

# **The Reuse for Social Aims of Illegal Assets and the Competition Policy. A New Network Strategy to Defeat Organized Crime with Its Same “Weapons”**

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October 18, 2012

## **Abstract**

The economic theory of crime considers criminal a rational individual, maximiser and perfectly informed on the costs and benefits of his/her actions, or rather fully able to decide whether to assume a deviant behaviour rather than devoting himself/herself to a legal activity. Such abstraction involves a fundamental implication regarding the policy of prevention and fight against crime, in particular organised crime: if the choice to violate a norm is rational and sustained by a very serious evaluation of the consequent expected utility of this behaviour, a more rational system of penal justice is needed, to reduce its number. Nevertheless, nowadays several impedimental factors make it difficult to realise effective incentive policies against organised crime.

This paper aims at analysing the role of reusing for social purposes of the assets confiscated from criminal organisations (currently regulated by the *New Anti-Mafia Code*, issued by Legislative Decree No. 159/2011) and intends to show – using a theoretical model based on the insights of the *Social Network Analysis* and *Theory of Evolving Networks* – that is possible to defeat criminal networks using the same “weapons” which criminal organizations use, that is the same social capital and those same network of relationships which constitute their strength.

**JEL Codes:** Criminal Law, Economics of Crime, Crime Prevention, Law Enforcement, Economic Sociology, Reciprocity, Social Capital, Social Networks, Social Norms, Nonprofit Institutions, Weak and Strong Ties, Key Player, Theory of Evolving Networks.

**Keywords:** K14, K42, A14, L31, Z13.

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*“Goods are neutral, their uses are social; they can be used as fences or bridges”*  
(Douglas and Isherwood 1979)

*“It takes a network to defeat a network”*  
(Arquilla, Ronfeldt and Zanini 1999)

## **1 Introduction**

### 1.1 The economic theories of crime and their suggestions to fight the organized crime

The economic theory of crime considers a criminal a rational individual, maximiser (that is, inclined to act to maximise his/her expected utility) and perfectly informed on the costs and benefits of his/her actions (Becker, 1968), or rather fully able to decide whether to assume a deviant behaviour (as stressed by sociologists, a behaviour which violates the institutionalised expectations of a given social norm; in juridical terms, a crime) rather than devoting himself/herself to a legal activity.

From the microeconomic perspective the involvement in delinquent behavior responds to incentives and factors that the individual evaluates. He/she deals with the classic problem of time allocation. However, his/her choice is not between leisure and work time, but it concerns how much time is devoted to legal and illegal activities (Ehrlich, 1973). The empirical economic literature and analysis have also tried to identify the factors that influence this choice. These factors include not only the expected benefits from illegal activities as compared to income derived from legal activities, but also the probability of being arrested and subjected to a process and sentenced and the severity of punishment. In addition, a more recent part of literature argues that the choice of the criminal can also be influenced by socio-economic factors (Gleaser, Sacerdote and Scheinkman 1996).

From a macroeconomic perspective, the causal link between crime and unemployment (Marselli and Vannini 1997; Calvó-Armengol and Zenou 2003a, 2003b, 2004) and between crime and labour productivity (Centorrino and Ofria 2001; Felli and Tria 2000) has been examined. The impact of corruption and the role that criminal organisations play in creating obstacles for

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individuals in entering the labour market (Tullio and Quarella 1999) has also been analysed. Furthermore, literature has recently sought to analyse the impact of crime on the labour market and the role of social networks which it would use to generate the subjugation of the territories, replacing the State in job placement, safety and security functions (Mennella 2009; Mosca and Villani 2010). Finally, some scholars have highlighted the extent in which the phenomenon of organised crime influences the trust relationship between individuals and the State (Zamagni 1993) and how much this phenomenon has been consolidated over time through the creation of actual criminal enterprises which not only compete fairly, but also compromise the effects of legal enterprises (Masciandaro 2000a).

The economic approach, therefore, makes clear that an individual commits a crime if the expected return from the illegal activity is greater than that from the legal work activity. The policy suggestion of the traditional theory aims at discouraging deviant behaviour by identifying the mechanisms which reduce benefits and/or, equivalently, increase the costs related to criminal activities. In other words, this strategy requires an increase in the penalties in order to uniformly discourage criminal behavior and repress the actions of the “key players”, so as to weaken networks through which criminal organisations are rooted in the territories, generating submission (Calvó-Armengol and Zenou 2003b, p. 2).

However, the approaches which aim at combating crime, by exacerbating the costs of criminal choices, may be limited and with uncertain effects. This could happen, because the individuals react by choosing those criminal activities from which the benefits flow outweighs the costs, thus generating the bloodiest crimes. On the other hand, the *key player strategy* may manifest itself as being ineffective. In fact, the procedures to elect a new “boss” occur suddenly and often generate fierce feuds for the “leadership race”. The attempt to identify the optimal sanction to be used to repress organised crime has been focused on the impact of the relapse propensity of criminals, on reducing crime over time, on the impossibility of replacing criminals (as in the case of criminal organisations) and on the evaluation whether prison works as a “training” ground or a “school” for crime (Kugler, Verdier, and Zenou 2005).

## 1.2 The need for a reformulation of policies to fight organized crime

The powerful action of repression of criminal phenomena, recorded in Italy over the years, especially in the southern regions, has been emasculated by the proliferation of crimes committed by criminal organisations. This finding highlights the need for a reformulation of policies aimed at combating crime in the territories, promoting those that support criminal prevention, that is those which aim at contributing to the economic and social growth. It is necessary to (re)-act by

generating actions and interventions which aim at preventing criminal behavior by building a social fabric that transfers different values from those of crime. This is particular aimed at that part of the population (not just youth) who, for various reasons, experience discomfort and could be recruited for criminal activities. Prevention policies, on the other hand, if properly implemented, can reduce the costs which the system generates when imposing punishment and provide an overall improvement in terms of re-education and re-qualification of individuals.

This paper assumes that criminal behaviour is a complex phenomenon which depends on different socioeconomic factors. For these reasons, in order to individualise the best policy tools to fight the expansion of criminal organisations, it is first of all necessary to underline the role that these factors have on the propensity to commit crimes. Criminal organisations use relationships and nets which are built in the territories among individuals and between these individuals and institutions. These nets arouse and display strength and power and flaunt the myth of invincibility on the Institutions and the ability to produce wealth for their members.

To contribute to the fighting of crime it is necessary to weaken the determinants of the social consent used by criminal organisations. Only in this way it is possible to break the twofold vicious cycle which goes from the social and cultural impoverishment to the increase of the social insecurity and the incentives to illegal activity (the *Vicious Circle of CITI: Crime, Insecurity and Territorial Impoverishment*), from the spread of distrust between citizens or between them and the legal institutions to the strengthening of a development model sustained by crime which inexorably undermines the chances of economic and social growth of the territories (the *Vicious Circle of DU: Distrust among citizens and Underdevelopment*). The promotion of initiatives which stimulates social activities could favour the accumulation of the “pure” social capital by activating the mechanisms which push individuals to prefer legal to illegal activity<sup>1</sup>.

### 1.3 The issues of the paper

This paper aims at analysing the role of the reutilization for social purposes of the assets confiscated from criminal organisations as allowed by the Italian Law No. 109, 7<sup>th</sup> March 1996 (*Dispositions on the subject of management and destination of seized and confiscated assets*) and underlined also by the D.lgs. 6 september 2012, n.159 “Antimafia Codex” as an effective tool of

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<sup>1</sup> These questions have received little attention, particularly by economists. In the economic literature, a pioneering work on this issue was written by Buonanno P., Montolio D. and Vanin P. According to these scholars, the “civic norms may attach guilt and shame to criminal behaviour and may also stimulate trust in others, lower resources and effort devoted to self-defense and thus multiply opportunities for crime. Similarly, associational networks may increase returns to non-criminal activities and raise detection probabilities, but they may also work as communication channels for criminals. Further, whatever the empirical correlation, one may wonder whether it reflects a causal link, in what direction and with what implications for anti-crime policy” (Buonanno, Montolio and Vanin 2009).

prevention in the fight against organised crime. Such laws explicitly allow non-profit organisations, and among these social cooperatives that assume the structure of social enterprise, to function as organisations capable of managing effectively and efficiently patrimonies, which can produce, if opportunely valorised and “revitalised”, huge flows of wealth for the territories abused by criminal organisations. This would contribute to the creation of jobs and, at the same time, the finding of new paths for the growth of social capital and building trust towards the legal institutions. In fact, the mistrust of the community toward the latter is tightly tied to the possibility that, in a direct or indirect way (through, for example, the role of dummie companies or figurehead individuals), criminal organisations continue to practice uncontested their activity. The constraint placed on profit distribution and the typical governance model of social enterprises – which allows the possibility of a sharing in the management of different individuals both public and private – could furnish some suitable mechanisms to prevent criminal organisations from re-appropriating the assets after their sequestration and confiscation and, in this way, raise the trust of the people towards the State and its institutions. Furthermore, its multi-stakeholder nature would be able to successfully impede the possibility of the repurchase of the assets confiscated from criminal organisations and break the vicious circle which produces mistrust among individuals, as well as between these and the legal institutions, and favour the economic development of the territories.

The tools of the seizure and confiscation of the illegally acquired assets and their reutilization for social and institutional purposes from non-profit organisations, as provided in Italy by the Law No. 109/1996, represent juridical measures which, if well implemented can develop an important deterrent to illegal behaviour. The high symbolic value of the reutilization for social and institutional purposes can contribute in a positive and effective way to break the Vicious Circle of CITI which has been established especially in territories with a criminally strong tradition through the creation of “illegal” social networks and criminal activities. Furthermore, the possibility that this law allows social enterprises to manage the properties of criminal organisations and the possibility to convert them for the creation of socially useful activities can act, in a direct way, on the creation of wealth for the territory through the production of goods and services and job opportunities. A greater support to the diffusion of social enterprises, joined with a simplification of the administrative procedures which govern the assignment of the confiscated assets, can increase directly and indirectly the levels of wealth through the production and sustainment of the components of the social capital (such as the trust, the respect of the civil rules, the amplifications of the spaces of active citizenship), that is, through those elements which improve the levels of the quality of life of the individuals that can contribute to increase the respect for the law.

This paper - using a theoretical model - intends to show, firstly, that the confiscation of illegal assets can produce a direct impact on the choices of the criminal, reducing the expected utility derived from illegal activities. Secondly, it tries to show how the reutilization for social purposes of the confiscated assets can lead to the growth of mutual trust among individuals, sustaining an alternative economy to that of the criminal one. This juridical tools, in fact, if adequately disciplined, can produce a substitution effect which determines a change in the framework of the individual's choices inducing him/her to increase his/her effort in carrying out legal activities.

The paper is structured in six Sections: Section 2 identifies the economic characteristics of the assets of criminal organisations; Section 3 analyses the tools for fighting organised crime and gives a synthesis of the Italian Anti-mafia Normative on seizure, confiscation and reutilization of illegal assets; Sections 4 and 5 develop an economic model of the relationship between social capital and criminal organisations and propose a serious strategy to fight organised crime; the last Section summarizes the principal results achieved and presents the concluding remarks.

## **2 The Mafias' assets and the Twofold Vicious Circle of CITI & DU**

### **2.1 The dual nature of Mafias' assets**

The assets of criminal organisations represent, first of all, the main symbol through which criminal organisations display their strength arousing terror<sup>2</sup>. In fact, they develop a double function. On one hand, its use increase the utility and the economic wealth of the members of criminal organisations. On the other hand, these assets are the symbols through which criminal organisations signal the community and the territory where they operate their strength and dominion provoking the submission<sup>3</sup>. In fact, through the quantity and the quality of their assets criminal organisations publicly demonstrate their power and strength. Therefore, emphasizing this point of view, these goods can be compared to the microeconomic category of positional goods (Hirsch F., 1976). The latter, as it is well known, are those things which confer utility through the status they create and the relative position in the social ladder that their possession and consumption allows them to reach and/or occupy (from here comes the expression "positional good"). In other words, they are those assets which serve to improve the consumers' own wealth and relative status. Regarding positional goods, in fact, the consumer receives greater utility than he/she would receive

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<sup>2</sup> Other symbols which can contribute to the increase of the strength of criminal organisations and boost the number of proselytes that enter the organisation are the organisation's ability to spread in the territory in which it operates and the myths and the legends on the bosses and representatives of the organisation.

<sup>3</sup> In the smaller communities it is not even necessary that assets must be "visible" and locatable by the members of the community. Information spreads in a rapid way among individuals and it is not necessary to have the material and tangible "proof" of the wealth of the criminal organisation.

if these were possessed by other individuals. Moreover, the wealth status of a person, generated by the possession of goods, would comparatively increase if the wealth position of other consumers decreases. In conclusion, in relative terms, the possession of given goods allows for the attainment of higher levels on the social pyramid.

As a single economic agent – the consumer –, the criminal organisation could accumulate goods in order to satisfy fundamental needs and to reach a superior status that serves to signal to the community its strength and its ability to produce wealth for itself and its affiliates. In other words, the more criminal organisations proceed through the use of strength to proliferate illegal activities in order to produce wealth for their members, the more they subtract productive resources from the territory, worsening the wealth position of other individuals.

This interpretation allows us to explain the reasons why criminal organisations are mostly active in territories which are in poorer socio-economic conditions. Consequently, there would be a connection between criminal organisations and the territorial impoverishment. However, the activity of criminal organisations produces goods which cannot be considered similar to the other goods for different other reasons. Firstly, these assets are the products of illegal activities which subtract economic resources from the territories depriving them from individuals who operate legally. Secondly, but not less important, these assets are obtained by arousing terror and producing crimes. The activities carried out by criminal organisations produce goods for their members which are the products of the “asocial” capital produced in before-mentioned territories and at the same time contribute to the production of other “asocial” capital. Through illegal activities the assets lose their neutral<sup>4</sup> function and their utilization is no longer social, but “asocial”, because they create obstacles between economic development and social growth.

Subtracting these assets from criminal organisations and reassigning them to the community which has suffered the theft can constitute a policy tool that is able to restore and re-strengthen the trust among individuals and between these and the legal institutions.

## 2.2 Seizure, confiscation and reutilization of illegal assets

The economic theory on crime suggests to increase the cost of illegal action in order to discourage it. However, a system of disincentives based on the tightening up of sanctions can produce counterproductive results. Firstly, in fact, criminal organisations can react to “desperate diseases”, represented by the tightening up of the norms, with “desperate remedies”, that is increasing the illegal activities in order to have an increase in the benefits with respect to the costs.

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<sup>4</sup> Douglas and Isherwood (1979).



This action-reaction process can continue in time and be influenced, in a positive or a negative way, from the intensity of the repressive policies and from the efficiency of the juridical system.

Thus, it is necessary to use together preventive and repressive policies in order to break the ties and the networks which criminal organisations build and implement in the community.

In fact, criminal organisations count on a system of strong relationships which allows the attainment of a social consent through which they succeed in dominating their territories. Therefore, this social consent is the basic element for the creation and the existence of criminal organisations, but it is created and strengthened by destroying the trust existing among individuals and also towards the legal institutions<sup>5</sup>. Trust, as it is stressed by economic literature, is fundamental to favour economic and civil growth (Putnam 2004; Bruni and Zamagni 2004). These measures would furnish a relevant contribution to the fight of the organised crime and to the social-economic development of the territories. In fact, they could stimulate the formation of social activities which would favour the accumulation of the “pure” social capital.

Among the present juridical tools, the seizure and the confiscation of assets illegally obtained represent the most effective measures to fight criminal organisations<sup>6</sup>. These are what organized crime fears the most, because they deprive it not only of the economic wealth, but of the social consent which is used for spreading the sense of invincibility in the territories.

Seizure and confiscation represent political tools that allow criminal assets to be deprived of the characteristics which make them status symbols<sup>7</sup>. From status goods, that produce wealth through the exploitation and the impoverishment of the economic and civil resources of the territories, they can be transformed into opportunity for economic and social development.

Through this metamorphosis these assets would reacquire their neutral function and be used socially. This principle is ratified by the Law No. 109/1996, which allows the reutilization of the assets belonging to organised crime and to apply the deterrent tools, such as seizure and confiscation.

Art. 2-*undecies* of the Law 109/1996 gives the possibility to assign the assets seized to non-profit organisations underlining, in this way, the social role which these can develop in the commutation of the “illegal” goods into useful community activities. The strengthening of the social economy can be seen as a cure to criminal economies. In fact, the maximisation of the social utility by these organizations can facilitate the growth processes of social capital and social community.

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<sup>5</sup> According to Fabio Granata, vice president of the Italian Antimafia Commission, “in order to defeat the Mafia, arrests, confiscation and criminal trials are not sufficient, but social and cultural operation is essentially needed”.

<sup>6</sup> In fact, The European Commission has recognized the strategic priority of confiscation of assets illegally obtained as an effective tool in the fight against criminal organizations. See European Commission 2012.

<sup>7</sup> In particular, they deprive criminal organizations of economic wealth and, therefore, of financial capability to bribe judges, prosecutors, witnesses, politicians, entrepreneurs, professional men or women and all others subjects with whom Mafia form its “shadow alliances”.

The development of social entrepreneurship can be an ideal mechanism able to produce civil, social and economic development in the territories. The increase of the number and activity of social entrepreneurship represents, without doubt, an augmentation of job opportunities and increase of wealth. The empirical data of several researches confirm that the richest territories in Italy are also characterized by the presence of a greater number of social cooperatives as well as of other non-profit organisations. It is not by chance that in the Southern Italy there are recorded, in general, a low diffusion of social cooperatives and non-profit organisations.

Seizure, confiscation and above all the reutilization of the illegal assets for social aims can be used as indicators of the loss of power and influence of the criminal organisations on their territories.

Therefore, the number of reutilised goods for social and institutional purposes and activities can be considered a proxy of the conversion of a “asocial” capital into social capital in a territory and the level of civil and social development.

### **3 The Italian Normative on Seizure, Confiscation and Reutilization of Illegal Assets**

Italy possesses innovative laws to fight criminal organisations based on the forfeiture and reutilization for social aims of the mafias’ assets. They are the result of numerous legislative interventions taking place over the last fifty years. The law No. 1423/1956 represents the first act which has introduced preventive measures of imprisonment of dangerous people for safety and public morality. The law No. 575/1965, *Dispositions against Mafia*, introduced the explicit reference to members of associations based on the mafia structure with the application of preventive measures regarding the individuals, and their properties, suspected of belonging to mafia, camorra organisations, or to other local illegal associations. It also extended to these individuals the application of preventive measures of imprisonment, such as preventive detention and internal exile, with the possibility to investigate his/her standard living, financial assets and properties suspected to being acquired through mafia connection. Moreover, it allowed to investigate also the consort, children and cohabitants of the individual suspected to belong to criminal organization with the last five years, as well as of corporations of which he/she resulted to be in control. In order to prevent the disappearance of the forfeiture assets, it is possible to seized the goods before the hearing is set. Art. 22 of the Law 14 May 1975, No. 152 introduced the freezing of personal assets so that they could not be used for illegal activities.

A few years later, the Law of 13 September 1982, No. 646, known as the Law Rognoni-La Torre<sup>8</sup>, given a normative definition of Criminal Association of Mafia Type, introduced in the

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<sup>8</sup> The impoverishment of Mafia through the confiscation of the assets illegally obtained is a strategy that had already suggested more than twenty years ago by Pio La Torre, an Italian deputy killed by Mafia in Palermo in 1982.

Italian Criminal Code (See Art. 416-bis)<sup>9</sup>. Moreover, the range of the tools enforceable towards individuals suspected of belonging to Criminal Associations of Mafia Type, has been widened through the introduction of the seizure and the confiscation of assets of suspicious source.

In order to overcome some difficulties tied up to the management of the seized and confiscated goods, Decree No. 230/1989, converted by Law No. 282/1989, *Urgent Dispositions for the administration and the destination of the confiscated Assets by Law 575/1965*, changed a part of the pre-existent Italian Normative on the Management of the Confiscated Goods. However, despite this law, difficulties tied to the criticalities of the destination of the criminal assets still persist.

A next act, Law No. 109, 7 March 1996, *Dispositions on the management and destination of the seized and confiscated goods*, completed the Law 575/65 by several integrations finalized to improve the destination procedure of the confiscated assets<sup>10</sup>. This law envisages the social and economic value of the reutilization for social purposes of goods belonging to criminal organisations and combines the expropriation of the assets illegally accumulated to the restitution of the seized or confiscated properties to the community. This possibility represents the main economic aim of that law. The assets illegally accumulated through stealing resources to the community can invert their status of subjugation goods to criminal organisations in public goods which can produce benefits for the same community (Mosca and Villani 2010).

The new code of preventive measures and anti-Mafia documentation (the so-called *New Anti-mafia Code*), issued by Legislative Decree No. 159, 6 September 2011, follow this route and puts Italy in a prominent position compared to other countries in the improvement of strategies to combat organized crime. However, there is still much to be done, because the new code:

- 1) establishes a discipline of relations between preventive confiscation and criminal seizure which is not based on realistic foundations; for example, the time limit for the enactment of the confiscation decree of two and a half years – which is renewable for periods of six months and not more than twice (See Art. 24, Para. 2, of the *New Anti-mafia Code*) – is too short; property investigations are often complex and time-consuming, especially when part of the assets illegally obtained is hidden abroad;
- 2) offers an excess of guarantees where it is not appropriate; for example, it offers the possibility to revoke the confiscation of the property even if this has already been assigned and allocated for social use (See Art. 28 of the *New Anti-mafia Code*);

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<sup>9</sup> According to what is foreseen by the Italian Law, a criminal organisation is considered of Mafia Type when members use a threatening strength as a specific characteristic of associative tie and condition of submission and conspiracy of silence that derives from it, to commit crimes and to acquire the management or the control of economic activity or concessions or realisation of profits and unfair advantages.

<sup>10</sup> The law 109/1996 passed thanks to *Libera, nomi e numeri contro le mafie*, an Italian nonprofit association that collected up over a million of signatures. It was approved to the unanimity from the components of the Parliament.

- 3) did not change the regulation of the vote in exchange for favours (See Article 416-ter of *Criminal Code*), which is punishable only if the votes were bought using money, while for some time investigators and experts are all asking to extend that rule to cases of votes acquired in exchange for contracts, public financing, licensing, recruitment, etc.;
- 4) does not speed up the procedures required to obtain the confiscation of assets obtained illegally and their reutilization for social purposes.

## 4 The model

### 4.1 Analysing the relationship between social capital and criminal organisations

Starting from Mosca and Villani (2010) we develop a model to underline the role of the reutilization of the confiscated assets through the assignment to non-profit organisations which offers social services to the communities. Among these organisations, social enterprises have been considered to play a fundamental role in promoting the local growth through the creation of social capital (Borzaga and Fazzi 2011; Provasi 2004; Ecchia and Tortia 2009). We consider, in fact, that the social enterprise able “to break” the ties and the networks used by criminal organisations for the dominion of the territories. Our policy suggestion is to encourage a suitable diffusion of this form of enterprise so that it can contribute to the increase of the social capital and the probability in orienting people towards legal jobs.

We consider a population of  $n$  individuals, structured in highly connected clusters, or in very narrow groups of individuals connected by strong ties. The structure of this population is similar to a mesh network (see Fig. 1), where every mesh represents a group of individuals whose relationships are based on a commune affiliation, with an affective content and a high degree of stability (strong ties). Social interactions, which are instead established among individuals belonging to different groups, are potentially neutral from the affective point of view and less stable and intensified (weak ties).

Therefore, we have a universe composed by the following elements:

$G = \mathcal{N}, L$  a pair of sets;

$N = n_1, n_2, \dots, n_g$  the set of individuals composing the community (vertices and nodes of the graph);

$L = l_1, l_2, \dots, l_h$  the set of relationships that tie individuals belonging to the community (edges that connect pairs of vertices);

$L_S = l_{1s}, l_{2s}, \dots, l_{ns}$  the subset of strong relationships;

$L_W = l_{1w}, l_{2w}, \dots, l_{nw}$  the subset of weak relationships;

$g$  = the number of the individuals tied by a generic relationship, or rather from a tie of acquaintance;

$f$  = the number of individuals tied by a strong relationships;

$d = (g - f)$  = the number of individuals with whom a weak relationship can be established;

$n_{SSI} = n_{1f}, n_{2f}, \dots, n_{nf}$  = the subset of individuals tied by Strong Social Interactions (SSI);

$n_{WSI} = n_{1d}, n_{2d}, \dots, n_{nd}$  = the subset of individuals tied by Weak Social Interactions (WSI);

$\omega_w = \frac{d}{g}$  = the ratio of the existing weak relationships ( $0 \leq \omega_w \leq 1$ );

$\omega_s = \frac{f}{g}$  = the ratio of the existing strong relationships ( $0 \leq \omega_s \leq 1$ );

$\phi_w = \frac{L_w}{\frac{d(d-1)}{2}} = \frac{2L_w}{d(d-1)}$  = the ratio ( $0 \leq \phi_w \leq 1$ ) of the existing weak relationships (real) on the

total of the possible weak relationships (that is, the weak relationships which can theoretically be established within the community), given the number of individuals with who a weak relationship can be established; such element represents, therefore, an indicator of the weak network density;

$\phi_s = \frac{L_s}{\frac{f(f-1)}{2}} = \frac{2L_s}{f(f-1)}$  = the ratio ( $0 \leq \phi_s \leq 1$ ) between the strong effective actual ties and those

possible ones, given the number of people with who a strong relationship can be established; that is, therefore, an indicator of the strong network density;

$j$  = the size of the network which must be travelled to reach the occupational targets, that is the network which allows people to get useful information on job opportunities;

$d_{CR} = n_1, n_2, \dots, n_c$  = the number of criminals of community  $d$ ;

$d_{NCR} = n_1, n_2, \dots, n_o$  = the number of non-criminals of community  $d$ ;

$\rho = \frac{d_{CR}}{d}$  = the ratio of criminals of community  $d$ ;

$1 - \rho = \sigma = \frac{d_{NCR}}{d}$  = the ratio of non-criminals of community  $d$ .

In this universe, the average number of contacts of an individual is given by the sum of the established social interactions between relatives and friends with those tied with the rest of the population:

$$(\omega_F \cdot f) + (\omega_D \cdot d) = (\omega_F \cdot f) + \underbrace{(\omega_D \cdot \rho \cdot d)}_{\text{Criminals}} + \underbrace{(\omega_D \cdot (1 - \rho) \cdot d)}_{\text{Non criminals}} \quad (1)$$

In addition, we hypothesised, that only a part of the individuals belonging to the community  $d$  was committed to doing social activities and, therefore, this part was more equipped or specialised in furnishing job opportunities, or simply useful information in the job search.

$d_{NCR}^{CSA} = n_1, n_2, \dots, n_i$  = the number of individuals committed to doing social activities within the community  $d_{NCR}$ ;

$d_{NCR}^{USA} = n_1, n_2, \dots, n_k$  = the number of individuals uncommitted to doing social activities within the community  $d_{NCR}$ ;

$\sigma_{CSA} = \frac{d_{NCR}^{CSA}}{d}$  = the ratio of individuals committed to doing social activities within the community  $d_{NCR}$ ;

$\sigma_{USA} = \frac{d_{NCR}^{USA}}{d}$  = the ratio of “uncommitted” individuals, that is individuals uncommitted to doing social activities within the community  $d_{NCR}$ ;

After these assumptions, the (1) becomes:

$$(\omega_S \cdot f) + (\omega_W \cdot d) = (\omega_S \cdot f) + \underbrace{(\omega_W \cdot \rho \cdot d)}_{\text{Criminals}} + \underbrace{(\omega_W \cdot \sigma_{CSA} \cdot d) + (\omega_W \cdot \sigma_{USA} \cdot d)}_{\text{Non criminals}} \quad (2)$$

Thus, the dimension of the remarkable social network that must be travelled to reach occupational targets is given as follows:

$$j = (\omega_W \cdot \rho \cdot d) + (\omega_W \cdot \sigma_{CSA} \cdot d) \quad (3)$$

Deriving with respect to  $\omega_W$  (that is with respect to the ratio of the weak ties), we deduced that

$$\frac{\partial j}{\partial \omega_W} > 0, \text{ if } \rho \cdot d + \sigma_{CSA} \cdot d > 0.$$

Because  $\sigma_{CSA} = \sigma - \sigma_{USA}$ , this last condition can also be written in the following way:

$$\rho \cdot d + (\sigma - \sigma_{USA})d > 0. \quad (4)$$

Remembering that  $\rho = \sigma$ , the (4) becomes:

$$d - \sigma_{USA}d > 0 \quad (5)$$

Therefore, it is possible to conclude that:

$$\frac{\partial j}{\partial \omega_W} > 0, \text{ if } d > \sigma_{USA}d \quad (6)$$

We deduced that, to have a positive effect on the size of the social network relevant to occupational targets, it was necessary that the community considered was not composed exclusively by “uncommitted” individuals to doing social activities.

## 4.2 The role of the key player of criminal organisations

Our analysis will be clearer, if we try to complete this demonstration by introducing some simple elements of the Theory of Probabilities. We start from the hypothesis that the before mentioned individuals committed to doing social activities are not present within the community. In this case, the average number of contacts of an individual is given by:

$$(\omega_F \cdot f) + (\omega_D \cdot d) = (\omega_F \cdot \rho \cdot f) + \underbrace{(\omega_D \cdot \rho \cdot d)}_{\text{Criminals}} + \underbrace{(\omega_F \cdot \rho \cdot f) + (\omega_D \cdot \sigma_{USA} \cdot d)}_{\text{Non criminals}} \quad (7)$$

For simplicity, we let:

$E_1$  = be the event “meeting with an individual belonging to the subset  $A = (\omega_S \cdot \rho \cdot f)$ ”

$E_2$  = be the event “meeting with an individual belonging to the subset  $B = (\omega_W \cdot \rho \cdot d)$ ”

$E_3$  = be the event “meeting with an individual belonging to the subset  $C = (\omega_S \cdot \sigma_{USA} \cdot f)$ ”

$E_4$  = be the event “meeting with an individual belonging to the subset  $D = (\omega_W \cdot \sigma_{USA} \cdot d)$ ”.

Then, if each of these subsets is constituted by the same number of individuals, the probability to meet individuals that belong to one of the above mentioned subsets is equal to:

$$p_i \mathbb{E}_i \stackrel{\sim}{=} \frac{1}{4} \Rightarrow 25\%$$

with  $i = 1, 2, 3$  and  $4$ ,

because  $1 = P \mathbb{E} \stackrel{\sim}{=} \sum_{i=1}^4 p_i \mathbb{E}_i \stackrel{\sim}{=} p_1 \mathbb{E}_1 \stackrel{\sim}{=} p_2 \mathbb{E}_2 \stackrel{\sim}{=} p_3 \mathbb{E}_3 \stackrel{\sim}{=} p_4 \mathbb{E}_4$ , considering we deal with events

equally probable but incompatible, which exclude each other:

$$P \mathbb{E} \stackrel{\sim}{=} p \mathbb{E}_1 \cup E_2 \cup E_3 \cup E_4$$

We must remember that only the individuals included in weak ties are able to offer employment information and opportunities<sup>11</sup>. Therefore, we calculate the probability to meet these individuals, and to find a job, to be equal to 50%.

If, in fact, we assume that

$$E_j = E_2 + E_4$$

$$E_{NU} = E_1 + E_3$$

we obtain:  $P \mathbb{E}_j \stackrel{\sim}{=} \frac{2}{4} \Rightarrow 50\%$

Nevertheless, if we imagine to introduce in the community  $d$  a further subset of individuals who are devoted to social activities or to the development of useful activities for job opportunities

<sup>11</sup> The individuals included in weak ties, as we know (see the pioneering work of Mark Granovetter on *The Strength of Weak Ties*, 1973), are more likely to have access to information about potential jobs which interest them, than people who only invest in socially strong ties.

(finalised, for example, to the employment of disadvantaged people), the probability of meeting individuals actively participating in the labour market and who are not involved in criminal activities will increase. In such case, in fact, the range of possible events will become the following:

$$E_j = E_2 + E_4 + E_5$$

$$E_{NU} = E_1 + E_3,$$

because there has been the introduction of  $E_5$ , that is the event “meeting with an individual belonging to the subset  $E = (\omega_D \cdot \sigma_{IS} \cdot d)$ ”.

Therefore, the probability of meeting individuals able to offer employment information or opportunities will increase to  $P_j = \frac{3}{5} \Rightarrow 60\%$ .

### 4.3 The role of the key player of social enterprises

From the previous equations it is possible to derive *the first conclusion*: in the territories with an intense presence of crime (diffused or organised), in order to create paths of job insertion and to valorise the human resources of the territory, there is a need to create suitable conditions to favour the growth of social enterprises, organisations (such as social cooperatives, voluntary associations, foundations and other non-profit organisations) which promote social activities and develop, as previously sustained, an important mediation function in the labour market. Such organisations occupy, in fact, a very remarkable position in the whole system of social relationships. This is the typical position which is defined as “cutpoint” or “key player” by the scholars of the Social Network Analysis, because it assumes an important function of linking, or “bridging” the single nets of relationships woven by the individuals that compose the community.

This same role is played in their territory also by criminal organisations, that propose themselves, “according to the circumstances, as brokers, patrons, protectors in relational structures of different nature that are utilised for their criminal aims” (Sciarrone 2009). In fact, it can not be neglected that the strength of Mafia is not the only function of the ability to practice violence and to control and dominate the territories, but also of its ability “to make network” (i.e. to establish relationships, to establish trades, to create ties of trust and to stimulate obligations, as well as mutual favours) and to propose itself as “broker” between different subjects and different nets of relationships<sup>12</sup>. It is possible to sustain, without doubts, that the affirmation of this type of

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<sup>12</sup> In Southern Italy, “this network of intermediation, often manifests itself in an improper way” (Barucci 2008, p. 23.). The most normal services are furnished in fact in “opaque” way (or at least, they are so perceived by citizens) and they create roles and unusual professions (from the unauthorized parking attendant to the *facilitator* for certain procedures, to those whose job is to make recommendations), which increase the costs of production and strongly slow down the economic development. It was also recently expressed by the Governor of the Bank of Italy (Draghi 2009, p. 5): “The



organisations is built fundamentally in the ability to spin (weak) ties and to activate processes of networking through which it is possible to obtain economic and social resources that would result otherwise unattainable or unavailable.

#### 4.4 The Zipping-Open Strategy

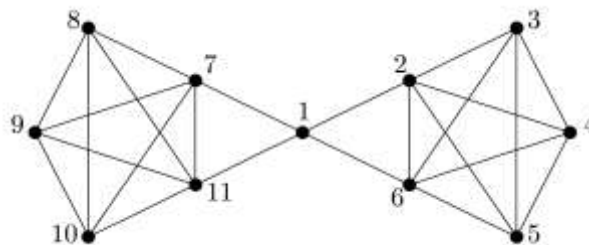
The aforesaid line of reasoning underlines the fact that an efficient strategy to fight organised crime should, first of all, be finalised in breaking the ties and in discouraging the relationships created within its components. In fact, in recent studies on the structure of the criminal networks<sup>13</sup>, it is stressed that the strength of the organisations is mainly contained in their resources of the relational type, that is in what is commonly called “social capital”, and in their ability to tie themselves – through an informal net – to other individuals and organisations which occupy a key position in the life of the local community. Such individuals and organisations carry out the important function of connecting the single social networks and it allows not only the control on precious flows of information, but also the establishment of a whole series of alliances and friendship’s networks, which in any moment can be used to reach their criminal purposes or, in any case, to draw advantage and utility.

The policies proposed by these studies essentially consists in the removal of such individuals and organisations which can be individualised with the aid of the modern techniques of the Social Network Analysis and the Mathematical Theory of the Graphs. In fact, it is in the field of scientific research that the concepts of point of separation and bridge, as well as special statistic indexes directed in individualising the relative position of the subjects in the net, have been elaborated.

The graphs of figures 1 and 2 allow us to visually grasp the meaning of the aforesaid concepts.

**Figure 1**

“Separation point” and “bridge” in an generic network structure



Source: Our elaboration.

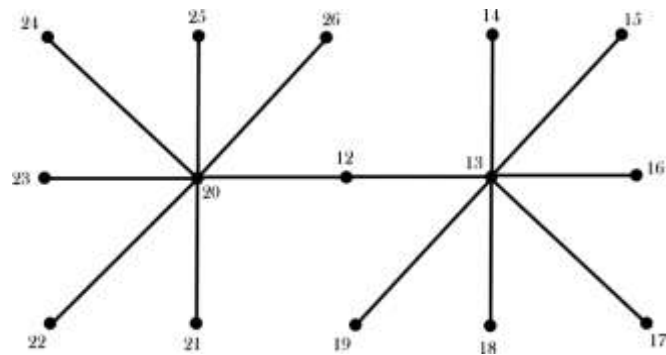
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weight of organised crime is felt in a great part of Southern Italy. It infiltrates Public Administrations, it pollutes the trust among the citizens, it hinders the operation of the free competitive market, it increases the costs of the economic and civil life”).

<sup>13</sup> These issues are highlighted, in particular, by Gribaudo (2009) and Sciarrone (2009), while an interesting attempt to assess the relational structure of criminal organisations through the use of Social Network Analysis has been carried out by McIllwain (1999), Sarnecki (2001), Matsueda (2006), Cayli (2010) and Scaglione (2011).

**Figure 2**

“Separation point” and “bridge” in a hierarchical structure of relationships



Source: Our elaboration.

The expression “point of separation” individualises the subjects (the nodes 1 and 12 represented in figures 1 and 2) which belong to a given determined net of social relationships (a set of nodes) and occupy this structural position that, if they were eliminated, they would also produce the separation of the original net into at least two components (as illustrated in the figures 1 and 2 as two subsets of nodes).

The concept of “bridge”, on the other hand, is usually referred not to individuals, but to the particular types of relationships or interdependences (the lines that connect node 1 to nodes 2, 6, 7 and 11 of picture 1 and node 12 to nodes 13 and 20 of picture 2) that have a fundamental importance in a given context, because they allow the integration (or inclusion) of some individuals in a group or they develop the function of connecting different groups.

Therefore, a good strategy to fight organised crime would foresee, as sustained by Ballester, Calvó-Armengol and Zenou (2010), the definitive removal of these individuals and organisations (what they define “key players”) from the network and the consequent elimination of their relationships. These relationships, in fact, allow the Mafia to draw its strength and its ability to adapt and to take roots and diffuse itself in the local communities.

Nevertheless, such theory appears too simple and theoretical, because it does not adequately take into account the real nature of the relationships between criminal organisations and the worlds of civil society and politics<sup>14</sup>. It is well-known, actually, that some zones of promiscuity between

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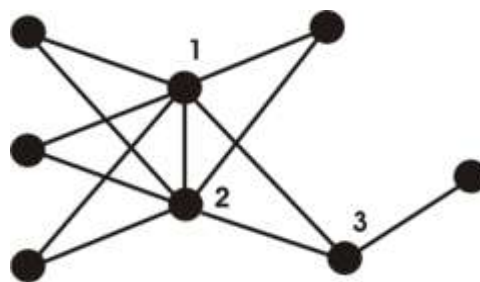
<sup>14</sup> We can consider a proper “transmission belt” that connects politics to criminal organisations. In some of these organisations, for instance, exist some individuals, defined as “vote promoters” who have the specific assignment to put in contact and hold the same contact between the Mafia clans and politicians. See Paoli L. (1997), Galullo R. (2010a and 2010b), Xenakis S. (2010), Mancini L. (2011), Sberna S. (2011). Nando Dalla Chiesa (famous writer, politician and sociologist, son of General Carlo Alberto Dalla Chiesa, who was killed in a Mafia ambush in 1982), in his latest study on the relationship between Mafia and politicians, argues that the collusion between the Mafia and the State was not the result of specific agreements or deliberate alliances, but of “a broader, more general, more systematic convergence, which may also exclude unspeakable pacts with the Mafia” and “which can arise from a commune interests, between

civil society and the Mafia's dominating sets exists everywhere. Therefore, it is absurd to think that is possible to eliminate them suddenly, with a stroke of magic wand<sup>15</sup>. On the contrary, it is more realistic to focus on fragmenting the criminal networks by using the same “weapons” that the Mafia uses, that is the same social capital and the same network of relationships which it uses and which constitute its strength. This latter, in fact, do not exclusive belong to those individuals drawing benefit from them, but also to those who were able to develop their enormous potentialities and are prepared to invest in their growth.

From our point of view, an effective strategy to fight organised crime should aim at identifying not only individual key players (the individual nodes that represent the hubs of the graphs), but also all the groups and subgroups of individuals who have a dominant position or an important link function within the criminal network, or between the criminal world and business or the political world (these are the famous *zip-men*, that is the innocent-looking men of criminal organizations). In fact, it has been analytically demonstrated that the removal of a hub may not be fatal for the free-scale networks. In this type of network, when there is an attack or a failure in the system which strikes the most highly connected nodes, the latter can be replaced by others which will equally ensure the network survival and its internal information flow. They make up a set of nodes which, if eliminated, can produce greater fragmentation or they can widen the paths which link each individual nodes<sup>16</sup> and thus virtually disconnect the network.

**Figure 3**

Example of a “separation group”



Source: Our elaboration.

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the Mafia and political parties or political leaders, in order to have a weaker justice, a less independent judges, a more enslaved information, a more precarious sense of the State, a communal value system more functional to the pursuit of illegal activities”. See Dalla Chiesa N. (2010).

<sup>15</sup> Criminal organisations would not have been able to influence in such a capillary way the economy if they had been able to count only on their strengths, that is, only on individuals “formally” considered members, through the various forms of affiliation, in their ranks. It was necessary that other individuals and apparatus (the so called “grey zone” or “Mafia middle class”) integrated, trough their action, with the Mafia. We refer, in particular, to the professional, business and political worlds and Public Administrations. See Santoro et al. (2005), Amadore (2007), Lanza (2009).

<sup>16</sup> We must remember that, in graph theory, the notion of path identifies a walk whose nodes and whose lines are to be inserted in sequence once and only once. This notion implies, consequently, the existence of sets of nodes connected to each other, that is connected directly or indirectly by at least one walk.

Consider, for example, Figure 3. It shows the kind of situation which this approach could help solve. The nodes 1 and 2, in fact, play the role of key players, but only by destroying contemporarily the pair 1 and 2 or 1, 2 and 3 we obtain the best possible fragmentation of the graph.

In conclusion, if this approach is considered valid, it would require the concepts of the *dominating set* and *cut-set*, rather than the concepts of the *cut-point* and *bridge*. Consequently, the repressive strategy would be aimed at searching not for the individual nodes whose removal may lead to an increase in the number of network components, but for the smallest groups of nodes (*minimum cut-set*), or the *minimum weight cut-sets*<sup>17</sup>, which would be able to separate the largest number of network nodes<sup>18</sup>. In fact, it is known that, as time passed, a synergy was formed among different resources (political, economic and military) from which arose complex illegal networks, named *criminal systems*. Moreover, it is known that in these networks there are individuals belonging to different worlds (politicians, entrepreneurs, white collars, real member of the Mafia) which communicate among themselves by the so called *zip-men*. If we consider these minimum cut-sets as teeth of a zipper between two worlds, we could say that the best repressive strategy must aim at eliminating or catching all of them to break the link which they form. This kind of repressive strategy, which we can define *Zippering-Open Strategy*, could lead to destroying criminal networks with minimum use of resources.

With this approach, it is not difficult to understand the strategic importance of the analysis of the structure and evolution of the criminal network and the adoption of appropriate research methods of the aforesaid *vertex cut-sets*.

## 5 A proposal of a new organised crime prevention policy

### 5.1 The need for a new strategy of organised crime prevention

Therefore, a serious strategy to fight organised crime should begin with prevention; a prevention<sup>19</sup> that should be realised through suitable policies which support and enhance the creation and the accumulation of social capital<sup>20</sup>. Specifically, the State should promote and support

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<sup>17</sup> The *cut-set minimum* is the one that contains no other *cut-sets*. Many works of Graph Theory have examined the problem of identifying the so called *minimum weight cut-sets*.

<sup>18</sup> This approach comes from the extension of the concept of the *separation point*, an extension that is derived from the need to consider the so-called *ensemble issues*, defined and discussed by Everett and Borgatti (1999) and Borgatti (2006) as the central problem of a group of *k* nodes contained in a network.

<sup>19</sup> On the necessity to use effective tools of prevention, over those of repression, see Vigna (2007, p. 15).

<sup>20</sup> Recent studies illustrate, in fact, that the strong presence of social capital in given territories can produce positive effects on the social cohesion and even determine a reduction of crime. See Gatti U., Schadee H.M.A., Tremblay R.E. (2002), Gatti U., Tremblay R.E., Larocque D. (2003) and Buonanno P., Montolio D., Vanin P. (2006).

the development of those organisations (such as social cooperatives, voluntary associations, etc.<sup>21</sup>) which also assume an important role in the labour market as brokers between different groups of individuals or networks.

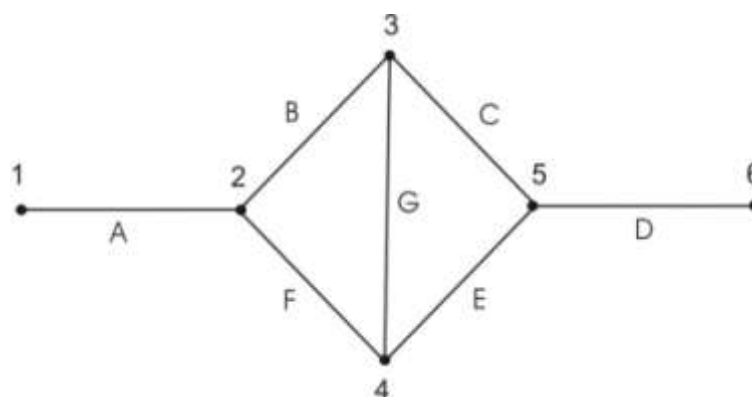
An effective preventive strategy should, therefore, aim at identifying those individuals or groups of individuals engaged in such socially important activities which control the information flows and increase the social cohesion within the network.

Let us imagine what could be the possible effect of the aforesaid policy. Figure 4 shows a square formed network which represents a connected social network with two nodes (node 2 and node 5) which identify the so-called “key players”, that is those individuals who provide an important function of connecting different groups, just as criminal organisations and social enterprises do.

Moreover, if we imagine that the aforesaid network is crossed by precious (being useful to get a job) information flows - just as an electric or telephone circuit can be crossed by electricity - we can suppose the five ties among nodes 2 and 5 are “open”, that is they allow the free flow of information, with the probability respectively given by, *A, B, C, D, E*. For example, the tie *A* between the node 1 and 2 will be *open* with probability *a* and closed with probability  $1 - a$ , the tie *B* between the node 2 and 3 will be *open* with probability *b* and closed with probability  $1 - b$ , etc.

**Figure 4**

“Reliability of the key players network



Source: Our elaboration.

<sup>21</sup> We suggest, for instance, the study of Lasagni (2008), in which is underlined that the increase of the number of citizens joining voluntary associations can reduce the incidence of crime (thefts of automobiles and robberies) in the territory.

## 5.2 The concept of “reliability” of the social networks

It is obvious that, in this context, the individual’s advantage in contacting or in turning to the two types of *key players* depends, first of all, from the “reliability” of the network, that is on the probability that the above-mentioned information flows freely inside it (that is, there is at least a series of opened ties between nodes 2 and 5), matching the demand and the supply of labour.

We deduce that, if  $\Omega$  represents the “space sample of the events” defined in the following way:

$A_1$  = “the ties  $B$  and  $C$  are open”;

$A_2$  = “the ties  $B$ ,  $G$  and  $E$  are open”;

$A_3$  = “the ties  $F$ ,  $G$  and  $C$  are open”;

$A_4$  = “the ties  $F$  and  $E$  are open”;

then the network reliability is given by  $P(A_1 \cup A_2 \cup A_3 \cup A_4)$ .

There are five ties  $A$ ,  $B$ ,  $C$ ,  $D$  and  $E$ , which may be closed with probability respectively  $a$ ,  $b$ ,  $c$ ,  $d$ ,  $e$ . For example, the link  $A$  is closed with probabilities  $a$  and it is open with probability  $1 - a$ .

Therefore, for the hypothesis formulated, it results that:

$$P(A_1) = ad, P(A_2) = ace, P(A_3) = bcd, P(A_4) = be,$$

$$P(A_1 \cap A_2) = acde, P(A_1 \cap A_3) = abcd, P(A_1 \cap A_4) = abde,$$

$$P(A_2 \cap A_3) = abcde, P(A_2 \cap A_4) = abce, P(A_3 \cap A_4) = bcde,$$

$$P(A_1 \cap A_2 \cap A_3) = P(A_1 \cap A_2 \cap A_4) = P(A_1 \cap A_3 \cap A_4) = P(A_2 \cap A_3 \cap A_4) = P(A_1 \cap A_2 \cap A_3 \cap A_4) = abcde.$$

In this way, the advantage of enlacing the relationships with the *key players* of the community  $d$  depends on the aforesaid *network reliability*, as shown by the following expression:

$$P(A_1 \cup A_2 \cup A_3 \cup A_4) = ad + ace + bcd + be - acde - abcd - abde - abce - bcde + 2abcde \quad (8)$$

This expression also represents the condition on which depends the individual decision of whether or not “to preserve” the ties with these individuals or to “eliminate them”.

The individual has to understand which agent is opportune to address to obtain information useful for him or her. Then he/she will make a decision keeping in mind, first of all, the probability of receiving useful information with the aim of finding a job [ $P(A)$ ]. Furthermore, he/she knows that two results are possible:  $A_1$  = “I receive useful information to find a job” or  $A_2$  = “I do not receive useful information to find a job”. These two results are possible and equally probable

$$P(A_1) = P(A_2)$$

but also *exhaustive* and *exclusive*:

$$P(A_1) + P(A_2) = 1$$

Furthermore, he/she has additional information, the degree of “reliability” ( $E$ ) of the social network to which his/her interlocutor is connected, that is the individual he/she addresses to obtain useful information. Therefore, the individual will make an appropriate decision calculating the probabilities –  $P(A)$  = the probability to receive useful information to find a satisfactory job and  $P(A|E)$  = the probability to get the useful information, given the degree of reliability of the social network addressed to the consulted individual (conditional probability of  $A$ , known  $E$ ) – and applying the decisional rule of Bayes:

$$P(A_i|E) = \frac{P(A_i)P(E|A_i)}{P(E)} \quad (9)$$

The fact that the decision of the individual depends on the degree of reliability of the network contacted can be expressed in the following way:

$$D = f(E) = \begin{cases} A_1, \text{ se } P(A_1|E) > P(A_2|E) \\ A_2, \text{ se } P(A_2|E) > P(A_1|E) \end{cases} \quad (10)$$

Following the *Theory of Evolving Networks*, it is possible to say that the degree of reliability of the social networks nodes ( $E$ ) increases their *fitness* ( $\eta$ ), that is the ability to compete for links, and in this way produces an increasing probability that new nodes could connect to that network ( $\Pi$ ):

$$\Pi_i = \frac{\eta_i E_i k_i}{\sum_j \eta_j E_j k_j} \quad (11)$$

where

$\eta$  = the *fitness* of individual nodes of the social network considered; this variable, in our model, depends on the reliability of the individual nodes that make up the network [ $\eta_i = \eta_i(E_i)$ ];

$k_i$  = the *connectivity* of the individual nodes of the social network considered;

$i = 1, 2, \dots, M$  = the individuals who connect to a specific social network in order to obtain information in which they are interested;

$j = 1, 2, \dots, N$  = the nodes already existing in the social network considered<sup>22</sup>.

According to this perspective, it is not difficult to understand the strategic importance of the problem of evaluating the reliability of the network and the developing indices which can provide general, but at the same time synthetic knowledge of the information flow within the network.

<sup>22</sup> For in depth information on the concepts of the *fitness* and *connectivity*, see Barabási, Albert (1999), Barabási, Albert, Jeong (1999), Bianconi, Barabási (2001), Ergün, Rodgers (2001) e Albert, Barabási (2002).

### 5.3 The Competition Policy

Obviously, there is also a problem of asymmetric information that transforms the described situation in a game with imperfect information. Therefore, from such observation a *second main conclusion* can be drawn: the State should try to reduce the occurrences of the aforesaid phenomena and to increase the perception that social enterprises are more capable to match the supply and demand of labour and thus have a greater degree of reliability over other types of intermediaries, such as criminal organisations.

The connectivity  $k_i$  of the social enterprises belonging to community  $d$  will actually arise at a rate that is proportional to  $\Pi_i$ , which depends in turn on  $\eta_i$  and therefore on  $E_i$ :

$$\frac{\partial K_i}{\partial t} = m\Pi_i = m \frac{\eta_i \mathbf{E}_i \bar{k}_i}{\sum_j \eta_j \mathbf{E}_j \bar{k}_j} \quad (12)$$

where

$t$  = time;

$m$  = the number of links between the social network considered and the already existing nodes, that is the set of the ties (the social capital) which is available to the social enterprise.

In this context, it is not difficult to imagine the additional effect it could obtain by applying restrictive measures to the personal wealth of organized crime through seizure, confiscation and reutilization for social aims of the criminal assets. The aforesaid measures, if correctly applied and disciplined, can produce a meaningful growth of the marginal costs of illegal activities and generate a substitution effect which modifies the set of the individual's advantages and induces an increase of the individual's effort for legal activities.

However, the benefits that can be obtained from a correct application of the reutilization of confiscated property for social purposes are broader and more relevant. Actually, these restrictive measures can increase the mutual trust among citizens and between citizens and legal institutions, thus favouring the formation of social capital and an alternative economy to that of the Mafia's. The realisation of this suggested strategy requires a strong support by the State and the Institutions and an intervention primarily directed towards promoting the growth of social enterprises and all those agents (such as the social cooperatives) which operate and offer their goods and services (that is, above all, information and job opportunities) in the same territories as the Mafia<sup>23</sup>. Consequently, a

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<sup>23</sup> We cannot forget, in fact, that the Mafia are able to enter into the legal economy, because they are able to offer services (such as the easy and unrestricted financing that "bypasses" the official system of access to credit, guarantee the timely fulfilment of financial obligations and respect for treaties and promises, services and dispute settlements, the protection of cartel agreements, the provision of information and, most important, job opportunities) that are at least initially beneficial to the economic agents. See the interesting study of Varese F. on the processes of expansion and transplantation of the Mafia: "The availability of the Mafia's muscles also permits the frightening of suppliers who do not pay on time, monitors the workforce, reduces theft and can be a source of short-term loans. ... They (the Mafias) offer *services* to their customers, such as protection against extortion, theft and abuse by law enforcement and protect



competition policy would effectively operate as a tool to clean up and fight organised crime, while the seizure and the confiscation of criminal assets would deprive it of important economic resources, without which the management of the available resources would be increasingly difficult (in this case, the famous “Law of Wildavsky” would go into effect).

## **6 Conclusions**

It is common knowledge that criminal organisations use social ties and networks to construct a solid social consent which allows them to operate, uncontested, in the production of illegal wealth for their members. They are mostly diffused and particularly strong in territories where the level of social capital and the economic wealth is low. For this reason, this paper aims at demonstrating that in order to break the aforesaid vicious circle between the social and cultural impoverishment and the strengthening of an economy sustained by crime it is necessary to utilize the same determinants of the social consent used by criminal organisations. The contribution in fighting organised crime has to start from the social and economic development of the territories by promoting initiatives that stimulate social activities which are able to favour the accumulation of “pure” social capital. Only in this way, in our opinion, one can avoid these organizations to continue to gain the consent of a large part of the population living in the territories in which they operate<sup>24</sup>.

The tools of the seizure and the confiscation of criminal assets combined with the possibility of the reutilization of this goods for social and institutional purposes by non-profit organisations, provided by the Italian Anti-Mafia Normative, represent an important deterrent to the diffusion of illegal behaviour. The high symbolic value of the reutilization of these assets can contribute in positive and effective way in breaking the vicious circle established above all in territories with strong criminal traditions.

An intensive support by the State for a wider diffusion of social enterprises can directly produce economic wealth for a territory through the production of good and services and job opportunities in addition to those generated by the private (for-profit organisations) and public sectors. Furthermore, this diffusion can generate indirect effects on the levels of wealth through the production, the fuelling and the maintenance of the social capital components, such as trust, respect

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the thieves and usurers; eliminate competition; intimidate workers and trade unions in favour of employers and, more generally, threaten and punish legitimate holders of property rights in favour of collusion. For example, in his classic study of Chicago organised crime published in 1929, the American ethnographer John Landeschi shows how the protection of cartel agreements is a crucial service provided by the Mafias (Varese 2011).

<sup>24</sup> In fact, it may seem paradoxical, but the aforesaid people very often protest the imprisonment of the criminal leaders, because they still provide employment opportunities, create jobs and bestow benefits, and the recipients of these hope that they will never end. In this way, the criminal organizations accumulate consensus and social capital, which is exchanged with politicians and all other people who request it in exchange for profits, further consent and gratitude.

for the law and incentives to take an active part in civic activities of the community. These elements can improve the quality of the individual's life and, at the same time, can contribute to the creation of new roads towards legality and respect for the law.

For the aforesaid reasons, this paper sustains that a serious fight against the mafias should be primarily characterized by social and employment promotion policies, because jobs are often offered as a favour, when it should be guaranteed as a right, and that there is a strong need to accelerate the administrative procedures which precede, accompany and follow the assignment of the assets illegally obtained in order to prevent their impoverishment through the destructive actions of criminal organisations.

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