

SOCIAL CAPITAL AND INDUSTRIAL DISTRICT DEVELOPMENT: THE ROLE OF THE LOCAL GOVERNMENT

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The paper represent a theoretical attempt to investigate the role that the local government can play in improving the level of social capital for the development of industrial districts. The social capital is not, as generally suggested by the socio-economic literature, an individual attitude towards something which does not imply privately appropriable economic benefits, as it is for a pure public good (which would not imply privately appropriable benefits). Social capital should be interpreted as a public component of an investment which implies private and public benefits entangled with each other. Firms could not have sufficient incentive to increase its investment in social capital, because this investment strictly depends on the economic convenience of investing in the impure public good. Starting from this point of view, we underline the importance of investing local public resources (funds, time and effort) for the development of the local social capital.

Keywords: industrial districts; social capital; local government aid.

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1. Introduction

Large body of research in the social sciences in the past decade underlined a positive relationship between social capital and economic success. Particularly, social capital may be the primary and leading key to the successful performance of an industrial district. Social capital, however, is frequently depicted as an impure public good, since agents face private incentives to create and preserve it, but such behaviour generates externalities. Therefore, local government can play an important role in the solution to the problem of free riding. Actually, scholars continue to debate existence, nature, measurement and impact of social capital as a conceptual framework. Before dealing with any other question, it is important, therefore, to clarify exactly what one implies while referring to social capital. Social capital has been defined in a number of different ways, but scholars generally refer to the ideas of Putnam (1995) and Coleman (1988). Putnam (1995: 664-665) defines social capital as a community-level characteristic involving “*features of social life – networks, norms, and trust – that enable participants to act together more effectively to pursue shared objectives*”. In the Putnam’s view, social capital refers to the quality of human relations within some well-defined group that enables its members to act in cooperation with one another for achieving mutual benefits. A wider definition is given by Coleman (1988: 598), who describes social capital as “*a variety of different entities, with two elements in common: they all consist of some aspect of social structure, and they facilitate certain actions of actors – whether personal or corporate actors – within the structure*”. This concept is wider since it includes associations as well as the behaviour among other entities such as firms. Social capital, just like other forms of capital, is productive and facilitates the attainment of goals that otherwise would not be possible.

Accordingly, high stock of social capital increases individuals' and groups' ability and willingness to cooperate, improves monitoring and enforcement of contracts, and reduces free-riding and information asymmetry. Social capital therefore reduces transaction costs (see also Degli Antoni 2006), encourage innovation and dissemination of technology and thus leads to better economic outcomes. The most encompassing view – the one that has attracted plenty of interest among economists – also includes “*the social and political environment that enables norms to develop and shapes social structure*” (Serageldin and Grootaert 1997: 13). This broadest definition includes not only the largely informal and often local relationships, but also the more formalised institutions such as the government, the political regime, the rule of law, the court system, and civil and political liberties. This article is based up on this last definition. We argue it is essential to move away from “associative” based concepts of social capital as presented in Putnam (1993), toward frameworks where social capital is considered as an intangible capital stock with some public good-like properties . Economics and regional science literatures make a strong case that “*non-economic*” factors influence economic growth and development. Many authors argue that increased levels of social capital can create better chances for economic development than markets and political institutions. The idea of social capital has been used to explain phenomena varying from technology adoption to the formation of informal institutions. Scholars have attempted to document the various ways in which social capital can improve the performance of economic systems (see, for example Putnam 1993 and 2000, Fukuyama 1995, Levi 1998 and Cook 2000), both at the micro-level, focusing on household income, financial transactions, and the knowledge exchange between venture capitalists and new firms (Wilson 2000, Rauch 2001, Maula, Autio and Murray 2003, Cainelli et al. 2007, Bigsten et al. 2000, Fafchamps and Minten 2002) and at the macro-level underlining the important role that social capital can play in the growth dynamics (Kraybill and Weber 1995, Rainey et al. 2003, Rupasingha et al. 2000 and 2002, Rupasingha and Goetz 2007, Helliwell and Putnam 1995, Temple and Johnson 1998, Zak and Knack 2001, Beugelsdijk et al. 2004, Tabellini 2006).

Our analysis moves from these studies by treating the role of social capital and local institutions relationship in the development process of industrial districts. The paper is organized as follows. In section two, we describe the role that the local government can play in the provision of social capital is discussed. In section three, a theoretical model is presented, in which social capital is assumed as the public component of the impure public good provided by the local government, and the main implications of the model are discussed. Section five provides conclusions.

2. Investment in social capital and the local government role

Many economists argue that social capital should be described as an impure public good, since agents face private incentives to create and preserve social capital but such behaviour generates public benefits, or externalities. Collier (1998) was among the first to apply microeconomic theory in the analysis of social capital with an emphasis on the external benefits of social interaction. He states that “[...] *social capital is “social” because it generates externalities arising from social interaction. Both the initiation of social interaction and its consequences generate effects which are not internalized into the decision calculus of each agent*” (Collier 1998: viii). Social interactions may generate different kinds of positive externalities. They facilitate the transmission of information about the behaviour of other agents and this reduces the problem of opportunism. They facilitate the transmission of knowledge about technology and markets and this reduces market failures in information. So the presence of high level of social capital reduces information and transaction costs. When such a costs are reduced, less risk is involved and more exchange takes place, thus enlarging the scope of transactions and interactions. Conversely, a lack of social capital results demand for more external controls such

as tougher law enforcement, security systems, monitoring and enforcement (Rupasingha et al. 2000). Moreover social capital reduces the problem of free-riding and this facilitates joint action. The provision of public goods is subject to free riding if most users do not participate in collective actions to make the provision of public good a success. Conventional theories of collective action have concluded that individuals will resort to strategic behaviour by refusing to contribute toward the public good in order to obtain a benefit far greater than the cost they have to pay. When social capital is present, externalities are internalized, which has the effect of eliminating or reducing the free rider problem (Rupasingha et al. 2000). Because it generates externalities, social capital will be under-provided also in an industrial district where, despite the civic culture, agents have not sufficient incentive to increase their investment in social capital, because this investment strictly depends on the economic convenience of investing in the impure public good. The government's main policy could be to improve its provision. For instance, a firm in the industrial district may invest in R&D activities that require a cooperative effort. In this case, innovations are only partially owned by the firm and the investment may be thought of as one in an impure public good, that is each unit of investment produces both private and public benefits. The district benefits from positive network externalities, but the intentional production of joint social benefits is costly and public incentives may be crucial. Actual demonstrations of the effectiveness of investment strategies in social capital are rare. As Fernandez and Castilla argue, "if the term 'social capital' is to mean anything more than 'networks have value', then we will need to demonstrate key features of the analogy to 'real' capital. If 'social' capital is like 'real' capital, we should be able to isolate the value of the investment, the rates of return, and the means by which returns are realized" (Fernandez and Castilla, 2001: 85). Anyway, the local government can play an important role against certain kinds of opportunism and remove source of insecurity in such relationships and allow firms to cooperate with each other more efficiently.

3. A simple model

Our approach for assessing public resources to social capital in industrial districts is based on Brueckner's bid-rent model of property value determination (Brueckner 1979, 1982 and 1983). The result derived from this model is that efficient public good provision occurs at the level that maximizes aggregate value. In our model, firms are assumed to have identical functions of profit which depend on the level of social capital, SC , other local public goods, G , level of prices, P , human capital, H , and physical capital, K . All firms in a district benefit from the same level SC and G . Firms with the same level of financial resources must achieve the same profit level. Formally, a firm with resources R achieves profit $h(R)$ and her resources bundle must satisfy

$$\Pi(SC, G, P, H, K) = h(R). \quad (1)$$

This equality is guaranteed since if a firm could achieve higher profit elsewhere, she would move. A firm's budget constraint can be written as $K + W = R$, where W represents the wages paid for H and the price of K is normalized to 1. Then, W must satisfy $\Pi(SC, G, P, H, R - W) = h(R)$. This equation determines the bid-wage function

$$W = W(SC, G, P, H; R). \quad (2)$$

The bid-wage function specifies the wage necessary to equalize a firm's profit across differing level of H . Differentiating Eq. (2) with respect to SC gives

$$W_{SC}(SC, G, P, H; R) = \frac{\Pi_{SC}(SC, G, P, H; R - W)}{\Pi_K(SC, G, P, H; R - W)}, \quad (3)$$

where subscripts denote partial derivatives. Eq. (3) shows that the required change in the wage resulting from a change in SC is equal to the marginal rate of return between social capital and physical capital, K . Similarly, the required change in the wage resulting from a change in G is equal to the marginal rate of return between the other public goods and K . Then, assume that

local revenues for social capital are financed exclusively by a local firm tax rate, t_{SC} , and the other public goods by a local firm tax rate, t_G . The tax rates are applied to the gross value of each firm V . By definition, one of the most important element that traditionally characterize the industrial district organizational model lie in a vertical division of labour that favours an accumulation of technical and production skills and competencies within the sector the firm belongs in (Bellandi 2003). Basing on the efficiency wage hypothesis, wages are higher than the market-clearing ones in order to increase the productivity or efficiency of labour force. From this point of view, the value of a firm is here defined as the capability of paying wages W .

Letting δ be the discount rate, the value of the firm i is

$$V_i = \frac{W - (t_{SC} + t_G) \cdot W}{\delta} = \frac{W(SC, G, P, H_i; R_i)}{\delta + t_{SC} + t_G}. \quad (4)$$

The aggregate value of an industrial district is here defined as the sum of the individual firms values within the cluster

$$V = \sum_{i=1}^N V_i = \sum_{i=1}^N \frac{W(SC, G, P, H_i; R_i)}{\delta + t_{SC} + t_G}, \quad (5)$$

where N is the number of firms in the district. Assuming that the local government contributes amount S to local district (the local community fully finances the other public goods, G , for simplicity), the cluster budget constraint is

$$(t_{SC} + t_G) \cdot V = SCC(SC, N) - S + GC(G, N), \quad (6)$$

where SCC and GC are (convex) cost functions for SC and G . The fact that cost is a function of the district size, N , reflects potential congestion costs. Combining Eqs. (5) and (6) gives

$$V = \frac{1}{\delta} \left[\sum_{i=1}^N W(SC, G, P, H_i; R_i) - SCC(SC, N) + S - GC(G, N) \right]. \quad (7)$$

Aggregate value is a function of the aggregate wages, the local government aid, the discount rate, and the production costs of social capital and the other public goods. Differentiating Eq. (7) with respect to the local government aid and assuming that changes in public resources for social capital have no effect on the provision of other public goods, i. e. $\partial G / \partial S = 0$, yields

$$\frac{\partial V}{\partial S} = \frac{1}{\delta} \left[\sum_{i=1}^N W_{SC}(SC, G, P, H_i; R_i) - SCC_{SC}(SC, N) \right] \frac{\partial SC}{\partial S} + \frac{1}{\delta}, \quad (8)$$

where, as shown in Eq. (3), W_{SC} is equal to the marginal rate of return between social capital and the physical capital, K . As a result, Eq. (8) establishes that $\partial V / \partial S = 1 / \delta$ when the “*Generalized Samuelson Condition*” for the optimal provision of social capital is satisfied, i. e., the sum of the marginal rates of return between the social capital and the physical capital equals the marginal cost of providing social capital (a similar condition holds for all other public goods as well). Assuming that W is a strictly concave function of SC and G , that SCC is convex in SC and that GC is convex in G , it follows that V in Eq. (7) is strictly concave in SC and G . As a result, aggregate district value reaches a global maximum at values of SC and G where the Generalized Samuelson Condition holds, *ceteris paribus*. Thus, one can determine whether social capital is under-provided or over-provided relative to the district value maximizing level as $\partial V / \partial S = 1 / \delta$. Note that under or over provision of social capital may result either from productive or allocative inefficiencies. One might conclude that social capital is over-provided in a district in which the “*right*” level of social capital is being provided but the district is not cost minimizing.

Alternatively, the district may be productively efficient but not provide the value-maximizing level of social capital.

4. Conclusions

Basing on the literature on social capital mainly developed during the last decade, the aim of this paper was to investigate the role that the local government can play in improving the level of social capital for the development of industrial districts. The analysis conducted, both theoretical and empirical, helps to understand the role of social capital and local institutions in the development process of industrial clusters. Introducing a nexus of complementarity between cluster value and social capital, a good in a cluster of firms, the “*civic culture*” of the cluster area where the firm acts may not be a sufficient explanatory factor to increase the firm investment in social capital, since this investment strictly depends also on the economic convenience of investing in the impure public good. So the government’s main policy could be improving the provision of social capital by assessing public resources, on the whole in the present age of increasing integration, where the possibility to compete internationally largely depends upon the ability to innovate and to increase labour force productivity.

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