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Entrepreneurial Strategies and Trust

**Structure and Evolution of Entrepreneurial Behavioural Patterns in “Low Trust”
and “High Trust” Environments of East and West Europe**

Part 3: Italy and Great Britain

Hans-Hermann Höhmann and Friederike Welter (editors)

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Table of Contents

Preface.....	5
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Gabi Dei Ottati

Trust and Economic Development in Italy: The Case of the Industrial District of Prato	6
Trust and the Italian Industrial Districts.....	6
The Industrial District of Prato: an Overall View	9
The Empirical Survey in the Prato District.....	13
Particulars of Enterprises Included in the Survey	15
Products and Markets.....	16
Structure and Co-operation within the Firms.....	17
Relations with Clients outside the District and the Role of Trust.....	18
Subcontracting Relations and Trust	21
Local Institutions and Trust	27
Conclusions.....	30
References.....	33
Appendix: Tables.....	36

Fergus Lyon and David Smallbone

Entrepreneurial Strategies and Trust: UK Report	69
Review of Paradigms and Key Concepts in UK and North American Literature.....	69
Entrepreneurial Strategies and Trust: The Case of Bioscience and Engineering Firms in North-East England.....	80
Conclusions and Emerging Issues.....	94
References.....	104

Publications of the Research Centre for East European Studies	109
E-Mail Newsletters of the Research Centre for East European Studies	111

Preface

The following two papers present results from the empirical research carried out in Italy and the UK within our international project titled “Entrepreneurial strategies and trust: Structure and evolution of entrepreneurial behavioural patterns in East and West European environments” (2001–2003). The project concentrates on the microeconomic level, studying owner-managers and key decision makers in small businesses with up to 50 employees in food industry, business services and trade. Small businesses reflect the impact of domestic environments better than the often internationalised medium and large enterprises.

The project includes two East European and three West European countries. Russia and Estonia represent a problematic and a successful transformation process, respectively. Germany, Italy and Great Britain represent different models of West European capitalism, and different trust cultures. The research has been conducted by an international team. Prof. Hans-Hermann Höhmann, Research Centre for East European Studies at the University of Bremen and PD Dr Friederike Welter, Rhine-Westphalia Institute for Economic Research (RWI) in Essen, Germany are the project co-ordinators, team members are Elena Malieva, Teemu Kautonen and Dr. Bernd Lageman. The Russian Independent Institute for Social and Nationalities Problems (RIISNP), represented by Dr Alexander Chepureenko, is the Russian project partner. In Estonia, the research is performed by Prof Urve Venesaar from the Institute of Economics at the Tallinn Technical University. The studies in Italy and Great Britain are conducted by Prof Gabi Dei Ottati, University of Florence and Prof David Smallbone and Fergus Lyon, Centre for Enterprise and Economic Development Research (CEEDR) at the Middlesex University Business School.

We gratefully acknowledge support by the Volkswagen Foundation, which funded this research within its programme “Unity amidst variety? Intellectual foundations and requirements for an enlarged Europe”.

Trust and Economic Development in Italy: The Case of the Industrial District of Prato¹

The whole mechanism of society rests on confidence: it permeates all life, like the air we breathe, and its services are apt to be taken for granted and ignored like those of fresh air, until attention is forcibly attracted by their failure. A. Marshall, 1923, p.165.

Trust and the Italian Industrial Districts

In contrast to the increasing amount of conceptual literature on the role of trust in fostering economic development, empirical studies on the subject are relatively few. This is the case as far as Italy is concerned. With regard to the whole country, the relationship between trust and economic development in recent decades has been analysed mainly by Francis Fukuyama (1995) and Robert Putnam (1993 and 1999).

Fukuyama explains the dominance of small and medium sized enterprises in the Italian industrial structure, particularly in the so-called *Terza Italia* (Central and North-eastern regions of Italy) as a consequence of its familistic culture. Not only in the South of the country, but also in the industrial districts of the *Terza Italia*, the great majority of firms are small family businesses. Therefore, Fukuyama believes that, in spite of their good economic performance in the past, the Italian industrial districts are based on low trust societies and are essentially inferior to large corporations. The reason for this belief is to be found in the small size of the firms, which seems to prevent the exploitation of economies of scale and scope.

This interpretation is wrong for the following two reasons.

- First of all, by focusing exclusively on the size of individual firms, instead of on the industrial district as a whole (populations of specialised firms and the community of people), he fails to see the dense network of institutions (informal and formal) that connect up individuals, social groups and the different types of firms. As a consequence, the district institutional context (co-operative rules of behaviour and related sanctions for those who do not conform to them) limits opportunism and promotes extended trust relations among local agents.
- Secondly, in not considering the close social and economic network of relations that join up small local firms, Fukuyama cannot see that, in the case of industrial districts, the proper unit of analysis is not the single firm, but the local production system (Becattini 1989). Therefore, he also fails to see that industrial districts are large economic organisations, albeit of a different kind from big corporations, and that the small firms can enjoy scale and scope economies, as well as other specific advantages (flexibility, creativity, reduced transaction costs...) under the form of local external economies (Dei Ottati 1991) and local public goods through joint collective action (Dei Ottati 2002).

¹ The author wishes to thank all the colleagues participating in the project for comments and suggestions received during our meetings and particularly Hans-Hermann Hoemann, Bernd Lagemen and Friederike Welter. The author also wishes to thank Marco Bellandi, Fulvio Coltorti, Daniela Toccafondi and Simone Guercini for reading and commenting on a previous version of this paper. Finally, a special thanks to Alessandra Echter for her precious help, particularly concerning the Prato survey.

In his well known study on social capital and economic growth in the different Regions of Italy, Putnam (1993) tested the hypothesis that higher levels of social capital (defined as standards of reciprocity, trust relations, networks that facilitate co-ordinated actions) determine higher levels of institutional performance and, hence, higher rates of growth or levels of income per capita.

Therefore, Putnam tried to measure the amount of social capital of the different Regions of contemporary Italy. To that purpose he considered three variables:

- *Civic community* which is measured by means of a composite index that includes newspaper readership, sports and cultural associations facilities, turnout in referenda and the incidence of preferential voting;
- *Institutional performance* which is measured by a complex of twelve elements, ranging from the propitiousness of budgets, to legislative innovation, to the measure of bureaucratic responsiveness.
- *Citizen satisfaction*: this variable is measured by the results from surveys asking people how satisfied they were with the activities of their regional government.

The empirical results show a strong correlation between the three measures of social capital. Moreover, the regions possessing the highest levels of social capital, typically those located in the Centre and North of the country, were also the ones that had performed better. This indication confirms the traditional economic dualism between the North and South still present in Italy today. According to Putnam, this dualism is rooted in historical differences dating back from the Middle Ages, when an authoritarian structure was established in the South and a more co-operative and horizontal structure of government and society was established in the North.

Recently Putnam and Helliwell (1999) extended their analysis of the role of social capital in explaining the regional growth patterns in Italy up to 1990. In spite of regional differences, the evidence on income growth per capita from 1950 to 1983 shows a tendency to converge. Quite the contrary, from 1983 to 1990 the data show a divergence. The authors explain this outcome with a more effective use during the eighties of the increase of powers of those regional governments endowed with more social capital. Therefore, they grew faster than other regions.

Putnam's works are important for various reasons. He attempted to measure an extremely elusive concept such as social capital; he tried to explain the different endowments of social capital existing in the various regions; and, finally, he established the effects in terms of institutional and economic performance of different endowments of social capital and particularly of civic community.

In spite of that, Putnam's interpretation of the influence of social capital on local economic development in Italy is impaired by some basic difficulties.

First of all, Putnam's concept of social capital and co-operative behaviour is too one-sided and deterministic. It is one-sided because he sees as determinant of trust relations *only* the sharing of a common culture, the roots of which he thinks are to be found in the distant past (Middle Ages or the Renaissance). Therefore, he fails to see that, contrariwise, the sources of trust relations are *varied*, and that in addition to trust as collective capital (Dei Ottati 1994a, or socially oriented trust, Lyons and Mehta 1997), there is trust as personal capital (or process-based trust, Zucker 1986). The latter, unlike the former, is not ascribed but rather earned step by step by individuals in repeated personal interactions, particularly in contexts where information circulates easily, and in which there are prospects of future gains by the reiteration of co-operative behaviour.

Moreover, Putnam fails to see that also in the case of trust as collective capital, the institutions', often implicit rules of conduct that lead to reciprocal co-operation, and hence to improved performance, are not independent of political action in a broad sense. The experience of the Italian industrial districts shows that these rules are normally the result of political-associative regulation, that is regulation which is reached through bargaining among the associations representing

the main economic and social categories of the district (Dei Ottati 2002). In particular, by policing unlimited price competition in local markets for components, and by establishing quality standards, normal payment terms and so on, trade associations diffuse fair rules of conduct and help the circulation of information, which, in the form of refusal to trade in the future, enables the possibility of imposing sanctions on those who violate the accepted rules.

All this is important because it reduces the determinism of Putnam's interpretation, according to which social capital is more similar to a natural endowment than to the outcome of human action. In particular, trust relations can be built, at least partly, through conscious individual behaviour (trust as personal capital) and, once a dense network of economic and social relations has been created, institutions are built up that sustain interpersonal co-operation and promote a common code of conduct and, for this reason, trust as collective capital. This different interpretation of the sources of trust relations is more optimistic and, above all, leaves room for intervention policies aimed at promoting co-operation and participation within the local system (Brusco 1999), i.e. social capital in a form which is favourable to democratic, social and economic development (Dasgupta 2000).

The plausibility of our interpretation is also supported by specific empirical evidence.

In a study which has not yet been published, Belussi (2002) tests Putnam's thesis of a sharp difference in trust relations between the regions of the North and those of the South of Italy.

She compares the results of an identical survey on a large sample of local firms (about 100 in each district) aiming at detecting and measuring trust relations in two different Italian industrial districts: the hundred-year-old shoe district of Riviera del Brenta in the North-east, and the recently developed sofa district of Matera in the South. Not surprisingly for the districts' scholars, the outcome of the research shows that trust relations are common, especially in subcontracting, both in the district of the North (80% of the sample) and in that of the South (75%), notwithstanding the low level of social capital (as measured by Putnam) of the whole region where the Matera district is located. This evidence corroborates our interpretation that, where there is a cluster of specialised small and medium sized firms, social capital can be built relatively quickly, through conscious individual repeated interaction at the beginning, and later on through collective action by means of trade associations and other economic, social, and political institutions.

Also in another study on social capital and trust relations in the tanning district of Solofra, Pendenza (2000) found evidence in confirmation of our interpretation. In spite of the fact that Solofra is located in Campania, a region in the South of Italy with the lowest levels of civicness and institutional performance according to Putnam's measures, the results of Pendenza's survey show that relations among local firms are based on trust, albeit with some caution. Particularly in subcontracting relations, trust is often based on reputation (72%) acquired through repeated transactions over time, which enables local entrepreneurs to commit one another, often without resort to formal contracts (64%). On the other hand, the research also shows that in the district there are customs favouring co-operative behaviour which is combined with competition in local markets.

Analogous evidence is gathered by Farrell (2001) with reference to the packing machinery industrial district of Bologna in the Emilia Romagna region. He concludes his study stating that diffuse interpersonal trust within the district is largely explained by the presence of informal institutions. These informal rules make it rational to behave in a trustworthy fashion in personalised business relations. Those who do not do so find themselves excluded from future business opportunities, not only with the party they have cheated, but also with other business actors in the community, who communicate among each other about their experiences in subcontracting relationships.

In summary, the empirical studies on the role of the institutional context in the economic performance of the Italian industrial districts support the view that trust relations are crucial for the formation and reproduction of the competitive advantage of district firms. This is so because trust relations are necessary for the dynamism of the local production system, which, in turn, is dependent on the smooth working of the two distinct, but closely linked, processes of division of labour among local firms on one hand, and of its flexible integration on the other. The available evidence also supports the theory that trust relations are partly favoured by the inherited institutional context and partly built up through conscious action, both individual (personal reputation) and collective (concerted joint action among associations representing the main interest groups with the mediation of the local government).

The Industrial District of Prato: an Overall View

The province of Prato² can be seen as broadly superimposed on a local system with the socio-economic characteristics of an industrial district. It is a territory with a high demographical density, criss-crossed by a thick network of frequent economic relations, where specific experiences of socialisation and learning have been consolidated over time.

The textile district of Prato, as well as the area of the province of the same name, is comprised of the municipalities of Agliana, Montale and Quarrata in the province of Pistoia, as well as those of Calenzano and Campi Bisenzio in the province of Florence, with a surface area of 700 sq. km and a population of about 300,000 inhabitants. On account of the greater ease of retrieving data, from here onwards in this section we will make the Prato industrial district “ideally” correspond to the province of the same name, even though, as we have just seen, the textile area is larger.

Like (and even more than) other local systems, Prato does not move in a vacuum. Neither does it change according to exclusively internal matters. External events, be they large or small, continually intervene to influence its transformations, appearing now as threats to be faced up to and which call for reaction, now as opportunities to be grasped and exploited to the full. Many of the reasons so far demonstrated for the capacity of the Prato system to constantly adapt to the external context lie in the nature and history of the industrial district. It is indeed well known that Prato here constitutes a paradigm case³.

Already in 1200 and ever since wool manufacturing has characterised Prato's economy thanks to her abundant natural resources (flourishing sheep-rearing, ample availability of running water, etc.) which make her an ideal locality for textile production. However, Prato's fame as the "rag capital", which connoted the image of the local industry for so many years, goes back to the second half of the nineteenth century, when the process of wool regeneration was introduced.

Still, the birth of Prato as an actual industrial district dates back to immediately after the Second World War, following the disintegration of the major wool mills that had previously dominated local industry.⁴ Based on an extensive local division of labour among specialised enterprises, mostly in the various stages of the textile process, but also partly dedicated to functions of intermediation, co-ordination and commercialisation (the traditional *impannatori*), this model was

² The Province of Prato includes seven municipalities: Prato, Cantagallo, Carmignano, Montemurlo, Poggio a Caiano, Vaiano and Vernio.

³ Cf. Becattini, 2001.

⁴ Regarding the origins of the industrial district of Prato, cf. Absalom, Becattini, Dei Ottati, Giovannini (1997); Dei Ottati, 1994b, pp. 116–144.

consolidated in the sixties and seventies productively, socially and from the institutional point of view.

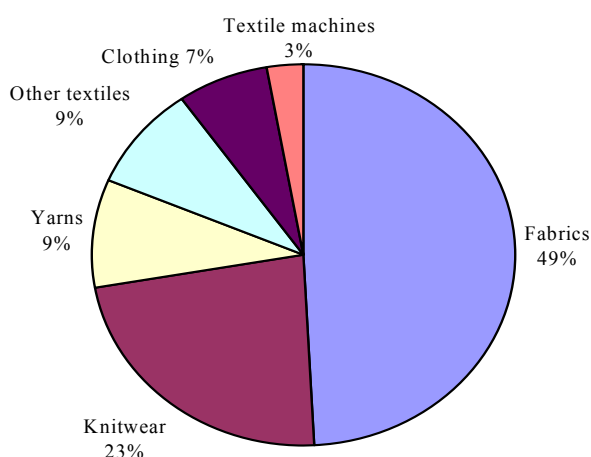
Thanks to the high productivity and flexibility characteristic of its particular organisational formula and the impulse deriving from the soaring international demand for textiles, at the beginning of the sixties the district entered a period of prolonged development, running into the first lull only towards the middle of the eighties. Indeed, in the space of thirty years (between the beginning of the fifties and the start of the eighties), Prato industry experienced an extraordinary growth that brought the number of textile workers from 25,000 to 60,000 and the establishments from a little over 1,000 to over 13,000.

The worldwide drop in demand for carded cloth (a typical local product) that became particularly evident in the eighties triggered a process of stagnation and restructuring within the district. Many wool mills responded by enlarging and differentiating the range of products they offered. Added to the traditional carded wool articles were often new (for Prato) types of cloth, in linen, cotton, silk, viscose and so on, even as far as including unwoven cloths and imitation furs. At the same time, there was a reduction in the number of businesses specialising in certain textile stages such as the transformation of rags into fibres (selection and carbonising) carded wool spinning and even weaving itself, whereas the importance of stages regarding the finishing of fabrics increased.

Still today, despite a marked reduction in terms of establishments (40% less) and workers (20% less) compared to the early eighties, the textile industry remains the fundamental engine of Prato economy and society. In terms of turnover and industrial employment, the Prato local system is the second in Tuscany (after the Florentine area) and one of the foremost in central Italy.⁵ All the same, the tendencies of activities more or less subsidiary to textile industries should be carefully considered on account of the importance that these may have on the capacity for the district's future development.

A considerable amount of the provincial economy is made up of relations with international markets; the opening rate is 77,9%, against the correspondent average of 52,5% in Tuscany and of 48% in Italy.⁶ The main products exported reflect the district's specialisations: mostly fabrics and knitwear.

Exports of the Prato district by products (1999)



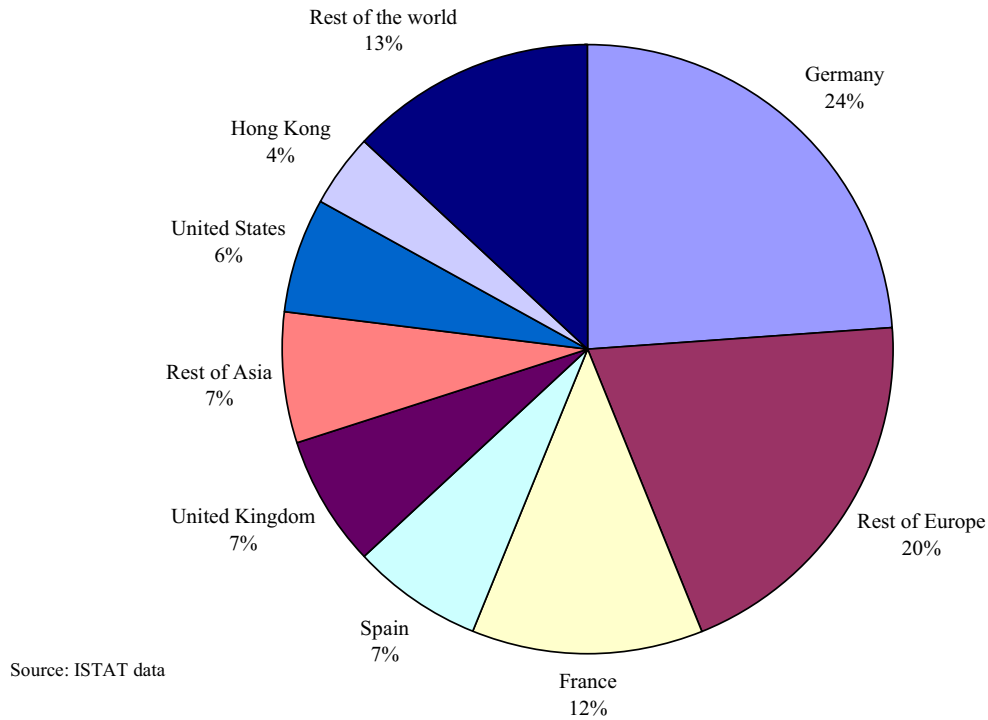
Source: ISTAT data

⁵ Cf. Piano Generale di Sviluppo della Provincia di Prato, 2002. The opening rate is obtained as follows: Exports + Imports/ Value added x100.

⁶ Cf. Atlante delle Province, Istituto Guglielmo Tagliacarte, Unioncamere, 2002

Germany constitutes the principle outlet market for the district of Prato, accounting for more than 20% of overall provincial exports; the rest of Europe and France follow.

Exports of the district of Prato: outlet markets (1999)



At the moment, the Prato district produces a very wide range of products which vary by the fibres used (wool, cotton, artificial and synthetic fibre etc.), the productive processes adopted (worsted and carded spinning, orthogonal and jersey weaving, dyeing and finishing), the market segments catered for (from luxury to mass consumption), and the final uses they are destined for (clothing, knitwear, soft furnishings, technical textiles). Not only is there a greater variety of textile products, but Prato firms are also prolonging their activities in the downstream industries such as clothing and distribution, transforming the district into a huge fashion system, a leader in the world by size and quality of production.

If we take a general look over the productive system, based on data relative to the censuses in 1991 and 2001,⁷ and the intermediate one in 1996, a slight drop in establishments can be noticed, accompanied by a growth in workers (table 1).

⁷ The data relative to the 2001 census are still provisional

Table 1: Overall establishments and workers in the province of Prato (1991, 1996, 2001)

	1991		1996		2001		Var.% estab	Var.% estab wor
	Tot estab	Tot workers	Tot estab	Tot workers	Tot estab	Tot Workers	1991/2001	1991/2001
Cantagallo	211	943	219	965	231	995	9.48	5.51
Carmignano	876	2819	913	2705	1098	3835	25.34	36.04
Montemurlo	2901	12840	2781	13548	2500	12953	-13.82	0.88
Poggio a Caiano	841	2652	845	2425	924	3261	9.87	22.96
Prato	19332	69891	18290	63538	19176	70720	-0.81	1.19
Vaiano	956	3307	847	3182	877	3465	-8.26	4.78
Vernio	467	1127	369	900	381	1217	-18.42	7.99
Total	25584	93579	24264	87263	25187	96446	-1.55	3.06

Source: ISTAT Censuses 1991 and 2001 and Intermediate Census of productive activities 1996

As far as regards textiles and clothing, the census data available (relative only to 1991 and 1996) displays a more marked reduction in textile establishments, only partially compensated by an increase in those of clothing, on the rise especially in terms of workers (table 2). Furthermore, an extremely fragmented productive structure is confirmed (table 3)

Table 2: Establishments and workers in textiles and clothing in the province of Prato (1991, 1996)

	1991			1996			Var.% Estab	Var.% Estab Work
	Estab	Workers	Work / Estab	Estab	Workers	Wor/ Estab	1991/1996	1991/1996
Textile .	7028	34956	5.0	5,802	34,552	6.0	-17.44	-1.16
Clothing	892	2993	3.4	1048	4294	4.1	17.49	43.47
Total	7,920	37,949	4.8	6,850	38,846	5.7	-13.51	2.36

Source: ISTAT Census 1991 and Intermediate Census of productive activities 1996

Table 3: Textile and clothing establishments by size (workers per firm) in the province of Prato (1991, 1996)

	1	2	3-5	6-9	10-15	16-19	20-49	50-99	100-199
Textile 1991	2096	1933	1451	638	478	135	242	48	7
Clothing 1991	329	229	203	78	32	7	13	1	
Textile 1996	1551	1405	1234	655	476	159	259	54	9
Clothing 1996	350	177	252	192	51	10	15	1	

Source: ISTAT Census 1991 and Intermediate Census of productive activities 1996

While the differentiation and production restructuring following the slump in the eighties brought about a lot of changes, it did not, however, turn over the organisation of the district which still today is broadly based on the division of labour among the final-ordering enterprises⁸ (more than a thousand businesses) and phase firms (over 7.000 companies), generally specialised in one of the different textile stages (spinning, warping, weaving, dyeing and finishing etc.). The final-ordering firms are concerned with designing samples, commercialising fabrics or yarns, and carrying out functions of a logistic and organisational nature. Their role is central, given that, as well as designing the products and co-ordinating the work commissioned to specialised subcontractors, they purchase raw and intermediate materials, choose their subcontractors, manage the flow of goods which return to their stores after each stage, sell the products and in many cases also organise despatch to the client. The phase firms are concerned with the actual manufacture of the products. Consequently, they make investments in machinery and possess the professional competence that permits continual adaptation to changing demands.

As far as the situation between the end of 2002 and the beginning of 2003 is concerned, the economic slump, which for some time now has to some degree affected all countries and sectors, has brought about a reduction in textile sales in Prato, and has consequently led to an erosion of profit margins in many businesses. Furthermore, this trend is reinforced by competition from countries with labour costs noticeably lower than in Italy.

The year 2002 was a difficult year for the Prato district, as shown by the drop in the number of textile businesses registered at the local Chamber of Commerce, by the reduction in value of the local textile production, down to a little over 5 billion euros, compared to the 5.4 billion in 2001, and by the 8% contraction in exports in 2002 compared to the previous year. The United States is among the most disappointing markets, along with Asian countries such as Japan, Korea, and China. Probably, these rather unsatisfactory results are largely due to trade factors, among which Germany's economic crisis has weighed down to an extent which is hardly negligible (for several decades she was the principal commercial partner of the Prato district), as well as the appreciation of the euro. However, the influence of structural factors, such as the current concentration of distributive chains and the process of productive internationalisation, can not be excluded.

Prospects for 2003 are not exciting, as the markets are still characterised by heightened uncertainty. It must not, however, be forgotten that one of the elements of the past success of the Prato district has been precisely the capacity for swift adaptation to changes in the international competitive environment

The Empirical Survey in the Prato District

So, in order to better interpret the results of the empirical investigation conducted among the enterprises, it is opportune to supplement the overall picture that has just been depicted with reference to the current situation of the district of Prato. This general information is always useful, but it is even more so in our case, considering that, by the explicit admission of several of the interviewees, the answers given to the questions contained in our questionnaire would have been different if the same survey had been carried out a couple of years ago, before the current slump.

⁸ In the literature concerning industrial districts, *final firms* are those specialising in the activity of designing products and in selling them to external clients, entrusting the actual production to mostly local specialised subcontractors, the so-called *phase firms*.

⁹ Estimate of the Industrial Union of Prato.

The intention of conducting this investigation was to study whether, and in what way, the changes in the district of Prato that have taken place over recent years, both externally and internally, have modified relationships of trust. In particular, it was intended to investigate whether the considerable product differentiation and the reduction in manufacturing activities occurring within the district have modified relations among local enterprises, with particular reference to relations of subcontracting. Furthermore, a preliminary attempt was made to verify the role of formal local institutions (such as trade associations) and especially the informal ones (for example business customs) in promoting an environment characterised by reciprocal trust.

The empirical investigation materially took off in the summer of 2002, with exhaustive interviews, based on a list of open questions, with a few informed members in the relevant field in the Prato district: representatives of trade associations (of industrialists and craftsmen) and entrepreneurs of both final and phase firms, all committed in their respective associations, and the president of a research centre for local development. In the light of what has emerged from these preliminary soundings, and considering the concepts and methods developed in the literature both on industrial districts and on the role of trust in economic relations¹⁰, two questionnaires had been prepared, one for the final enterprises and one for the phase enterprises. These questionnaires contained essentially multiple choice questions and a few open questions, all making allowance for the largely explorative nature of the research.

With regard to the questionnaires, the original idea of a direct symmetry was not followed through because, while phase enterprises develop commercial relations mostly with their own ordering firms (Prato fabric and yarn producers), these latter enterprises (the so-called final firms) have relations of exchange on the one hand with external clients (mainly garment producers, big distributors), and on the other with subcontractors, mostly local phase firms. Therefore, the questionnaire used for the interviews with the phase enterprises has no section concerning relations with external clients.

The structure of the questionnaire used is articulated in 6 main sections:

- general information about the enterprise interviewed
- products and performance of the enterprise
- structure and co-operation within the enterprise
- relations with external clients
- relations with subcontractors or ordering firms, depending on which type of enterprise is being interviewed
- local institutions and trust

Through the questions contained in the first section, the general characteristics of the business were gathered: the year it was set up, the prevailing activity carried out and the ownership structure. The questions in the second section regarded the characteristics of the product (quality and innovation), and the entrepreneurial performance, both in terms of satisfaction and of profit. The third section investigated the internal situation of the enterprise: the activities carried out, the number and type of workers, and the degree of internal collaboration and how it varied compared to 5 years previously. Section 4 regarded relations with external clients, and was therefore specific to the final firms. The number and type of clients were surveyed here, along with the degree of dependence on the main clients, the contractual and payment terms, as well as a measure of the level of trust that Prato entrepreneurs have in their clients and how this has varied compared to five years previously. The subsequent section concentrated on subcontracting relations with phase enterprises in the case of final concerns, and, vice versa, with final firms, in the case of phase firms. The questions aimed to assess the quantity and quality of subcontracting relations, the relative ease in finding a substitute and the prevalent location of the other party,

¹⁰ Cf. Becattini, 1990; Brusco, 1999; Dei Ottati 1994a; Lyons and Mehta, 1997; Sako, 1998.

the duration, and type of rapport which had been set up, as well as the measure of the trust in the other contractor and how this had varied over the last five years. Finally, because the literature emphasises the importance of the role of the institutions (both formal and informal) in promoting trust among economic operators¹¹, in the last section we tried to verify whether the entrepreneurs interviewed belonged to local associations, and whether they were aware of the existence of implicit rules of behaviour governing local economic relations.

The enterprises given the questionnaire were 45 businesses of the Prato district: 27 phase enterprises (including 5 spinning businesses, 16 among weavers, winding and reeling firms, 4 finishing concerns and 2 fabric printers) and 18 were final firms (including 8 fabric producers, 4 yarn producers, 3 knitwear enterprises, 2 special textile producers, 1 clothing enterprise). The final and phase firms we interviewed have no subcontracting relations with each other, but with enterprises that are not included in our survey. In taking into account the small number of enterprises interviewed, compared to the universe of textile businesses in Prato, we concentrated on the quality of information, even by trying to respect approximately the weight of the different specialisations present in the district. For example, among the phase firms interviewed, the ones most represented are weavers, because weaving enterprises are still today the most numerous in the Prato textile system.

As we had to find entrepreneurs willing to collaborate in offering over an hour of their time, we chose the enterprises to include in our survey from a list we received from the officers of the local associations: the Prato Industrial Union and Pratofuturo for the final firms and finishing firms, which were usually industrial businesses; the Confartigianato and the Confederazione Nazionale dell'Artigianato, for the other phase firms, which were usually of an artisan character. The interviews were conducted between the end of 2002 and the beginning of 2003, at a time of extreme market uncertainty with the war in Iraq drawing near.

Finally, the interviews were personally conducted by people especially trained for the purpose, who were directly involved in the research and who recorded the entire interview. This meant that a great deal of information was collected which was essentially of a qualitative nature, much better than what could have been obtained from merely perusing the questionnaires.

Particulars of Enterprises Included in the Survey

As is well known, enterprises in the industrial districts are small in size and specialised, on account of the high division of labour among them. As has already been mentioned in section 2, district enterprises are divided between final enterprises and phase enterprises. The former are prevalently dedicated to the purchase of raw materials and components, to the designing of samples collections and to the sale of finished products (fabrics, yarns, etc.). The latter are subcontractors and are generally specialised in one stage of the production process of the localised industry – textile in our case. In consideration of this, as we saw in section 3, 44 enterprises included in our survey belong to the textile sector, even though they are variously specialised, and only one to the clothing sector, which is new in the area. Taking the specific character of district organisation into account, the analysis of the results will generally be made by distinguishing between final firms and phase firms.

Regarding when they were set up, our survey confirms that the seventies were years of strong growth in the district of Prato. More than 44% of final enterprises and 37% of phase ones came into existence in that period. In actual fact, if we consider the twenty years from 1960 to 1980, we reach percentages of over 60% of formed enterprises, both of final and phase firms (tables 1A and 1B). Greater differences arise when one considers the first half of the twentieth century.

¹¹ Cf. Putnam, 1993; Brusco, 1999.

Our final enterprises seem to have a tradition which dates back longer, given that 22% were formed before 1949, against just one phase enterprise (3.7%). In contrast, when we consider more recent years, we see that our phase enterprises are generally of a more recent date; indeed, those set up between the eighties and the end of '96 make up 22%, compared to 16% of final enterprises.

With regard to the ownership structure, 55% of the final enterprises interviewed were autonomous; the rest are part of a group of enterprises¹² and are sub-divided into controlled enterprises and parent companies. Among the interviewees, there were 9 enterprises with shares in other firms (mostly acquired in the nineties) and almost always they had majority shares that meant they had control in the co-ownership firm. These shares were either in enterprises specialised in a stage of the textile cycle and located in the Prato district, or even in enterprises/commercial offices located abroad with the purpose of promoting sales of their products in distant countries (often the United States and Japan). On the other hand, there were 4 firms shared by other enterprises and in all cases the buyer was a local company (tables 3A, 4A, 5A)

The financial connections for phase enterprises are even more limited than for final enterprises. Only 3 firms (all specialised in finishing or dyeing) are part of a group and have investments in other firms;¹³ another 3 (2 of which are the same firms as mentioned above) are shared by other enterprises, mainly holding companies (tables 3B, 4B, 5B).

As far as concerns aid received for setting up or developing the firm, little more than a quarter of final entrepreneurs declare that they have been helped mainly in the form of bank financing. A little more consistent is the number of phase firms (44%) that have received funding, especially in the form of facilitated financing, and financing obtained through Artigiancredito¹⁴ (tables 6A, 7A, 6B and 7B)

Products and Markets

It is obvious that only final enterprises offer actual goods (fabrics, yarns, knitwear or other textile products) (table 8A). It should, however, be noted that half the final enterprises offer fabrics for women's and men's clothing. With regards to the activity of phase firms, a service rather than a product is offered, materialising in partly-finished goods. Therefore, given the prevalence of weaving firms, the partly-finished product that is the most frequently encountered among our phase firms is raw fabric (table 8B).

As is to be expected, most enterprises, whether they be final or phase, have small or medium-sized production batches, or they even make up sample collections (61% of final firms and 74% of phase firms) (tables 9A and 9B). All the same, there are some enterprises with such a flexible organisation that they can adapt to producing small, medium or long series, according to demand. Almost all entrepreneurs (both final and phase ones) consider the quality of their produc-

¹² According to the report on Prato economy of the Chamber of Commerce, there are about 1000 enterprises in the Prato province operating within a group and they represent 25% of the joint stock companies which, however, comprise only 15% of all businesses.

¹³ Finishing firms represent rather a world apart among the phase firms interviewed. They are companies with an industrial nature, whilst the other subcontractors are more frequently artisan in nature. They are of considerable size if compared to the average in the district. Furthermore, the financial connections of these businesses confirm the increased importance within the local system of the final stages of the textile cycle.

¹⁴ Artigiancredito is a co-operative of credit guaranties comprising about 3500 artisan firms promoted by local Artisan Associations and it has stipulated agreements with local banks (especially with the Cassa di Risparmio di Prato). This allows associated companies to obtain facilitated credit, either for investment or to keep liquid assets: To get an idea of its role in the district of Prato, just consider that in 2001 alone about 1000 artisan firms had access to credit through the cooperative.

tion high or medium, with over 30% deeming it decidedly high. (tables 10A and 10B). The number of those maintaining that their degree of innovation is high (60% of final enterprises and 56% of phase ones) (tables 11A and 11B) is also considerable, especially regarding the fashion content. Amongst phase entrepreneurs, however, 24% indicate a low degree of innovation, particularly because the technology in some stages, such as carded yarn, has remained substantially unaltered over time. Taking the preceding replies into account, it is not surprising that the main competitive factor for final enterprises is quality, whilst for phase enterprises it is the prompt delivery of orders, followed by the quality of the work carried out (tables 13A and 13B)

With regard to outlet markets, phase enterprises logically sell their productive services almost exclusively to ordering firms based in the Prato area, given the nature of the district organisation, even if about 40% of phase firms also work (though generally in small quantities) for enterprises in other zones in Italy (table 12B). On the other hand, when we analyse the outlet markets of final firms, the international orientation of the district is confirmed. In 2001, 55.5% of enterprises sold over 30% of their production value to countries in the European Union and about the same number of enterprises sold over 30% of their turnover to foreign countries outside Europe, especially the United States and Japan. All the same, the national market is important, though sales accomplished in the district, as expected, are negligible (table 12A).

To get an evaluation, albeit subjective, of the business performance, we asked the degree of satisfaction with respect both to the goals fulfilled and the profits attained. A little more than half of the final enterprises considered fulfilment of entrepreneurial objectives "partially satisfactory", but it must be remembered that the remaining entrepreneurs interviewed considered themselves fully satisfied. On the contrary, when reference was made to profits over the last three years, 78% of final entrepreneurs declared they were satisfied or partially satisfied, but 20% considered their profit unsatisfactory (tables 15A and 16A). With regard to the fulfilling of entrepreneurial objectives, almost all phase firm entrepreneurs declared themselves satisfied or partially satisfied. In contrast, going onto evaluation of profits achieved over the last three years, the percentage of unsatisfied entrepreneurs (44.4%) was double compared to that of final firms. (tables 15B and 16B).

Structure and Co-operation within the Firms

Since one of the fundamental traits of district organisation is the division of labour among enterprises, each enterprise tends to specialise in one or a few activities in the production process of the local industry in the case of phase firms, or in designing and selling their products in the case of final enterprises. The results of our research confirm this assertion (tables 17B and 17A). In particular, the preparing of samples collections for final enterprises has assumed crucial importance, both because of the effort required (sample collections are compiled twice a year and are continually brought up to date), and for the operators involved, which range from subcontractors to businesses offering stylistic counselling to the clients (table 14A). Finally, sales and consequently profits for an entire season depend on the success or failure of the samples collection.

Still, on account of the division of labour among the firms, the size of businesses in industrial districts is generally quite contained. The evidence we collected also confirms this assessment. In particular, about 52% of phase enterprises do not employ more than 10 workers, whilst 70% do not have more than 20, even though a small amount (14.8%) of enterprises (all of them specialised in finishing and dyeing) have more than 50 workers and in one case even 133 (table 20B). Normally, final enterprises are slightly bigger. Indeed, only 11% of interviewees do not have more than 10 employees, whilst 22.2% can even consider themselves medium sized, numbering over 50 workers (table 18A). As far as regards how the staff is made up, most phase en-

terprises are of the artisan type and therefore, apart from the owners and partners, they only employ a few manual workers (over half of our phase enterprises do not employ more than 5 blue collar workers) and no office workers or managers (tables 20B (d), (c), (b)). Final enterprises, on the other hand, all employ at least some office workers or intermediate staff (39% have from 1 to 5 of them, but 33% over 20), and in a few cases they also employ some directors, despite the fact that, being family enterprises, managerial functions are mostly carried out by the proprietors and their partners (tables 18A(a), (b)). Furthermore, over recent years there seems to have been an increase in differences between final and phase enterprises in their structure and staff composition, perhaps as a consequence of on-going restructuring. Overall, our final enterprises maintain employment at the levels of five years ago, even with re-organisation which leads to a reduction in the numbers of blue collars and an increase in white collars and intermediate staff (tables 19A and 20A). Contrariwise, a consistent number of phase enterprises (59.3%) are decreasing their staff, almost always by not replacing retired manual workers (tables 21B and 22B).

The specialised structure and small size of district enterprises also mean that they are mostly individually owned or family firms, where the owner is always around and, in the case of phase enterprises, often carries out the function of factory hand in person. These characteristics, together with the necessity for workers to have good professional skills and some autonomy to allow the firm to adapt to the continuous variations in demand, both quantitative and qualitative, signify that relationships within the firms are generally not at all formal and hierarchical. Consequently, in order for district enterprises to pursue objectives of efficient performance, they lean more on building up relations of personal trust and on involving workers than on controlling and supervising them. Relations of personal trust between entrepreneurs and their employees are normally built up over time, by working together, even side by side, as happens in many artisan enterprises. In this way, an intimate, reciprocal knowledge of professional and personal characteristics is acquired which largely facilitates internal co-ordination (Dei Ottati, 2003, pp.86–87). In turn, involvement is usually achieved by gradually handing over to employees ever more responsibility and autonomy. This allows the latter to increase both their professional competence and their reputation for reliability, which in favourable periods are compensated with monetary bonuses, or, at times, with the possibility for them to set up on their own (Brusco, 1999, pp.26–33; Dei Ottati 1994, pp.538–540)

The results of our survey confirm that the atmosphere inside the enterprises is one of collaboration (tables 21A and 23B), and that in recent years this collaboration seems on the whole to have increased¹⁵ (tables 22A and 24B). Furthermore, when asked in what way efficient performances at work are ensured, over 80% of phase entrepreneurs claim that they know their own employees well enough to be able to work “in an atmosphere of absolute trust”. Among final enterprises as well, about 70% of interviewees maintained that “responsibility, trust and involvement”, obviously together with a constant direct rapport, lie at the base of internal efficiency.

Relations with Clients outside the District and the Role of Trust

The relationships, more or less of collaboration and trust, among the firms in Prato are obviously also affected by the relations which the final firms have with their clients scattered throughout the world (*cf* section 5). Thus, as already indicated, (section 3) our findings, although directed in the first place at an analysis of relations between the firms of the district, has also looked briefly at relations between the final firms of Prato and their external clients. These

¹⁵ Some entrepreneurs have explained the increased collaboration between firm management and employees with the greater responsibility of the latter deriving from their awareness of the current slump.

latter, in the case of 67% of the final firms interviewed, are clothing firms with different characteristics as far as product, size of the order and geographical location are concerned. Apart from these, other important clients of the textile producers of Prato are the multinational fashion houses and the large distributing companies (table 23A).

As noted, one of the main advantages of the Prato firms is their capacity to adapt continually and to differentiate their products. They are, however, small, especially in comparison with some of their clients, as in the case, for example, of the large distributors and multinational fashion houses. Therefore, to reduce the risks of market uncertainties and dependence on a few clients, the Prato final firms generally adopt a double strategy: on the one hand they offer new product samples, and on the other, they try to have a sizeable and diverse range of clients. This second strategy is confirmed by the data collected, accordingly to which, 66.7% of our final firms have more than 100 clients and a third of them have between 300 and 1000 (table 24A). Moreover, for 78% of our final firms the invoiced sales to the principal client is between 1 and 10% of their turnover, and even the volume of turnover sold to the three main clients is low (table 25A).

The diversification of clientele is a safeguard against the risk associated with a client defecting, and the fact that usually even the main client accounts for only a modest part of the final firm's total sales, avoids excessive dependence. This strategy should favour the establishment of collaborative relations (Lorenz 1988, p.203; Brusco 1999, p.21). Nevertheless, the information gathered from interviewing key local actors and enquiries to the businesses seem to indicate that current relations between the Prato final firms and their clients are more of conflict than of collaboration.

To better analyse this type of relationship with reference to the role of trust, our entrepreneurs were asked to express their degree of agreement (using a five-point scale where 5 = strongly agree and 1 = strongly disagree) by responding to these statements:

- The information we receive from our clients is useful for our firm;
- We believe that our clients treat us fairly
- Given the chance, our clients might try to take unfair advantage of our business.

Substantially the same method used by Mari Sako to reveal the type and degree of trust in the relations of the sub-contractors in the automotive industry in Japan, USA and Europe was applied (Sako 1998, p.94). Thus the responses to the first statement were interpreted as a measure of the "competence trust" in the other party, while the responses to the second statement reveal the degree of "goodwill trust," and the third indicate the perception of the risk of opportunistic behaviour.

Competence trust can be defined as the expectation that the other party possesses the competence necessary to fulfil the task required adequately. Goodwill trust is the expectation that, given the chance, the other party will not take unfair advantage of us. Clearly, goodwill trust goes beyond the expectation of simple respect for the contractual terms. Competence trust and goodwill trust, in practice, are often connected. Nonetheless, it is opportune to distinguish between them as concepts and also because, in case of a breach of one of these trusts, the remedies to adopt are different. Thus, for example, if a supplier consigns poor quality goods because of incompetence, one can try to remedy the situation with some technical assistance. But if it is suspected that the deficiency is due to material having been used which is of inferior quality to that agreed upon, then the remedies are usually a break in the relationship, or protest, which are, in the terminology of Hirschman (1970), the classic remedies of "exit" or of "voice."

The results obtained are summarised in the first column of the table "trust and opportunism", which shows the percentage of interviewees who agree or strongly agree with each of the above statements (tables 30A, 32A, 34A). They show that the final firms of Prato have a high level of trust in the competence of their clients: almost 90% feel that they receive information that could

be useful for their enterprise, particularly information regarding market trends (78% of the firms, table 31A). The importance of the information obtained from the clients is also shown in the fact that 61% of our final firms modify their products at the request of the client (table 14A).

Low, however, are the results expressing trust in the clients' fairness: only 44% of the interviewees agree or strongly agree that they are fairly treated by their clients,¹⁶ although many (50%) neither agree nor disagree with the statement, because some of their clients are worthy of trust, but not others. The relatively low level of trust in external clients is also confirmed by the fact that half of our entrepreneurs think that the clients, on occasion, might act opportunistically to their detriment (table 34A)¹⁷.

Moreover, the replies which our interviewees gave to the question about the conduct associated with trust suggest that low trust often depends directly on a lack of respect for the contractual terms (table 29A). And this despite the fact that, for 82% of our firms, the orders received by external clients are written (table 28A), while only 18% of them use verbal agreements. Incidentally, it is worth noting that orders, even verbal ones, are increasingly being accompanied by a written schedule of the technical specifications to which the goods must comply. This practice (new for Prato firms), however, seems to have more to do with the growing importance of respecting precise standards of quality on the one side, and the frequency of the production of new textiles on the other, rather than with a reduction in the goodwill trust.

The negative effect of the international economic slowdown is also reflected in the terms of payment offered by clients to the final firms of Prato. For an increasing number of firms these terms are prolonged; such that 83% of our final entrepreneurs stated that they were paid more than two months after the consignment of the goods had been delivered, and, in several cases, even after three or four months (table 26A). The form of payment usually depends on the geographical location of the client. The most common method of payment by clients outside Europe is the letter of credit, while for European clients a bank transfer or direct remittance is preferred. For Italian clients, the method most used is the cash order. As a further indication of the deterioration of relations with external clients, some entrepreneurs interviewed stated that having experienced payment defaults, they had decided to take out credit insurance in spite of the cost of this safeguard.

As we have seen, the final firms of Prato diversify their clients and try to avoid an excessive dependence on any one of them. In spite of which, overall, the current relations with external clients appear to be characterised by a low level of goodwill trust and sometimes even by conflict. The inquiries among the firms provided neither information to identify the cause of this situation nor indication as to whether we are dealing with a significant new phenomenon. We only find from the study that, for half our interviewees, the degree of trust in external clients has remained constant in the last five years, and that, for the other half, the number for whom trust has diminished is double the number for whom it has increased (table 33A).

The information collected on interviewing local key actors leads us, however, to conclude that this state of affairs is due partly to the prolonged negative international economic trend, and partly to the changes which have taken place in sectors downstream of textiles, that is, in the clothing and distribution industries. In both these sectors, and particularly in distribution, a process of concentration on the national and international levels has been taking place for some

¹⁶The low level of trust in the clients' fairness is confirmed when confronted with the results obtained by Mari Sako in the automobile industry: 67.8% in Japan, 42% in the United States and 40% in Great Britain. (Sako 1998, p.94)

¹⁷ The figures obtained in response to the same statement in the mentioned study by Mari Sako are: 23.9% in Japan, 55.8% in USA, and 32.5% in Great Britain (Sako 198, p.94).

It can be noted however, that 61% of our final entrepreneurs assert that they had never, or hardly ever, had serious problems with their clients, and the other 39% had them only occasionally (table 35A). The problems were usually due to the bankruptcy of a client, the rejection of goods because of low quality, or late delivery.

time now. This process, on the one hand has reduced the total number of buyers of textile products, and on the other has increased, sometimes even considerably, the size of those who have remained. This has strengthened the market power of those who purchase textile products over those who offer them. Moreover, the clothing companies, who are Prato final firms' direct clients, in their turn, often receive orders from the big chain stores. These latter unilaterally establish the acquisition method, time and place of delivery, as well as the prices, according to budgets drawn up by their financial offices. On the other hand the multinational fashion houses are ever more frequently purchasing textiles directly in the emerging countries, where they decentralise the making-up of a growing quantity of clothing goods, marketed under their label. Among the causes of the current difficulties in relations between final firms of Prato and the external clients there seem to be, therefore, also sweeping changes, at least in part connected to the general process of globalisation.

Subcontracting Relations and Trust

The Division of Labour in the Industrial District and the "External Organisation" of the Firm

As in every industrial district, in Prato there is an extensive division of labour among the firms. This means that each one, specialising in one or a few activities, needs, in order to carry out its own tasks, the collaboration of other firms with different specialisations. Recourse to subcontracting, therefore, is structural because it depends on the typical way in which the economic process is organised in the industrial district.

The results of our survey confirm this characteristic. Eighty-three percent of our final firms (although among these there are some producers of special textiles who have a production cycle which is less decomposable and therefore almost vertically integrated), subcontract to specialists all, or almost all, the phases of the production process: phases for which, typically, they do not have the skills and machinery within their own firm. Moreover, for 72.2% of these entrepreneurs, the value of the work subcontracted exceeds 30% of their sales (tables 36A, 37A, 38A and 40A). Although, more occasionally and as a modest part of their turnover, even some phase firms resort to other subcontractors (tables 25B, 26B, 27B). In addition, the division of labour is not confined to manufacturing activities, but extends to business services: in fact, the firms interviewed – both final and phase firms – use other enterprises specialised in providing services, particularly consultancy services for taxation and accounting, labour consultants and computer services (tables 41A, 28B).

The general recourse to subcontracting reflects not only on the internal organisation of the firms in the district, which are specialised and of moderate size (section 6), but also on their relations with the other firms. Precisely because they are specialised, the firms of the district have to construct a network, more or less wide and consolidated, of business relations with other firms for the most part possessing complimentary specialisations. This network of relations constitutes a sort of "external organisation" of the firm (Marshall 1961, vol.1, p.458), comprising, in the first place, relations with the subcontractors in the case of the final firms, and relations with the ordering firms in the case of phase firms.

An indicator, however partial, of the "external organisation" of our firms, both final and phase, is the number and characteristics of their subcontractors or customers, above all the habitual ones which, typically in industrial districts, are local firms. A little less than half of the final firms interviewed have subcontracting relations with more than 30 phase firms and many of them also buy diverse business services from specialised firms (tables 41A and 42A). Moreover, 60% of these final firms have more than 10 regular subcontractors (none have fewer than 3) and

almost all of them have worked with the same subcontractors for more than 5 years, indeed 59% for more than 10 years (tables 44A, 45A). The stability of these relations is favoured by proximity, given that 82% of the habitual subcontractors are located within the district (table 46A).¹⁸ Such a high level of preference for intra-district relations attests to the persistent advantages connected to proximity; advantages for the most part deriving from the “industrial atmosphere” (Marshall 1961, v.1, p.271), which considerably depends on the localised accumulation of production knowledge, mainly of the contextual type (Becattini and Rullani, 1996). According to the affirmations of our final firm entrepreneurs, the principal advantage of using local subcontractors is quicker delivery (table 48A) which, as has been seen, is, today, one of the most important factors in the competitiveness of firms (table 13A). However, other significant reasons for the preference for local subcontractors are trustworthiness and the ease of understanding at work. In fact, the firms of the same district are close to one another not only geographically but also culturally, inasmuch as they share technical standards and codes of behaviour. All this, together with the frequent visits that the final firm entrepreneurs, or their technicians, make to the subcontractors, usually allows problems which arise in the course of the work to be resolved rapidly and satisfactorily.

Of the phase firms included in our survey, 55% have between 10 and 150 customers (mostly local fabric producers), which, given their prevalently artisan character (52% of them have no more than 10 workers), is a high number. Obviously the phase firms also seek to establish stable relations with their customers. In fact, more than half of those interviewed have more than 10 habitual ordering firms and even the small weavers generally have more than one. Furthermore, these are relations which, for almost all of them, have lasted over 5 years and, for 59% of them, even more than 10 years (tables 29B, 31B, 32B). Finally, the phase firms, even more so than the final firms, have business relations with other firms of the district. All those interviewed receive their orders from Prato final firms and only very few do a little work also for some firms outside the district, notwithstanding that almost 30% of our phase firms would now like to diversify their customers geographically (tables 33B and 34B). Among those who prefer to work with Prato final firms, the main reasons for their preference range from the ease of understanding one another to better reliability and the continuity of work (table 35B).

Market power and trust in subcontracting relations

The literature on industrial districts underlines the importance of cooperative relations interwoven with competition among the firms as one of the factors of the competitive advantage of districts (Becattini 1990, Brusco 1995). Some authors dwell particularly on the role of trust in subcontracting relationships (Lorenz 1992, Dei Ottati 1994a).

Among the aims of this research was that of empirical exploration of the role of trust in the subcontracting relations of the Prato firms. As we expected, the “external organisation” of these firms was found to be wide and locally rooted, consisting of various firms for the most part within the same district. What, then, is the prevailing quality of current relations among the final firms and the phase firms of the district? Are these relations characterised by a structural asymmetry of market power among the contracting parties, or by a substantial interdependence and reciprocal trust?

A good indicator of market power is the degree of substitutability of each party: the contractor who is less easily substituted has the greater market power. As has been seen, the final firms interviewed enjoy regular, though not exclusive, relations with numerous subcontractors. Also the phase firms generally have several habitual customers, and various interviewees expressly

¹⁸In regard to the location of subcontractors, 72% of our final firms state that they prefer to deal with Prato firms (table 47A). It should be remembered, however, that among our final firms are some which produce special textiles, a production for which there is neither diffuse competence nor a highly specialised firm in Prato.

stated that they avoid excessive dependence on any single firm. About 70% of our subcontractors, in fact, reserve no more than 30% of their production capacity for their main customer, and not more than 70% thereof for their major three (tables 37B, 38B). From a structural point of view the substantial interdependence of the firms in the district seems to be confirmed. This, however, does not imply that there cannot be differences of market power between the two parties in subcontracting relations according to the changing economic situation. Typically, in fact, during periods of high demand, the phase firms are less easily substituted and their power increases, and vice versa in periods of stagnant demand. In seeking to evaluate the current situation in Prato, therefore, the interviewees, among both final and phase firm entrepreneurs, were asked if they could replace with ease, respectively, a regular subcontractor or a customer. Half the entrepreneurs of final firms and 44% of those of phase firms said that they would not have difficulty finding a substitute.¹⁹ The current weak market power of the phase firms in comparison to the final firms is confirmed by the fact that, while 61% of the final firms affirm that their subcontractors would have difficulty replacing them, only 40% of the phase firm entrepreneurs state that the customers would have difficulty finding substitutes for them (tables 51A, 40B).

These findings confirm that relations between the firms of Prato are prevalently of the nature of interdependence, even if there are signs of a certain asymmetry among the final and phase firms; an asymmetry which, however, may be attributable to the prolonged negative economic conditions.

Relations of interdependence are often sustained by the exchange of reciprocal, not simultaneous, obligations, which precisely for this reason, induce the expectation of a long term commitment and therefore promote a climate of loyalty and trust (Sako 1998, pp.100–101). Examples of this exchange of obligations, or “gifts” (Akerlof 1982), in the relations of subcontracting are the sharing of information, the provision of technical assistance or even credit and other forms of help for the setting-up or development of the subcontractor itself.

The survey provides evidence in this regard, too. Almost all (94,4%) of the entrepreneurs of final firms revealed that they provide information to their regular subcontractors, above all information on suitable technology, on materials provided and on preceding and successive production stages (tables 55A, 56A). But only 44% of our phase firm entrepreneurs affirmed that they receive information from their customers, above all information regarding the use of the products (tables 44B, 45B). Moreover, 67% of our final firm entrepreneurs assert that they give technical assistance to the subcontractors, but only 52% of the phase firm entrepreneurs claim to receive it from their ordering firms (tables 57A, 46B), and various subcontractors believe that they have greater technical competence than their customers. In fact, because of the division of labour typical of the organisation of a district, the subcontractors have a high level of competence within the production phase in which they specialise, such that, not infrequently, it is they who give technical help and advice to the final firms, as evidenced by the participation, directly or indirectly, in the preparing of samples (tables 14A, 14B). Thus, the information which the subcontractors would like to receive from the customers is, above all, about market trends. In this regard the Prato final firms seem to be rather reticent, and it is not clear whether this is because of the difficulty of making prognoses or because of the fear of revealing information which could be advantageous to competitors.

Another way of promoting trust relations with subcontractors is by the commitment to guarantee them a certain continuity of work (Lorenz 1988, p.206). Almost all our entrepreneurs of final firms maintain that they give this commitment and the majority of our subcontractors confirm

¹⁹It should be noted that 70% of our subcontractors maintain that in times of normal demand, they would not have difficulty finding a substitute customer (table 39B). This seems to be connected to the fact that the number of artisan phase firms in the Prato district has considerably diminished in recent years, also reducing their replacement possibilities in the relevant local market.

this (tables 60A, 49B, 50B). Certainly, one favour which creates a long-term obligation, and therefore promotes trust, is the offer of credit or other help. About 67% of our final firm entrepreneurs stated that they had supported the creation or the growth of some of the subcontractors (often with the loan of machinery paid off subsequently by deduction from the work), even if only 28% had actually offered credit (tables 63A, 62A). Against this, only 23% of the subcontractors admit to having had help from a customer, and 11% to having received credit (tables 53B, 52B).²⁰

The findings regarding the informal commitment to a continuity of work and to “gifts” offered by Prato final firms to the phase firms seem to confirm, overall, that trust remains the essential lubricant in subcontracting relations within the district. Even in this case however, a certain asymmetry is revealed among the final and phase firms.

Type and level of trust in subcontracting relations

The concept of trust is complex and elusive, but, from the point of view of this research, it is significant only in relations which expose at least one of the parties to the risk of opportunistic behaviour. Thus trust may be defined as the expectation that the other party in a relationship will not take undue advantage of the vulnerability created by the cooperation. The reasons for such an expectation may be varied, but among them it may be useful to distinguish between membership of the same community (economic, scientific, religious, etc), and therefore the sharing of the same value system, attitudes and codes of behaviour, and the direct acquaintance of the other party, acquired gradually through repeated business relations. Since, in the first case trust depends on the observance of common codes, we can think of it as collective capital. In the second case, trust derives from, at least in part, rational behaviour, in the sense of taking into account the future benefits to be gained from establishing a good personal reputation. In this case therefore, we can think of trust as a form of personal capital (Dei Ottati 1994a).²¹

The literature on industrial districts has emphasised that, lying at the basis of cooperation and relations of trust typical of the organisation of a district, is the sharing of the same value system and code of conduct learnt by the subjects from social intercourse and sustained by local institutions (Becattini 1990, Lorenz 1992, Dei Ottati, 1991, Brusco 1999). Also underlined, however, is the importance of trust based on personal reputation gained through one’s own behaviour (Dei Ottati 1994a). Other authors (Fukuyama 1995) have argued that it is instead family ties which are the fundamental element in relations of trust within small businesses in Italian industrial districts.

Consequently, in the investigation into the Prato firms it was sought to reveal the importance which our entrepreneurs gave to the different factors usually associated with relations of trust, such as family ties or friendship, membership of the same district, the experience of repeated, satisfactory dealings, and even the presence of ownership relations. Past experience of satisfactory dealings was, by far, the most important factor in promoting trust between the customers and the subcontractors: all the final firm entrepreneurs interviewed, and 96% of those of the phase firms, consider it to be the most important or important. Although, at some distance below this, membership of the same industrial district was the second determining factor, with over half the final firm entrepreneurs and 37% of those of the phase firms considering it impor-

²⁰ The evidence about granting credit to subcontractors confirms only partly that interlinking transactions of subcontracting and credit are important in financing new firms and technical innovation in industrial districts (Dei Ottati 1994a). Indeed, the survey shows that today the interlinking transactions of subcontracting and credit are still significant in the Prato district, even if they are not as widespread as they were during the years of the exceptional proliferation of new phase firms in the period after the Second World War (Dei Ottati 1994b, pp.116–144).

²¹ The distinction between trust as collective capital and as personal capital is partly similar to that made by Lyons and Mehta (1997) between socially oriented trust and self-interested trust.

tant (tables 67A, 57B). It is interesting to note that our interviewees (from both final and phase firms) agreed that family ties were of little importance as a determinant of trust (tables 67A, 57B). In fact, during interviews, a number of them said that family ties were often an obstacle to the development of good business relations. This evidence clearly contradicts Fukuyama's thesis (1995) that relations of trust found in Italian industrial districts are based essentially on a familistic culture, rather than norms of general reciprocity.

To the decisive weight of satisfactory past experience and the scarce attention given to family relations as determinants in trust, there are corresponding results relative to face-to-face contact between customers and subcontractors. All our final firm entrepreneurs, and 96% of those of phase firms, have face-to-face contact for business reasons (tables 58A, 47B), some of them for many hours a month, while the others do so only when some problem arises. On the other hand, direct contacts between final firms and subcontractors are non-existent, or at the most, occasional, for reasons other than work (tables 59A, 48B).

Using the same method as that employed in the case of the relations with external clients, it was sought to measure both the competence and goodwill trust of the entrepreneurs of final firms in relation to their subcontractors (phase firms) and of phase firm entrepreneurs in relation to their customers (final firms).

In this case, too, competence trust is indicated by the degree of agreement (using a points system of 1 to 5, in which 5 equals complete agreement and 1 equals complete disagreement) with the statement "the information which we receive from our subcontractors (or customers) is useful to our firm". The results (tables 64A, 54B) are summarised in the second and third column of the first line of the table "Trust and opportunism." They show a clear asymmetry between final firms and phase firms. Almost all the final firm entrepreneurs agreed or strongly agreed on the usefulness of information received from subcontractors²², but only 59% of our phase firm entrepreneurs expressed the same opinion in reference to their customers. As already observed, the phase firms, especially those in the production cycle typical of the district, are highly skilled in their specialisations and the final firms know this well, so much so that they sometimes even consult them in the realization of new samples. In the case of the subcontractors, on the other hand, not only do some of them claim to have more technical knowledge than their customers, but often they have low trust in the information which the ordering firms give them about market trends, as shown in the relatively high number (29,6%) of those who are indecisive (table 54B).

The goodwill trust of the customers and the subcontractors respectively is shown by the degree of agreement with the statement "our habitual subcontractors (or ordering firms) will help us even if not foreseen by the agreement". The results are summarised in the second and third columns of the third line of the table "Trust and opportunism." They show an even more accentuated asymmetry between final and phase firms. Not only just 37% of the subcontractors, as opposed to 89% of the customers, agree or strongly agree with the above affirmation, but a higher percentage (44%) is in direct disagreement (tables 55B, 65A). The low level of trust in their customers on the part of the phase firms²³ is also confirmed by the results regarding the perception of the risk of opportunism, which we sought to measure with the following statement: "given the chance, our subcontractors (or ordering firms) might try to take unfair advantage of our business" (second and third columns of the fourth line of the table "Trust and opportun-

²² The two entrepreneurs who did not agree with the statement in the questionnaire are producers of special textiles and, as already noted, seldom use local subcontractors.

²³ The level of goodwill trust in the customers on the part of the subcontractors of Prato (37%) is similar to that which Mari Sako found on the part of the subcontractors in relation to the motor car producers in the United States (37%) and in Japan (38,8%), but less than that of the subcontractors in the German motor car industry (50%). *cf.* Sako 1998, p.94).

ism”). The majority (59%) of our phase firm entrepreneurs agree or strongly agree with the statement and, once again, only 37% of them have trust in their customers (table 56B). On the other hand, just 5% of our final firm entrepreneurs fear that some subcontractors might behave opportunistically, even if some (16,7%) neither agree nor disagree with the statement, probably because they trust some but not others (table 66A).²⁴

However, unlike the situation with external clients (table 28A), in subcontracting relations the great majority of our entrepreneurs (final and phase) claim to use verbal agreements, though the informal order is very often accompanied by a written schedule containing the technical specifications of the work ordered (tables 54A, 43B). The latter does not constitute a written contract, but is a document that can protect both parties from possible misunderstandings, now that the variety of work undertaken in the district has greatly increased and the margin of tolerance of quality is reduced.

The widespread use of the verbal agreement would seem to confirm the existence of a climate of substantial trust among the businesses of the district, notwithstanding that the long decline in demand may have given rise to some tension between customers and subcontractors. This interpretation is confirmed by both the fact that most of the cases of subcontracting relations are between firms who have worked together for a long time (tables 45A, 32B) and the fact that the so-called “law of subcontracting”²⁵ is not applied. This recent law specifically provides for a written contract and establishes terms of payment which are generally 60 days from consignment. In spite of this, and notwithstanding the appeals of the artisans’ associations to apply the law, the Prato entrepreneurs (both final and phase) continue to follow the informal verbal practice that is customary of the district and to ignore the law of subcontracting, which is generally perceived as an obstacle to establishing good business relations.

Thus, from the analysis of the relations between final firms and phase firms in Prato, there does not emerge a structural dependence of the latter upon the former. Moreover, in general, the exchange of non-simultaneous obligations appears to be considerable. How then does one explain the asymmetry in the level of trust between these two categories of business, both of them essential for the life of the district (Dei Ottati 2002)?²⁶

Based on the interviews with local key actors, the most convincing explanation seems to be the following. Structural and economic changes in the relations between final firms in Prato and their external clients (the concentration of clientele, above all of the big distributors, changes in acquisition strategies by the large fashion groups and the prolonged international stagnation of demand) have reduced the market power of the district final firms to the point of initiating cut-throat competition among them. Taking into account the way in which the district’s production is organised, all this has brought about a progressive reduction in the prices paid to subcontractors, an extension of the payment terms and an increase in claims from the external clients to the final firms, and from the final firms to the local subcontractors. Clearly, this state of affairs tends to erode trust among Prato firms, particularly the subcontractors’ trust in the customers and, above all, the trust based on respect for the local code of fair competition, which is distinctive of the organisation of a district.

²⁴ The difference in the level of trust shown between customers and subcontractors is also confirmed by the fact that, while all the final firm entrepreneurs interviewed said that they had never or hardly ever had serious problems with their subcontractors, 23% of those of the phase firms claim to have had troubles with their customers (tables 69A, 59B).

²⁵ Law no.192 of 18 June 1998, “Disciplina della subfornitura nelle attività produttive”

²⁶ This asymmetry in the level of trust of the final and phase firms included in our survey could result from the fact that the final firms are more consolidated, and sometimes at the head of a group or a team of firms working well together. Among the phase firms, in contrast, there are younger businesses, which are less part of business teams, even if, in fact, all have habitual customers with whom they have been working for years.

This interpretation seems to find corroboration in other data collected in our survey. In fact, as a consequence of the current market difficulties, many phase firms, not only of the industrial ones such as finishing enterprises, are paid more than two months after delivery of their work (tables 52A, 41B), and sometimes even after three or four months, causing financial problems, especially for the artisan firms which do not have a structure to sustain such prolonged deferrals²⁷.

The current state of imbalance in relations between customers and subcontractors in the Prato district is shown, furthermore, by the replies to the question about the reaction which they would have to any opportunistic behaviour on the part of the other party. All our final firm entrepreneurs would penalise a subcontractor behaving unfairly by breaking off the business relationship, either immediately or after seeking an explanation for the sake of the pre-existing trust. Also 70% of the phase firm entrepreneurs faced with unfair behaviour from a customer, would react in the same way, but some indicated that they would terminate the relationship only after finding a substitute. There are some (15%), however, who would continue to accept orders from an unfair customer so as not to be without work. Finally, another indication of the recent decline in the level of trust of the Prato subcontractors in their customers is the fact that for 37% of our phase firm entrepreneurs, trust in their ordering firms is less today than it was five years ago; in contrast, for almost all the final firm entrepreneurs their trust in the subcontractors has remained constant or has increased (tables 68A, 58B).

Local Institutions and Trust

Customs of reciprocal cooperation and trust in industrial districts

Right from the beginning, the literature on industrial districts has underlined the essential role that local institutions play in this model of economic development. In particular, emphasis has been placed on the system of values and customs that permit expansion around the industrial district of lively competition, combined, however, with respect for standards of reciprocal cooperation (Becattini 1990, Dei Ottati 1991, Lorenz 1992).

It has been seen how those entrepreneurs who were interviewed acknowledge how trust between local operators depends considerably on their belonging to the same district and on their sharing the same set of standards of behaviour. Despite this awareness of scholars and businessmen, it is only recently that a substantial effort has been made to specify the principal rules of the implicit code of industrial districts. This also has the aim of identifying policies suitable for the promotion of actions designed to reproduce the socio-institutional bases for development according to the model of industrial district both in different places and in the same place over time. On the grounds of his prolonged and thorough study of industry in Emilia-Romagna, Sebastiano Brusco (1999) drew up the most important implicit rules on which co-operation among enterprises in industrial districts is founded. He divides these rules into three different groups: cautions, rules of interaction and sanctions. We thought it helpful in our survey to check how they tallied with the current situation in Prato.

The interviewees were asked, first of all, whether they thought that customs had been established in the district with regard to economic relationships, and in particular to subcontracting. Eighty-seven percent of all interviewees agreed they had (tables 73A and 63B). This result confirms that an awareness is widely spread in the Prato district of the existence of implicit rules concerning the appropriate conduct to adopt in business affairs.

²⁷ The forms of payment of the subcontractors are cash order and bank transfer.

By observing the subdivision introduced by Brusco, we were able to verify that the district entrepreneurs were trustful, though with caution;²⁸ before passing an order on to a new subcontractor (64%) or before accepting a work from a new ordering firm (50%), information regarding their correctness and competence is taken from entrepreneurs known to them, even if they are business rivals. Furthermore, Brusco states (1999, p.21) that orders are small (tables 64B and 74A) at the beginning of the relationship. In any case, the rule of sub-dividing the work among several firms is confirmed. As far as the customs of interaction are concerned, most final entrepreneurs, but also half of the phase ones, confirm that they follow the rule detected by Brusco (1999, p.22) of bearing in mind the survival needs over the medium period of the other party when negotiating the price and other conditions of subcontracting. Furthermore, an appreciable percentage of our interviewees also asserted that they follow the districts' convention (Brusco 1999, p.24) of treating information obtained during work relations with reserve and fairness (tables 75A and 65B). Lastly, some final entrepreneurs add to the conventions of interaction the informal commitment of ensuring subcontractors have work continuity.

Respect for the rules of fair competition depends decisively on the sanctions incurred by those who may contravene. There could clearly be many different cases. For example, if a subcontractor delays a consignment of work and the fact is not intentional, but rather depends on a hitch in the course of work, the sanction may simply consist in a protest, or at the most in a reduction in a successive order. If, on the other hand, it is ascertained that conduct has effectively been dishonest, the sanction will consist in definitively breaking off business relations, as our survey also shows, even though this leads to the loss of the specific investment sustained up till that moment in building up that rapport. Usually, however, the severest sanction, and therefore the most efficacious, consists in the loss of reputation among local operators. Indeed, as is well known, information circulates rapidly within the district and if one should slip up, in a short time the fact will be common knowledge among the entire, or nearly the entire, business community, with negative consequences as to future chances of work.

In answer to the question regarding the sanctions against anyone not respecting the customs of the district, about half of the interviewees (final and phase entrepreneurs) asserted that the offender would lose chances of obtaining future collaboration from the person suffering from his/her opportunistic behaviour. Furthermore, 38.5% added that the sanction also inflicts damage on one's reputation and therefore causes difficulty with finding other firms in the district willing to collaborate. However, 28% answered dejectedly that at the moment there were no sanctions against firms violating the code of fair conduct of the district²⁹. Finally, very little confidence is attributed to the chance of applying to the conciliation window recently set up at the Prato Chamber of Commerce with the purpose of solving disputes by means of an arbitration (tables 76A and 66B).

Taken overall, this evidence appears indicative of the validity of the district rules as expounded by Brusco for Prato, as well, and of the continuing significant observation of the same. However, the answers given with reference to sanctions show there is some difficulty, at least contingent, in getting observation of the implicit rules at the basis of trust as collective capital within the district.

²⁸ Therefore it seems that the motto of district operators is "one may be trustful, but with caution".

²⁹ Comparing the answer regarding direct reaction in the face of unfair conduct with the sanction that generally goes with the lack of respect for the district's implicit rules, it can be noted how, in this last case, the number of those who are pessimistic on the present chance of offenders being sanctioned is higher (28% against 15%) and comprises both final and phase entrepreneurs.

Associations and Trust in the Industrial District

The in-depth study of Prato's industrial district, from its origins immediately following the Second World War up till the present day (Becattini 2001, Dei Ottati 1994b and 2003b) has clearly shown that it is not just values and implicit rules which are important, but also formal institutions, such as local government, trade unions, and trade associations which are instrumental in promoting, sustaining and reproducing a situation of high trust and social cohesion, indispensable to the functioning of the industrial district as a model of economic development.

To give just one example, it will be remembered that over recent decades of intense development in the district of Prato, the artisan associations (representing the phase firms) and the Industrial Union (representing the final enterprises) have tried to regulate local subcontracting relations through collective bargaining, with the declared purpose of preventing forms of unfair competition from spreading around the district. In particular, on average every two years since 1959, rates and principal conditions for weaving subcontracted to artisan weavers have been determined through collective bargaining. This has been important, both in channelling competition among district firms towards constructive forms such as product and process innovation, and in encouraging a climate of collaboration and trust (Becattini 2001, Dei Ottati 2003b). As was recognised by some of our informed observers, this was also achieved because local collective bargaining fostered a more intense dialogue both within each of the two main categories of enterprise in the district and between them.

In his famous essay on social capital and development in the various regions of Italy, Putnam (1993) individuated in the "civic community" – i.e. in the existence of a social fabric rich in horizontal relations, nursed on reciprocal trust, and associations of all kinds – an important factor of the greater development of the regions of North and Central Italy as opposed to those in the South.

Our empirical research could not be so broad as also to measure the level of "civic community" existing in the Prato district. Nonetheless, the reply to some of the questions in our questionnaire permits us to have some clues with regard to this. Indeed, we asked our interviewees whether their enterprise belonged to any local association; all the firms included in our survey did. In particular, all belonged to a trade association, either industrial or artisan, according to their type. Furthermore, several of them also belonged to other associations, whether they be of a cultural nature, or some syndicate of firms all working at the same stage in the textile process (tables 70–71A and 60–61B).

The role of local political parties, trade unions and trade associations in their activities of promoting communication and collaboration not just among their own members, but also through open confrontation between different groups and categories is often stressed in the literature on industrial districts (Triglia 1990, Brusco and Pezzini 1990, Dei Ottati 2002).³⁰

In reflecting on the concept of social capital, we came to the conviction that, in the case of industrial districts, it is more helpful to make reference to the concept of "industrial atmosphere" introduced by Alfred Marshall. The concept of industrial atmosphere is used to indicate the external economies deriving from a localised thickening of economic and social relations, characteristic of the district environment (Becattini 1989). These external economies are partly the result of the localised accumulation of productive knowledge that, according to Marshall's metaphor (1961, vol. I, p.271), remains as though suspended in the air, precisely because of the way production is organised in the district: division of labour among firms and its reintegration through a multiplicity of exchanges on the local phase markets imbued with rules of reciprocity. Another part, not less important than the former and correlated to it, though qualitatively differ-

³⁰ On the role of intermediate institutions in local development, see Arrighetti and Seravalli 1999.

ent, is constituted by external economies deriving from a context of trust which, as we have seen, depends significantly on respect for local customs of reciprocal cooperation.

The trade associations carry on numerous activities for member firms. In industrial districts, in particular, they offer some services to the enterprises like, for example, advice in stipulating contracts or on fiscal matters. This is also because of the typically reduced size of businesses in the district. However, it is maintained that, overall, the main function of the activities carried out by trade associations in industrial districts is their contribution to shaping and reproducing over time the industrial atmosphere in its two main components: wide-spread production knowledge and sharing of the rules of conduct, respect for which determines trust as collective capital.

This interpretation is also upheld by some elements in our survey results. They do indeed show that the associations to which the interviewed enterprises belonged carry out activities that produce localised external economies, both in the sphere of production knowledge and in that of the rules of conduct. As far as the spread of technical and market knowledge is concerned, the activities most exploited by our enterprises are vocational training courses (84% of all concerns interviewed),³¹ the organisation of fairs (53%) and the definition of quality standards (24%). Regarding the policing of the application of the implicit rules of the district, however, the activities most used by our entrepreneurs are the settlement of disputes (both individual and collective) in relations between firms and the workers (55.5%), the definition of standards for business relations (46.6%) and the reporting of unfair conduct (31%) (tables 72A and 62B).

This last set of activities clearly shows that the trade associations carry on an important role in reproducing trust as collective capital. Indeed, this may help the reputation mechanism to function. Through participation in member activities, local entrepreneurs have the possibility of being well and swiftly informed as to the conduct of each firm and individual in the district business community. And this amplifies the positive and negative effects of one's reputation which, as we have seen, is fundamental to ensuring respect for the rules of reciprocity and, therefore, also the reproduction of trust.

Even though limited, the evidence collected regarding local institutions and trust demonstrates how the standards of reciprocity and the associations of the horizontal type are still diffuse in Prato. Consequently, we can maintain that, according to Putnam's thesis (1993), the district of Prato is an environment characterised by a high level of trust, even though results regarding subcontracting relations display signs of mistrust, especially by phase entrepreneurs.

Conclusions

As has been mentioned several times, the theoretical and empirical literature on industrial districts has stressed the fundamental role of reciprocity and trust in this kind of model of economic and social organisation. The survey conducted in the district of Prato has largely confirmed this literature.

The organisation of the enterprises interviewed is in accordance with expectations. These enterprises are specialised, small in size, mostly of a family nature, where collaboration internally is high and good performance is obtained through commitment to participation, trust relations and responsibility (section 6).

In contrast, although Prato producers take care to diversify their clientele, relations with external clients appear at the moment more conflicting than co-operative. Using the method adopted by Mari Sako (1998) with reference to relations of subcontracting in the automotive industry in

³¹ Vocational training courses offered by the Industrialists' Association of Prato regard various fields: from the analysis of company budgets to the study of textile production processes, from marketing to staff or stock management, from finances to client relations, from new information technologies to the study of foreign languages.

several countries, we measured the competence and goodwill trust in their clients of final firms in Prato. Unlike competence trust, goodwill trust in clients is low (only 44% of interviewees consider they are treated fairly by their clients) and, consequently, high is the perceived risk of becoming victim to opportunistic conduct (50% of interviewees maintained that clients could occasionally try to take unfair advantage of their business) (section 7).

As far as the “external organisation” of Prato enterprises is concerned, an important part for both final and phase firms is made up of an extensive network of subcontractors or customers, depending on the firm type, mostly located in the district and with whom work relations are habitual. Therefore, from a structural point of view, the substantial interdependence among district enterprises is confirmed, and the non-simultaneous exchange of obligations (such as the exchange of information, technical assistance or even the offer of credit) is also considerable. This shows why, overall, trust is still believed to be the fundamental glue of relations within the district. Despite this, it transpired from the measurement of trust obtained through our survey that, whilst final firms generally have trust in the skills and fairness of subcontractors, the latter have little trust in their ordering firms (only 37% believe that their customers will help them even if not foreseen by the agreement).

Our research has revealed the importance attributed by Prato entrepreneurs to the different factors associated with relations of trust in business. Incidentally, it is interesting to note how family ties seem to matter very little, indeed may even hinder the development of trust in business, thus contradicting the thesis expressed by Fukuyama (1995) referring to the industrial districts of the so-called *Terza Italia* (Bagnasco 1977). Instead, we were able to establish that the experience of repeated satisfactory exchange constitutes the most important factor for developing trust relations in business, followed by that of belonging to the same district. Therefore, according to this result, trust as personal capital, i.e. based on direct experience, seems to take on greater importance than trust as collective capital, i.e. based on sharing the same system of values and on respect for implicit norms of reciprocity.

And yet, awareness of the existence of local customs of fair competition is widely confirmed in our research. Furthermore, associations are widespread; in particular, participation in trade associations is very high, and these latter carry out activities that produce economies external to single enterprises but within the district, not only promoting the diffusion of production knowledge, but also encouraging the circulation of information and the formation of implicit standards of reciprocity, indispensable for the functioning of the reputation mechanism which, with its positive and negative effects, ensures that the standards are observed.

On the whole, the evidence gathered confirms that Prato retains the economic, social and institutional features of an industrial district, and specifically that trust is widespread in relations among local operators. However, it must be pointed out that, according to our survey, the subcontractors’ present level of trust in local ordering firms is quite low, even lower than the level of trust that final firms in Prato have in external clients (section 7). This probably results in large measure from the prolonged negative international economic situation that has triggered in the local phase markets bitter forms of price competition – even unfair at times – in contrast to district customs. The asymmetry found in Prato subcontracting relations could only be a phenomenon of the present state of the economy, and therefore should automatically balance out as soon as demand for textiles starts to grow again. But this would not be the case if external competitive pressure did not only arise out of a temporary reduction in demand, but also, let us suppose, from the growing market power of big distributors and multinational fashion houses, or also from a permanent increase in the offers coming from developing countries.

The research has highlighted how there are some symptoms of unease in present relations of subcontracting in Prato and how, in turn, this state of affairs is connected to changes in relations among final firms in the district and their national and foreign clients; changes, however, that were not under scrutiny in this research. In order to adapt successfully to external changes, it is

necessary, however, for there to be a climate of high trust both in relations of subcontracting and among all local parties, individual and collective.

The study of industrial districts, Italian and otherwise, demonstrates that trust as collective capital, that is, based on respect for implicit standards of reciprocal collaboration, is indispensable to the good functioning of this particular organisational model. In fact, the industrial district firms base their competitive advantage on the plus of flexibility, entrepreneurship and creativity that can be found in the local system, precisely thanks to that fabric of trust relations in which economic transactions are embedded.³²

So, if fair competition and reciprocity do not exist among the enterprises in an industrial district, flexible integration can no longer come about (Becattini 2001, pp.44–58). This is the co-ordination of the division of labour among many different enterprises, each one of which specialised in a particular activity of an industry. The reason for this is that without trust in respect for implicit district rules, the risk of opportunistic behaviour would not allow the activities carried on by independent enterprises to be integrated, and it would be necessary to resort to vertical integration and ownership control. Moreover, without a high trust milieu, the circulation of the productive knowledge necessary to nourish both widespread entrepreneurship and innovation typical of the industrial district could not be reproduced. In conclusion, if the lack of respect for customs of reciprocity erodes the collective capital of trust, the industrial district as a dynamic economic system cannot survive.

Now, if above all external problems should be the cause of the signs picked up in our survey of the difficulty in punishing the unfair behaviour of local operators, then trying to resolve those problems through individual loopholes, such as the rush to lower prices and rates, which generate discontent and hinder renewal of physical and human capital, is not only socially distasteful, but also inefficient. These loopholes do not take the individual actuating them very far, and, in particular they accelerate the risk of the district declining by destroying its characteristic “industrial atmosphere”, i.e. the collective capital of trust and skills that lies at the base of the competitive advantage of district enterprises.

On the other hand, in order to be able to compete on increasingly globalised markets, one must be able to reproduce over time this collective capital which, being embedded in the fabric of social and economic relations of the district and its institutions, is locally rooted and therefore substantially immobile. Consequently, it is even more valuable now that the process of globalisation and the progress made by means of transport and information have drastically reduced advantages linked to the possession of transferable factors.

In order to reproduce the collective capital of trust and skills in the face of important external changes, the automatic mechanisms of the district (competition and custom) are not enough. Collective action orchestrated by the different economic categories and institutions, even local political ones, is needed. Through open, constructive confrontation, all these parties must be able to define a general long term vision of local development according to a coherent, shared design that permits, among other things, the production of new economies external to the firms, but internal to the district, thus also regenerating the competitiveness of its enterprises, together with trust.³³

³² Cf. Becattini 1990, Bellandi 1992, Brusco 1989, Dei Ottati 1994a, Schmitz 1999, Lorenz 1988.

³³ On the necessity for deliberate collective action from local bodies to reproduce the competitive advantage of industrial districts, and of local systems of small and medium-sized enterprises in general, cf. Dei Ottati 2002, Scott 1998, Schmitz 2001. Henton (2001), for example, shows how the Silicon Valley, as well, has been able to maintain the competitiveness of its enterprises over decades, thanks to the capacity of always finding new ways to organise local collective action. In particular, a work group, made up of leaders from businesses, local administrations and experts, has been instituted to tackle the new and more complex problems of the twenty-first century. This group has drawn up a general programme of what Silicon Valley should be in 2010. In order to carry out this programme, the Silicon

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Appendix: Tables

Trust and opportunism in relations with external clients, with subcontractors and with ordering firms in the Prato industrial district

	Relations of final firms with Clients	Relations of final firms with Subcontractors	Relations of phase firms with Ordering firms
Competence Trust <i>(The information that we receive from our ...are useful for our firm)</i>	88.89	83.33	59.26
Goodwill Trust <i>(We believe that our clients treat us fairly)</i>	44.44		
Goodwill Trust <i>(Our habitual subcontractors/ordering firms will help us even if not foreseen by the agreement)</i>		88.89	37.04
Opportunism <i>(Given the chance, our clients/subcontractors/ordering firms might try to take unfair advantage of our business)</i>	50.00	5.56	59.26

Source: Our survey. – Legend: The figures indicated in the table are obtained by adding up the percentages of entrepreneurs who have declared that they agree or strongly agree with each of the statements indicated in brackets in the table.

Structure and Co-Operation within Final Enterprises

Table 17 A: Activities carried out within the enterprise in %

	Yes	No
Purchase of raw materials /components	100.00	0.00
Designing of sample collections	100.00	0.00
Preparation for spinning	38.89	61.11
Spinning	22.22	77.78
Warping	33.33	66.67
Weaving	44.44	55.56
Dyeing	11.11	88.89
Finishing	33.33	55.56
Sale of finished products	100.00	0.00
Other	27.78	72.22

Table 18 A: Total workers

Number of workers	Frequency	%
0	0	0.00
1–5	0	0.00
6–19	7	38.89
20–49	7	38.89
50–99	2	11.11
100–197	2	11.11
Total	18	100.00

Table 18 A (a): Sub-division of workers into owners and/or partners

Number of owners/partners	Frequency	%
0	0	0.00
1–3	11	61.11
4–7	7	38.89
Total	18	100.00

Table 18 A (b): Sub-division of workers into managers employed

Number of managers employed	Frequency	%
0	10	55.56
1–3	6	33.33
4–6	2	11.11
Total	18	100.00

Table 18 A (c): Sub-division of office and intermediate staff

Number of office/intermediate staff	Frequency	%
0	0	0.00
1–5	7	38.89
6–19	5	27.78
20–30	6	33.33
Total	18	100.00

Table 18 A (d): Sub-division of workers into blue collar workers

Number of factory hands	Frequency	%
0	0	0.00
1–5	3	16.67
6–19	8	44.44
20–29	4	22.22
30–99	2	11.11
100–170	1	5.56
Total	18	100.00

Table 18 A (e): Sub-division of workers into temporary/regular staff of control centres

Number	Frequency	%
None	16	88.89
1	1	5.56
2	1	5.56
Total	18	100.00

Table 18 A (f): Sub-division of workers into home-workers

	Frequency	%
None	16	88.89
2	1	5.56
5	1	5.56
Total	18	100.00

Table 19 A: Number of staff compared to 5 years ago has...

	Frequency	%
Decreased	6	33.33
Remained constant	6	33.33
Increased	6	33.33
Total	18	100.00

Table 20 A: Type of workers who have increased, decreased or remained constant
% of total enterprises

	Constant	Decreased	Increased
Managers employed	100.00	0.00	0.00
Office and intermediate staff	55.56	5.56	38.89
Manual workers	27.78	38.89	33.33
Home workers, work.from external centres	100.00	0.00	0.00
Home workers	88.89	11.11	0.00

Table 21 A: Degree of agreement with following statement
“Relations within the enterprise are collaborative”

	Frequency	%
Neither agree nor disagree	1	5.56
Agree	10	55.56
Agree entirely	7	38.89
Total	18	100.00

Table 22 A: Degree of trust compared to 5 years ago

	Frequency	%
Decreased	1	5.6
Remained constant	10	55.6
Increased	7	38.9
Total	18	100.0

External Clients

Table 23 A: Main clients of final firms (multiple choice)

	Frequency	%
Clothing manufacturers	12	66.67
Façonist firms of internat. groups	4	22.22
Other textile enterprises	2	11.11
Wholesalers	3	16.67
Chain stores	4	22.22
Other	5	27.78

Table 24 A: Number of clients

Number clients	Frequency	%
25–99	6	33.33
100–299	6	33.33
300–500	3	16.67
>500	3	16.67
Total	18	100.00

Table 25 A: Percentage of turnover attained with main client

Percentage turnover	Frequency	%
Missing	4	
1–10	11	78.57
11–25	2	14.29
>26	1	7.14

Table 25 A (a): Percentage of turnover attained with three major clients

Percentage turnover	Frequency	%
Missing	4	
9–29	9	64.29
30–59	3	21.43
>60	2	14.29

Table 26 A: Prevalent terms of payment with clients

	Frequency	%
Within 2 months of delivery	3	16.67
At over 2 months of delivery	15	83.33
Total	18	100.00

Table 27 A: Prevalent method of payment with clients (Multiple choice)

	Frequency	%
Direct remittance (bank transfer)	8	44.44
Letter of credit	12	66.67
Other (cash order. etc.)	14	77.78

Table 28 A: Form of agreement prevailing with clients

	Frequency	%
Verbal agreement	2	11.76
Technical sheet	1	5.88
Confirmation of order with or without technical sheet	12	70.59
Written agreement	2	11.76
Missing	1	

Table 29 A: Importance of following conduct associated with the concept of trust in business relations

Scoring from 1: scarce importance to 5: very important; Percentage %

	1	2	3	4	5	Missing
Compliance with terms of contract	5.88	5.88	5.88	0.00	82.35	5.88
Respect for quality and technical standards	0.00	0.00	0.00	16.67	83.33	0.00
Willingness to help if necessary	11.76	5.88	29.41	35.29	17.65	5.88
Willingness to reciprocal grants	16.67	22.22	27.78	27.78	5.56	0.00
Willingness for information exchange observing confidentiality	16.67	22.22	27.78	11.11	22.22	0.00

Table 30 A: Degree of agreement with the following statement

“The information we receive from our clients is useful for our enterprise”

	Frequency	%
Strongly disagree	0	0
Disagree	1	5.56
Neither agree nor disagree	1	5.56
Agree	8	44.44
Strongly agree	8	44.44

Table 31 A: If you agree or strongly agree to the previous statement. what kind of information do you receive?

	Frequency	%
Market trends	14	77.8
Requirements of users	4	22.2
Technical innovation	2	11.1
Use product intended for	1	5.6
Other	2	11.1

Table 32 A: Degree of agreement with the following statement
 “We believe our clients treat us fairly”

	Frequency	%
Strongly disagree	0	0
Disagree	1	5.56
Neither agree nor disagree	9	50.00
Agree	4	22.22
Strongly agree	4	22.22

Table 33A: Degree of trust placed in clients by final firms compared to 5 years ago

	Frequency	%
Decreased	6	33.33
Constant	9	50.00
Increased	3	16.67
Total	18	100.0

Table 34 A: Degree of agreement with the following statement
 “Given the chance, our clients might try to take unfair advantage of our business”

	Frequency	%
Strongly disagree	2	11.11
Disagree	5	27.78
Neither agree nor disagree	2	11.11
Agree	8	44.44
Strongly agree	1	5.56

Table 35 A: Have you ever had serious trouble with your clients?

	Frequency	%
Never or hardly ever	11	61.11
At times	7	38.89
Total	18	100.00

D05 Relations with Subcontractors

Table 36 A: Does the enterprise subcontract productive stages or services to other firms?

	Frequency	%
Sometimes	5	27.78
Often	13	72.22
Total	18	100.00

Table 37 A: Stages subcontracted to other enterprises

	Frequency	%
All productive stages	4	22.22
Many of the stages	11	61.11
A small part	3	16.67
Total	18	100.00

Table 38 A: Percentage of sales value subcontracted to other firms on average

% sales	Frequency	%
10–29	5	27.78
30–49	6	33.33
>50	7	38.89
Total	18	100.00

Table 39 A: Percentage of sales value constituted by imported components

% sales	Frequency	%
0	6	33.33
1–9	4	22.22
10–29	6	33.33
30–50	2	11.11
Total	18	100.00

Table 40 A: Do you turn to subcontractors for ... (Multiple choice)

	Frequency	%
Manufacturing of low added val.	0	0
Peaks in demand	5	27.78
Activities where internal skills are missing	10	55.56
Other	6	33.33

Table 41 A: Other activities or externalised services (Multiple choice)

	Frequency	%
Compiling of sample colls.	4	22.22
Quality control	2	11.11
Computer services	11	61.11
Accountancy and finances	7	38.89
Marketing advice	3	16.67
Employment advice	14	77.78
Counselling on pay and contributions	16	88.89
Other	2	11.11

Table 42 A: Overall number of subcontractors (phase firms) you use

	Frequency	%
1-9	3	17.65
10-29	6	35.29
30-59	4	23.53
60-100	4	23.53
Missing	1	

Table 42 A (a): Overall number of subcontractors (service firms) you use

	Frequency	%
0	5	27.78
1-9	8	44.44
10-29	3	16.67
30-59	1	5.56
60-100	1	5.56

Table 43 A: Does the enterprise work with the same subcontractors?

	Frequency	%
Yes	17	100.00
Missing	1	

Table 44 A: Number of habitual subcontractors

	Frequency	%
1-9	5	29.41
10-29	7	41.18
30-69	2	11.76
70-100	1	5.88
Don't know	2	11.76
Missing	1	

Table 45 A: Average time you work with the same subcontractor

	Frequency	%
From 2 to 5 years	2	11.76
From 5 to 10 years	2	11.76
For over 10 years	10	58.82
From 5 to over 10 years	3	17.65
Missing	1	

Table 46 A: Location of habitual subcontractors (Multiple choice)

	Frequency	%
Prato district	14	82.35
Northern Italy	5	29.41
Tuscany	1	5.88
Abroad	1	5.88
Missing	1	

Table 47 A: Degree of agreement with the following statement
“It is preferable to get subcontractors in the Prato district”

	Frequency	%
Strongly disagree	0	0
Disagree	1	5.56
Neither agree nor disagree	4	22.22
Agree	10	55.56
Strongly agree	3	16.67

Table 48 A: If you agree, why is it better to get subcontractors in the district? (Multiple choice)

	Frequency	%
Better quality	2	11.11
Greater reliability	4	22.22
Quicker delivery	9	50.00
Lower cost	2	11.11
Greater ease in reciprocal understanding at work	3	16.67
Other	5	27.78

Table 49 A: Do subcontractors work exclusively for your enterprise?

	Frequency	%
No	14	77.78
Yes	4	22.22
Total	18	100.00

Table 50 A: Is it easy to replace a habitual subcontractor?

	Frequency	%
No	6	33.33
Yes	9	50.00
Don't know	3	16.67
Total	18	100.00

Table 51 A: If your enterprise no longer passed orders to a habitual subcontractor, would finding a substitute be difficult?

	Frequency	%
No	4	22.22
Yes	11	61.11
Don't know	3	16.67
Total	18	100.00

Table 52 A: Terms of payment prevalently offered to habitual subcontractors (Multiple choice)

	Frequency	%
Cash on delivery	1	5.56
Within a month of delivery	8	44.44
Within two months of delivery	7	38.89
At over two months of delivery	6	33.33

Table 53 A: Method of payment prevalently offered to habitual subcontractors

	Frequency	%
Direct remittance (bank transfer)	7	38.89
Other (cash order, etc)	8	44.44
Direct remittance and letter of credit	1	5.56
Direct remittance and cash order	2	11.11

Table 54 A: Form of agreement prevalently used with habitual subcontractors

	Frequency	%
Verbal agreement with work schedule	4	22.22
Verbal agreement plus technical sheet	2	11.11
Technical sheet	10	55.56
Written agreement	2	11.11
Total	18	100.00

Table 55 A: Does the enterprise supply habitual subcontractors with information?

	Frequency	%
No	1	5.56
Yes	17	94.44
Total	18	100.00

Table 56 A: If so. what information does it supply to its subcontractors? (Multiple choice)

	Frequency	%
Type of use of product	8	47.06
Type of client needs	4	23.53
Type of technology appropriate	11	64.71
Type of material supplied	10	58.82
Type of prev. or successive processing	7	41.18
Other	5	29.41

Table 57 A: Does the enterprise provide its subcontractors with technical assistance?

	Frequency	%
No	6	33.33
Yes	12	66.67
Total	18	100.00

Table 58 A: Is there face-to-face contact with habitual subcontractors for business reasons?

	Frequency	%
Yes	18	100

Table 59A: Is there face-to-face contact with subcontractors for reasons other than business?

	Frequency	%
Never or hardly ever	10	55.56
Sometimes	8	44.44
Often	0	0.00
Total	18	100.00

Table 60A: Is the firm committed to supplying habitual subcontractors continually with work?

	Frequency	%
No	1	5.56
Yes	17	94.44
Total	18	100.00

Table 61A: Could the subcontractors keep technologically up to date without your commitment to long-term cooperation?

	Frequency	%
No	9	52.94
Yes	4	23.53
Don't know	4	23.53
Missing	1	

Table 62 A: Does the enterprise give habitual subcontractors credit or guarantees?

	Frequency	%
No	13	72.22
Yes	5	27.78
Total	18	100.00

Table 63 A: Has the enterprise helped in setting up or in the growth of any of its habitual subcontractors?

	Frequency	%
No	6	33.33
Yes	12	66.67
Total	18	100.00

Table 64 A: Degree of agreement with the statement:
“The information we receive from our subcontractors is useful for our firm”

	Frequency	%
Strongly disagree	0	0
Disagree	2	11.11
Neither agree nor disagree	1	5.56
Agree	13	72.22
Strongly agree	2	11.11

Table 65 A: Degree of agreement with the statement:
“Our habitual subcontractors will help us even if not foreseen by the agreement”

	Frequency	%
Strongly disagree	0	0
Disagree	0	0.00
Neither agree nor disagree	2	11.11
Agree	11	61.11
Strongly agree	5	27.78

Table 66 A: Degree of agreement with the statement:
“Given the chance, our subcontractors might try to take unfair advantage of our business”

	Frequency	%
Strongly disagree	2	11.11
Disagree	12	66.67
Neither agree nor disagree	3	16.67
Agree	1	5.56
Strongly agree	0	0.00

Table 67 A: Importance of following factors in developing trust relations with subcontractors: (Scoring from 1: scarce importance to 5: very important) (Percentage %)

	1	2	3	4	5
Existence of family/friendship ties	66.67	16.67	11.11	5.56	0.00
Existence of ownership ties	38.89	5.56	16.67	33.33	5.56
Experience of satisfactory relations repeated over time	0.00	0.00	5.56	5.56	88.89
Belonging to same district and sharing same business culture	16.67	22.22	16.67	33.33	11.11
Other	0.00	0.00	0.00	0.00	5.56

Table 68 A: Degree of trust placed by final firms in their subcontractors compared to 5 years ago

	Frequency	%
Decreased	1	5.56
Constant	14	77.78
Increased	3	16.67
Total	18	100.0

Table 69 A: Have you ever had serious trouble with your subcontractors?

	Frequency	%
Never or hardly ever	18	100.00

Local Institutions and Trust

Table 70 A: Does your enterprise belong to any association?

	Frequency	%
Yes	18	100

Table 71 A: Type of association the enterprise belongs to (Multiple choice)

	Frequency	%
Cultural	6	33.33
Entertainment	1	5.56
Solidaristic	0	0.00
Trade	18	100.00
Other	6	33.33

Table 72 A: Services supplied by your trade association (Multiple choice)

	Frequency	%
Counselling for contracts	11	61.11
Organisation of fairs	13	72.22
Regulations of business relations	11	61.11
Drawing up of standard draft contracts	5	27.78
Definition quality standards	6	33.33
Vocational training	17	94.44
Settlement of disputes	13	72.22
Notification of unfair behaviour/fraud	7	38.89
Other	1	5.56

Table 73 A: Have customs concerning economic relations in general and subcontracting in particular taken shape in the district?

	Frequency	%
Yes	17	94.44
Don't know	1	5.56

Table 74 A: What kind of customs? (Multiple choice)

Precautions are taken...	Frequency	%
by using several subcontractors	3	17.65
by ordering small batches at the beginning	8	47.06
Other	11	64.71
Missing	1	

Table 75 A: Conventions of interaction among enterprises such as ...are followed (Multiple choice)

	Frequency	%
When fixing the price and other conditions. the survival needs of the other party are taken into account	10	58.82
Reserved information obtained in a work relationship is not used to the damage of the party supplying it	6	35.29
Other	1	5.88
Missing	1	

Table 76 A: What sanctions are applied to an enterprise that does not comply with local custom? (Multiple choice)

	Frequency	%
Retraction by the offended person (in case of unfair conduct) of chances to collaborate in future work relations	8	53.33
Loss of reputation and future difficulty of finding firms in the district willing to collaborate	6	40.00
Judgement by an arbitration board	1	6.67
There are no sanctions for unfair conduct	5	33.33
Missing	3	

General Details of the Phase Firms

Table 1B: Year the firm was set up

Year set up	Frequency	%
1947	1	3.70
1950–1959	3	11.11
1960–1969	7	25.93
1970–1979	10	37.04
1980–1989	4	14.81
1990–1996	2	7.41
Total	27	100.00

Table 2B: Main economic activity of the firm (coding ATECO91)

	Frequency	%
17122	5	18.52
17200	17	62.96
17300	5	18.52
Total	27	100.0

Table 3B: Ownership structure of the firm

	Frequency	%
Autonomous	25	92.59
Controlled	2	7.41
Total	27	100.0

Table 4B: Firm's investment in other enterprises

	Frequency	%
No	24	88.89
Yes	3	11.11
Total	27	100.0

Table 5B: Other enterprises' investment in the firm

	Frequency	%
No	24	88.89
Yes	3	11.11
Total	27	100.0

Table 6B: Aid received in setting up or developing the firm

	Frequency	%
Never	13	48.15
Just in some cases	12	44.44
When necessary	2	7.41
Total	27	100.0

Table 7B: Subject giving aid

	Frequency	%
Other local entrepreneurs	2	14.29
Other	12	85.71
Total	14	100.0

Products and Performance of Phase Firms

Table 8B: Type of Product/Component

	Frequency	%
Carded yarn	6	22.22
Water-proofed yarns in bobbins	1	3.70
Twined yarns	2	7.41
Yarns ready for weaving	1	3.70
Raw fabric	10	37.04
Fabrics for knitwear	1	3.70
Printed fabrics	2	7.41
Finished and dyed fabrics	4	14.81
Total	27	100.00

Table 9B: Size of production batches of the enterprise

	Frequency	%
Samples	3	11.54
Small and medium-sized batches	14	53.85
Large batches	2	7.69
Samples and/or small/medium batches	3	11.54
Small, medium and large batches	1	3.85
All three	3	11.54
Missing	1	
Total	27	100.0

Table 10B: Level of production quality

	Frequency	%
Low	1	3.70
Medium	11	40.74
High	9	33.33
Medium and High	6	22.22
Total	27	100.0

Table 11B: Degree of innovation

	Frequency	%
Low	6	24.00
Medium	5	20.00
High	14	56.00
Missing	2	
Total	27	100.0

Table 12B: Geographical distribution of sales (in %) in 2001

	Frequency	%
In the Prato district		
50–69	2	7.41
70–89	4	14.81
90–100	21	77.78
Total	27	100.0
In other areas of Italy		
0	16	59.26
1–29	8	29.63
30–49	2	7.41
50–100	1	3.70
Total	27	100.0
In the European Union		
0	24	88.89
1–5	3	11.11
Total	18	100.0
Other areas		
0	27	100.0
Total	27	100.0

Table 13B: Evaluation of the following factors for the competitiveness of your enterprise (Using scores from 1 to 5, where 1= hardly important and 5= very important), in %

	1	2	3	4	5	3 o 4	4 o 5
Price	7.4	14.8	11.1	37.0	25.9	0.0	3.7
Esthetical innovat. of product	18.5	29.6	14.8	18.5	11.1	0.0	0.0
Quality	0.0	0.0	18.5	22.2	51.9	3.7	3.7
Innovat. of productive process	3.7	11.1	40.7	18.5	22.2	3.7	0.0
Delivery time	0.0	0.0	7.4	51.9	37.0	0.0	0.0
Other	0.0	0.0	0.0	0.0	7.4	0.0	0.0

Table 14B: Does your enterprise participate in designing new products?

	Frequency	%
No. We only carry out instructions	14	51.85
Client's request to reprod. fabric	2	7.41
We give counselling and advice	6	22.22
Some contacts exist, though marginal	3	11.11
Yes. we have made proposals that have been accepted	2	7.41
Total	27	100

Table 15B: Evaluation of achievement of entrepreneurial objectives

	Frequency	%
Satisfactory	19	70.37
Partially satisfactory	6	22.22
Unsatisfactory	2	7.41
Total	27	100.0

Table 16B: Evaluation of the firm's profit levels over last 3 years

	Frequency	%
Satisfactory	5	18.52
Partially satisfactory	10	37.04
Unsatisfactory	12	44.44
Total	27	100.0

Structure and Co-Operation within the Phase Firms

Table 17B: Activities carried out in the firm

	Frequency	%
Blending of fibres	5	18.52
Carding	5	18.52
Spinning	5	18.52
Spooling	2	7.41
Water-proofing	1	3.70
Twining	2	7.41
Warping	1	3.70
Dyeing	3	11.11
Finishing off	4	14.81
Drawing-in	1	3.70
Weaving	11	40.74
Knotting	6	22.22
Printing	2	7.41
Decatising	2	7.41

Table 18B: Does the enterprise purchase raw and semi-processed materials?

	Frequency	%
No	20	74.07
Yes	7	25.93
Total	27	100.00

Table 19B: Does the enterprise carry out quality controls?

	Frequency	%
No	7	26.92
Yes	19	73.08
Missing	1	
Total	27	100.00

Table 20B: Total workers

Number of workers	Frequency	%
1-5	9	33.33
6-19	10	37.04
20-49	4	14.81
50-99	1	3.70
100-133	3	11.11
Total	27	100.00

Table 20B(a): Sub-division of workers into owners and/or partners

Number of owners/partners	Frequency	%
1-3	21	77.78
4-7	6	22.22
Total	27	100.00

Table 20B(b): Sub-division of workers into managers employed

Number of managers employed	Frequency	%
0	23	85.19
1-3	4	14.81
Total	27	100.00

Table 20B(c): Sub-division of office and intermediate staff

Number of office/intermediate staff	Frequency	%
0	16	59.26
1-5	6	22.22
6-19	3	11.11
20-29	2	7.41
Total	27	100.00

Table 20B(d): Sub-division of workers into blue collars

Number factory hands	Frequency	%
0	4	14.81
1-5	11	40.74
6-19	4	14.81
20-29	4	14.81
30-99	3	11.11
100-107	1	3.70
Total	27	100.00

Table 20B(e): Sub-division of workers into temporary/regular staff of control centres

Number	Frequency	%
None	24	88.89
1	2	7.41
3	1	3.70
Total	27	100.00

Table 20B(f): Sub-division of workers into home-workers

	Frequency	%
None	27	100.00
Total	27	100.00

Table 21B: Number of staff compared to 5 years ago has

	Frequency	%
Decreased	16	59.26
Remained constant	6	22.22
Increased	5	18.52
Total	27	100.00

Table 22B: Type of workers who have increased. decreased or remained constant

	% of total enterprises		
	Constant	Decreased	Increased
Managers employed	81.48	11.11	7.41
Office and intermediate staff	85.19	7.41	
Manual workers	25.93	59.26	11.11
Home workers	88.89		

Table 23B: Degree of agreement with following statement
"Relations within the enterprise are collaborative"

	Frequency	%
Neither agree nor disagree	5	19.23
Agree	2	7.69
Agree entirely	19	73.08
Missing	1	
Total	27	100.00

Table 24B: Degree of trust compared to 5 years ago

	Frequency	%
Decreased	2	7.4
Remained constant	17	63.0
Increased	8	29.6
Total	27	100.0

Relations with Ordering Firms (Customers)

Table 25B: Does the enterprise subcontract productive stages or services to other firms?

	Frequency	%
Never or hardly ever	14	51.85
Sometimes	12	44.44
Often	1	3.70
Total	27	100.00

Table 26B: Stages subcontracted to other firms (Multiple choice)

	Frequency	%
Spooling	3	20.00
Drawing-in	1	6.67
Knotting	6	40.00
Decatising	2	13.33
Washing	2	13.33
Dyeing	2	13.33
Printing	1	6.67
Finishing	1	6.67

Table 27B: Average percentage of sales value subcontracted to other firms

% sales	Frequency	%
	15	55.56
1-9	10	37.04
10-35	2	7.41
Total	27	100.00

Table 28B: Services procured from specialised businesses (Multiple choice)

	Frequency	%
Quality control	1	3.70
Computer services	10	37.04
Accountancy and finances	18	66.67
Marketing advice	0	0
Employment advice	20	74.07
Counselling on pay and contributions	26	96.30
Other	1	3.70

Table 29B: Overall number of customers (ordering firms) used by your enterprise

	Frequency	%
1-5	8	29.63
6-15	9	33.33
16-35	3	11.11
36-55	4	14.81
>55	3	11.11
Total	27	100.00

Table 30B: Does the enterprise usually work with the same customers or does it change them frequently?

	Frequency	%
we change them frequently	4	14.81
we work with the same customers	23	85.19

Table 31B: Number of habitual customers

	Frequency	%
0-4	11	40.74
5-14	7	25.93
15-24	6	22.22
25-54	2	7.41
> 55	1	3.70
Total	27	100.00

Table 32B: Average time you have worked with the same customer

	Frequency	%
From 2 to 5 years	1	3.70
From 5 to 10 years	9	33.33
For over 10 years	16	59.26
From 5 to over 10 years	1	3.70
Total	27	100.00

Table 33B: Location of habitual customers (Multiple choice)

	Frequency	%
Prato district	27	100.00
Northern Italy	3	11.11
Carpi-Modena	1	3.70
Tuscany	1	3.70
Perugia	1	3.70

Table 34B: Degree of agreement with the following statement
“It is preferable to look for customers in the Prato district”

	Frequency	%
Disagree (1 and 2)	8	29.63
Neither agree nor disagree (3)	4	14.81
Agree (4 and 5)	15	55.56
Total	27	100.00

Table 35B: Main reason why it is better to get customers in the district (Multiple choice)

	Frequency	%
Greater work continuity	4	19.05
Greater trustworthiness	4	19.05
Reduced co-ordination costs	4	19.05
Higher earnings	0	0.00
More reciprocal understanding at work	6	28.57
For closeness	2	9.52
Other	9	42.86
Missing	6	

Table 36B: Does the enterprise only work for one customer?

	Frequency	%
No	26	96.30
Yes	1	3.70
Total	27	100.00

Table 37B: Productive capacity engaged by the main customer

% Productive capacity	Frequency	%
1–19	3	12.00
20–49	17	68.00
50–60	4	16.00
Don't know	1	4.00
Missing	2	
Total	27	100.00

Table 38B: Productive capacity engaged by the three major clients

% Productive capacity	Frequency	%
1–59	10	40.00
60–79	8	32.00
80–100	6	24.00
Don't know	1	4.00
Missing	2	
Total	27	100.00

Table 39B: Could you easily replace a habitual customer?

	Frequency	%
No	6	22.22
Yes	19	70.37
Don't know	2	7.41
Total	27	100.00

Table 40B: Would a habitual customer have difficulty in finding a replacement?

	Frequency	%
No	13	48.15
Yes	11	40.74
Don't know	3	11.11
Total	27	100.00

Table 41B: Terms of payment prevalently offered by habitual customers

	Frequency	%
Within a month of delivery	4	14.81
Within two months of delivery	11	40.74
At over two months of delivery	12	44.44
Total	27	100.00

Table 42B: Prevalent method of payment with habitual customers

	Frequency	%
Direct remittance (bank transfer)	8	29.63
Other (cash order. etc)	17	62.96
Direct remittance and cash order	2	7.41
Total	27	100.00

Table 43B: Form of agreement prevalently used with habitual customers

	Frequency	%
Technical sheet 1st time then verbal agreement	4	14.81
Verbal agreement + technical sheet	8	29.63
Verbal agreement + reciprocal trust	12	44.44
Written contract	2	7.41
Technical sheet + order confirmation	1	3.70
Total	27	100.00

Table 44B: Does your enterprise receive information from habitual customers?

	Frequency	%
No	15	55.56
Yes	12	44.44
Total	27	100.00

Table 45B: If so, what information do you receive from your habitual customers?

	Frequency	%
Type of use of product	8	61.54
Type of client needs	7	53.85
Type of appropriate technology	2	15.38
Type of material supplied	5	38.46
Type of prev. or successive processing	5	38.46
Other	2	15.38

Table 46B: Does your enterprise receive technical assistance from habitual customers?

	Frequency	%
No	13	48.15
Yes	14	51.85
Total	27	100.00

Table 47B: Is there face-to-face contact with habitual customers for business reasons?

	Frequency	%
No	1	3.70
Yes	26	96.30

Table 48B: Is there also face-to-face contact with customers for reasons not connected with work?

	Frequency	%
Never or hardly ever	18	66.67
Sometimes	6	22.22
Often	3	11.11
Total	27	150.00

Table 49B: Do habitual customers continuously engage a part of your productive capacity?

	Frequency	%
No	4	14.81
Yes	22	81.48
Don't know	1	3.70
Total	27	100.00

Table 50B: If so, what percentage of your productive capacity is engaged by your habitual customers?

% Productive capacity	Frequency	%
1-40	3	14.29
41-70	4	19.05
71-90	3	14.29
> 91	10	47.62
Don't know	1	4.76

Table 51B: Could you keep technologically up to date without customers' commitment to long-term cooperation?

	Frequency	%
No	11	45.83
Yes	13	54.17
Missing	3	
Total	27	100.00

Table 52B: Has your enterprise received credit or guarantees from habitual customers?

	Frequency	%
No	24	88.89
Yes	3	11.11
Total	27	100.00

Table 53B: Did your habitual customers help in setting up or in growth of your enterprise?

	Frequency	%
No	20	76.92
Yes	6	23.08
Missing	1	
Total	27	100.00

Table 54B: Degree of agreement with the following statement
"The information we receive from customers is useful for our firm"

	Frequency	%
Strongly disagree	1	3.70
Disagree	2	7.41
Neither agree nor disagree	8	29.63
Agree	11	40.74
Strongly agree	5	18.52
Total	27	100.00

Table 55B: Degree of agreement with the following statement:
"Our habitual customers will help us even if this is not foreseen by the agreement"

	Frequency	%
Strongly disagree	2	7.41
Disagree	10	37.04
Neither agree nor disagree	5	18.52
Agree	7	25.93
Strongly agree	3	11.11
Total	27	100.00

Table 56B: Degree of agreement with the following statement
 “Given the chance, our customers might try to take unfair advantage of our business”

	Frequency	%
Strongly disagree	0	0
Disagree	10	37.04
Neither agree nor disagree	1	3.70
Agree	12	44.44
Strongly agree	4	14.81
Total	27	100.00

Table 57B: Importance of the following factors in developing trust relations with customers
 (scores from 1 to 5: 1= not important; 5= very important). %

	1	2	3	4	5
Family/friendship ties	51.85	14.81	33.33		
Ownership relations	37.50	33.33	8.33	8.33	12.50
Experience of repeated satisfactory dealings	3.70		7.41	14.81	74.07
Belonging to the same district and sharing same business culture	44.44	18.52	14.81	14.81	7.41

Table 58B: Degree of trust in customers compared to 5 years ago

	Frequency	%
Decreased	10	37.04
Equal	13	48.15
Increased	4	14.81
Total	27	100.0

Table 59B: Have you had any serious problems with your customers?

	Frequency	%
Never or seldom	20	76.92
Yes, with local customers	5	19.23
Yes, both with local and external customers	1	3.85
Missing	1	
Total	27	100

Local Institutions and Trust

Table 60B: Does your enterprise belong to any association?

	Frequency	%
Yes	27	100

Table 61B: Type of association your enterprise belongs to (Multiple choice)

	Frequency	%
Cultural	1	3.70
Entertainment	1	3.70
Solidaristic	0	0
Trade	26	96.30
Other	6	22.22

Table 62B: Services supplied by your trade association (Multiple choice)

	Frequency	%
Counselling for contracts	15	55.56
Organisation of fairs	11	40.74
Regulations of business relations	10	37.04
Drawing up of standard draft contracts	10	37.04
Definition quality standards	5	18.52
Vocational training	21	77.78
Settlement of disputes in relations between enterprises and workers	12	44.44
Notification of unfair behaviour/fraud	7	25.93
Other	3	11.11

Table 63B: Have customs concerning economic relations in general and subcontracting in particular taken shape in the district? (Multiple choice)

	Frequency	%
No	4	14.81
Yes	22	81.48
Don't know	1	3.70
Total	27	100.00

Table 64B: What kind of customs are they? (Multiple choice)

Precautions are taken...	Frequency	%
by using several customers	4	16.67
by accepting small batches at first	15	62.50
by taking information of customers	12	50.00
Other	2	8.33
Missing	3	

Table 65B: Conventions of interaction among enterprises such as ... (Multiple choice)

	Frequency	%
When fixing the price and other conditions, the survival needs of the other party are taken into account	10	50.00
Reserved information obtained in a work relationship is not used to the damage of the party supplying it	10	50.00
Other	3	15.00
Missing	7	

Table 66B: What sanctions are applied to an enterprise not respecting local custom? (Multiple choice)

	Frequency	%
Retraction by the offended person (in case of unfair conduct) of future collaboration in work relations	11	45.83
Loss of reputation and future difficulty of finding firms in the district willing to collaborate	9	37.50
Judgement by an arbitration board	1	4.17
There are no sanctions for unfair conduct	6	25.00
Other	3	12.50
Missing	3	

Entrepreneurial Strategies and Trust: UK Report

This is the report of the CEEDR team, participating in the ‘Entrepreneurial Strategies and Trust’ project, together with German, Italian, Russian and Estonian partners.

The report is divided into two main sections. The first reviews key literature relating to trust and entrepreneurial behaviour, which is either written by British authors and/or had an impact on UK researchers in the field. Hence this literature is not solely UK authored, but rather entrepreneurship-related trust literature as viewed from a UK perspective.

The second main theme comprises the results from an empirical study undertaken in NE England by Dr Lyon. The origins of this work predate the VW Foundation funded project, since the primary data collection was undertaken as part of a study of regional clusters, whilst Dr Lyon was employed at the University of Durham. However, this was supplemented by a second round of follow-up interviews undertaken in the spring of 2003, focusing specifically on trust-related issues.

The report concludes with a summary of some of the main themes emerging from the UK study, focusing on key issues identified in the original brief, together with others identified by the Project Co-ordinators, after the penultimate team meeting in Essen in 2003. These include:

- Is trust a crucial element of entrepreneurial behaviour that can clearly be identified?
- Is it possible to discern different types of trust (personal, collective, institutional) analytically?
- Are there indications that the level of trust and its impacts on enterprise behaviour can be measured quantitatively?
- It is possible to discern regions or sectors according to their level of trust?
- Is it possible to identify the interdependencies between the role of trust and other factors (constraints) influencing enterprise behaviour?

Review of Paradigms and Key Concepts in UK and North American Literature

This section explores a range of different paradigms and disciplinary approaches to understanding the role of trust in relation to entrepreneurial behaviour. It draws on research from economics, sociology, geography and anthropology.

Neo-Classical Economic Perspectives

The concept of trust has received limited attention in the mainstream economic literature as the concept does not lend itself to analysis by the tools of neo-classical economics. Indeed, its role in economic transactions is assumed away in neo-classical approaches. The main critique of neo-classical approaches centres on the use of four key assumptions: economically rational profit maximising individuals, perfect information, homogenous commodities and no barriers to entry. Furthermore, the neo-classical paradigm presents economics as a science with universal laws and a replicable model. This cannot fully accommodate social and cultural issues.

The neo-classical approach views the allocation of scarce resources through the use of market prices, leading to an “equilibrium position”. The effectiveness of the allocation of resources is investigated through analysis of prices, which summarise information about availability of resources, production possibilities and consumer preferences.

In this context, Berry (1998:1) states that:

one of the principle strengths of economics as a discipline lies in its insistence on the exhaustive pursuit of rigorous self criticism of logical arguments and systematic testing of precisely formulated hypotheses. These pursuits are founded on a formal body of theoretical argument, which derives clarity and power from its increasing use of mathematical language and modes of reasoning, and coherence from its continued adherence to a core of common assumptions. The consistency of foundational principles has both enabled the development of a highly abstract and sophisticated body of theory, and limited economics' contributions to understanding the often messy and ambiguous realities of social life.

The neo-classical approach assumes that all actors have access to information and knowledge on which to make their decisions. However, this is rarely the case in real life situations where actors are constrained by a lack of information regarding goods which are not homogeneous details of the transaction (such as price and conditions/time frame of payment). They may also lack information on the trustworthiness of other parties during exchange (Plattner, 1989c: 211–216). Therefore such analysis fails to examine the costs of not having information that might come in the form of risk aversion strategies or costly measures to obtain information. Williamson (1985) refers to these costs as transaction costs and notes that these will rise if communication is poor and contracts are not enforceable. The assumption that there is perfect information implies that it is not possible to cheat, as all actors have access to all information. Therefore, trust is not an issue that is considered for study.

Neo-classical economics assumes that all individuals are economically rational and will always attempt to maximise profit or utility. Sociologists and anthropologists who favour rational choice theory approaches make a similar assumption in their analysis of economic functions. However, it should be stated that proponents of these approaches admit that individuals might be changed by circumstances, but assume that individuals and their preferences are taken as given for the purposes of economic enquiry (Hodgson, 1994b: 398). However, critiques of this assumption from evolutionary / institutional economics, and other social sciences, have stressed that economic behaviour is embedded in structures of social relations (Granovetter, 1985). Mayhew (1994: 118) argues that choice is shaped by culture, criticising the assumption that culture becomes a product of individual choice.

New Institutional Economics

New Institutional Economics (NIE) has developed as neo-classical economists have attempted to modify their key assumptions to reflect real world situations. NIE introduces the concept of transaction costs which are omitted from many economic analyses because of the assumption about a “frictionless exchange process in which property rights are perfectly and costlessly specified and information is likewise costless to acquire” (North, 1990:11). North proposes that the key cost of transacting is related to information. The cost comes from the measurement of the quality of what is being exchanged (as goods may not be homogenous), protection of rights to the goods being exchanged and from policing and enforcing agreements. These costs may increase over longer distances and if contacts are more impersonal (North, 1990).

There are varying definitions of an ‘institution’ and North (1990: 4) gives the most inclusive one as “any form of constraint that human beings devise to shape human interaction ... they consist of formal written rules as well as typically unwritten codes of conduct that underlie and supplement formal rules”. He continues by arguing that “an essential part of the functioning of institutions is the costliness of ascertaining violations and the severity of punishment”. North maintains that institutions affect the performance of the economy through their effect on the costs of production and exchange, and thereby the transaction cost: “the major role of institutions in a society is to reduce the uncertainty by establishing a stable (but not necessarily effi-

cient) structure to human interaction” (ibid: 6). It should be noted that North differentiates between ‘players in the game’ – such as organisations – and institutions that he refers to as ‘rules of the game’.

Williamson (1985) concentrates his analysis on contractual relationships and the attempts to reduce transaction costs caused by imperfect information and the need to adjust contracts. The importance of different costs associated with a transaction is dependent upon the risk and uncertainty surrounding the transaction, the frequency of transaction (it is easier to bear the costs of arbitration of disputes if transactions are large and infrequent) and the investment in specific assets which cannot be used for other purposes. The costs of risk and uncertainty of the transaction can include the costs of restricting opportunism, such as the ‘bonding costs of effecting secure commitments’. A study of transaction cost economics shows that a contractual arrangement can still be ‘efficient’ when prices in a bilateral contract are higher than those justified by production costs alone, as it provides the incentives to invest that would not exist in the world of perfect competition. Williamson (1985:41) therefore proposes that studies of contractual arrangements should not look at marginal analysis, but rather should compare institutional alternatives.

Williamson (1993: 463) questions the use of the concept of trust and argues that “it is redundant at best and can be misleading to use the term “trust” to describe commercial exchange for which cost effective safeguards have been devised in support of more efficient exchange. Calculative trust is a contradiction in terms”. Williamson claims that the use of the term “trust” is not descriptively accurate and has many meanings, and should therefore be avoided.

The NIE approach is based on the neo-classical concept of methodological individualism which explains social phenomena in terms of the characteristics and actions of individuals. This has been criticised by what has been termed the ‘Old Institutional Economics’ school (Hodgson, 1994b; 1994c; Samuels, 1995). Samuels (1995: 572) contrasts the concept of methodological individualism with an approach that sees individuals and culture as mutually dependent. Mayhew (1994:118) states that “there is considerable evidence that human thought and behaviour are not well represented by maximisation models and the conception of action as rational”.

New Economic Sociology and Socio-Economics

The application of the actor oriented approach to economic action enhances the understanding of how individuals operate within markets while at the same time having their action embedded in social structure. Granovetter (1985) shows that a sophisticated account of economic action must consider the embeddedness of such structures and he criticises the New Institutional Economics approach for attempting to understand societies, now and in the past, as “resulting from the pursuit of self-interest by rational, more or less atomized individuals” (ibid: 482). He also warns of the dangers of taking an over-socialised view as put forward by many of the substantivists in economic anthropology (and structuralists) (Granovetter, 1985).

The social structures that shape the actions of agents include power relations, institutional frameworks, habits and cultural patterns. These, in turn, shape and are shaped by cultural aspects, such as norms, and networks of actors. History also plays a role in shaping power relations and institutional frameworks in any particular time or place. Much of the writing on New Institutional Economics has assumed that institutions develop through the minimising of transaction costs by profit maximising individuals. However, an analysis of transaction costs can be insufficient to explain certain social phenomena, especially when history and power relations are not considered. In this respect the ‘Old Institutional Economics’ attempts to move away from methodological individualism, where the individual is taken as given (Hodgson, 1998: 177), and look at institutions as formed and sustained by habits as well. Habits are defined here as “a form of self-sustaining, non-reflective behaviour that arises in repetitive situations” (Hodgson, 1998: 178).

The theory of embeddedness of markets has been an issue at the centre of what has been termed New Economic Sociology. New Economic Sociology accepts that the social cannot be deduced from the economic, and that each transaction is embedded in social relations. The alternative approaches to understanding institutions and economic change stress the role of social relations and civil society that mediate the space between state and market (Woolcock, 1998: 153), and lead to what Amin (1996:309) refers to as a 'third way' between state and market centred approaches.

The need to tackle the issue of heterogeneity and diversity on the one hand, and the explanation of structures on the other, has led to a range of similar approaches to Granovetter's embeddedness approach that explore structural diversity as well as the diversity of actors' actions. These include the methodologies of 'structuration' (Giddens, 1984) and actor oriented approaches (Long and Long, 1992). Giddens' concept of structuration acknowledges that individuals are knowledgeable and capable while recognising the structural constraints on individual action. The actor oriented perspective is similar in that it stresses that social relations of production are constructed and changed by micro level action that is embedded in the social and cultural context (Long and Van der Ploeg, 1994). These micro-processes also explain structures.

Actor oriented approaches have evolved from anthropological research that developed in the 1960s and 1970s. Within economic anthropology there has been a long running debate between substantivists, who stress the issue of cultural relativity, and the formalists who analyse choice as the product of rational decisions. Criticism of these approaches was based on the fact that some formalist anthropologists had taken a 'voluntaristic' approach that "gave insufficient attention to how individual choices were shaped by larger frames of meaning and action" (Long, 1992b: 21). Formalists were also criticised for being ethnocentric and reductionist by offering a "model of social behaviour based upon the individualism of 'utilitarian man' which rides roughshod over the specificities of culture and context" (Long, 1992b: 22).

Unpacking the concept of trust

A working definition

The concept of trust has been studied in several of the social sciences in differing contexts leading to a mixture of approaches and perspectives (Misztal, 1996: 13). A dictionary definition of trust is "a firm belief in the reliability, truth or strength of a person; a confident expectation; and a reliance on the truth of a statement without examination" (Oxford English Dictionary, 1995). Shared expectation of good or likely behaviour is the central issue in trust (Gambetta, 1988: 217; Humphrey and Schmitz, 1996: 5; Zucker, 1986: 54; Fukuyama, 1995). Trust operates when there is confidence in other agents, despite uncertainty, risk and the possibility for them to act opportunistically (Misztal, 1996: 18; Gambetta, 1988:218).

These relations and links are referred to by some as 'social capital'. This has been defined by Robert Putnam in his analysis of governance and economic development in Italy as "features of social organisation, such as networks, norms and trust, that facilitate co-ordination and co-operation for mutual benefit" (Putnam, 1993: 167). Much of the debate about social capital has been theoretical (e.g. Granovetter, 1973) and working definitions have been varied, although frequently unquantified and often vague.

Within the definitions of social capital, the balance of attention given to networks, trust and norms varies according to the researcher's viewpoint. Social capital can be seen at different scales, from the micro-institutional level to more macro scales of analysis that examine its role

in the formation of state-civil society relations and economic development in certain regions². Woolcock (1998:156) identifies a weakness in the theorising of the concept of social capital, namely that some see it as a combination of ties and norms while others see it as a 'moral resource' such as 'trust'. He asks whether "social capital is the infrastructure or the content of social relations, the 'medium' ...or the 'message.' Is it both?". Attempts have not been made to quantify social capital and its impact, as the objective of the research is to get a clearer understanding of the processes involved and to develop appropriate research methodologies³.

Personal and Institutional Trust

Interpersonal trust is vital in all market transactions when those involved are unwilling to rely on institutional arrangements or cultural norms alone (Granovetter, 1985). Zucker (1986: 60–65) has set out three "central modes of trust production" that are based around selective trust. In addition to institutionally based trust (discussed below) she also refers to '*Process-based*', where trust is tied to past or expected exchange such as in reputation and gift exchange; and *Characteristic-based*, where trust is tied to a person, depending on characteristics such as family background or ethnicity.

Business relationships can also be shaped by trust in a third party or intermediary, and trust shaped on shared norms and business conventions. This can be considered as a separate form of trust, namely 'collective trust', although the empirical study presented later shows that almost all personal trust relationships have an element of collective trust.

Institutional/intermediary based trust is prevalent when individuals have confidence in the economic, political and social institutions that they have to deal with. These formal institutions refer to issues of contract enforcement, standardisation of measurements and quality, and provision of information, as well as other areas of the economic system. This can be subdivided into person or firm-specific attributes, such as membership of associations, and, secondly, into intermediary mechanisms such as bureaucracy, banks and other formal mechanisms that can be seen to protect the interests of all parties to the exchange. Zucker also notes that there is not an "evolutionary progression" from process-based to characteristic-based and then from characteristic-based to institutional-based trust, as all are present in all societies. This form of trust is established when there is a critical mass of individuals trusting in the system. However, every enterprise relies on both personalised and institutionalised trust, with one able to replace or complement the other in most circumstances. Personalised trust involves transaction costs to initiate it in terms of building up a relationship. Institutionalised trust incurs transaction costs in terms of ongoing regulation and legal enforcement.

However, historical perspectives on trust have identified a contrast between the pre-modern and modern conditions affecting trust, reflected in a shift in emphasis from trust based on kinship, community and tradition to trust based on abstract systems (Giddens, 1990). Examples of institutional or abstract forms of trust are found throughout the world in a range of economic and political contexts. Examples range from banking and regulative systems in Western Europe to complex irrigation and common property management systems in subsistence agricultural economies.

² Much of the interest in this area has been fuelled by Robert Putnam's (1993) book 'Making Democracy Work'. Critiques of Putnam point out that the reasons for differences between north and south Italy can also be ascribed to different explanations based on social relations and the semi colonial status of the south of Italy or the role of the state in the development of civil society (Tarrow, 1996: 394; Harriss and de Renzio, 1997). In such cases the reasons are political as much as cultural. Harriss and de Renzio quote Portes and Landolt (1996) who give the example of ghetto areas in the USA where there is much social capital, but no assets attainable through it to allow participants to rise above their poverty.

³ For studies on the measurement of the effect of social capital see Narayan and Pritchett (1997) and Putnam (1993)

Using Trust

Calculations of Risk

Trust is based on a perception of the probability that other agents will behave in a way that is expected (Gambetta, 1988). It is therefore a calculation and an assessment of risk, although the means by which an individual makes a calculation are shaped in part by the social forces affecting them. This is evident throughout the case studies in Ghana and UK, undertaken by one of the co-authors (Lyon, 2000; Lyon and Atherton, 2001), whether it is trust between individuals, trust through intermediaries or trust in the actions of other members of groups. Individuals will weigh up the perceived risk and act according to their perceptions. They will draw on information based on the reputations of other network members and also evaluate the extent to which safeguards and sanctions can be applied. Sanctions and safeguards are not always used as part of a calculation, for some sanctions are applied to habitual actions. Furthermore, how the safeguards are built up and used tends to be culturally specific and shaped by shared norms and conventions.

However, trust can exist without calculation, such as when someone acts out of habit. Habits are drawn on by all of us, in order that we can assume away some risks and make other calculations possible (Hodgson, 1988). This was evident in cases in both West Africa and in UK where people were asked why they co-operated when there was risk that the other party would default. A common response was for people to laugh at this question because it was not something they had considered explicitly before. There was also reference to acting on 'gut reactions'.

Sanctions and Power Relations

The sanctions may be peer pressure, exclusion from future benefit, or recourse to authority (in a small number of cases sanctions can be threats of violence). Thus knowing where a creditor lives is often a crucial factor in the decision to lend money in Ghana and knowing the academic background of a researcher and the scientific community they belong to can shape decisions about collaboration in the UK pharmaceutical industry.

Power relations are a central feature in the formation of inter-firm relationships and employment relationships within a firm, which means the challenge for research is to look at the power relations within co-operation and determine how trust production is affected by unequal access to resources. Burchell and Wilkinson (1996: 6) found that in their study:

trading partners derive mutual benefits from co-operation in production from which their incomes are ultimately derived, but they compete over the proceeds of production because what one gets the others cannot have. Each business relationship is therefore by its nature both rivalrous and cooperative.

Power relations have wide implications as they shape the outcomes of all trade. Differences in bargaining power result in differing prices and returns, and therefore have a large impact on income generation. They shape the social relations in which economic action is embedded, which in turn shape the access to certain key resources and the bargaining power of agents. Power relations also have an impact on the extent to which another person is considered trustworthy. Trust in another person can be based on the knowledge that they can be coerced into co-operation and threatened with sanctions.

Despite the considerable discussion of the term 'power' in the social sciences, the ability to use it as analytical category is highly problematic because of the varied definitions and interpretations. Complications in the use of the term power arise because of the differences between 'power from', 'power to', 'power with', and 'power over' (Rowlands, 1997; Townsend et al, in press). With power over others, power is seen as part of a zero-sum game where one side gains

at the others' expense (Allen, 1997). Power *over* is based on the three other forms of power: social structures, or power *from* position and control of resources; agency, or power *to* affect outcomes; and collective power, or power *with* others.

Much attention has been paid to the structural bases of power, most notably those related to the issues of class and control of capital over the means of production, gender, ethnicity and age. This base of power is seen as something that is an inscribed capacity, or a position that is held or possessed. It should also be recognised that individuals, whatever their position, can affect the outcome by creating some room for manoeuvring. The exception to this is some forms of slavery.

Exercise of power can be through individual and collective action and is produced or generated through mobilising resources rather than being inscribed (Allen, 1997). We refer to use of power as agency and include gaining power through both 'micro-strategies', and resistance. The micro-strategies are similar to what Foucault (1977) referred to as 'disciplinary practices', such as surveillance of others. Surveillance in organisations comes in the form of supervision, establishment of routines and legislation to control members' behaviour (Clegg, 1989: 190). In this way the methods of surveillance are a form of gaining power, as well as a means of allowing trust to build up. Surveillance can have an effect through the watched being aware of the gaze or it can be internalised with individuals assuming that they are always being watched (Cragg, 1994). Power can also be built up through what Latour (1986) refers to as enrolment. Each actor has their interests and they attempt to get others to follow them and fight for the same outcome. In this way power can be seen to have a negotiated character of competing definitions and is built up by being reproduced both consciously and unwittingly (Clegg, 1989). Power is also produced through resistance. The simplest form of this is the threat to create delays, work slowly and pilfer. In this way even the weakest parties can build up some power over dominating agents (Scott, 1985). An understanding of agency involves analysis of how the processes work, both consciously and through habits of thought.

The power *over* other agents is *exerted* through tangible threats or action, and/or norms of behaviour. These norms include moral obligations and routine, habitual or unquestioning compliance. These may result in agents accepting power over themselves and also shape the nature of the threats and actions that can be undertaken. The moral obligations are internalised and can be seen as a form of moral economy (Thompson, 1971; Scott, 1976). Those with power are able to set the rules of the moral economy through processes of socialisation and acculturation. Lukes (1974) refers to this as the third dimension of power, where the values of the dominant become internalised. Norms shape the power relations by restricting the scope for complaints, and being able to avoid decisions and leave issues off the agenda (Lukes, 1974). These issues are closely related to the ability of the more powerful to exert authority.

The threats and actions that can be used to exert power over others are more visible and easier to identify through empirical research. I have divided them into three factors – strength, authority and peer pressure – which lead to a range of possible sanctions: violence, exclusion, penalisation, shame and reputation loss.

Norms

As mentioned earlier, norms can come in the form of habitual trust where people assume another to be trustworthy or go on gut feelings. Norms also relate to the acceptable and unacceptable forms of building co-operation, as well as the acceptable and unacceptable sanctions in a particular cultural context.

Discussions on the nature and formation of norms of generalised morality are restricted as they are intangible and difficult to observe. Norms define what actions are deemed to be right or wrong, and include customs of co-operation, reciprocity and interaction with strangers. Furthermore, norms cannot be produced at will and their creation or shaping depends on the cul-

tural background to the relationship, including market exchange contexts. Platteau (1994b: 795) states that:

to function effectively, at least in a long term perspective, the market requires the society to be structured in a way that ensures a wide-spread prevalence of abstract impersonal relationships among agents as well as the pervasive influence of norms of generalised morality.

Portes and Sensenbrenner (1993) also recognise the importance of what they term 'value introjection' as a source of social capital, as it "prompts individuals to behave in ways other than naked greed; such behaviour then becomes appropriable by others or by the collectivity as a resource" (ibid: 1323–4). This becomes beneficial for economic development, as risks are reduced and this in turn reduces enforcement costs.

The distinction is made between 'norms of generalised morality' and 'trust', although some use the term 'trust' to refer to both. Putnam states that "trust itself is an emergent property of the social system, as much as a personal attribute. Individuals are able to be trusting (and not merely gullible) because of the social norms and networks within which their actions are embedded" (Putnam, 1993: 177). However, Levi (1996: 46–7) criticises Putnam for his loose definitions of the concept of trust as he uses the term to refer to *both* expectations due to knowledge, institutional arrangements and incentive systems that enable an individual to predict behaviour, *and* to refer to general morality in the community itself. Humphrey and Schmitz (1996:10–12) make the distinction between generalised and selective trust, where generalised trust includes both generalised morality and institutional-based forms of trust (Zucker, 1986). Coleman distinguishes between forms of social capital that are for all members of a group, created and destroyed as a by-product of other activities, and other forms of social capital that are created by agents for their own benefit (Coleman, 1990:317).

One of the basic norms on which personalised trust is built is that of generalised reciprocity and the custom of co-operation. This can be seen as part of social structure or a habit that allows the agents to assume away a certain amount of risk (Hodgson, 1988: 167). Levi (1996: 47) explains trust in strangers as coming from cognitive mechanisms where the agents follow a rule without having to calculate each time. This is similar to the concept of habit in institutional economics as defined by Hodgson (1998: 178). Norms are derived from cultural patterns and habits in society as well as being reinforced by the use of trust. Norms shape the actions of agents as reciprocity is the basis of personalised relations based on trust. Some norms are more consciously applied. In such cases, norms of generalised morality are based on the need for a social consensus that can enforce sanctions on norm violators and thereby allow agents to trust each other.

There is debate over the extent to which norms determine economic development (Platteau, 1994; Moore, 1994). While there are arguments that show the importance of norms, there is scant empirical evidence. Many of the key quoted texts on the subject draw on game theory and historical studies. Axelrod's work on the Prisoners' Dilemma shows that it is rational to defect when there is imperfect information about the other player. The optimal strategy is tit-for-tat, where the first player co-operates to start with and then on subsequent games follows what the other player did in the previous game (Axelrod, 1984). This adaptive behaviour works when the number of games is indefinite. For this to arise, there is a need for generalised trust (or altruism) in the first move. However, the Prisoners' Dilemma is based on the assumption that individual action is only for the strict defence of the individual's own interest (Storper, 1997). There is no discussion on how the rules emerge and the process of how individuals learn (Mulberg, 1995)

Norms can come in the form of habits¹. Habits are articulated by practice and are hard to identify in empirical research. In this study they often became apparent by the reaction of respondents to questions that they considered to be ridiculous. When asked the question ‘how do you know this person will pay you back?’, many respondents laughed and had to think for some time before answering.

There can be norms which restrict the ability to enforce sanctions against some parties. These are often based on loyalty to people in the same network. Norms can also be applied more consciously and rely on social consensus to enforce sanctions. These sanctions or motivations come in the form of shame and obligations (Scott, 1976). Individuals are pressured into keeping to norms by those around them. This can be done by withdrawal of co-operation, disapproval and attaching social stigma to norm breakers, although this is limited to cases where those involved live in proximity or work closely together. Platteau (1994b:765–6) also mentions that norms can be enforced through a self-policing mechanism whereby agents take moral norms and internalise them, behaving morally in order because of guilt and shame.

Norms cannot be created at will. The production of norms is based on what Platteau (1994a: 536) refers to as “historically-rooted cultural endowments”, upon which norms of a more generalised morality can be encouraged when the right conditions arise. This can be limited in cultures which emphasise the strength of ties to close social relations. In such cases, reward and sanction are linked to patronage and dominated by the political power structures (Platteau, 1994b: 799).

Norms can be strengthened through processes of socialisation. The most common means for this found in the study was through families and religious institutions. Ensminger (1992) describes how the development of markets for the pastoralist Orma people in Kenya was influenced by their conversion to Islam, and the use of Islamic institutions and rules of law. Portes and Sensenbrenner (1993:1324–5) use the term ‘bounded solidarity’ which can lead to “the emergence of principled group-oriented behaviour ... If sufficiently strong, this emergent sentiment will lead to the observance of norms of mutual support, appropriable [sic] by individuals as a resource in their own pursuits.” Generalised norms can come from the state when rulers ensure that rules are enforced and they act as role models. Norms can also come from civil society if it is willing to take action against those who act outside the norms (Platteau, 1994b: 772).

There is debate over the role of the market in generating or eroding trust. Platteau (1994a and b) stresses the role of history and cultural fabric in generating norms and questions how these norms are created. Moore (1994: 826) recognises, on the one hand, that markets can erode social relationships and norms, while also acknowledging the point, made by Albert Hirschman (1982: 1467), that moral values can be generated by the market, its practices and incentives. It can also be argued that selective trust can lead to more generalised trust. Misztal (1996: 15) gives the example of trust in the medical system: “each positive contact with our local doctor, for example, may gradually increase our confidence in the medical system.” Norms or conventions that developed from past selective trust based on proximity may continue in certain localities (Storper, 1997).

Inter Firm Networks

Networks refer to the inter-personal linkages that make up social life. There are many cases of networks, both bilateral and multilateral, which impinge on and help to shape the economic sphere. However, to understand how these networks impact on social and economic life, it is necessary to examine their qualitative nature and the strength of the ties that hold networks to-

¹Hodgson (1998: 178) defines habits as “a largely deliberate and self actuating propensity to engage in a previously adopted pattern of behaviour”.

gether, as well as simply demonstrating their existence. Networks can range from weak ties of acquaintances, who can move between groups carrying both ideas and information, to the strong ties of families where in-group solidarity may actually militate against multiple identities and co-operation with outsiders (Granovetter, 1973).

In a business management context, networks are sometimes seen as a key element of the social resources (or social capital) which small businesses are able to exploit in order to overcome some of their size-related resource constraints and potential institutional barriers (Starr and Macmillan, 1990; Shaw and Conway, *op cit.*) by providing access to other (physical) resources that can be used to develop the business.

From a business perspective, Curran *et al* (1995) have pointed out that firms can enter into a wide variety of external relationships with suppliers, customers, accountants, solicitors, banks, trade associations and business support agencies. Some of these relationships are voluntary, whilst others may be a necessary part of undertaking business activity, although such relationships need not have been expressly formed for such a purpose. Those links which are essentially transaction based may be considered value added network links if, for example, the firm receives market information from the customer that goes beyond that necessary to complete an individual transaction. The working definition of networks used in a previous CEEDR project broadly follows Curran *et al* (1995) in encompassing all potential external relationships as network activity, whilst seeking to assess the role of different types of network to the business, both formal and informal (Fadahunsi *et al*, 2000). This includes personal networks, particularly those associated with entrepreneurship, and a variety of inter-firm linkages and links with support institutions of various types.

In terms of the contents of network ties, Johannisson (1999) identifies three essentially interdependent forms. These are: *information* networks, which provide business intelligence (and can additionally also provide access to a variety of external resources); *exchange* networks, which provide operational resources and *influence* networks, which also carry information but tend to operate in the main as barriers for potential competitors. In addition to content, the project will also need to investigate how such network links are created and how they develop over time. These are essentially process oriented questions, requiring qualitative methodologies.

The ethnic minority business literature often highlights the importance of 'social' networks. These typically have two components: the personal network, which, as mentioned earlier, links the business owner with specific individuals, and the cultural dimension in which the actors are immersed in (Saker, 1992, cited in Ram, 1994). In essence, it is the 'family' and the 'community' that lie at the heart of the social networks of ethnic minority firms (Ram, *ibid.*, p 43). Such networks are often viewed as a vital element in the development of ethnic minority enterprises in that their closed nature offers members access to the networks in ways that are otherwise denied to non-members of that group. This access is said to give them some operational advantages over their indigenous counterparts (e.g. with respect to accessing finance, customers and labour). They are therefore viewed by some authors as an important potential strength of ethnic minority businesses (Waldinger *et al*, 1990).

Social networks may be either formal or informal in nature. The more formal links refer to those built with co-ethnic membership business associations and other organisations which emphasise ethnic links in their establishment and development. Informal links are primarily personal or community related. Personal networks in this case are mainly developed around friends and the extended families of the business owners, whilst informal community networks operate as an extension of personal links into the wider co-ethnic community, or alternatively through tribal, religious or various socio-cultural organisations.

Thus, the family and kinship networks may be viewed as vital building blocks for business development in the ethnic minority community. Furthermore, the pooling of resources provides the 'trust', security and reliability which come from dealing with persons from the same ethnic

background. Social network ties are often presented as relying on the trust of its members for its sustenance over time, and such trust is itself a key business resource which can be a source of competitive advantage (Aldrich and Zimmer, 1986; Ram, 1994; Honig, 1998; Smith et al, 2001). The element of trust in such relationships also presupposes that such personal ties will often be informal in nature. Thus the small business literature has tended to highlight the preference of some ethnic minority businesses for informal networks over formal ones (e.g. Fadahunsi et al, 2000).

Studies which emphasise the role of network relationships in business development tend to be based on the premise that personalised forms of trust between businesses are more effective than other ways of securing trust in a changing competitive environment (e.g. Malecki and Tootle, 1996).

Networks are the most visible and clearly definable outcome of social relations and are a part of social capital. For this reason they have received much attention in studies of social capital and in theories of sociology. Social network theory has been a major part of the discipline of sociology since the 1950s. However, much of this work has ignored the qualitative nature of the links, although Granovetter (1973) discussed the nature of links with his discussion of the difference between strong and weak ties. Putnam's thesis rests on the role taken up by the networks that lead to what he terms 'civic engagement' (Putnam, 1993). Many analyses, especially those that attempt to quantify social capital, concentrate on networks with an assumption that the quality and quantity of associational life can be used as a proxy for social capital (Narayan and Pritchett, 1997: 2). However, the links between networks and norms or trust are rarely made clear.

Attempts to look at different forms of social capital have tended to concentrate on the different scales of networks (Harriss and de Renzio, 1997). Woolcock (1998: 162–178) distinguishes between the macro level (formal business, political and social organisation of society) and the micro level (intra- and inter-community ties). He also distinguishes between those links that are highly embedded in a community, and those that are autonomous.

While it is accepted that networks are important for the creation of social capital, there is a danger of taking a romanticised view of networks or 'the community'. Amin (1996: 327) warns of the danger of ignoring the fact that civil society is an arena for social contestation. Power struggles exist and affect which groups control which resources and what they do with them. This raises the issue of who is included and excluded in certain groups or networks. Levi (1996: 51) notes that neighbourhoods are a source of trust and distrust as they "promote trust of those you know and distrust of those you do not, those not in the neighbourhood or outside the networks." Woolcock (1998:158–171) also warns of the limitations of certain networks, such as those based on close ties. This he sees as "being characterised by an 'excess of community' built on such fierce loyalties and familial attachments that members are discouraged from advancing economically, moving geographically, and engaging in amicable dispute resolution with outsiders" (Ibid: 171). Members of such communities may therefore be restricted in participating in wider networks because of obligations. There is a need for inter- as well as intra-community ties – what Granovetter and Putnam term weak ties of horizontal networks.

While there is much research on the extent of personal networks, Curran and Blackburn (1994) question the importance of localised non-trading relationships in British small firms as they found very few engage in local networking, based on largescale representative samples. However, smaller sample surveys and qualitative studies of specific sub-groups of small firms have found that many businesses have some forms of local networking for referrals, sharing equipment or space, sharing idea and for formalised joint projects or alliances (Lyon et al, 2002). For example, a survey of 24 firms in the software, biosciences and engineering services sectors found that on average a firm could recall an average of 9 examples of collaboration or networking relationships (Lyon and Atherton, 2001), although these firms were part of regional clusters.

Research on industrial districts in UK has identified concentrations of firms in similar areas that have dense networks of relationships. Examples include the mature manufacturing sectors in Rochdale and Leicester (Penn, 1992 and Hardill et al, 1995), technology related companies around Cambridge (Lawson and Lorenz, 1999; SQW, 2000), and motor sport car construction in North Oxfordshire and Northamptonshire (Aston and Williams 1996; Pinch and Henry 1999; Henry and Pinch 2000). There has also been considerable research on supply chain relationships (Christopher, 1992; Harland, 1996) with a growth in interest as British firms have increased the amount of outsourcing used as a way of reducing costs and remaining competitive. Sadler (1999) also identifies a movement in the automotive sector towards the trust based relationships.

Sako (1992) has examined the nature of these buyer-supplier relationships in detail and distinguishes between those that are arm's length contractual relationships and what she refers to as obligational contractual relations, which include an element of trust. She divides the types of trust in these networks into three kinds based on her studies of businesses in UK and Japan. Contractual trust concerns the confidence that the other party will carry out its contractual agreements. Competence trust concerns confidence in the other party being able to do what it says it can. Lastly, goodwill trust refers to an 'open ended commitment to take initiatives for mutual benefit while refraining from unfair advantage taking' (Sako, 1997). She found that her British case study company was moving towards more trust based relationships, although it was more involved in arm's length relationships than the Japanese case. She attributes this to the different institutional and cultural contexts, such as the legal framework or financial structures.

Summary

- The term social capital includes the concepts of trust, but its vagueness and debated definitions reduce its use as an analytical concept
- Types of trust can be distinguished. These include personal trust (based on relationships between individuals) and institutional trust (based on confidence in social and political institutions that shape behaviour). Personalised trust is built up through working relations and through confidence in others' actions because they are part of the same community (this can be referred to as collective trust).
- Trust is partly a calculation, based on information on others and sanctions, but can also be habitual. The calculations that individuals make are also shaped by norms and perceptions that are shaped by how the individual is embedded in social relations.
- Sanctions are important aspects in deciding whether to or not to trust someone. The ability to exert sanctions depends on existing power relations.
- Norms can result in habitual (non-calculated) trusting actions. They also shape how trust is built up, for example through norms of reciprocity and shaping what sanctions are deemed acceptable.

Entrepreneurial Strategies and Trust: The Case of Bioscience and Engineering Firms in North-East England

This part of the report examines the empirical case of engineering and bioscience firms in the North East of England, in order to identify the role of trust as a factor influencing entrepreneurial behaviour.

Characteristics of the Bioscience Sector in North-East England

The bioscience industry in the North East is an emerging area of the regional economy, viewed by the Regional Development Agency to have considerable potential for growth in the future. Biosciences refer to those technologies that develop practical applications of living or-

ganisms in products, process and services. There has been a long history of these technologies in the region through the brewing, pharmaceuticals and chemicals industries, although the range of potential applications has increased dramatically in recent years.

The regional structure of the industry is characterised by approximately 30 SMEs² and a number of larger pharmaceutical and chemical manufacturing companies that are interested in diversifying into this area. The total employment is estimated by BioSci North to be 2000. There are also a large number of suppliers of services and products for the sector, serving the chemicals, environmental and pharmaceutical industries. A key resource in the region is the five universities with world class research and relevant courses producing skilled graduates in the life sciences.

The customers of the companies are predominantly outside the UK. The products tend to be highly specialised and low in volume. The location of the specific materials required can therefore be anywhere in the world. Most of the interviewed companies stated that they felt part of a UK cluster of biosciences rather than a regional one. The businesses interviewed were found to have wide ranging links with particularly strong relationships with universities, both within and outside the region.

Characterisation of the Bioscience Cluster

	Standard product	Bespoke product
End user/ final product	High volume pharmaceuticals companies diversifying Lower volume components for industrial use Extensive R&D on new product development Good access to capital for R&D	Niche product Small volume Supplying businesses Limited R&D
Intermediary /inputs	Making supplies for other R&D by other companies Some R&D Mostly exported	Provision of research and testing facilities Services for other bioscience companies (also support chemical, environmental and pharmaceutical companies) Customers are in North of England

Attractions for establishing and remaining in the NE of England include access to university facilities and libraries, the use of service companies that are located here and courses at the university that suit the needs of the companies. People are also attracted to the NE because they were established there before setting up a business or spinning out from a university or larger company. The interviewed companies perceived the greatest limitations of the region to be the difficulty in recruiting high level scientific staff. Such people usually have to be found outside the region and many potential recruits have stated that they do not want to risk coming to the NE in case the job does not work out and there is no other work for them.

Types of Linkages and Interfirm Relationships in Bioscience Industry

Vertical supplier/customer Links

The extent of the links of the bioscience companies to customers and suppliers was found to vary according to the nature of their products. Those offering bespoke services have close links

² The biosciences industry in Europe is characterised by a predominance of SMEs with 80% of the companies having less than 50 employees (Biotech Scotland, 1999)

to customers. The links to suppliers depended on the extent to which bespoke inputs are required.

Important relationships with customers are built up for developing new products where the customer is involved in generating ideas and later in the testing of the product. Relationships are built up with what one company referred to as ‘friendly customers’. These may not be those who buy the largest amount, but rather those that are willing to invest time and resources in helping the supplying company to develop its product. In return these ‘friendly customers’ can have better terms and conditions or access to specialist equipment. There are a number of cases of firms using other firms and universities to do research and produce products based on their intellectual property. In such cases legally binding secrecy agreements are used in addition to relying on people who have been known for some time.

Horizontal Formal Collaboration

All the companies interviewed were found to be involved in formal collaboration with universities. Several of them were also in joint projects with other companies. These collaborative activities are usually bilateral, and built around the relationship of individuals in each of the organisations. The most common form of university-company relationship is the funding of a PhD. The company benefits from having research done and also having informal access to the supervising professor. The university benefits from the funding and opportunity to develop its research. When there is joint research there are confidentiality contracts drawn up that complement the existing relationships that have been established. As one scientific research manager stated:

we have a confidentiality contract and also have a certain level of trust. I would not set up research with someone I have not known for a long time. For example, in X, I've known the professor for donkey's years and if I had to go through someone else I did not know, for example going through one of these dating services, I would not sign over anything until I knew where the ground lies, whereas I would go through a mutual acquaintance. I want to know they've done work before so knowing the people already like me having worked at X, it smoothes things over and it makes introductions easier.

In all cases of collaboration, the businesses mentioned that they had well established relationships with individuals in the universities before they invested anything. In many cases this was during previous jobs or while they were employed by a university. This experience is vital as they can bridge the cultures of academia and commerce by bringing a deep understanding and tacit knowledge of the expectations of different parties.

Horizontal Informal Links

Informal links are built up and existing informal links drawn on in order to get ideas for new products, have ‘peer review’ of a companies own R and D, get new business opportunities, as well as for help in times of trouble such as an equipment breakdown. As shown above, these links come about from previous employment and are continually added to by attending conferences and working with other organisations and universities. The funding of PhDs are vital ways of building these links and having expert advice at the end of a phone or email. The building of the relationships involves both work-based interaction and social meetings such as ‘having a few beers during a conference’. Firms were found to be building up networks without any clear rationale but in expectation of needing support in the future. In this way they are encouraging serendipity.

Formal Associations

Bioscience firms were found to be members of a number of membership organisations. Some of these are not specific for biotechnology and may provide services, such as bench marking on manufacturing processes, training of staff, and export advice. There have been regional biotechnology groupings in the past which have not been sustained as it was felt that there was no common agenda. There is now a fledgling organisation, BioSci North that has the objective of supporting the industry in the region. This has been set up by the managing director of one of the larger bioscience companies in the NE. Other successful organisations include a clearing house and confidential broker for fine chemical companies in the north of England as whole. The success of this was put down to the trustworthiness, knowledge and experience of the director.

Supplier/customer trust in bioscience – institutional/extended

	Outcome	Basis of trust
New product development	Use university facilities External evaluations by a university Ideas from customers Customers test our products Contracting out research and sharing know-how	Formal agreements and through funding PhDs Send staff to work with friendly customers who take an interest. They can use our equipment Go to people you trust, known the person for a long time or you know (through networks) to stay clear of them. Secrecy agreements (B20)
Providing products and services	Carry out research Packaging Get supplies locally Grow up some biomass Testing services Equipment manufacturers for tailor made	Secrecy agreements Know them from working together in university and use confidentiality statement

Personal Supplier/Customer Trust in Bioscience

	Outcome	Basis of trust
Getting Finance	From VC in London Accountants link us to business angels	Chair of co new VC from previous dealings They know us
Getting and keeping business	Provide a service rather than a product; visit customers and do an audit	
Providing products and services	Information on exporting	Working together

Other Firms in Bioscience – Institutional Trust

	Outcome	Basis of trust
New product development	Fund PhD research with a university and get help from the professor Joint research	Professor has done consultancy work for them in the past Its an act of faith Have a confidentiality contract and trust from knowing the professor for donkey's years or through mutual acquaintance (B11.7)
Getting Finance	University has equity share in company Start up capital from private investors	MD was a university professor Co founder had contacts already
Getting and keeping business	Organise and fund trade shows with others Group with two others with complementary services	Get DTI support Personal links since previous job 20 years ago
Providing products and services	Produce new products developed in a university Joint ventures for producing a new product or joint service	Have built a reputation for bringing in royalties Parent company funded the research
Training and recruitment	Undergraduate placements so people know we are here	Link to professor through funding a PhD

Other Firms in Bioscience – Personal Trust

	Outcome	Basis of trust
New product development	Attend and sponsor conferences to look for opportunities University seminars Peer reviews of our work Scientific advisors can be rung and who say where science is going, reduce our risks.	Have few beers and an exhibition stand Arrange conferences and meet on a friendly basis Meet at conferences or on advisory committees. Links through licensing IPR or funding PhDs
Getting and keeping business	Get business by word of mouth Private investors advise on future opportunities	People pass our name on or move companies and keep using us
Providing products and services	Information on equipment Borrow equipment Help each other if there is a break down Visit other companies	Know the man after meeting at conferences 2-way mutual help and no competition

	Outcome	Basis of trust
Training and recruiting	Links to DTI for funding for training through a university	Did an MSc there
General networking	People in universities to get ideas and can contact when needed Staff are from local universities Student placements and they will remember us Role models and mentors for advice Advice from large multinational	Worked with them, help their final year students, fund PhDs Work together and help them Worked under them in past Large Co used to own them

Intermediaries, Associations and Trust in Bioscience

	Outcome	Basis of trust
New product development	Get ideas out of university	Set up by MD of leading company and public money
Getting Finance	Try to link start ups and VC	
Getting and keeping business	Clearing house for technology specific work and confidential broker Organise and fund trade shows with others	Director is well known, knowledgeable and trustworthy
Providing products and services	Learnt how to manage change from other manufacturing firms. Visit each other Information on new laws and technology Export documentation advice from C of C Organise joint buying	Organised by RTC or Institute of Quality Assurance, DTI Excellence programme.
Training	North East Chamber of Commerce	
Lobbying	Negotiating pay rates Voice of the region and link to government	Set up by MD of leading company and public money. Key individual to push the area
General networking	Regional Biotech groupings	Attend meetings but stopped because no common agenda

Engineering Services

Characteristics of the Cluster

The cluster of engineering services refers to those companies offering high value, knowledge intensive services for engineering problems. They provide services to companies in other clusters such as oil and gas, and automotive, as well as a wide range of other areas. There is a long heritage of engineering in the North East. However, in the late twentieth century, manual engineering jobs have declined due to competition from other parts of the world. However, the North East has a number of 'knowledge intensive' or high value added service companies, and the potential to develop a cluster that draws on the past experience, existing skills and new innovations. Defining and measuring this cluster is difficult as it cuts across traditional sector boundaries, reflected in SIC codes. However, a Trends Report (2001) identified that 'Engineering related scientific and technical consulting' was concentrated in the region with 0.94% of the region's employment or approximately 10,000 jobs.

This study concentrated on the pipeline engineering cluster and firms supplying the automotive and offshore oil and gas industries. Of particular interest are the links they have with universities. The universities in the region are also increasing their involvement in this industry with specialised consultancy organisations attached to engineering departments. Many larger companies are working closely with universities, while fewer smaller enterprises have such close links. However, there is a common perception that universities are not commercial and unable to solve the applied problems of companies.

Clients of the companies are mainly located in the UK, while some of the faster growing companies are operating on a global scale. However, there is also a perception amongst engineering service companies that manufacturing companies in the NE are not investing in information technology and not looking to innovate at the pace of industries such as biosciences. The reason for the cluster in the North East is historical – a consequence of the area's tradition of engineering and manufacturing, both high and low volume, which require these services. The cluster of pipeline engineering service companies is due to the large British Gas Research Station, which closed, and many former employees set up their own businesses.

Types of Linkages and Relationships

Vertical Supplier/Customer Links

As a service industry, this cluster has to develop close relationships with customers, especially for getting work and providing a good service. The importance of building up trust with individuals in the other firms is central to these relationships. These relationships continually develop and are taken with people as they move between jobs. On the one hand, there needs to be trust in the other's ability, but also trust in their intentions to cooperate. The relationship is built up over time through trial and error, and through knowing the other party personally. This may be done as part of work or through corporate entertaining.

Horizontal Formal Collaboration

A particularly interesting case examined in detail is a grouping of firms coming to form a collaborative grouping. Pegasus is based on relationships that were built up while individuals worked together in the same research institute for over 20 years. When they set up different companies they already had knowledge of how each other work. However, the formation of the micro-cluster of businesses involved them learning how to work together in a different way. Their experience in the micro-cluster has been drawn on while forming a larger group with dif-

ferent objectives: lobbying and supporting university training. This larger group’s success is put down to having a ‘neutral chair in a neutral location’, and the encouragement of companies to put aside competition while working towards the goal of improvements in skilled labour supply. The ability to cooperate for one task while competing in other spheres has come about through building personal relations at meetings and informally over drinks. Similarly other groups have based contractual collaboration and shared intellectual property after getting to know each other: “We have lots of trust, a few pints in the pub and you know”. That case also shows that the building of trust can be quick and based on instinctive impressions.

Horizontal Informal Links

Informal links with similar companies may arise because people can draw on previous friendships from other jobs and college days. They also come from working with others in more formal types of arrangements. Engineering service firms tend to be in specialist areas and so felt that the industry was ‘incestuous’. In each office there are people who have different contacts which can be drawn on. This is particularly true in areas such as pipelines, where the NE has a critical mass of businesses.

Formal Associations

There are few formal associations used by the firms interviewed. Those used are either general service providers such as chambers of commerce or national level professional associations.

Supplier/customer Trust in Engineering Services – Institutional/Extended

	Outcome	Basis of trust
New product development	Subcontract to university	
Providing products and services	Finance from bank in foot and mouth epidemic	We own the building and they know our customers pay. You also have to be truthful and honest about the situation

Supplier/customer trust in engineering services – personal

	Outcome	Basis of trust
Getting and keeping business	A big customer gives us work in towns when our rural work dried up in foot and mouth crisis Provide a service for customers, Work with their engineers Credibility with customers by using university Get referrals from customers	They might be friends but it is commercial – common sense for them Know them personally through entertaining Build up trust with an individual Do a good job, lend them equipment People move jobs and take contacts with them

	Outcome	Basis of trust
Providing products and services	Sub-contract to others Preferred suppliers	It's the trust thing again In the same group so don't have conflict. We can manage it internally on a one to one basis Know people who run the business. Subcontract to each other Trust that they will deliver Trial and error, relationship comes through time History and knowledge of them, visit them
Training and recruitment	Use suppliers' reps to spread information about vacancies	
General networking	Get information from suppliers' reps in advance about who is in trouble	

Other Firms in Engineering Services – Institutional Trust

	Outcome	Basis of trust
New product development	Share ideas in democratic rather than sub-contracting way University research centre Joint research and shared IPR	Part of a formal cluster company Lots of trust, a few pints in the pub and you know
Getting and keeping business	Cluster company for joint marketing Joint venture for foreign markets Joint project to get larger contracts Supply customers with more complex solutions	Knew each other for 20 years in previous jobs Offices under one roof so easier for meetings Learnt to trust each other We have built up skills in making alliances Ex colleagues One man has a majority stake in each member of the cluster
Providing products and services	Cluster of companies have economies of scale for office space	
Training and recruitment	Group of companies set up an MSc Group of 14 companies influence apprenticeship training by 5 colleges Training with other companies	Neutral chair in neutral location Keep meeting and trust each other Others are owned by same man

	Outcome	Basis of trust
	Links to university to get graduates	Work with them and have placements here
Lobbying	Promote the NE as a centre of excellence	Neutral chair in neutral location Keep meeting and trust each other Take off our company hats, put our areas hats on Go out for drinks
General networking	20 companies together for training, support and camaraderie	Through the TEC

Other Firms in Engineering Services – Personal Trust

	Outcome	Basis of trust
Getting and keeping business	Know who gets contracts Get work	Form relationships with competitors From college friends and others.
Providing products and services	Warned to avoid companies in trouble	Incestuous network for pipelines. Each person in the office knows a number of other people

Intermediaries, Associations and Trust in Engineering Services

	Outcome	Basis of trust
Getting and keeping business	Northern Defence Initiative to get work and find sub contractors	
General networking	Meet a different set of people TEC seminars National sector association Chamber of Commerce	

Intra-firm Relationships in Engineering Services

	Outcome	Basis of trust
New product development	Employees don't disclose sensitive information	You have to assume they won't. Give people responsibilities. You can have secrecy agreements but you cannot enforce them.
Getting and keeping business	We all do a share of the marketing work	All want what is best for the company because we have shares
Providing products and services	Ensure work is up to standard	Employees want to do what is best for company and there is a threat of losing their job. You just have to assume.

General Engineering

This case study was selected because of the important contribution it makes to regional employment. It is a large and highly fragmented industry and the aim of examining it as a case study was to investigate if there were clusters and clustering links within it.

The engineering industry includes the formation and treatment of metals and the manufacture of machinery products. It is the largest provider of manufacturing employment in the North East, accounting for 34% of the manufacturing workforce and 30% of manufacturing firms. The region's share in the UK's mechanical engineering manufacturing is based on its history as a major producer of metals and a centre for ship building. These sectors have declined dramatically, as mining has all but disappeared and competition for ship building from the Far East cannot be matched. The region has built on these traditions and moved into new markets. Much of the work is based the metal fabrication that can be used for a number of industries.

A major source of work is the offshore sector, especially ship conversion and repair. It is estimated that this sector employs 10,000 people in its lead firms and 25–35,000 in total (Maffin and Thwaites, 1998). This has been concentrated on the three traditional ship building areas of Tyneside, Sunderland and Teesside. This sector had declined with the falling oil price in the late 1990s but has recently started to grow again. Other areas of concentration in the region include the defence sector and power generation equipment. Steel and metals manufacturing employ 11,000 people although this is declining as the market is becoming saturated and demand from Asia is falling following the economic crisis.

While there is no clear evidence of an 'engineering cluster', engineering firms play a key role as product or service providers for other clusters. In many cases engineering firms in the North East are serving a number of different clusters. This allows them to spread risks, but also limits their ability to build expertise and competitive advantage in particular areas. Those clusters supported by engineering companies include chemical industry, automotives, offshore oil and gas equipment, food manufacturing and defence. The case of the offshore oil and gas equipment cluster was not examined in this study as it has been explored in detail in other studies.

The opportunities in the future are dependent on the state of the varied industries that are supplied. There will be increased competition for low value metal fabrication from East Asia and Eastern Europe. There is potential in the North East for niche products that require highly skilled labour. The nature of the products will change with greater emphasis on wider packages of goods that include through life management and support (Maffin and Thwaites, 1988) as well as training. The present exchange rates and fall in demand from Asian markets will have a detrimental effect in the short term.

In the offshore sector, the oil price will determine the extent of investment in capital equipment. There is a growing demand for lower cost extraction technologies such as Floating Production Storage and Offloading facilities, an area where the North East already has much experience. The oil price has risen since its historic low in early 1999, although whether this can be sustained depends on OPEC agreements. Other trends include an increased emphasis on environmental issues, which open opportunities for the disposal of structures and equipment. The opportunities in the defence sector will be limited especially if the threat to Vickers' tank making plant, following the Rolls Royce take over, leads to closure. Opportunities are likely in precision engineering and plastics mouldings when linked to high tech products.

Types of Linkage and Relationships

Vertical Supplier/Customer Links in the General Engineering Industry

These appear to be the most developed forms of links for the engineering companies. The relationships start as purely commercial and may arise out of meeting at conferences or during sales. At times very close relationships develop though working together, sharing ideas and placing staff in each other's companies. One company stressed the importance of having 'multifaceted partnership at all levels and functions' rather than close relationships at the managing director level only. A common form of linkage comes from ties people have after working together in previous jobs, especially those who had worked in large companies. Finally, one firm has asked the managing director of its supplier to be a director of their company. In this way they can share information and work closely together.

Horizontal Formal Collaboration in the General Engineering Industry

There were few cases of formal collaboration between companies that were not buying from or selling to each other. There was one case of close links to a university but this was in its early stages. The only other case was the Derwentside Engineering Forum.

Horizontal informal links in the general engineering industry

Informal links between companies also appear relatively minor compared to other industries. There are some referrals to complementary companies when they know each other, often because of the movement of people between firms.

Formal Associations

Few of the companies referred to associations that linked them to other firms. There are organisations such as ASSA for automotive training and Regional Technology Centre for seminars on innovation and new product development. None of the companies interviewed were taking an active position in these organisations.

Supplier/Customer Trust in the General Engineering Industry (personal)

	Outcome	Basis of trust
New product development	Customer lends us equipment Close relationship with customers' R & D dept. Suppliers on our site Die cast designers help us design Customers give us ideas for new products	Meet at sales seminars, visit each other, Multifaceted partnership at all levels / functions Their MD is one of our directors. Have good relationship and each has margins
Getting Finance	Customer pays in advance	Customer in Malaysia trusts us

	Outcome	Basis of trust
Getting and keeping business	Get more work from customers Suppliers recommend us	Help them bring ideas to production quickly Come up with ideas to deal with their problems Co location at our customers Help them with R and D Manager used to work for them, knows directors Have a good working relationship
Providing products and services	Tool maker does not let us down Suppliers deliver when and how much we want Steel supplier gives good prices and deliver soon Supplier on site in case of break down Can call out supplier at all hours Do not pay supplier for materials until used Resolve problems for sub-contractors Customer takes delivery if our stores are full Customer helps us solve quality problems Get jobs started and finished without hassle Joint purchasing with customer	MD served time with him at Flymo They know it would hurt if they lost us Organic development of close personal relations Use them a lot and have good personal relations Good relations with stores people Lots of trust both ways. Served time with 2 Set up by Nissan and its suppliers to reduce costs
Training and recruitment	University	Place people on course and have student placements

Other Firms in the General Engineering Industry – Institutional Trust

	Outcome	Basis of trust
New product development	Universities for designing and joint projects	
Getting Finance	Local grouping to get European funding	
Getting and keeping business		
Providing products and services	Purchasing cluster with local firms Joint ventures	Funding for someone to work full time Customer demanded it but a disaster

	Outcome	Basis of trust
Training and recruitment	Local grouping does training needs analysis Promote engineering in schools Work with colleges to increase enrolment Joint training programmes	Funding for someone to work full time. Key player was man in the council Met through EEF

Other Firms in the General Engineering Industry – Personal Trust

	Outcome	Basis of trust
Getting and keeping business	Share information on prices Refer work to complementary company Do work when they have spill over	Member of cluster group Tried them and found them OK to work with Consultant to the firm links companies People move between companies; people know people
Providing products and services	Help us improve quality and get ISO9001	MD used to work with them at Flymo
Training and recruiting	Talk about recruitment with personnel manager Influence research at national institute Influence training at University centres	Introduced by a friend of mine who used to work with him in Germany. Went out for a beer Member of board Training manger linked into this through ASSA
General networking	Advise each other People who left Flymo, still around here and we can fall back on them if we have a problem	Member of cluster group

Intermediaries, Associations and Trust in the General Engineering Industry

	Outcome	Basis of trust
New product development	Get ideas for new businesses RCID RTC seminars	
Providing products and services	Meet competitors and suppliers to talk about common problems Help for export paperwork	
Training and recruitment	ASSA for training	Founding company drove it and Nissan Facilitated it
Lobbying	EEF	

	Outcome	Basis of trust
General networking	Meet competitors	

Conclusions and Emerging Issues

Using Personalised Trust

Trust based on interpersonal relationships is found through all parts of societal activity and in particular in business. It is drawn on by people when they require confidence in others at a time when there is risk of the other person acting opportunistically. It can be found in relations that share information, help others generate ideas, borrow money, assemble the resources needed to make a product or deliver a service and in encouraging others to buy and sell products. It is particularly important when people cannot rely on other forms of institutional trust or legal contracts. Trust is found in both horizontal and vertical relations, although Nooteboom (1999) states that vertical alliances are more likely to be successful as they do not involve direct competitors. However, suppliers may not be able to match the level of complementary knowledge and experience found amongst competitors and non-competing but similar firms. If there are major differences in common understandings and values, then it would be expected that the reciprocal sharing of ideas and hence the process of collaborative innovation would be limited.

Blundel and Smith (2001) view entrepreneurs as more proactive networkers with a continual emphasis on developing new networks and what Ramachandran and Ramnaryan (1993) refer to as a broader 'latent network', parts of which can be activated when required. Lyon and Atherton (2001) found that these latent networks are found in almost all firms, often arising out of serendipity rather than conscious networking activities. These links are a safety net or a 'bank of goodwill' that can be drawn on when needed. They may not be used for many years, but are valued as people know they can use them when needed. One bioscience company described the benefits of these links:

We have links to other academic networks.... We can ask them to peer review our work or get information on future trends ... it all reduces the risk we face. It is all informal and when it's a friendly basis we can post them a query and they will pass it on. It is also good when we have meetings as we can get the big names to come along – you know like the Nobel Laureats, so that is good publicity. I think that xxxx acquired us because we had the network and they could tap into it quickly

One firm interviewed doing engineering work in rural areas found that the ability to maintain these networks was very difficult during a crisis:

during foot and mouth crisis we lost lots of networking things... they went off the boil. Only now are they beginning to come back to us.

As mentioned earlier there is some debate in the academic literature concerning the extent to which trust is based on calculations or on habitual action. The empirical material suggests that on each occasion where trust is drawn on there is an element of both. Entrepreneurs were found to assess the risk of cooperating by assembling information on other people and knowing what sanctions can be used in case the other party acts opportunistically. In this way, many of the cases of cooperation identified could be seen to be a conscious calculation. However, careful analysis of interview material shows that in many cases the decision to trust is not a simple calculation. Two key aspects of the decision to trust or not to trust are firstly the habitual (non-consciously calculated) decisions, and, secondly, the reliance on assumed norms of behaviour.

Many of those interviewed suggested that the actual decision to trust another person is not such a calculation, but can also be a 'gut feeling': "You get a sense of who you can trust" or "it's an instant thing". Several of the interviewees found it hard to articulate how they knew they could trust others as they had not thought about it or made a calculation. In this way the relationship can be seen to have been built up through habitual action that allows each side to assume away much of the risk and act on instinct. Without such implicit behaviour, individuals would find decision making too cumbersome as calculations become more and more complex.

In many cases people act on an instinct, frequently linked to socialising together:

We have one project with another company and for this we have joint IPR. I think we hold the patents here. There is lots of trust in all of this because you cannot operate unless there is trust. [How do you know?] I don't know, you just know. A few pints down the pub and you know

The importance of face to face meetings was mentioned by five of the interviewees:

We've had a strong link for several years. We know we can trust them and they can trust us...Its is through face to face and personally knowing them ... you get a feeling for a person.

In many cases it is impossible to get information needed and so the only way cooperation can be established is through a gut feeling:

You have to trust them. After the first meeting you get an idea about them – you can't prove that they don't have an open line to our competitors

The issue of trust may not have been considered explicitly by the entrepreneur and evidence from the interviews that they were acting on habit rather than calculation can only be found by analysis of the pauses in conversations, laughing at questions, and comments such as 'I hadn't really thought about that' or "I suppose...".

Sanctions

The extent to which these relationships are based on trust or coercion is not clear. Bachmann (2001) found that the distinction between trust and control is difficult to distinguish but he suggests that UK firms are more confrontational than German firms, with greater levels of distrust, and so reliant on personalised relationships or control. As building personal trust takes time, he suggests that UK firms are more likely to have relationships based on control. The empirical material in this study suggests that this dichotomy between control and trust is too crude, as in most cases trust is based on both information on the other parties and sanctions that can be used to exert control. Power relations are also evident when examining the sanctions that are faced by those who break trust. Sanctions may include losing future benefit of trading and collaboration or other pressure exerted through reference to a third party or through peer pressure (from work colleagues, families or friends).

The sanctions are rarely evenly distributed between partners. The more powerful tend to be those with less to lose if the collaboration ends, those who can use external authority more effectively, and those who can mobilise peer pressure. (The use of threats of violence was not found in this study although it is reported in many studies of the 'informal sector'). Pressure on collaborators can also be exerted through complaining to a counterpart's supervisor:

We bid together with another company for a large contract and got the job. Things were going a bit off course so we complained about their project manager and he has been heaved ho – he was a likeable guy, but we do our bit and they do theirs.

The ability to exert power can be done explicitly or more subtly through showing the other party that they are being monitored:

We do this inspection work and we have another company that does the inspection, while we do the analysis. [How do you know they are doing the work?] We go along and do an informal audit, Our site engineer goes along and reports back what is going on.

Within a company, power can also be exerted through monitoring. For example, one owner/manager described how he has set up a system that monitors the income brought in by each consultant, and he can use this to put pressure on those who are not performing. Similarly, workers in production are given targets to reach.

Demanding that there is a legal contract or confidentiality contract is another way of exerting power and is discussed in more detail in the next section. In three cases small businesses felt that larger businesses were pressurising them using these contracts. In one case the firm found ways to resist and have a balance of power:

We started without a confidentiality agreement, but then there was nervousness of one of their directors so we had an agreement with the provision that we don't tell others about xxxx's marketing plans. They are now trying a new agreement and they want to have the intellectual property, but I have said they would have to buy us out, anyway they cannot do it without us as we have the know-how. I think there is a mentality that they are a big company and can do anything they want, but I feel quite safe.

Norms

Norms shape economic behaviour by allowing people to act through habit (without calculation each time) and also shape the acceptable means of building relationships and the acceptable sanctions that can be used. The most common norm referred to is that of reciprocity, whereby each party assumes that the other will return a favour such as sharing information, helping out, or making referrals. Cox et al (1999) describe a type of reciprocal arrangement in a study of the food manufacturing system in UK. Small food companies have close relationships with larger firms as they benefit from access to specialised knowledge, while the larger company benefits from having flexibility while working with small independent companies. Reciprocal relationships are also evident in intra-firm relationships with one manager stating:

it is down to trust. I can add to their responsibilities and then hope that they stay. It is inevitable that some will leave but I hope that they will remember when they do and then....

Norms also shape how people build up friendships and personalised relationships. These differ between sectors with the amount of socialising appearing to be greater amongst the engineering firms. Those building relationships with firms outside Europe and north America reported that the amount of socialising was much greater in these countries. There are common types of activities used to build trust that are based on norms of friendship. In many cases respondents referred to 'having a few beers together', and other forms of socialising that can show that "we get on well, and are on the same wavelength". Norms also shape what is considered to be appropriate gifts or enticements. If too much is given then this can raise suspicion and, when working in other cultures, businesses ensure that anyone new to the country visits it with what interviewee referred to as an 'old hander'.

Interviewees were found to have a clear idea of what is considered acceptable behaviour for their industry. Some referred to the term 'business ethics' such as not stealing from customers, and others used terms such as "keeping to the spirit of the agreement", "knowing how to play the game" and "being as good as our word". However, there are considerable differences within industries, and firms need to know which firms are going to follow the expected norms. One firm pulled out of a joint venture because they could not guarantee this:

We haven't pursued it ...when you have a joint venture, you feel that is not under your control... its not friction but it is contentious as each company has its own philosophy. We learnt the hard way.

Knowing the attitude of other players is important information in building collaborations and comes from working together, existing relationships and through intermediaries, known to both parties. These are discussed in the next section.

Building personalised trust

Working relationships

Trust in working relationships usually starts with exposure to low risk activities (Dei Ottati, 1994) and builds up with use. One interviewee stated: "it is though trial error and the relationship comes through time" while others commented "we learnt to trust each other" and "we had worked together before". Through working together and repeated interaction, individuals and groups can build up what Granovetter (1994: 463) refers to as a "cognitive hook which actors may hold onto in order to construct trust relations at a higher intensity than with those outside the category". These working relationships frequently involve socialising and the blurring of people's work and non-work relationships. Similar examples were found by Shaw (1998).

The most frequent form of building relationships is through repeated sales over time. This allows each party to judge the capability of the other. Eight of the case study firms (predominantly in engineering services) were also entertaining customers with whom they were also collaborating for innovation. One firm referred to this as 'friendly customers' who help with R and D. They may not be the largest customers but they help the supplying company to improve its product. In return these 'friendly customers' can get better terms and conditions or access to specialist equipment. The engineering firms were found to be more reliant on entertaining customers and suppliers as a way of building up trust

The process of building relationships is something that can be learnt over time and with experience. For example, one firm was supported by a public sector initiative to form a joint venture. While this exercise did not work, the firm felt that they had learnt valuable lessons:

The cluster did not work as these things cannot be pushed but the experience gained of negotiating allowed us to collaborate more in the future. For example now we have just put in a joint bid for £1 million and we would never have been able to do that before."

Working together allows each party to see how the other party operates and to collect information on each other. It is also the start of reciprocal behaviour and respect for the other party. Within firms this is evident with trust growing as people are given more responsibility:

We have a low turnover of staff: [How have you managed that?] I suppose I am nice (laughs) but really they are large fish in a small pond, its about empowerment and letting them take responsibility. I have to trust them a huge amount to make decisions... I am out of the office for 3 days a week. It is born out of necessity

In building inter-organisational relationships, showing respect was mentioned by many of the interviewees, with one interviewee stating "personality match is important but flattery works wonders and opens lots of doors".

In larger firms, relationships are not just confined to the owner/manager but are found at multiple levels. For example an engineering firm has collaboration with a supplier for its research and development and encourages the individuals responsible to work together with some of the supplier's staff being based on the customer's site. This reduces the risk of losing the linkage when someone dies, when people are made redundant or when a key player leaves.

Existing Relationships

Many entrepreneurs rely on existing relationships of trust that they can draw on. Cromie and Birley (1992) refer to the importance of friends amongst female business owners in Northern Ireland, and Abell et al (2001) show that people with self employed friends are more likely to be self employed themselves. Trust based on existing relationships can be easier as information on the other party is already available and there is also the ability to use a common community (family, friends or industry colleagues) to exert peer pressure and shame if the other party does not live up to expectations.

The role of existing personal relationships is most obvious in the literature on family businesses, with family members working together because of the trust they have in each other. While family links allow each party to be confident of the other party's actions, working with families can also run the risk of trust being broken down. For example one interview that co-owns his business with his brother stated:

Working with your family means you can go slack at times and then work until ten another and they understand. We can also argue and fall out than then get back together easily. If I was in this business with a [business] partner, then we would have fallen out long ago.

The ethnically defined networks are particularly important for starting up although in places where these networks are very strong they have the constraint of reducing the ability of members to make links elsewhere.

Businesses were found to rely on relationships built during previous collaborations or when working for other firms. In this regard the high degree of job 'churning' in high technology industries widens the opportunities of collaborative working (Keeble and Wilkinson, 1999). Many of the interviewees involved in R and D had previously done 'post doc' research in universities and consequently had strong ties to the other researchers with whom they had shared a lab. One interviewee stated that a successful bioscience business has staff which can bridge the cultural divide between academia and commerce.

Other individuals were used to find innovative forms of finance:

xxxx has just started working with us He has links into finance from technology friendly people in the south. You can only get to know these through people like him ... they tend to be people who have set up their own technology company which has been sold and they are looking for other things to invest in – you would not get to know them because you went to school with their son, or other routes like that.

The quote above demonstrates the importance of building linkages to groups that might be outside of the person's own close network; building what Woolcock (1998) refers to as bridging social capital, rather than the introspective relationships of families and local communities.

Each firm was found to be knowledgeable about similar firms in their industry, with those using specialist skills and knowledge, referring to 'incestuous networks' with each staff member having their own network. These networks are important for sharing industry gossip and information about experiences of working with particular individuals:

It is common knowledge that that company is difficult to work with ... inside information is there but only of interest to people like us... [that town] is the centre and it is a small village. Most people in the industry have worked in three or four companies and there is a big social element – people know each other

Unless you are known as a firm that honours confidentiality agreements you won't do business again; that is a sufficient sanction. [How do you know who you can go

to?] Word of mouth...we get lots of business through word of mouth...we get to know who has the right skills and trustworthiness similarly. It is just by being around, I guess. [How did you build up this network?] Just by being around, [pause] I think

The last quote demonstrates again the tacit nature of these networking activities, shown by the use of the phrases 'I think' and 'I guess', and the pauses. The entrepreneur draws on these networks and builds them up as his everyday activities and without consciously thinking about it.

Intermediaries

Third parties are the source of trust in two ways. Firstly, an individual can act as a trusted intermediary by two parties that do not know each other. Secondly, this form of trust building can be become formalised by having institutions or organisations that bring people together and act as a monitoring mechanism. Examples of individuals being intermediaries include referrals from third parties and certain individuals who have links across an industry and link people together:

If I want to know something they will know someone who knows, if they do not know. They can act as a confidential broker or clearing house... They are the eyes and ears... [Why is it successful?] ... The director is well known and very knowledgeable and absolutely trustworthy. It is successful because it is also specific .. they have to be industry and technology specific.

The importance of these individuals can grow and decline with the changes in the industry. For example a key player in the bioscience industry in 2000 had become less important three years later as the organisation he was working for had declined and he was not considered to have the necessary contacts. At the same time a man who had set up a US-based training organisation was offering a similar service:

The guy who set up the training and conference company... we knew him when he was in a big company, that was when we started here. He is a trusted and well known person in the industry.... Because of that he is one of the informal networks we are part of ... he won't just recommend anyone because you don't want to recommend anyone who is untrustworthy or incompetent. So there are obligations at both ends and that is why word of mouth is important. When you have worked with someone for long enough you know.

Examples of formal organisations and institutions that act as intermediaries include chambers of commerce and trade associations, both of which are much more influential in Germany. In the UK examples include the City of London, where the structures are the product of many years of established practices (Blundel and Smith, 2001). In the North East, organisations such as the Regional Technology Centre has played this role for some firms and there are sector specific organisations such as Bioscience North that are attempting to build relationships between members. Bachmann (2001) notes the greater strength of German institutional forms of building trust with German businessmen trusting each other as representatives of their organisations while British businessmen rely on trust between individuals.

Institutional Trust

There are a wide range of formal and informal institutions that entrepreneurs can draw on in order to build confidence without having a personalised relationship. The most basic of these is confidence in the legal system that ensures contracts (with banks, venture capital firms and buyers and suppliers) are honored. The institutional forms allow one party to take legal action against another if there is late payment. Institutional trust is built up through ensuring that those relying on these institutions perceive them to be trustworthy. There is now growing pressure

from a wider range of stakeholders wanting businesses and professionals to be more accountable. The legal and political systems are the basis of much of this with the assumption that those breaking the norms will be sanctioned or punished.

The late payment of bills is a common form of ensuring a firm retains working capital, although this can have a detrimental effect on those waiting to be paid. There is legislation stating that bills should be paid within thirty days, although as one firm stated:

People don't just do thirty days, some pay after sixty days and we only call it a bad debt after ninety days. [What can you do after sixty days?] We have got friendly relations with these people, so we can go and 'hey Jim...' It is down to the sales team really. They have to build up relationships and that can take time. It takes six to nine months to lay the foundations. We also have a system of revolving credit and so say they cannot have any more products until they pay. What we sell is a maintenance product and they have contracts so they need the product to keep going.

While broken contracts and breaches of trust are commonly reported, there is a level of confidence in the legal system that allows people to continue using legal contracts, although, as the quote above shows, in many cases institutional trust needs to be backed up by personal trust as well. This was found in almost all cases where institutional trust was relied on, the exception being those contracts that were for standardized, branded and homogenous goods. Many of the interviewees felt that legally binding contracts were not much use and so rely on less formalized agreements:

We had a memorandum of understanding. We do not go down the route of strongly binding contracts... if there is no trust then someone will find a way to get out what ever you do... for us the recourse to law is in the last resort...if you reach that stage then the initiative has completely broken down. We had a client in the US and had to delay delivery. This firm reached for their lawyers and although we were in the right, we decided to negotiate our way out.

Several of the interviewees reported that larger firms tended to be more likely to demand formal agreements. On the one hand, this is due to their greater power and their ability to afford the costs of a court case. However, it is also related for the need for junior staff to cover their responsibilities. One small engineering firm was starting a joint venture:

It's all down to trust again. You can write all the contracts you want ... it just makes lawyers rich. At the end of the day small firms like ourselves can't afford to go to court – it's too expensive – if you get to that level you have lost it anyway. For each project agreed, we will have working principles – one will be the prime leader and the other will behave and act as a sub-contractor. There will be a letter of agreement signed by us saying this is the rules of the game basically – it is as simple as that.

The quote above points to the importance of institutional trust being backed up by norms of behaviour in the industry (the rules of the game). Similarly, a bioscience firm had a number of confidentiality agreements, but, when asked how they can enforce it, they stated:

They are very difficult to enforce. The contract is there to say this is how we want to play the game. It is impossible to enforce especially if they talk in their canteen or whatever.

When working with foreign companies, the types of agreements may change and the physical and cultural difference may result in firms relying more on institutional forms of trust. Where entrepreneurs do not trust the institutional forms in a country they find ways to use intermediaries that can have contracts under British law or demand that the foreign company pays in ad-

vance for any services (this requires considerable personalized trust on behalf of the foreign firm (Mill 1 and 3).

For research and development collaborations between firms, the use of confidentiality agreements is commonplace, and some firms ask their staff to sign similar agreements, often with a clause stating that the person cannot work for any competitors for a set amount of time after leaving. There are other contracts between firms and universities for research work and for funding of PhDs, with confidentiality contracts drawn up, although in many cases these were found to be dependent on the existing personal relationships that have been established before. As one scientific research manager stated:

we have a confidentiality contract and also have a certain level of trust. I would not set up research with someone I have not known for a long time. For example, in X, I've known the professor for donkey's years and if I had to go through someone else I did not know, for example going through one of these dating services, I would not sign over anything until I knew where the ground lies, whereas I would go through a mutual acquaintance. I want to know they've done work before, so knowing the people already, like me having worked at X, it smoothes things over and it makes introductions easier.

The difficulties in enforcing contracts were also found to restrict the use of patents. A small firm had looked at taking out patents but had decided against it because of the cost and the ease with which other firms can copy the design, make minor changes and then take out a patent themselves. In fact the process of taking a patent out requires the firm to provide sensitive information that makes copying the product easier. The entrepreneur in question decided that it was better to rely on keeping the specialist know-how himself as the best precaution.

Institutional trust can also include the confidence in the competence of others based on assurance of quality. Examples include the banding of products with prosecution of counterfeiters, governmental control of quality of a products (such as food), education systems that allow confidence in the level of skill of others, professional codes that define professional responsibilities, and the work of accountants who undertake auditing to ensure company accounts can be trusted. In many cases these forms of institutional trust are backed by intermediaries or associations. The importance of institutional trust increases when the number of people involved is too big for personalized trust and, in this case, there are examples that show how personalized trust can evolve into insitutionalised trust. The role of standards would be to help customers know they were getting quality work, although they are hard to enforce. One small firm stated that one of its customers (a large multinational company) had its own set of standards that it used to ensure quality. In this case, the power relations were severely imbalanced against the smaller firm. Standards and codes of conduct can also be found in many firms, supporting a form of institutionalised trust between employees. A firm that had grown rapidly found that it had to enforce a set of reporting standards to help communications between groups and between the branches and the head offices in Europe and US. These forms of institutions are also ways of monitoring employees and exerting power over them.

Bachman (2001) compares the UK to Germany and suggests that personal trust is more important in the UK, as there is less institutional trust due to the type of legal system and the lack of trade associations that can monitor and influence business behaviour. He also goes on to state that UK businesses find it easier to build personal relationships with business partners from other countries because of their experience of building personalised trust relations. However, the empirical research from which these conclusions are drawn is not provided.

In many cases individuals assume that institutions act in their interest, and they trust the regulator. However, in the UK there is less of a regulated system than in Germany, and so less of this form of trust (Bachmann, 2001). As shown with the use of personalised trust, there is an element of both calculation and habitual action, because in the complex world we live in we have

to assume away many risks we could face in order to get on with our lives. These forms of assumed institutional trust could be very important in helping to build personalised trust. For example, the use of credit ratings for individuals or firms, or the use of standard qualifications for staff, means that some risks can be assumed away, and more attention can be put on collecting other forms of information and a greater intensity of cooperation can be established in a shorter time.

However, there has been a growing rise in suspicion and high profile cases of both private sector (Enron, Worldcom) and public sector breach of trust. O'Neil (2002) points out that it is the rise in the complexity of institutions, there to ensure others can be trusted, that has led to the rise in the perception of risk and the rise in suspicion. This has been supported by the role of the UK media, which searches out examples of break down of trust.

To ensure accountability there is a growing demand for provision of information, self reporting and auditing to aid transparency. With the internet and other technologies more information is available than ever, and O'Neil suggests this has led to a loss of trust rather than making organisations less trustworthy. The main means of ensuring transparency is through the media, although in surveys of the trustworthiness of different professions, journalists are placed at the bottom. The means by which transparency is delivered is changing with the growth of CCTV, monitoring the internet, etc. Power relations are important here, as they shape what information is available and what sanctions can be imposed.

Conclusions

This final section summarises the findings of the UK research team with respect to a number of key questions identified by the Project Leader:

Has trust been confirmed as a crucial element of entrepreneurial behaviour that could clearly be identified?

Evidence has been gathered through the empirical investigation in the NE of England which shows how trust can influence forms of entrepreneurial behaviour, although we are unable to say whether or not it is a crucial element, because such an assessment was not explicitly incorporated into the methodology. To achieve this requires: firstly, an identification of those types of entrepreneurial behaviour that are potentially trust-related; secondly, an assessment of the extent to which they are trust-based, and, thirdly, an assessment of the contribution of these strategies in contributing to (a) the firm's competitiveness and (b) the entrepreneur's ability to achieve the objectives he set for the firm.

Was it possible to discern different types of trust (personal, collective, institutional) analytically?

The empirical work in NE England demonstrated the role of personal trust in relation to the sharing of information, helping others to generate ideas and assembling resources, using network links (that are sometimes latent and/or used intermittently) to these ends. The results suggest that personal trust is typically based on an element of both calculation and habitual action, influenced by assumed norms of behaviour. It is also important to consider the role of possible sanctions. For example, the risks of co-operation can be assessed by entrepreneurs by assembling information on partners and identifying possible sanctions

The level of trust in formal institutions is certainly discernible, provided the right questions are asked. Empirical work in NE England suggested that trust in formal institutions such as Chambers of Commerce appears less important in a UK context than trust between individuals. Although broken contracts and breaches of trust were commonly reported, there is sufficient confidence in the legal system for contracts to continue to be used.

In general, institutional trust needs to be backed up by personal trust, except where contracts involve standardised goods. Institutional trust can include confidence in the competence of others to assure quality, although for small firms, customers may be the main assurer rather than an institution or other external body.

One issue that could be more systematically investigated is the experience and 'trust' that exporters have in foreign institutions. Evidence from NE England suggests that where entrepreneurs lack trust in foreign institutions, they either find intermediaries that can have contracts under English law or demand payment in advance.

Overall, evidence from NE England suggests that many inter-firm relationships involve a combination of institutional and personal trust. Similarly, the use of personalised trust typically involves an element of calculation and habitual action, partly because some sources of risk may need to be assumed away (i.e. assumed institutional trust).

Are there indications that the level of trust and its impacts on enterprise behaviour can be measured quantitatively?

Specified forms of enterprise behaviour and entrepreneurial actions can be measured quantitatively, but assessing the role of trust in explaining them requires process-oriented qualitative insights.

Is it possible to discern regions or sectors according to their level of trust?

The regional milieu is an important influence on the development of trust-based relationships because these depend on the experience of key actors, which are historically embedded. It interacts with the sector context, not least through the effect of the nature of the relationships that firms develop, which in turn are linked to the role of a region in a wider spatial division of labour

Sector can be an important contextual influence on the nature and extent of the development of trust-based relationships, influencing the types of entrepreneurial strategies associated with them. It also influences the nature and extent of institutional relationships (both formal and informal) and behavioural norms e.g. with respect to payments terms and the use of written agreements. The empirical work in NE England shows considerable sectoral variation in the level of involvement of firms in sector-based associations and organisations, which are one of mechanisms for developing trust-based relationships.

It might also be noted that it is well established in the literature on small firms, that the trust which owners/managers (of manufacturing firms particularly) have in external advisers/consultants is often dependent on their ability to demonstrate sector knowledge. This partly reflects what some describe as 'competence trust', but also a greater ability to communicate with people who may have little formal management training, but considerable experience and (tacit) knowledge of their sector e.g. in terms of demand, customer needs and processes.

Is it possible to identify the interdependencies between the role of trust and other factors (constraints) influencing enterprise behaviour?

It is possible to identify such interdependencies, but only as part of a process-oriented investigation focusing on how trust is built. The empirical work in NE England suggests that personal trust in working relationships typically develops through trial and error and people *learning* to trust each other. Mutual respect is necessary for personal trust to develop.

Although, overall, there is a lack of clear distinction between work- and non-work personal relationships, in terms of business-based relationships, repeated sales over time is a common theme. Much of this is focused on individuals and personal trust, although we might think about distinguishing the development of 'organisational' trust over time, based on experience, which may be sustainable even if personal links are broken.

In developing co-operation, many entrepreneurs draw on existing trust relationships, because information is readily available and there is often an opportunity to use a common community for peer pressure. Results from NE England included relationships built on previous collaborations or when individuals were working for other firms. Third party intermediaries can also be source of trust e.g. by bringing people together, monitoring or being trusted by other parties

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