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EXPANDING HORIZONS: LOCAL EMBEDDEDNESS AND LOCAL ENGAGEMENT AMONG SMALL FIRMS IN THE EUROPEAN COUNTRYSIDE

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Abstract: The relative importance for small and medium-sized enterprises (SMEs), of local embeddedness and engagement with the wider economic and technical environment has been a subject of debate, in the context of regional development, for some years. There is increasingly general acceptance that both are essential for regional development. This paper considers the role and characteristics of business networks within the structural shift of the rural economy, away from local resource based activities towards a more diversified 'New Rural Economy'. A better understanding of the relative importance of local and wider networking by rural SMEs is crucial for more effective policy, especially that intended to support rural-urban interaction and cooperation. Findings from a case study in Northern Sweden are presented.

Keywords: Business networks, global, rural, embeddedness, new rural economy, SME

Referat: Den relativa betydelsen för små och medelstora företag (SMF) av dels lokal förankring, och dels vidare förbindelser i ett större ekonomiskt och tekniskt sammanhang, har debatterats inom ramen för regional utveckling i ett antal år. Att båda är viktiga för regional utveckling är allt mer allmänt accepterat. I den här artikeln studeras företagsnätverks roll och egenskaper inom den strukturella förändringen av landsbygdens ekonomi, där utvecklingen går från aktiviteter baserade på lokala naturresurser mot en mer diversifierad ekonomi på landsbygden ("New Rural Economy"). En bättre förståelse för den relativa betydelsen av SMFs lokala så väl som vidare nätverkande är avgörande för en effektivare policy, särskilt för den som riktas mot interaktion och samarbete mellan stad och land. Resultat från en fallstudie i norra Sverige presenteras.

Nyckelord: Företagsnätverk, global, rural, förankring, nya ekonomin på landsbygden, SMF.

1. Introduction

The term 'New Rural Economy' (NRE) is rather a flexible one, sometimes used as an 'umbrella' for a wide range of aspects of socio-economic change in rural areas (Reimer and Bollman 2005). In the context of this paper it has a more focused definition. It describes 'The outcome of structural change and diversification, away from a dependence upon the primary sector, and towards expansion of secondary and tertiary activities, including high technology industries and

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market services. (Copus et al 2011, glossary). Restructuring of this kind implies entrepreneurial activity and an increase in the number of SMEs. NRE characteristics are at present more common in accessible parts of Europe (*ibid*) and are associated with the presence of small and medium-sized enterprises (SMEs) and active entrepreneurship.

According to conventional theories small businesses derive benefit from external economies which are associated with agglomeration, i.e. spatial proximity. This is a thread of reasoning which runs through the literature, beginning with Marshall (1920) and Weber (1929) in the early years of the last century, right through to the proponents of the New Economic Geography in the current one (Fujita et al 1999, Krugman 1994, Garretsen and Martin 2010). The problem for rural areas is that if small businesses success *requires* co-location or proximity of a range of business partners, the potential for SME-led economic diversification in localities which are sparsely populated and/or remote would seem to be limited.

This paper examines some case study evidence of the capacity of appropriately configured business networks to substitute for agglomeration economies, and facilitate SME development and economic diversification in remote and sparse rural areas. The first part of the paper presents the conceptual background, whilst the second half provides an overview of the empirical findings from research among SMEs and local support agencies in Northern Sweden.

2. Defining Business Linkages and Networks and their Functions

It is important to consider business networks within their local/regional contexts. A holistic approach is necessary, taking account of the local institutional and social environment, not just the more tangible locational characteristics. However it will be helpful to begin by focusing on the nature of the individual business-to-business and 'external' linkages which are the heart of such networks.

2.1 Individual business linkages

The literature describes both formal/physical business transactions, and also informal and less tangible social contacts and information flows. The latter are sometimes referred to as 'non-market' linkages.

Transaction linkages function as a means of reducing 'transaction costs'. These are the costs associated with trade at intermediate stages between raw material processing and sale to the final consumer. They relate to transport costs, the search for suitable suppliers, the need to ensure goods match specification, writing of contracts, ensuring delivery on-time, and so on. A firm which carries out all its transactions in a 'spot trade' or 'anonymous market' environment will incur all elements of transaction cost for every one-off transaction. Economies may be achieved by repeatedly doing business with the same partner(s). Some aspects of the process can be 'routinised' or omitted as a relationship of trust is established. This is the point at which a transaction becomes part of a 'business linkage'.

"It is evident that if the same pair – a buyer and a seller – is involved in similar transactions regularly and frequently, the pair will have an incentive to organise the transaction procedures and processes so that costs are reduced. The buyer and seller represent nodes connected by a specific linkage." (Johansson and Quigley 2004 p169).

Thus customers or suppliers will become network members if frequent and stable transactions lead to benefits beyond the sales/purchases themselves (Lechner and Dowling 2003). Once established, such a business linkage will be sustained if both partners perceive benefits in terms of transaction cost reduction. A reliable or obliging supplier, or a prompt paying customer will be nurtured, since risk is reduced, and some of the procedures associated with spot trading may be omitted. Transaction networks are composed of a number of firms inter-connected by such linkages.

Transaction linkages are in some ways the most tangible and easy to observe, but they are accompanied by a wide range of informal interactions, linking SMEs to each other, and to a variety of other agencies and organisations. Michael Storper (1995) has coined the generic

term “untraded interdependencies” to encompass all forms of extra-transactional contacts between firms. This concept is closely related to that of “embeddedness”, propounded by Granovetter (1973, 1985).

Among the best known studies of untraded interdependencies and embeddedness were those describing ‘industrial districts’ in Italy (Becattini *et al* 2003, Bellandi 1989, Harrison 1992). According to these analyses, network linkages are primarily based upon social contacts, kinship, or membership of a local or ethnic community. In ‘industrial districts’ market transactions are often associated with informal linkages. This kind of network is usually characterised by a degree of cooperation between competitors, sometimes termed “co-opetition” (Lechner and Dowling op cit). In the words of Harrison (1992 p478) “In District Theory firms relate to one another by interpenetrating one another’s inter-organisational boundaries, rather than solely through price mediated exchange of commodities…”

There seems to be a ‘chicken and egg’ relationship between transaction and non-market linkages. Thus Tödtling and Kaufmann (1999) suggest that most firms have few informal links which are not based on contacts developed through formal transactions (Tödtling and Kaufmann 1999, Kaufmann and Tödtling 2000)[2]. Other writers argue that the relative importance of informal and formal linkages varies through the life cycle of a firm. Lechner and Dowling (op cit) argue that for many new firm start-ups the social relationships of the entrepreneur(s) form the initial framework on which a transaction network is later built. Lechner, Dowling and Welpe (2006) distinguish a range of different kinds of non-market linkage (social, reputational, market information sharing, ‘co-opetition’, and technology cooperation). They argue that mix is more important than network size, and that mix varies through a series of firm life cycle stages. Johannisson *et al* (2002) distinguish between *systemic* embeddedness, which is based on economic transactions, and *substantive* embeddedness, which involves social interaction.

The importance of non-market linkages is generally assumed to have increased in recent years, in association with the decline of manufacturing and the increasing role of service and high technology industries, in which the exchange of ‘tacit knowledge’ is especially important to innovation and growth; even in rural contexts (Virkkala 2007).

2.2 Aggregate Business Network Concepts

There is a vast literature dealing with what may be termed ‘aggregate business network concepts’[3] and it is unlikely that there would be any consensus among the readers regarding where the boundaries may lie, or which are the key authors. The brief discussion which follows can neither be exhaustive nor comprehensive, and this is not the place to discuss the individual emphases, or relative merits of different approaches. The more modest objective is to acknowledge the broader theoretical (and policy) context which provides the background rationale and motivation for the more focused analysis of business linkages which is the subject of this paper. It is perhaps worth emphasising at this point that we are primarily concerned here with ‘informal’ networks, rather than formal ‘alliance networks’ (Kingsley and Malecki 2004, Huggins and Johnston 2009).

Most of the theoretical perspectives on (informal) business networks and their role in regional development which have emerged over the past two or three decades may be classified into two broad groups, on the basis of two dimensions: (a) Whether they focus mainly upon ‘physical’ transaction linkages, or upon, informal, non-market, exchanges of information, and (b) their emphasis upon competition or upon cooperation (Copus *et al* 2000).

The first group (transaction + competition) encompasses a tradition which runs from Alfred Marshall (1920), through the evolutionary economists of the 1950s and 60s (Myrdal 1957, Wight

[2] Similarly, Feser and Bergman (2000) have developed a methodology for identifying “National Industry Cluster Templates” (which are subsequently used in regional analyses to help identify regional “industry clusters”) on the assumption that informal relationships will parallel input-output linkages.

[3] For a helpful review see Tallman et al (2004).

1983, Hirschmann 1958), the Porter industry cluster theory (Porter 1990, 1995) and the New Economic Geography (Fujita et al 1999, Krugman 1994, Garretsen and Martin 2010).

The second group (non-market + cooperation) includes the ideas of 'industrial districts' (Piore and Sable 1984, Belussi 1996), 'milieu innovateur' (EC 1995, Maillat 1998) 'innovation systems' (Tödtling and Kaufmann 1999, Crescenzi 2005) 'learning regions' (Morgan 1997, Asheim 1996, Hallin and Malmberg 1996, and Keeble *et al* 1999), and the 'associational economy' (Cooke and Morgan 1998). It is important to note that the second group of approaches is distinguished not only in terms of its broader conception of business linkages (incorporating 'softer' forms of interaction) but the inclusion in networks of a range of supporting institutions and organisations, such as development agencies, local government, representative organisations, education and research establishments.

Although each of the above 'schools of thought' mentioned above has a more or less distinct perspective and emphasis, the issues they discuss also have much in common. In the context of the case study reported in this paper the key issue is the relative balance between the role of local agglomeration/ embeddedness effects on the one hand and the benefits derived from interactions on a wider geographical scale (i.e. 'global engagement') on the other. Broadly speaking, both groups share the underlying assumption that geographic distance acts as a constraint on interaction (transaction or non-market), placing a premium upon physical proximity, and limiting the range over which effective networking may take place.

2.3 Increasing Interest in Organised Proximity

More recently there has been an increasing debate about the implications of "connexity" (Mulgan 1998), and the relative importance of *spatial* versus *organised (*or relational) proximity (Torre and Gilly, 2000; Torre and Rallet, 2005; Boschma, 2005). In the words of Tallman et al (2004 p269):

"*As the construct of closeness changes in the post-industrial economy, and as firms begin to relate to other firms that are close relationally—through networks of alliances—or virtually—through intensive information exchange—the relevant concept of space may move away from physical geography…*"

Similarly Huggins and Johnston (2009 p252) speculate that "*…the constraints of distance on knowledge flow may be fading…*".

This development has introduced an additional layer of complexity to the concept of business networks, as spatial and organised proximity diverge.

2.4 Network economies as the key to the New Rural Economy

Two arguments are commonly put forward to explain the importance of business networking to the restructuring of the economy of rural Europe:

(i) That networking acts as a surrogate for agglomeration.

(ii) That particular network configurations can support the transfer and diffusion of the kind of information which drives small business development.

Agglomeration and Business Networks may be seen as alternative responses (though not mutually exclusive ones) to the need to minimise costs. Cost minimisation may be achieved either by reducing transport costs (agglomeration) or by reducing transaction costs through networking. Thus Johansson and Quigley (op cit p165-5) argue that "...networks among economic actors dispersed over space may act as a substitute for agglomerations of actors at a single point, providing some or all of the utility gains and productivity increases derived from agglomeration."

Transport costs tend to be lower in urban areas (*ceteris paribus*), where a large number of potential trading partners are located within a relatively small area, and trading institutions and services are well developed and easily accessible. Therefore, within urban areas or conurbations competitive advantage is mainly derived from 'agglomeration', whereby large

numbers of firms, located within a relatively small area, are able to trade without incurring high transport costs, whilst benefiting from relatively low transaction costs due to the presence of common institutions and services. Shared access to specialised pools of skilled labour is also important. The relatively large number of trading opportunities mean that 'spot trade' or 'anonymous market' transactions tend to be common, flexibility and the benefits of differentiation being more attractive than those of 'routinised' business linkages. Thus both the benefits of agglomeration and the majority of knowledge spillovers are external to the businesses, they are predominantly public goods (Johansson and Quigley op cit p168).

In rural areas competitiveness must be based upon another strategy; offsetting reduced transaction costs against the generally higher transport costs. This often results in the development of stronger business networks, composed of spatially dispersed firms linked by repetitive transaction relationships.

In recent years the concept of innovation as a driver of economic growth has shifted away from that of an individualistic 'linear' technology transfer process[4], towards an incremental, endogenous, group activity. It is argued (North and Smallbone 2000a,b, Asheim 1999) that innovations are not necessarily based on high or new technology, and that new products and new processes often originate within the manufacturing sector, or from an interaction between producers and their customers/suppliers. Innovation therefore depends not solely on technology transfer arrangements, or the presence of individual 'innovators', but upon the characteristics of the entire local economy; the various actors, the relationships between them, and the environment within which they operate. Such incremental innovation, based upon 'learning by doing', and information which is not formally codified (tacit knowledge), is shared between entrepreneurs or firms through informal contacts. Hence the vital importance of non-transactional business linkages in the development of regional innovation systems.

In urban areas knowledge spillovers are available both from publicly funded research institutes, and through formal or informal contact between firms (Goetz and Rupasingha 2002 p1229). Knowledge spillovers are not so readily accessible in rural areas. Instead, transaction links develop into channels for the diffusion of information relating to innovation[5]. Unlike agglomeration advantages, business networks are not a public good, they are a form of 'club good' (shared between each pair of network members).

Nijkamp (2003) thus sees networking as a strategy for reducing the risk associated with entrepreneurship and innovation. "It seems as though the modern entrepreneurial 'hero' is largely a "network hero" (Nijkamp 2003 p401). "In general, local inter-firm networks may be seen as supporting mechanisms for new forms of creative entrepreneurship… as such are a blend of openness (necessary for competition) and protection (needed for an 'infant industry')" (*Ibid* p402).

The effectiveness of a region's business network as an 'innovation diffusion pathway' depends not only upon its local network 'density', degree of 'embeddedness', and the associated human and social capital, but upon its connections to more distant sources of specialist information. These two capabilities are sometimes termed 'bonding' and 'bridging' respectively. Bathelt *et al* 2004 coined the memorable phrase "local buzz and global pipeline" to describe regions in which high levels of local interaction combine with effective long-distance channels which bring in exogenous knowledge to support local innovation (Huggins and Johnston 2009). In essence, "global pipeline" linkages channel information into the local network, whilst distribution among local firms and entrepreneurs, facilitating collective learning (local buzz), is a function of the strength of local 'bonding'. The character of regional business networks is thus one of the keys to understanding differential rates of restructuring and participation in the New Rural Economy.

[4] Marshall (1920), Schumpeter (1934)

[5] "To reduce the risk of "misinvestment", there is much scope for collective learning strategies which manifest themselves in two configurations, viz network participation and geographical agglomeration. At present both forces are at work simultaneously and create the new geographic landscape at the beginning of the new millennium…" Nijkamp 2003 p396). See also (Johansson and Quigley 2004 p175)

Young (2010) has added some interesting detail to this picture through his meticulous analysis of an isolated business community in Western Canada. Here there were two distinct groups in terms of transaction networks, a majority being locally focused, and a smaller group being more outward looking. However the pattern of informal collaboration linkages between firms was more complex. Thus "*…business collaborations are important to both local and extra-local success, but… the type and character of collaboration differ according to competitive realities. For many extra-locally oriented firms, a selective embeddedness made up of within-sector relationships is important for competing in far-away markets in which they may be disadvantaged. In contrast, locally oriented firms appear to benefit from a broader embeddedness that variously includes within sector and across-sector collaborations that reflect the realities of rural living and working. Both types of embeddedness – focused and broad – are important components of rural resilience and growth in difficult economic circumstances.*" (Ibid p 405-6)

Changes in transport and communications technology have intensified the role of business networking in the diversification and development of even the remotest rural regions. Dubois *et al* (2011), for example, have argued that in the twenty-first century transaction linkages have to some extent been liberated from the 'tyranny of distance', by a partial decoupling of organised and spatial proximity. Informal non-market interaction, and various forms of institutional network support, both of which rely heavily upon face-to-face contact, are more likely, they argue, to continue to be confined to regional or national arenas. Similarly, Davenport, (2007), after considering evidence from rapidly internationalised SMEs in New Zealand, suggests that in 'sparse' environments, where the benefits of spatial proximity are not available, dynamic, innovative firms rely instead upon networks structured around 'organisational proximity'. This idea of dependence upon organisational proximity networks, enforced by paucity of local opportunities for interaction, is also explored through a Danish case study by Drejer and Vinding (2007).

2.5 Implications for a Research Hypothesis

In reviewing the literature on business networks (with the exception of the work described in the previous paragraph) one is struck by the scarcity of basic empirical research. From a rural perspective the deficit is exacerbated by a tendency for examples and illustrations to be drawn from urban contexts. It has to be said, of course, that for a number of reasons, including difficulty of translating concepts into practical data collection instruments and indicators, and the commercial sensitivity of much of the material, basic 'fieldwork' in this topic is far from easy. There are few, if any, established procedures, and the importance of qualitative aspects of local/regional contexts mean that generalisation and comparison is risky. These considerations must be kept in mind when reading the presentation of the findings below.

The broad, overall hypothesis to be explored in the case study research, which is described in the next sections, is that successful and dynamic rural firms derive 'networking economies' from frequent and effective interaction, not only with the local business environment, but also with a much more extensive set of transaction and non-market linkages, stretching out across Europe. The above literature review points to a number of aspects which should be given particular consideration, such as:

- The relative importance of regional, national and international linkages in the case study region, and between different sectors of activity, sizes of firm etc.
- The relative importance, and particular roles, of 'soft' non-market interactions, compared with 'hard' transaction linkages.
- The value attached to different kinds of linkage, and the role they play in the growth and resilience of firms.
- The way in which such linkages are acquired, and networks are constructed.
- The role of various 'network brokers', from public, private and voluntary sectors, in nurturing networks.

3. A Case Study of Rural Business Networking

The above hypothesis was explored in the context of a case study in Övre Norrland in Northern Sweden. The following account begins with a brief description of the region, followed by a description of the sampling procedure and methodology, and concludes with a summary of the key findings.

3.1 The Case Study Region: Övre Norrland

Övre Norrland has a larger land area than Greece, but with less than 5% of the Greek population. It thus has one of the lowest average population densities in Europe. It is also one of the most peripheral regions in Europe.

There are very substantial variations in land use within the region. The coastal fringe has most of the agricultural land, whilst the inland areas are predominantly forested. The extreme NW of the region, being well within the Arctic Circle, has tundra-like conditions. There are also substantial contrasts in settlement pattern between the five regional centres (Umeå, Skellefteå, Kiruna, Luleå, and Gällivare), the more populated and accessible coastal strip, and the very sparse and remote 'interior' municipalities.

Although for millennia home to a small indigenous 'Sami' population, large scale exploitation of Övre Norrland's mineral and forest resources did not 'take off' until the late nineteenth and early twentieth centuries. Since the mid-twentieth century the region has experienced sustained out-migration towards Stockholm and other areas to the south. There has also been a drift of population from the countryside towards the larger towns within the region. This migration has been selective, resulting in a substantial age and gender imbalance, especially in the rural parts of the region. Despite these rather negative demographic features living standards are generally high, largely due to the strong traditions of regional development policy and the Welfare State.

The economy of Övre Norrland was traditionally primary sector dominated (mainly mining and foresty, farming activity is marginal). Today the mining and forestry industries are still very important, but, like everywhere else, service activities have grown substantially. These are concentrated in the towns and larger villages. Both entrepreneurship and inward investment are concentrated in the larger urban areas, especially Umeå and Luleå, which have some research and development facilities associated with universities.

3.2 Research design, methodology and data

The empirical observations presented below are derived from three surveys:

An Electronic Questionnaire

An email survey of entrepreneurs was conducted during the spring of 2010. The questionnaire took the form of a 'clickable' electronic form. A snapshot of two of the key questions is reproduced in Appendix 1.

The 'target population' for the survey were SMEs (having between 5 and 49 employees), located outside the main urban centres of the case study region, and providing goods or services which could reasonably be assumed be traded outside the local market.

The sample of fifty firms was, in practice, drawn from the inland areas. The five urban municipalities, and the adjacent accessible and less sparsely populated areas, were excluded. As a consequence it is reasonable to state that the surveyed SMEs were operating within one of the most challenging business environments (in locational terms at least) within the EU.

Sweden has a rather sophisticated business database (AffärsData[6]), to which access was granted in order to establish a population of firms from which to sample. The initial list included eight hundred firms. From this population approximately two hundred were selected, on the basis of the description of their activity, as having potential to be active on international markets.

[6] This is a commercial database, available online at http://www.affarsdata.se/. It includes all limited companies (Aktiebolag) registered in Sweden, and provides information such as location, main area of activity, number of employees, and financial performance during the last four years.

Firms which seemed unlikely to have any international contacts (such as local service activities, education, real estate, retail and wholesale) were 'screened out'. The firms on this shortlist were then contacted by telephone to ascertain their willingness to complete the electronic questionnaire. Those who were willing were emailed the questionnaire. On the whole the availability of the database as a starting point, and the relatively positive attitudes of the entrepreneurs, meant that collecting the required number of responses, although laborious, was not problematic.

The sampled firms included some long-established firms (nine were over forty years old), but also a balanced age distribution, with roughly equal proportions dating from each of the past three decades. The majority were locally-based independent companies. Twelve were subsidiaries of companies located elsewhere. Of these two were based elsewhere within Övre Norrland, five were based elsewhere in Sweden, and five had foreign owners.

In terms of economic sector, the sample was dominated by manufacturing firms (thirty firms). Six of the firms were engaged in forestry-related activities. Four were from 'information and communication activities', four from 'professional, scientific and technical services', two each from 'transport and storage', and construction, and one each from energy related activity, and wholesale/retail trades.

The majority of the firms (thirty two) had forty nine or fewer employees, and therefore fall within the EU definition of 'small' enterprises[7]. Sixteen firms, having less than ten employees would be termed 'micro enterprises'. Two firms had recently increased their workforce to slightly over fifty, (and were thus technically 'medium size')[8].

No claims are made for the statistical representativeness of the sample. Rather the intention was that the empirical results presented below would be broadly illustrative of the manner and degree to which businesses in the inland parts of Övre Norrland have developed their networks in recent years.

The principal objective of this survey was to collect perception data, reflecting SME managers' perspectives on their firms' relations with other actors. Respondents were asked to assess, using standard scoring procedures, the intensity of their interactions with a predefined set of 'actor groups'. The actor groups represented the full range of potential network partners: customers, suppliers, other private organizations (SMEs, large firms and multi-nationals), public agencies, financial and economic actors. For each category, the respondents were asked to assess the intensity of the interaction between their firm and each actor group, distinguishing four geographical zones: regional, national, European and the 'rest of the world'. 'Intensity' of interaction was assessed either in terms of percentages of sales and purchases, or (in the case of non-market linkages) a Likert-scale, graded from 0 (no relationship) to 4 (high intensity relationship).

Analysis of the data was, with two exceptions, confined to the estimation of simple descriptive statistics and graphs. The first exception was the adaptation of the OECD's SME Index of Globalization, (OECD 1997, Herdzina et al., 2004) as a means of summarising the information on transaction linkages. The second was use of tools and methods from the Social Network Analysis (Wasserman and Faust, 1994) to analyse the Likert interaction intensity scores. This allowed the 'mapping' of the overall structure of inter-firm networks (rather than a collection of individual relationships). It facilitated the assessment of the 'centrality' of each of the 'actor groups' in relation to the sampled firms in each case study area.

Face to Face Interviews of Entrepreneurs

The second survey took the form of face-to-face structured interviews, designed to explore, in more detail, the characteristics of different kinds of interaction, and the interviewees evaluation of them. The fifteen firms interviewed in the second (face-to-face) survey were initially selected

[7] http://ec.europa.eu/enterprise/policies/sme/facts-figures-analysis/sme-definition/index_en.htm

[8] Where the firm was a subsidiary, only employees at the local workplace were included.

on the basis of their level of international integration. However willingness to participate became, in effect, an important secondary criteria.

These interviews were essentially qualitative in nature, because the subject is intrinsically rather abstract. However a simple graphical 'actor map' was used as a device to try to ensure a degree of common understanding of the issues and terminology. This enhanced the potential for comparisons between interviewees.

Interviews with Network Brokers

The final round of thirteen interviews was addressed to a range of 'network brokers', from public, private and 'third' sectors. The interviewees were selected partly on the basis of recommendations from the project's stakeholder group, and partly on the basis of a 'snowballing' process. The interviews were designed to elicit information about the way in which the organisations interacted with each other, and with the SMEs within the case study region. A simple list of issues was used to structure informal discussions, which were recorded and subsequently transcribed as a starting point for analysis.

3.3 Some Results

This section first considers the very basic question about the extent to which Övre Norrland is an 'open' economy, engaged with globalisation processes. It then moves on to discuss patterns of non-market collaboration. This is followed by an assessment of the relative importance of 'vertical' integration (through contracts with multi-national enterprises – [MNEs]) versus horizontal or 'translocal' interaction with SMEs. Consideration is next given to the nature of the motivations and benefits associated with developing international business networks. The intensity of interaction between SMEs and a range of support agencies at different geographic levels is assessed. Finally, on the basis of the third survey a simple classification of 'network brokering' activities is proposed.

An 'Open' Rural Economy

The index of globalisation results, based on the electronic survey data relating to transaction linkages, allow us to allocate respondent firms[9] to four categories, according to the degree to which they carry out transactions at regional, national, or international scales (Fig 1). More than half the firms interviewed in Övre Norrland are classified as 'partly' or 'fully internationalised[10]'. Only one-sixth are classified as 'mainly regional'. Clearly (given the extreme peripherality and sparsity of the region) these are very significant findings, even bearing in mind the sampling procedure (which favoured firms engaged in activities which might reasonably be supposed to be engaged in overseas business).

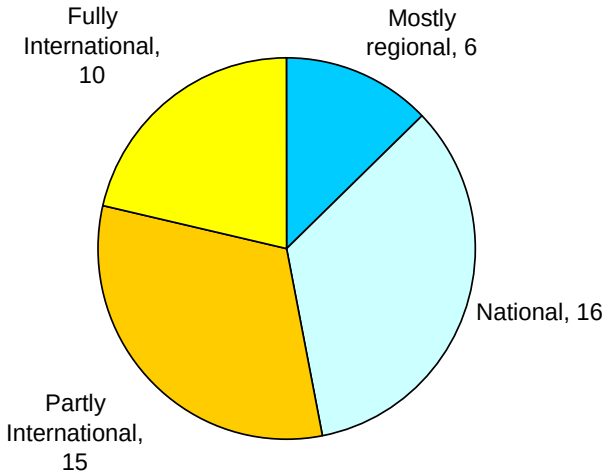

Fig 1. Classification of Firms in Övre Norrland according to Degree of internationalisation of business activities.

[9] Three questionnaires contained insufficient data to be included in this classification.

[10] Partly internationalised firms had *either* international suppliers or markets, fully internationalised had both.

A number of explanatory factors are suggested by the face-to-face interviews with the sub-sample of entrepreneurs, and by the regional and cultural context:

- The small size of the regional and national markets, combined with niche/quality/bespoke marketing strategies of firms which process local raw materials (forestry and food). This necessitates a wider outlook. Thus one interviewee stated:
  "The Swedish market is limited and considering all the raw material in the form of the large forests with exceptionally good quality that we have here, exporting has sort of been incorporated in the concept for a long time now."
- Proximity to international boundaries (Norway, Finland).
- Language skills, which allow effective communication in Swedish with Norway and Denmark, and with other European business partners in English.
- A well developed and pro-active array of business support agencies and actors (see below).

It is worth underlining the simple general conclusion that Övre Norrland's SME networks are already opening up to interact beyond regional and national borders. Obviously improvements in transport and telecommunications infrastructure have been crucial in facilitating this. One Swedish interviewee explained that "*Without the good internet and flight connections […] we would not be able to build a network reaching beyond the local market*." Another stated that: "*A good internet connection is crucial for a firm located as far from any larger markets as we are, and with the ambitions of acting on a larger market.*"

Embedded Collaboration

The 'collaborative space' of rural businesses is defined by the web of *non-market* relations developed by firms. Interaction with other firms is a very important part of the processes of product development, market expansion and consolidation, especially for firms which are too small to afford to fully internalise activities such as research and development, or marketing. Many SMEs need to engage in collaborative interactions with other firms to secure their long-term development: "*the strategic use of external resources through inter-firm networks […] that are often embedded in regions […] provide an important growth mechanism*" (Lechner and Dowling, op cit, p. 2).

The extent and geography of non-transactional collaboration engaged in by each of the surveyed firms was assessed through a likert-scale question, which is reproduced in Appendix 1. The scores obtained were subjected to Social Network Analysis, using UCINET software (Borgatti et al 2002) [11].

The results of the Social Network Analysis of non-market interaction patterns are presented in the form of a 'cobweb graph' in Fig 2. These may be interpreted as follows: The four quadrants (clockwise from top right) represent four concentric geographic zones within which interaction partners may be located; regional, national, Europe, and the rest of the world. Within each of these quadrants the three axes represent SMEs, large firms and MNEs. These are calibrated in per cent of total interaction activity. The percentage of interaction associated with each zone/firm type combination is represented by the red polygon in the centre of the graph.

This graph gives an immediate impression that the main 'arena' for non-market interaction are within the case study region, and within the national space (i.e. the red polygon is located mainly in the right hand quadrants). The volume of non-market interaction with Europe and the rest of the world (represented by the part of the red poloygon to the right of the vertical axis) is rather smaller.

[11] A UCINET tutorial by Bob Hanneman & Mark Riddle is available at http://faculty.ucr.edu/~hanneman/nettext/

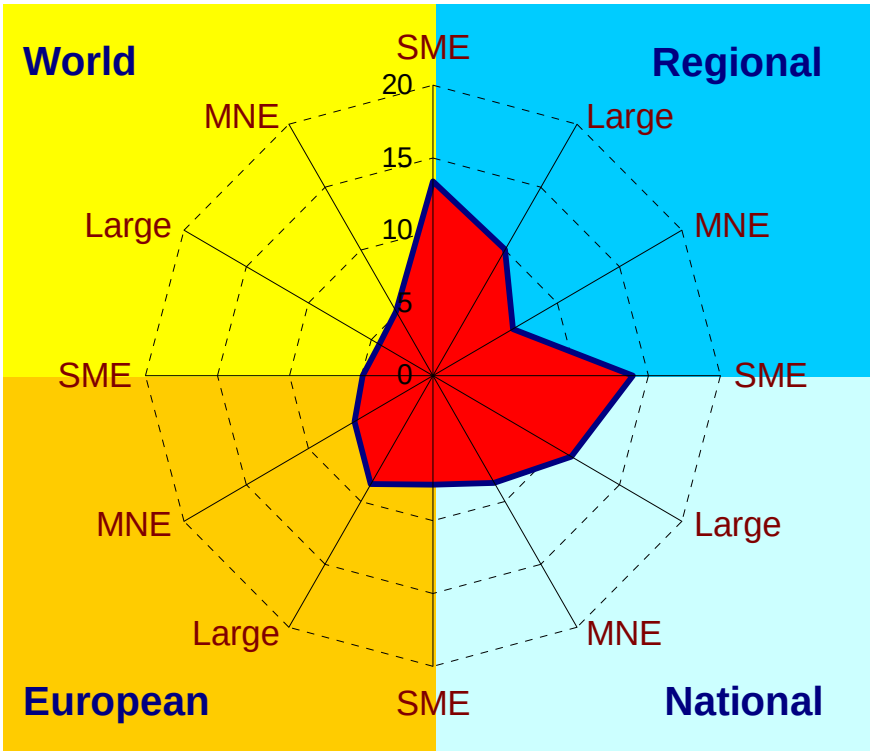

Fig 2. Patterns of Non-Market Interaction in Övre Norrland.

These non-market interaction patterns suggest that the 'collaboration space' of SMEs in rural Sweden remains more firmly rooted in the region or the national territory, to some extent irrespective of the degree of internationalisation of transaction networks. The collaboration space thus focuses on other small domestic firms. Young (2010 p. 405) in his analysis of firms in Port Hardy, Canada, came to similar conclusions; "…a great deal of extra-local success appears to be rooted in informal, reciprocal and everyday exchanges at the local level." This suggests a reappraisal of the close alignment of transaction and non-market linkages, identified by Tödtling and Kaufmann (1999) and Kaufmann and Tödtling (2000).

The role of 'institutional proximity' (i.e. shared institutions, social norms and 'local' culture) in building trust between firms, and facilitating the establishment of collaborative relations, was highlighted, in the interview transcripts, by repeated references to the importance of informal face-to-face contact with other members of the business community. Thus an interviewee argued that it was "*… important to take some time to call the customers instead of always sending an e-mail. Even though it might take you an extra half an hour this is how you build the relationships, through talking about everything but work for a while…*". Another stated "*Sometimes the most valuable meetings among us in the network are the lunches, or the times we meet to watch an ice hockey game. Then we can really talk and give each other good advice. These meetings can also end with new orders and hence new jobs for us*."

It is particularly interesting that face-to-face interaction is still very much valued in the Övre Norrland region, despite the long distances which may separate 'neighbours' in the business community. Sparsity also precludes clustering or proximity of businesses specialising in similar or related activities. Informal non-market interaction therefore tends to focus upon common issues which are of mutual interest because of location, rather than similarity of business activities. In a sense this can help to enhance cooperation since it reduces the rivalry between neighbouring businesses. The interviews provided evidence of the high degree of trust within the rural business community. Thus one interviewee referred to the "good chemistry" within the local business community, which meant that he "*can always just cross the street and go and ask the others for help and ideas…*".

Global Engagement through 'Translocal' Integration

As mentioned above, global engagement of small firms (through the addition of international business linkages) has often been assumed to take the form of either vertical integration, (based on buyer-supplier linkages, with the small firm acting as supplier to large firms or an MNE). Alternatively it could be achieved through 'translocal' integration, based on transaction and cooperation linkages between firms that have broadly equivalent positions in the production chain (i.e. SMEs) in different countries.

So far our empirical evidence has shown that many rural firms, across a variety of geographical contexts have transactional links extending well beyond the regional market, whilst at the same time domestic milieu are still extremely important as the context for non-market cooperation processes. As Figure 2 shows, the idea that small rural firms seek involvement in international settings through vertical integration, i.e. through cooperation with regional and national MNEs, is not supported by the evidence from Övre Norrland. In both the regional and national arenas SMEs were by far the most important partners for informal collaboration. MNEs had a relatively small role, and large firms occupied an intermediary position. Interestingly, within the European context the Övre Norrland SMEs seem to interact more with large firms than SMEs, but MNEs are still relatively less important in this context (Figure 2).

The face to face interviews provided a more nuanced picture of the geography of SME networking. The interviews used the 'actor map' as a device to capture implicit valuations of the relative importance to the business of regional, national and international actors. It is possible to deduce that although the interviewees identified about one third of the actors in their networks as either located in Europe or further afield, the overall 'weight' or value assigned to these international contacts was substantially greater than that associated with the other two-thirds of (regional or national) actors. This finding was corroborated by a number of statements by the interviewees, such as: "*Doing business with international actors is very time consuming but it is also exciting and makes us more interesting among actors back home.*"

Global engagement is, as we have already argued above, not a purely transactional process, but rather a complex process of cooperation-transaction leading to internationalisation of outlook and activity space. Furthermore, unlike local/regional embeddedness, global engagement does not necessitate the existence of 'strong' relations, in the sense of intense and frequent interactions. On the contrary, it echoes Granovetter's (1973) "strength of weak ties", or Bathelt's (2004) "local buzz and global pipeline". Both of these convey the idea that a handful of low-intensity interactions with distant partners may have a disproportionate impact upon the performance of SMEs. Thus, for small firms, global engagement is effected through the acquisition of (perhaps less substantial) linkages which (among other things) provide access to a 'proxy insider's view' of the market trends, institutions, norms and business culture in the wider world. Such information increases the capacity of the firm to respond to global trends in demand, and facilitates the international diffusion of innovations.

Networking benefits relate more to Market Intelligence than Technical Innovation

The face to face interviews, and analysis of the actor maps, allowed an assessment of the relative importance of different 'network functions', which, as Oerlemans and Meeus (2005), have pointed out, can relate to production, marketing, capital and 'compliance'.

In Övre Norrland the main networking benefits apparently relate to the acquisition of market intelligence (i.e. feedback on market requirements, finding new customers etc). Thus one Swedish entrepreneur stated that "*…well developed personal relations with customers, colleagues, competitors and suppliers all around Europe makes us able to understand and predict the development of the European market…*" The use of networking to source technical information to improve products or production processes took second place for most firms.

These results provide an interesting perspective, slightly at odds with the business networking literature, where "global pipelines" and "weak ties" are generally associated with diffusion of innovation. Clearly this emphasises the need for a broad understanding of innovation, incorporating marketing aspects.

The 'Support Space' is still Predominantly Regional and National

An important element of the business networks of rural firms relates to their interaction with 'support' institutions, including public agencies, trade organisations, research institutes and business consultants. These were explored through the email survey, the Likert scale scores of perceived intensity of interaction being analysed in the same way as non-market relations with other private businesses, (above). The results are summarise in Fig 3 below.

What is immediately very apparent is the close relationships between the interviewed firms and the regional or national agencies, but lower levels of interaction with European or Global actors. To some extent this reflects the tendency for European agencies to work through national or regional offices. However it also serves to underline the crucial role played by face-to-face contacts and that the 'friction of distance' within the 'support space' of rural firms is rather stronger than that encountered in the context of transaction activity. This is clearly an important finding in a policy context.

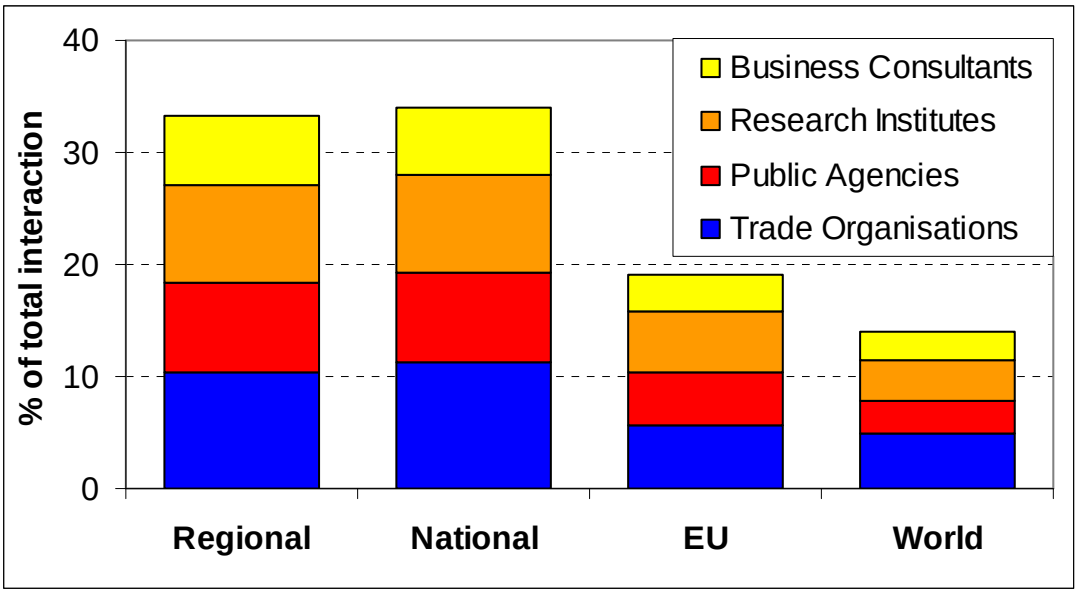

Fig 3. Patterns of Interaction with Supporting Institutions in the Five Case Study Regions.

The 'support space' for SMEs in Övre Norrland is in fact relatively crowded with *public agencies,* at municipal, county and national levels, other *semi-public bodies* linked to universities, and *representative organisations* (both sectoral and regional based). It was not entirely clear whether this complexity should be considered positive (i.e. a rich support environment), or negative (due to confusing complexity and inefficiencies resulting from duplication of effort).

The influence of European programmes and funding is woven through these structures, (rather than presented separately), adding to the perception (among the firms) of limited international influence.

Network Brokerage

The activities of 'network brokers' were explored through a number of structured interviews. It is clear that a range of public, private and 'third sector' organisations engage in brokering, and that their interactions constitute a complex 'meta-network', which is itself interlinked with the business networks of individual SMEs. These 'meta-networks' are vehicles for transporting information between network brokers at different geographical levels (regional, national, European), individual SMEs, and groups of SMEs, both within Övre Norrland and elsewhere across Europe. Within these meta-networks regional actors contribute local knowledge and access to individual SMEs, whilst national and European agencies are the main source of funding, and act as bridges between regions and countries.

The survey of network brokers highlighted the importance of good communication between the multiplicity of actors. Effective collaboration between parallel agencies at different

geographic levels (regional, national or European) is extremely important in facilitating the development of international linkages.

Regional or local network brokers essentially perform two functions:

(i) Helping to establish new trading partnerships ('match-making') between individual SMEs, thus extending the transaction or collaboration networks of individual firms, usually by adding international linkages.

(ii) 'Forum facilitation' activities, which bring together groups of firms with a common interest, with the ultimate objective of strengthening trust between them, and of fostering 'collective learning', perhaps with regard to international markets, technological developments, access to sources of capital, or how to deal efficiently with regulation or bureaucratic policy requirements.

Interestingly these two functions roughly parallel the 'bonding' and 'bridging' functions generally associated with business networks in the academic literature. Furthermore, there was some evidence that match-making had more potential for making enduring changes to the networks of SMEs, whilst groupings of firms generated by forum facilitation were likely to disperse or fragment once the initiative or project was ended.

4. Discussion

The findings of this study of rural business networking in Northern Sweden may be summarised as follows: Despite the peripheral location and sparsity of the region approximately half the firms which participated in the Övre Norrland survey were substantially involved in international transaction networks. Only a small minority had transaction networks restricted to the region. The most important reason for the 'open-ness' of the regional economy is the combination of high quality products and a limited local demand. Engagement in European or global business environments was usually not through interaction with multinational companies operating within the case study region, or elsewhere in Sweden, but directly between Övre Norrland SMEs and similar firms abroad.

By contrast informal, 'soft', non-market, interaction (which necessitated face-to-face contact) was shown to be more contained within the regional or national territory. Such interaction was valued primarily as a means of accessing market intelligence. Diffusion of technical information to facilitate product improvement was perceived as a secondary benefit.

Firms tended to interact with supporting agencies or organisations mainly at a regional or national level. International support tended to be more unusual. Network brokers activities involved both 'match making' and 'forum facilitation'. The former was perceived as having potentially more lasting benefits. Effective international brokering requires efficient 'meta-networks' of brokers at different levels and across a wide geographic territory.

These findings have both theoretical implications (in the sense that they may help us to better understand the process by which remote rural areas are restructured towards the NRE) and policy implications (they may challenge current 'intervention logics' and suggest ways in which the development of stronger business networks may be more effectively supported).

The first key theoretical implication of these findings is that insofar as encouraging SMEs is incorporated into the neo-endogenous or 'place-based' development paradigm, it needs to reflect a balanced awareness of the importance of both local 'embedding' and global engagement.

Secondly, our findings suggest a more nuanced understanding of the benefits transport and communication improvements in peripheral regions. An appreciation of the differential effects on transaction and non-market interaction, and the "partial…divergence between the geographical and relational space of rural business networks" (Dubois *et al* 2011) should replace more simplistic assumptions regarding the 'death of distance' [12].

[12] For example, in 1997 the Conference of Peripheral and Maritime Regions (CPMR) enthused: "The advent of information highways is one of the aspects that has raised greatest hopes in the peripheries. The entry into

The policy implications of the first of the above theoretical points are rather obvious. There have been a number of calls in recent years for approaches to the development of the rural economy which build upon local resources and capital, rather than being imposed from outside, in a 'top-down' way. The OECD New Rural Paradigm (OECD 2006) is a prominent example. In a regional policy context the Barca report (Barca 2009) has championed 'place-based' approaches, and the European Commission has argued, in its Territorial Cohesion Green Paper (EC 2008), that its policies should be "turning diversity into strength". Without disagreeing with this as a guiding principle, we feel that the findings presented above underline the danger of neglecting the role of long distance interactions between rural regions. The validity of neo-endogenous approaches does not imply that *all* the answers are to be found by looking within. This is particularly true in the context of the role of business networks in sustaining entrepreneurship and growing the New Rural Economy.

More specifically; the importance of global/local balance in business networks should sound a cautionary note with regard to cluster policies which focus on developing local networks without also promoting global linkages. They also raise questions about the current emphasis upon rural-urban linkages and/or cooperation. The latter should be careful to differentiate between a range of different aspects of local interaction (commuting, role of countryside public goods in satisfying urban quality of life requirements, localisation of agro-food industries, provision of services of general interest etc.) Clearly closer rural-urban interaction is only part of the answer to the need to stimulate rural entrepreneurship and economic diversification.

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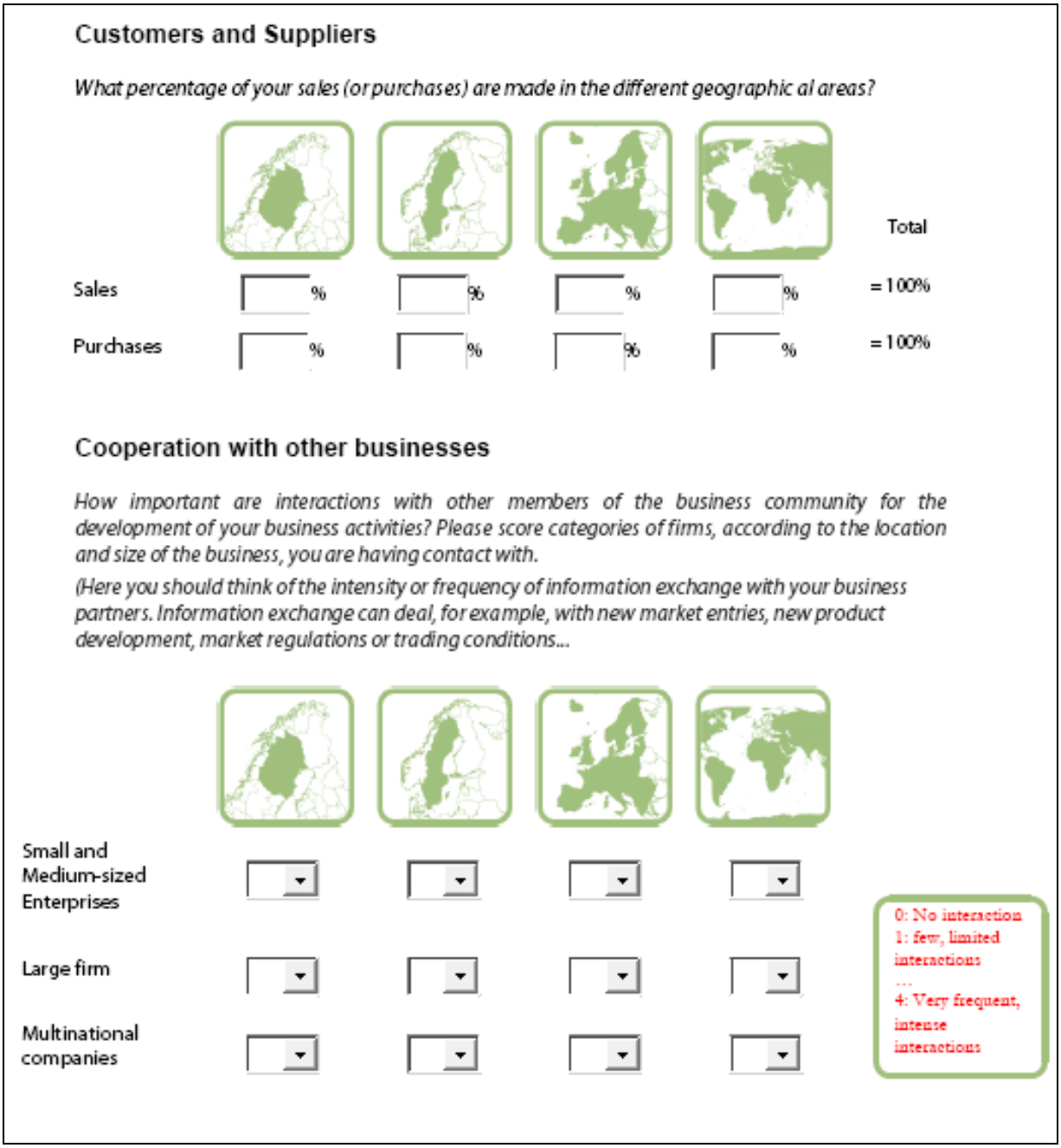
Appendix 1 Key Questions from the Electronic Survey



Customers and Suppliers

What percentage of your sales (or purchases) are made in the different geographic al areas?

					Total
Sales	%	%	%	%	= 100%
Purchases	%	%	%	%	= 100%

Cooperation with other businesses

How important are interactions with other members of the business community for the development of your business activities? Please score categories of firms, according to the location and size of the business, you are having contact with.

(Here you should think of the intensity or frequency of information exchange with your business partners. Information exchange can deal, for example, with new market entries, new product development, market regulations or trading conditions...

Small and Medium-sized Enterprises				
Large firm				
Multinational companies				

0: No interaction
1: few, limited interactions
...
4: Very frequent, intense interactions

Notes:

1. An introductory section explained the cartographic icons at the top of each column.
2. In the second (cooperation) question the buttons beside the boxes bring up a series clickable of options, from 1 (no interaction) to 4 (frequent and intense interaction)
3. The same basic layout was used for questions relating to support from institutional actors and sources of information.