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Summary

Although the literature on *Social Capital* has literally blossomed in the last twenty years, no author has yet ever tried to understand what relationship exist between the level of *generalised trust* in the economy and the economic opportunities available. This paper makes a first step in filling this gap. We propose a formalised model that relates SC to the distribution of economic opportunities in the form of *rents* in a given economy. We move from a critical perspective on the SC literature. From Coleman (1990), and Putnam (1993), SC is a by-product of human instrumental activities that sediments in the form of generalized trust and has a positive impact on overall productivity. In this paper we argue such approach is flaw and it minimizes collective actions to a pure externality of self-interest maximizing behaviours.

On what concerns policy issues, we show that despite the large amount of resources spent by Bretton Woods and other international institutions in generating SC by "getting the (individual) incentives right", when we take into rents into the analysis, SC becomes a concern for developed more than developing countries. This seems to sustain Ben Fine's thesis (2001b) that the sudden popularity of the concept mostly aims to the proliferation of methodological individualism, both in economics and other social sciences. A more accurate study of social interactions, instead, would call for a deeper understanding of trust, trustworthiness, reciprocity and altruism, capable, when needed, to abandon postulates such as self-interest and rationality.

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What is Social Capital

The term Social Capital was originally introduced by Lyda J. Hanifan in 1916. The first scholar that used the term systematically in its current sense was however Jane Jacobs in her famous article of 1961 (Jacobs, 1961). As the concept was not at essential in Jacobs' work, scholars generally acknowledge the French sociologist Pierre Bourdieu as the father of the term. Bourdieu started referring to SC in the 1970s (Passeron, et al., 1977), but only several years later, with the diffusion of Bourdieu's 1986 contribution "*Forms of Capital"*, SC became as popular as it is today in the economic literature. From the domains of sociology the concept has slowly spread to most of the other social sciences, including political science, anthropology, urban studies and economics. In the latest years an ever increasing number of papers and articles on SC are produced.
Despite being the source of much inspiration, SC has nonetheless brought lots of confusion into the social sciences, such as there is yet no agreement on what precisely is its role within economics, and not even on what the term exactly means. As a consequence of this confusion, a plethora of definitions can be traced down in the literature and new definitions are proposed in every new piece. The aim of this paragraph is to assess the usefulness of the concept by stressing out its major limits.

Social Capital, popularity and criticisms

Every article that deals with SC is structured in a similar way. First either a factual situation or a theoretical model characterised by unexplained excess performance are presented. Then SC is indicated as the *missing* explanatory variable in the model, or as the hidden actual factor that enhances *aggregate output* without requiring supplementary costs or effort. Daring a comparison, SC is similar to what Marshall identified as the *entrepreneurial atmosphere* in an industrial district; a sort of all-embracing uncontrolled and intangible factor that benefits all agents indistinctively. Due to this lack of clarity, definitions of what SC actually is vary from article to article. Authors often claim that it both *resides* and *is* the set of *social networks* characteristic of a given economy, or the amount of *general trust*, the *ethos*, the *civic engagement*, the *norms*, the *solidarity*, the *reciprocity* available to a given society. What remains shared by all authors is that in all instances more SC will mean a higher level of welfare, more per-capita income and better economic performances.
Despite its popularity two major criticisms have been addressed to SC. The most relevant has been proposed by Ben Fine (Fine, et al., 2000) and claims that concept is pivoting on a major misunderstanding of who are those who create the network of social relations, the generalised level of trust, or the norms, and those who are the beneficiaries of this, or in other words whether the *Capital* (Social), is owned by individuals, or by the community as a whole. Whether it is a collective good or if it is individually appropriable. Surprisingly enough, this confusion is also the major reason why the concept has been so appealing to many authors, as the blurred boundaries between the *individual* and the *social* seem to offer a chance to overcome the limited individualistic approach so characteristic in economics, in favour of a renewed, more socially oriented type of approach. The over praised originality however, vanishes if we realise that even the idea of SC relies on pervasive *methodological individualism*. Analogously to the Smithsonian *invisible hand*, in fact, the most institutionalised definitions of SC exclude any conflict or forms of irrational altruism in social interactions, and SC is instead depicted as a sophisticated mean to increase one's welfare. All benefits that occur to the community are either an involuntary spill over in the pursuit of personal interest or a conscious way to enhance personal welfare. In other words, the *individual* in mainstream SC theory is still a selfish profit maximizer and not a social being, while the *social* is not treated in its complexity but simply reduced to a nexus of interactions of single individuals that

maximizing their own welfare accidentally end up benefiting each other. The latent *individuality* in *social* relationship between individuals is the most prominent aspect of SC.

A second criticism has been devoted to the use that "social capitalists" make of the term *capital*. The association of *social* to *physical* capital is made to emphasize that SC is a *factor of production*, a stock input able to shift the social welfare function upwards. Similarly to what happens with physical capital, it is retained that the building of trustful relations, networks and norms requires the investment of resources and expectations upon future benefits. Other similar-to-physical-capital types of characteristics are that like other forms of capital, SC is often claimed to be *appropriable*, as an one's network of, say, friendship ties, can be used for other purposes, such as collecting information or advices. By the same token some features of *convertibility* are also traced in SC, for instance, the advantages conferred to one's position in a social network can often be converted to economic or other types of advantages. Similarly to physical capital, SC also possesses different degrees of *durability*. Durable forms of SC are often associated with family connections that remain unchanged even when repeated service extractions are made. It is also recognised almost in all contributions how SC is subject to *depreciation*, as social bonds have to be periodically renewed and reconfirmed, or else they lose efficacy. In analogy to this SC can be rendered obsolete by contextual changes, at rates that are typically unpredictable, so that even conservative accounting principles cannot estimate a meaningful depreciation rate. The capital analogy is then often pushed to its limit and often becomes ontology, with the consequence of raising complaints (Baron, et al., 1994;Robison, et al., 2002) as well as authoritative critiques (Arrow, 2000;Solow, 2000). Although it is generally accepted that SC is an investment with an expectation of future returns no systematic piece of work presents a critical study of whether and how all the capital-like characteristics of SC are objectively verified and intrinsic to its nature. As each new piece work carries its own definition of SC if some capital-like characteristic are accepted by one author they might be rejected by another. Having to face lots of confusion some authors resolve all ambiguities by claiming that after all SC is a sort of 'impure public good' (Adler, et al., 1999;Mancinelli, et al., 2002), as its use is non-rivalrous – its amount does not diminish with the use – but excludable, as some individuals can always be excluded from the possible network of beneficiaries. A last, more radical, criticism on the use of the term "capital" in SC, is offered by Fine (Fine, 2001b), when he claims that to associate "social" with "capital" requires a misunderstanding of what "capital" is in the first place. Fine's instance is that "capital" is an intrinsically social economic category as its possession divides the society between those who have capital (the capitalists) and those who do not have it (the proletarians). This distinction is even more true when economists deal with developing countries, where financial markets and ownerships through shares are obviously not diffused.

In order to be acceptable SC still requires some conceptual clarity. Together with identifying the capital features of SC, another necessary step would also be to identify the *locus* where it resides[1]. As Fine (2001b) explains, when looking for where it resides, authors place lots of attention to the *network* of interactions, and ignore the *structure* of interactions. In other words, the direction and intensity of interactions are taken for granted and there is no questioning about why those interactions actually exist or about what (whose) purpose they actually serve. Such an approach has evolved mostly from the early network research in sociology, which in accordance with Simmel's 'formalistic sociology', insisted on the idea that the structure generates its own content (Wellman, 1988). The importance of the content of networks ties is then downplayed to celebrate the ties themselves. The major downside of this is that the de-contextualisation of network ties involves the abandonment of any analysis about the actual distribution of power within the society, and about the meaning of the ties themselves. Networks are mostly taken as simply as a privileged channel of

[1] In particular, the identification of the sources of social capital has been the focus of Adler and Kwon's work (1999).

communication. With an evident loss of explanatory power, networks are never seen as an appropriate instrument for political pressure and the control of resources. In evident disagreement with this approach, some authors (Gabbay, et al., 1998) have instead argued that if SC is the resource provided by the network of ties to which an individual belongs, it is relevant to understand what this resource is made of, while it is a mistake to simply assume that norms, trust, or beliefs equally serve everyone's purposes. As we will see later on, a contextualised analysis which takes into account the resources available and the network channels in which these are employed is in fact essential in order to understand where SC resides.

Social Capital, Economic Opportunities and Rents

In the previous paragraph we have seen how the mainstream definition of SC is embedded into methodological individualism. Yet societies are strongly typified by structural divisions and conflicts between different ethnic communities, classes, pressure groups, and along gender divisions, all of which have a strong influence on overall economic performance and welfare. Therefore, to understand the way that social elements such as cohesiveness, networks, trust or altruism influence welfare is not an effort without meaning, should this be called SC or otherwise. What follows in this article is a certain urge to reconcile the *structuralist* and the *individualistic* approaches, or in other words the *social* with the *individual*. In this respect here we propose a new approach to SC that although it is not entirely departing from methodological individualism it extends its boundaries, by incorporating rent-seeking behaviours and possibly all attached class struggles.

Bringing *rents* in

A very interesting contribution to the analysis of what promotes or obstructs economic development has recently been proposed by a small group of researchers, notably Chang, (1994) and Khan and Sundaram (2000), whose aim is to bring new life into *Political Economy*. Their focus of attention is on understanding what is the relationship between the distribution of economic opportunities within the social arena – which they call *rents* – and economic performance – development. Although remaining a form of 'excess income', in this acceptation a *rent* is however cleared from any negative connotation, and instead of a simple deadweight welfare loss it becomes the reward that attached to an economic opportunity and that agents aim to capture. According to Khan and Sundaram (2000) rents as pervasive in the economy and necessary to promote economic and technological change.

In accordance to the mainstream literature on rent-seeking where rents are 'the portion of earnings in excess of the minimum amount needed to attract a worker to accept a particular job or a firm to enter a particular industry' (Milgrom, et al., 1992), Khan and Sundaram (2000) clearly state that we have a rent when:

"a person […] earns an income higher than the minimum that person would have accepted, the minimum being usually defined as the income in his or her next-best opportunity".

But in Kahn rents are not necessarily wasteful or inefficient, on the contrary Kahn claims that there are rents behind any economic decision[2], and at all levels of the economic activity. At the

[2] To support this idea note that 'the minimum amount needed to *attract*' suppliers of inputs (such as workers and capitalists) to particular industries should not be confused with the payments which may actually be necessary to induce

macroeconomic level, for instance, rents are set in place when a government distributes import licenses or when it creates monopolies; at the microeconomic level, rents are behind consumption decisions, (as consumers buy to capture a *quasi-rent* that is known as *consumer surplus*), as well as production (*producer surplus*), or management practices[3].

Rents and the agents' behaviour

But what exactly is the connection between the distribution of rents and the behaviour of agents? Khan and Sundaram (2000) have offered a powerful illustration of this by focusing on *rent-seeking* and by revising the meaning that the literature has traditionally attached to it.

Since the publication of the seminal articles by Krueger (1974) and Posner (1975) the activity of rent-seeking has traditionally been perceived as a source of corruption sand one of the major causes of the misuse of public resources. Krueger and Posner show how the cost involved in *seeking* monopoly rents are much larger than the deadweight welfare loss associated with the rent itself. The assumptions at the base of their theories however are very strict, and the argument leaves some concerns worth of consideration.

First of all, although it is true that the rent-seekers are likely to spend resources to capture, maintain, or transfer rents[4], the resources used are not necessarily destroyed in the process, but possibly spent and reintroduced into the economic system. In other words, the acquisition of rents requires the use of resources as well as the creation of any other good or product on the market. Secondly, while conventional rent-seeking theory assumes that rent-seeking only results in the creation or protection of monopolies, in the real world rents are widespread all over the economy, as a second best option can be found to any economic activity. Moving away from Krueger's and Posner's pessimistic view, Kahn and Sundaram (2000) therefore suggest directions in which the rent-seeking framework can be extended. First, since rents, economic opportunities and property rights are closely related, rent-seeking must somehow be one of the triggers of institutional change. Secondly, as attempts to change the structure of rents easily unleash distributive conflicts, it becomes important to understand the distribution of power among the different groups or individuals that are competing for distributive contests. In such a framework *rent-seeking* is not a cost anymore, but rather the propellant of economic dynamism.

Rents, social capital and growth

But what is the relation between rents, growth and economic development? To understand this we need to emphasize that what matters is the *net outcome* of the institutional change generated by rent-seeking and not actually the cost of rent-seeking itself. Outcomes, however, are never determined a priori, but are influenced by many different factors and therefore require detailed and contextualised analysis. The chart below (Figure 1) synthesises this approach. In rent-seeking the effort of agents is, broadly speaking, devoted to two major activities: the modification of the institutional assets of the economy (*pure rent-seeking*), and *production activities* as generally intended by economists, since, as it is obvious, selling and buying goods is also a way to capture rents[5]. Along this path, part of the resources spent in rent-seeking will have a strong impact on the institutional assets, as new institutions are aimed to be created, either for the advantage of new

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them to *produce* the good or service. In other words, the existence of a rent has little to do with efficiency in production, but much more to do with social conflicts and social structural division.

[3] See for instance Crudeli (2001) on gain-sharing and variable wages.

[4] In equilibrium a rent seeker is expected to spend at least as many resources as the actual value of the rent she wants to capture.

[5] The reader can think, for instance, of the producer's surplus and the consumer surplus that the encounter of the curves of demand and offer determine.

emerging classes or groups, or the defence of old interests, while some old institutions are modified or completely dismantled. The net outcome of this process finally consists of what is actually produced, plus a renovated and partly changed *institutional asset*, which is the point of departure for the following round of rent-seeking activities. On the one hand, total production in the short term therefore strictly depends on the amount of inputs that are not destined to rent-seeking, in accordance with what traditional literature claims, while on the other hand, in the long term, the growth of the economy depends on how fierce political conflicts are, and the on the efficiency of institutional change and arrangements. The harsher the conflicts[6], the more are the resources used in the effort of changing the institutional asset by those groups who are more disadvantaged, while the more the institutional arrangements and rents distributions favour unproductive and non-innovative groups or classes, the less technology is likely to change and the economy to grow.

(Figure 1)

Social Capital and Rents: Proposing a Model

In the previous paragraphs we have shown how SC mostly consists of an attempt to establish the supremacy of *agency* over *structure*, of markets relations over social relations. We have seen how in SC the social network is always taken as granted, and no explanation is given on why conflicts or relations actually exist. Subsequently, in the attempt to move towards a more social oriented approach we have looked at an innovative strand of literature on rent-seeking, where rents are seen as the most important cause for the mutation of institutions and social relations. In this section we propose a small theoretical model to bring the two approaches together. Without dismissing methodological individualism, the synthesis between these two approaches acknowledges sheds light on the importance of contextualised analysis and distributional conflicts between social groups.

General model framework

In a very stylized fashion, the economy is composed of several activities or *projects*. Each economic activity, such as selling labour, trading in shares or bonds, or simply buying or selling a product, can be thought and represented in our economy as projects. Each project can yield a potential payoff. All projects and their potential payoffs are assumed to be given ex-ante of any human activity. The total number of project is represented by the letter *P*. The greek letter ϕ associated with the index *i*, represents the net potential payoff of project *i*. As projects yield different net potential payoffs ($\phi_{i \neq} \phi_j$) it is possible to rank them as in *figure 2*.

(Figure 2)

The number of agents in the economy is assumed to be always the double of the number of available projects, hence *2P*. The agents in the economy are divided in two kinds: the *trustworthy* ones, who devote their entire effort to the full implementation of one project, and the *opportunists*, who, incapable of commitment, try to get involved in two projects in order to increase their earnings[7]. The proportion of trustworthy agents in the economy is indicated by the greek letter *ß*.

[6] Generally, political conflicts are higher, when the economic opportunities of the economic system are scarce and agents need to compete for them more fiercely.

[7] Without loss of generality, but simply for computational simplicity we limit the number of projects that an opportunist can intake to two. The relaxation of this imposition, however, would not affect the results of the model.

The total number of trustworthy agents is therefore equal to *ß2P*, while the number of opportunists is *(1-ß)2P*. Whether an agent is trustworthy or opportunist is however not given to know. In order to be implemented each project requires the participation of two agents. Since opportunists are not committed, whether both or one, or no agent is trustworthy will have an impact on the *actual* realisation of the project's *potential* payoff and on the agents remunerations. We assume that for each opportunist that is participating in one project the benefit of this is reduced by a discount factor α, that ranges from 0 to 1. The benefit that will effectively be realised from project *i* will therefore be equal to ϕ_i if both agents involved in it are trustworthy, it will be equal to $\alpha\phi_i$ if one of them is an opportunist or to $\alpha^2\phi_i$ if both are. *Figure 3* summarizes all different possible combination of participants and actual benefits that can be yielded.

(Figure 3)

Other classical assumptions for this model are:

All **agents are *rational*** and *homo economicus*, thus their decisions are purely motivated by the desire to fulfil personal interest and fulfil personal needs;
Information is asymmetrical, as each agent does not know if his project-partner is trustworthy or opportunist;
No risk is attached to the projects themselves since the ***potential payoff*** of each project is known and possibly obtainable. However, there is **uncertainty** about the ***actual payoff*** that each project will finally yield, as agents do not know weather their partner is trustworthy or opportunistic;

Given the economic environment, each agent has to decide whether it is more convenient (it pays more) to be trustworthy or opportunist. To take this decision, each agent will have to consider what is the probability of getting into a project; what is the probability of getting in one of the projects that yield the best potential benefits; and what is the probability that the counterpart in the project will be trustworthy.

The private and social costs of *opportunism*

The choice of being an opportunist bears some implications at the individual level and at the social level. First of all, opportunists bear some private costs, as they know that their opportunistic behaviour will reduce the actual benefit of each project they take part to from ϕ_i to $\alpha\phi_i$. This cost is compensated by the chance to be involved in two different projects. For each of the two projects they can get involved in, opportunists also bear the risk of being matched with another opportunistic partner, so that the project's pay-off are farther reduced to $\alpha^2\phi_i$. Despite the individual costs that it involves, in this model opportunism also involves two distinct types of social costs. On the one hand, opportunists will be "competing" for more than one project, with the consequences of reducing the other agents' probability to get involved in any project. Since we assume that the number of available projects is equal to the half the number of agents, this type of cost is fully captured by our model. A second social cost that an opportunist imposes to the economy is a loss in x-efficiency, as the projects in which he will get involved will produce less than their potential benefits. The loss in x-efficiency depends on the value of the parameter α and may vary from economy to economy. The closer α is to 1 the less the project's actual payoff depends on the agents' effective cooperation, hence the lower is the x-efficiency loss; the closer α is to 0, instead, the more cooperation is important. α can be thought as a technical parameter that aims to capture how "integrated" the economy is, and measures how big are the consequences of individual opportunism on overall economic performance.

The game structure

The entire economy that we have depicted can be represented in a simple chart similar to those usually used in game theory. Once one agent (or player) decides whether to be trustworthy or opportunist, the chart allows us to see all possible payoffs combinations according to the type of partner that the agent can be matched with.

(Figure 4)

As expected, the role played by α is very relevant, as the diagram shows. If we take a value of α equal to 1 for instance, defecting always pays more than cooperating, and defect-defect is a Nash equilibrium and a Pareto efficient solution. The reverse is true when α is equal to 0. When the value of α is comprised between the two extremes, however, which is the dominant strategy is not clear anymore.

Bringing Rents in

It is time to introduce rents in our model. As we have seen a rent is the difference between a person's actual income and the income that person would have received in her next best opportunity. Translated into our model a rent is therefore simply the difference between the potential payoff of a project, say ϕ_z, and the potential payoff of the next project, say ϕ_{z+1}.

$$\phi_z - \phi_{z+1} = d_z \qquad (1)$$

In order to simplify computation and be able to analyse what is the relationship between trustworthiness and the general size of rents, we can assume that the difference between the benefits of next projects is relatively always the same, or, in other words, that the difference between ϕ_1 and ϕ_2 in terms of ϕ_1 is the same as the difference between ϕ_2 and ϕ_3 in terms of ϕ_2, or the difference between ϕ_3 and ϕ_4 in terms of ϕ_3, and so on and so forth. Formally we can write this relation as follows

$$\phi_i = \phi_{i-1} - \delta\phi_{i-1}; .....; \phi_3 = \phi_2 - \delta\phi_2; \phi_2 = \phi_1 - \delta\phi_1 \qquad (2)$$

Now, taking the project with the larges payoff as reference all others can be expressed as a function of it;

$$\phi_i = \phi_{i-1} - \delta\phi_{i-1}; .....; \phi_3 = \phi_2 - \delta\phi_2; \phi_2 = \phi_1 - \delta\phi_1 \Rightarrow \phi_i = (1-\delta)^{i-1}\phi_1 \qquad (3)$$

Visually, after this assumption, the distribution of the net potential benefits that can be captured in the economy would change in a way similar to what follows[8];

(Figure 5)

[8] Note that in this example each net potential benefit is supposed to be 10% smaller than the its next best one. However, although this value has been chosen arbitrarily any other value would imply an important change in the slope of the graph, but not in its shape.

δ has an evident important effect on the distribution of the projects. The value can range between 0 and 1. When it is equal to 0 all net potential payoffs are the same; when it is equal to 1 only the first project (ϕ_1) exists.

Expected payoffs

We can now normalise the model by assume that the first project ϕ_1 is equal to 1. This will allow us to easily compute what are the expected remunerations for the trustworthy and the opportunist as a function of, the proportion of trustworthy agents in the economy β, the size and distribution of rents δ, and the technical parameter α, that represent the economy's level of integration.

Expected payoff for the trustworthy – A trustworthy agent will either earn the potential value of the project she enters entirely, or, if paired with an opportunist, she will earn that vale discounted by α. The expected payoff for a trustworthy agent is therefore given by

$$\sum_{n=0}^{P}\left(\frac{2}{P}-(1-\beta)\frac{2}{P}\right)\left(\beta(1-\delta)^{n}+(1-\beta)\alpha(1-\delta)^{n}\right) \qquad (4)$$

where $\left(\frac{2}{P}-(1-\beta)\frac{2}{P}\right)$ is the probability of entering any project and depends on the proportion of trustworthy people in the economy β.

Expected payoff for the opportunist - The expected benefits for an opportunist also depend on the number of trustworthy agents in the economy. As opportunists compete for two projects they expected payoff function will look as follows.

$$\sum_{n=0}^{P}\left(\frac{2}{P}-(1-\beta)\frac{2}{P}\right)\left(\beta\alpha(1-\delta)^{n}+(1-\beta)\alpha^{2}(1-\delta)^{n}\right)+\sum_{m=1}^{P}\left(\frac{2}{P}-(1-\beta)\frac{2}{P}\right)\left(\frac{2}{P-1}-(1-\beta)\frac{2}{P-1}\right)\left(\beta\alpha(1-\delta)^{m}+(1-\beta)\alpha^{2}(1-\delta)^{m}\right) \qquad (5)$$

To understand when trust and cooperation are more profitable than mistrust and cheating we need now to see how equations (4) and (5) behave when β and δ are changing, taking α and P as fixed parameters. In other words, we need to understand for what values of β and δ (4) is greater than (5). Some easy computations shows that this happens when:

$$\beta < \frac{(1-\alpha)P}{2\alpha\sum_{n=1}^{P-1}(1-\delta)^{n}}+\frac{(1-\alpha)P}{2\alpha} \qquad (6)$$

Aggregate behaviour

The graph below represents equation (6), when α is equal to .99 and P to 50.

(Figure 6)

Figure 6 is the key to understanding what relationship occurs between the distribution of rents and the number of trustworthy individuals. Since for values of β that lay on the left hand side of the curve β^e cooperation is more rewarding than opportunism, and for values of β that lay on the right hand side of the curve β^e opportunism is more rewarding than cooperation, we can expect that in equilibrium the proportion of trustworthy agents in the economy will exactly correspond to β^e. In other words, β^e is the set of equilibrium values of β that vary according to the distribution of rents that is characteristic to the economy (δ).

It is interesting to notice that although β^e is the locus of equilibrium it does not correspond to the region x-efficiency, since, when even a single opportunist is in the economy a loss in total welfare is produced. The model is indeed x-efficient only when β is equal to 1, and not (necessarily) when it equals β^e. The amount of the welfare loss (or x-inefficiency) directly depends on the actual proportion of opportunists in the economy (given by $(1-\beta)P\alpha\bar{\phi}$) and consequently it also depends indirectly on the distribution of rents δ. The greater the number of opportunists in the economy the greater the loss in x-efficiency. When all agents are trustworthy instead all projects yield their potential payoffs and maximum total production is achieved with no welfare loss. In *figure 6* maximum total production is represented by β^*.

Whither Social Capital?

Contrarily of what is generally portrayed in the literature our model suggests that more unequal distributions of economic opportunities, hence higher rents, will push for more cooperation among agents, while more equal distributions carry more incentives for opportunism. An explanation to this result is given by the fact that when rents are higher opportunity costs are also higher, as opportunity costs are directly proportional to the size of rents and inversely proportional to the probability to get involved in a project. The larger are rents, the more costly is not to get involved into any project, and the more people are therefore willing to cooperate. Contrarily to what the literature shows, therefore, developing countries seem to be encompassed by higher incentives to develop cooperation than developed economies, as to cooperate is a more advantageous strategy when economic opportunities are scarcer. But is "cooperation" the same as SC? On this regard the model allows us to clarify some boundaries.

Our model shows that a large extent of the cooperation that is detected in the economy can be easily explained by the distribution of economic opportunities, and an individualistic pursue to maximize one's profit. Certainly it was not in the spirit of the fathers of SC to look for forms of cooperation that can be explained by the urge of the circumstances. As we have mentioned at the beginning of this article, SC is a stock of trust, that takes the form of norms or networks, and it is an input not an output of the production function. This implies that SC should be interpreted as "unexplained" cooperation, or *excess cooperation*. It is cooperation "out of equilibrium" that brings the economy closer to optimal x-efficiency levels. In *figure 6* this is represented by the area at the right hand side of the curve β^e. Clearly in more developed countries, where rents are lower (the lower part of the graph) there is more scope for this type of cooperation to develop, while in developing economies (the upper part of the graph) cooperation is more a "necessary" condition.

These findings are largely against the idea that in developing economies development is hindered by a chronicle lack of SC. Empirical evidence and common sense however, tell us that when opportunities are scarce and unequally distributed, opportunism is more diffused[9]. This stance is also very common in the literature. The hypothetical curve β^h drawn in *figure 7* shows the (out of equilibrium) levels of cooperation commonly depicted in the literature.

[9] Theft and criminality, for instance, are more common where poverty is diffused.

(Figure 7)

The curve β^e intersects β^h and divides it in two parts. The left hand part of β^h that consists of less then equilibrium levels of cooperation, the right hand fraction of β^h instead, represents more than equilibrium levels of cooperation or SC. Although both parts of the curve depict out of equilibrium situations, the reasons why the economy should find itself on one or the other side of the curve are completely different. Two major hypothesis can be formulated in this respect.

When the number of co-operators is less than equilibrium the reason why the imbalance can persist is mainly due to *information inefficiencies*, and, as a consequence, on three types of mistakes;

type-I mistakes occur where rents are large and the distribution of opportunities is more unequal so that the relatively big value of some projects can induce people to be opportunist in the hope to be involved in bigger projects;
type-II mistakes occur because more unequal distributions of economic opportunities generate more segmented societies, where the circulation of information about how rents are actually distributed and about what are the opportunities actually available is more inefficient;
type-III mistakes occur because less equal distributions are generally accompanied with lower levels of education and lower awareness of the contribution that each single member of the society can give to improve general welfare.

When the number of co-operators is more than equilibrium (hence when we have SC) the imbalance is due to behaviours that comply to *reciprocity* rather than profit maximization. This hypothesis conforms to what the mainstream literature on SC points out. How effectively reciprocity works depends on the size of rents, as where the opportunity costs attached to opportunism are lower, (where rents are smaller) trustworthiness is rewarded more through positive reciprocity.

The linkage between reciprocity and SC is well consolidated in the literature. Reciprocal behaviours are always pointed as the constituent elements of SC. In the literature, however, reciprocity is always positive and leading to "systemic efficiency" in economic exchanges. More reciprocity always leads to more cooperation, and welfare enhancements. Recent lab evidence has instead showed that reciprocity can also lead to lower than equilibrium levels of cooperation, as it is not reciprocity per se that matters, but rather the intentions behind it (Falk, et al., 2000). A contextual analysis of the distribution of rents and a proper understanding of whether cooperation is actually in equilibrium are therefore necessary pre-requisites to properly assess the role of reciprocity.

Summing up, SC seems to be found only in countries where economic opportunities are well diffused among the population, and where agents, who may choose whether to defect or cooperate, consciously decide to cooperate as they are aware that cooperation has higher social returns. In developing countries, instead, cooperation seems to be often less then equilibrium probably because of institutional inefficiencies and negative reciprocal behaviours that are triggered by information inefficiencies.

Conclusions

In the first part of this paper, we have seen how the concept of “Social Capital” has been recently become very popular in the economics literature, particularly in development economics. Following Fine (2001b) we have showed that SC is often misused and not properly understood, most likely

because the concept seems not to require any previous understanding of social dynamics and distributional conflicts. We have then tried to take into account the view of a new strand in Political Economy that focuses on rents as the engine for social conflict and institutional change. We have showed that when rents are taken into account, SC becomes a much more circumscribed and defined concept. Introducing a simple mathematical model that takes the distribution of rents into account, we have indeed been able to show that SC occurs only when excess cooperation takes place, hence when individuals cooperate although it is not strictly convenient for them. We have then shown how excess cooperation can take place only in developed economies, where rents are smaller and economic opportunities are more equally distributed. More equal distributions mean less envies and conflicts and less retaliatory behaviours so that agents can freely attempt to build up cooperative relationships. In order for excess cooperation to develop, however it is required that agents are aware of the intrinsic value of cooperation, thus relatively high levels of information efficiency and an average high level of education are required.

As a last remark it can be observed that:

The concept of SC has little meaning if it is not supported by specific contextual analysis of interpersonal relations, incentives and economic opportunities. It is always important to analyse the structure of incentives (rents) that underpin a specific set of economic transactions, by examining the role of costs and benefits that these involve in the economic and social domain.

The action of promoting SC in developing countries is a far less meaningful exercise than it is in more developed countries. This because developing countries are notoriously characterised by large rents, unequal distribution of economic opportunities, and high opportunity costs of opportunism. Researchers should probably look for the reasons of the persistence of poverty elsewhere than in mistrust, opportunism and lack of SC.

Finally, from our model it also emerges that the more SC is created within the economy, the higher its depreciation rate becomes, since more and more profitable chances for free riding are created. This means that strategies that focus purely on the promotion of SC without a proper understanding and management of the contextual set of rents and economic opportunities are deemed to fail in the long run.

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List of Figures

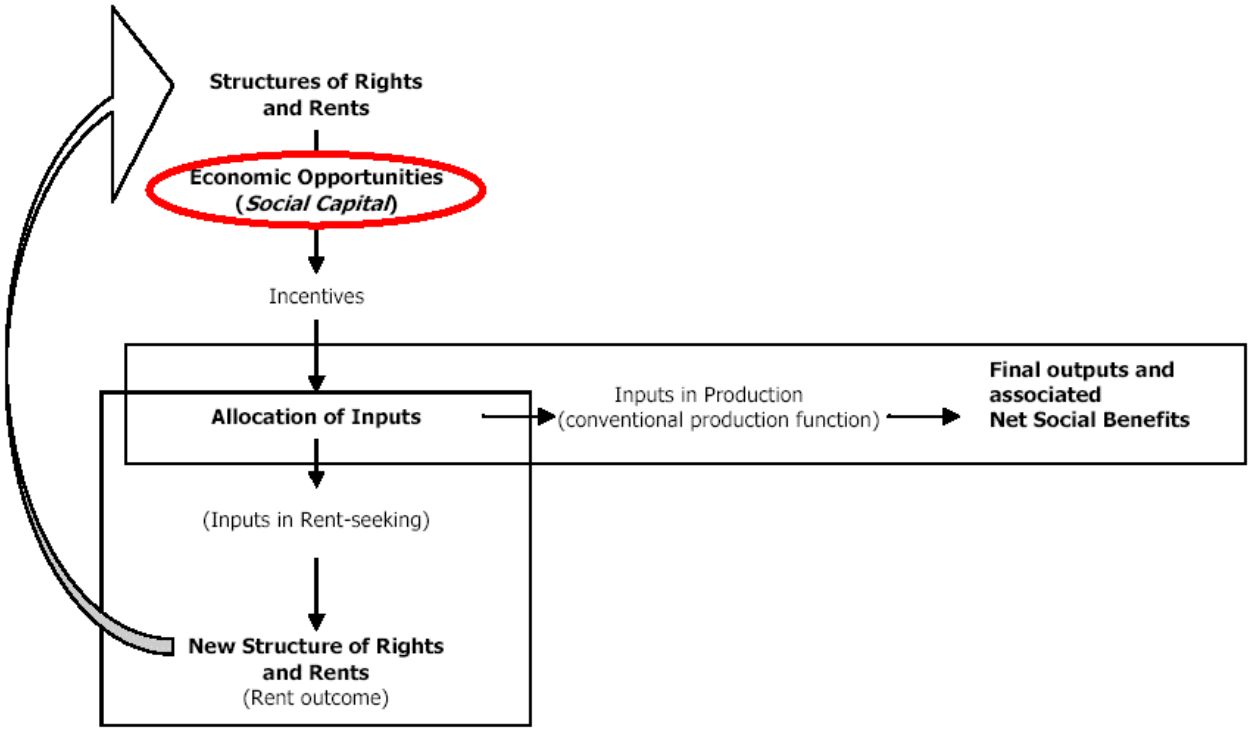

Figure 1. The distribution of resources in the process of rent-seeking. Source: adaptation from Khan (2000, p.79)

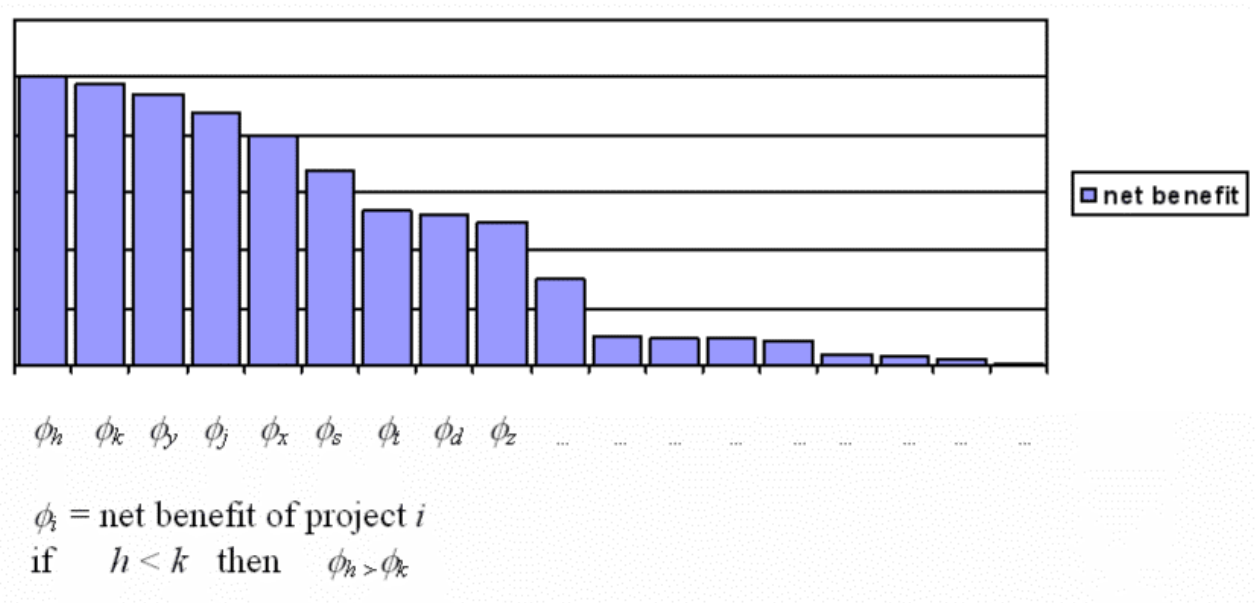

Figure 2. The distribution of projects according to their net benefits

Combination of Agents		Benefit of Project
Trustworthy	Trustworthy	ϕ_i
Opportunist	Trustworthy	$\alpha\phi_i$
Opportunist	Opportunist	$\alpha^2\phi_i$

Figure 3. Combinations of agents and possible benefits

		Partner	
		Trustworthy (cooperate)	**Opportunist (defect)**
Agent	**Trustworthy (cooperate)**	ϕ_i ; ϕ_i	$\alpha\phi_i$; $\alpha\phi_i$ + *the opportunity to be involved into another project*
	Opportunist (defect)	$\alpha\phi_i$ + *the opportunity to be involved into another project;* $\alpha\phi_i$	$\alpha^2\phi_i$ + *the opportunity to be involved into another project;* $\alpha^2\phi_i$ + *the opportunity to be involved into another project*

Figure 4. The game structure

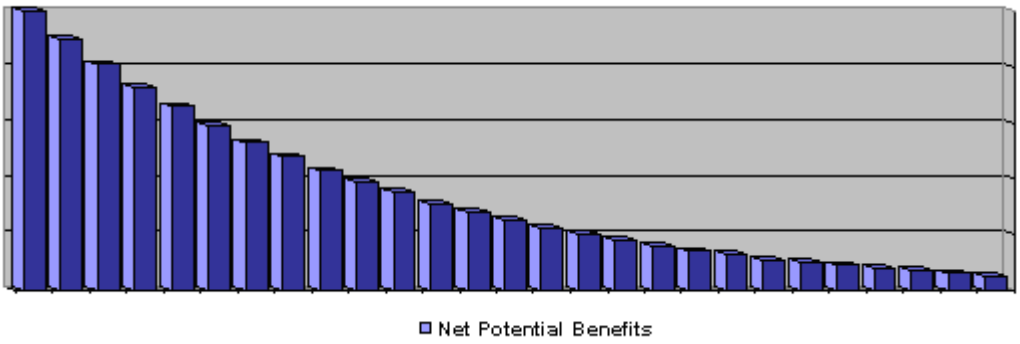

Figure 5. The distribution of projects when net benefits increase proportionally

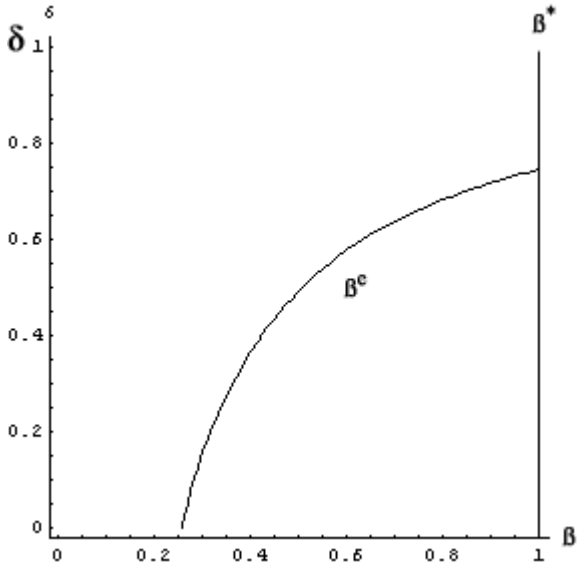

Figure 6. Relationship between rents and trustworthiness

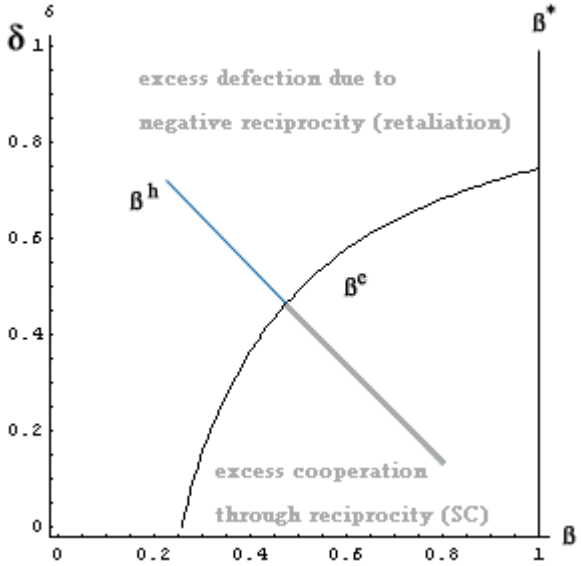

Figure 7. Relation between rents and trustworthiness and the way the relation is depicted in the literature