

Small Firms, Social Capital and the Enhancement of Business Performance Through Innovation Programmes

Philip Cooke
David Wills

ABSTRACT. The paper explores the extent to which social capital is advantageous to small and medium enterprise (SME) growth. Social capital is a communal property involving civic engagement, associational membership, high trust, reliability and reciprocity in social networks. It is capable of being identified in social, political and economic contexts, often associated with strong communities. However, not all strong communities exert the effects of social capital in respect of business activities. This paper assesses government programmes to promote collaboration amongst SMEs for improving innovation capacity by increasing social capital through networking. It shows that, for a sizeable proportion of programme-funded firms in Denmark, Ireland and Wales (U.K.) social capital building was associated with enhanced business, knowledge and innovation performance. Of particular importance was the opportunity afforded to firms for linkage with external innovation networks, and the build-up of embeddedness, or the institutional basis for the enhancement of social capital. As a consequence of discovering the advantages of social capital, over a third of respondents planned to continue to develop it in future, in many cases funding such activities privately rather than calling on the public purse.

Introduction

In this paper we will explore the important questions of whether social capital is important to innovation by SMEs, whether policies that encourage it are effective and whether policy-makers should assimilate its central messages in their design of policy tools to promote business innovation and economic prosperity more broadly (Fountain, 1998). These are perhaps daunting issues to tackle since, the critic will have observed,

they are built upon rather fundamental assumptions. These go back to the dawning of modern philosophy and questions of whether “man” is an individualistic or social animal, whether economic practices are more effective when based on essentially competitive or cooperative norms, and the role of trust in social relations: how do we know it will be reciprocated other than by legal contract? While not promising to answer such questions fully, we nevertheless believe that the literature we shall review in concert with the research we shall report sheds some light on the importance of social capital to innovation.

The content of the last statement may by now be a truism since contemporary conventional wisdom regarding the innovation process is that it is, broadly, an interactive process rather than linear and technology-push driven (Edquist, 1997). Interactive here means social, in the sense that scientists, technologists, marketing personnel, designers and end-users are likely to be involved in a specific innovation project from different organizational bases, both public (e.g. university or public research lab) and private (e.g. consultancy, specialist producer or design house and final innovation consumer firm). Communicating across professional boundaries is a profoundly social, interactive process and one in which great care, attentiveness and patience have to be displayed. These are, perhaps, new skills, that have had to be taught or picked-up through “learning by doing” on the part of professionals hitherto more familiar with the less pronounced dissonances prevailing within an established “corporate culture”. But where they are learned, mobilised and deployed they may, it is frequently argued, offer competitive advantage (NESC, 1996; World Bank, 1997; Branscomb and Keller, 1998).

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*Centre for Advanced Studies
University of Wales, Cardiff
33 Corbett Road
Cardiff, CF1 3EB
Wales, UK*



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In what follows we will first trace out the salient points regarding what, in conceptual terms, *social capital* is, prior to elaborating a mode of analysis of real-world events and processes which operationalises social capital for the study of, specifically, enterprise support measures for innovation in SMEs. In concrete terms this apparatus will be applied to the research results of a U.K. Economic and Social Research Council research project conducted by the authors from 1996 to 1998 and entitled "*Comparative Performance of SMEs in European Framework and Domestic Network Programmes*". The research, based in Denmark, Ireland and Wales (U.K.) sought to establish whether public programmes that aimed to build up inter-firm social capital through encouraging "networking" amongst firms and other agencies were successful in meeting firm and programme goals.

However, networking for innovation purposes involves a great deal of tacit knowledge-exchange, which the literature virtually unanimously says is necessarily conducted in physical proximity rather than at a distance (Dosi, 1988; Spender, 1996; Leonard and Sensiper, 1998). The latter is feasible for codified knowledge exchange, hence we decided to test for SME preferences for both domestic or foreign networking. Of course the firms involved were successful programme-entrants, meaning they received funding to enable meetings to take place with foreign partners, so face-to-face interaction (albeit temporary and occasional) was not ruled out even for foreign partnerships. In any case, while discovering the importance of propinquity was a research aim, a higher-ranking one was whether, having engaged in social capital formation of the kind described, SMEs saw it as advantageous to their business performance and, within that, their innovation practices or not, by comparison with their previous, more individualistic state.

Methods

Firms were first identified by their involvement in European Union Science and Technology programmes (the so-called "Framework Programmes" Nos. 3 and 4, 1989–93 and 1994–98), something that is rather uncommon but not unknown for SMEs; also in specialist technology programmes

like Cooperative Research Action for Technology (CRAFT) and the Strategic Programme for Innovation and Technology Transfer (SPRINT) more directed towards SMEs and cooperation. The "Framework" programmes were established by the EU under pressure from large, European multinationals. For their earlier periods large firms were the pre-eminent recipients of science and technology funding, but more recently efforts have been made also to allow SMEs in as partners (Grande and Peschke, 1997).

A lengthy questionnaire was drawn up to probe matched-triplets of SMEs on types of programmes engaged in, reasons for interest in collaboration, initiator of the action, rôle in the programmes, business performance in relation to goals and preferences, and plans regarding future formal or informal inter-firm collaboration. An EU database (CORDIS) was accessed and identified 54 SMEs in Denmark, 56 in Ireland, and 43 in Wales as successful participants in Framework Programmes 3, 4 and the specialist EU innovation programmes. In piloting the postal survey five firms in each country were also asked questions about their engagement in innovation (product, process and organizational) programmes of domestic origin like the Danish *Networking Programme*, the Irish *National Linkage Programme*, and the Welsh Development Agency's *Supplier Development Programme*, all of which have co-operative intent, though more in relation to organizational than product innovation.

This was a risk for while experience and the literature strongly suggest that firms active in one kind of enterprise support activity or programme are highly likely to be involved in others, the only way to find out resource-effectively is to ask those involved in the most demanding ones (i.e. the international EU Programmes). SMEs were given a list of known domestic innovation programmes to respond to, some of which, such as the U.K.'s LINK programme involve formal cooperations by SMEs and research organizations. In every case the pilots drew responses confirming that firms involved in EU programmes were also recipients of domestic support from the identified programmes. Again, in the U.K. case, some initiatives like SMART and SPUR, which are aimed at individual firms were relayed to us in the pilot responses as involving firms in informal inter-firm

networking. Where this occurred, data referring to these non-intentionally collaborative initiatives were not excluded from the analysis, though it was by no means a majority of cases anyway. Firms were stringently sifted to ensure only those employing less than 250 workers counted, and only those involved in both EU and domestic schemes. Matching was conducted more easily than expected since the SME population was composed overwhelmingly of engineering firms, approximately 70% per country in IT and electronics, the rest in mechanical engineering. A postal survey of all 153 firms was then conducted, addressed to CEOs or a named executive identified by pre-survey telephoning of target firms. The questionnaire made extensive use of scaling to elicit responses. Moreover, macro-indicators were composed of a number of sub-indicators. Thus, for example, in questioning firms on their ascription of business performance to programme involvement (Table I), firms were presented with a menu of six sub-indicators; turnover, employment, market share, productivity, exports and profit. They were asked to rank each of these on a 1–5 Likert scale. The number of ticks for scales 4 and 5 were then presented as a consolidated average measure of total boxes ticked for that macro-indicator. In Table III respondents were required to tick one only of the five indicator boxes, hence results refer only to responses by each firm to one of the menu of options. No Likert-scaling was deployed. Assiduous follow up by fax and telephone resulted in a 40% (17 firms) response rate from the Wales SMEs, 37% from Denmark (20 firms) and 34% from Ireland (19 firms) and the resulting sample was representative of the identified population in each case. Non-respondents consisted of; ceased trading (11%), refusals (18%), and failed responses (31%). By way of illustration a stylised picture of the firms responding in each country is as follows.

In Denmark the typical firm was founded in 1971, employed 103 persons, 19 of whom were in research and development (R&D). Average turnover was £8 million (\$12.8 million) with sectoral bias towards IT and electronics. While the employee size-range was 4–250 staff, the largest turnover was £65 million (\$104 million). In Ireland, the typical firm was younger, having been established in 1985, employed 30, of whom 6 were

in R&D. Average turnover was £1.54 million (\$2.46 million), sectoral bias towards IT, firm-size range was 2–250 with £175 million (\$280 million) being the highest turnover. Finally, in Wales, 1989 was the typical establishment date for the firm, 33 employees with 5 in R&D were averages and mean turnover was £4.5 million (\$7.2 million). A majority of SMEs were in IT and electronics, staff sizes ranged from 2 to 100 and maximum turnover was £40 million (\$64.0 million). Thus, in brief, SMEs sampled in Denmark were generally older and larger in employment (including R&D) terms than those in Ireland and Wales, but although average turnover in Ireland was lowest, maximum turnover was highest. In each country, firms were typically engaged in a number of EU and domestic innovation programmes.

In what follows, we turn away from the details of the research to discuss and explore the rationale for deploying the concept of social capital in this specific context. Clearly, the research project under discussion was designed to allow such an interpretation to be made, but some space should be devoted to reasoning out what of relevance to an ultimately economically-minded exercise can be provided by exploring what may appear to be a sociologically-derived concept. The answer, it will be shown, lies in the idea of the “social economy” and the perhaps hitherto undervalued contribution of cooperation to the individual business performance (or lack of it) of SMEs.

Social capital and economic development

Social capital as a term was first introduced in modern times by Jane Jacobs (1961), though Woolcock (1998) thanks Putnam (1993) for bringing a book by Hanifan (1920) to his attention for her reference to “social capital . . . tangible assets . . . of . . . good will, fellowship, sympathy and social intercourse among . . . a social unit” (78). Jacobs was much more *moderne* by saying in “*The Life and Death of Great American Cities*” “. . . networks are a city’s irreplaceable social capital. Whenever the capital is lost . . . the income disappears . . . unless new capital is slowly and chancily accumulated” (138). But what is the contemporary view of social capital? Most reviews refer to economist Glenn Loury (1977) who defined it as naturally occurring social relation-

ships to promote or aid the development of valued skills or characteristics. James Coleman (1990) says it is a structural feature of a society facilitating individual actions which are productive, which frankly could include almost anything, while Pierre Bourdieu (1992) says it is group or individual resources accruing from a durable network, institutionalised through mutuality of acquaintance and recognition. These heavily sociological definitions are, it must be said, vague, and operationally unclear.

Loury's work signalled a more individualistic strand of conceptualising social capital, something central also to the more recent work of Burt (1992). Here, social structure and the overtly functionalist usages of Coleman and others make no appearance, but the stress is upon individual capability in the market place. This it is agreed is assisted considerably by the social context attributable to the individual. In this version, social capital begins to parallel "human capital", the content of which is acquired skills, qualifications and capabilities except that in social capital, the assets are less capable of formal certification. Not surprisingly, much of the sociological discovery of social capital has been in relation to explanations of educational performance and attainment. Thus children from nurturing backgrounds whose parents belong to churches and civic associations, give to charity and are generally well-networked are hypothesised and not infrequently demonstrated to reach higher educational attainment than those who are not. Burt's alternative take on this is that individual social mobility is facilitated where "structural holes" appear in social capital and where allegiance to strong ties is weak or absent, creating an opportunity space for individual advancement. This is not a perspective to be taken lightly, for it may have much to offer our understanding of innovation, much of which is incremental and "locked-in" to norms and social conventions, but some of which is radical and more likely to have come through unexpected, possibly accidental routeways. Even so, we would expect such radical innovation to be socially rather than solipsistically formed.

The collective or solidaristic strand of social capital theory is most closely associated with the work of Putnam (1993). In his work on Italian regions he presented a convincing case that

variation in prosperity between regional economies was highly and positively associated with variation in the degree to which strong social capital, civicness and associationism were present or absent. Thus, generally speaking, northern Italian regions had efficient regional governments and a government-society relation in which there were many civic associations, clubs and collective activities, including the organization of cultural events. This active civil society was expressed in pluralistic pressure on government and also in a prosperous, often SME-dominated regional economy based on industrial districts. The south was, at the extreme, completely different. Poverty, corruption, crime and despair with weak and inefficient regional economies, widespread poverty, *mafia* instead of civicism, and corrupt government. Hence, an absence of social capital was, in Putnam's analysis a companion of economic deprivation. This is extremely interesting for students of SME performance since it opens up a new line of theorisation of success against the conventions of the "entrepreneurship" literature which tends to see good performance in terms of individual attributes, including even those of psychological existentialism or outsiderism. This is not to say that entrepreneurs in many societies are not a minority, but in some of Putnam's prosperous northern Italian regions with high social capital they are much less of a minority than elsewhere. If, as the OECD Jobs Survey (1994) predicted, new employment is most likely to come from a growth in SMEs because of larger firms' and bureaucratic downsizing, then we cannot afford to assume that the new firm formation or growth can only be the responsibility of a gifted (or also, in part, socially dysfunctional) minority. If risk and uncertainty are barriers and social capital mitigates them by providing risk-spreading and knowledge enhancing conditions then the sooner we understand how, the better.

With the assistance of recent work by Schuller and Field (1998), Woolcock (1998) and Fountain (1998) we are more clearly able to differentiate social from human capital, analyse at least in a preliminary way key elements of social capital, and consider its relevance to innovation. Let us deal with each of these milestones in turn. We may differentiate human from social capital mainly in the common-sense ways that human beings as

individuals differ from societies as integrated groups of individuals. Thus human capital is usually conceived as an individual's attributes, skills etc. brought to the labour market whereas social capital is not individually owned but is a property of social interactions and networks. Even a highly qualified individual needs others to execute projects and if these are trustworthy, reliable and minded to exchange favours or otherwise cooperate, so much the better. Human capital is a product of rational economic thought and action involving maximising the utility of the individual to a prospective purchaser, social capital is socially shaped and, as a Welsh saying has it: "you can take the boy out of the valleys, but you can't take the valleys out of the boy", often said in reference to the solidaristic tradition of the former coalmining belt. As we have seen, human capital is measured in terms of skills and certification whereas social capital is measured more in terms of numbers, intensity and, perhaps, status of interdependencies, contacts, networks and civic engagement. Finally, Schuller and Field (1998) suggest, human capital is judged by individual income whilst social capital is judged by quality of life.

Moving to key elements of social capital, one of these is "*embeddedness*" (Polanyi, 1944; Granovetter, 1985). The last-named celebratedly argued that embeddedness is determined by specific types of social structure and that for *firms* it is the personal ties and networks of relations between and among firms that differentiates them, explains performance and economic development processes more generally. But Portes (1998) and Woolcock (1998) also note, as earlier did Granovetter (1985) that strong ties can lock firms into a situation of blocked development processes more generally. The more recently cited authors speak of the important corollary to embeddedness, which is "*autonomy*". That is, to develop, firms may need to evolve networks beyond their community, whether that is ethnically or regionally rooted. They may need to borrow larger sums for investment purposes than their networks can lend, or more germanely here, they may need external sources of learning, knowledge and innovation, as Varaldo and Ferrucci (1996) note for the case of Italian industrial districts.

According to Woolcock (1998) these two

master-concepts each have two dimensions. Embeddedness involves *integration* (i.e. community benefits without costs) but also *synergy* (good links, through networks, to governance bodies). Autonomy involves integrity (alternative, e.g. professional, networks) but also *linkage* (to networks outside the community). If we reconsider, hypothetically, the objects of the research underlying this article, SMEs seeking innovation gains through engaging successfully in public innovation programmes might be expected to display low *integration* with other comparable firms in their region or county, but reasonably good *synergy* in terms of success in accessing public programme budgets. They might, further, be hypothesised to display high *integrity* in terms of professional or other associational membership, but low *linkage* in that they are actively seeking connections to networks outside their community. The pursuit of *linkage*, we would argue, is a *sine qua non* of successful SME innovation because of its interactive nature. This is underlined where *integration* is low and *integrity* is inadequate but *synergy* is demonstrably high. Thus public programmes have the effect of releasing *synergy* to enable firms to achieve *linkage*. This, it may be concluded at this point, is how in positive terms social capital may be created by public intervention in support of innovation or other business performance improvement. More generally, it shows how economic development may be encouraged in regions or countries that are economically less favoured.

We can operationalise the four key concepts defining social capital to assess the extent to which the sample contains firms that are strongly or weakly committed to enhancing their commitment to networks of the kind experienced in the programmes. Thus *integration*, referring to their valuation of developing localised embeddedness over supranational, is measurable by the difference in expression of perceived performance gains with domestic over European interactions. *Integrity*, which, it will be recalled, refers to the autonomous development of relationships, including those of a formal and non-formal arm's length exchange kind other than those concerning programme involvement, can be measured by those ascribing low goals achievement from network programme involvement. *Synergy* can be measured in terms of

proportions expressing a strong intention for further involvement in formal public programmes of the kind already engaged in, or comparable to them. And *linkage* can be measured by the difference in strong preferences for future networking as between European and domestic networks of the formal and the informal kind. These results are presented in Table VII.

To return, momentarily, to innovation the views of Fountain (1998) are that innovation is nowadays perceived as increasingly risky for large firms, and it is more frequently pushed towards the supply-chain of SMEs, where innovators rely increasingly on good relationships with government bodies for development funding, standard setting and regulatory sensitivity. This last point means government must develop a modern management capability with more permeable boundaries. Networks are the means to achieving this for both key parties, SMEs and government (Cooke, 1996). Social capital is the origin and expression of successful network interactions. For innovation they are the means of collective learning, something that is enhanced in "learning regions" (Florida, 1995) but which, as we have seen, must not become over-embedded in specific geographical spaces. In her study of the biotechnology industry, and Silicon Valley IT she finds knowledge to be distributed and innovation located in the networks rather than SMEs *per se*.

Finally, to underline the notions that innovation enhances SME competitiveness, that networks are repositories of innovation knowledge for SMEs, and that synergetic social capital can be deployed by public policies to stimulate linkage, can we confidently conclude *ex ante* that economic development is thereby achieved? This is rather heroic until we at least observe the extent to which *linkage*-seeking firms fulfilled growth goals. But we can draw on empirical literature which gives confidence that the question is worth asking. Thus Flora et al. (1997) have been led to propose an "entrepreneurial social infrastructure" to promote economic development and this they define in terms of the presence or creation of social capital in a region. This has three dimensions. The first they term "symbolic diversity" meaning a high degree of institutional openness and permeability or transparency. The second, dealing with resources, is what we would call, using

Woolcock's terminology, high local *synergy*, meaning the presence of organizations like public and private banks or venture funds with local or regional investment commitment, something Crevoisier (1997) calls "proximity capital". And the third key element is quality networks operating in all dimensions. Together these facilitate low-cost or even costless transactions, efficient information channels and exploitable information or "knowledge capital" for innovation.

Once again, it is noticeable that these authors place great stress upon proximity in their analyses. This is primarily because they are thinking developmentally about the prospects that activating social capital by the means we have been discussing may have positive effects in a given governmental area, such as a locality or region. Our work, detailed empirical discussion of which follows, is relevant to this aspiration but, in being firm focused, is more interested in the rôle of social capital, defined in terms of generating or developing network interaction in business improvement whether spatially or non-spatially confined.

SME performance, programmes and local-global networking

Despite the last point in the preceding paragraph we are able to comment to some extent on firm perceptions of the relative value to them of relatively localised versus relatively globalised social capital for innovation through networking. This is because the study was of three small countries, Denmark, Ireland and Wales (as a member of the United Kingdom) all of which are fairly rural and somewhat dominated by a single major urban-industrial agglomeration centred on their capitals of Copenhagen, Dublin and Cardiff. That is not to say that all responding firms are located in or near these cities, but a majority are. Thus we offer some comment on this in passing, not least because these are also the governmental centres of domestic innovation programmes where state-society *synergies* are exerted.

In respect of this paper, the research objectives of particular interest were threefold. The first sought to examine the role of social capital, in the form of SME inter-firm networks for innovation, in influencing competitiveness. Here there was an

attempt to find out whether firms benefited in terms of competitiveness from collaboration with respect to innovation. Competitiveness was here defined in terms of improvements in business, innovation and knowledge-exploitation performance ascribed to networking activity based on the programmes. Second, we sought to ascertain whether they gained more benefit from collaborating domestically or globally within the public innovation support programmes in which they were engaged. The third key objective sought to assess the effects of all programmes, each with collaborative intent, upon firm perceptions of the value of networking whether formally or informally in future. Two further research objectives, more relevant perhaps to a developmentalist agenda were: first, were there convergences or divergences in SME performance perceptions and priorities among the three countries; and second were convergences or divergences related to perception of the superiority of domestic over EU programmes or *vice-versa* as aids to collaborative innovation promotion? We will deal with the first three themes initially, summarising the last two subsequently.

Social capital and SME competitiveness

Firms in each country were asked a battery of questions about improvements in business performance which CEOs (the target respondents) ascribed to involvement in collaborative innovation-promotion programmes of European Union and domestic origin. The range of variables was

extensive and has been condensed into three macro-variables with indications of what these represent in parentheses. Few firms ascribed any decrease in performance to programme-involvement but variation in performance improvement was considerable with some country-specific patterning, as demonstrated in Table I. It is rather striking that few variables yield values referring to more than half of SMEs. This means that a good portion of respondent firms ascribed performance gains to extra-programme effects. On knowledge-exploitation, domestic programmes are twice as beneficial overall as EU programmes, though for Ireland that assessment is reversed. The relatively high valuation by SMEs in Wales of domestic programmes is probably influenced by the perceived popularity of local schemes tailored to meeting individual firm needs but implying greater than anticipated *informal* inter-firm networking (See also, Table V). This is less likely in Denmark where networking programmes have been a pronounced feature of SME industry policy in the 1990s and may reflect better “absorptive capacity” (Cohen and Levinthal, 1989) towards exploiting social capital in network programmes of both kinds.

Reasonably large numbers of SMEs (though still less than half overall) ascribe improvements in product, process and organizational innovation to involvement in collaborative programmes. Irish SMEs clearly find domestic programmes for innovation enhancement significantly inferior to those managed by the EU. This could be a reflection of a lesser focus on innovation than linkage

TABLE I
Percentage of respondent SMEs ascribing performance gains to EU and domestic collaborative innovation promotion programmes (Likert scale 4–5)

Programmes Indicator (%)	European Union			Domestic		
	Denmark (N = 20)	Ireland (N = 19)	Wales (N = 17)	Denmark (N = 20)	Ireland (N = 19)	Wales (N = 17)
<i>Knowledge exploitation</i> (IPR applications and patents)	22	17	13	40	10	50
<i>Innovation</i> (Product, process, organizational)	55	47	40	47	10	62
<i>Business performance</i> (Turnover, employment, market share, productivity exports, profit)	41	52	38	17	30	78

in domestic programmes in Ireland and a thirst for foreign innovation support to meet innovation needs. To some extent the reverse is the case for Welsh SMEs where, as we have seen, domestic promotion is highly reputable, while Danish SMEs favour EU programmes as giving impetus to innovation more than those of domestic origin, but only marginally. Finally, Irish and Danish SMEs ascribe more business performance improvement to EU than domestic schemes while the opposite is the case in Wales. Wales was unquestionably affected by the anti-EU sentiment of successive Tory governments and many respondents commented on a lack of assistance, or low *synergy* with government for EU programmes. Oddly, despite the neo-liberal repertoire of the Thatcher and post-Thatcher Tory governments, the territorial governance offices and agencies in Wales were assiduous in helping innovative SMEs with financial and human capital as part of a broader programme of building an "enterprise culture". Ireland became more outward-looking and EU-minded during the same period and frequently EU aid was seen as comparatively generous. Danish firms clearly also perceived more business value from international than domestic collaboration, a factor recognised by government in the 1980s. Promotion of network approaches to business development by the Danish government was predicated on a fear that Danish SMEs would be uncompetitive faced with the European Single Market which became operational in 1993.

Hence, relatively large proportions of firms

perceive innovation and business performance improvements being ascribable to *synergy* effects expressed through successful participation in competitive public programmes. Clearly the *linkage* given to networks outside the home base is perceived to be advantageous though Wales is an exception here, suggesting that antipathy to EU *linkage* programmes by government but strength in *integration* and government *synergy* domestically, had the effect of reinforcing "embeddedness" at the expense of developing "autonomy" amongst Welsh SMEs. Almost exactly the reverse could be said of SMEs in Ireland who rated domestic programmes low and the value of collaboration in EU programmes high. Danish firms favour EU programmes for enhancing innovation and business performance but domestic for knowledge-exploitation. We could say that the Irish position looks the stronger as a *developmental* strategy and the Welsh the weakest with Denmark in-between but undoubtedly starting from a higher initial position (using GDP measures).

Programme effectiveness in aiding innovation

It is worth noting that, when asked their main rationale or priorities for seeking engagement in public enterprise support programmes for enhancing innovation through collaboration, the main motivation was not to improve innovation but to grow the business or, in Ireland, enhance skills in the firm. As may be seen from Table II

TABLE II
Percentage of firms ranking priorities for programme involvement

Programmes	European Union			Domestic		
	Denmark (N = 20)	Ireland (N = 19)	Wales (N = 17)	Denmark (N = 20)	Ireland (N = 19)	Wales (N = 17)
Rationale						
	(% ranking indicator "primary objective")					
Innovation	31	40	40	57	35	38
Services access	20	39	27	29	40	23
R&D	31	46	53	19	34	41
Markets	19	28	20	24	17	17
Finance	29	41	41	27	12	41
Skills	30	68	37	50	65	50
Business growth	35	60	60	54	48	69

Source: SME Innovation Network Survey, 1997–98.

which provides data on the proportion of respondents ranking seven indicators (each containing 3–7 sub-indicators) as a “primary objective” for programme involvement, Danish SMEs engaging in domestic innovation support schemes are the only ones motivated more (marginally) by innovation than business growth or skills. Welsh SMEs clearly perceive business growth as a strong motivator for involvement in both kinds of programmes, no doubt echoing the youthfulness and small average size of the SMEs concerned (mean set-up date 1989; mean establishment size 33 employees). They are also clearly motivated to access R&D from partners in programmes, discernibly more so than their comparators but not where the ‘innovation’ indicator is concerned. Skills development is more a domestic programme motivation in the case of Welsh SMEs. Danish firms have relatively modest motivations on all indicators, though less so for some benefits from domestic programmes, notably innovation, business growth and skills. R&D gains are anticipated more from EU than domestic schemes with markets and finance being ranked very highly by relatively few Danish SMEs. Irish SMEs have, predictably, higher expectations of EU than domestic programmes but rank skills as the greatest motivation for involvement in both. The high valuation of human capital may suggest Irish SMEs suffer from labour market competition from larger inward investors in IT and electronics. In general, of course, secondary ranking of innovation and skills (means to the end of business growth) is also consistent with an indirect pursuit of growth as the primary goal. Thus SMEs, even

innovative ones could be said to place innovation *per se* lower than survival, an eminently understandable position to take.

But how well were these hopes met, and was there more satisfaction from one kind of programme source than another? Table III gives satisfaction ratings in relation to overall motivation profiles. It shows, with some modest consistency with Table I, that for the main part, little more than half the SMEs responding perceived their reasons for getting involved to be “mainly achieved”. And again, somewhat consistently Ireland is the country where SMEs express the least satisfaction with domestic programmes, while Wales, true to form, shows the highest satisfaction for domestic programmes. Denmark registers twice the satisfaction rating, expressed in terms of goals “mainly achieved” for EU as domestic schemes. What do we learn from this? Once more, the high satisfaction of Welsh SMEs with domestic, but also to a lesser extent EU schemes means they gain considerable “business growth” assets from the social capital activated through networking for innovation. Conversely, there is more satisfaction from EU than domestic programmes in respect of business growth, R&D, innovation and skills for the Danes, and skills and business growth for the Irish. The gap in goals achievement from EU compared to domestic programmes for Denmark and Ireland is rather large.

Hence, external *linkage* is the form of social capital delivering the goods for Danish and Irish SMEs while, in addition *integration* continues to do so as well for Welsh SMEs. Hence, the former two countries’ SMEs are showing the greater

TABLE III
Satisfaction ratings from innovation network programme involvement

Programmes	European Union			Domestic		
	Denmark (N = 20)	Ireland (N = 19)	Wales (N = 17)	Denmark (N = 20)	Ireland (N = 19)	Wales (N = 17)
Judgement (%)						
Not achieved	25	0	6	20	33	0
Partly achieved	5	22	25	0	22	7
Moderately achieved	25	27	25	60	22	13
Mainly achieved	45	51	38	20	33	53
Fully achieved	0	0	6	0	0	27
Non response	0	1	1	0	1	2

Source: SME Innovation Network Survey, 1997–98.

autonomy. The last-named may still be learning the benefits of embeddedness with *synergy* effects at the domestic level aiding this. Denmark and Ireland may not have embeddedness to the same degree but substitute with autonomy and the reasonably successful pursuit of *linkage* with external networks.

Value to SMEs of formal and informal networking

The key theoretical question posed in this paper is whether or not creating social capital through promoting inter-firm collaboration and networking for innovation is perceived to be important to SME performance in the programmes and something they will develop in future. It is worth noting that the data in the following tables refer to smaller numbers of firms than the total respondents, hence the Danish “domestic” column refers to eight “strong preferences” evenly distributed. Few firms responding to the survey had experience of networking prior to successful engagement in programmes. The data in Table IV report data on firms expressing a “strong” or “very strong” preference (Likert scale 4 and 5) for the benefits of networking as a consequence of involvement in a collaborative innovation programme.

Once again it is clear that Irish SMEs have little desire to continue network relations within Ireland, but show more enthusiasm for *linkage* outside, especially in formal (i.e. contractual) partnership with other SMEs. Indeed, on balance, there is a general preference for formal over informal linkage, informal connections to large firms being least attractive. Danish firms have a

low preference for linkage with other SMEs, preferring links to large firms, especially formalised, presumably supply-chain linkages in the vertical rather than horizontal dimension. True to type, Welsh SMEs express the strongest preferences of all for domestically-focused formal links to large firms and other SMEs, further underlining their *embeddedness* characteristics. Nevertheless, a little under a third expressed strong preference for *linkage* to outside networks too.

Keeping in mind that Table IV refers to those SMEs expressing a “strong” or “very strong” preference for continued engagement in social capital-enhancing collaboration for innovation, Table V refers to their intended mode of cooperation, firms discontinuing networking, firms with weak networking preference and those with a strong preference for networking. It is one thing to express a preference for involvement in a future publicly-funded network innovation programme, it is another to say that such involvement is intended to be funded by the SME’s own resources. Table VI shows that public funding is preferred but that privately funded networking is by no means ruled out, except for Irish firms domestically.

Clearly, SMEs could give more than one answer here, so the data express SMEs’ overall, unweighted, density of preference and intention. The results show an enthusiasm for continued informal networking, which is virtually costless. In the Irish case all respondents were willing to do this but only with other Irish SMEs domestically, not large firms (from Table IV). This contrasts markedly with Irish SMEs posture towards external *linkage*, where formalised SME networks,

TABLE IV
Strong preferences for future networking by SMEs

Programmes	European Union			Domestic		
	Denmark (N = 20)	Ireland (N = 19)	Wales (N = 17)	Denmark (N = 20)	Ireland (N = 19)	Wales (N = 17)
Preferred link						
	(% of SMEs expressing likert 4-5 preference)					
SME formal	19	42	27	25	2	46
Large firm formal	31	24	27	25	0	46
SME informal	0	24	27	25	12	31
Large firm informal	12	12	13	25	0	15

Source: SME Innovation Network Survey, 1997–98.

TABLE V
Firm preference for continued networking

Programmes	European Union			Domestic		
	Denmark (N = 20)	Ireland (N = 19)	Wales (N = 17)	Denmark (N = 20)	Ireland (N = 19)	Wales (N = 17)
	(% of SMEs expressing likert 4–5 preference)					
Firms discontinuing networking	0	3	0	0	13	5
Weak networking preference	2	5	6	8	0	4
Strong networking preference	18	11	14	12	6	8

Source: SME Innovation Network Survey, 1997–98.

TABLE VI
SME intentions regarding future networking

Programmes	European Union			Domestic		
	Denmark (N = 18)	Ireland (N = 11)	Wales (N = 14)	Denmark (N = 12)	Ireland (N = 6)	Wales (N = 8)
	(% of strong preference SME networkers)					
Formal, private funding	27	47	38	20	0	27
Formal, public funding	60	27	46	20	33	36
Informal	93	73	69	20	100	45

Source: SME Innovation Network Survey, 1997–98.

privately funded are preferred. In Wales and Denmark, while private funding is not negligible, public funding is intended to be sought most as it is, for Wales if not Denmark, domestically as well. Thus *synergy* and the close relationship to public funding for innovation development remains important as a form of social capital. *Synergy* is clearly of considerable importance to the development of *autonomy*, though not exclusively so.

The developmental tendencies among innovative SMEs therefore can be summarised as taking the following form. Most responding SMEs were, at the outset, not engaged in networks designed to assist enhancement of their innovative potential. A strong step towards development occurred with their successful engagement in public programmes for innovation promotion through collaboration. In the Danish and Irish cases, more business performance and innovation gain derived from *linkage* to foreign networks but Danish knowledge-exploitation (e.g. patenting) was enhanced more by domestic project engagement. Wales is different, scoring highest on everything

in relation to domestic rather than EU programmes, revealing greater *embeddedness* than the others.

There was a bias towards goals other than innovation *per se* for involvement in networked innovation programmes, business growth and skills often ranking higher, suggesting growth-minded firms see innovation as a means to the greater end of survival and business development. Approximately half the involved SMEs perceived their ambitions from programme involvement to have been mainly achieved in EU programmes, but less so in domestic schemes except for Wales, where *embeddedness*, *integration* and *synergy* are stronger than *linkage*. Finally, attitudes to the activation of social capital through engagement with publicly-funded innovation network programmes are expressed in terms of a “strong”, or “very strong” preference to continue with formalised external networks overseas for roughly one quarter of SMEs. Commitment is less with respect to domestic networking of a formalised kind except for Wales where it is much more popular. Despite

this, most firms express an intention to network informally but between one fifth and one half will privately fund future innovation networking, except for Irish SMEs domestically where none would do so. Public funding will be sought to continue these activities by between 20% and 60% of SMEs with EU partnerships generally preferred to domestic ones.

When we examine Table VII, which measures the social capital balance sheet we find a picture partly consistent with the foregoing and partly different. Thus firms in Denmark and Ireland show, to varying extents, greater social capital *integration* effects (measured in mean business performance gains) coming from EU rather than domestic networking, while the posture of Wales-based firms perceiving greater integration-focused social capital from domestic networking is re-confirmed. With respect to *integrity* measured in terms of low satisfaction (goals achievement) from network programme involvement (first three rows in Table III) then the pattern for *integration* is repeated. Firms in Wales have a lower dissatisfaction rate for domestic networking than EU, whereas for the two comparator countries, the reverse is the case. Regarding *synergy* effects, though, preference for public over private future networking at EU level is positive for Denmark and Wales, but not Ireland. Contrariwise for Denmark and Ireland there is a neutral future preference for domestic programmes funded publicly for the former and a strong balance in favour of domestic public programmes for the

latter. Wales-based firms are roughly equally modestly positive about public in preference to private domestic programmes for future networking as they are for those funded by the EU. Continuation of *synergy* is thus a preferred future option, except for Irish firms *vis à vis* EU programmes. This is somewhat surprising, given previously consistent negative judgements by Irish firms of the virtues of past Irish programmes, but perhaps a statement of faith that in future they will improve. Finally, on *linkage* the balance of preferences is again different from the expected in respect of whether EU rather than domestic networking programmes – public, private, formal or informal – are favoured in future. Danish firms are consistent in preferring EU networking to a significant extent. Welsh firms, surprisingly, favour EU future networking noticeably more than domestic. Whereas, Ireland displays firm preferences again with domestic out-weighing EU networking by a visible margin. It seems as though Ireland's and Wales' firms may be expressing an expectation that they will be keen to balance up their present internal and external networking propensities compared to the outward emphasis of the former and the inward focus of the latter hitherto.

Convergences and divergences in programme assessment by SMEs

We have seen that SME innovation behaviour has been changed for significant numbers as a conse-

TABLE VII
Social capital indicators

Programmes	European Union			Domestic		
	Denmark (N = 20)	Ireland (N = 19)	Wales (N = 17)	Denmark (N = 20)	Ireland (N = 19)	Wales (N = 17)
<i>Social capital concept</i>						
<i>Integration</i>						
– Performance gains	+4	+22	–33	–4	–22	+33
<i>Integrity</i>						
– Low goals achievement	–25	–28	+36	+25	+38	–36
<i>Synergy</i>						
– Strong public future preference	+33	–20	+8	0	+33	+9
<i>Linkage</i>						
– Strong pro-EU programmes	+40	–13	+10	–40	+13	–10

Source: SME Innovation Network Survey, 1997–98.

quence of their involvement in collaborative innovation support programmes. We have further seen that, for a substantial portion of previously non-networker firms, their experience of the activation of social capital, particularly outside their country, was positive enough for them to express the intention of privately funding their next networking activities. An intriguing question concerns the views of SMEs of the programmes that initially brought them together. Two key points are worth making from the data on perceived impacts of programme involvements upon SMEs. The first is that they universally ascribe more impact in relation to business-to-business interaction than to engagement with the programme, its managers, advisers and experts *per se*. Thus Table VIII summarises SME perceptions on specific criteria. This shows fairly consistent agreement that EU interactions yield greater impact from non-programme related factors, although in Denmark the difference is less marked. The picture is rather more complex for domestic programmes in Denmark where high levels of expression that programmes and commercial links were beneficial were registered, except for know-how improvement. The pattern is similar, though the variation between programme and commercial benefits for Welsh SMEs is less than for Irish regarding domestic programmes.

Thus SMEs converge to the extent they report greater impact from firm-related activities like advancing know-how or enabling commercialisation of innovations arising from inter-firm networking. But they diverge considerably as between Denmark and the others in their estimation of the impact of the *programme* in sustaining

or improving firm performance. If we try to rationalize this it is probable that firms see the programme as a bridge to cross to get at other firms, these being the real target of their collaborative intentions. Thus they tend to underestimate the role of the public agency as a facilitator of social capital access that might otherwise not have occurred or even been possible. Hence, the social capital element we refer to as *synergy*, namely developing close relations between SMEs and public organizations has, in this instance, the character of an intermediary function. Public agencies cannot ultimately be the most astute and advanced providers of detailed knowledge relevant to the commercialisation of innovation by SMEs. Nevertheless, they are crucial agents in the developmental process for SMEs, especially with respect to innovation, a business area where tacit knowledge exchange involving face-to-face communication is so crucial.

Finally, we may conclude from the foregoing data and discussion that there is wide variation among our countries in the relative valuation of international over domestic innovation support programmes. In Ireland, domestic programmes are consistently perceived as less attractive for SME innovation support than those managed by the European Union. They provide less knowledge exploitation, innovation and business performance gains than the international programmes, lower levels of goals achievement and lower commercial and programme impact. Wales diverges from this picture on every count; better performance profiles, better goals achievement and better programme, though lower commercial, impact. In Denmark domestic programmes give better

TABLE VIII
Perceived Impacts of Programme Participation

Programmes	European Union			Domestic		
	Denmark	Ireland	Wales	Denmark	Ireland	Wales
Criteria	(% of SMEs agreeing)					
Know-how improved	86	87	93	34	73	92
Innovation commercialised	86	73	80	100	56	77
Programme sustained SME performance	70	33	40	100	36	53
Programme improved SME performance	79	47	34	100	33	56

Source: SME Innovation Network Survey, 1997–98.

knowledge-exploitation performance. However, EU programmes are better for innovation and business performance, give better satisfaction ratings but lower programme impact and are only superior for impact on know-how improvement. So we have three distinct “trajectories” at the country level, Ireland with SMEs developing *linkage* with external networks, Wales deepening its indigenous *embeddedness* to a greater extent and Denmark looking for *linkage* on know-how and innovation improvement.

Concluding remarks

We have attempted to break new ground in this paper by exploring the effect of *social capital* upon small business performance. Although the literature on small business networking has become voluminous (see Staber et al., 1996; OECD, 1996; Malecki and Oinas, 1999) little attention has been paid to the broader theoretical construct to which it relates. Social capital provides that construct, but it does so, at least in this paper, not only in respect of the everyday, incremental practices and behaviours involved in inter-firm interaction, but with respect to policy interventions aimed at achieving economic development goals. Insights of considerable value for policy-makers may thus be clarified by reference to the ways in which SMEs respond to attempts to *create* rather than simply make use of existing social capital. This helps enormously where policy-makers have been attracted to models of SME inter-firm collaboration such as that found in northern Italy (Cossentino et al., 1996) but frustrated by the general absence of widespread local social capital characteristic of such industrial districts (Putnam, 1993).

The breakthrough derives, in modest ways, from the work of social analysts such as Portes (1998), Woolcock (1998) and Flora et al. (1997) who have begun to grapple with social capital theory analytically. In the process they have moved beyond general or specific literature on such key concepts as trust (Fukuyama, 1995; Lazaric and Lorenz, 1998), conventions (North, 1993) and networks (Johannison et al., 1994) to explore concepts which help the development of a dynamic rather than a static concept of social capital. Such conceptualisation is no doubt rather

unrefined at present, though the dyadic concepts of *embeddedness* and *autonomy* which have developed in dynamic tension of late, prove useful in explanations of why firms must develop new outlooks if they are to optimise on the initial endowments of embeddedness without being restrained by the drawbacks of “lock-in” (Grabher, 1993). From the interplay of those concepts we found the secondary concepts of top-down and bottom-up impulses towards change elaborated by Woolcock (1998) rather useful in explicating our study of the rôle of policy in creating social capital for SMEs. From a top-down viewpoint the process of building *integrity* or the capacity to activate autonomy on the part of SMEs, proved to be useful. But its embeddedness correlate of *synergy* in the sense of strong public-private relationships, is even more salient, as a means for assisting firms to move beyond largely local embeddedness.

From a bottom-up perspective, the quest for *linkage*, that is forms of social capital derived from engagement with external networks, as a way of expressing and activating autonomy but not insulation from embeddedness and its “on the ground” correlate of *integration*, is what characterises the classic business growth strategy. This is particularly so for innovation which, while being a socially interactive process, also necessitates global search for exploitable knowledge and know-how (not to mention “know-who”). SMEs may be initially embedded or not although embeddedness is widely believed to be a business asset because of lowered transaction costs through the existence of “untraded interdependencies” (Dosi, 1988). The key question is whether surrogate embeddedness can be created by acts of policy. Our research findings for three small, peripheral European economies, in which innovative SMEs have been involved in varieties of social capital-building innovation support programmes funded from the public purse, is that, for substantial numbers of such firms it can. This applies both to situations where local embeddedness is absent, as in Ireland, and where it is in process of evolving, again with policy support, as in Wales. It should be borne in mind that in this study, highly innovative firms are under inspection. As we saw, many are relatively new. To that extent, their new experience of embeddedness and the potential of social capital augurs well for the economy of

Wales moving more towards an “associational” posture, rather closer to Denmark, unlike its position in the past as a peripheral region dominated by declining heavy industry (see also Cooke and Morgan, 1998).

Our conclusions are that policies in support of enhanced innovation that aim and succeed to build up social capital for SMEs through encouraging and incentivising collaboration and networking, produce results whereby significant portions of the surveyed SME population ascribe improvements to business performance, innovation and knowledge exploitation to the newly-formed social capital. Of particular importance to this process are the promotion of *linkage* to networks outside the home-base, the existence of *synergy* whereby SMEs have close links to programme executives and the formation of *integration* by embedding firms more firmly in indigenous SME networks. In this research, the rôle of *integrity* was under-deployed because of the importance of synergy. Future research which would explore the developmental trajectory of SMEs in the absence of *synergy*, or at least independent of public policy support, remains to be conducted.

We think that this paper offers modest support to the thesis, once perhaps heretical, that inter-firm collaboration may prove at least as successful a growth strategy as arm's length exchange and stand-alone competition. Convincing and consistent evidence was elicited from the empirical research reported upon in the paper to the effect that initial non-networking SMEs made widespread business gains, by no means restricted to innovation alone, from engagement in collaborative programmes to promote innovation networks both domestically (with Ireland an exception) and internationally. This research chimes in with earlier research, such as that of Storey and Johnson (1987) which concluded, correctly in our view, that the key to SME success, enhanced performance and business growth, lies in an international outlook. Our contribution has been to identify the international and *collaborative* outlook, which extends social capital beyond the home-base as key.

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References

- Bourdieu, P. and L. Wacquant, 1992, *Invitation to Reflexive Sociology*, Chicago: University of Chicago Press.
- Branscomb, L. and J. Keller (eds.), 1998, *Investing in Innovation*, Cambridge MA: MIT Press.
- Burt, R., 1992, *Structural Holes: The Social Structure of Competition*, Cambridge MA: Harvard University Press.
- Cohen, W. and D. Levinthal, 1989, ‘Innovation and Learning: The Two Faces of R&D’, *The Economic Journal* **99**, 569–596.
- Coleman, J., 1990, *Foundations of Social Theory*, Cambridge MA: Harvard University Press.
- Cooke, P., 1996, ‘The New Wave of Regional Innovation Networks: Analysis, Characteristics and Strategy’, *Small Business Economics* **8**, 159–171.
- Cooke, P. and K. Morgan, 1998, *The Associational Economy: Firms, Regions and Innovation*, Oxford: Oxford University Press.
- Cossentino, F., F. Pyke and W. Sengenberger, 1996, *Local and Regional Response to Global Pressure: The Case of Italy and Its Industrial Districts*, Geneva: International Institute for Labour Studies.
- Crevoisier, O., 1997, ‘Financing Regional Endogeneous Development: The Role of Proximity Capital in the Age of Globalization’, *European Planning Studies* **5**, 407–416.
- Dosi, G., 1988, ‘Sources, Procedures and Microeconomic Effects of Innovation’, *Journal of Economic Literature* **36**, 1126–1171.
- Edquist, C. (ed.), 1997, *Systems of Innovation*, London: Pinter.
- Flora, J., J. Sharp and C. Flora, 1997, Entrepreneurial Social Infrastructure and Locally Initiated Economic Development in the Non-metropolitan United States’, *Sociological Quarterly* **38**, 623–645.
- Florida, R., 1995, ‘Towards the Learning Region’, *Futures* **27**, 527–536.
- Fountain, J., 1998, ‘Social Capital: A Key Enabler of Innovation’, in L. Branscomb and J. Keller (eds.), *Investing in Innovation*, Cambridge, MA: MIT Press, pp. 85–111.

- Fukuyama, F., 1995, *Trust: The Social Virtues and the Creation of Prosperity*, New York: The Free Press.
- Grabher, G. (ed.), 1993, *The Embedded Firm*, London: Routledge.
- Grande, E. and R. Peschke, 1997, 'Missing Links: Transnational Cooperation and Policy Networks in European Science Policy-Making', *Working Paper No. 6*, Technical University, Munich.
- Granovetter, M., 1985, 'Economic Action and Social Structure: The Problem of Embeddedness', *American Journal of Sociology* **91**, 481–510.
- Hanifan, L., 1920, *The Community Center*, Boston: Silver, Burdette and Co.
- Jacobs, J., 1961, *The Life and Death of Great American Cities*, New York: Random House.
- Johannisson, B., O. Alexanderson, K. Nowicki and K. Senneseth, 1994, 'Beyond Anarchy and Organization: Entrepreneurs in Contextual Networks', *Entrepreneurship and Regional Development* **6**, 329–356.
- Lazaric, N. and E. Lorenz (eds.), 1998, *Trust and Economic Learning*, Cheltenham: Edward Elgar.
- Leonard, D. and S. Sensiper, 1998, 'The Role of Tacit Knowledge in Group Innovation', *California Management Review* **40**, 112–132.
- Loury, G., 1977, 'A Dynamic Theory of Racial Income Differences', in P. Wallace and A. La Mond (eds.), *Women, Minorities and Employment Discrimination*, Lexington, MA: Heath, pp. 153–186.
- Malecki, E. and P. Oinas (eds.), 1999, *Making Connections: Technological Learning and Regional Economic Change*, Aldershot: Ashgate.
- NESC, 1996, *Networking for Competitive Advantage*, Dublin: National Economic and Social Council.
- North, D., 1993, 'Institutions and Economic Performance', in U. Mäki, B. Gustafsson and C. Knudsen (eds.), *Rationality, Institutions and Economic Methodology*, London: Routledge, pp. 242–264.
- OECD, 1996, *Networks of Enterprises and Local Development*, Paris: Organization for Economic Cooperation & Development.
- Polanyi, K., 1944, *The Great Transformation*, Boston: Beacon.
- Portes, A., 1998, 'Social Capital: Its Origins and Applications in Modern Sociology', *Annual Review of Sociology* **24**, 1–24.
- Putnam, R., 1993, *Making Democracy Work*, Princeton: Princeton University Press.
- Schuller, T. and J. Field, 1998, 'Social Capital, Human Capital, and the Learning Society', *Journal of Lifelong Education* **17**, 226–235.
- Sponder, J., 1996, 'Competitive Advantage from Tacit Knowledge? Unpacking the Concept and Its Strategic Implications', in B. Moingeon and A. Edmondson (eds.), *Organizational Learning and Competitive Advantage*, London: Sage.
- Staber, U., N. Schaefer and B. Sharma (eds.) 1996, *Business Networks: Prospects for Regional Development*, Berlin: Walter de Gruyter.
- Storey, D. and P. Johnson, 1987, *Job Generation and Labour Market Change*, Basingstoke: Macmillan.
- Varaldo, R. and L. Ferrucci, 1996, 'The Evolutionary Nature of the Firm within Industrial Districts', *European Planning Studies* **4**, 27–34.
- Woolcock, M., 1998, 'Social Capital and Economic Development: Towards a Theoretical Synthesis and Policy Framework', *Theory and Society* **27**, 151–208.
- World Bank, 1997, 'Social Capital: The Missing Link?', in *Expanding the Measure of Wealth: Indicators of Environmentally Sustainable Development*, Washington DC: The World Bank.

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