some specific signals warning the arrival of the police. Sometimes the criminals are simply ignored by the police. To add another layer, some community leaders even think that it is the intention of local politics to create a ghetto where to lock up all the problems (Community leader 6.8, November 2021; Community leader 6.16, December 2021; Community leader 7.1, December 2021; Community leader 8.14, January 2022; Community leader 8.4, January 2022). For those that have been directly intimidated, there is also the idea that the local politics is colluded with organized crime groups (Community leader 6.1, November 2021; Community leader 6.16, December 2021; Community leader 8.20, January 2022). This is because Mafia groups are perceived as an elite group with connections with the top public administration, as eloquently discussed by this economist: "*The Mafia is perceived as an entity that stays at the top, not a proletarian one. Mafia is linked to the institutions so you participate less in political life.*" (Specialist interview 1.46, June 2021).

To measure state capacity, I used a question on the level of satisfaction of the individual with municipality’s services. The index of satisfaction with municipality services is a sum of the following services (all recoded as dummies and reverse coded): road cleaning, parking, link to the transport services, congestion, air pollution, sound pollution, malodorous air, street lights, street maintenance, closeness to parks). I create a dummy equal to 1 if the satisfaction is low between 1-3, and 0 if above.

3.2.6 Social proximity

The activities conducted by organized crime groups are illicit, secret and (at times) violent. This produces a culture of distrust in the area which normalises unfair behaviours and even violence. Also, organized crime groups attract a large share of undocumented immigrants to

be employed as cheap illegal labour. A literature under the ‘social proximity’ has described the conditions under which interactions between groups can be conducive of integration and empathy (Allport, 1954): sharing the same status and goals, living in cooperative rather than competitive environment, and operating under a well defined set of norms, laws and regulation. The culture of distrust brought by organized crime groups may result in individuals being less likely to engage with the community and trust one another, thus reducing social capital in the community.

This mechanism was mentioned by many community leaders in Genoa. One community leader told me how the organized crime’s business creates a sense of uncertainty: "*there are some shops with clear linkages to the organized crime groups and people just go there because it is convenient*" while at the same time "*organized crime is infiltrated in a subtle way and it is very difficult to distinguish what is legit and what is not*" (Community leader 6.8, November 2021). Organized crime groups with their culture also normalise illegality which diffuses an idea of lack of civic sense. A number of community leaders testified that from the first moment you enter in the area, you already might end up paying an illicit figurehead (Community leader 6.18, December 2021; Community leader 8.20, January 2022). Many families end up paying the rent without a proper contract from a criminal, starting the life in the area illegally (Community leader 7.6, December 2021). Organized crime can even normalise the idea of violence. A political scientist told me: "*One thing I experienced interviewing people living in areas with organized crime group presence is a cultural trait of accepting violence...you could say ‘The Banality of Violence’...the fact that you know, historically, this is a phenomenon that exists and that you gotta live with it. This has historical roots which identifies the territory where you come from.*" (Specialist interview 1.23, June 2021).

Additionally, organized crime group attract undocumented immigrants as cheap illegal labour force. Unfortunately, because of lack of documents and because they are victims of the organized crime groups, they have great difficulties in blending into the community and this fractures it. This mechanism was discussed for example in Ajzenman et al. (2020) to explain why transit immigrants may reduce social capital. The majority of the community leaders told me that the undocumented immigrants do not fit in because of cultural differences (languages and ethnicity) and an high turnover - this in turn creates ‘bubbles’ that do not speak to each other. Two historic community leaders mourn the time in the 1980s in which there were the ‘Neapolitans’, criminals with linkages with *Camorra*, as they at least were part of the community (Community leader 6.18, December 2021; Community leader 8.7, January 2022).

To capture the lack of civic sense in the area, I use a variable that measures the probability

of children in 8th grade primary schools being caught cheating in 2008 during a national maths exam taken by all schools in Italy, with data obtained from INVALSI (2008).⁵⁷ I include also a question on whether respondents believe immigrants who are residents in the community should not be given the right to vote (dummy). While this is not a perfect proxy for social proximity, it could be interpreted as acceptance towards outsiders' presence and culture.⁵⁸

3.3 Results

Qualitative and quantitative results on mechanisms are presented in Table 17. In this table, I synthesised for each mechanism the three types of evidence at my disposal - the specialists' interview, the oral testimonies of the community leaders and the quantitative analysis. In the left-hand column of Table 17, I present the list of theorized mechanisms. In column (1) I present the simple % of community leaders that mention at least once the mechanism. Column (2) directs the reader through an hyperlink to the online document with the transcripts in which the community leaders mention the mechanism.⁵⁹ The results of the quantitative mediation analysis are presented between column (3) and column (7). To calculate the mediating effect I need three estimates: in column (3), the β effect of organized crime index on each of the mechanism. Logically, if a mechanism is relevant it should be affected by the exposure to organized crime groups. In Column (4), I present the β effect of the organized crime index on social capital, which tells me the overall effect of exposure to organized crime groups on social capital. In column (5), I present the β effect in the full specification of the organized crime index and of the mechanisms on social capital. These estimates tell me how much the exposure to organized crime index estimate changes when adding the mechanism and it allows me to quantify the effect of the mechanism on social capital when taking into account the exposure to organized crime groups. In column (6), I add two mechanisms for which I have data only for a reduced sample. Using these three estimates, in column (7), I calculate the mediating % effect of the mechanism - this is the product between column (3) and column (6), all divided by column (4) (Attanasio et al., 2020). In other words, this column shows how much the increase in the mechanism driven by the exposure to organized crime groups - the product between column (3) and column (6) - has a mediating effect in the overall relationship between exposure to organized crime groups and social capital (column

⁵⁷This estimate is based on the occurrence of a high concentration of comparable incorrect responses in a class with very little variation among answers and very high average scores when compared to classes with similar socioeconomic backgrounds. A fuzzy c-means clustering approach is utilised for pattern recognition.

⁵⁸These two questions were asked only in specific years. The first was asked in 2008 and the second on immigration was asked only in 2016.

⁵⁹By the time the thesis will be public, the transcripts will only be accessible after registration and agreeing to the United Nations Data Policy End User licence agreement. This data protection is in line with the consent form signed by the interviewees and the Sussex ethical review process MW/GB/21917581.

(4)). This number is normalised to 100 and presented in % terms.

The first notable result of Table 17 is that column (1) shows a good match between the mechanisms theorized by the specialists and the oral testimonies of the community leaders: (almost) all mechanisms were mentioned at least once by more than 50% of the community leaders. By combining specialists' interviews, the oral testimonies of community leaders and the quantitative mediation analysis, I observe the mechanisms that are mostly relevant in explaining the negative effect on social capital are psychological factors, in the form of fear and resignation. Column (1) shows that 74% of the community leaders mention this mechanism, and in Column (3) the effect of the organized crime index on this mechanism is positive and significant. This is further reinforced by the estimates presented in Column (5) and (6) which show how the psychological mechanisms are both economically and statistically significant determinants of social capital, while controlling for the organized crime index. Finally, in Column (7), the mediation analysis shows that the psychological mechanism accounts for almost 45% of the overall effect. The second most relevant mechanism is state capacity. This mechanism seems to explain a fairly large share of the reduced effect of organized crime on social capital by lowering institutional trust and political participation (mentioned by 87% of the community leaders and accounting for 8.6% of the overall effect in the mediation analysis). The other mechanisms seem to account for a very small share of the mediating effect.

Despite these strong results, it is important to note that there is still an unknown 45.73% mediating effect that is captured by the organized crime index, which ultimately reflects all the possible mechanisms that are not added in the model and that are captured by this variable. Moreover, the quantitative mediation analysis cannot be interpreted as fully causal because the inclusion of the mechanism can introduce bias if the potential mechanism is endogenous (Attanasio et al., 2020). A final limit of this mediation analysis is that some of the theorized mechanisms are not trivial to proxy quantitatively. I hope nonetheless that this exercise opens further opportunities for new research on mechanisms in the literature on the determinants of social capital.

Table 17: Pooled OLS: mediation analysis on social capital (2012-2014)

	Community leaders		Mechanism relevance	Adding the mechanism			Mediation
	% that mention it (1)	Link to transcripts (2)	The effect of OC index on M (3)	The effect of OC index on Y (4)	The effect of OC index + M on Y (5)	The effect of OC index + M on Y (6)	(3) X (6) / (4) in % (7)
OC index (direct effect)				-0.143*** (0.010)	-0.072*** (0.011)	-0.065*** (0.011)	45.73%
Mechanisms theorized with the specialists							
Psychological: Fear	74%	Online Document 1	0.215*** (0.005)		-0.257*** (0.010)	-0.256*** (0.012)	38.61%
Psychological: Resignation		Online Document 1	0.045*** (0.004)		-0.199*** (0.010)	-0.197*** (0.011)	6.24%
Propensity to invest	39%	Online Document 2	0.001 (0.002)		-0.177*** (0.010)	-0.174*** (0.011)	0.06%
Capacity for collective action	65%	Online Document 3	0.007** (0.003)		-0.033 (0.023)	-0.041 (0.026)	0.21%
State capacity	87%	Online Document 4	0.111*** (0.006)		-0.110*** (0.021)	-0.111*** (0.023)	8.62%
Polarization of views: Belonging	52%	Online Document 5	-0.006 (0.007)			0.010 (0.023)	0.04%
Polarization of views: Politics		Online Document 5	0.009 (0.008)			-0.046* (0.024)	0.31%
Social proximity: Cheating	87%	Online Document 6	-0.001 (0.007)			-0.007 (0.019)	0.01%
Social proximity: Immigrants		Online Document 6	0.013* (0.007)			-0.020 (0.024)	0.18%

Notes: This table presents the mediation analysis for social capital of the individuals interviewed between 2012 and 2014. The dependent variable is standardised with mean 0 and standard deviation 1. The dependent variable is the social capital aggregate index. Column (1) reports the share of community leaders that mention at least once the mechanisms theorized with the specialists. Column (2) directs the reader to the transcripts in which the community leaders mention the mechanism, for better context. Column (3) presents the effect of the OC index on the mechanism. Column (4) presents the estimate from the baseline Pooled OLS regression based on equation 1. Column (5) presents the effect of the OC index and the mechanisms on social capital. Column (6) adds two mechanisms (polarization of views and social proximity) which reduce the sample. Column (7) calculates the mediating effect as the product between Column (3) and Column (6), all divided by column (4). To calculate the OC index (direct effect) mediating effect the calculation is simply Column (6) divided by column (4). The control variables are the individual-level control variables, municipality-level socioeconomic variables and geographic variables. Year fixed effects and province fixed effects are added. Description of all the variables used is presented in empirical chapter 3 and Data Appendix C.1. Standard errors in parenthesis clustered at the municipality level. *p <10%, **p <5%, ***p <1%.

The mechanisms above explain the adverse effects of organized crime on social capital. As I discussed before, the only positive result on social capital induced by the exposure to organized crime group is on civic engagement. Both the specialists and the community leaders agreed that many residents might engage in the community due to a sense of indignation and desire for revenge. A business owner told me that she "*keeps going*" because she sees all this as a "*personal challenge*" (Community leader 6.24, December 2021), another business owner described that the neighbourhood had moments in which it appeared with a "*desire for redemption*" (Community leader 6.3, November 2021). The exposure to organized crime groups acted for some as an "*aggregating force*" which resulted in the creation of two resident associations (Community leader 6.11, November 2021). A CSO volunteer who provides psychological support to the residents summarises this mechanism very eloquently telling me how indignation brought people out on the streets: "*Once a young woman was assaulted and the day after there was a highly participated demonstration of all the residents (...) and one of the things that came out very strongly was also this very peculiar statement: 'I am a resident here and I refuse to associate my neighbourhood with criminality'*" (Community leader 6.18, December 2021).

While I cannot test this mechanism quantitatively for the lack of an indicator, I am instead able to test three channels that emerged from the conversations with the specialists and the community leaders.

First, when exposed to the presence of organized crime groups, individuals may invest in civic engagement to create a network of support, as suggested in Bauer et al. (2016); Jennings and Sanchez-Pages (2017). Reallocation of investments from private to social capital may have a higher payoff after these types of negative events (Wood, 2003; Voors et al., 2012). There are community leaders that are involved in the community life (and volunteering) because they have small children and want to guarantee a safer place for their children to grow (Community leader 6.8, November 2021; Community leader 6.12, December 2021; Community leader 7.6, December 2021). This mechanism is well summarised by this CSO volunteer: "*You need relationships (...) if you come in an unlucky place like this, there is not much you can do on your own, you are forced to relate to others (...) for example we do not have a park here, it is clear that if you want to use the common area of the church, you need to do it with someone else*" (Community leader 6.5, November 2021).

Second, individuals can also invest in civic engagement when there is an economic incentive to do so. Studies have used a similar argument to explain changes in social capital, including why homeowners may be more civically engaged (DiPasquale and Glaeser, 1999) or why income can increase social capital by changing the risk-aversion of the individual and his inference of the degree of fairness of the world around them. Others have shown

that individuals may join a charity conditional on how much it benefits the area where they live (Touré-Tillery and Fishbach, 2017). In Genoa, the economic returns of social capital are represented by house ownership in the area as explained by an historic resident: "*Many have bought an house when the price was high in the 1990s. They have a 12 years mortgage to pay and cannot sell as they won't be able to sell to a higher price (...) so you are forced to swallow the bitter morsel and stay...and you try to stay here in the best possible way...the area is decayed, ugly, a lot of rubbish and criminal activities, but I want my child to grow as best as possible and with my neighbour, for example, I organise a local feast for children*" (Community leader 6.5, November 2021).

Third, state (in)capacity might induce people to engage with the community and solve the problems through collective means. I visited neighbourhoods plagued by organized crime groups which had a much larger presence of CSOs per capita than the other areas in Genoa. An economist summarises all this: "*In the results you find on political participation and civic engagement there is a compensation mechanism explained by the institutional trust. The lower is the latter the lower people invest in political participation and the more people engage in civic life*" (Specialist interview 1.13, June 2021).

To capture the interviewee's interest in the area, I used a dummy equal to 1 if the respondent has small children, as it emerged from the interviews that the individuals mostly interested in a network of support are those that have to raise a child in the area. To proxy the more specific economic interest in the area, I used a dummy equal to 1 if the individual owns an house in the area where she lives and 0 otherwise. Finally, to capture the large presence of CSOs to replace the state failure in the area, I used the presence of CSOs in the municipality in 2001 digitised from the census by Guiso et al. (2016) and matched in each municipality for all the years available between 2000 and 2018. Table 18 shows that investment in social capital in the form of economic returns to social capital (house ownership) is a small determinant of the positive effect I find of organized crime on social capital. The social returns to social capital (presence of small children in the household) instead shows an opposite effect to what was theorized, suggesting that individuals with small children find it safer to divest in social capital, when exposed to the presence of organized crime groups. The mechanism on state capacity also goes in the opposite direction of what theorized, with organized crime group presence reducing the presence of CSOs. Finally, I also regress the participation in politics mean index on the interaction between exposure to organized crime and civic engagement index. It seems that an individual exposed to organized crime is induced to engage in their community and solve the problems caused by organized crime groups via these collective mechanisms at the expense of political participation (available upon request).

Table 18: Pooled OLS: mediation analysis on civic engagement (2000-2018)

	Mechanism relevance	Adding the mechanism		Mediation
	The effect of OC index on M (1)	The effect of OC index on Y (2)	The effect of OC index + M on Y (3)	(1) X (3) / (2) in % (4)
OC index (direct effect)		0.019*** (0.004)	0.019*** (0.004)	93.35
Propensity to investment: Small children	-0.005*** (0.001)		-0.068*** (0.005)	1.73
Propensity to investment: House ownership	-0.007*** (0.002)		0.031*** (0.005)	0.99
State capacity: CSOs presence	-0.020*** (0.003)		0.040*** (0.009)	3.94

Notes: This table presents the mediation analysis for civic engagement of the individuals interviewed between 2000-2003 and 2005-2018. The dependent variable is standardised with mean 0 and standard deviation 1. The dependent variable is the civic engagement aggregate index. Column (1) presents the effect of the OC index on the mechanism. Column (2) presents the estimate from the baseline Pooled OLS regression based on equation 1. Column (3) presents the effect of the OC index and the mechanisms on social capital. Column (4) calculates the mediating effect as the product between Column (1) and Column (3), all divided by column (2). To calculate the OC index (direct effect) mediating effect the calculation is simply Column (3) divided by column (2). The control variables are the individual-level control variables, municipality-level socioeconomic variables and geographic variables. Year fixed effects and province fixed effects are added. Description of all the variables used is presented in empirical chapter 3 and Data Appendix C.1. Standard errors in parenthesis clustered at the municipality level. *p <10%, **p <5%, ***p <1%.

3.4 Discussion

This thesis analyses the effect of organized crime on social capital at the individual level. After having shown that in this study the probability of reverse causality is attenuated, I present evidence, drawn from new data on social capital and exposure to organized crime groups, on the adverse social effects of organized crime on political participation and social trust. Organized crime appears, however, to have a positive effect on civic engagement. More precisely, the analysis shows a reduction in political participation (-0.013SD) and trust among exposed individuals (-0.207SD for institutional trust and -0.109SD for interpersonal trust), while I observe a small increase in civic engagement among the same individuals (0.024SD). The analysis draws on two identification strategies. The first is based on pooled OLS results of individual level data concerning social capital and exposure to organized crime between 2000 and 2018 across the whole of Italy. The second is based on a synthetic control approach using 160 years' of data for the region of Apulia, which experienced a large increase in organized crime in the 1970s as a result of external factors.

In summary, my main results show that an individual exposed to organized crime groups has a reduced social capital aggregate index of between 8% (pooled OLS) and 30% (synthetic control) in comparison to those individuals who are not exposed to the presence of organized crime groups. I also found that the negative effect of the presence of organized crime on social capital is twice as strong for those individuals whose social capital is either at the bottom or at the top of the distribution. Then, an heterogeneous analysis highlights that the effect is stronger when an individual is exposed to organized crime groups in regions that are not historical Mafia strongholds. Additionally, when comparing municipalities within historical Mafia strongholds, the effect is stronger for individuals who live in municipalities where organized crime groups do not face competition with other groups and have sole control over the territory. Finally, when using past data from Sicily, it seems the current negative result on social capital is inherited from the past. The effect seems to be the largest once *Cosa Nostra* became really established in Sicily in the 1900 and after the first negative shock in 1900, the effect remains on a stable negative equilibrium and it is only slightly smaller a century later (between 2000 and 2018).

The mechanisms discussed in the previous section are particularly informative to explain and try to better rationalise the results I have summarised above.

First, most of the results I found are in line with the victimisation and armed groups literature, apart from the effect of organized crime on political participation which was negative, as opposed to this large literature, which found a positive relationship. The mediating effect of state capacity might explain this: citizens prefer to divest in political participation because they have a low level of institutional trust after the many failures of the state in

solving the practical problems created by the organized crime groups.

Second, I found that the negative effect of organized crime groups seems to be the strongest at the onset of the arrival of the organized crime groups. This could be explained by the psychological mechanism of fear which is more likely to be activated, the newer is the shock. This is also in line with the finding from the heterogeneity analysis which showed how the negative effect of organized crime on social capital is strongest for those who live outside historic Mafia strongholds, where organized crime groups just recently arrived. An economist I interviewed told me: "*We did a study on the price of houses in Naples after a Camorra homicide. We notice that the price declined only when the Camorra was killing an innocent, not another criminal. This is because there is a behavioural component in how people react. When they are surprised about a crime (killing an innocent) they are fearful and react negatively*" (Specialist interview 1.40, June 2021). A criminologist added that this phenomenon is not exclusively found in Mafia historic strongholds: "*Fear is an important component especially outside Mafia strongholds where the Italian Mafias are very silent, while the new foreign organized crime group are very present and apparent, which induce fear in the citizens*" (Specialist interview 1.28, June 2021).

A quantile regression showed how the effect of organized crime groups negatively affects particularly those at the bottom and at the top of the social capital distribution. Resignation may play a key role in explaining why those at the bottom of the distribution are affected the most. Citizens that have lowest levels of social capital are also those that are more prone to be negatively affected by organized crime groups through a mechanism of resignation having lost hope about the future. Similarly, those that invest the most in social capital may decide to give up once they notice that they are not able to change things. At the same time, those that invest the most in social capital could be intimidated by the members of the organized crime groups if they exaggerate thus reducing their investment in social capital. This result seems to be in line with the finding from the heterogeneity analysis which outlines how the negative effect of organized crime on social capital is stronger for those who live in a municipality with only one organized crime group present, possibly because of a higher degree of governance of the groups which are better able to contrast any form of collective mobilisation from those that mostly invest in social capital.

Overall, the national-level results and the expanded heterogeneity and quantile analysis, the persistent results found in Sicily and the synthetic results in Apulia, suggest that areas where organized crime groups emerge may have fallen into a 'social trap', as discussed in Rothstein (2005, p.1). A 'social trap' is "*a situation where individuals, groups or organisations are unable to cooperate owing to mutual distrust and lack of social capital, even where cooperation would benefit all*". Looking at the results I have found overall, and trying to spec-

ulatively rationalise them, one could argue that the arrival of organized crime groups seem to lead to a first negative transient shock on social capital, mostly induced by fear. This drop in social capital then adjusts itself on a negative stable equilibrium. Fear may then become less relevant the longer the group is present, but the negative gap is then sustained by two additional mechanisms that contribute to this gap as time passes: resignation and the state (in)capacity in solving the problems created by organized crime. This gap would be even larger if there were not, in some cases, individuals that react to the situation by investing in civic engagement because of a feeling of indignation and for an economic incentive to do so. This interpretation of the results found, while suggestive of an interesting pattern of the interaction in time between organized crime and social, it has to be taken with caution. It is not supported by a causal process tracing analysis and it may not be as linear as presented as various confounding factors may change depending on the context.

Most importantly though, even if we cannot be certain about the exact timeline of the interaction between these two dimensions, in the next and final section I will discuss what the state and the civil society can do to break the vicious circle of this social trap and escape from this ‘stable state’.

4 Conclusions

This thesis has filled in some of the gaps in the literature that I mentioned in the introduction. First, and foremost, this thesis has presented a first rigorous empirical evidence that shows to what extent, and why, in a developed context, the presence of organized crime affects the social capital of the individuals. This was so far unexplored and could be of considerable interest to social scientists working on organized crime in urban centres in Europe, US and Asia.

Second, this thesis contributes to the academic debate on the causes of social capital. As I discussed in the introduction, social capital is comprised by both persistent and malleable components and a number of papers have shown how several negative shocks can have an impact on social capital. In this thesis I have shown how organized crime is an additional transient shock that can largely impact social capital. Since Putnam (2000), several studies have documented a persistent erosion of social capital in developed economies (see Inglehart and Welzel (2005)), with an acceleration of such erosion after the 2007-08 financial crisis (Algan et al., 2017; Guriev and Papaioannou, 2020). The main result of the thesis may explain some of the decline in social capital in the past decades which has been concurring with a global rise of organized crime.

Third, I have provided evidence that the relationship between organized crime and social

capital is somewhat different to the effects found in the literatures on gangs, armed groups and victimisation, which are the closest to my work. As I discussed in the previous section, the different nature of organized crime, the different context in which organized crime is present and, more generally, the different pathways at play, go a long way to explain the differences in the results.

Finally, this study complements many research papers that look at the severe negative consequences of organized crime on the economy and governance in Italy, and elsewhere. While most of these papers discuss the negative effect and provide convincing identification strategies to support it, only a few consider the possible mechanisms that may link organized crime with the outcomes of interest. The evidence that finds social capital as an important predictor of economic growth (Helliwell and Putnam, 1995; Algan and Cahuc, 2010; Forte et al., 2015) and governance (Putnam, 1994; Knack, 2002; Nannicini et al., 2013; Padró i Miquel et al., 2015) suggests that social capital may be a relevant mediator of the negative effect of organized crime on the economy and democratic processes found in this literature.

While the findings of this thesis bring a number of contributions to the academic literature, they also shed light on some gaps which still need to be filled to better understand the complex relationship between organized crime and social capital. On the qualitative side, my thesis validates a small qualitative sociological literature on how organized crime groups manipulate the social capital of those that surround them to expand and govern new areas. However, it is still unclear if criminal groups in Italy influence local communities' social capital purposefully or if it evolves organically in reaction to the group's arrival. From the historical point of view, while there is a large number of historical papers on the origins of organized crime groups in Italy, only few have focused on what has happened in the second half of the XXth century. For example, future research is needed on the three decades between the 1990s and today that witnessed the arrival of foreign organized crime groups to better understand how these groups managed to settle next, or in place of, the Italian Mafia groups.

My thesis has particularly illuminated some limitations that empirical researchers have when trying to answer a research question like this. Overall, there is a general lack of data on the individual exposure to organized crime groups and there is no data on which typology of group the individual is exposed to. As this thesis has shown, having this information is important for better understanding where the groups are present within each municipality, in which specific neighbourhoods or streets. In addition, few studies have discussed how to integrate survey-based indicators with the municipality-level administrative data, something that could be also of great use for the police forces on the ground. As my limited specialist questionnaire on the governance functions of the groups in the empirical chapter 1 has shown,

there is also no systematic data on the type of governance functions each group implements in the area where is present. Governments and police forces should be encouraged to collect this data, provide the raw dataset to the public, as it would decisively increase our understanding of the organized crime's phenomenon.

In terms of the limitation of the analysis, the mediation analysis I presented cannot be interpreted as fully causal because the inclusion of the mechanism can introduce bias if the potential mechanism is endogenous. More work can be then done in three areas: (i) attempt at causally study the mechanisms linking organized crime and social capital (such as through instrumental variables, natural experiments or behavioural experiments), (ii) understand what is the unknown 45.73% mediating effect that reflects all the possible mechanisms that I was not able to capture in my model; and (iii) in terms of measurement, for some mechanisms, find better indicators to proxy them. In terms of the interpretation of the results, I speculatively tried to draw a timeline of the relationship between the emergence of the organized crime group in one area and its social capital, resulting in the previously mentioned 'social trap'. However, a causal process tracing method is necessary to better disentangle how these two dimensions evolve in time. Overall, additional rigorous evidence needs to be presented, in different contexts or using a different set of identification strategies, to support the findings of this thesis and to then be able to claim these as fully causal.

Apart from these newly presented gaps, one of the most important finding of this thesis is - possibly - what it is able to say to policy-makers. I believe that the results of this thesis offer important insights for use in policy interventions aimed at reducing the presence of organized crime. One group of policies focuses on increased policing in areas where organized crime is present. A number of systematic reviews have been produced in the past few years that identify those policies that seem to work best. Chalfin and McCrary (2017) show, for example, that more police manpower, overall, leads to less crime. Globally, many police interventions follow the hot-spots policing approach, whereby policing is directed at those specific streets and neighbourhoods of the city where crime is clustered. These types of interventions seem to be effective in reducing crime, with spillover effects that are negligible, as reviewed in Braga et al. (2019). Another policing method used is the 'broken window' approach, which involves making more arrests, sometimes for minor offences, in order to deter potential criminals. It was shown to be effective in largely reducing crime in cities with low or moderate organized crime, for all types of crimes (Mejía et al., 2021). Additional and interesting evidence is provided by the use of cameras on the streets which seem to reduce crime without crime displacement to other areas (Gómez et al., 2021). Finally, Blair et al. (2021) demonstrate that community policing (increased frequency of beat patrols, decentralised decision-making, and community engagement programs to act on citizen information to prevent crime), which

has been exported to all six continents, works well in the developed world but not so well in the Global South due to structural police constraints.

A second group of policies focuses on state interventions and strengthening the state presence where organized crime is present. There is an array of studies that show how the state can fight off illicit criminal groups by creating economic opportunities for civilians (Collier, 2003; Berman et al., 2011). However, strengthening the state does not always result in the positive outcomes one might expect. Cassidy et al. (2014) show that state policies to tackle the social and physical disorder in urban areas do not strongly reduce youth violence. In an experiment in Medellin, Blattman et al. (2022) show that increased state presence has no influence on state legitimacy, unless in areas where state capacity is great, because the state fails to meet citizens' expectations and struggles to provide what was promised.

More commonly, the two different policies of more police and increased state involvement come together. A systematic review by Braga and Weisburd (2012) documents that, since the seminal case of the 'Boston Miracle', a city which managed in the 1990s to reduce its high levels of crime, these mixed approaches have yielded very positive and promising results. This is consistent with Berman and Matanock (2015) who show that military action combined with governmental services can boost state legitimacy and drive rebels out. This type of strategy appears to be working particularly well against insurgents, especially in rural areas, but as organized crime groups in the city have nowhere else to go, the effectiveness of this mixed approach is not guaranteed. For example, Blattman et al. (2021b) show that in Bogotá, increased police patrols and municipal services discourage crime, but that criminality is shifted to nearby streets. In Medellin, Blattman et al. (2021a) find that increased police and municipal services increase gangs' responses to governance, further decreasing state legitimacy. This happens especially in neighbourhoods with larger drug markets.

Most of these policies tend to focus on more policing and on strengthening state institutions in areas where organized crime is present. However, individuals who live in these areas have lower trust and are less likely to respect the norms and rules imposed by the institutions implementing such policies. My results suggest that policies to crowd-out organized crime may be more likely to succeed when governments are able to regain the trust of citizens towards state institutions.

On a more positive note, organized crime seems to increase the levels of civic engagement of affected citizens, suggesting that the presence of organized crime groups may be undermined by leveraging collective action. In the US, the presence of civic groups capable of developing local norms and working with law enforcement can help to reduce crime in the neighbourhoods where they operate, according to Sampson (2012). Community leaders can aid crime control by setting norms that forbid certain behaviours (Kennedy, 2011). Moncada

(2009) investigates how civic groups in Latin America are able to alter norms and participate in other attempts to curb the most heinous acts of armed groups. When traditional techniques fail to reduce violence, Arias (2004) shows how networks in Rio de Janeiro can connect *favela* residents to civil society organisations and turn demonstrations and governmental reform attempts into tangible political change. Always Arias (2019) stresses the importance of society responses to the presence of criminal gangs in Rio de Janeiro, Belo Horizonte, Kingston, and Medellin, depending on the level of governance of the organized crime group.

The final open-ended question I asked both the specialists and community leaders was, "what would you do if you were the mayor of a city plagued by the presence of an organized crime group?". Interestingly, none of the respondents suggested exclusively increasing police presence and only 11% suggested only leveraging collective mobilisation. On the other hand, state interventions and strengthening state presence (for example, giving economic incentives to small businesses and re-qualifying the urban area) was mentioned by 44% of respondents. A similar percentage was achieved for the more holistic approach which puts together more police presence, more state presence, and leveraging collective mobilisation.

Table 19: Summary statistics: policy suggestions by the interviewees (2021-2022)

	Percentage of respondents
More police presence	0%
Strengthening state presence	44%
Leverage collective mobilisation	11%
Holistic approach which combines the three	44%

Notes: This table presents a summary statistics based upon the responses of the interviewees to the question: "What would you do if you were a mayor of a city plagued by the presence of organized crime groups?"

Apart from these general, and different, policies, worryingly, crowding-out organized crime groups always entails a difficult trade-off. As discussed in Blattman et al. (2021a), organized crime groups compete with the state as, especially in urban areas, they have nowhere else to go. The competition is theoretically higher in the streets and neighbourhoods where the groups have their most profitable business. This implies that, for example, strengthening state presence can be out-weighted by greater governance on the part of the organized crime groups. At the same time, the most promising measures, such as those aimed at directly cutting off the earnings of organized crime groups (such as drug legalisation), may led the members of these groups to retaliate adversely with violence, putting civilians at risk.

Notwithstanding the difficulties involved in tailoring policies to reduce the presence of organized crime groups, importantly, for any of the policies I mentioned - increase in police

presence, strengthening state presence and leveraging collective mobilisation - social capital is an essential element. Leveraging social capital is then a crucial area for policy experimentation which is still vastly unexplored. Nonetheless, this is far from trivial. In the introduction I presented a number of papers that outline the causes of social capital, but as Fukuyama once wrote, the accumulation of social capital is "*a complicated and in many ways mysterious cultural process. While governments can enact policies that have the effect of depleting social capital, they have great difficulties understanding how to build it up again*" (Fukuyama, 1995, p.7).

Since the results of this thesis show that areas affected by the emergence of organized crime groups seem to fall into a 'social trap', it is then of greatest interest to understand which policies could break this vicious circle. A number of social policies have been implemented to try to increase social capital. Overall, Rothstein (2005) makes compelling arguments, using the Swedish government and its interaction with labour unions as examples, to demonstrate that the ability to provide universal and impartial political institutions is a significant determinant in the provision of social capital. A handful of studies have analysed policies that were tailored to increase social capital in schools. The target of these policies is students because whilst the subject is typically studied with regard to adults, social capital is actually formed in the early years. Esbensen et al. (2013) analysed a US anti-gang recruitment program that taught children how to avoid gang participation, reduce violence, and aid young people in developing constructive relationships with law enforcement, and concluded that the program's positive impacts had lasted for four years. Similarly, Densley et al. (2017) performed an evaluation of a UK based school program to reduce gang involvement and found generally positive results. Many young people reject or leave gangs quickly, according to Deuchar (2009), especially when there are appealing alternatives to engage them and provide them with opportunities to create social capital in legitimate domains, such as sports and civic participation. On a similar note, according to Higginson et al. (2015), policies to prevent gang participation must include a variety of program components that appeal to children, providing continuity of social links outside the gang, active engagement of youth, and leadership opportunities.

While Italy is a home to organized crime groups, it has also been promoting a wide range of judicial, social and cultural policies with which to fight it back. It was amongst the first countries worldwide to introduce a law (the 1982 '*Rognoni-La Torre*' law) for use specifically against Mafia groups, which granted the judiciary the potential to identify as 'Mafia-type' crime as having an aggravating factor (in terms of years in prison). Following the request of the Italian government, this 'Mafia-type' aggravating element is now being used in other European countries. Always in this law, the judicial system is given the power

to seize the Mafioso's assets and firms. As a prosecutor suggested to me, this is of the greatest importance: "*A Mafioso, in the moment in which he decides to become a boss, already knows that he is very likely to end up in a jail for quite some time. That is not an issue in and of itself, but in the moment in which you start seizing all his wealth, that he has dedicated his life to accumulating, the threat for him becomes much more problematic*" (Specialist interview 2.1, March 2021). Another Italian law has, since 1996, allowed the re-utilisation of assets and firms seized from the Mafia for social purposes to create an economic and social fabric in those same areas where organized crime groups were profiting.

In some Italian cities in some years, mayors have been recognised for their valuable work against organized crime groups. For instance, Gunnarson (2013) shows how, in Palermo in the 1990s, social policies aimed at improving cultural openness (reopening the opera and building schools), allied with stronger institutional presence, budget efficiency and targeted school policies, acted to isolate *Cosa Nostra* and reduced its influence. Vaccaro (2012) illustrates the success of anti-bribery organisations in Sicily which worked through information disclosure between the business owners who were subjected to Mafia extortion. A number of CSOs have been created throughout Italy in the past thirty years with the specific purpose of fighting organized crime groups. These include *Libera* and *Avviso Pubblico*, now present all over Italy, the movement *Agende Rosse* led by Salvatore Borsellino, the brother of the famous prosecutor Paolo Borsellino who conducted the 'maxi-trial' against *Cosa Nostra* in the 1990s, *Ammazzateci tutti* in Calabria, and *Resistenza Anticamorra* in Campania. In the past few years, popular lectures on the causes and consequences of organized crime groups have been promoted by one main independent local radio station, *Radio Popolare*. Theatrical events about them are also on the rise. Other examples of this social and cultural fight include specialised master's degrees and PhD programs (offered by many Italian universities), leading to the production of dozens of dissertations on organized crime groups in every academic year, workshops on anti-Mafia journalism, and communication skills and summer schools on organized crime. Journalists have also created an association called *Ossigeno per l'informazione*, that supports journalists who are threatened by the Mafia groups.

These are all promising ways of addressing the organized crime groups issue by increasing social capital. Importantly though, we cannot let our guard down. As a General of the Carabinieri sadly reminded me: "*the fight against the organized crime groups by civic society follows the news and media cycles and it ignites only when organized crime groups mistakenly show themselves too openly, because of an act of public violence or because they are caught corrupting or reinvesting in the economy (...) but they, the groups, they never stop working, 24 hours a day, every day of the year*" (Specialist interview 5.6, March 2021).

Governments around the world will not defeat organized crime groups without eliminating

their main sources of income by legalising drugs and by coordinating more closely to reduce their economic and financial power, and the Italian Government in particular needs to address the endemic corruption of local governments to more efficiently fight organized crime groups. The presence of organized crime groups is a problem that is expected to proliferate over the next few decades. Many organized criminal groups around the world are expanding their capabilities and influence in international business and finance, and they could soon reach the economic and political strength of Italian Mafia groups. This thesis contributes to the debates on how to counteract these trends by acting to strengthen the social capital of communities and individuals exposed to organized crime.

References

- Abadie, A., Diamond, A., and Hainmueller, J. (2010). Synthetic control methods for comparative case studies: Estimating the effect of California’s tobacco control program. *Journal of the American Statistical Association*, 105(490):493–505.
- Abadie, A. and Gardeazabal, J. (2003). The economic costs of conflict: A case study of the Basque Country. *American Economic Review*, 93(1):113–132.
- Acconcia, A., Corsetti, G., and Simonelli, S. (2014). Mafia and public spending: Evidence on the fiscal multiplier from a quasi-experiment. *American Economic Review*, 104(7):2185–2209.
- Acemoglu, D., Reed, T., and Robinson, J. A. (2014). Chiefs: Economic development and elite control of civil society in Sierra Leone. *Journal of Political Economy*, 122(2):319–368.
- Adler, P. (1985). *Wheeling and dealing: An ethnography of an upper-level drug dealing and smuggling community*. Columbia University Press, New York.
- Aghion, P., Algan, Y., Cahuc, P., and Shleifer, A. (2010). Regulation and distrust. *Quarterly Journal of Economics*, 125(3):1015–1049.
- Ajzenman, N., Aksoy, C. G., and Guriev, S. (2020). Exposure to transit migration, public attitudes and entrepreneurship. CEPR Discussion Paper 14605, Centre for Economic Policy Research, London.
- Alan, S., Baysan, C., Gumren, M., and Kubilay, E. (2021). Building social cohesion in ethnically mixed schools: An intervention on perspective taking. *Quarterly Journal of Economics*, 136(4):2147–2194.
- Albanese, G., Russo, F. A., and Zampino, R. (2016). Criminalità e scelte degli amministratori locali in tema di procedure di acquisto. *Economia Pubblica*, 2:131–167.
- Alesina, A., Carlana, M., Ferrara, E. L., and Pinotti, P. (2018). Revealing Stereotypes: Evidence from immigrants in schools. NBER Working Papers 25333, National Bureau of Economic Research, Inc., Cambridge.
- Alesina, A. and Fuchs-Schündeln, N. (2007). Goodbye Lenin (or not?): The effect of communism on people’s preferences. *American Economic Review*, 97(4):1507–1528.
- Alesina, A. and Giuliano, P. (2015). Culture and institutions. *Journal of Economic Literature*, 53(4):898–944.

- Alesina, A., Giuliano, P., and Nunn, N. (2013). On the origins of gender roles: Women and the plough. *Quarterly Journal of Economics*, 128(2):469–530.
- Alesina, A. and La Ferrara, E. (2000). Participation in heterogeneous communities. *Quarterly Journal of Economics*, 115(3):847–904.
- Alesina, A. and La Ferrara, E. (2002). Who trusts others? *Journal of Public Economics*, 85(2):207–234.
- Alesina, A., Piccolo, S., and Pinotti, P. (2019). Organized Crime, Violence, and Politics. *Review of Economic Studies*, 86(2):457–499.
- Algan, Y. and Cahuc, P. (2010). Inherited trust and growth. *American Economic Review*, 100(5):2060–92.
- Algan, Y. and Cahuc, P. (2014). Trust, growth, and well-being: New evidence and policy implications. In *Handbook of Economic Growth*, chapter 2, pages 49–120. Elsevier, Amsterdam.
- Algan, Y., Cahuc, P., and Shleifer, A. (2013). Teaching practices and social capital. *American Economic Journal: Applied Economics*, 5(3):189–210.
- Algan, Y., Guriev, S., Papaioannou, E., and Passari, E. (2017). The European trust crisis and the rise of populism. *Brookings Papers on Economic Activity*, 2017(2):309–400.
- Allport, G. (1954). *The nature of prejudice*. Addison-Wesley Reading, Boston.
- Allum, F., Marinaro, I. C., and Sciarrone, R. (2019). *Italian Mafias Today: Territory, Business and Politics*. Edward Elgar Publishing, Cheltenham.
- Alrababa’H, A., Marble, W., Mousa, S., and Siegel, A. (2021). Can exposure to celebrities reduce prejudice? The effect of Mohamed Salah on Islamophobic behaviors and attitudes. *American Political Science Review*, 115(4):1111–1128.
- Ananyev, M. and Guriev, S. (2019). Effect of income on trust: evidence from the 2009 economic crisis in Russia. *Economic Journal*, 129(619):1082–1118.
- Anderson, M. L. (2008). Multiple inference and gender differences in the effects of early intervention: A reevaluation of the Abecedarian, Perry Preschool, and Early Training Projects. *Journal of the American Statistical Association*, 103(484):1481–1495.
- Arias, E. D. (2004). Faith in our neighbors: Networks and social order in three Brazilian favelas. *Latin American Politics and Society*, 46(1):1–38.

- Arias, E. D. (2017). *Criminal enterprises and governance in Latin America and the Caribbean*. Cambridge University Press, Cambridge.
- Arias, E. D. (2019). Social responses to criminal governance in Rio de Janeiro, Belo Horizonte, Kingston, and Medellín. *Latin American Research Review*, 54(1):165–180.
- Arjona, A. (2016). *Rebelocracy: Social Order in the Colombian Civil War*. Cambridge University Press, Cambridge.
- Arjona, A. (2017). Civilian cooperation and non-cooperation with non-state armed groups: the centrality of obedience and resistance. *Small Wars & Insurgencies*, 28(4-5):755–778.
- Armington, K. and Ceka, B. (2014). The loss of trust in the European Union during the great recession since 2007: The role of heuristics from the national political system. *European Union Politics*, 15(1):82–107.
- Armington, K. and Guthmann, K. (2014). Democracy in crisis? The declining support for national democracy in European countries, 2007–2011. *European Journal of Political Research*, 53(3):423–442.
- Attanasio, O., Cattani, S., Fitzsimons, E., Meghir, C., and Rubio-Codina, M. (2020). Estimating the production function for human capital: results from a randomized controlled trial in Colombia. *American Economic Review*, 110(1):48–85.
- Aziani, A., Favarin, S., and Campedelli, G. M. (2020). Security Governance: Mafia Control over Ordinary Crimes. *Journal of Research in Crime and Delinquency*, 57(4):444–492.
- Bandiera, O. (2003). Land Reform, the Market for Protection, and the Origins of the Sicilian Mafia: Theory and Evidence. *Journal of Law, Economics, and Organization*, 19(1):218–244.
- Banerjee, R. (2016). Corruption, norm violation and decay in social capital. *Journal of Public Economics*, 137:14–27.
- Banfield, E. C. (1967). *The Moral Basis of a Backward Society*. Free Press, New York.
- Barbagallo, F. (1997). *Napoli fine Novecento: politici, camorristi, imprenditori*. Einaudi, Turin.
- Barbieri, C. and Mete, V. (2021). Kidnappings by the 'Ndrangheta: characteristics, institutional countermeasures and turning points. *Modern Italy*, 26(4):425–444.

- Barone, G. and Narciso, G. (2015). Organized crime and business subsidies: Where does the money go? *Journal of Urban Economics*, 86:98–110.
- Bateson, R. (2012). Crime victimization and political participation. *American Political Science Review*, 106(3):570–587.
- Battisti, M., Bernardo, G., Konstantinidi, A., Kourtellos, A., and Lavezzi, A. M. (2019). Socio-economic inequalities and organized crime: An empirical analysis. In *Understanding recruitment to organized crime and terrorism*, pages 205–239.
- Battisti, M., Bernardo, G., Lavezzi, A. M., and Maggio, G. (2022). Shooting down the price: evidence from mafia homicides and housing prices. *Papers in Regional Science*, 1(25).
- Battisti, M., Lavezzi, A. M., Masserini, L., and Pratesi, M. (2018). Resisting the extortion racket: An empirical analysis. *European Journal of Law and Economics*, 46(1):1–37.
- Bauer, M., Blattman, C., Chytilová, J., Henrich, J., Miguel, E., and Mitts, T. (2016). Can war foster cooperation? *Journal of Economic Perspectives*, 30(3):249–74.
- Bauman, Z. (1999). *Liquid modernity*. John Wiley & Sons, New York.
- Bazzi, S., Gaduh, A., Rothenberg, A. D., and Wong, M. (2019). Unity in diversity? How intergroup contact can foster nation building. *American Economic Review*, 109(11):3978–4025.
- Berens, S. and Dallendörfer, M. (2019). Apathy or anger? How crime experience affects individual vote intention in Latin America and the Caribbean. *Political Studies*, 67(4):1010–1033.
- Berman, E. and Matanock, A. M. (2015). The Empiricists’ Insurgency. *Annual Review of Political Science*, 18:443–464.
- Berman, E., Shapiro, J. N., and Felter, J. H. (2011). Can hearts and minds be bought? The economics of counterinsurgency in Iraq. *Journal of Political Economy*, 119(4):766–819.
- Bernardo, G., Brunetti, I., Pinar, M., and Stengos, T. (2021). Measuring the presence of organized crime across Italian provinces: a sensitivity analysis. *European Journal of Law and Economics*, 51(1):31–95.
- Besley, T. (2020). State capacity, reciprocity, and the social contract. *Econometrica*, 88(4):1307–1335.

- Besley, T. and Reynal-Querol, M. (2014). The legacy of historical conflict: Evidence from Africa. *American Political Science Review*, 108(2):319–336.
- Bianchi, Pietro A and Marra, Antonio and Masciandaro, Donato and Pecchiari, Nicola (2017). Is it worth having the Sopranos on board. BAFFI CAREFIN Centre Research Paper Series 59, BAFFI CAREFIN Centre for Applied Research on International Markets, Banking, Finance and Regulation, Milan.
- Bisin, A. and Verdier, T. (2001). The economics of cultural transmission and the dynamics of preferences. *Journal of Economic Theory*, 97(2):298–319.
- Bjørnskov, C. and Sønderskov, K. M. (2013). Is social capital a good concept? *Social Indicators Research*, 114(3):1225–1242.
- Blair, G., Weinstein, J. M., Christia, F., Arias, E., Badran, E., Blair, R. A., Cheema, A., Farooqui, A., Fetzer, T., Grossman, G., et al. (2021). Community policing does not build citizen trust in police or reduce crime in the Global South. *Science*, 374(6571).
- Blanco, L. R. (2013). The impact of crime on trust in institutions in Mexico. *European Journal of Political Economy*, 32:38–55.
- Blattman, C., Duncan, G., Lessing, B., and Tobón, S. (2021a). Gang rule: Understanding and countering criminal governance. NBER Working Papers 28458, National Bureau of Economic Research, Inc., Cambridge.
- Blattman, C., Duncan, G., Lessing, B., and Tobon, S. (2022). State-building on the Margin: An Urban Experiment in Medellín. NBER Working Papers 29692, National Bureau of Economic Research, Inc., Cambridge.
- Blattman, C., Green, D. P., Ortega, D., and Tobón, S. (2021b). Place-based interventions at scale: The direct and spillover effects of policing and city services on crime. *Journal of the European Economic Association*, 19(4):2022–2051.
- Block, A. (1982). *East Side-West Side: Organizing Crime in New York, 1930-1950*. Transaction Press, New Brunswick.
- Bloom, N., Sadun, R., and Van Reenen, J. (2012). The organization of firms across countries. *Quarterly Journal of Economics*, 127(4):1663–1705.
- Bogliacino, F., Gómez, C. E., and Grimalda, G. (2019). Crime-related Exposure to Violence and Social Preferences: Experimental Evidence from Bogotá. Documentos FCE-CID Escuela de Economía 101, Universidad Nacional de Colombia, Bogotá.

- Boix, C. and Posner, D. N. (1996). Making Social Capital Work: A Review of Robert Putnam's Making Democracy Work, Civic Traditions in Modern Italy. Harvard University paper 96-4, The Weatherhead Center for International Affairs, Cambridge.
- Bonaccorsi di Patti, E. (2009). Weak institutions and credit availability: the impact of crime on bank loans. *Questioni di Economia e Finanza (Occasional Papers)* 52, Banca d'Italia, Rome.
- Bourdieu, P. (1986). The forms of capital. In *Handbook of Theory and Research for the Sociology of Education*, chapter 1, pages 241–258. Greenwood, Westport.
- Boyd, R. and Richerson, P. J. (1988). *Culture and the evolutionary process*. University of Chicago press, Chicago.
- Braga, A. A., Turchan, B. S., Papachristos, A. V., and Hureau, D. M. (2019). Hot spots policing and crime reduction: An update of an ongoing systematic review and meta-analysis. *Journal of Experimental Criminology*, 15(3):289–311.
- Braga, A. A. and Weisburd, D. L. (2012). The effects of "pulling levers" focused deterrence strategies on crime. *Campbell Systematic Reviews*, 8(1):1–90.
- Brancato, F. (1976). Genesi e Caratteristiche della Mafia. Relazione Conclusiva della Commissione Parlamentare d'Inchiesta sul Fenomeno della Mafia in Sicilia. Senate Committee Documents VI Legislatura 1972-1976, Senato della Repubblica, Rome.
- Bruhn, J. (2021). Competition in the Black Market: Estimating the Causal Effect of Gangs in Chicago. Bravo Working Paper 2021-004, Brown Orlando Bravo Center for Economic Research, Chicago.
- Buggle, J. C. and Durante, R. (2021). Climate risk, cooperation and the co-evolution of culture and institutions. *Economic Journal*, 131(637):1947–1987.
- Bullock, J. (2019). Criminal Dominance and Campaign Concentration. CAF Working paper 2019/04, CAF Development Bank of Latin America, Caracas.
- Buonanno, P., Durante, R., Prarolo, G., and Vanin, P. (2015). Poor Institutions, Rich Mines: Resource Curse in the Origins of the Sicilian Mafia. *Economic Journal*, 125(586):F175–F202.
- Buonanno, P. and Pazzona, M. (2014). Migrating mafias. *Regional Science and Urban Economics*, 44:75–81.

- Buonanno, P., Plevani, G., and Puca, M. (2021). Earthquake hazard and civic capital. CSEF Working Papers 612, Center for Studies in Economics and Finance, Naples.
- Buonanno, P., Prarolo, G., and Vanin, P. (2016). Organized crime and electoral outcomes. Evidence from Sicily at the turn of the XXI century. *European Journal of Political Economy*, 41:61–74.
- Burt, R. S. (1995). *Structural holes: The social structure of competition*. Harvard university press, Cambridge.
- Caglayan, M., Flamini, A., and Jahanshahi, B. (2018). Organized Crime and Technology. DEM Working Paper Series 143 (10-17), Università di Pavia, Pavia.
- Calderoni, F. (2011). Where is the mafia in Italy? Measuring the presence of the mafia across Italian provinces. *Global Crime*, 12(1):41–69.
- Calvo, T., Lavallée, E., Razafindrakoto, M., and Roubaud, F. (2020). Fear not for man? Armed conflict and social capital in Mali. *Journal of Comparative Economics*, 48(2):251–276.
- Campana, P. and Varese, F. (2018). Organized crime in the United Kingdom: Illegal governance of markets and communities. *British Journal of Criminology*, 58(6):1381–1400.
- Camussi, S., Mancini, A. L., and Tommasino, P. (2018). Does trust influence social expenditures? Evidence from local governments. *Kyklos*, 71(1):59–85.
- Carreras, M. (2013). The impact of criminal violence on regime legitimacy in Latin America. *Latin American Research Review*, 48(3):85–107.
- Cassar, A., Grosjean, P., and Whitt, S. (2013). Legacies of violence: trust and market development. *Journal of Economic Growth*, 18(3):285–318.
- Cassidy, T., Inglis, G., Wiysonge, C., and Matzopoulos, R. (2014). A systematic review of the effects of poverty deconcentration and urban upgrading on youth violence. *Health & Place*, 26:78–87.
- Cattaneo, M. D. (2010). Efficient semiparametric estimation of multi-valued treatment effects under ignorability. *Journal of Econometrics*, 155(2):138–154.
- Ceobanu, A. M., Wood, C. H., and Ribeiro, L. (2011). Crime victimization and public support for democracy: Evidence from Latin America. *International Journal of Public Opinion Research*, 23(1):56–78.

- Chalfin, A. and McCrary, J. (2017). Criminal deterrence: A review of the literature. *Journal of Economic Literature*, 55(1):5–48.
- Chu, Y.-k. (2002). *The triads as business*. Routledge, London, 1st edition.
- Ciconte, E. (2010). *'Ndrangheta padana*. Rubbettino Editore, Soveria Mannelli.
- Ciconte, E. (2017). *Mafie del mio stivale: storia delle organizzazioni criminali italiane e straniere nel nostro Paese*. Manni, Lecce.
- Ciconte, E. (2019). *Storia criminale: la resistibile ascesa di mafia, 'ndrangheta e camorra dall'Ottocento ai giorni nostri*. Rubbettino Editore, Soveria Mannelli, 1 edition.
- Coleman, J. S. (1988). Social capital in the creation of human capital. *American Journal of Sociology*, 94:S95–S120.
- Colletta, N. J. and Cullen, M. L. (2000). *Violent conflict and the transformation of social capital: Lessons from Cambodia, Rwanda, Guatemala, and Somalia*. World Bank Publications, Washington.
- Collier, P. (2003). *Breaking the conflict trap: Civil war and development policy*. World Bank Publications, Washington.
- Coniglio, N. D., Celi, G., and Scagliusi, C. (2010). Organized Crime, Migration and Human Capital Formation: Evidence from the South of Italy. Southern European Research in Economic Studies 0028, Università of Bari, Bari.
- Corbacho, A., Philipp, J., and Ruiz-Vega, M. (2015). Crime and erosion of trust: Evidence for Latin America. *World Development*, 70(C):400–415.
- Córdova, A. (2019). Living in Gang-Controlled Neighborhoods: Impacts on Electoral and Nonelectoral Participation in El Salvador. *Latin American Research Review*, 54(1):201.
- Corte di Cassazione (2015). Inchiesta Minotauro, Sezione ii, numero 15412. Sentenza, Corte di Cassazione, Rome.
- CPM (1993). CPM report. Relazione sui rapporti tra mafia e politica, Commissione parlamentare di inchiesta sul fenomeno della mafia e sulle associazioni criminali similari (CPM), Rome.
- Creswell, J. W. and Creswell, J. D. (1994). *Research design: Qualitative, quantitative, and mixed methods approaches*. SAGE Publications Inc., Thousand Oaks, 5th edition.

- Crost, B. and Felter, J. H. (2020). Export crops and civil conflict. *Journal of the European Economic Association*, 18(3):1484–1520.
- Cutrera, A. (1900). *La mafia e i mafiosi*. Reber, Palermo.
- Dagnes, J., Donatiello, D., Moiso, V., Pellegrino, D., Sciarrone, R., and Storti, L. (2018). Mafia infiltration, public administration and local institutions: A comparative study in Northern Italy. *European Journal of Criminology*, 7(5):540–562.
- Dal Lago, A. and Quadrelli, E. (2003). *La città e le ombre: crimini, criminali, cittadini*. Feltrinelli Editore, Milan.
- Dalla Chiesa, N. (2017). *Passaggio a Nord: la colonizzazione mafiosa*. Associazione Gruppo Abele Onlus-Edizioni Gruppo Abele, Turin.
- Damiani, A. (1884). Relazione Generale. Atti della Giunta per la Inchiesta Agraria e sulle Condizioni della Classe Agricola Volume XIII, Tomo I, Fascicolo III, Senato della Repubblica, Rome.
- Daniele, G. (2019). Strike one to educate one hundred: Organized crime, political selection and politicians’ ability. *Journal of Economic Behavior & Organization*, 159:650–662.
- Daniele, G. and Dipoppa, G. (2017). Mafia, elections and violence against politicians. *Journal of Public Economics*, 154:10–33.
- Daniele, G. and Dipoppa, G. (2022). Fighting Organized Crime by Targeting their Revenue: Screening, Mafias and Public Funds. *Journal of Law, Economics and Organization*. Accepted.
- Daniele, G. and Geys, B. (2015). Organised Crime, Institutions and Political Quality: Empirical Evidence from Italian Municipalities. *Economic Journal*, 125(586):F233–F255.
- Daniele, V. and Marani, U. (2011). Organized crime, the quality of local institutions and FDI in Italy: A panel data analysis. *European Journal of Political Economy*, 27(1):132–142.
- DDA (2015). Inchiesta Infinito. Sentenza, Direzione Distrettuale Antimafia, Rome.
- De Feo, G., Acemoglu, D., and De Luca, G. (2019). Weak States: Causes and Consequences of the Sicilian Mafia. *Review of Economic Studies*, 87(2):537–581.
- De Feo, G. and De Luca, G. D. (2017). Mafia in the Ballot Box. *American Economic Journal: Economic Policy*, 9(3):134–167.

- De Tocqueville, A. (1835). *Democracy in America*. Regnery Publishing, Washington.
- Dell, M. (2015). Trafficking Networks and the Mexican Drug War. *American Economic Review*, 105(6):1738–1779.
- Dell, M., Lane, N., and Querubin, P. (2018). The historical state, local collective action, and economic development in Vietnam. *Econometrica*, 86(6):2083–2121.
- DellaVigna, S., List, J. A., and Malmendier, U. (2012). Testing for altruism and social pressure in charitable giving. *Quarterly Journal of Economics*, 127(1):1–56.
- Densley, J. A. (2014). It’s gang life, but not as we know it: The evolution of gang business. *Crime & Delinquency*, 60(4):517–546.
- Densley, J. A., Adler, J. R., Zhu, L., and Lambine, M. (2017). Growing against gangs and violence: Findings from a process and outcome evaluation. *Psychology of Violence*, 7(2):242.
- Depetris-Chauvin, E., Durante, R., and Campante, F. R. (2020). Building Nations through Shared Experiences: Evidence from African Football. *American Economic Review*, 110(5):1572–1602.
- Derrida, J. (1967). *De la grammatologie*. Les Éditions de Minuit, Paris, 1st edition.
- Deuchar, R. (2009). *Gangs, Marginalised Youth and Social Capital*. Trentham Books, Stoke-on-Trent.
- Di Cataldo, M. and Mastrorocco, N. (2017). Organised Crime, Captured Politicians and the Allocation of Public Resources. Trinity Economics Papers tep0420, Trinity College Dublin, Department of Economics, Dublin.
- Di Vita, F. and Di Vita, G. (2019). Human Capital Accumulation in Sicily and the Mafia. A Historical Analysis After the Unification of the Italian Kingdom. SSRN Paper, SSRN.
- DIA (1994). DIA report. Annual report of the DIA to the Interior Ministry, Direzione Investigativa Antimafia, Rome.
- DIA (1995). DIA report. Annual report of the DIA to the Interior Ministry, Direzione Investigativa Antimafia, Rome.
- DIA (1997). DIA report. Annual report of the DIA to the Interior Ministry, Direzione Investigativa Antimafia, Rome.

- DIA (2000). DIA report. Semestral report (July to December) of the DIA to the Interior Ministry, Direzione Investigativa Antimafia, Rome.
- DIA (2009). DIA report. Semestral report (July to December) of the DIA to the Interior Ministry, Direzione Investigativa Antimafia, Rome.
- DIA (2010). DIA report. Semestral report (January to June) of the DIA to the Interior Ministry, Direzione Investigativa Antimafia, Rome.
- DIA (2017). DIA report. Semestral report (January to June) of the DIA to the Interior Ministry, Direzione Investigativa Antimafia, Rome.
- DIA (2018a). DIA report. Semestral report (July to December) of the DIA to the Interior Ministry, Direzione Investigativa Antimafia, Rome.
- DIA (2018b). DIA report. Semestral report (January to June) of the DIA to the Interior Ministry, Direzione Investigativa Antimafia, Rome.
- DIA (2019). DIA report. Semestral report (January to June) of the DIA to the Interior Ministry, Direzione Investigativa Antimafia, Rome.
- Dickie, J. (2004). *Cosa Nostra: a history of the Sicilian Mafia*. Palgrave Macmillan, New York, 1st edition.
- Dickie, J. (2019). Sicilia, Campania and Calabria: Nasce la Mafia. National Geographic; Storica, Via Gustavo Fara 35; Milano. Extract from National Geographic article.
- Dimico, A., Isopi, A., and Olsson, O. (2017). Origins of the Sicilian Mafia: The Market for Lemons. *Journal of Economic History*, 77(04):1083–1115.
- DiPasquale, D. and Glaeser, E. L. (1999). Incentives and social capital: Are homeowners better citizens? *Journal of Urban Economics*, 45(2):354–384.
- Dipoppa, G. (2021). How Criminal Organizations Expand to Strong States: Migrants’ Exploitation and Vote Buying in Northern Italy. Job market paper, University of Pennsylvania, Philadelphia.
- Dohmen, T., Falk, A., Huffman, D., and Sunde, U. (2012). The intergenerational transmission of risk and trust attitudes. *Review of Economic Studies*, 79(2):645–677.
- Dugato, M., Calderoni, F., and Campedelli, G. M. (2019). Measuring Organised Crime Presence at the Municipal Level. *Social Indicators Research*, 147:237—261.

- Durlauf, S. N. and Fafchamps, M. (2005). Social Capital. In *Handbook of Economic Growth*, chapter 26, pages 1639–1699. Elsevier, Amsterdam.
- Elliot, F. (1987). *Milady in Sicilia: un viaggio in treno e in carrozza, 1879-80*. La luna, Marina di Carrara.
- Esbensen, F.-A., Osgood, D. W., Peterson, D., Taylor, T. J., and Carson, D. C. (2013). Short-and long-term outcome results from a multisite evaluation of the GREAT program. *Criminology & Public Policy*, 12(3):375–411.
- Eurobarometer (1973). Standard Eurobarometer. Standard Eurobarometer Survey 1973–2001, European Union, Brussels.
- Eurobarometer (2021). Future of Europe. Special Eurobarometer Report - Future of Europe 517, European Union, Brussels.
- Falcone, G. and Padovani, M. (1991). *Cose di Cosa Nostra*. Rizzoli, Milan.
- Felice, E. (2011). Regional value added in Italy, 1891–2001, and the foundation of a long-term picture. *Economic History Review*, 64(3):929–950.
- Felice, E. (2019). The roots of a dual equilibrium: GDP, productivity, and structural change in the Italian regions in the long run (1871–2011). *European Review of Economic History*, 23(4):499–528.
- Felice, E. and Vasta, M. (2015). Passive modernization? The new human development index and its components in Italy’s regions (1871–2007). *European Review of Economic History*, 19(1):44–66.
- Fenizia, A. and Saggio, R. (2022). Organized Crime and Economic Growth: Evidence from Municipalities Infiltrated by the Mafia. Technical report.
- Fenoaltea, S. (2001). La crescita industriale delle regioni d’Italia dall’Unità alla Grande Guerra: Una prima stima per gli anni censuari. Quaderni dell’Ufficio delle Ricerche Storiche 1, Banca d’Italia, Rome.
- Fernandez, K. E. and Kuenzi, M. (2010). Crime and support for democracy in Africa and Latin America. *Political Studies*, 58(3):450–471.
- Ferrara, F. (1837). *Sul cabotaggio fra Napoli e Sicilia*. Tipografia di Filippo Solli, Palermo, 1st edition.

- Forte, A., Peiró-Palomino, J., and Tortosa-Ausina, E. (2015). Does social capital matter for European regional growth? *European Economic Review*, 77:47–64.
- Frye, T. (2000). Rackets, regulation, and the rule of law. *Journal of Law, Economics, and Organization*, 16(2):478–502.
- Fukuyama, F. (1995). *Trust: The social virtues and the creation of prosperity*. Free Press, New York.
- Gáfaró, M., Justino, P., and Ibáñez, A. M. (2022). Collective action and armed group presence in Colombia. UNU-WIDER Working Paper 2022/133-4, UNU-WIDER, Helsinki.
- Galletta, S. (2017). Law enforcement, municipal budgets and spillover effects: Evidence from a quasi-experiment in Italy. *Journal of Urban Economics*, 101:90–105.
- Gambetta, D. (1988). *Trust: Making and breaking cooperative relations*. Blackwell, New York.
- Gambetta, D. (1993). *The Sicilian Mafia: The Business of Private Protection*. Harvard University Press, Cambridge, 1st edition.
- Gambetta, D. (2000). Mafia: the price of distrust. *Trust: Making and breaking cooperative relations*, 10:158–175.
- Ganau, R. and Rodríguez-Pose, A. (2018). Industrial clusters, organized crime, and productivity growth in Italian SMEs. *Journal of Regional Science*, 58(2):363–385.
- García-Ponce, O., Zeitzoff, T., and Wantchekon, L. (2021). Are voters too afraid to tackle corruption? Survey and experimental evidence from Mexico. *Political Science Research and Methods*, 9(4):709–727.
- Gazzetta Ufficiale (1965). Disposizioni contro la mafia. Legge 575, Government of Italy.
- Gazzetta Ufficiale (1981). Individuazione dei comuni colpiti dal sisma del novembre 1980. Decreto legge 19, Government of Italy.
- Gennaioli, C., Onorato, M., Perotti, R., and Tabellini, G. (2010). Public spending and organized crime: The case of the 1997 marche and umbria earthquake. Technical report, Mimeo New York.
- Geraci, A., Nardotto, M., Reggiani, T., and Sabatini, F. (2022). Broadband internet and social capital. *Journal of Public Economics*, 206:104578.

- Gilligan, M. J., Pasquale, B. J., and Samii, C. (2014). Civil war and social cohesion: Lab-in-the-field evidence from Nepal. *American Journal of Political Science*, 58(3):604–619.
- Giuliano, P. and Nunn, N. (2021). Understanding cultural persistence and change. *Review of Economic Studies*, 88(4):1541–1581.
- Glaeser, E. L., Laibson, D., and Sacerdote, B. (2002). An economic approach to social capital. *Economic Journal*, 112(483):F437–F458.
- Gómez, S., Mejía, D., and Tobón, S. (2021). The deterrent effect of surveillance cameras on crime. *Journal of Policy Analysis and Management*, 40(2):553–571.
- Grosjean, P. (2014a). A history of violence: The culture of honor and homicide in the US South. *Journal of the European Economic Association*, 12(5):1285–1316.
- Grosjean, P. (2014b). Conflict and social and political preferences: Evidence from World War II and civil conflict in 35 European countries. *Comparative Economic Studies*, 56(3):424–451.
- Grossman, G., Manekin, D., and Miodownik, D. (2015). The political legacies of combat: Attitudes toward war and peace among Israeli ex-combatants. *International Organization*, 69(4):981–1009.
- Guiso, L., Sapienza, P., and Zingales, L. (2004). The role of social capital in financial development. *American Economic Review*, 94(3):526–556.
- Guiso, L., Sapienza, P., and Zingales, L. (2006). Does culture affect economic outcomes? *Journal of Economic Perspectives*, 20(2):23–48.
- Guiso, L., Sapienza, P., and Zingales, L. (2009). Cultural biases in economic exchange? *Quarterly Journal of Economics*, 124(3):1095–1131.
- Guiso, L., Sapienza, P., and Zingales, L. (2016). Long-term persistence. *Journal of the European Economic Association*, 14(6):1401–1436.
- Gunnarson, C. (2013). *Cultural warfare and trust: Fighting the mafia in Palermo*. Manchester University Press, Manchester.
- Guriev, S. and Melnikov, N. (2016). War, inflation, and social capital. *American Economic Review - Papers & Proceedings*, 106(5):230–35.
- Guriev, S. and Papaioannou, E. (2020). The Political Economy of Populism. CEPR Discussion Paper 14433, Centre for Economic Policy Research, London.

- Harding, S. (2014). *Street Casino: Survival in violent street gangs*. Policy Press, Bristol.
- Helliwell, J. F. and Putnam, R. D. (1995). Economic growth and social capital in Italy. *Eastern Economic Journal*, 21(3):295–307.
- Higginson, A., Benier, K., Shenderovich, Y., Bedford, L., Mazerolle, L., and Murray, J. (2015). Preventive interventions to reduce youth involvement in gangs and gang crime in low-and middle-income countries: A systematic review. *Campbell Systematic Reviews*, 11(1):1–176.
- Hill, P. B. E. (2003). *The Japanese mafia: Yakuza, law, and the state*. Oxford University Press, Oxford, 1st edition.
- Hoff, K., Kshetramade, M., and Fehr, E. (2011). Caste and punishment: The legacy of caste culture in norm enforcement. *Economic Journal*, 121(556):F449–F475.
- Inglehart, R. and Welzel, C. (2005). *Modernization, Cultural Change, and Democracy: The Human Development Sequence*. Cambridge University Press, Cambridge.
- INVALSI (2008). INVALSI. Indagine invalsi, Istituto nazionale per la valutazione del sistema educativo di istruzione e di formazione, Rome.
- Invitalia (2017). I dossier delle Città Metropolitane. La Città Metropolitana di Genova. I Dossier delle Città Metropolitane 1, Agenzia Nazionale per l’Attrazione degli Investimenti e lo Sviluppo d’Impresa, Rome.
- Ishiyama, J., Betancourt Higareda, F. C., Pulido, A., and Almaraz, B. (2018). What are the Effects of Large-scale Violence on Social and Institutional Trust? Using the Civil War Literature to Understand the Case of Mexico, 2006–2012. *Civil Wars*, 20(1):1–23.
- ISTAT (2018). Istituto Nazionale di Statistica - Immigrati.Stat. Data warehouse ISTAT 2000-2018, Istituto Nazionale di Statistica, Rome.
- ISTAT (2019). Aspetti della Vita Quotidiana. Indagine Multiscopo sulle Famiglie 2000-2018, Istituto Nazionale di Statistica, Rome.
- ISTAT (2020). Il benessere equo e sostenibili nella città metropolitana di Genova. Indagine Multiscopo sulle Famiglie 2020, Istituto Nazionale di Statistica, Rome.
- ITANES (1972). Italian Mass Election Survey Election Studies. Questionari ITANES 1968-1972, Italian National Election Studies, Bologna.

- Jennings, C. and Sanchez-Pages, S. (2017). Social capital, conflict and welfare. *Journal of Development Economics*, 124:157–167.
- Justino, P. and Stojetz, W. (2019). On the legacies of wartime governance. WIDER Working Paper 2019/104, UNU-WIDER, Helsinki.
- Kalyvas, S. N. (2015). How civil wars help explain organized crime-and how they do not. *Journal of Conflict Resolution*, 59(8):1517–1540.
- Kennedy, D. M. (2011). *Don't shoot: One man, a street fellowship, and the end of violence in inner-city America*. Bloomsbury Publishing, London.
- Kling, J. R., Liebman, J. B., and Katz, L. F. (2007). Experimental analysis of neighborhood effects. *Econometrica*, 75(1):83–119.
- Knack, S. (2002). Social capital and the Quality of Government: Evidence from the States. *American Journal of Political Science*, 46(4):722–785.
- Knack, S. and Keefer, P. (1997). Does social capital have an economic payoff? A cross-country investigation. *Quarterly Journal of Economics*, 112(4):1251–1288.
- Kvale, S. (1996). *Interviews: an introduction to qualitative research interviewing*. SAGE Publications Inc., Thousand Oaks.
- Lavezzi, A. M. (2008). Economic structure and vulnerability to organised crime: Evidence from Sicily. *Global Crime*, 9(3):198–220.
- Le Moglie, M. and Sorrenti, G. (2022). Revealing “mafia inc.”? Financial crisis, organized crime, and the birth of new enterprises. *Review of Economics and Statistics*, 104(1):142–156.
- Leeson, P. T. and Sobel, R. S. (2008). Weathering corruption. *Journal of Law and Economics*, 51(4):667–681.
- Lessing, B. (2020). Conceptualizing Criminal Governance. *Perspectives on Politics*, 19(3):854–873.
- Lessing, B. (2021). *Criminal Leviathans: How Gangs Govern, Organize Crime, and Challenge the State from Behind Bars*. Cambridge University Press, Cambridge.
- Lessing, B., Block, D., and Stecher, E. (2019). Criminal Governance in Latin America: an Empirical Approximation. Chicago Program on Political Violence Working Paper 12019, University of Chicago, Chicago.

- Lessing, B. and Willis, G. D. (2019). Legitimacy in criminal governance: Managing a drug empire from behind bars. *American Political Science Review*, 113(2):584–606.
- Lind, J. (1753). *A Treatise on the Scurvy*. Sands, Murray and Cochran, Edinburgh.
- Lloyd’s (2018). Maritime Intelligence Report. Maritime Intelligence Report Genoa Port, Lloyd’s List Intelligence, London.
- Lowes, S., Nunn, N., Robinson, J. A., and Weigel, J. L. (2017). The evolution of culture and institutions: Evidence from the Kuba Kingdom. *Econometrica*, 85(4):1065–1091.
- Lupo, S. (2004). *Storia della mafia: dalle origini ai giorni nostri*. Donzelli Editore, Rome.
- Magaloni, B., Franco-Vivanco, E., and Melo, V. (2020). Killing in the slums: Social order, criminal governance, and police violence in rio de janeiro. *American Political Science Review*, 114(2):552–572.
- Marchais, G., Mugaruka, C. M., de la Sierra, R. S., and Wu, D. Q. (2021). The forging of a rebel. NBER Working Papers 28714, National Bureau of Economic Research, Inc., Cambridge.
- Marchais, G., Sanchez de la Sierra, R., and Henn, S. (2018). Indirect Rule in Armed Conflict: Theoretical Insights from Eastern DRC. IDS Working Papers 510, Institute of Development Studies, Brighton.
- Marcolongo, G. (2020). Organized Crime, Earthquakes and Local Public Procurement: Evidence from Italy. Job market paper, Boston University, Boston.
- Marshall, J. (2016). Coarsening bias: How coarse treatment measurement upwardly biases instrumental variable estimates. *Political Analysis*, 24(2):157–171.
- Massa, M., Wang, C., Zhang, H., and Zhang, J. (2022). Investing in low-trust countries: On the role of social trust in the global mutual fund industry. *Journal of Financial and Quantitative Analysis*, 57(1):240–290.
- Mastrorocco, N. and Minale, L. (2018). News media and crime perceptions: Evidence from a natural experiment. *Journal of Public Economics*, 165:230–255.
- Masullo, J. (2020). Civilian Contention in Civil War: How Ideational Factors Shape Community Responses to Armed Groups. *Comparative Political Studies*, 54(10):1849–1884.

- McLean, R., Deuchar, R., Harding, S., and Densley, J. (2019). Putting the ‘street’ in gang: place and space in the organization of Scotland’s drug-selling gangs. *British Journal of Criminology*, 59(2):396–415.
- Meier, S., Pierce, L., Vaccaro, A., and La Cara, B. (2016). Trust and in-group favoritism in a culture of crime. *Journal of Economic Behavior & Organization*, 132:78–92.
- Mejía, D., Norza, E., Tobón, S., and Vanegas-Arias, M. (2021). Broken windows policing and crime: Evidence from 80 colombian cities. In *A Modern Guide to the Economics of Crime*, chapter Invited chapter.
- Melnikov, N., Schmidt-Padilla, C., and Sviatschi, M. M. (2020). Gangs, Labor Mobility and Development. NBER Working Papers 27832, National Bureau of Economic Research, Inc., Cambridge.
- Michalopoulos, S. and Papaioannou, E. (2020). Historical legacies and African development. *Journal of Economic Literature*, 58(1):53–128.
- Milhaupt, C. J. and West, M. D. (2000). Dark Side of Private Ordering: An Institutional and Empirical Analysis of Organized Crime. *University of Chicago Law Review*, 67(1).
- Ministero dell’Economia e delle Finanze (2019). IRPEF. Analisi statistiche 2000-2018, Dipartimento delle Finanze, Rome.
- Ministero dell’Interno (2019). Anagrafe degli Amministratori Locali e Regionali. Anagrafe 2000-2018, Dipartimento per gli Affari Interni e Territoriali, Rome.
- Moncada, E. (2009). Toward democratic policing in Colombia? Institutional accountability through lateral reform. *Comparative Politics*, 41(4):431–449.
- Moro, F. N., Petrella, A., and Sberna, S. (2016). The politics of mafia violence: explaining variation in mafia killings in southern Italy (1983–2008). *Terrorism and Political Violence*, 28(1):90–113.
- Moscona, J., Nunn, N., and Robinson, J. A. (2017). Keeping it in the family: Lineage organization and the scope of trust in sub-Saharan Africa. *American Economic Review*, 107(5):565–71.
- Mousa, S. (2020). Building social cohesion between Christians and Muslims through soccer in post-ISIS Iraq. *Science*, 369(6505):866–870.

- Nannicini, T., Stella, A., Tabellini, G., and Troiano, U. (2013). Social capital and political accountability. *American Economic Journal: Economic Policy*, 5(2):222–50.
- Narayan, D. (1999). Cents and Sociability: Household Income and Social Capital in Rural Tanzania. *Economic Development and Cultural Change*, 47(4):871–897.
- Nese, A., O’Higgins, N., Sbriglia, P., and Scudiero, M. (2018). Cooperation, punishment and organized crime: a lab-in-the-field experiment in southern Italy. *European Economic Review*, 107:86–98.
- Nunn, N. (2020). The historical roots of economic development. *Nature*, 367(6485):9986.
- Nuzzo, G. (2006). Un secolo di statistiche sociali: persistenza o convergenza tra le regioni italiane? Quaderni dell’Ufficio delle Ricerche Storiche 11, Banca d’Italia, Rome.
- Olken, B. A. (2009). Do television and radio destroy social capital? Evidence from Indonesian villages. *American Economic Journal: Applied Economics*, 1(4):1–33.
- Osservatorio Boris Giuliano (2022). Osservatorio Boris Giuliano. Mappa Beni Confiscati, MafieinLiguria.it - Osservatorio Boris Giuliano, Genova.
- Oster, E. (2019). Unobservable selection and coefficient stability: Theory and evidence. *Journal of Business & Economic Statistics*, 37(2):187–204.
- PAC (1991). Relazione sulla situazione della criminalità organizzata in puglia. Commissione parlamentare d’inchiesta sul fenomeno della mafia XI Leg., doc. n. 7, Commissione Parlamentare Antimafia, Rome.
- PAC (1993a). Rapporto sulla camorra. Commissione parlamentare d’inchiesta sul fenomeno della mafia, Commissione Parlamentare Antimafia, Rome.
- PAC (1993b). Relazione sulle risultanze del gruppo di lavoro incaricato di svolgere accertamenti sullo stato della lotta alla criminalità organizzata in puglia. Commissione parlamentare d’inchiesta sul fenomeno della mafia X Leg., doc. n. 38, Commissione Parlamentare Antimafia, Rome.
- PAC (1994). Relazione sulle risultanze dell’attività del gruppo di lavoro incaricato di svolgere accertamenti su insediamenti e infiltrazioni di soggetti ed organizzazioni di tipo mafioso in aree non tradizionali. Commissione parlamentare d’inchiesta sul fenomeno della mafia XI Leg., doc. n. 11, Commissione Parlamentare Antimafia, Rome.

- Padovano, S. (2016). *Mezzo secolo di ritardi. Saggi sul crimine organizzato in Liguria*. Rubbettino, Soveria Mannelli.
- Padró i Miquel, G., Qian, N., Xu, Y., and Yao, Y. (2015). Making democracy work: Culture, social capital and elections in China. NBER Working Papers 21058, National Bureau of Economic Research, Inc., Cambridge.
- Pagden, A. (1988). The destruction of trust and its economic consequences in the case of Eighteenth-Century Naples. In *Trust: Making and breaking cooperative relations*, chapter 8, pages 127–142. Blackwell Oxford, Basil Blackwell.
- Patrick, J. (1973). *A Glasgow Gang Observed*. Neil Wilson Publishing, Glasgow.
- Pazzona, M. (2020). Do victims of crime trust less but participate more in social organizations? *Economics of Governance*, 21(1):49–73.
- Peri, G. (2004). Socio-cultural variables and economic success: Evidence from Italian provinces 1951-1991. *The B.E. Journal of Macroeconomics*, 4(1).
- Pezzino, P. (1987). *Stato violenza società. Nascita e sviluppo del paradigma mafioso*. Einaudi, Turin.
- Pinotti, P. (2015a). The Causes and Consequences of Organised Crime: Preliminary Evidence Across Countries. *Economic Journal*, 125(586):F158–F174.
- Pinotti, P. (2015b). The Economic Costs of Organised Crime: Evidence from Southern Italy. *Economic Journal*, 125(586):F203–F232.
- Pinotti, P. and Stanig, P. (2016). Sowing the Mafia: A Natural Experiment. Working paper, Bocconi University, Milan. Work in progress.
- Putnam, R. D. (1994). *Making democracy work: Civic traditions in modern Italy*. Princeton university press, Princeton.
- Putnam, R. D. (2000). *Bowling alone: The collapse and revival of American community*. Simon and Schuster, New York.
- Rohner, D., Thoenig, M., and Zilibotti, F. (2013). Seeds of distrust: Conflict in Uganda. *Journal of Economic Growth*, 18(3):217–252.
- Romano, J. P. and Wolf, M. (2005). Stepwise multiple testing as formalized data snooping. *Econometrica*, 73(4):1237–1282.

- Romano, S. (1966). *Storia della Mafia*. Mondadori, Milan.
- Rothstein, B. (2005). *Social traps and the problem of trust*. Cambridge University Press, Cambridge.
- Sabatini, F. (2009). Il capitale sociale nelle regioni italiane: un'analisi comparata. *Rivista di Politica Economica*, 99(2):167–220.
- Saldaña, J. (2009). *The coding manual for qualitative researchers*. SAGE Publications Inc., Thousand Oaks, 3rd edition.
- Sales, I. (2015). *Storia dell'Italia mafiosa: perché le mafie hanno avuto successo*. Rubbettino, Soveria Mannelli.
- Sampson, R. J. (2012). *Great American city*. University of Chicago Press, Chicago.
- Saviano, R. (2007). *Gomorra: Italy's other mafia*. Pan Macmillan, London, 1st edition.
- Sberna, S. and Olivieri, E. (2014). "set the night on fire!" mafia violence and elections in Italy. Technical report.
- Scalfaro, O. (1991). Commissione parlamentare di inchiesta sulla attuazione degli interventi per la ricostruzione e lo sviluppo dei territori della basilicata e della campania colpiti dai terremoti del novembre 1980 e febbraio 1981. Technical report, Italian Parliament, Rome.
- Sciarrone, R. (1998). Il capitale sociale della mafia. Relazioni esterne e controllo del territorio. *Quaderni di sociologia*, pages 51–72.
- Sciarrone, R. (2014). *Mafie del nord*. Donzelli editore, Rome.
- Sciarrone, R. (2015). *La mafia, le mafie: capitale sociale, area grigia, espansione territoriale*. Treccani, Rome.
- Sciarrone, R. (2021). *Mafie vecchie, mafie nuove: radicamento ed espansione*. Donzelli editore, Rome.
- Scognamiglio, A. (2018). When the mafia comes to town. *European Journal of Political Economy*, 55:573–590.
- Sergi, A. (2020). Policing the port, watching the city. Manifestations of organised crime in the port of Genoa. *Policing and Society*, 31(6):1–17.

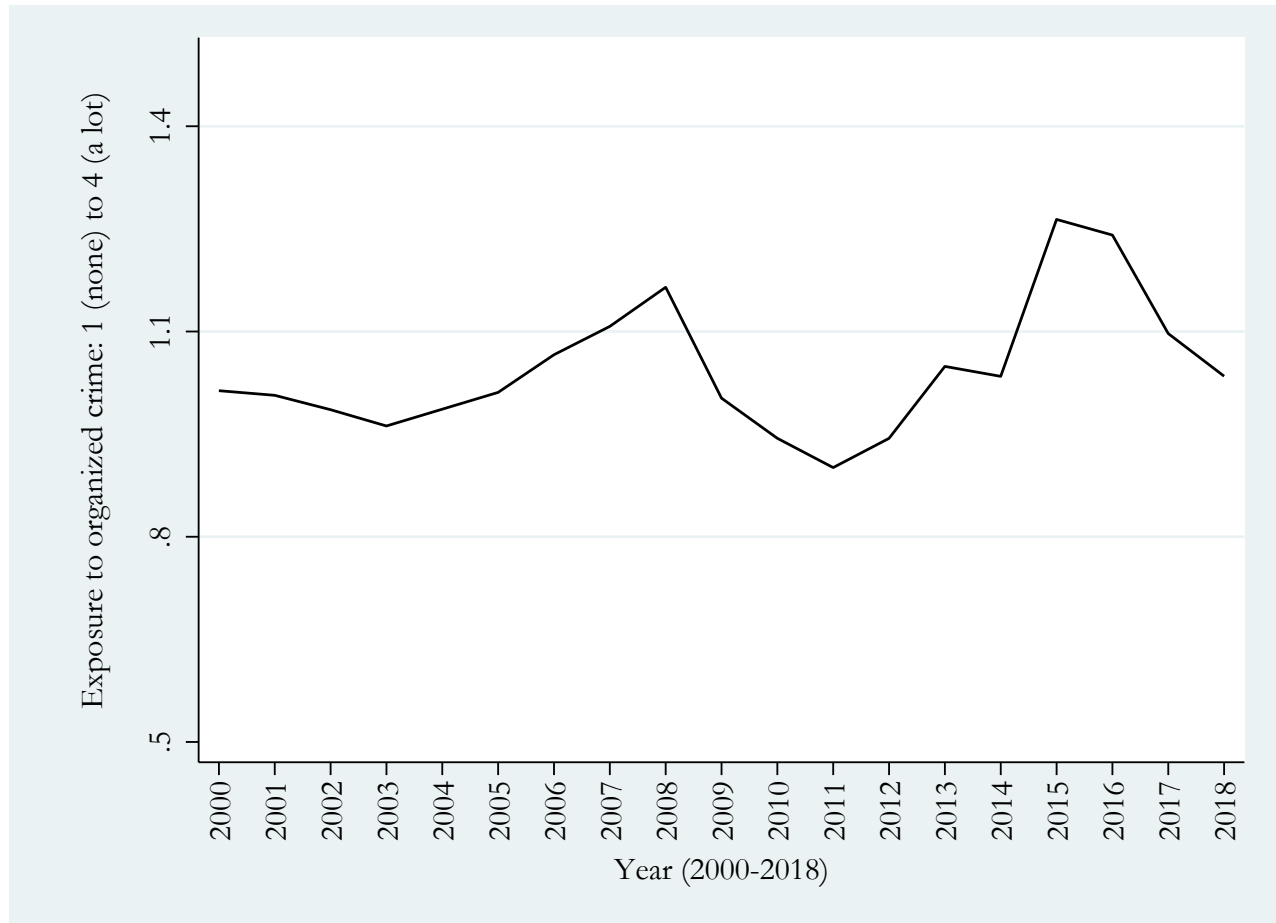
- Skaperdas, S. (2001). The political economy of organized crime: providing protection when the state does not. *Economics of Governance*, 2(3):173–202.
- Slutzky, P. and Zeume, S. (2018). Organized Crime and Firms: Evidence from Italy. *SSRN Electronic Journal*.
- Smith, D. M. (1968). *A History of Sicily: Modern Sicily after 1713*. Chatto and Windus, London.
- Sviatschi, M. M. (2022). Spreading Gangs: Exporting US Criminal Capital to El Salvador. *American Economic Review*. Conditionally accepted.
- Thrasher, F. M. (1936). *The Gang: A Study of 1,313 Gangs in Chicago*. The University of Chicago Press, Chicago, 2nd edition.
- Touré-Tillery, M. and Fishbach, A. (2017). Too far to help: The effect of perceived distance on the expected impact and likelihood of charitable action. *Journal of Personality and Social Psychology*, 112(6):860.
- Transcrime (2013). Gli investimenti delle mafie. Progetto PONS Sicurezza 2007-2013, Università Cattolica del Sacro Cuore, Milan.
- Uphoff, N. T. (1999). Understanding social capital: Learning from the analysis and experience of participation. Social capital: a multifaceted perspective 215-249, World Bank, Washington.
- Uslaner, E. M. (2002). *The Moral Foundations of Trust*. Cambridge University Press, Cambridge.
- Uslaner, E. M. (2013). Trust as an alternative to risk. *Public Choice*, 157(3):629–639.
- Vaccaro, A. (2012). To pay or not to pay? Dynamic transparency and the fight against the Mafia’s extortionists. *Journal of Business Ethics*, 106(1):23–35.
- Varese, F. (2001). *The Russian Mafia: private protection in a new market economy*. Oxford University Press, Oxford.
- Varese, F. (2006). How Mafias migrate: the case of the Ndrangheta in Northern Italy. *Law & Society Review*, 40(2):411–444.
- Varese, F. (2011). *Mafias on the move: How organized crime conquers new territories*. Princeton University Press, Princeton.

- Velásquez, D., Medina, S., Yamada, G., Lavado, P., Nunez-del Prado, M., Alatrística-Salas, H., and Morzán, J. (2020). I read the news today, oh boy: The effect of crime news coverage on crime perception. *World Development*, 136:105–111.
- Venkatesh, S. (2009). *Gang leader for a day*. Penguin UK, London.
- Vigdor, J. L. (2004). Community composition and collective action: Analyzing initial mail response to the 2000 census. *Review of Economics and Statistics*, 86(1):303–312.
- Voigtländer, N. and Voth, H.-J. (2012). Persecution perpetuated: the medieval origins of anti-Semitic violence in Nazi Germany. *Quarterly Journal of Economics*, 127(3):1339–1392.
- Von Lampe, K. (2015). *Organized crime: analyzing illegal activities, criminal structures, and extra-legal governance*. Sage Publications, Thousand Oaks.
- Voors, M. J., Nillesen, E. E., Verwimp, P., Bulte, E. H., Lensink, R., and Van Soest, D. P. (2012). Violent conflict and behavior: a field experiment in Burundi. *American Economic Review*, 102(2):941–64.
- Wang, P. (2017). *The Chinese mafia: Organized crime, corruption, and extra-legal protection*. Oxford University Press, Oxford.
- Weisburd, D., Groff, E. R., and Yang, S.-M. (2012). *The criminology of place: Street segments and our understanding of the crime problem*. Oxford University Press, Oxford.
- Weiss, C. M. (2021). Diversity in Israeli Healthcare Institutions Reduces Prejudice towards Arabs. *Proceedings of the National Academy of Sciences*, 118(14).
- Wilson, J. and Musick, M. (1997). Who cares? Toward an integrated theory of volunteer work. *American Sociological Review*, 62(5):694–713.
- Winkler, M. (2021). Do disasters affect the tightness of social norms? Job market paper, Harvard University, Boston.
- Wood, E. J. (2003). *Insurgent collective action and civil war in El Salvador*. Cambridge University Press, Cambridge.
- Wood, E. J. (2008). The social processes of civil war: The wartime transformation of social networks. *Annual Reviews of Political Science*, 11:539–561.
- Woolcock, M. (2001). The place of social capital in understanding social and economic outcomes. *Canadian Journal of Policy Research*, 2(1):11–17.

Zak, P. J. and Knack, S. (2001). Trust and growth. *Economic journal*, 111(470):295–321.

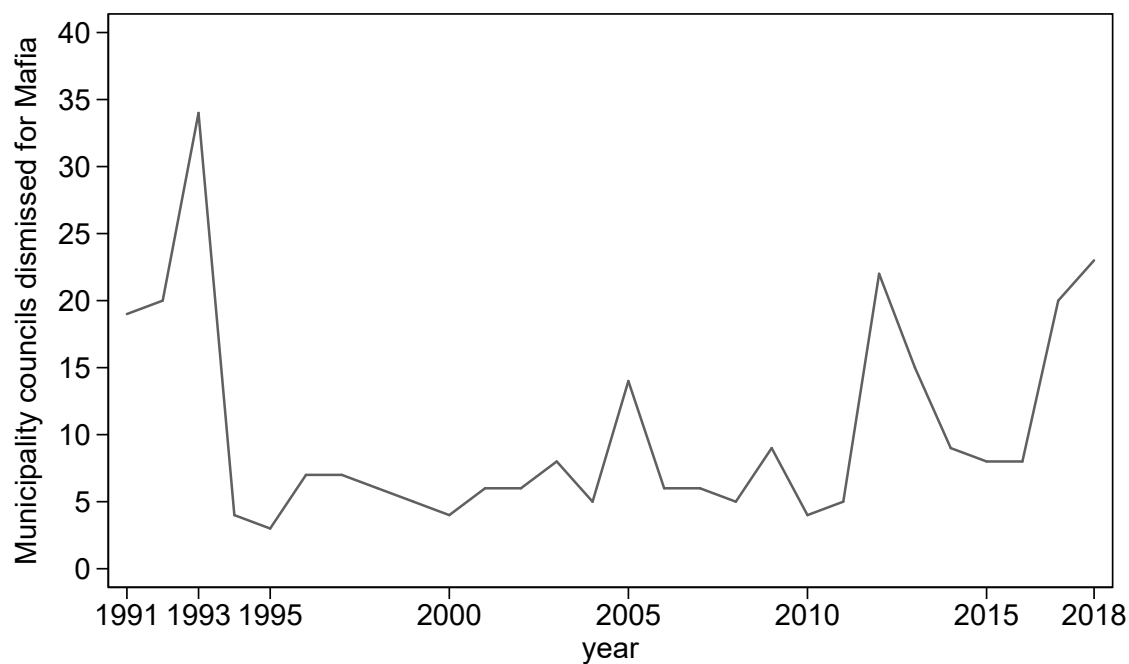
A Appendix Figures and Tables

Figure A.1: Line plot: exposure to organized crime in Italy (2000-2018)



Notes: This figure presents the line plot of the exposure to organized crime in Italy between 2000 and 2018. The raw variable takes the value of 1 if exposure is equal to ‘none’, 2 if exposure is ‘a little’, 3 if exposure is ‘quite a lot’ and 4 if exposure is ‘a lot’.

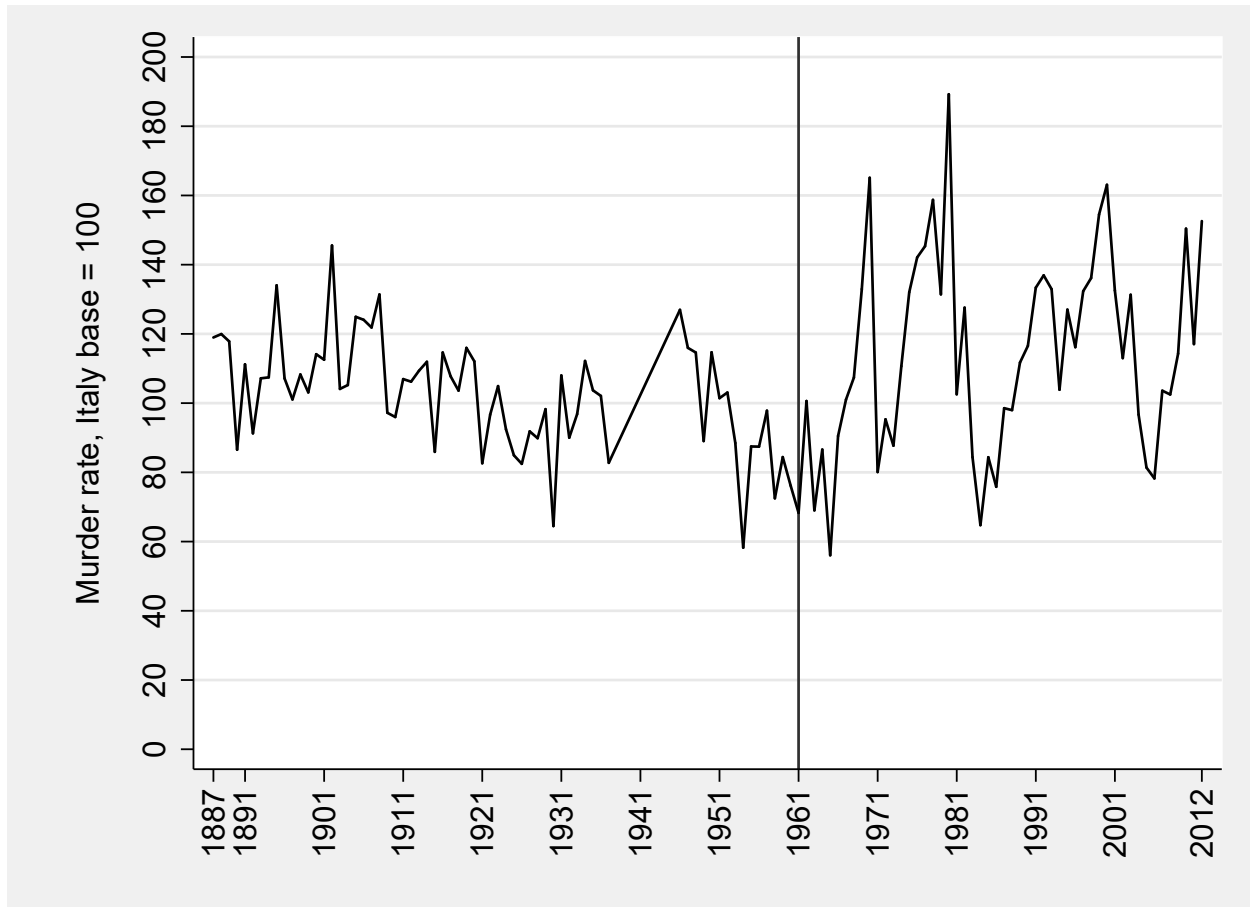
Figure A.2: Line plot: municipalities dismissed because of Mafia infiltration (1993-2018)



Municipality councils dismissed: Art. 143 (Tuel): (...) when evident direct or indirect links between the municipality and the organized crime emerge

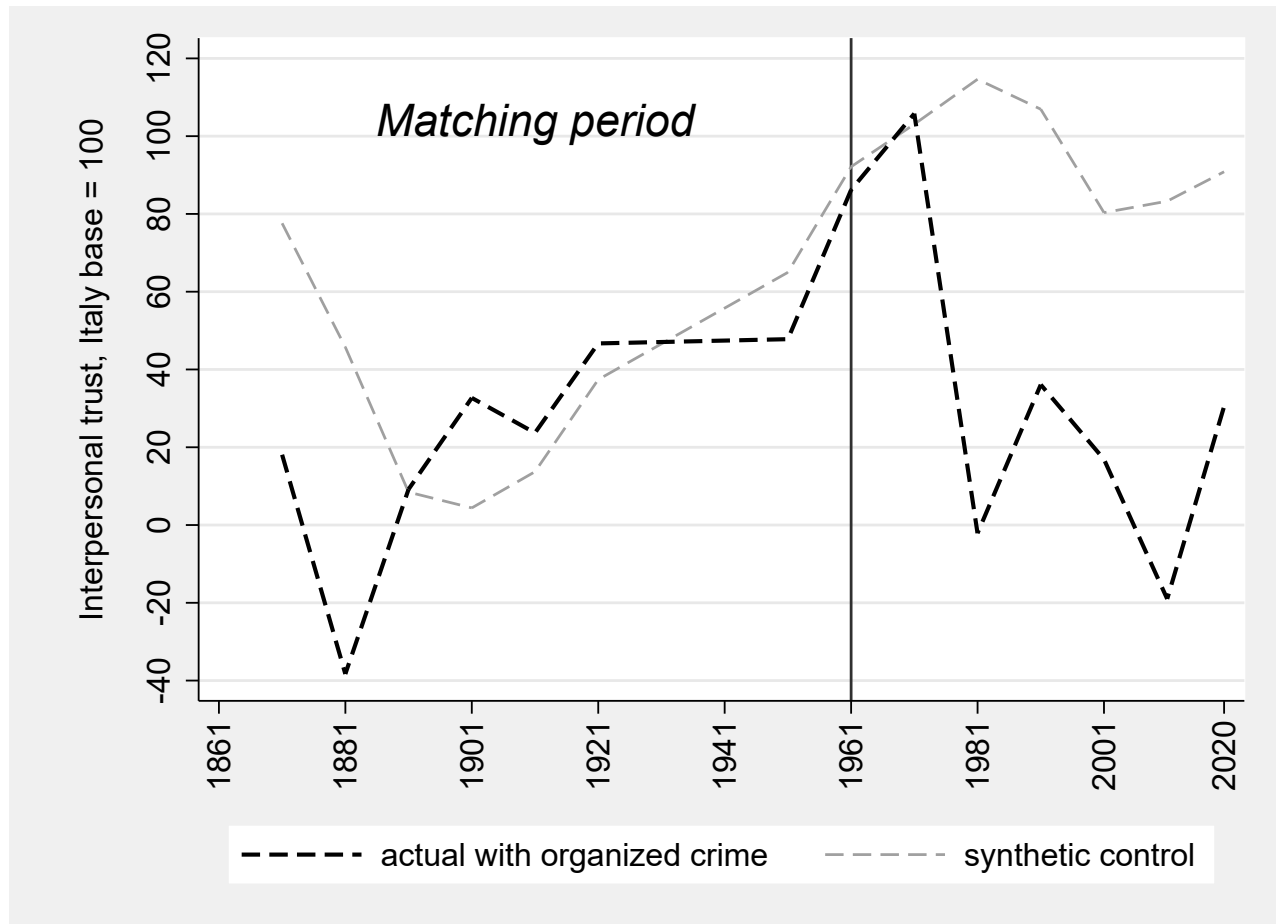
-
Data source: Interior Ministry

Figure A.3: Line plot: murder per 100,000 inhabitants in Apulia, Italy base = 100 (1887-2012)



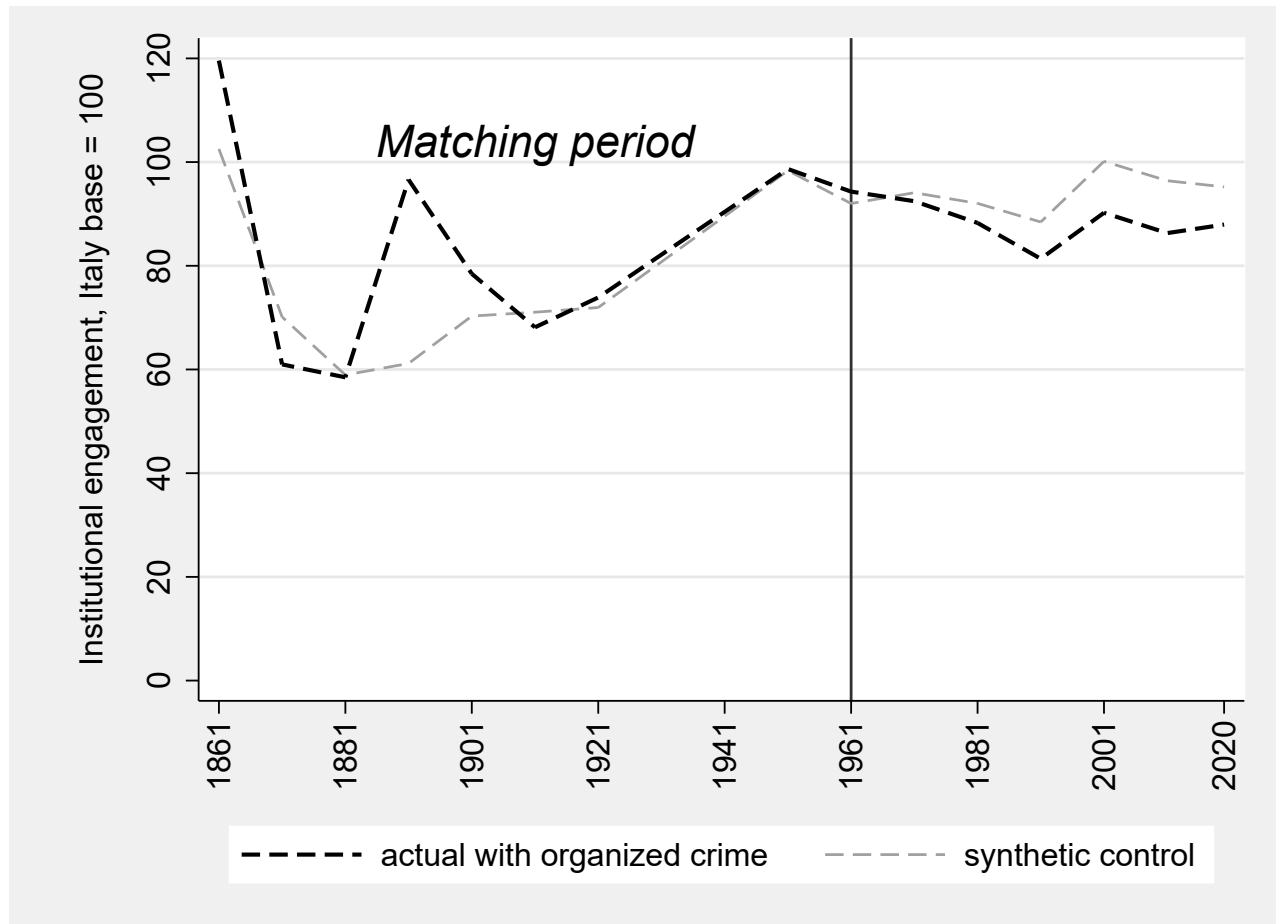
Notes: This figure presents the number of murders per 100,000 inhabitants in Apulia between 1887 and 2012 normalised to the average Italy base-value of 100. Data has been set to missing during world war two between 1939 and 1945. Description of the data used and the construction of the variables is in Section 2.5 and Data Appendix C.1.

Figure A.4: Synthetic control: interpersonal trust in the treated region and in the synthetic control (1861-2020)



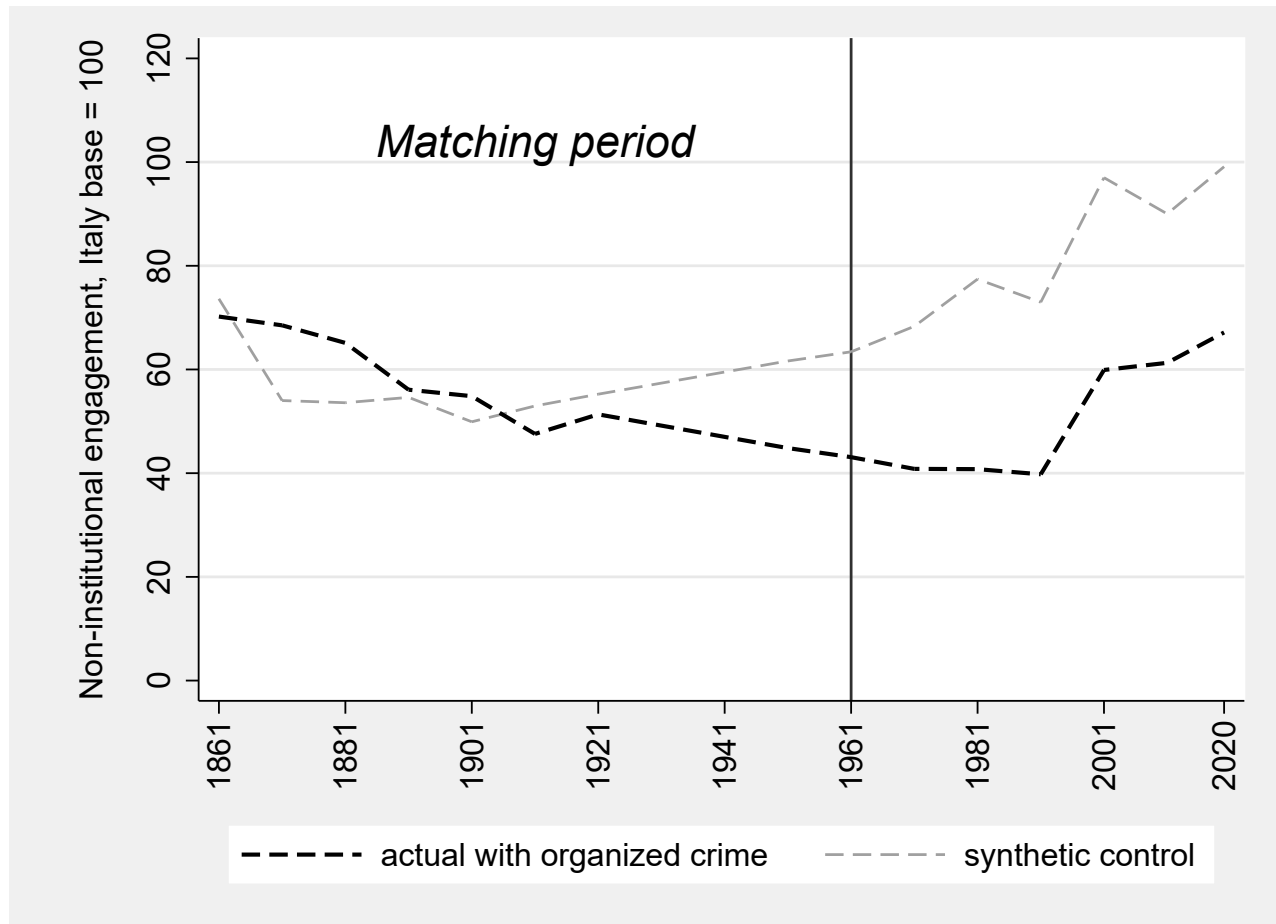
Notes: This figure presents the synthetic control estimates of the effect of the arrival of organized crime groups in Apulia in the 1970s on the interpersonal trust of the region compared to a group of synthetic control regions. For details on the synthetic control method, see Figure 6. Description of the data used and the construction of the variables is in Section 2.5 and Data Appendix C.1.

Figure A.5: Synthetic control: political participation in the treated region and in the synthetic control (1861-2020)



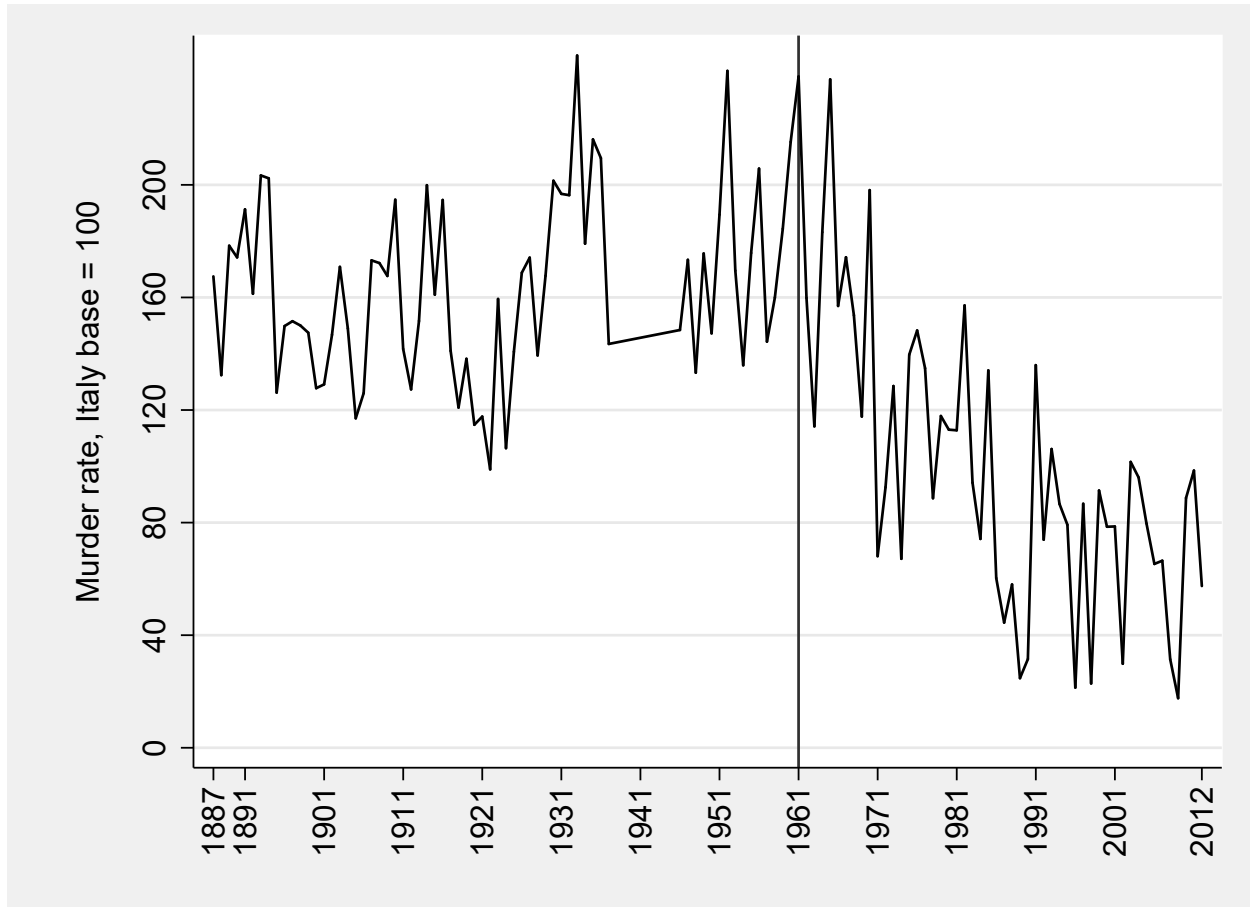
Notes: This figure presents the synthetic control estimates of the effect of the arrival of organized crime groups in Apulia in the 1970s on the political participation of the region compared to a group of synthetic control regions. For details on the synthetic control method, see Figure 6. Description of the data used and the construction of the variables is in Section 2.5 and Data Appendix C.1.

Figure A.6: Synthetic control: civic engagement in the treated region and in the synthetic control (1861-2020)



Notes: This figure presents the synthetic control estimates of the effect of the arrival of organized crime groups in Apulia in the 1970s on the civic engagement of the region compared to a group of synthetic control regions. For details on the synthetic control method, see Figure 6. Description of the data used and the construction of the variables is in Section 2.5 and Data Appendix C.1.

Figure A.7: Line plot: murder per 100,000 inhabitants in Basilicata, Italy base = 100 (1887-2012)



Notes: This figure presents the number of murders per 100,000 inhabitants in Basilicata between 1887 and 2012 normalised to the average Italy base-value of 100. Data has been set to missing during world war two between 1939 and 1945. Description of the data used and the construction of the variables is in Section 2.5 and Online Appendix C.1.

Table A.1: Summary statistics: socio-economic indicators of Genoa (2020)

	Genoa (1)	Italy (2)
Unemployment rate (15 to 74 years old)	10.0%	10.0%
Income pro-capite	23,684	18,525
Score for literacy skills	204.9	203.6
Life expectancy	82.7	83.0
Political participation at the European elections	56.6%	58.5%
Share of women in the local municipality council	32.3%	32.3%

Notes: This table presents a summary statistics of the socioeconomic indicators of Genoa in comparison to Italy. Source: ISTAT (2020).

Table A.2: Summary statistics: social outcomes in Italy (2000-2018)

	Obs (1)	Mean (2)	SD (3)	Min (4)	Max (5)
List of variables					
Political participation: Attend political meetings	765718	0.01	0.11	0	1
Political participation: volunteered for a party	745008	0.01	0.11	0	1
Political participation: sent money to a political party	745001	0.03	0.16	0	1
Political participation: political rallies	746370	0.06	0.24	0	1
Political participation: attendance demonstration	745144	0.05	0.22	0	1
Political participation: online vote consultations or civic issues	150561	0.10	0.30	0	1
Political participation: volunteered for an union	744640	0.01	0.11	0	1
Political participation: Attend union meetings	765718	0.01	0.10	0	1
Civic engagement: Activity (social network)	38078	0.04	0.20	0	1
Civic engagement: Activity (contact radio or tv)	38078	0.01	0.10	0	1
Civic engagement: Activity (local office)	38078	0.07	0.26	0	1
Civic engagement: Activity (meeting)	38078	0.06	0.23	0	1
Civic engagement: Activity (protest)	38078	0.04	0.19	0	1
Civic engagement: Activity (volunteer)	38078	0.05	0.21	0	1
Civic engagement: Activity (green project)	38078	0.03	0.16	0	1
Civic engagement: Activity (local feast)	38078	0.03	0.17	0	1
Civic engagement: sent money to an association	744530	0.17	0.37	0	1
Civic engagement: volunteered in a CSOs	745262	0.10	0.30	0	1
Civic engagement: volunteered in a for-profit CSOs	744526	0.04	0.19	0	1
Institutional trust: Italian Parliament	273346	3.50	2.58	0	10
Institutional trust: European Parliament	272948	3.85	2.60	0	10
Institutional trust: Regional Government	273064	3.62	2.58	0	10
Institutional trust: Provincial Government	270712	3.53	2.58	0	10
Institutional trust: Municipal Government	273078	4.48	2.75	0	10
Institutional trust: Political parties	272938	2.41	2.39	0	10

Table A.2: Summary statistics: social outcomes in Italy (2000-2018)

	Obs (1)	Mean (2)	SD (3)	Min (4)	Max (5)
Institutional trust: Judicial authorities	272846	4.27	2.68	0	10
Institutional trust: Police and military	273367	6.44	2.38	0	10
Institutional trust: Don't evade taxes	37233	8.66	2.02	0	10
Institutional trust: Unjustifiable to evade taxes	37363	0.69	0.46	0	1
Institutional trust: Ask for fiscal receipt	37156	0.63	0.48	0	1
Institutional trust: Don't pay under the table	37132	0.58	0.49	0	1
Institutional trust: Don't offer money or in-kind in exchange of favors	37286	9.37	1.43	0	10
Institutional trust: Don't receive money or in-kind in exchange of votes	37264	9.46	1.36	0	10
Institutional trust: Don't agree corruption is natural and inevitable	37046	3.20	0.99	1	4
Institutional trust: Don't agree is useless to denounce corruption	37087	2.90	1.07	1	4
Institutional trust: Important to respect the law	37244	2.56	0.57	0	3
Institutional trust: Important to live honestly	37289	2.70	0.49	0	3
Interpersonal trust - trust the proximate: Can count on relatives	238387	0.51	0.50	0	1
Interpersonal trust - trust the proximate: Can count on friends	223629	0.74	0.44	0	1
Interpersonal trust - trust the proximate: Can count on neighbours	237670	0.63	0.48	0	1
Interpersonal trust - trust in others: trust majority of people	356804	0.22	0.41	0	1
Interpersonal trust - trust in others: wallet returned by neighbour	355632	1.97	0.95	0	3
Interpersonal trust - trust in others: wallet returned by police	355742	2.23	0.83	0	3
Interpersonal trust - trust in others: wallet returned by stranger	354955	0.67	0.74	0	3
Interpersonal trust: Not important to think of her own interest	37055	2.54	0.79	1	4
Interpersonal trust: Not important to put the family first	37154	1.89	0.80	1	4
Interpersonal trust: Not important to have individual success	37064	2.91	0.85	1	4
Interpersonal trust: Important to help the most disadvantaged	37135	2.23	0.58	0	3

Table A.3: Summary statistics: exposure to organized crime groups in Italy (2000-2018)

	Obs (1)	Mean (2)	SD (3)	Min (4)	Max (5)
Exposure to organized crime divided by region					
abruzzo	32272	0.21	0.40	0.00	1.00
basilicata	24600	0.11	0.31	0.00	1.00
calabria	38352	0.19	0.40	0.00	1.00
campania	58356	0.47	0.50	0.00	1.00
emilia romagna	43308	0.30	0.46	0.00	1.00
friuli venezia giulia	26627	0.19	0.40	0.00	1.00
lazio	42255	0.39	0.49	0.00	1.00
liguria	29041	0.27	0.44	0.00	1.00
lombardia	64444	0.35	0.48	0.00	1.00
marche	31412	0.21	0.41	0.00	1.00
molise	23405	0.12	0.32	0.00	1.00
piemonte	51077	0.31	0.46	0.00	1.00
puglia	46675	0.31	0.46	0.00	1.00
sardegna	32616	0.15	0.36	0.00	1.00
sicilia	49786	0.24	0.43	0.00	1.00
toscana	43178	0.27	0.44	0.00	1.00
trentino alto adige/südtirol	42627	0.13	0.33	0.00	1.00
umbria	23663	0.31	0.46	0.00	1.00
valle d aosta/vallee d aoste	16243	0.14	0.35	0.00	1.00
veneto	45781	0.33	0.47	0.00	1.00
Total	765718	0.27	0.45	0.00	1.00

Table A.4: Pooled OLS: the effect of organized crime index on social capital (2000-2018)

	OC index β /SE (1)	Oster β (2)	RW p-value (3)	R^2 (4)	Obs (5)
Outcomes of interest					
Social capital aggregate index	-0.067*** (0.004)	-0.057		0.074	765718
Political participation: participate politics	-0.013*** (0.004)	-0.003	0.018	0.034	765718
Political participation: participate unions	0.001 (0.003)	0.000	0.863	0.016	765718
Civic engagement: social activities	0.030* (0.016)	0.034	0.182	0.046	38078
Civic engagement: CSOs	0.018*** (0.004)	0.037	0.001	0.099	746651
Institutional trust: political institutions	-0.207*** (0.008)	-0.220	0.001	0.038	273698
Institutional trust: other institutions	-0.164*** (0.010)	-0.179	0.001	0.028	273732
Institutional trust: respect the law	-0.058*** (0.017)	-0.073	0.003	0.080	37593
Interpersonal trust: proximate	-0.052*** (0.009)	-0.040	0.001	0.070	238609
Interpersonal trust: others	-0.166*** (0.007)	-0.156	0.001	0.094	357871
Interpersonal trust: altruism	-0.016 (0.019)	-0.017	0.650	0.059	37329

Notes: This table presents the Pooled OLS estimates of the effect of exposure to organized crime on the social capital of individuals interviewed between 2000-2003 and 2005-2018. All estimates show results from the Pooled OLS regressions based on equation 1. The dependent variables are standardised with mean 0 and standard deviation 1. The dependent variables are the social aggregate index and the mean indices that compose it. The variable of interest is the organized crime index. Each row is a regression in which the outcome Y is in the row and the independent variable X is in the column. Column (1) presents the β effect. Column (2) presents the Oster bias-adjusted β . Column (3) presents the Romano and Wolf p-values. Column (4) presents the R^2 . Column (5) presents the number of observations. The control variables are the individual-level control variables, municipality-level socioeconomic variables and geographic variables. Year fixed effects and province fixed effects are added. Description of the data used and the construction of the variables is in Section 1.6 and Data Appendix C.1. Standard errors in parenthesis clustered at the municipality level. *p < 10%, **p < 5%, ***p < 1%.

Table A.5: Pooled OLS: the heterogeneous effect of organized crime index on social capital (2000-2018)

	Social capital aggregate index		
	β /SE (1)	R^2 (2)	Obs (3)
Organized crime index	-0.067*** (0.004)	0.074	765718
Stronghold regions	-0.059*** (0.009)	0.069	193169
Non stronghold regions	-0.079*** (0.005)	0.065	572549
Violent presence > 75th pct	-0.059*** (0.008)	0.072	185229
Violent mafia presence > 75th pct	-0.058*** (0.008)	0.072	186927
Violent foreign presence > 75th pct	-0.063*** (0.008)	0.074	183177
Political mafia presence	-0.059 (0.041)	0.196	2684
Economic presence > 75th pct	-0.063*** (0.008)	0.064	186370
Economic mafia presence > 75th pct	-0.079*** (0.011)	0.079	136644
Economic foreign presence > 75th pct	-0.066*** (0.008)	0.062	182485
Number of mafia groups > 1	-0.127*** (0.026)	0.106	22321
Free State-Comune	-0.081*** (0.011)	0.068	114977
Bishop city-Comune	-0.067*** (0.007)	0.073	279637
Gold medal vs Nazi	-0.066*** (0.022)	0.065	49103
Small municipality size	-0.064*** (0.007)	0.085	276950

Notes: This table presents the heterogeneous Pooled OLS estimates of the effect of exposure to organized crime on the social capital of individuals interviewed between 2000-2003 and 2005-2018. The dependent variable is standardised with mean 0 and standard deviation 1. The dependent variable is the social capital aggregate index. For all the Table details see Figure 3.

Table A.6: Pooled OLS: testing alternative OC index (2000-2018)

	Outcome: Social capital aggregate index									
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Organized crime index	-0.067*** (0.004)									
OC index: normalized variable (0-100)		-0.026*** (0.002)								
OC index (also) equal to 1 if individual 'cannot say'			-0.068*** (0.004)							
OC index that drops individual 'cannot say'				-0.069*** (0.004)						
OC index (also) equal to 1 if individual replies 'a little' presence					-0.012*** (0.004)					
OC index (only) equal to 1 if individual replies 'a lot of' presence						-0.082*** (0.009)				
Municipality-level organized crime indicator							-0.003 (0.009)			
OC index averaged with municipality-level organized crime indicator								-0.051*** (0.006)		
OC index weighted averaged with municipality-level organized crime indicator									-0.065*** (0.005)	
OC index averaged with proxy of Dugato el al (2020)										-0.060*** (0.005)
Observations	765718	758901	765718	740606	765718	765718	765718	765718	765718	765718
R^2	0.074	0.074	0.074	0.074	0.073	0.074	0.073	0.074	0.074	0.074

Notes: This figure presents the Pooled OLS estimates of the effect of exposure to organized crime on the social capital of individuals interviewed between 2000-2003 and 2005-2018 using a range of different indicators for the variable of interest. All estimates show results from the Pooled OLS regressions based on equation 1. Each row is a regression. The dependent variable is standardised with mean 0 and standard deviation 1. The dependent variable is the social capital aggregate index. The variable of interest is the OC index. The first row presents the baseline effect of exposure to organized crime on the social capital aggregate index. In the following rows, different combinations of the OC index are presented. The control variables are the individual-level control variables, municipality-level socioeconomic variables and geographic variables. Year fixed effects and province fixed effects are added. Description of the data used and the construction of the variables is in Section 2.4.2. Standard errors clustered at the municipality level. *p < 10%, **p < 5%, ***p < 1%.

Table A.7: Cross-sectional OLS: the effect of social capital on number of resettled Mafiosi per 100,000 inhabitants (1968-1972)

	Number resettled Mafiosi in 1972 (1)	Number resettled Mafiosi in 1972 (2)	Number resettled Mafiosi in 1972 (3)
Social capital 1968-1972	-0.432 (0.438)	0.106 (0.433)	0.346 (0.345)
Base model	Yes	Yes	Yes
Control variables	No	Yes	Yes
Region FE	No	No	Yes
Observations	70	70	70
R^2	0.015	0.394	0.788

Notes: This table presents the OLS estimates of the effect of social capital between 1968 and 1972 on the number of resettled Mafiosi per 100,000 inhabitants in a province in 1972. Both the dependent and the independent variables are standardized with mean 0 and SD 1. The dependent variable is the number of resettled Mafiosi prior to 1972 in each province in Italy with data from Scognamiglio (2018). Data excludes the Mafia historic strongholds (Sicily, Calabria and Campania). The variable of interest is the social capital aggregate index between 1968 and 1972. Column (1) presents the base-model. Column (2) adds the full list of control variables from the census in 1951 (ISTAT). Column (3) adds region fixed effects. Description of all the variables used is in Section 2.5 and in Online Appendix C.1. Standard errors in parenthesis clustered at the province level with the borders of provinces in 1968. *p <10%, **p <5%, ***p <1%.

Table A.8: Summary statistics: specialists and community leaders (2021-2022)

	Total number (1)	Average age (in years) (2)	Share of female (3)
<i>Panel A: Specialists</i>			
Academics	17	40.4	29.41%
Police, army and prosecutors	7	55.5	14.28%
<i>Panel B: Community leaders</i>			
Members of residents' associations	7	56.14	71.42%
CSO volunteers	13	51.69	46.15%
Business owners	8	49.37	62.50%
Local politicians	2	45	50.0%

Notes: This table presents a summary statistics of the interviewees. Panel A presents the summary statistics for the specialists. Panel B presents the summary statistics for the community leaders. Column (1) presents the total number of interviewees. Column (2) presents the average age in years. Column (3) presents the share of female interviewees for each group. Description of the qualitative data I collected is in empirical chapter 3 and Data Appendix C.4.

B Validity checks

B.1 Coefficient stability test

I follow Oster (2019) to test if the OC index coefficient changes based on the inclusion of observed controls. The author suggests a way to get a bias-adjusted *beta* by assuming that the relationship between the OC index and unobservables can be retrieved from the relationship between the OC index and the observables. This can be done empirically by assuming a value for the relative degree of selection on observed and unobserved variables (δ), unknown a-priori, and a value for the R-squared of the regression which includes the variable of interest, the observables, and the unobservables ($R_{\max}$) which is also unknown.

The bias-adjusted β is calculated as the following

$$\beta^* = \tilde{\beta} - \delta \left(\beta - \tilde{\beta} \right) * \frac{\left(R_{\max} - \tilde{R} \right)}{\left(\tilde{R} - R \right)}$$

where $\tilde{\beta}$ and $\tilde{R}$ are the OC index coefficient and the R-squared obtained from the regression after the inclusion of all observable covariates, while β and R are the OC index coefficient and the R squared resulting from the regression without covariates.

$R_{\max}$ is the R-squared of a hypothetical regressions in which I can control for both observed and unobserved variables, where $R_{\max} = \pi \tilde{R}$. Essentially, it represents the importance of adding unobservables for the explanatory power in the outcome of interest. Oster (2019) recommends $R_{\max}$ to be equal to $1.3 \tilde{R}$. In other words, the proportional importance of the unobservables in explaining y is somewhat less than the observables one (with the observables this time - as opposed to the calculation of the δ - including the OC index). The logic is appealing as the observables added were chosen as the most relevant ones to explain the variation in the outcome. This intuition has been validated by simulations applied to randomized controlled trial studies (Oster, 2019).

δ is the proportional importance of the unobservables in explaining the OC index in comparison to the observables. Simulations shown by Oster (2019) suggest that $\delta=1$ to be an appropriate bound (ratio 1:1). Unobservables and observables are then symmetric in their impact on the OC index.

B.2 Romano Wolf step-down procedure

In the main specification I presented results of the single dimensions aggregated in mean index. I also show estimates for each single outcome accounting for the family-wise error rate, using the Romano Wolf adjustment (Romano and Wolf, 2005).

First, this method places each outcome of interest in a group of related outcomes. In my case, as an example for political participation, a group of outcomes is composed by the political participation - participate in politics outcomes and one group by the political participation - participate in unions outcomes, as in the main specifications. Second, this method calculates a t-statistic of the relationship between the exposure to organized crime and the outcome, for each outcome. Third, within each group, the estimated t-statistics are ordered from largest to smallest. Fourth, thanks to bootstrapping I replicate the t-test of the effect of exposure to organized crime on one outcome 5,000 times. I then compare the distribution of the bootstrapped t-statistic with the original t-statistic. The Romano Wolf p-value reported in the tables is simply the probability of observing the original t-statistic to be larger than the bootstrap distribution of t-statistics. If, by chance, this probability is below $p=0.1$, I reject this joint null hypothesis and I remove the most significant hypothesis and I test the other single outcomes that remain in the group (the ones with a lower original t-statistics). This procedure of dropping the most significant hypothesis continues until either the hypothesis fails to be rejected or only one hypothesis remains.

C Data Appendix: data, variables and qualitative

C.1 Data table

Table C.1: List of variables, data and sources

Variable	Time	Source	Unit	Description
Section 4.1 - Reverse causality				
Mafia1900	1900	Cutrera	Municipality	Intensity of Mafia presence: 0 (no) to 3 (major)
trust_law	1885	Damiani (1886) ⁶⁰	Municipality	Dummy = 1 if citizens trust the law, 0 otherwise (mistrust or don't care about the law)
access_to_capital	1885	Damiani (1886)	Municipality	Dummy = 1 if the access to credit is easy, 0 otherwise (expensive or difficult to access)
caves	1886	Squarzina (1965) ⁶¹	Municipality	Number of sulphur mines for each municipality
mean_citrus	Constant	FAO, GAEZ ⁶²	Municipality	Agro-ecological suitability for citrus production (score 0-100)
frag	1799	Damiani (1855) ⁶³	Municipality	Dummy = 1 if small and medium landholdings are present, 0 otherwise (large ones)
scarce	1924	Observatory ⁶⁴	Municipality	Dummy = 1 if there is the presence of underground water basins, 0 otherwise
sp3m1893_n30	1893	Eredia (1918) ⁶⁵	Municipality	Relative rainfall to mean rainfall 1881-1941 interpolated within 30 Km
lnpop1861	1861	ISTAT ⁶⁶	Municipality	Log of population density
lnsurface	1853	Mortillaro (1854)	Municipality	Log of total area
centre_height	1929	ISTAT	Municipality	Altitude of the town centre
maxheight	1929	ISTAT	Municipality	Maximum altitude of the town centre
slope2	1929	ISTAT	Municipality	Average altitude
pa_pdist1856	1856	Cary (1799)	Municipality	Postal distance from Palermo
port2_pdist1856	1856	Cary (1799)	Municipality	Portal distance from municipality
roads1799	1799	Lo Jacono (1856)	Municipality	Distance from municipality to port taking into account road time
ave_temp	1893	Climate data	Municipality	Average temperature
var_sp3m_n30	1893	Eredia (1918)	Municipality	Variance of spring rainfall (1881-1941)
sp3m_ave_n30	1893	Eredia (1918)	Municipality	Average of spring rainfall (1881-1941)
oc_index_ita	1983	Diff. sources ⁶⁷	Province	Municipality-level organized crime indicator based on economic and violence crimes
violent_ita	1983	Int. Ministry ⁶⁸	Province	Number of violent crimes per 100,000 inhabitants, normalised
economic_ita	1983	Int. Ministry ⁶⁹	Province	Number of economic crimes per 100,000 inhabitants, normalised

*Continued on next page*⁶⁰ Available to download in digital format in Dimico et al. (2017)⁶¹ Available to download in digital format in Buonanno et al (2015).⁶² Available to download in digital format in Buonanno et al (2015).⁶³ Available to download in digital format in Buonanno et al (2015)⁶⁴ Available to download in digital format in Buonanno et al (2015)⁶⁵ Available to download in digital format in Acemoglu et al (2019)⁶⁶ Available to download in digital format in Acemoglu et al (2019). From this variable until the end of this sub-section, all the data comes from the digitisation effort of these authors.⁶⁷ See indicators below that comprise the municipality-level organized crime indicator⁶⁸ The violent crimes include Mafia murders, Mafia association, extortion and crime association⁶⁹ The economic crimes include firms seized to organize crime groups, assets seized to organized crime groups, drug trade crimes and pimping & pandering

Table C.1 – *Continued from previous page*

Variable	Time	Source	Unit	Description
interest_politics	1968-1972	Itanes	Province	From 1 (not at all) to 4 (very much), are you interested in politics?
participate_strike	1968-1972	Itanes	Province	Dummy = 1 if interviewee took part in strike of demonstration, 0 otherwise
membership_org	1968-1972	Itanes	Province	Dummy = 1 if interviewee is member of at least on organisation, 0 otherwise
honesty_people_gov	1968-1972	Itanes	Province	From many (0) to almost none (3), are there many dishonest people in Government?
gov_worry_res_think	1968-1972	Itanes	Province	Dummy = 1 if interviewee agrees that Government worries about what people think, 0 otherwise
gov_not_wastes	1968-1972	Itanes	Province	From great part (0) to not much (2), does the Government wastes the tax funds?
politics_not_too_complicated	1968-1972	Itanes	Province	Dummy = 1 if interviewee believes politics and government are not too complicated, 0 otherwise
altitude	1951	Guiso (2016)	Province	Altitude
ln_surface	1951	ISTAT	Province	Log of total area
pop_male_rate1951	1951	8mila Census	Province	Ratio of male population over female population
pop_less_six1951	1951	8mila Census	Province	Ratio of population with less than 6 years old over total population
dependence_ratio_old1951	1951	8mila Census	Province	Ratio of over 65 population on population between 15 and 64 years old
average_size_fam1951	1951	8mila Census	Province	Average household size
house_with_property1951	1951	8mila Census	Province	Ratio of house owned on the total number of available houses
access_to_services1951	1951	8mila Census	Province	An index of available services to the houses (drinking water, bathroom and hot water)
ratio_inhabitants_rooms1951	1951	8mila Census	Province	Ratio of inhabitants per squared meter
gender_differences_shool1951	1951	8mila Census	Province	Ratio of males with a diploma over females with a diploma
illiterate1951	1951	8mila Census	Province	Ratio of illiterate over total population above 6 years old
occupation1951	1951	8mila Census	Province	Employment rate
pop_density1951	1951	8mila Census	Province	Population density
industry1951	1951	8mila Census	Province	Share of population that works in the industrial sector
uni_completion1951	1951	8mila Census	Province	Share of university graduates over those with middle school one
Section 4.2 - Pooled OLS				
<i>political participation</i>				
pol_pa_pol_meet	2000 to 2018	Istat ⁷⁰	Individual	Do you inform about politics by attending political meetings?
pol_pa_vol_party	2000 to 2018	Istat	Individual	Have you volunteered for a political party?
pol_pa_money_party	2000 to 2018	Istat	Individual	Have you given money to support a political party?
pol_pa_vote_online	2011 to 2017	Istat	Individual	In the past 3 months, have you voted online?
pol_pa_pol_rallies	2000 to 2018	Istat	Individual	In the past 12 months, have you participated to a political rally?
pol_pa_pol_demonstration	2000 to 2018	Istat	Individual	In the past 12 months, have you participated to a political demonstration?
pol_pa_union_meet	2000 to 2018	Istat	Individual	Do you inform about politics by attending union meetings?
pol_pa_vol_union	2000 to 2018	Istat	Individual	In the last 12 months, have volunteered for a union?
<i>civic engagement</i>				
civ_eng_act_soc	2016	Istat	Individual	In the last 12 months, to solve local issues, have participated on online discussion?

Continued on next page

⁷⁰ ISTAT on an annual basis administer a questionnaire called Multiscopo sulle famiglie: aspetti della vita quotidiana. Istat provides access to the municipality details using the service called ADELE

Table C.1 – *Continued from previous page*

Variable	Time	Source	Unit	Description
civ_eng_act_tv	2016	Istat	Individual	In the last 12 months, to solve local issues, have you contacted a radio, TV or local newspaper?
civ_eng_act_off	2016	Istat	Individual	In the last 12 months, to solve local issues, have you contacted the local competent office?
civ_eng_act_meet	2016	Istat	Individual	In the last 12 months, to solve local issues, have you participated to local meetings?
civ_eng_act_pro	2016	Istat	Individual	In the last 12 months, to solve local issues, have you participated to protests?
civ_eng_act_vol	2016	Istat	Individual	In the last 12 months, to solve local issues, have you volunteered in local groups?
civ_eng_act_green	2016	Istat	Individual	In the last 12 months, to solve local issues, have you helped maintaining the local green areas?
civ_eng_act_party	2016	Istat	Individual	In the last 12 months, to solve local issues, have you organized street/sport/cultural events?
civ_eng_vol_cso	2000-2018	Istat	Individual	In the last 12 months have you done any free activity of a CSO?
civ_eng_vol_prof_cso	2000-2018	Istat	Individual	In the last 12 months have you done any free activity for a for profit CSO?
civ_eng_money_asso	2000-2018	Istat	Individual	In the last 12 months have you given money to a CSO?
<i>Institutional trust</i>				
t_inst_europe	2012 to 2018	Istat	Individual	On a scale 0 (low) - 10 (high), how much do you trust the European parliament?
t_inst_italy	2012 to 2018	Istat	Individual	On a scale 0 (low) - 10 (high), how much do you trust the Italian parliament?
t_inst_regio	2012 to 2018	Istat	Individual	On a scale 0 (low) - 10 (high), how much do you trust the regional government?
t_inst_prov	2012 to 2018	Istat	Individual	On a scale 0 (low) - 10 (high), how much do you trust the provincial government?
t_inst_mun	2012 to 2018	Istat	Individual	On a scale 0 (low) - 10 (high), how much do you trust the municipal government?
t_inst_parties	2012 to 2018	Istat	Individual	On a scale 0 (low) - 10 (high), how much do you trust the political parties?
t_inst_politics	2000 to 2018	Istat	Individual	Dummy = 1 if interviewee does not get informed on politics for distrust, 0 otherwise
t_inst_judicial	2012 to 2018	Istat	Individual	On a scale 0 (low) - 10 (high), how much do you trust the judiciary system?
t_inst_police	2012 to 2018	Istat	Individual	On a scale 0 (low) - 10 (high), how much do you trust the police?
t_resp_law_tax	2016	Istat	Individual	From 0 (disagree) - 10 (agree), agree that not paying taxes is bad?
t_resp_law_tax2	2016	Istat	Individual	Dummy = 1 if it is never acceptable avoid paying the taxes, 0 otherwise
t_resp_law_receipt	2016	Istat	Individual	Dummy = 1 if interviewee would insist to obtain a fiscal receipt from a shop, 0 otherwise
t_resp_law_black	2016	Istat	Individual	Dummy = 1 if interviewee does not pay under the table when asked, 0 otherwise
t_resp_law_exc	2016	Istat	Individual	From 0 (disagree) - 10 (agree), agree that offering in-kinds/money to official for favours is bad?
t_resp_law_pork	2016	Istat	Individual	From 0 (disagree) - 10 (agree), agree that receiving in-kinds/money for votes is bad?
t_resp_law_corr_nat	2016	Istat	Individual	Dummy =1 if does not agree with the statement "Corruption is natural and inevitable", 0 otherwise
t_resp_law_corr_den	2016	Istat	Individual	Dummy =1 if does not agree with the statement "Denouncing corruption is useless"
t_resp_law_law	2016	Istat	Individual	Scale0=a lot to 3=not at all, reversed, is it important to respect the law?
t_resp_law_hon	2016	Istat	Individual	Scale 0=a lot to 3=not at all, reversed, is it important to live honestly?
<i>Interpersonal trust</i>				
t_proximate_relatives	2013 to 2018	Istat	Individual	Dummy = 1 if interviewee has relatives on which to count on, apart from direct family, 0 otherwise
t_proximate_friends	2013 to 2018	Istat	Individual	Dummy = 1 if interviewee has friends on which to count on, 0 otherwise
t_proximate_neighbours	2013 to 2018	Istat	Individual	Dummy = 1 if interviewee has neighbours on which to count on, 0 otherwise
t_oth_majority	2010 to 2018	Istat	Individual	Dummy = 1 if interviewee trust most of the people, 0 if need to be careful
t_oth_neighbour	2010 to 2018	Istat	Individual	Scale 1=very likely to 4=not likely at all (reversed), probability wallet lost given back by neighbour?

Continued on next page

Table C.1 – *Continued from previous page*

Variable	Time	Source	Unit	Description
t_oth_police	2010 to 2018	Istat	Individual	Scale 1=very likely to 4=not likely at all (reversed), probability wallet lost given back by police?
t_oth_unknown	2010 to 2018	Istat	Individual	Scale 1=very likely to 4=not likely at all (reversed), probability wallet lost given back by unknown?
t_altr_own	2016	Istat	Individual	Scale 0=not at all to 4=a lot (reversed), it is important to primarily think of your own interests
t_altr_fam	2016	Istat	Individual	Scale 0=not at all to 4=a lot (reversed), it is important to primarily think of your own family
t_altr_succ	2016	Istat	Individual	Scale 0=not at all to 4=a lot (reversed), it is important to primarily think of your own success
t_altr_dis	2016	Istat	Individual	Scale 0=not at all to 4=a lot, it is important to primarily think of those who are worse off
<i>Organized crime index</i>				
oc_index	2000-2018	Istat	Individual	From 1 (none) to 4 (a lot), what is the risk of criminal groups presence in the area where you live?
<i>Control variables</i>				
individual_age	2000-2018	Istat	Individual	How old are you?
individual_is_female	2000-2018	Istat	Individual	Gender of the interviewee
individual_is_married	2000-2018	Istat	Individual	What is your marital status?
hh_size	2000-2018	Istat	Individual	What is the number of people in the household?
individual_education	2000-2018	Istat	Individual	What is your education level?
individual_is_occupied	2000-2018	Istat	Individual	What is your occupation status?
pca	2000-2018	Istat	Individual	Principal component analysis of household items
camab	2000-2018	Istat	Individual	Do you work where you have been interviewed?
altitude	2000-2018	Guiso (2016)	Municipality	Altitude
elevation	2000-2018	Guiso (2016)	Municipality	Elevation
mun_on_mountain	2000-2018	Guiso (2016)	Municipality	Municipality is on mountain
mun_on_coast	2000-2018	Guiso (2016)	Municipality	Municipality is on coast
seminativi	2000-2018	Guiso (2016)	Municipality	Arable land
alberifrutta	2000-2018	Guiso (2016)	Municipality	Presence of fruit trees
prati	2000-2018	Guiso (2016)	Municipality	Presence of meadows
boschi	2000-2018	Guiso (2016)	Municipality	Presence of woods
provincial_capital	2000-2018	Guiso (2016)	Municipality	Municipality is the provincial capital
ln_surface	2000-2018	ISTAT	Municipality	Log of total area
pop_size	2000-2018	ISTAT	Municipality	Population size
immigration_rate	2000-2018	DEMO	Municipality	Immigration rate
income_pro_capite	2000-2018	MEF	Municipality	Income pro capite
gini_income_cont	2000-2018	MEF	Municipality	Author's elaboration of GINI index - income
gender_balance	2000-2018	Int. Ministry	Municipality	Share of female politicians in local councils
education_mun	2000-2018	Int. Ministry	Municipality	Years of education of local politicians
age	2000-2018	Int. Ministry	Municipality	Age of local politicians
<i>Heterogeneity analysis</i>				

Continued on next page

Table C.1 – *Continued from previous page*

Variable	Time	Source	Unit	Description
stronghold	2000-2018	Int. Ministry	Municipality	Dummy = 1 if interviewee lives in Mafia historic stronghold (Sicily, Calabria and Campania), 0 otherwise
violent_ita_het	2000-2018	Int. Ministry ⁷¹	Province	Dummy = 1 if interviewee lives in municipality where number of violent crimes per 100,000 inhabitants > 75 th pct, in year t , 0 otherwise
violent_Mafia_ita_het	2000-2018	Int. Ministry	Province	Dummy = 1 if interviewee lives in municipality where number of Mafia-type violent crimes per 100,000 inhabitants (Mafia murders, association and extortion) > 75 th pct, in year t , 0 otherwise
violent_foreign_ita_het	2000-2018	Int. Ministry	Province	Dummy = 1 if interviewee lives in municipality where number of foreign-type violent crimes per 100,000 inhabitants (crime association) > 75 th pct, in year t , 0 otherwise
political_ita_het	2000-2018	Int. Ministry ⁷²	Municipality	Dummy = 1 individual lives in a city council dismissed because of Mafia infiltration, in year t , 0 otherwise
economic_ita_het	1983-2018	Int. Ministry ⁷³	Province	Dummy = 1 if interviewee lives in municipality where number of economic crimes per 100,000 inhabitants > 75 th pct, in year t , 0 otherwise
economic_ita1_het	2000-2018	ANBSC	Municipality	Dummy = 1 if interviewee lives in municipality where number of Mafia-type economic crimes per 100,000 inhabitants, (assets and firms <i>destinati</i> seized from Mafia groups) & money-laundering (province) > 75 th pct, in year t , 0 otherwise
economic_ita2_het	2000-2018	ISTAT	Municipality	Dummy = 1 if interviewee lives in municipality where number of foreign-type economic crimes per 100,000 inhabitants (drug trade, counterfeit and pimping & pandering) > 75 th pct, in year t , 0 otherwise
Mafia_groups_number_2	2000-2018	DIA	Municipality	Dummy = 1 if interviewee lives in municipality with > 1 organized crime group, 0 otherwise
libero_comune_total_allnord	2000-2018	Guiso (2016)	Municipality	Dummy = 1 if interviewee lives in municipality what was a Free-state - Comune in the Middle Ages, 0 otherwise
bishopcity	2000-2018	Guiso (2016)	Municipality	Dummy = 1 if interviewee lives in what was a Bishop city - Comune in the Middle ages, 0 otherwise
gold_medal	2000-2018	Guiso (2016)	Municipality	Dummy = 1 if interviewee lives in a municipality which won gold medal against Nazism and Fascism, 0 otherwise
small_town	2000 to 2018	Istat	Municipality	Dummy = 1 if interviewee lives in a municipality with less than 5000 residents, 0 otherwise
<i>Persistence</i>				
Mafia1885	1885	Damiani	Municipality	Intensity of Mafia presence, 0 (no) to 3 (major)
Mafia1900	1900	Cutrera ⁷⁴	Municipality	Intensity of Mafia presence, 0 (no) to 3 (major)

*Continued on next page*⁷¹ The violent crimes include Mafia murders, Mafia association, extortion and crime association⁷² Data is available to download in digital format on the WikiMafia website⁷³ The economic crimes include firms seized to organize crime groups, assets seized to organized crime groups, drug trade crimes, money laundering, counterfeit and pimping & pandering⁷⁴ Available to download in digital format in Acemoglu et al (2019).

Table C.1 – *Continued from previous page*

Variable	Time	Source	Unit	Description
Section 2.5 - Synthetic control approach				
<i>Outcomes</i>				
murd	1887-2012	Alesina et al (2019)	Region	Murder per 100,000 inhabitants (Italy base - 100)
resettlement_prov	1961-1972	Senate ⁷⁵	Province	<i>Cont</i> : Number of Mafia bosses resettled with force for resettlement law
social_capital	1861-2020	Diff. sources ⁷⁶	Region	Social capital (Italy base - 100)
vote_	1861-2020	Diff. sources ⁷⁷	Region	Number of male voters over electorate in the Senate
ngos_civic_rights	1861-2020	Diff. sources ⁷⁸	Region	Number of political associations over total population
ngos_	1861-2020	Diff. sources ⁷⁹	Region	NGOs over total population
norm_court_disputes	1871-2020	Diff. sources ⁸⁰	Region	Civic proceedings over total population
<i>Control variables</i>				
female_percentage_	1861-1961 ⁸¹	SVIMEZ	Region	Ratio of female in the regional population
hh_size_	1881;1901-1961	SVIMEZ	Region	Average household size
pop_size	1861-1961	SVIMEZ	Region	Population size
gdp_per_capita_	1871-1961	Felice (2019)	Region	GDP per capita (Italy base - 100)
productivity_	1871-1961	Felice (2019)	Region	Productivity (Italy base - 100)
occupation_felice_	1871-1961	Felice (2019)	Region	Occupation percentage (Italy base - 100)
hdi_	1871;1891;1911;1951;1961	Felice (2015) ⁸²	Region	HDI index

Continued on next page

⁷⁵ There are two sources of data. The main document titled "Relazione finale della Commissione Parlamentare d'inchiesta sul fenomeno della Mafia in Sicilia" (IPAC,1976), at page 289, shows the total number of people relocated between 1962 and 1972 by province of destination. Buonanno and Pazzona (2014) uses the data above and has about 2,918 individuals between 1961-1974. Scognamiglio (2018) uses the data above, but excluding Sicily, Campania and Calabria and has data for 92 provinces.

⁷⁶ See indicators below

⁷⁷ Data on voters between 1921 and 2001 comes from Nuzzo (2006). Data between 1861 and 1911 comes from Compendio statistiche elettorali. Data from 2011 is an average between electoral data of 2008 and 2013, taken from Elezioni Storico with data on Valle d'Aosta and from regional website and from electoral data of 2013 taken from Interior ministry and for Valle d'Aosta and Trentino taken from Interior ministry. Data for 2020 comes from the most recent elections of 2018 from Interior ministry and for Valle d'Aosta from regional website.

⁷⁸ Data on political associations between 1861 and 2001 was kindly sent to me - confidentially - by Nuzzo (2006) and an ISTAT official. Data for 2011 comes from ISTAT and the data for 2020 is taken from the most recent 2018 survey from ISTAT.

⁷⁹ Data on CSOs between 1861 and 2001 was kindly given to me by Giorgio Nuzzo and an ISTAT official. Data for 2011 comes from Istat and data for 2020 comes from the most recent 2018 data from ISTAT.

⁸⁰ For 1861, I have used 1863 data on civic proceedings divided by court of appeal from Annuario Statistico delle Province Italiane. For 1871, I have used 1872 data on the total of the civic proceedings divided by court of appeal from the Annuario Statistico delle Provincie Italiane. For 1881, I have used 1885 data on the total of the civic proceedings divided by court of appeal from the Annuario Statistico. For 1891, I have used 1891 data on the total of the civic proceedings divided by regions from the Annuario Statistico. Data on court disputes come from Nuzzo (2006) between 1901 and 2001. For 2011 I have used data on civic proceedings for work or social security divided by court of appeal from the Justice ministry. Similarly, for 2020 I have used data on civic proceedings for work or social security divided by court of appeal from the Justice ministry.

⁸¹ Missing data for 1891, as in other controls below that use the census data, it is because of lack of funding of the Italian state to administer the census.

⁸² Felice and Vasta (2015) create an index which is comprised by (i) life expectancy data from series on births and deaths, (ii) education from literacy and enrolment rate and (iii) income from real

Table C.1 – *Continued from previous page*

Variable	Time	Source	Unit	Description
value_added_pc_	1891;1911;1951	Felice (2011)	Region	Value added over total active population in million lire
value_added_industry_pc	1871;1881;1901;1911	Fenoaltea (2001)	Region	Value added in industry per capita (Italy base - 1)
share_industry	1861-1961	ISTAT	Region	Share of active population that works in the industry
share_agriculture	1861-1961	ISTAT	Region	Share of active population that works in the agriculture
share_other	1861-1961	ISTAT	Region	Share of active population that works in other sectors
outflow_migration_pc	1881-1961	ISTAT	Region	Outflow migration per capita
connectivity_train	1861;1891;1911;1951;1961	SVIMEZ	Region	Number of kilometres of train railroads by 100,000 inhabitants
connectivity_road	1861;1911;1951;1961	SVIMEZ	Region	Number of kilometres of roads by 100,000 inhabitants
mountain_percentage_	1861;1911;1961	SVIMEZ	Region	Percentage of people living in mountain
small_mun_percentage_	1861;1911;1961	SVIMEZ	Region	Percentage of people living in small municipalities
Section 5 - Mechanisms				
<i>Outcome - social capital</i>				
fear	2012-2014	Istat	Individual	<i>Psychological: fear</i> - Dummy = 1 if in the individual walking alone in the area where she lives feels quite scared, very scared or even does not go out, 0 otherwise
no_aspiration	2012-2014	Istat	Individual	<i>Psychological: resignation</i> - Dummy = 1 if in the next 5 years, individual thinks personal situation will be worse, 0 otherwise
sector_interest_Mafia	2012-2014	Istat	Individual	<i>Propensity to investment</i> Dummy = 1 if the individual works in a sector of Mafia interest
camab	2012-2014	INVALSI ⁸³	Municipality	<i>Capacity for collective action</i> - Dummy = 1 if family member has moved out of the house in previous 12 months, 0 otherwise
no_state_capacity	2012-2014	INVALSI ⁸⁴	Municipality	<i>State capacity</i> - Dummy = 1 if the individual's level of satisfaction in municipality services is between 1-3 (low), and 0 if above (high)
t_oth_belong	2016	Istat	Individual	<i>Polarisation of views: belonging</i> - Dummy = 1 if individual lives in municipality where the feeling of belonging to the municipality is > 75 th pct, and 0 otherwise
t_inst_vote	2016	Istat	Individual	<i>Polarisation of views: belonging</i> - Dummy = 1 if individual lives in municipality where the idea that voting matters nothing or little is > 75 th pct, and 0 otherwise
cheating	2008	INVALSI	Municipality	<i>Social proximity: cheating</i> - Dummy = 1 if individual lives in a municipality where cheating is > 75 th pct, and 0 otherwise ⁸⁵
t_oth_immigrants	2016	Istat	Individual	<i>Social proximity: immigrants</i> - Dummy = 1 if individual believes that immigrants who are resident should not vote, 0 otherwise
<i>Outcome - civic engagement</i>				
child_below_5	2000-2018	Istat	Individual	<i>Propensity to investment: social returns</i> - Dummy = 1 if individual has small children

Continued on next page

per capita GDP.

⁸³This data was used by Guiso (2016)⁸⁴This data was used by Guiso (2016)⁸⁵I use a variable on the probability of children in 8th grade primary schools caught cheating in 2008 during a national math exam taken by all schools in Italy, with data taken from the Institute promoting this exam (INVALSI, 2008)

Table C.1 – *Continued from previous page*

Variable	Time	Source	Unit	Description
godab	2000-2018	Istat	Individual	and 0 otherwise <i>Propensity to investment: economic returns</i> - Dummy = 1 if individual own the house, and 0 otherwise
state_inefficiency_cso	2000	ISTAT	Municipality	<i>State capacity</i> -Dummy = 1 if individual lives in a municipality where number CSOs is above the 75 th percentile in year t
Global				
organized_crime	2006-2019	WEF ⁸⁶	Country	From 1 to 7, how much cost Mafia type crime impose to business?
social_capital	2018	WEF	Country	0-100, index of social cohesion and engagement, community and family network and political behaviour and institutional trust?

⁸⁶ Data is available online between 2006-2015, then I have added the single year 2016 and from an excel file the years between 2017-2019. No data is available before 2005 as the methodology changed.

C.2 Construction of the alternative municipality-level objective organized crime indicator

Here I present the step-by-step procedure to calculate the municipality-level objective organized crime indicator. This is used in three instances:

For the scope of the reverse causality test, presented in the empirical chapter 1, I use only the data available for 1983 on violent presence and economic presence as there are no data on political or territorial presence in 1983.

For the scope of the heterogeneity analysis, presented in empirical chapter 2, I create municipality-level objective indicators between 2000 and 2018 on violence presence (overall, Mafia-type, foreign-type), political presence and economic presence (overall, Mafia-type, foreign-type). The only difference in the construction of these variables for the purpose of the heterogeneity analysis is that instead of having a normalised variable between 0 and 100, I create a dummy variable equal to 1 if the indicator is above the 75th percentile of the distribution, for each year, and 0 otherwise.

For the scope of testing alternative OC indices, presented in empirical chapter 2.4.2, I use the OC index averaged with the municipality-level objective indicators between 2000 and 2018 on economic presence, violent presence, political presence and territorial presence.

The data and how these indicators are created is presented below.

Violent presence: Organized crime groups can be identified on the territory thanks to their violent presence with data published by the Interior Ministry every year at the province level. I can distinguish between Mafia-type crimes and foreign organized crimes. Since 1982, in Italy, thanks to the introduction of Article 416-bis *Associazione a delinquere di stampo mafioso*, murders and crimes can have the aggravating factor of Mafia-type and thus be distinguished by non-Mafia type offences.⁸⁷

⁸⁷The 1982 law aimed explicitly at Italian Mafia organisations, defined as those groups that "exploit the power of intimidation granted by the membership in the organisation, and the condition of subjugation and omertà that descends from it, to commit crimes and acquire the control of economic activities, concessions,

I have then information on murders and crimes which have been identified as being committed by a Mafia group. These two Mafia-type crimes, alone, have been used to approximate Mafia presence such as by Peri (2004); Daniele and Geys (2015); Pinotti (2015b); Alesina et al. (2019). Nonetheless, there is judicial evidence that prosecutors outside Mafia historic strongholds were reluctant to use the Mafia-type aggravating factor (Pinotti and Stanig, 2016), which is why the municipality-level objective organized crime index does not solely rely on this violence indicator. I also added an indicator on crimes related to extortion. This indicator - even if not labelled as Mafia-type by the judicial authorities - more often than not is actually committed by Mafia groups. As suggested to me by a number of prosecutors I interviewed, one of the greatest difficulties for them is to assign the Mafia-type crime in absence of intimidation (Specialist interview 2.1, March 2021; Specialist interview 2.5, March 2021). Thus, many times extortion crimes committed by Mafia groups are not labelled Mafia-type for this absence of intimidation.⁸⁸ For what regards the foreign organized crime group violent presence I have used data on individuals charged of crime association *Associazione a Delinquere*.

Step 1: I have assigned to each municipality m in a province p the following: I have calculated the total number of times the violent crime has been reported in the province p (or municipality m , if Mafia-type) at time t divided by the provincial (or municipality m , if Mafia-type) population at time t . Then, I have multiplied this ratio by 100,000 inhabitants.

$$Violent\ Presence_{m,t} = \frac{Number\ of\ crimes_{p,m,t}}{Total\ population_{p,m,t}} \times 100,000\ inhabitants$$

Step 2: To make this indicator comparable with the others comprised in the municipality-level objective organized crime indicator, I have then normalised to 100 its value

authorisations, and public contracts". The Mafia-aggravating factor have not yet been used on foreign organized crime groups.

⁸⁸One may argue that this crime if not committed by the Mafia could then be committed by foreign groups. While most of the foreign groups practice extortion, they tend to do it only within their own ethnic group, and it is very uncommon for the Italian police to catch it (DIA, 2019, p.614)

$$Violent\ Presence_{m,t}100 = \frac{Violent\ Presence_{m,t} - Min\ of\ Violent\ Presence_{m,t}}{Max\ of\ Violent\ Presence_{m,t} - Min\ of\ Violent\ Presence_{m,t}} \times 100$$

Economic presence: Organized crime groups can be identified on the territory thanks to their economic presence using data from the Interior Ministry at the municipality and province level. As in the case of the violent presence, I can distinguish between Mafia-type economic crimes and foreign-type economic crimes. For the Mafia-type economic presence, I have data on firms and assets seized to Mafia-type organized crime groups since 1980s at the municipality level. To these two indicators I add an indicator on money-laundering crimes which is more typically done by Mafia groups. For foreign-type economic crime presence, I have a list of crimes associated to their typical businesses, at the province level: drug trade, pimping & pandering and counterfeit. Importantly, these have not been considered as Mafia-type by the judge and hence do not fall under the *Associazione a delinquere di stampo mafioso*.⁸⁹

The crimes selected for the Mafia-type presence are assets and firms seized to the Mafia groups. Data is at the municipality level and available from 1983 from the Interior ministry. The crimes selected for the foreign-type presence are drug trade, money-laundering, counterfeit and pimping & pandering. Data is at the provincial level and available from 2000 to 2018 from the Interior ministry.

Step 1: I have assigned to each municipality m in a province p the following: I have calculated the total number of times the economic crime has been reported in the province p (or municipality m , if Mafia-type) at time t divided by the provincial (or municipality m , if Mafia-type) population at time t . Then, I have multiplied this ratio by 100,000 inhabitants.

⁸⁹To note that these are not the only type of economic crimes provided by the Interior Ministry, but I prefer selecting the ones that are the most prominent for the businesses of foreign organized crime groups, to attenuate possible measurement errors.

$$Economic\ Presence_{m,t} = \frac{Number\ of\ crimes_{p,m,t}}{Total\ population_{p,m,t}} \times 100,000\ inhabitants$$

Step 2: To make this indicator comparable with the others comprised in the organized crime index, I have then normalised to 100 its value

$$Economic\ Presence_{m,t}100 = \frac{Economic\ Presence_{m,t} - Min\ of\ Economic\ Presence_{m,t}}{Max\ of\ Economic\ Presence_{m,t} - Min\ of\ Economic\ Presence_{m,t}} \times 100$$

Political presence: Organized crime groups, only the Mafia-type, can be identified on the territory thanks to their political presence using data from the Interior Ministry at the municipality level. I have data since 1991 on the number of municipal councils dismissed because of Mafia-type organized crime groups infiltrations. Appendix Figure A.2 plots the number of municipality councils dissolved between 1993 and 2018 and shows an increasing number of political infiltrations in the past few years.

Number of municipalities dismissed because of Mafia infiltration. Data is at the municipality level and available from 1991 to 2018. It is an exclusively Mafia-type indicator.

Step 1: As the unit of measurement is already the municipality, I do not need to divide it by the population size.

Step 2: Without normalizing it, I have assigned the value to 100 to make the value comparable:

$$Political\ Presence_{m,t}100 = Political\ Presence_{m,t} \times 100$$

Police report/Territorial presence: The presence of organized crime groups can be identified on the territory thanks to the police reports published by the Direzione Investigativa AntiMafia (DIA onwards) twice a year at the municipality level. The DIA was created in the 1991 by the prosecutor Giovanni Falcone to collect, analyze and publish all the available information on organized crime group territorial presence provided by the Italian police forces. In particular, DIA is an investigative branch of the Interior ministry (comprised by 40% state police, 40% Carabinieri e 20% Guardia di Finanza) with competence on the national territory. Since 1993, twice a year, DIA publishes a report on the organized crime group presence on the Italian territory at the municipality level. I have read and digitized each report. A detailed explanation of how I conducted the digitisation of the reports is presented in Data Appendix C.3.

A dummy equal to 1 if the DIA reports organized crime group presence at the municipality level at least in one of the two terms of year t . In case the DIA reports organized crime group presence only at the province level without specifying the municipality, I have instead assigned the municipality a value equal to 0.1. If the municipality is cited both with organized crime group presence at the municipality and at the province level, I have still assigned it the value of 1. Data is at the municipality level and available from 2000 to 2018 from DIA, twice a year. In short,

$$Territorial\ Presence_{m,t} = 1$$

when DIA reports organized crime presence at the municipality level at least once in the two terms

$$Territorial\ Presence_{m,t} = 0.1$$

when DIA reports organized crime presence at the province level at least once in the two

terms

Step 1: As the unit of measurement is already the municipality, I do not need to divide it by the population size.

Step 2: Without normalizing it, I have assigned the value to 100 (and to 10 when only presence at the province level is reported) to make the value comparable:

$$Territorial\ Presence_{m,t}100 = Territorial\ Presence_{m,t} \times 100$$

To avoid overestimating the presence of organized crime groups in populated areas, I follow Calderoni (2011), Transcrime (2013) and Dugato et al. (2019) in calculating the ratio of each indicator for the population. Each indicator is then normalised using an indexing to their maximum values to allow comparability among variables with different measurement unit. The highest value for each indicator is then assigned the value 100, and all the other values are scaled back accordingly.

Municipality-level objective mean index:

Step 1: The objective indicator is the equal weighted mean of the four indicators, such that

$$Objective\ Presence_{m,t} =$$

$$\frac{Territorial\ Presence_{m,t}100 + Violent\ Presence_{m,t}100 + Econ\ Presence_{m,t}100 + Polit\ Presence_{m,t}100}{4}$$

Step 2: To make this indicator comparable with the subjective one, I have then normalised to 100 its value

$$Objective\ Presence_{m,t}100 = \frac{Objective\ Presence_{m,t} - Min\ of\ Objective\ Presence_{m,t}}{Max\ of\ Objective\ Presence_{m,t} - Min\ of\ Objective\ Presence_{m,t}} X 100$$

OC index: The question from ISTAT (2019) asks: "From 0=not at all to 4=A lot, what is the risk of criminal group presence in the area where you live?"

Step 1: To make this indicator comparable with the objective one, I have then normalised to 100 its value

$$OC\ Index_{m,t}100 = \frac{OC\ Index_{m,t} - Min\ of\ OC\ Index_{m,t}}{Max\ of\ OC\ Index_{m,t} - Min\ of\ OC\ Index_{m,t}} X 100$$

Organized crime index averaged with Municipality-level objective mean index:

The organized crime index is the equal weighted mean of the objective and subjective indicators, such that

$$OC\ Index\ averaged\ with\ Municipality-level_{m,t} = \frac{Objective\ Presence_{m,t}100 + OC\ Index_{m,t}100}{2}$$

For interpretation and comparison purposes, I have then standardised the OC index averaged with Municipality indicator for each year and created a dummy equal to 1 if the individual is exposed to high-intensity organized crime presence (both subjective and objective) when the individual has an index which is above the 75th percentile of the distribution, for each year.

C.3 Police mapping and digitisation of DIA reports

The presence of organized crime groups can be identified on the territory thanks to the police reports published by the Direzione Investigativa AntiMafia (DIA onwards) twice a year at the municipality level.

Outline of DIA reports

The Direzione Investigativa AntiMafia (DIA onwards) was created in the 1991 to collect, analyse and publish all the available information on organized crime groups provided by the Italian police forces. In particular, DIA is an investigative branch of the Interior ministry (40 % state police, 40% Carabinieri e 20% Guardia di Finanza) with competence on the national territory. Since 1993, twice a year, DIA publishes a report on the available knowledge on the presence of organized crime groups on the Italian territory. I have read and digitised each report.

Which reports

DIA has not followed an identical structure of reporting procedure since 1993. Hereby I report which DIA reports are relevant to construct the organized crime index

1993 - 1996: DIA provides background information on organized crime presence, without detailing its exact presence at the province or municipality level

1997 - 2000: DIA provides systematic information on organized crime presence on the Mafia historic strongholds (Sicily, Calabria, Campania, Apulia) detailing organized crime presence, province by province for each region. Quality of the data provided is much improved starting from 2000.

2002 - onward: One section on the organized crime presence on the 'Rest of Italy'. This becomes a section on its own from 2014. From 2004 to 2006 information is absent on organized crime groups outside Mafia historic strongholds (In 'Rest of Italy') and should be taken with caution.

2012 2nd term - onward: The report is giving the same information but in a much more

effective way by presenting the organized crime presence with tables, maps and accompanying text.

2018 - onward: Given the importance of organized crime groups in the ‘Rest of Italy’, each region of Italy is studied province by province, as in the Mafia historic strongholds.

Considering the above, I have decided to use the data for DIA reports starting from 2000 to 2018

Possible biases

Generally, being the DIA report a text-rich document, it has changed its structure in time. This certainly influences the consistency of the data collected. Nonetheless, starting from 2000 the general structure of the report is untouched.

Guideline on the coding

Below I present the general guidelines I have followed in digitising a high intensity text-based report, to make sure that anyone else reading the report would be able to replicate my digitisation process. From the report, I have coded in this way.

1. **Red highlighted text:** Presence of organized crime groups at the municipality level. This is coded as a dummy equal to 1 if the DIA reports the presence of organized crime groups at the municipality level.
2. **Blue highlighted text:** When DIA does not specify the exact municipality where the organized crime group is present, but just the province, I have coded all the municipalities in that province and assigned them the value of 0.1

This results in the following distinction

- A municipality which has organized crime group presence, as specifically reported by the DIA with the name of the municipality on the report in either of the two terms, and with or without presence of organized crime group in the province, it was assigned a value of 1.
- A municipality, which is part of a province with organized crime group, but not specifically detailed by the DIA with organized crime group presence on the report in either of the two terms, it was assigned a value of 0.1.

— A municipality, which is neither detailed by the DIA on the report in either of the two terms, nor is located in a province with organized crime group presence, it was assigned a value of 0.

Which section of the DIA report was coded?

DIA reports have an almost identical structure starting from 2000 onward. I have coded the sections in which DIA specifically discusses the presence of the organized crime groups on the territory. This has helped the digitisation process as all the information provided in these sections (the sections ‘*Organizzazioni di tipo mafioso autoctone*’) are put there by the DIA to describe Mafia-type presence on the territory and leave no doubt on how to interpret this information. In these section, as the foreign organized crime groups phenomenon grew more and more important, in the province-by-province description of organized crime presence, there was also discussion of the presence of foreign organized crime groups. This also means that I have excluded two sections from the DIA reports which by its nature are too general and could have led to double counting in the index. In particular, I have not considered the sections on the ‘Judicial Inquiries’ (Investigazioni giudiziarie) and ‘Preventive Inquiries’ (Investigazioni preventive). I keep these two sections out as the DIA does not associate these two sections on the actual presence of organized crime groups on the territory as it does in the section of ‘*Organizzazioni di tipo mafioso autoctone*’, while most of the time these sections are simply a list of the DIA operations, without geographical reference, in seizing the firms and assets to the Mafia, two indicators which I already capture from two other variables of the Mafia index. Thus, I prefer avoiding potential double counting and I exclude these two sections. ‘Judicial Inquiries’ and ‘Preventive Inquiries’ sections were also dismissed by the DIA in the reports for the most recent years.

Is information given on which organized crime group is present?

Yes, I specify the name of the organized crime group present when Mafia-type. To note that I have assigned the organized crime group name only when assigning the organized crime group presence at the municipality level, but not when DIA reports organized crime group

presence only at the province level. For the latter, if there is the presence of organized crime groups, given the area of a province being so wide, in most cases, there is a presence of at least more than one organized crime group at the same time, even if weak. At the municipality level instead, one municipality can have one organized crime group or four of them, and given the value for analysis of this variation, I have added this information.

Number of Mafia-type groups in one municipality?

This data is collected for Calabria, Campania and Apulia for the years between 2013 and 2018, only for the 1st term as the number of Mafia groups is quite persistent from one year to the next, and only in these regions as it was available only for these regions. Importantly, sometimes the families are presented as separated by ‘-’ such as for the family Ietto-Cua-Pipicella. These are coded as one unique family as these are families connected by blood/family linkages and behave as one unique group with shared interests. For Sicily, I can only collect the number of groups inside a *Mandamento* which is not very informative as the number of families established in one *Mandamento* does not imply the Mafia groups will compete for the same territory in the *Mandamento*.

See an example of the digitisation in the Data Appendix Figure C.1. Also, I have recorded a live video-example of the actual coding procedure that can be found online [here](#). Finally, I present online [here](#) in the greatest possible detail the specific guidelines I followed throughout the digitisation process to guarantee consistency and replication of this work.

Figure C.1: Image: example of text analysis of a DIA report (2018)

In provincia, invece, risultano attivi il gruppo APARO-TRIGILA ed il gruppo NARDO. Quest'ultimo, alleato storico dei SANTAPAOLA, è operante nel settore delle estorsioni e del traffico di sostanze stupefacenti nella parte settentrionale della provincia ed, in particolare, nei comuni di Lentini, Carlentini, Augusta, Francofonte, Villasmundo e Scordia. Nonostante alcune fratture interne al gruppo, non si sono ancora registrati delitti di sangue.

Il gruppo APARO-TRIGILA è considerato un'emanazione diretta della famiglia catanese di Cosa Nostra, con interessi nel traffico di droga e nelle estorsioni. Gli APARO esercitano le attività delittuose a Solarino, Floridia, Sortino ed in alcune zone del capoluogo, mentre i TRIGILA sono attivi a Noto, Palazzolo, Avola, Rosolini, Cassibile e Pachino.

Source: DIA, Report Second Term 2006, page 31

In the province instead, the APARO-TRIGILA and NARDO groups are active. The latter, historically allied with the SANTAPAOLA (ndr family), is operating in the extortions and illicit drugs trade sectors, in the norther part of the province, and in particular, in the municipalities of Lentini, Carlentini, Augusta, Francoforte, Villasmundo and Scordia.

Even if there are internal fractures in the group (ndr NARDO). No homicides have been recorded.

The APARO-TRIGILA groups is considered a direct branch of the family of Cosa Nostra which controls Catania, with interests in drug illicit trade and extortions. The APARO exert their criminal activities in Solcarino, Floridia, Sortino, and in some areas of the provincial capital, while the TRIGILA are active in Noto, Palazzolo, Avola, Rosolini, Cassibile and Pachino.

Thanks to this information I have created a dummy equal to 1 if the DIA reports organized crime group presence at the municipality level at least in one of the two terms of year t . In case the DIA reports organized crime group presence only at the province level without specifying the municipality, I have instead assigned the municipality a value equal to 0.1. If the municipality is cited both with organized crime group presence at the municipality and at the province level, I have still assigned it the value of 1. Data is at the municipality level and available from 2000 to 2018 from DIA, twice a year.

C.4 Qualitative data and analysis

The research interview is not a conversation between equal partners, because I define the topic of the interview and I also critically follow-up the subject's responses (Kvale, 1996). This is further reinforced by the interview setting being a key informant one. This means that the participants I chose for the interview are not randomly chosen, but are selected for their level of expertise or relevance on the topic of discussion.

Specialist interviews - In a first round of interviews, I have spoken with 24 specialists among judges, prosecutors, army officers, police officers and with academics (criminologists, urban sociologists, political scientists and economists) to conceptualise organized crime groups in Italy and shape the mechanisms linking the exposure to organized crime groups with social capital of the individual. In particular, with this latter group, during the interview, I have touched upon the findings from the quantitative analysis. I have then asked them a general question on which mechanisms could explain the results (for example, "Why do you think the exposure to organized crime groups decreases political participation?"). As 'a miner' I have impelled the interviewee to give their opinions on the possible mechanisms behind the quantitative results found. While I have nudged the interviewee to answer my questions on the hypothesised mechanisms, I have taken more of an outsider stance, less socialised and interpreting more the job of a facilitator. After this, I have then discussed with them the mechanisms I theorized to be at play and asked their opinions on their validity, mechanism-by-mechanism.

Community leaders interviews - In a second round of interviews I have tested the theorized mechanisms on 'local' key informant individuals: the community leaders in the *Vicoli* of Genoa, an area with the presence of organized crime groups. The community leaders include 29 individuals from members of residents' associations, CSO volunteers, business owners and local politicians who were interviewed over 23 interviews (some

community leaders were interviewed together in the same interview). I have administered a semi-structured interview that was divided into three themes: (A) the social capital of the individual and of the community, (B) the type of exposure to organized crime groups, and (C) to what extent and why the exposure to organized crime groups has an effect on their social capital and the one of their community - taking examples from the theme (A). I have implicitly elicited answers on the mechanisms by asking the interviewees to tell me stories on how the exposure to organized crime groups have changed their life. The questions were not casual, as while were directly leading from the theorized mechanisms. Their answers have been transcribed and I applied deductive coding using the set of theorized mechanisms shortlisted with the specialists.

This has not been a monolithic questionnaire, but it was thought as a dynamic one, as it changed in time and became more suitable for the context with the passing of time. Intensive periods in the field allowed me to construct the most appropriate questions of social capital for the context of study, as suggested in Woolcock (2001, p.79), giving very clear context-specific examples of social capital (for example the specific volunteering activity done in that area, the political rally of the previous month).

The qualitative study guide for both the specialist and the key informant interview is presented below.

The social consequences of organized crime groups

QUALITATIVE STUDY GUIDE

This version: February 2022

This document serves as a guideline for the qualitative component of the study “The social consequences of organized crime groups”. The qualitative component is divided into two parts: (i) specialist interviews of organized crime groups in Italy and (ii) key informant interviews with community leaders living in areas with the presence of organized crime groups. The interviews are semi-structured and are individual. There can be some flexibility around the formulation of the questions during the interviews, and the questions listed here can be adapted to different contexts and respondents. This was an evolving document, it regularly changed.

SPECIALIST INTERVIEW QUESTIONNAIRE

Specialists include

- Academics: criminologists, economists, and political scientists
- Police and army officers
- Prosecutors

Duration: 60 minutes

Format: Zoom video call

Background of experts

- 1.1. Age of the interviewee
- 1.2. Education title
- 1.3. Job title
- 1.4. Why at a certain point in your career you have decided to work/do research on organized crime groups?

Mechanisms

Start part in which the study and its findings are explained. In short, the exposure to organized crime groups decreases social capital. In particular, it decreases political participation, institutional trust and interpersonal trust. On the other hand, it increases civic engagement. Let interviewee ask questions and clarify doubts.

- 1.5. Starting with an open-ended question, why do you think exposure to organized crime groups has this effect?
- 1.6. Looking at the most related academic literature, there are normally a number of mechanisms which are discussed to explain these results. Let us look at these one by one (*skip the ones that have already been cited by the interviewee*)

Can one mechanism be...

- *Psychological*
- *Propensity to investment in social capital*
- *Capacity for collective action*
- *State capacity*
- *Polarization of views*
- *Social proximity*

Conceptualization of organized crime groups

In the pilot phase, interviewees were asked about their thoughts on the governance and territorial control of the organized crime groups in different areas of Italy.

As it was too confusing, in the interview phase the following online [questionnaire](#) was administered to them, as based on Lessing (2020) conceptualization of criminal governance.

History of organized crime groups

In the pilot phase, interviewees were asked about historical events that could have changed the presence of organized crime groups in Italy, in the search of a natural experiment. As the answers reached an immediate saturation point (e.g. the usual known facts about organized crime groups expansion in Italy), it was decided not to proceed in asking these questions in the interviews.

Genoa

If the interviewee had any work or research experience on Genoa, there was this short addendum to the interview

1.7. In which form there is organized crime group in Genoa?

After interviewee answer, prompt the interviewee presenting three facts: (i) 'Ndrangheta "locale" in Genoa because of Genoa's port as 1st importer of cocaine in Europe as certified by the DIA (2019), (ii) Cosa Nostra assets seized in 2017 in the Vicoli, and (iii) Maghreb/SSA and Latin American gangs in the Vicoli.

1.8. How should we interpret these three facts? Is there a real structured organized crime groups presence in Genoa or not?

1.9. From anecdotal evidence, it seems that the two neighbourhoods *Prè* and *Maddalena*, while very similar in terms of organized crime groups presence, show two strikingly different social capital "expressions", why do you think is that?

Concluding remarks

- 1.10. Imagine you were the mayor of a city in Italy plagued by the presence of organized crime groups, what would you do to crowd out organized crime groups presence?

COMMUNITY LEADER INTERVIEW QUESTIONNAIRE

Community leaders include

- Members of residents' associations
- CSO volunteers
- Business owners
- Local politicians

Duration: 60 minutes

Format: In person one-to-one interview

Background of interviewees

- 1.1. Age of the interviewee
- 1.2. Education title
- 1.3. Job title
- 1.4. Where does the interviewee live specifically – street and neighbourhood

Social capital of the area

- 1.5. What are the main social activities in the area?
- 1.6. What are the main themes of these social activities (e.g. street maintenance, local politics, crime)?
- 1.7. What do you think motivates these people to invest in social capital/social life in the area?
- 1.8. Have these social activities been declining or increasing in the past 5 years?

Social capital of the individual

Let's dig in your social capital.

In which ways do you...

- 1.8.1. Engage in the community life
 - 1.8.1.1. Political participation
 - 1.8.1.2. Civic engagement

What is your level of...

- 1.8.2. Trust
 - 1.8.2.1. Institutional trust
 - 1.8.2.2. Interpersonal trust

1.9. Most recently have you invested/divested in social capital? Why did you invest/divest in social capital?

Organized crime groups in the Vicoli of Genoa

1.10. Would you say that criminality in the area is (i) none, (ii) a little, (iii) a lot, (iv) very much

1.11. Can you describe me the types of organized crime groups you observe in the area where you live?

1.11.1. Foreign organized crime groups?

Impel interviewee with information on their presence, has she noticed it?

1.11.2. Mafia groups with only business functions?

Impel interviewee with information on their presence, has she noticed it?

1.11.3. Mafia groups with business and territorial functions?

Impel interviewee with information on their presence, has she noticed it?

1.12. What do you think these organized crime groups do in the area?

1.13. How do these organized crime groups engage with the people living in the area?

1.14. Are there specific people within the population (some youth, some people from a certain background) who are close to the crime groups?

1.15. Are these people (who are not necessarily members of the crime groups) more difficult to approach, or less involved in the social activities of the area?

1.16. Do these people display an admiration for the crime groups, have popular cultures that celebrate them, dress like them, talk like them?

1.17. Are you exposed to organized crime groups daily, weekly or monthly?

1.18. How do these organized crime groups engage with you specifically?

To what extent and how the exposure to organized crime groups affects social capital

If talking to individual with historic knowledge

1.19. What has changed since the arrival of organized crime in the area?

1.20. Would you like to tell me about that?

1.21. How did it feel?

If talking to individual without historic knowledge

1.22. When was the 1st time you have been exposed to this type of organized crime group?

1.23. Would you like to tell me about that?

1.24. How did it feel?

1.25. To what extent and how organized crime group presence has changed the social capital of the community in terms of (i) political participation and civic engagement in the **community life** and the (ii) level of institutional and interpersonal trust? Why?
If there was not a convincing answer, the community was 'disaggregated', and the interviewee was asked about specific social groups within the community (e.g. the youth, people from a certain area...)

1.26. To what extent and how this exposure has changed **your** institutional and non-institutional engagement in the community life? Why?
Tailored question to the specific social capital activity of the interviewee
The respondent's organisation has to adapt/beware of these organized crime groups?
Have your activities been shaped in any way by the presence of these groups? Also social life (bars, markets...)

1.27. To what extent and how this exposure has changed your level of trust (institutional and interpersonal trust)? Why?

Concluding remarks

1.28. Imagine you were the mayor of Genoa, what would you do to crowd out organized crime groups presence?

Qualitative analysis - Thanks to the specialists' interviews I had a shortlisted number of mechanisms to test. I have selected deductive coding where predefined coding categories exist. I have then analysed thematically the content of the transcript and associated the parts of the text with a pre-defined list of codes representing the mechanisms tested (Creswell and Creswell, 1994; Saldaña, 2009). In addition, in a more inductive way, the new mechanisms which were not hypothesised, but that emerged from the transcripts, were coded too. While I have tested mechanisms from a predefined list, I have transparently added any additional mechanism linking organized crime group presence to social capital that had aroused from the interviews. To ensure this, I have kept a research diary to reflect upon how the list of mechanisms has changed in time, which is available upon request. I have presented online, in the hyperlinks in Table 17, all the anonymized transcripts to give the reader the full context. Finally, I have a document outlining the codes I have used and my explanation on why I have coded parts of the transcript in that specific way which is also available upon request.

For the key informant interviews with the community leaders, thanks to the presence of all the three different type of organized crime groups in Genoa, I initially attempted at coding the transcripts differentiating between (i) individuals exposed to Mafia groups with territorial and business functions, (ii) individuals exposed to Mafia groups with business functions and (iii) individuals exposed to foreign organized crime groups. An interesting immediate finding was that the individuals exposed to organized crime groups have great difficulties in separating out the effect of each group and that in their mind they see organized crime group as a unique entity. I then did not attempt at dividing the codes by groups of exposure.

I have used the software Nvivo 12.

Sampling - The selection of the participants happened in two stages. Firstly, I have mapped out and recorded the names of the key contacts. In the first cycle, interviewees were

contacted based on their reputation in the field, while in the second cycle these were recruited through recommendations by the author's network. Secondly, I have contacted them via email (the community leaders were contacted first by a known third person in common) to set up an appointment. The sampling for the second cycle has followed a snowball method until reaching the saturation point.

Access - In doing key informant interviews I had to ask myself whether I actually managed to identify the right informants when some of the more 'important' ones may not want to be known to me. This debate come from the qualitative literature, especially the elite interviews one, which questions how to study groups that don't want to be studied and how to ensure that my informants were not 'outsiders' with whom I would have little scope in testing the mechanisms on. My approach through contacts was not only inevitable (for lack of anything to offer in exchange of the interview), but preferable. Conducting key informant interviews in the historic city centre was feasible because of two reasons: (1) I had already an existing network to start with, being born and raised in Genoa and (2) the area is concentrated in few streets and it was then very easy to map the nodal individuals in the network of community leaders to interview, the so called gate-keepers.

Ethics - I have interviewed a sub sample of the Italian civic society that has either lived in areas with high presence of organized crime groups (for example community leaders), or that has fought it for their entire life (for example prosecutors). In asking questions on the impact of organized crime groups on social capital, I was expecting all these participants to recall and relate to something they either heard, read about, or even experienced themselves. This could have an impact during the interview on their sense of (i) safety, (ii) relaxedness, and (iii) self-confidence. There are two things I considered

to counter-weight this: the context of the interview and how I approached them. In terms of the context, discussing the effect of organized crime group presence on social capital with locals, in a high organized crime group presence area, it is not ethically acceptable. My qualitative research did not entail physically visiting areas with high organized crime group presence in the search of people to talk to. In the first round of interviews, I have contacted the experts and spoke to them via Zoom. In the second round of interviews, I always have been put in contact by a commonly known third person to the community leader, and if the latter had an office, I visited them there, otherwise I talked to them by phone or outside of the area with organized crime presence. I have not conducted interviews in the area with high presence of organized crime groups open in the public. In terms of approaching them, I have sent them beforehand an information sheet with an outline of the interview and information on who I was, how long they could expect the interview to last and what was the purpose of the interview. In addition I have asked them to sign a consent form attached to the email which also signalled to them that whenever they preferred - during or after the interview - they could withdraw from it, review the transcript and modified their answers. Finally, and most importantly, all interviewees were assured of complete anonymity. I have erased from the transcripts the name of the interviewee, the specific name of the location of the interview, the exact date of the interview, the specific age and specific job category.

Which Voice and standpoint - The purpose of the interview - in its key informant setting - by nature empower the respondents and leaves them the possibility to answer my questions by telling their stories. Nonetheless, I have questioned myself on which voice I heard. In particular with the public figures such as the academics or the prosecutors, the story I heard was their own stories, or was the story that their ideology or preconceived ideas is telling and is then repeated during the interview?

In addition, I needed to consider the standpoint from which they were talking to me.

In another example, is the interviewee speaking to me as, say, a community leader, or as a mother or father who are victims of the organized crime presence? As theorized by Derrida (1967) and explained in the ethnographic work on crime groups in Genoa by Dal Lago and Quadrelli (2003, p.21) I was not hearing the interviewees' 'original voice', but voices I have activated myself when starting the interview. I have asked myself whether the voices I heard were truthful. As Dal Lago and Quadrelli (2003, p.24) argue, even if the voices are not truthful, I had captured their representation of the world, which is equally important to the objective truth.

Positionality - The issue of my perceived position during the interview varied for the two rounds of interviews. For the first round of interview, the greatest threat I had was to be perceived as a researcher looking for *cliché* answers on the effects of the organized crime groups. The only possible way to counterweight it was to arrive as prepared as possible to the interview, where the use of jargon, the exact memory of a Mafia trial date, recalling the name of a member of a Mafia family, could boost my chances of being taken seriously. For the second cycle of interview, I had the luck of being perceived as a local, as I have lived and studied for 20 years in Genoa. Nonetheless, another risk might have arisen. While I spoke to people that had a certain experience in public-speaking, they might have never had to answer in front of a microphone to a person from academia from a University in UK. I took this into consideration while reviewing the transcripts.