

Paper prepared for presentation at the 43rd Congress of the European Regional Science Association, Jyväskylä, Finland, 27-30 August 2003.

Measuring enterprises' investments in social capital – a pilot study

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ABSTRACT

Research into the impact of social capital on economic growth has mainly focused on civil society's social capital. The social capital related to enterprises has received little attention. This paper aims at developing a method for measuring the investments of enterprises in social capital. We define enterprise-related social capital as social and economic networks in which enterprises intentionally and unintentionally invest and interact in. Certain components of these networks are open for ownership while others are not. Interaction in these networks generates network advantages and economic utility in individual enterprises as well as in the place/region in which they are located. On the basis of a division into internal and external social capital, we divide the latter in production-related, environment-related and market-related social capital respectively.

We differ between the networks' links and the norms, values, etc that are distributed in the links by the nodes (i.e. the enterprises and other actors). The study has been limited to measurement of the existence and structure of the links.

The study shows that it is possible to measure enterprises' investments (in money or time) in social capital. We also found some significant indications of connections between investments in social capital and the growth of enterprises. However we were unable to establish any casual relationship. Due to the limited number of participating enterprises, these connections are merely promising indications which should be subject of further research.

1. Introduction

Ever since Putnam (1993) made the concept of social capital known to a broader public, the term has almost entirely been connected to networks, norms, values etc in *civil society*. This “Putnamian” tradition has dominated research where social capital explicitly has been in focus. This does not mean that we completely lack information on aspects of social capital in enterprises and economic life in general, but studies of business networks, norms and values – mainly in the discipline of business administration – have generally not been associated with the theories of social capital.

There are important differences between civil society and business life. The basic mission of an enterprise is, in general, to earn money, to operate at a profit. Therefore, it cannot be assumed that enterprises build social networks with a non-profit making purpose. Nor is the interaction merely of an informal nature. It can be extremely formal and it is this perspective which is the point of departure of the so-called Uppsala school, which is well-known in the field of business economics and management. Håkansson & Snehota (1995) discuss transaction-related interaction and express the opinion that this has a social dimension – over and above the formal customer-supplier relationship. In the same way as the transaction-related relationship, the social dimension has an economic utility value– if not direct, then indirect. This can be illustrated by the resources invested by enterprises in relations with external actors, particularly customer groups. Taking care of and maintaining relations is becoming increasingly important, not only on industrial markets but also for enterprises active on consumer markets and mass markets. Club activities in various forms have long been an established method of creating stronger relations with consumers. *Customer Relation Management* (CRM) between enterprises has been developed into a special activity area. Accordingly, an enterprise’s social capital can be an intentional investment as well as a by-product. From a social relationship with a profit-making aim, value added can be created which is not planned or intentional – but which is an important aspect of what is defined below as social capital at enterprise specific level.

Certain parts of this enterprise-related social capital can be seen as a product of formal interaction and other parts as a result of informal interaction. The formal interaction, sanctioned and regulated by formal decisions, is an intentional investment to raise productivity and/or efficiency in the enterprise. Naturally there are informal elements in these formal aspects of enterprise-based social capital. The informal elements can also have the aim of maximising utility. In this respect there are differences between the social capital of enterprises and social capital in civil society. Among enterprises the network-based interaction is not merely of an informal character. It is not a by-product that has arisen from interaction in non-profit making purposes, as is the case with social capital in civil society.

The line of argument above implies that the term “network” should be used in a wider sense at enterprise-specific level than in civil society. Where enterprise-based social capital is concerned, it is also necessary to give consideration to the economic and technical networks of enterprises. The main purpose of these networks is to get the enterprise’s financial and technical activities (production) to function. However, to the extent to which people are involved, social relations also arise as a consequence of the financial-technical networks. Johannisson (2001) uses the term relational capital when he describes the core of enterprise-specific capital. This includes all relations an entrepreneur has, not only informal links but also those in the enterprise’s financial-technical networks. An enterprise’s financial-technical

and social networks should therefore be regarded as the result of a set of investments – investments with the aim of generating productive effects for the enterprise.

Mutual trust, common standards and values can be described as a control mechanism, a set of rules that regulates and controls the behaviour of actors in the networks (Håkansson & Snehota, 1995). They counteract opportunistic behaviour of the actors and facilitate cooperation and make it efficient. Dyer (2000) gives two examples of positive effects from the latter – confidence leads to an increase in the exchange of information as well as a reduction in transaction costs. Berggren et al (1998) call this process "*economy of trust*" – a process in which (Dyer, 2000) identifies a further advantage of networks: the possibility to finance joint investments.

Johannisson (2001) also discusses confidence and investments and expresses the opinion that the various forms of capital: financial capital, real capital, human capital and social capital, are related and partly exchangeable. An investment in social capital – in the context of trust - can, for example, replace or increase access to financial capital. The fact that social capital generates economic utility value for individual enterprises has also been emphasised by Dyer (2000), Håkansson & Snehota (1995) and Axelsson & Easton (1992) – even if they have used other terms than social capital.

According to Håkansson & Snehota (1995, p.11) the output of an enterprise is closely linked to the way in which it handles its relationships – relationships which we, in this context, regard as social capital: "*Market performance of a company is dependent on the functioning of its relationships to others; volumes, market share, profits and growth depend on how the company handles its relationships*".

Thus, most studies of the phenomena that are considered as social capital have, in the tradition of Putnam (1993a,b, 1995a,b,c, 1996, 2000), mainly focused on so-called *social capital in civil society*, and left the business field and the public sector aside. Research into these types of phenomena in enterprises and the public sector has been done with a different terminology. One example is Rauch's (2001) survey of business and social networks in international trade. In order to underline the fact that social networks, trust and other factors that are linked to social capital can also be found in industry and the public sector, the term *enterprise-related social capital* is used here for these phenomena.

It can be argued that an enterprise's social capital is composed in a certain way that optimises its growth. The social capital should be adapted to factors such as type of production, labour force, suppliers, customers, as well as the enterprise's environment in the broad sense of the term. To a large extent, the enterprise itself can form the type of social capital it wants by investing time and other resources. A number of other factors also have an impact on an enterprise's social capital, for example its labour force and its environment. The enterprise's environment consists of many actors. One group of actors is other enterprises. Putnam has stressed local civil society as being one of the key actors. Another important component of an enterprise's environment is formed by political decisions and measures.

Thus, in principle, three types of actors can constitute this social enterprise-related capital:

- the enterprises themselves and their organisations
- the politically governed sector
- civil society and its organisations

The enterprise itself is, for obvious reasons, the prime actor in the creation of its own social capital. The enterprise forms and maintains the social capital it considers best adapted to its current and future production by investing in internal and external links and nodes (employees, partners, customers, officials, politicians, etc). Initially, one of the most important investments in an enterprise's external social capital may be its choice of location.

This paper aims at 1) analysing the role of social capital of the enterprise and 2) investigating the possibility of measuring the enterprise's investments in social capital in a spatial context. A third aim is to investigate whether there are any connections between the enterprise's investments in social capital and its economic growth. Section 2 is devoted to a scrutiny of the concept *enterprise-related social capital* and its component parts. Based on the definition that enterprise-related social capital consists of *social networks filled with norms, values, preferences, etc, within or externally connected to the enterprise*, the analysis shows that enterprises make intentional and unintentional investments in social capital in several fields, even if classified under other denominations. Section 3 presents an empirical application of the theory of the enterprise's social capital – a pilot study aimed at measuring enterprises' investments in social capital and studying the possible connections between these investments and the growth of the enterprises. Section 4 contains some concluding remarks on the results and on the need for further research.

2. Enterprise-related social capital

As this paper deals with implications of social capital for business, we mainly focus on the prime actor in business – the enterprise – and the social capital it invests in. Table 1¹ provides a schematic picture of the component parts of enterprise-based social capital.²

Table 1. Social capital of the enterprise broken down into different component parts.

Social capital internal to the enterprise	The enterprise's external social capital		
Links/relations filled with attitudes, norms, traditions etc. that are expressed in the form of: - Company spirit - Climate for cooperation - Methods for codifying knowledge, product development, conflict resolution, etc.	Production-related	Environment-related	Market-related
	Links/relations to suppliers, product users, partners in cooperation and development	Links/relations to the local/regional environment, to political decision-makers etc. (Lobby capacity, etc.)	Trademarks and other general customer relations

2.1. The enterprise's internal social capital

The basic division in the table is between the enterprise's internal and external social capital. All actors in the enterprise, i.e. both management and employees, form the internal social

capital. Mainly in the disciplines of management, business administration and business sociology, the literature on these topics has expanded considerably, although other terms than social capital have been used. One important topic has been employee-employer relations

One often cited historical example of the importance of employee-employer relations is the Swedish “Saltsjöbad Spirit”, named after the place where Sweden’s central employers’ association and blue-collar trade union signed an agreement 1937. Up to the beginning of the 1930s, the Swedish labour market was characterised by severe class struggles that reached their climax with the shooting of five striking workers in 1931. This was a signal for reflection and both sides realised that there was a need for a new strategy. Labour market relations in Sweden were peaceful until 1969, with the exception of a communist-dominated national strike among metal workers in 1945, and conflicts were solved by negotiations. The years between 1945 and 1970 were also characterised by very rapid growth in Sweden’s economy, growth that, during the entire hundred-year period 1870-1970, was only surpassed by Japan. It is, of course, not possible to claim that the peaceful employee-employer relations were the one single factor behind 25 years of extraordinary growth, but no judge has denied their impact. The agreement on employee-employer relations was a central agreement, based on opinions on local level. It became the model for almost every enterprise.

Japan is the other country where employee-employer relations have been given prominence as an important explanation of the growth of enterprises and the economy in general up to around 1990. Fruin’s (1992) description of Japanese enterprises’ employee-employer relations after World War II could have been quoted from a description of the Swedish model of around 1965 although in another environment and context: “a veritable partnership in goals, methods, and means has been negotiated and renegotiated ... and this accomplishment has depended on contributions and initiatives from both labor and management.... Reciprocity hinges on balance, equity, and fair recognition; these can be encouraged and enhanced but they cannot be mandated or legislated.... the post-war environment of industrial relations has evolved in the direction of a kind of organic solidarity between labor and management. Interdependencies bind the two” (Fruin 1992: 174-5).

These examples of excellent employee-employer relations were not sufficient to warrant continued economic growth. A possible explanation might be that the social capital built up during the industrial society era has not been entirely transferable to the knowledge society era and its industries. However, here we restrict ourselves to noting that employment relations is something enterprises in developed countries have a tradition of investing in as, in general, it pays off.

Another important topic in the literature related to enterprises’ internal social capital is that of learning organisations and the development of methods to transform tacit knowledge to codified knowledge. The observation that man knows more than he can say has been made by many philosophers. Also Keynes has been quoted for saying that an economist always knows more than he can explain (Johnson & Lundvall 2001). The explicit distinction between tacit and codified knowledge was made by Michael Polanyi (1958, 1966). In particular during the 1990s an increasing amount of literature has discussed the issue. Codified knowledge can be defined as formalised, stored, written or digitalised information, which can be used or tested by another actor than the one that formalised the information (if the actor has access to the information and the necessary competence to use it). “*Tacit* knowledge is defined as knowledge that cannot be obtained by a mere sum of codified (digitalized) information. It can be generated through intimate ‘indwelling’ (Polanyi 1966:17) within a relevant local domain,

or as personal knowledge through particular experiences and/or due to inherently personal qualities and competence; therefore it cannot become immediately available in open markets.” (Aoki 2001: 308). Aoki uses the example of the knowledge needed by venture capitalists, which to a large extent is tacit and non-codified. If codified knowledge was enough, “everybody” would be able to pick the winners and there would not be any need for venture capital.

In contrast to tacit knowledge, codified knowledge can be regarded as an asset that the enterprise can use deliberately to increase its competitive power. The task is often formulated in terms of commercialising or capitalizing the tacit knowledge into a controlled input in the production process or a product of its own. Being able to control the production of knowledge in an enterprise and the use of it in the production process gives the enterprise a competitive advantage and contributes to growth. In the knowledge economy, we also witness the rapid growth of enterprises that have codified knowledge as their main product, e.g. consultants and education enterprises.

In our terms the striving to transform tacit knowledge into codified knowledge is an attempt to institutionalise capital that is originally social and non-institutionalised. Not all tacit knowledge should be considered as social capital since some tacit knowledge is strictly personal. However, most tacit knowledge must be regarded as being created in social interactions, which makes it a part of the social capital. *From the enterprise’s perspective, this means that codifying knowledge should mainly be considered as an investment in order to be able to use parts of the existing social capital in an enterprise, but not as an investment in new social capital in itself.*

The literature in this field has almost entirely focused on enterprises’ investments to commercialise those parts of their social capital that consist of tacit knowledge. Very little attention has been given to how new enterprise-internal social capital is created. However, there is no doubt that an enterprise takes many intentional or unintentional steps that affect its internal social capital. Among the intentional arrangements we find those aimed at affecting the company’s spirit, culture and cohesion (Schein 1992). Not less important are probably the arrangements that aim at affecting the institutional capital of an enterprise. How an enterprise is organised has important effects on how it produces tacit knowledge and other components of social capital. It is a well-known fact that knowledge-producing enterprises normally have much more of a horizontal organisation than traditional hierarchical industrial enterprises. This can be seen as an indication that enterprises in the knowledge economy need another form of internal social capital than enterprises of the industrial age. Thus, social capital is a crucial factor in the internal governance of enterprises.

2.2. The enterprise’s production-related social capital

A striking development in recent research is the discussion of inter-enterprise relations, especially relations between enterprises and their suppliers. This is in sharp contrast to the traditional economic perspective in which the enterprise is a non-cooperative monolith that buys its input from suppliers and sells its output to customers. According to this approach, the production-related networks of an enterprise are technical and economic, and exist only to fulfil the input and output services.

Today, this simplified view is sometimes referred to as production relations of the “Fordist” or manufacturing-industrial age, but that is not a correct description. Social networks, even among the actors of production, are not an invention of the knowledge economy. However, there are arguments that claim that they have become more important in the knowledge economy: *“In a knowledge-based economy the perhaps most significant rent originates from the way in which the easy exchange of knowledge, only partly understood, between and among a constantly changing configuration of enterprises within the community dramatically enhances their innovative capabilities. Reducing your development to commercialization time is often worth virtually whatever you have to pay and social capital contributes by cutting the expenses and reducing the time needed to benefit from knowledge residing elsewhere. As innovative capabilities become increasingly important so does social capital.”* (Maskell 2000:116).

Maskell connects social capital not only to the enterprise’s internal knowledge production (as we did in the former section) but also to knowledge exchange between enterprises that temporarily or on a more long-term basis have some kind of production-related links. Moreover, he explicitly connects social capital to the innovative capabilities of enterprises. His argument is that social capital cuts expenses and reduces time needed for knowledge exchange between enterprises.

These arguments could further be developed. Social, non-formalised links, between an enterprise (and its labour force) and enterprises with which it has production relations, increase the flows of knowledge and information between the enterprises. Feedback, from the enterprise to its suppliers and to the enterprise from its customers, is increased and speeded up. These links based on acquaintanceship and trust are of obvious importance in R&D-projects that have the aim of developing new products or production methods. They are probably also essential in the small, invisible development processes that take place in the everyday work of enterprises, which constitute the base of new innovations.

During the last decade a growing interest can be discerned in formalising these technical-economic networks which were formerly mainly spontaneous. The issue of innovation has been brought up on the policy agenda of every developed nation. By institutionalising innovation processes within *innovation systems*, policy makers attempt to achieve results at the macro level, similar to those achieved when enterprises make arrangements for transforming tacit knowledge into codified knowledge at the micro level.

2.3. The enterprise’s environment-related social capital

The borderline between an enterprise’s production relations and its environment-related networks is not entirely distinct. In a spatial context, production relations also constitute, in principle, a component of the environment relations. Therefore, here we delimit the enterprise’s environment relations with other enterprises to relations that are not mainly technical-financial.

Even with this delimitation, Maskell’s arguments concern the enterprise’s environment as well, as he speaks about “community”. This adds a spatial aspect to social capital. An enterprise’s costs for, among other things, knowledge and information are influenced by social capital through the degree of trust and the climate of cooperation prevailing both in individual workplaces and between enterprises and actors in a region. Marshall described this

vividly in his celebrated account of the positive external effects which arise in industrial districts:

"The mysteries of the trade become no mysteries; but are as it were in the air, and children learn many of them unconsciously. Good work is rightly appreciated, inventions and improvements in machinery, in processes and the general organization of the business have their merits promptly discussed: if one man starts a new idea, it is taken up by others and combined with suggestions of their own; and thus it becomes the source of further new ideas."
Marshall (1920: 271)

For generations of economists, Marshall's industrial districts were merely an odd marginal note in the classic textbook of microeconomics. However, Porter's (1990) book on clusters marked a new and growing interest in the spatial milieu of enterprises (even if Porter 1990 considered clusters as a functional, non-spatial concept as well). In the rapidly expanding literature on clusters, they are normally defined as spatially delimited industrial systems regardless the size of the enterprises, whereas industrial districts are defined as spatial agglomerations of SMEs in one or a few complementary industries. As noted above, both concepts are connected to production relations as well as to more general relations to the enterprise's spatial environment. These general, spatially dependent networks consist in principle of:

- Non-technical-financial links to other enterprises
- Links to local/regional politically governed bodies
- Links to the citizens in civic society and their organisations

The first of these network types contributes to explaining agglomeration phenomena such as that of the IT-industry in Silicon Valley. Enterprises emerge there and choose to locate there because "the air" is full of tacit knowledge and information (including gossip and rumours), potential partners and co-workers are there, the competitors are there and it is easier to watch and learn from them if you are near them, etc. Even if the enterprise does business with only a small fraction of all the other enterprises in the region, the presence of all the other enterprises constitutes a positive external effect, a social environment that the enterprise benefits from. The open, innovative spirit that characterises these agglomerations until they mature and eventually become petrified, is closely allied to the encouragement of entrepreneurship.

The second of these network types is an expression of the enterprise's dependence on a predictable political-institutional infrastructure and the needs of favourable political decisions, also in a medium-term and short-term perspective. Those who wish to do so might see these networks as a confirmation of the public choice theory, i.e. that politics does not work in accordance with its ideals. To achieve favourable decisions, to receive non-official information off-the-record etc, the enterprise cannot restrict itself to allowing its individuals to take part in the public debate and to vote in elections and referendums. It is in the interest of the enterprise to establish social relations with public decision-makers, either directly or indirectly through branch organisations or lobbyist groups.

The third and last network type is an expression of an enterprise's need to be embedded in a local social context. This need of embeddedness varies depending on, among other things, the enterprise's size, alternative locations, space-bound capital, type of production, type of customers, type of labour, etc. In general a small enterprise with spatially fixed capital and production for the local market has considerable incentives to build a strong social capital

with the local environment. A large, global enterprise with alternative locations, low investments in space-bound capital and production for the world market has much smaller incentives. Still, local units of global enterprises engage in building good local public relations through sponsoring or giving grants to local non-profit making organisations and other similar purposes. The reasons may be twofold.

First, a global enterprise may be more dependent on having a good reputation than a local one. A global enterprise that does not follow the local informal rules for behaviour might become worldwide news the next day. Increased consumer awareness of environmental issues, child labour issues and other issues of this type has led many commercial enterprises to initiate a reorganisation of their production and distribution networks, which is also a sign that customer relations can no longer be confined to offering anonymous products at the best price. Generally speaking, the increased importance - and market value - of trademarks provides testimony that customer relations are being increasingly impinged on by considerations which must be regarded as social. It is no longer the product alone but also the customer relationship established by the trademark that constitutes an enterprise's market value (see below).

Another reason might be that the enterprise's management and employees are individuals with social needs. Some of these needs are often expressed in becoming an accepted and respected part of the local community. Contributions to local civic society and its organisations thus raise the status of both the enterprise and its employees and increase individual welfare. The connections to public choice theory are evident here as well.

2.4. Market-related social capital

In Table 1, a trademark is seen as a component part of an enterprise's social capital that is created and maintained through marketing. With this approach, the trademark is a relational network to the anonymous mass of customers with whom the enterprise has no personal relations. Here the competitive aspect of social capital is obvious. By creating relationships with customers in diverse ways (advertising, personal contact, servicing contracts, etc.), an enterprise attempts to shut out competitors from the network it has established. It can build similar networks with suppliers. An established enterprise with strong customer and supplier networks can use these to shut out competitors, which perhaps have newer and more productive physical and human capital, from the market. In this way, the established enterprise might temporarily substitute renewal of its physical capital with investments in social capital. The new enterprises have to find new, unestablished market segments or else break down parts of the established enterprise's customer and supplier networks in order to force its own way into the market.

Including trademarks in the concept of social capital is not without objections. A trademark is an asset which, as opposed to other forms of social capital, is actually property that is not directly linked to a specific owner but can be bought and sold in the same way that enterprises are bought and sold. While social capital in civil society is, to a varying extent, semi-public goods or club goods (see Buchanan 1965), enterprise-related social capital consists of social networks that the enterprise has built up and may dispose of as it wishes. Most of these social networks cannot be separated from the enterprise's productive and/or financial activities, but they can of course be acquired since an enterprise, or part of it, can be bought and sold. However, the trademark is an example of a type of social network that is not necessarily

integrated with other activities of the enterprise. This type of social capital is a private good, property in the legal sense of the term, and can thus be directly valued on the market. Thus, it might be more correct to say that a trademark is based on an enterprise's social capital, but that it is transformed, institutionalised and commercialised in the same way as tacit knowledge is transformed into codified knowledge.

3. Social capital investments and growth

3.1. The enterprises' social capital investments

The empirical study has been limited to merely taking up one aspect of social capital, namely investments in the links/relationships. This means that that the content of these links, i.e. norms, attitudes values, have not been studied. This is a deliberate decision, based on the quantitative investment approach selected. As we show below, an enterprise's investments in networks and relationships can be measured. On the other hand, the values of an enterprise or its external environment can be regarded to a much greater extent as given, which requires another approach. Therefore, in this pilot study, we have chosen to focus on the quantitative investment approach and leave the qualitative aspects for another study.

With the aid of the theoretical framework formulated in section 2 above, a questionnaire was devised. Its questions were based on table 1. Table 2 summarises the types of questions that were posed.

Table 2. Summary of the questions posed in the questionnaire.

Social capital internal to the enterprise	The enterprise's external social capital		
<ul style="list-style-type: none"> - Work-related contacts with internal actors. - Social intercourse at work and during leisure time. - Formal and informal meetings for staff in management functions and in core activities. - Investments in training - Coordination of training - Investments in internal entertainment 	Production-related	Market-related	Environment-related
	<ul style="list-style-type: none"> - Cooperation with local and non-local enterprises in the following six fields <ul style="list-style-type: none"> • Transports • Material purchases • Production • Marketing • Sales • Product development - Change in cooperation, number of cooperating enterprises, relations and cooperation with suppliers and customers, investments in external entertainment, costs and cooperation for R&D 	<ul style="list-style-type: none"> - Costs for marketing, partly in the form of traditional advertising and partly through offers to regular customers. 	<ul style="list-style-type: none"> - Relations and social intercourse with decision-makers and other businessmen - Costs for local sponsorship - Cooperation with university colleges and universities

The questionnaire was distributed to all private enterprises (209) located on the industrial estate of Odenskog in Östersund, Sweden. The enterprises vary in their sectors and in size. The enterprises include manufacturing enterprises as well as wholesalers and retailers. Some are independent enterprises and others are workplaces belonging to a group. The majority (30 enterprises) of those who responded to the survey were micro-enterprises (< 10 man-years). Only four of the enterprises in the study had more than 50 man-years and two of these had more than 200 man-years. 30% of the enterprises that responded to the questionnaire were manufacturing enterprises, 48% were active in trade and other, mainly local, service sectors. The remaining 22% were active in two other sectors with strong local market features, namely construction and transport. The response rate was 24%. In interviews with enterprises in the population, two factors have emerged that have contributed to the relatively low response rate: the questionnaire was relatively extensive and it was distributed during the summer, during the vacation period.

Table 3. Summary of the structure of social capital in the Odenskog industrial estate

Social capital internal to the enterprise	The enterprise's external social capital		
	Production-related	Market-related	Environment-related
<p>Strong, work-related links, particularly strong for personnel performing similar types of working duties.</p> <p>Fairly extensive social intercourse at the work place, particularly for personnel with similar types of working duties. Few conflicts and easy for new employees to be part of the social atmosphere at the enterprises.</p> <p>Socialising among personnel during leisure hours is not as great as that at work. Most socialising is done by personnel who have similar working duties, and least for those who do not have similar working duties.</p> <p>The majority of the enterprises spend less than 2 hours per week in formal meetings. On average they spend somewhat more time in informal meetings. Individuals in management functions spend more time at formal meetings than personnel working in core activities. There is no distinct difference where informal meetings are concerned.</p> <p>The majority have spent SEK 0-5000 and 0-30 hours of their working time on formal training during the last 3 years. Relatively speaking small investments are more common than large investments.</p> <p>Uncertainty as to whether enterprises cooperate where training is concerned.</p> <p>The majority of the enterprises have spent between 1-10 hours and SEK 0-5000 on internal entertainment per man-year. No enterprise has spent more than 10 hours on internal entertainment during the last 3 years.</p>	<p>The majority of the enterprises spend 1-2 hours per month on production-related cooperation. The enterprises cooperate most in respect of transport.</p> <p>The majority have not changed the ways in which they cooperate since 1998. Largest change is in respect of product development. Conclusion: no strengthening of production-related links.</p> <p>The majority cooperate in a production-related manner with either 0 or 1 other enterprise. The largest number of partners in cooperation is in respect of purchases of material.</p> <p>Without exception, the geographical location appears to be the arena for cooperation.</p> <p>More informal, light-hearted and close relations with customers than with suppliers. Few enterprises make regular market surveys. The enterprises cooperate to a greater extent with suppliers than customers where product development is concerned.</p> <p>The majority have invested between SEK 0-5000 and 1-10 hours in external entertainment. Somewhat larger investments in external than in internal entertainment.</p> <p>The majority of the enterprises have not made any monetary investments in R&D. Cooperation where R&D is concerned is by and large non-existent for most enterprises in the study. Consequently, weak links where R&D is concerned.</p>	<p>Participants in the survey have higher costs for traditional advertising than for offers to loyal customers. They invest more in traditional advertising than in offers to loyal customers. There is a relationship between these two features – and those enterprises that invest a lot in one of them also invest a lot in the other.</p> <p>The average value of traditional advertising is SEK 31 705, and for offers to loyal customers SEK 8 168.</p> <p>The size of the enterprise is of no significance for the size of the investments per man-year. This applies to both traditional advertising and offers to loyal customers.</p>	<p>There are very few work-related contacts with local decision-makers. This is also the case with the entrepreneurs' social intercourse with decision-makers. Accordingly, weak links to local decision-makers.</p> <p>The majority of the enterprises state that representatives of management socialise with executives of other enterprises privately. This is without exception much more frequent than socialising with local decision-makers. The entrepreneurs that socialise with local decision-makers also socialise with other entrepreneurs.</p> <p>The majority of the enterprises have sponsored local sports clubs or cultural events in an amount of less than SEK 2000 per man-year during the last three years.</p> <p>Those enterprises that participated in the survey have fairly few contacts with university colleges/universities. The majority have not cooperated at all on any occasion during the last three years. Conclusion: weak links to university colleges/universities.</p>

We deliberately chose a population of mixed composition as described above since we wanted to test the possibilities of measuring investments in social capital in a heterogeneous population. Accordingly we tested the possibility of measuring investments in *local* enterprise-related social capital. If it is possible to obtain meaningful indicators of enterprise-related social capital in a regional perspective, the possibilities of doing it in selected sectors with common denominators should be considerably greater.

Table 3 provides an outline picture of the structure of the enterprise-related social capital in Odenskog. Some of the investments can be found in a large proportion of the enterprises, for example in respect of several components of the enterprise's internal social capital, and entertainment, advertising and sponsorship. Other investments are much less frequent, for example investments in R&D and contacts with university colleges/universities and local decision-makers. The importance of the spatial aspects is reflected, for example, in the fact that cooperation with enterprises in the municipality was greater than with enterprises outside the municipality. Without comparative studies it is not possible to say how typical the enterprise-related social capital in Odenskog is in comparison with other Swedish industrial estates. However, there is no available information that Odenskog deviates to any great extent from the average industrial estate in other respects.

3.2. Relationship between enterprise-based social capital and growth

The relatively low response rate (24%) from a population of enterprises that was small from the outset meant that 49 enterprises responded to the questionnaire. Since the study is a pilot study of an exploratory character, we chose to limit the analysis of relationships to correlation analyses. In our judgement, with this responding population we would not have obtained more reliable results by regression analyses.

As a measure of growth, two indicators were used: 1) the enterprise's average increase in turnover in per cent, 1998-2001 (ΔTO), and 2) the enterprise's average increase in the number of man-years in per cent, 1998-2001 (ΔEMP). The enterprises' investments in social capital were compared with these indicators, measured in two ways, in monetary terms (MONINV) and in working time (TIMEINV). These were tested at three aggregate levels:

- I. The enterprise's total investments, measured in monetary terms (MONINV.TOT) and time (TIMEINV.TOT) per employee.
- II. These investments broken down into internal (MONINV.INT & TIMEINV.INT) and external (MONINV.EXT & TIMEINV.EXT) investments per employee.
- III. The non-aggregated investments per employee, according to responses received:
 - Monetary investments in internal social capital*
 - MONINV.EDU (formal education)
 - MONINV.INTENT (internal entertainment)
 - Monetary investments in external social capital*
 - MONINV.EXTENT (external entertainment)
 - MONINV.FoU (Research & Development)
 - MONINV.MARK (marketing)
 - MONINV.SPO (local sponsorship)
 - Investments in time in internal social capital*
 - TIMEINV.EDU (formal education)
 - TIMEINV.INTENT (internal entertainment)
 - Investments in time in external social capital*
 - TIMEINV.EXTENT (external entertainment)
 - TIMEINV.DEC (social intercourse with decision-makers)

Table 4. Correlation coefficients for selected investment variables and growth variables.

	Δ EMP	Δ TO
I. MONINV.TOT	0.440 (0.003)	0.162 (0.344)
I. TIMEINV.TOT	0.196 (0.202)	-0.053 (0.764)
II. MONINV.INT	0.156 (0.330)	
II. MONINV.EXT	0.430 (0.004)	
II. TIMEINV.INT	0.316 (0.039)	
II. TIMEINV.EXT	-0.086 (0.590)	
III. MONINV.MARK	0.484 (0.001)	
III. MONINV.SPO	0.416 (0.006)	
III. TIMEINV.INTENT	0.543 (0.000)	

Table 4 shows a sample of the results of the correlation analyses. The results that are significant, at least at 95% level, are marked in bold type. At no level were there any significant relationships between investments in social capital and increases in the turnover of the enterprises (Δ TO). The table therefore only shows the results at the highest aggregate level. One explanation for the non-existent relationships can be a large partial shortfall in responses (24%) and that, for reasons of time, the entrepreneurs estimated the increase in turnover instead of finding the exact figures. Where the growth in numbers of the labour force is concerned, the entrepreneurs probably had the figures in their heads to a large extent. However, among the enterprises that responded to both questions on the increase in turnover and man-years, there is a relationship between their two growth variables [$r = .597$, ($p = .000$)]. This indicates that there can be a relationship between increases in turnover and social capital among enterprises, but that, for the above-mentioned reasons, it has not emerged in the results.

On the other hand, table 4 shows a significant co-variation between total monetary investments in social capital and trends in employment. In a breakdown of these investments it emerges that it is the monetary investments in external social capital that constitutes this relationship. A disaggregation shows that it is investments in marketing and sponsorship that have the significant relationships with growth in employment.

A significant co-variation also occurs at level II between invested working time in internal social capital and growth in employment. It proves to be working time investments in internal entertainment that is the cause of the relationship at the higher aggregate level.

Accordingly, there are three types of investments in social capital that show a relationship with the enterprises' growth in employment: marketing (external), sponsorship (external) and internal entertainment. Why is it these three types of investments and not the other variables that show relationships?

Our interpretation is that the lack of significant relationships between other investment variables and the growth of the enterprises can be explained with a great degree of probability by the character of the population. Over 90% of the enterprises have less than 50 employees, most had less than ten. Activities are dominated by trade and service, mostly on local markets, and production, which was mostly of a fairly simple type. Only one or two enterprises have types of production that can be described as research-intensive. In a population of enterprises of this type, there are no strong arguments that investments in personnel training, R&D, social intercourse with decision-makers or even in external entertainment should show any significant relationships with growth in employment. Where personnel training is concerned, there is also the general free-rider problem: after training the employee can change his employer. This is a strong argument for enterprises to keep personnel training at the lowest necessary level, which can lead to under-investments.

On the other hand, in the types of enterprises that predominate in Odenskog industrial estate, it is reasonable that investments in traditional marketing, local sponsorship, and perhaps even internal entertainment, are linked to growth in employment. Accordingly, these enterprises should have the greatest need of building and maintaining relations with their customers and their own labour force. If this interpretation is correct, it is consequently reasonable to expect that the types of investments in social capital that are linked to the growth of the enterprises vary on account of the sectors and the size of enterprises on the industrial estate, in the cluster or in the region.

4. Concluding remarks

In this paper we have presented an approach to expanding the theory on social capital, not merely to include civil society but also to include trade and industry. From the perspective of the individual enterprise we have shown the types of investments an enterprise makes to strengthen and renew its internal and social capital. We have also shown that it is possible to collect information from enterprises on these investments with the aid of questionnaires.

The analysis showed significant co-variations between some of the investments in social capital and the growth of enterprises. Our interpretation is that the composition of the sectors and size of enterprises in the geographical area studied determine the types of investments in social capital that are linked to growth.

The empirical results are based on a small pilot study and an extremely small number of enterprises. There is therefore every reason to emphasise that the results should be seen as promising *indications* of the relationship between social capital and growth in trade and industry. Nor, with our limited data, have we found it reasonable to study tendencies in the relationship. There are, in principle, equally good arguments that growing enterprises invest more in social capital as there are that investments in social capital lead to growth. Both these problems could be successfully tackled in larger studies in which regional and sector comparisons could be made and where the data would cover a sufficiently long period to make cause and effect analyses possible over time.

It might also be important to stress some practical implications of the issues brought up here. Enterprises' *investments* in the various components of the social capital seem, in principle, to be measurable in the form of the enterprise's expenses for these activities. But the charts of

accounts used by enterprises today are not specially adapted to allow direct specifications to be made of these investments. Therefore, measuring the investments made by enterprises in social capital needs the use of questionnaires, with all the problems connected to this method. A long-term solution to this would be a change in bookkeeping methods.

Measuring the *stock* of an enterprise's social capital is – with some exceptions such as, for example, the trademark, whose value is normally assessed today as capital stock – a still more difficult task, since it requires that the rate of depreciation of the investments can be determined. It is probable that the rate of depreciation varies between different types of investments, but it should be possible, in practice, to estimate an average period of depreciation as is done today with physical capital. Thus, the problem is more a question of methodology than principle. It requires the development of new bookkeeping methods and methods for closing the books.

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¹ The table was first published in Westlund (2003).

² A term used in business administration and management for some of the concepts in Table 1 is "corporate culture". The concepts of production-related and environment-related social capital in the table have connections to the concept "relational capital", which, in addition to Johannisson (2001) mentioned above (2001), has been discussed and analysed by, among others, Camagni (1995) and Capello (2001). In a spatial context these factors are also connected to the concept of "regional milieu".