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Tough on criminal wealth? Exploring the link between organized crime's asset confiscation and regional entrepreneurship

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Abstract This paper addresses the question "How does the fight against organized crime affect regional entrepreneurship?" We focus on asset confiscation in relation to alleged connections of their owners with organized crime, a highly debated policy measure against organized crime. Extending work on institutions and regional entrepreneurship, we propose that confiscation has contrasting effects on regional entries. On the one hand, confiscation of economic assets associated with criminal organizations' legitimate activities in a region reduces competition and triggers renewal, fostering new entries. On the other hand, seizure of criminal organizations' operational assets weakens their ability to exercise sovereignty, creating an institutional vacuum that lowers founding rates. Our results, based on a longitudinal study of Italian provinces between 2009 and 2013, provide support for both hypotheses. We also find that the negative effect associated with the confiscation of operational assets is mitigated when local governments have policies facilitating asset redeployment.

Keywords Regional entrepreneurship · Founding rates · Organized crime · Confiscation · Institutions

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> "*we have been hit hard…*
> *if they [the law enforcement agencies] go on so, they will not only arrest all of us but even our chairs*"
> *Francesco Messina Denaro, in a pizzino (secret message) to*
> *Bernardo Provenzano, head of the Sicilian mafia*

1 Introduction

Organized crime nowadays plays a prominent role in a variety of illicit and legal markets. Organized crime manages illicit businesses such as drugs, firearms, counterfeiting, cargo theft, human trafficking, illegal gambling, extortion, racketeering, and usury (Raab and Milward 2003). Illicit markets' value amounts to 2.1 trillion USD, approximately 3.6% of the world's gross domestic product (GDP) (Mitchell 2012). Criminal organizations also reinvest their proceeds in legal markets, carrying out legitimate activities and networking with existing market players (Anderson 1979; Arlacchi 2007). Cross-country reports covering Italy, France, the UK, the Netherlands, and Spain have highlighted substantial criminal investments in sectors as diverse as construction, retail, energy, banking, waste and scrap management, and agriculture (Transcrime 2015).

Despite the pervasive influence of organized crime groups in markets, institutional responses to organized

crime infiltrations have often proved fruitless (Mitchell 2012; Vaccaro and Palazzo 2015). Criminal organizations can be so entrenched that the practices they impose are perceived as beneficial by market players (Pinotti 2015). In Sicily (Italy), workers and unions reacted against the decision to seize assets worth 700 million from Giuseppe Grigoli, founder of 6Gdo Srl, a retail chain employing about 500 employees and encompassing 12 companies, 220 real estate assets, and 60 ha of land (Galullo 2013). Despite evidence regarding Grigoli's connections to Matteo Messina Denaro, the current head of the Sicilian Mafia, employees and unions challenged the confiscation because the business was "well run." Such conviction is backed by statistics showing that 85% of the companies seized from criminal organizations do not survive the confiscation (Dell'Olio 2014).

This paper aims to shed light on some of the economic consequences of institutional responses to organized crime infiltration in markets. We ask the following question: *How does the fight against organized crime affect entrepreneurial entries in a region?* We focus on asset confiscation in relation to alleged connections of their owners with organized crime, a debated policy tool to fight organized crime activities (Ryder 2013). Prior research has explained heterogeneity in regional entrepreneurship rates based on the quality of national and local institutions (Williamson 2000; Fritsch and Storey 2014; Turok et al. 2017). For example, research shows that regional entry rates increase when policies foster knowledge transfer, human capital development, and entrepreneurial orientation (Davidsson and Henrekson 2002; Acs and Szerb 2007; Caliendo and Künn 2014). Dilli et al. (2017) theoretically and empirically derive four different institutional constellations that can explain differences in entrepreneurship types between regions. While this stream of research contributed to our understanding of how institutions channel society's financial resources, knowledge, and talent to productive entrepreneurship, we still have a limited understanding of policies aimed at reducing the allocation of resources to unproductive or destructive forms entrepreneurship, such as the control of organized crime.

To advance in this direction, we propose that organized crime fulfill two roles within regions, entailing opposing effects on regional entries. On the one hand, organized crime groups act as business players, investing the proceeds obtained from illicit activities in legal markets and competing with prospective entrepreneurs (Becker 1968; Arlacchi 2007). Confiscation of economic assets—the assets associated to the business activities of criminal organizations, such as their financial investments or firms—improves market conditions and triggers processes of creative destruction (Pe'er and Vertinsky 2008) that foster new entries. On the other hand, organized crime can facilitate social and economic exchange in the absence of a well-functioning state (Blok 1975; Gambetta 1993; Varese 2001). Consistent with the view that the institutional framework within which an activity is performed often determines whether this activity is productive, unproductive, or destructive (Douhan and Henrekson 2010: 630), organized crime may provide services—protection and rule enforcement through violence—that can enhance the workings of beneficial, but poorly implemented institutions. Confiscation of operational assets—assets they use to exercise sovereignty and enforce order, such as the apartments and vehicles belonging to affiliated families—increases the uncertainty associated with economic transactions, thereby lowering entry rates.

Empirical evidence concerning the effect of confiscation on entry is based on unique data regarding the assets confiscated from organized crime groups in Italy between 2009 and 2013. The context is apt to study the effect of initiatives against organized crime and entrepreneurship for two reasons. First, Italy's main crime groups—Cosa Nostra, 'Ndrangheta, and Camorra—have a pervasive influence on the context where entrepreneurs operate, with interests estimated at around 10.7 billion euros (Calderoni 2014). Second, Italy has gradually strengthened the regulation against organized crime, with legislation favoring the preventive confiscation of criminal assets and their reuse for societal purposes. Detailed data on the enforcement of such legislation help us empirically validate the link between confiscation and regional entrepreneurship, and draw important conclusions for research and policy that support the entrepreneurial society.

2 Theory and hypotheses

2.1 Entrepreneurship in the regional context

A core question in entrepreneurship is what conditions explain variation in regional rates of entrepreneurial activity, as measured by the number of self-employed individuals or the rate of new firm formation (Reynolds

et al. 1994; Acs and Storey 2004). Interest in this direction was stimulated by evidence linking the creation of new businesses to employment growth, increased productivity, and economic growth (Fritsch 1997; Acs and Szerb 2007). At the micro level, research on the determinants of regional entrepreneurship juxtaposed the spatial context with the personality traits of business founders (Zhao et al. 2010), their networks (Saxenian 1996), and the degree of acceptance of self-employment within their regions (Kibler et al. 2014). At a macro level, heterogeneity in entrepreneurship rates has been linked to the quality of institutions (Turok et al. 2017).

Institutional factors have been broadly defined, and span multiple levels of inquiry (North 1990). Common to work in this tradition is the idea that markets are embedded within broader social systems, which enable and constrain the decisions of economic actors therein. Williamson (2000: 597) identified four distinct levels of institutions, ranging from macro aspects (customs, traditions, informal norms, culture, and religion) to environmental conditions (type and functioning of the judiciary system, bureaucratic levels) to meso- and micro-level factors affecting how daily economic transactions unfold, such as governance structures, contracts, and incentive systems. Empirical studies indicate that variation in regional founding rates might stem from heterogeneity in institutional factors that foster productive entrepreneurship at each of the abovementioned levels (see Fritsch and Storey 2014, for a review). For example, Nifo et al. (2017) demonstrate that the quality of regional institutions, proxied by an index combining corruption control, government effectiveness, regulatory quality, the rule of law, and voice and accountability, shape the choice of post-secondary education in Italy. Bad institutions encourage rent-seeking career paths and discourage the pursuit of technical and scientific studies, typically associated with productive entrepreneurship. Along these lines, Boudreaux et al. (2017) show that increased corruption shifts entrepreneurial activity towards constructions and away from educational, scientific, and technical ventures.

This paper extends this line of research on institutions and regional entrepreneurship, by placing a unique emphasis on the fight against organized crime, which received thus far scant attention. Elaborating on the mixed evidence concerning the effect of corruption on entrepreneurship (Sobel 2008; Dutta and Sobel 2016), we advance two contrasting arguments. From a market perspective, prior studies suggest that the pursuit of an entrepreneurial opportunity depends on the "portion of the value that the venture creates that the entrepreneur can capture for their own purpose" (Baumol 1990; Baker et al. 2005: 497; Bowen and De Clercq 2008). In regions with substantial organized crime infiltrations, the entrepreneur confronts greater uncertainty regarding the extent to which entrepreneurial rents can be appropriated. He also faces competition from firms connected to criminal organizations. In such conditions, economic actors are less likely to engage in productive entrepreneurship—venture creation and investment in physical, intellectual, and social capital. By contrast, strict policies against organized crime reduce the payoff associated with unproductive entrepreneurship and increase the share of the value that the entrepreneur expects to appropriate from a venture. In this perspective, a stricter enforcement of asset confiscation can have a positive direct effect on entry rates.

Alternative perspectives, however, suggest that the effect of policies against organized crime on regional entrepreneurship might be more convoluted (Elert and Henrekson 2017). A key assumption in the argument above is that legitimate institutions—the state, or local governments—can provide superior governance quality than private-order institutions. In other words, policies against organized crime result in increased productive entrepreneurship only insofar as the state can provide a speedy and balanced judicial system, intellectual property rights and contract enforcement, and effective transfer of economic wealth through taxation and regulation. Some studies suggest that this assumption can be challenged (Grossman and Kim 1995; Hirshleifer 2001; Dixit 2007). Leeson's (2007a, b) empirical investigation of Somalia indicates that when governments act in a predatory fashion, they may not only fail to increase social welfare but can even reduce it below its level under statelessness. Along these lines, the Sicilian and Russian Mafia emerged in contexts where the local authorities could not guarantee contract enforcement and ensure property rights (Bandiera 2003). In Japan in August–September 1945, after the government collapse and before the US forces restored order, the Yakuza, the Japanese mafia, played a major role in getting markets restarted (Dower 1999; Whiting 1999: 10–11). Private-order institutions facilitate social and economic exchange in the absence of a well-functioning state (Blok 1975; Gambetta 1993; Varese 2001). In selected situations, organized crime may represent "an entrepreneurial response to inefficiencies in

the property rights and enforcement framework supplied by the state" (Milhaupt and West 2000: 43). Weakening organized crime in these contexts creates an institutional vacuum that hurt founding rates in a region. In what follows, we advance a more nuanced account of the link between policies against organized crime and regional entrepreneurship reflecting both perspectives.

2.2 Asset confiscation and regional entrepreneurship

Institutional responses to organized crime activities, such as legal persecution and the freezing, seizure, or confiscation of assets resulting from organized crime activities, have been increasingly adopted in several countries. As the EU Action Plan to combat organized crime of April 1997 states, "The European Council stresses the importance for each Member State of having well-developed legislation in the field of confiscation of the proceeds from crime."[1] The keystone of the fight against organized crime in Europe is the EU Directive on "Freezing and confiscation of proceeds of crime" (2014/42/EU). Hailed as a breakthrough, the legislation provided principles for the disposal and management of assets which "…derive directly or indirectly from a criminal offense, including any form of property and any subsequent reinvestment or transformation of direct proceeds and any valuable benefits." Asset confiscation counters organized crime's interests by limiting the gains resulting from their activities (Jamieson 1999; Paoli 2007). However, the consequences of confiscation for the assets themselves, and for the regions where they are located, remain contested (Caramazza 2014).

In line with the previous section, we suggest that the effect of confiscation on regional entrepreneurship depends on the type of assets involved. Confiscated assets include properties used by members of organized crime groups to carry out their illicit activities (e.g., territorial control, private protection, and extortion), such as real estate, land or vehicles—which we label *operational* assets—and *economic* assets—savings, financial products, and company shares, resulting from market investments of organized crime groups. These types of assets vary in their end use and the ease of redeployment. Operational assets are primarily used to exercise criminal sovereignty in a region through intimidation, while economic assets are deployed towards legitimate business objectives, and their connection to their criminal owners is less visible. Operational assets are tailored to the needs of their criminal owners: they are designed to serve illegal purposes and hard to be deployed. By contrast, financial resources or equity shares in companies are, to some extent, easier to convert or transfer.

These distinctions help understand the different consequences that confiscation of economic and operational assets entails. When organized crime operates in legitimate businesses, local entrepreneurs compete for resources in regional markets with firms financed by or connected to organized crime. As suggested by prior studies (Arlacchi 2007; Bonaccorsi di Patti 2009; Lo Bello 2011), businesses infiltrated by organized crime groups have certain competitive advantages compared to legal ones: they operate in quasi-monopolies or oligopolies, they incur lower labor costs, they have easier access to capital, and they are more skilled at rent-seeking market behaviors, such as bargaining on tax and social security contributions and work negotiations. Prospective entrants confronting such competitors face more challenging business conditions and a higher risk that their venture will be unsuccessful. Confiscation of economic assets in regional markets, by way of seizure of established players connected to organized crime, or stalling financial flows, reduces the competitive disadvantage of new ventures and triggers conditions that are favorable for entrants, such as intermediate levels of concentration (Caves and Porter 1977). Confiscation also allows the reallocation of existing resources or demands to new legitimate players. The conjecture is consistent with recent research in strategy and industrial organization, which shows that the exit of dominant players from regional markets disrupts local networks and challenges competitive dynamics in the region. This, in turn, creates conditions for resource redeployment and innovative pathways for new entrants (Pe'er and Vertinsky 2008; Lieberman et al. 2017).

When confiscation targets operational assets used by organized crime to control their territory and provide governance, its effect is less straightforward. Organized crime groups act as monopolists in the provision of protection over an allocated territory, defined by geography and by the type of activity being protected (Gambetta 1993). Even though criminal organizations do so by exercising coercion and threat, extorting payments for the services they provide (Vaccaro 2012), their intervention might facilitate social and economic exchanges when the state is incapable of upholding law and order (Greif et al. 1994; Dixit 2007). In such

[1] 1997 Council Action Plan, Political Guideline No. 11

Hobbesian situations, organized crime can stabilize and make the market environment of productive activities more predictable (Douhan and Henrekson 2010). Weakening governance provided by private-order institutions through confiscation of operational assets might engender uncertainty that can reduce founding rates. The negative effect of operational asset confiscation might, to some extent, be compensated by an improvement of the business conditions or resource redeployment. However, these effects are not going to be reckonable in the short term: significant investments are needed to redeploy highly specific assets to legal ends. Similarly, economic asset confiscation can also trigger some institutional uncertainty. Yet, the destabilizing effect is minor, given that economic assets are not visibly connected to organized crime, or used to exercise sovereignty. Thus, we hypothesize that the following:

> *H1a: The enforcement of confiscation orders targeting organized crime's economic assets in a region is positively related to the number of entrepreneurial entries therein.*
> *H1b: The enforcement of confiscation orders targeting organized crime's operational assets in a region is negatively related to the number of entrepreneurial entries therein.*

In developing our first set of hypotheses, we argued that the key reason underlying the negative effect of operational asset confiscation on entry is the institutional void following the visible contestation of organized crime's sovereignty on a territory. Such a conclusion leaves unanswered the question of what local institutions can do to fill this void. We use the term *local institutional responsiveness* to label the capacity of institutions to handle the asset confiscation process and the uncertainty triggered by confiscation. Local institutional responsiveness relates to existing constructs in the literature on institutions and entrepreneurship, such as the rule of law, regulatory quality, or corruption control (Dilli et al. 2017; Nifo et al. 2017). However, it differs in two important respects. First, it has an exclusive focus on receptiveness to organized crime, as opposed to rule enforcement in general. It proxies the priority granted to the fight against organized crime by local governments. Several regions characterized by high regulatory quality or the rule of law have a normative system that is unapt to respond to organized crime activities (Germany in the European context, or Tuscany in Italy). Second, responsiveness typically entails concrete, operational acts of sovereignty, rather than appealing to broad principles. For example, it assesses local institutions' capacity to handle the legal practices related to operational asset confiscation, to finance asset refurbishment, to reduce credit uncertainty, to increase presence and governance on the territory, or to reduce uncertainty in the redeployment process. We argue that such provisions can contribute to filling the institutional voids and favor resource redeployment, reducing the negative effect of operational asset confiscation:

> *H2: The responsiveness of local institutions reduces the negative effect of confiscation orders targeting organized crime's operational assets in a region on entrepreneurial entries.*

3 Context, data, and methods

3.1 Organized crime and asset confiscation in Italy

Organized crime can be defined as "any long-term arrangement between multiple criminals that requires coordination and involves agreements that, owing to their illicit status, cannot be enforced by the state" (Leeson 2007a, b: 1052). In Italy, the main criminal groups qualify as mafia-type criminal organizations. Mafia-type criminal organizations combine four features: (i) a strong territorial control; (ii) maintained through the deployment of clienteles; (iii) the deliberate and targeted exercise of violence; (iv) and sustained through political connections and involvement in the economic activities (Dalla Chiesa 2012). Italy's main crime groups—Cosa Nostra, 'Ndrangheta, and Camorra—have a pervasive impact on regional economies. Two other Italian regions, Puglia and Basilicata, also saw the presence of two criminal organizations since the 1970s, the Basilischi and the Sacra Corona Unita (Pinotti 2015).

Since 1982, Italy has strengthened its legal provisions against organized crime. In September 1982, the Parliament approved the "Rognoni—La Torre" Law (L646/82), named after the backers of the proposals. This ground-breaking bill made two changes to the Italian Criminal Code. First, it classified *membership* of a mafia-type organization, defined as a "stable association that exploits the power of intimidation granted by the membership in the organization and the condition

of subjugation and silence deriving from it to commit crimes and control economic activities, concessions, authorizations, and public contracts," as a crime independent of other criminal acts. Second, the bill allowed the confiscation of assets of individuals belonging to criminal groups, or to their relatives who played a cover-up role for the criminal organization. To make law enforcement effective, the Rognoni—La Torre Law granted the judiciary full access to bank records to follow money trails. The last paragraph of Article 416-bis of the Italian Criminal Code (mafia-type association) explicitly states: "the provisions above also apply to the camorra, the 'ndrangheta and other associations, however known or called, even foreign, which use the intimidatory power of the group to achieve the goals typical of a mafia-type association." The bill was complemented by later additions, which broadened the scope of applicability of confiscation and the list of crimes leading to seizure and confiscation proceedings (L356/1992). In 1996, a new law (L109/96) prescribed the disposal of confiscated assets for societal purposes. The "National Agency for the Management and use of the Assets Seized and Confiscated from Organized Crime" (henceforth ANBSC) was established in Reggio Calabria (Law 50/2010), with the mandate to track all instances of confiscation and favor redeployment.

The Italian framework is one of the most advanced regulatory systems against organized crime. The distinctive features of the confiscation process can be summarized as follows (Fraschini and Putaturo 2013). The assets of suspects belonging to mafia-related groups, of having committed related offenses, or living off proceeds from organized crime are scrutinized by the competent tribunal and can be targeted for confiscation, even in the absence of evidence that proves a nexus between organized crime and the accused. Such measures can extend to family members and partners whose properties can be accessed and disposed of by the suspect. A panel of three judges scrutinizes the prosecutor's request. If the request is deemed legitimate, the asset goes to a *preventive* judiciary administration. The decision can be appealed if the asset owners feel their rights have been breached. If the decision is confirmed in court, the assets go under first-degree confiscation and are jointly managed by a judiciary administrator and the ANBSC. The decision can be appealed once more, in front of the Court of Appeal, subject to reversal or confirmation (second-degree confiscation). If confirmed, the asset ownership is officially transferred to the State. The asset must be formally assigned to a new owner (State bodies, local governments, municipalities, social enterprises) located in the region where the originating offenses occurred, and must be used for societal purposes. The logic underlying the co-location clause is that confiscation compensates the original damage inflicted on the community.

The process described above differs from similar procedures in Europe and the USA in three ways.[2] First, in the Italian framework, seizure can be enforced before official ruling (preventive confiscation). Right after the first decision, the assets cannot be accessed by the original owner unless the order is reverted, even if he has not been officially convicted of organized related crimes. As a result, confiscation has *immediate* consequences on the extent to which organized crime groups can exercise territorial sovereignty. Second, while in most countries the prosecutor needs to prove that the property results from organized crime activity, in the Italian framework, it is up to the convicted individual to show that the seized property results from legitimate activities rather than from criminal activities. This aspect makes a reversal of decisions less likely. As illustrated by Paoli (2007), using quantitative data and qualitative evidence resulting from investigations, mafia defectors' statements, and secret messages written by high-ranked bosses of the Sicilian Cosa Nostra, such practice increases the *effectiveness* of confiscation provisions. Third, while the regulatory framework against organized crime applies at the national level, its enforcement depends to a significant extent on local level factors.[3] One important factor is the extent to which local institutions effectively handle the uncertainty related to the confiscation process. During field interviews, informants suggested that the responsiveness of local institutions can be proxied by the presence of dedicated dispositions in regional laws. Such norms facilitate asset recovery and speed up the rebuilding of state governance. Fourteen of the 20 Italian regions passed at least one relevant provision on the topic; five regions have more than one. About 65% of these bills were approved

[2] The Italian system has no direct equivalent in any other country. The closest reference points are the Racketeer Influenced and Corrupt Organizations Act (commonly known as RICO) in the USA, a federal law that provides for extended criminal penalties for acts performed as part of an ongoing criminal organization.

[3] Italy combines centralized lawmaking on general matters with decentralization at the regional level of a number of areas, such as tourism, public procurement, healthcare, and security. Each region can produce legislation that allows a better implementation of national laws.

between 2008 and 2013. We use the number of regional legislations concerning the management of the confiscation process as a proxy for Local Institutional Responsiveness. Examples of such legislations are provided in Table A1 (Online Resource).

3.2 Data, methods, and variables

Our study is based on data on asset confiscation orders reported by the ANBSC from 2009 and 2013 to the Italian Senate. This source reports the exact location of the seized asset and timeline associated with each confiscation event. The unit of analysis of our study is the province-administrative units at an intermediate level between a region and a municipality. One hundred hree provinces existed in Italy in the period of reference, nested in 20 regions. We enhanced our understanding of the context and improved our quantitative analyses by conducting nine field interviews with volunteers of an anti-mafia NGO, prosecutors, legislators, and experts.

Table 1 summarizes the definitions of the variables and data sources used in this study. Our dependent variable is Entrepreneurial Entries—the number of new firms established in each Italian province in each year. Our key independent variable is the total count by type of assets confiscated in each Italian province in each year. We track the number of *Operational Assets*, such as movable and immovable property (e.g., real estate, motor vehicles, and motorcycles) and the number of *Economic Assets*,[4] such as companies and financial assets (e.g., shares and bonds) subject to confiscation. We use the number of dedicated regional legislation with provisions aimed at reducing uncertainty in the confiscation process and facilitating the redeployment of confiscated assets to proxy *Local Institutional Responsiveness.* Based on fieldwork, this measure reflects the scope and depth of regional responsiveness to organized crime.

We control for factors that prior research (e.g., Fritsch and Storey 2014) found to be associated with regional entrepreneurship, such as innovation intensity, immigration rate, prosperity rank, unemployment, population density, and existing business density. Finally, because asset confiscation might be more intense simply due to a higher presence of mafia in a region, we control for the Intensity of Mafia Activity in a region, using a combined index of mafia-related crimes compiled on an annual basis by ISTAT.[5] We also include year fixed effects. We ran a panel regression analysis with province fixed effects and robust standard errors. All independent variables are computed at year $t-1$, while our dependent variable is computed at year t.[6]

4 Results

Table 2 presents the means and correlations. Descriptive statistics highlight that economic assets (e.g., companies and financial assets) are less frequently targeted by confiscation orders (average 2.45 confiscation orders per province per year) than operational assets (14.31 confiscations per province per year). The top ten provinces in terms of asset confiscation are Palermo, Turin, Rome, Catanzaro, Naples, Genoa, Lecce, Bari, Pavia, and Reggio Calabria, against the belief that the mafia operates only in the south of Italy. In terms of value, reports of the ANBSC to the Italian Senate indicate that real estate accounted for 81.5% of the total value of confiscated assets (period 2005–2009) and for 70% of the total value of confiscated asset in the period 2008–2012. Figure 1 illustrates the number of assets confiscated in each province.

Some covariates present high correlations, but the mean variance inflation factor (VIF) score of each model is well below 5. In unreported analyses, we removed the variables with the highest VIF, with no impact on the results.

Table 3 presents our findings. Model 1 indicates that provinces with a larger Business Density and higher Prosperity Rank are associated with higher founding rates. Confirming studies on necessity entrepreneurship, Unemployment is positively related to provincial entrepreneurship. The remaining controls are not significantly related to entrepreneurial entries using a 5% threshold, but their sign is interesting. The Immigration Rate is negatively related to entrepreneurship, signifying the

[4] We reckon that these measures are not perfect. However, field evidence indicates that 60% of the real estate is residential and used by the mafia families to impose control on a territory. In unreported analyses, we treated real estate, financial assets, and companies separately. Results are in line with those presented in this paper. We created two categories, rather than three, because our informants agreed that both companies and financial investment capture organized crime economic interests in legal markets.

[5] We also controlled for mafia presence using the count of municipalities dissolved for mafia infiltrations in a province in a year, using data from the Antimafia Commission. Results remain unchanged.

[6] We also explored different lag structures; however, the study period is short and there is not enough time to observe a medium-run effect.

Table 1 Variables description and data sources

Variable name	Description	Source
Entrepreneurial Entries	Number of new firms registered in a province	Unioncamere
Operational Assets Confiscation	Yearly count of assets classified as movable and immovable property (real estate, motor vehicles, motorcycles, etc.) confiscated in a province	ANBSC
Economic Assets Confiscation	Yearly count of assets classified as financial and enterprise-related confiscated in a province	ANBSC
Local Institutional Responsiveness	Number of regional legislation with dispositions aimed at reducing uncertainty in the confiscation process and facilitating the redeployment of confiscated assets	Regional archives; Avviso Pubblico
Innovation Intensity	Number of EPO patent applications/1000 inhabitants in a province	European Patent Office
Immigration Rate	Percentage of immigrant population in a province	ISTAT
Unemployment	Unemployment rate in a province	ISTAT
Prosperity Rank	Quality ranking of the province quality of life, built on eight different indicators (ranging from GDP per capita to regulatory protection)	Sole24ore
Population Density	Number of inhabitants/squared mt in a province	ISTAT
Business Density	Total number of active firms in a province	Unioncamere
Intensity of Mafia Activity	A combined count of mafia related associative crimes in a region (Extortion, Racketing, Mafia-type Dealings, Drug production, Drug dealing, Drug trafficking)/100,000 inhabitants	ISTAT

propensity of first-generation immigrants to seek positions in existing firms. Innovation Intensity negatively affects entries. This may be because patent applications are filed mostly by large firms in Italy. Such firms typically dominate their markets, leaving no room for de novo entrants.

Models 2–5 introduce our covariates of interest. As predicted by H1a, the effect of *Economic Asset Confiscation* on Entrepreneurial Entries in model 2 is positive and significant ($b_1 = 7.53$, $p < 0.01$). Thus, financial assets and company confiscation increases entry rates in a province. Tackling organized crime business infiltrations turns out to be beneficial for regional economies, as these resources can be redeployed or open up market opportunities that can be exploited by entrants. By contrast, in model 3, the confiscation of co-

Table 2 Means and correlations

		1	2	3	4	5	6	7	8	9	10	11
1	Entrepreneurial Entries	1.00										
2	Operational Assets Confiscation	0.43	1.00									
3	Economic Assets Confiscation	0.43	0.66	1.00								
4	Local Institutional Responsiveness	0.05	0.22	0.22	1.00							
5	Innovation Intensity	0.48	0.04	− 0.01	− 0.29	1.00						
6	Immigration Rate	0.11	− 0.09	− 0.10	− 0.20	0.38	1.00					
7	Unemployment	0.04	0.19	0.18	0.45	− 0.37	− 0.66	1.00				
8	Prosperity Rank	− 0.02	0.14	0.13	0.39	− 0.37	− 0.67	0.68	1.00			
9	Population Density	0.59	0.14	0.11	− 0.04	0.33	0.11	− 0.02	− 0.00	1.00		
10	Business Density	1.00	0.36	0.30	0.05	0.48	0.13	0.02	− 0.05	0.60	1.00	
11	Intensity of Mafia Activity	0.01	0.05	0.08	0.20	− 0.20	− 0.28	0.27	0.29	0.00	− 0.00	1.00
	Mean	3497.41	14.31	2.45	0.68	1.12	6.54	9.91	53.92	258.95	50,058.54	1.85
	SD	4216.03	70.49	15.54	0.79	1.26	3.47	4.85	30.92	366.36	60,973.64	1.21

Correlations above 0.08 are significant at $p < 0.05$

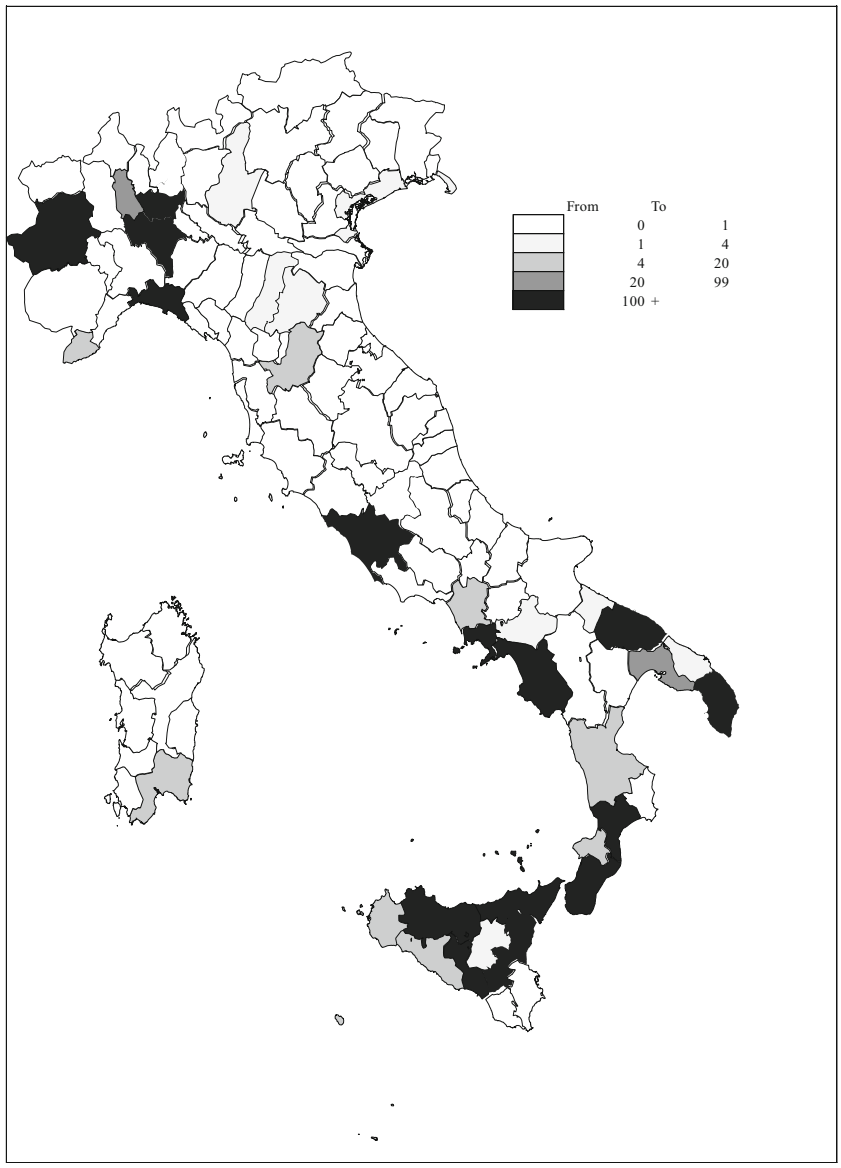

Fig. 1 Geographic distribution of confiscated assets in Italian provinces

specialized *Operational Assets*, such as real estate or specialized machinery, has a negative and significant effect on regional entrepreneurship ($b_2 = -1.20$, $p < 0.01$). In line with H1b, because organized crime uses these assets to provide governance, their confiscation engenders uncertainty and lowers the payoff of productive entrepreneurship. In model 4, we introduce the interaction of *Local Institutional Responsiveness* and *Operational Assets* Confiscation. The effect is positive and significant ($b_3 = 1.02$, $p < 0.05$), in line with the view that operational asset confiscation works only insofar as local governments provide institutional responses aimed at fostering redeployment (H2). Figure 2 provides a graphical representation of the effect of *Operational Asset* confiscation at different levels of *Local Institutional Responsiveness*. Model 5 replicates model 4 but reports standardized beta coefficients to ease result interpretation. One standard deviation (S.D.) increase in the number of Economic Assets confiscated leads to a 0.03 S.D. increase in the number of new registered ventures. One S.D. increase in the number of Operational Assets confiscated leads to a 0.031 S.D. decrease in the number of new registered ventures.

While the fixed-effects models allow us to control for unobservable variables that do not vary over time, we also want to address other forms of endogeneity. For

Table 3 Fixed-effect panel regression predicting entrepreneurial entries in Italian provinces

	Fixed-effects panel regression										GMM IV			
	Model 1		Model 2		Model 3		Model 4		Model 5		Model 6		Model 7	
	Coef.	SE	Coef.	SE	Coef.	SE	Coef.	SE	Coef.	SE	Coef.	SE	Coef.	SE
Economic Assets Confiscation			7.53**	(1.66)	9.74**	(1.39)	7.73**	(1.48)	0.03**	(0.01)	13.79**	(2.96)	15.74*	(7.60)
Operational Assets Confiscation					− 1.20**	(0.28)	− 2.42**	(0.49)	− 0.03**	(0.00)	− 2.40**	(0.66)	− 4.27**	(1.13)
Operational Assets Confiscation × Local Institutional Responsiveness							1.02*	(0.40)	0.01*	(0.01)	0.98	(0.51)	2.00*	(0.92)
Local Institutional Responsiveness	65.25	(58.09)	42.91	(48.81)	30.91	(48.52)	13.52	(46.25)	0.01	(0.01)	11.90	(89.85)	− 8.19	(79.22)
Innovation Intensity	− 47.99	(28.44)	− 32.43	(19.15)	− 36.70*	(15.19)	− 42.40**	(15.68)	− 0.01**	(0.00)	36.33	(22.03)	21.49	(54.10)
Immigration Rate	− 123.16	(62.38)	− 104.98	(59.43)	− 127.37*	(57.47)	− 122.00*	(57.60)	− 0.10*	(0.05)	− 240.28**	(71.54)	− 367.31*	(150.74)
Unemployment	18.47	(9.38)	17.34*	(7.62)	17.03*	(7.79)	16.87*	(8.32)	0.02*	(0.01)	3.68	(17.65)	25.67	(18.35)
Prosperity Rank	3.09*	(1.32)	3.30*	(1.29)	2.95**	(1.11)	2.96**	(1.10)	0.02**	(0.01)	7.99**	(2.77)	5.42	(3.00)
Population Density	2.19	(6.64)	7.40	(5.57)	8.82	(5.69)	8.57	(5.56)	0.75	(0.49)	15.86	(20.20)	16.16	(11.00)
Business Density	0.05**	(0.02)	0.09**	(0.02)	0.09**	(0.02)	0.08**	(0.02)	1.21**	(0.29)	0.15**	(0.03)	0.14**	(0.03)
Intensity of Mafia Activity	− 10.54	(12.66)	− 7.18	(13.00)	− 7.51	(13.03)	− 4.99	(13.12)	−0.00	(0.00)	18.51	(27.46)	34.46	(29.08)
Lagged dependent variable (t − 1)											−0.50**	(0.11)	−0.79**	(0.14)
Lagged dependent variable (t − 2)													−0.73*	(0.32)
Province fixed effects	Y		Y		Y		Y		Y					
Year fixed effects	Y		Y		Y		Y		Y					
Constant	911.25	(2061.15)	− 2248.65	(1848.33)	− 2529.29	(1835.02)	− 2150.56	(1922.15)	0.06**	(0.02)	−5197.54	(4279.76)	−633.74	(3484.45)
Observations	412		412		412		412		412		412		309	
R-squared (within)	0.26		0.33		0.38		0.39		0.39					
Number of provinces	103		103		103		103		103		103		103	
Robust standard errors in parentheses														

*$p < 0.05$; **$p < 0.01$

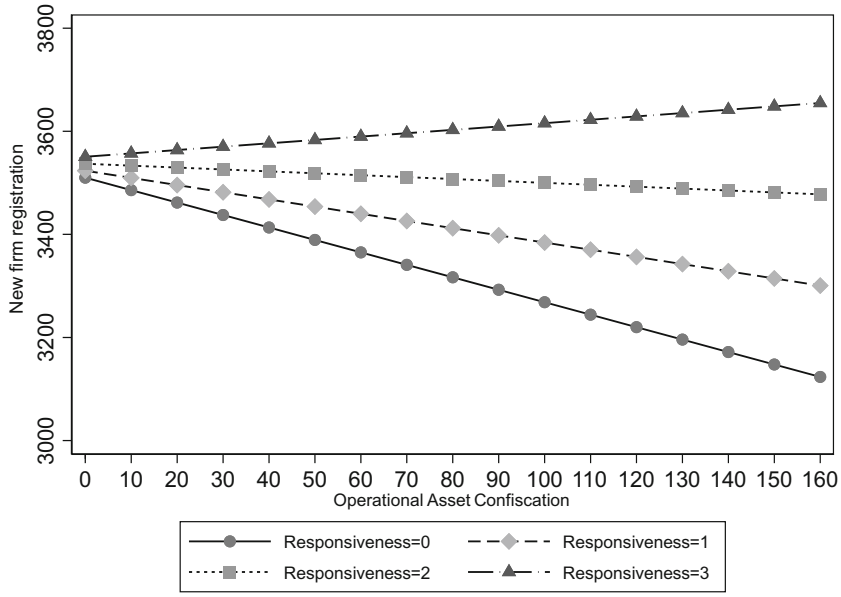

Fig. 2 The effect of Operational Asset Confiscation on Founding Rates in Italian Provinces at different degrees of Local Institutional Responsiveness

example, regions might have some unobserved time-varying endowments that make them better at enforcing anti-organized crime laws and at the same time creating good conditions for doing business. Econometrically, this means that our independent and control variables may be correlated with the error term of the dependent variable, which might bias the regression's coefficients, its standard errors, or both. To test whether this problem affects our results, we employed a one-step Arellano-Bond GMM system estimator for linear dynamic panel-data models (Arellano and Bond 1991; Blundell and Bond 1998). The system GMM estimator exploits the fact that time-varying unobservable variables affecting both the endogenous variables and entrepreneurship will be correlated with their lagged values. This is because lags both correlate with the current manifestations of the endogenous variables, and affect the dependent variable only through their impact on the endogenous variables. The implementation of this estimator also involves (a) the insertion of the lagged dependent variable to control for time-varying unobservable variables and (b) the first-differencing of all variables, which helps account for time-invariant omitted factors, similar to what is done in fixed-effects regressions (Baum 2006). Results are presented in model 6 (1-year lag structure) and 7 (2-year lag structure). They are in line with those presented above.[7]

We conducted additional analyses to assess the robustness of these results. First, to capture the connections between politics, business, and crime in unreported analyses, we replicated our analyses including the political affiliation of the president of the province, their place of birth, and their tenure. Our results remained unaffected. These variables did not affect founding rates. Second, our results supporting H1a could also be driven by the reincorporation of confiscated companies into new legal ventures. To rule out this explanation, we reestimated the entrepreneurship rates, excluding the sectors that are more prone to mafia infiltration in Table A2 in the online Appendix. The main effect of Economic Asset Confiscation remains unaltered: in other words, results do not seem to be driven by reincorporation.

5 Discussion and conclusions

This paper represents, to our knowledge, one of the first attempts to show, with longitudinal data, some of the economic consequences of policies against organized crime infiltrations in markets. We examined the entrepreneurial implications of asset confiscation in relation to alleged organized crime connections of their owners, a widely used judiciary tool to fight the interests of organized crime in a region. Our findings, based on

[7] The estimators require the differenced error term to be first-order serially correlated (the AR(1) test must be significant), yet there should be no second-order serial correlation (as evidenced by the AR(2) test). The AR(1) test is significant ($p < 0.05$), yet the AR(2) test is not significant.

confiscation orders issued between 2009 and 2013 in Italian provinces, indicate that clamping down on organized crime economic assets may trigger processes of local creative destruction, akin to those observed when large incumbent firms exit regions (Pe'er and Vertinsky 2008; Lieberman et al. 2017). We also found that confiscation orders covering operational assets negatively affect founding rates. Weakening criminal organizations in the absence of a well-functioning state may create an institutional vacuum, which increases governance uncertainty and decreases regional founding rates.

Does the evidence presented in this paper imply that policies against organized crime's core illicit activities, such as the provision of protection and the enforcement of agreements through violence, entail short-term disruption of regional entrepreneurial dynamics and negative economic payoffs? The results regarding our second hypothesis call for more cautious interpretations and careful conclusions. We show that the unintended negative effect of operational asset forfeiture is mitigated when local institutions can complement confiscation measures with initiatives intended to reduce uncertainty and fill the voids left by criminal organizations. Thus, our findings suggest that policies tackling organized crime groups in markets can trigger resource redeployment and entrepreneurship if complemented by local institutional responsiveness.

By delving into the relationship between asset confiscation and founding rates, this paper contributes to research on the institutional antecedents of regional entrepreneurship. This area of research emphasized that variance in regional founding rates might stem from heterogeneity in the quality of institutions, where prospective entrepreneurs operate (Davidsson and Henrekson 2002; Acs and Szerb 2009; Caliendo and Künn 2014; Dilli et al. 2017; Nifo et al. 2017; Turok et al. 2017). We extend these studies by focusing on the link between policies against organized crime and regional entrepreneurship, which has thus far been neglected. We show that economic asset confiscation triggers a wave of entries, due to improved business conditions and resource redeployment. Thus, policies against organized crime's business activities can stimulate entries by increasing the relative payoffs associated with productive entrepreneurship relative to unproductive activities.

However, this contribution alone does not tell the full story. Our finding that confiscation of operational assets reduces regional founding rates also adds to institutional economic studies on the role of private-order institutions in social and economic exchanges (Greif et al. 1994; Dixit 2007). This line of research suggests that private profit-motivated property right enforcement may represent a "third best" option that safeguards economic transactions when self-governance is unfeasible because the community is too large, the system of social sanctions is too weak, and formal state law is feeble. When alternative options are not available, organized crime represents "an entrepreneurial response to inefficiencies in the property rights and enforcement framework supplied by the state" (Milhaupt and West 2000: 43). Accordingly, previous research highlighted the extent to which the Sicilian mafia contributed to guarantee contract enforcement in the upheaval of Sicily's transition out of feudalism (Blok 1975; Gambetta 1993; Varese 2001) or the role the Yakuza played in getting markets restarted in Japan after World War II (Dower 1999; Whiting 1999). Most previous studies used formal models or qualitative evidence (Dixit 2007; Leeson 2007a, b). To our knowledge, this work is the first econometric study that *indirectly* shows that, under certain conditions, activities which at first glance appear to be obvious examples of non-productive entrepreneurship can provide a second- or third-best substitute for inefficient institutions (Douhan and Henrekson 2010). The idea that confiscation of organized crime's operational assets may, in some circumstances, increase the degree of uncertainty faced by economic actors and discourage their productive entrepreneurial efforts represents a provocative intuition worth further reflection by those interested in institutions and entrepreneurship.

Our research also has implications for research on institutional responses to organized crime. Research in this tradition has emphasized the importance of bottom-up processes that challenge institutionalized criminal practices. For instance, Vaccaro (2012) and Vaccaro and Palazzo (2015) showed that a group of young activists was able to fight the practice of paying bribe money (pizzo) for protection through localized micro-processes that redefined the values of the business owners in Palermo. While not denying the importance of bottom-up processes, our study indicates that formal policies, such as asset confiscation, can also be effective, especially when coupled with appropriate initiatives by responsive local institutions. Further research should examine the joint impact of bottom-up and top-down initiatives against organized crime, highlighting complementarities and self-enforcing dynamics. Another

extension could be the study of the economic consequences of other policy measures, such as the dissolution of local governments due to the collusion between local authorities and organized crime.[8]

Our study also has some limitations, which can pave the way for further extensions. First, our ability to draw causal inferences from the current sample and research design is limited. Although fixed effects partly account for unobserved heterogeneity at the province level, and our list of controls includes the traditional variables used to predict entrepreneurship rates, we cannot rule out the possibility that unobserved time-varying factors might bias our findings. The short length of our panel does not leave room for alternative research designs. Distinct states and regions within the European Union are implementing different policies at different points in time. Further work can attempt to strengthen the causal inferences hinted at in this paper by exploiting staggered adoption of confiscation practices. Second, our measures are far from perfect: they account only for the number of confiscated assets by type in each province each year. Our source does not provide information on the value of the confiscated assets. Such estimates are highly controversial and hardly debated in criminology research (Calderoni 2014). Third-party assessment of the value of confiscated assets can strengthen the conclusion proposed in this paper. Finally, we treat categories of assets as if they were independent, while some connection may exist through common ownership. Ownership data can provide a richer picture of the confiscation process.

The design of effective asset confiscation has become a priority in the European and American battle against organized crime. A recent report estimated that just in the year 2014, assets worth more than two billion euros were confiscated from criminal groups in Italy, Germany, Spain, France, England, and Wales (Vettori et al. 2014; Transcrime 2015). The USA has extended such practices to the proceeds related to terrorist groups (Ryder 2013). Across Europe and in the USA, regions vary greatly in the strength of their confiscation legislation and the type of assets targeted by these policies. While most policymakers and prosecutors target real estate and immovable assets, others began to clamp down on financial assets or business investments. Although our results exploit inter-regional variation in confiscation policies, the implications of the study can be generalized to address cross-country policymaking. The main takeaway of our research is that to increase the effectiveness of real estate confiscation, policies need to be developed hand in hand with provisions aimed at strengthening the responsiveness of formal institutions. Initiatives clamping down on organized crime trigger processes of creative destruction only when the state or local institution can adequately redeploy the confiscated assets to productive ends. We hope that our research will raise scholarly awareness regarding how legal and illegal players interact to shape the Entrepreneurial Society.

[8] We thank an anonymous reviewer for pointing us in this direction.

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References

Acs, Z., & Storey, D. (2004). Introduction: entrepreneurship and economic development. *Regional Studies, 38*(8), 871–877. https://doi.org/10.1080/0034340042000280901.

Acs, Z. J., & Szerb, L. (2007). Entrepreneurship, economic growth and public policy. *Small Business Economics, 28*(2–3), 109–122. https://doi.org/10.1007/s11187-006-9012-3.

Anderson, A. (1979). *The business of organized crime: a Cosa Nostra family*. Stanford: Hoover Institute Press, Stanford University.

Arellano, M., & Bond, S. (1991). Some tests of specification for panel data: Monte Carlo evidence and an application to employment equations. *Review of Economic Studies, 58*(2), 277–297. https://doi.org/10.2307/2297968.

Arlacchi, P. (2007). *La mafia imprenditrice. Dalla Calabria al centro dell'inferno*. Milano: Il Saggiatore.

Baker, T., Gedajlovic, E., & Lubatkin, M. H. (2005). A framework for comparing entrepreneurship processes across nations. *Journal of International Business Studies, 36*(5), 492–504. https://doi.org/10.1057/palgrave.jibs.8400153.

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. https://doi.org/10.1093/jleo/19.1.218.

Baum, C. F. (2006). *An introduction to modern econometrics using Stata*. College Station: Stata Press.

Baumol, W. J. (1990). Entrepreneurship: productive, unproductive and destructive. *Journal of Political Economy, 98*(5), 893–921. https://doi.org/10.1016/0883-9026(94)00014-X.

Becker, G. S. (1968). Crime and punishment: an economic approach. *Journal of Political Economy, 76*(2), 169–217. https://doi.org/10.1007/978-1-349-62853-7_2.

Blok, A. (1975). *The mafia of a Sicilian village, 1860–1960: a study of violent peasant entrepreneurs*. New York: HarperCollins Publishers.

Blundell, R., & Bond, S. (1998). Initial conditions and moment restrictions in dynamic panel data models. *Journal of Econometrics, 87*(1), 115–143. https://doi.org/10.1016/S0304-4076(98)00009-8.

Bonaccorsi di Patti, E. (2009). *Weak institutions and credit availability: the impact of crime on bank loans. Bank of Italy Occasional Paper No. 52*. Rome: Bank of Italy.

Boudreaux, C. J., Nikolaev, B. N., & Holcombe, R. G. (2017). Corruption and destructive entrepreneurship. *Small Business Economics*. https://doi.org/10.1007/s11187-017-9927-x.

Bowen, H. P., & De Clercq, D. (2008). Institutional context and the allocation of entrepreneurial effort. *Journal of International Business Studies, 39*(4), 747–768. https://doi.org/10.1057/palgrave.jibs.8400343.

Calderoni, F. (2014). Mythical numbers and the proceeds of organized crime: estimating mafia proceeds in Italy. *Global Crime, 15*(1–2), 138–163. https://doi.org/10.1080/17440572.2014.882778.

Caliendo, M., & Künn, S. (2014). Regional effect heterogeneity of start-up subsidies for the unemployed. *Regional Studies, 48*(6), 1108–1134. https://doi.org/10.1080/00343404.2013.851784.

Caramazza, M. (2014). *Le aziende confiscate alla mafia. Perché falliscono e cosa fare per salvarle*. Milano: Guerini Next.

Caves, R. E., & Porter, M. E. (1977). From entry barriers to mobility barriers: conjectural decisions and contrived deterrence to new competition. *Quarterly Journal of Economics, 91*(2), 241–261 http://www.jstor.org/stable/1885416.

Dalla Chiesa, N. (2012). *L'impresa mafiosa: tra capitalismo violento e controllo sociale*. Milano: Cavallotti University Press.

Davidsson, P., & Henrekson, M. (2002). Determinants of the prevalence of start-ups and high-growth firms. *Small Business Economics, 19*(2), 81–101. https://doi.org/10.1023/A:1016264116508.

Dell'Olio, L. (2014). Perchè le aziende sequestrate alle mafie falliscono. Repubblica, September 18. http://inchieste.repubblica.it/it/repubblica/rep-it/2014/09/18/news/il_fallimento_delle_ex_aziende_mafiose-93757984/.

Dilli, S., Elert, N. & Herrmann, A. (2017). Varieties of entrepreneurship: exploring the institutional foundations of different entrepreneurship types through "varieties-of-capitalism" arguments. *Small Business Economics*. https://doi.org/10.1007/s11187-018-0002-z.

Dixit, A. K. (2007). *Lawlessness and economics: alternative modes of governance*. Princeton: Princeton University Press.

Douhan, R., & Henrekson, M. (2010). Entrepreneurship and second-best institutions: going beyond Baumol's typology. *Journal of Evolutionary Economics, 20*(4), 629–643. https://doi.org/10.1007/s00191-010-0174-4.

Dower, J. (1999). *Embracing defeat: Japan in the wake of World War Two*. New York: W.W. Norton & Company.

Dutta, N., & Sobel, R. (2016). Does corruption ever help entrepreneurship? *Small Business Economics, 47*(1), 179–199. https://doi.org/10.1007/s11187-016-9728-7.

Elert, N., & Henrekson, M. (2017). Entrepreneurship and institutions: a bidirectional relationship. *Foundations and Trends in Entrepreneurship, 13*(3), 191–263.

Fraschini, G., & Putaturo, C. (2013). *La confisca dei beni illeciti in Italia*. Roma: Transparency International Italia.

Fritsch, M. (1997). New firms and regional employment change. *Small Business Economics, 9*(5), 437–448. https://doi.org/10.1023/A:1007942918390.

Fritsch, M., & Storey, D. J. (2014). Entrepreneurship in a regional context: historical roots, recent developments and future challenges. *Regional Studies, 48*, 939–954. https://doi.org/10.1080/00343404.2014.892574.

Galullo, R. (2013). *La Dia confisca 700 milioni a Giuseppe Grigoli, re siciliano dei supermercati*. Sole 24 Ore, November 24. http://www.ilsole24ore.com/art/notizie/2013-09-23/confisca-milioni-giuseppe-grigoli-213339.shtml?uuid=AbH5cRaI.

Gambetta, D. (1993). *The Sicilian Mafia: the business of private protection*. Cambridge: Harvard University Press.

Greif, A., Milgrom, P., & Weingast, B. R. (1994). Coordination, commitment, and enforcement: the case of the merchant guild. *Journal of Political Economy, 102*(4), 745–776. https://doi.org/10.1086/261953.

Grossman, H. I., & Kim, M. (1995). Swords or plowshares? A theory of the security of claims to property. *Journal of Political Economy, 103*(6), 1275–1288. https://doi.org/10.1086/601453.

Hirshleifer, J. (2001). Anarchy and its breakdown. *Journal of Political Economy, 103*(1), 26–52. https://doi.org/10.1086/261974.

Jamieson, A. (1999). *The antimafia: Italy's fight against organized crime*. Mannheim: Springer.

Kibler, E., Kautonen, T., & Fink, M. (2014). Regional social legitimacy of entrepreneurship: implications for entrepreneurial intention and start-up behavior. *Regional Studies, 48*(6), 995–1015. https://doi.org/10.1080/00343404.2013.851373.

Leeson, P. T. (2007a). An-aargh-chy: the law and economics of pirate organizations. *Journal of Political Economy, 115*(6), 1049–1094. https://doi.org/10.1086/526403.

Leeson, P. T. (2007b). Better off stateless: Somalia before and after government collapse. *Journal of Comparative Economics, 35*(4), 689–710. https://doi.org/10.1016/j.jce.2007.10.001.

Lieberman, M. B., Lee, G. K., & Folta, T. B. (2017). Entry, exit, and the potential for resource redeployment. *Strategic Management Journal, 38*(3), 526–544.

Lo Bello, I. (2011). Mafia e mercato. In S. Danna (Ed.), *Prodotto interno mafia. Così la criminalità organizzata è diventata il sistema Italia*. Torino: Einaudi.

Milhaupt, C. J., & West, M. D. (2000). The dark side of private ordering: an institutional and empirical analysis of organized crime. *University of Chicago Law Review, 67*(1), 41–98. https://doi.org/10.2307/1600326.

Mitchell, G. (2012). *Asset confiscation as an instrument to deprive criminal organizations of the proceeds of their activities. CRIM working paper*. Brussels: Special Committee on Organised Crime, Corruption and Money Laundering.

Nifo, A., Scalera, D., & Vecchione, G. (2017). The rule of law and educational choices: evidence from Italian regions. *Regional Studies, 51*(7), 1–15.

North, D. (1990). *Institutions, institutional change and economic performance*. Cambridge: Cambridge University Press.

Paoli, L. (2007). Mafia and organised crime in Italy: the unacknowledged successes of law enforcement. *West European Politics, 30*(4), 854–880. https://doi.org/10.1080/01402380701500330.

Pe'er, A., & Vertinsky, I. (2008). Firm exits as a determinant of new entry: is there evidence of local creative destruction? *Journal of Business Venturing, 23*(3), 280–306. https://doi.org/10.1016/j.jbusvent.2007.02.002.

Pinotti, P. (2015). The economic costs of organised crime: evidence from southern Italy. *Economic Journal, 125*(586), F203–F232.

Raab, J., & Milward, H. B. (2003). Dark networks as problems. *Journal of Public Administration Research and Theory, 13*(4), 413–439. https://doi.org/10.1093/jpart/mug029.

Reynolds, P., Storey, D. J., & Westhead, P. (1994). Cross-national comparisons of the variation in new firm formation rates: an editorial overview. *Regional Studies, 28*(4), 343–346. https://doi.org/10.1080/00343409412331348306.

Ryder, N. (2013). To confiscate or not to confiscate? A comparative analysis of the confiscation of the proceeds of crime legislation in the United States of America and the United Kingdom. *Journal of Business Law, 8*(3), 767–798 Available from: http://eprints.uwe.ac.uk/20290.

Saxenian, A. (1996). *Regional advantage*. Boston: Harvard University Press.

Sobel, R. S. (2008). Testing Baumol: institutional quality and the productivity of entrepreneurship. *Journal of Business Venturing, 23*(6), 641–655. https://doi.org/10.1016/j.jbusvent.2008.01.004.

Transcrime (2015). *The confiscation of criminal assets in Europe*. http://www.transcrime.it/wp-content/uploads/2015/12/ocp.pdf. Accessed 25 Nov 2017.

Turok, I., Bailey, D., Clark, J., Du, J., Fratesi, U., Fritsch, M., & Mickiewicz, T. (2017). Global reversal, regional revival? *Regional Studies, 51*(1), 1–8. https://doi.org/10.1080/00343404.2016.1255720.

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. https://doi.org/10.1007/s10551-011-1050-3.

Vaccaro, A., & Palazzo, G. (2015). Values against violence: institutional change in societies dominated by organized crime. *Academy of Management Journal, 58*(4), 1075–1101. https://doi.org/10.5465/amj.2012.0865.

Varese, F. (2001). *The Russian Mafia: private protection in a new market economy*. Oxford: Oxford University Press.

Vettori, B., Kolarov, T., Rusev, A. (2014). *Disposal of confiscated assets in the EU Member States: laws and practices*. http://mercury.ethz.ch/serviceengine/Files/.../Disposal-of-confiscated-assets-report.pdf. Accessed 25 Nov 2017.

Whiting, R. (1999). *Tokyo underworld: the fast times and hard life of an American gangster in Japan*. New York: Pantheon.

Williamson, O. E. (2000). The new institutional economics: taking stock, looking ahead. *Journal of Economic Literature, 38*(3), 595–613 http://www.jstor.org/stable/2565421.

Zhao, H., Seibert, S. E., & Lumpkin, G. T. (2010). The relationship of personality to entrepreneurial intentions and performance: a meta-analytic review. *Journal of Management, 36*(2), 381–404. https://doi.org/10.1177/0149206309335187.