The competitive advantage of regions and small economic areas: The case of Finland

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The aim of this article is to answer the question, "What are the prerequisites for the success of Finland's regions and smaller areas, when barriers to trade are being lowered and Finland is integrated into the international economy?" The answer is based on a study where regional success factors are defined primarily on the basis of Porter's concept of "the competitive advantage of nations." Empirical findings and observations on the most important locational factors of industrial firms in the modern regional economy add to this definition. The success factors are grouped into two blocks: (1) economic activities (five variables), and (2) locational factors of industrial firms (eight variables). Both blocks of variables are analysed with the help of principal components analysis. On the basis of the regional values produced by the first principal component of both blocks, the regions and small economic areas are grouped into four categories that represent their respective competitive advantage. This is done by means of cluster analysis.

Uusimaa, the southernmost region of Finland that includes the capital city Helsinki, is in the best position and has the best prerequisites for success. The next regions are Southwest Finland with its main centre Turku and the Tampere region (Pirkanmaa). South Ostrobothnia, North Karelia, South Savo, and Central Ostrobothnia have the weakest prerequisites of all nineteen regions. The disparities within the regions are often considerable. The core area of the region is generally in the best position. After the Helsinki area, the small economic areas of Turku, Tampere, Oulu, and Jyväskylä are in a good position, followed by Vaasa, Kuopio, Lahti, and Pori. Related studies carried out in the latter part of the 1990s confirm these results almost without exception. The results suggest that the polarisation of Finland's regional economy continues. The new national regional development program, approved by the Finnish government for the period 2001–2006, supports this view of the future.

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Introduction

In a world that is becoming internationalised and globalized, the open national economies and the regions involved will have to adapt to continuing changes in the operating environment and to fiercer competition.

A severe recession shook Finnish society and the basis of the regional economy in the early 1990s (from 1991 to 1993). The causes were largely domestic, but the dissolution of the Soviet Union and the collapse of trade with Eastern Europe intensified the crisis (Bordes 1993; Currie 1993). Perhaps the most significant of the changes in Finland's external situation was the membership in the European Union at the beginning of 1995. The membership involved the removal of barriers to the movement of people, goods, and factors of production within the area of the European Union. On the one hand, European integration has decreased the significance of national borders. On the other hand, the importance of the regional and local level within the nations has strengthened. The expression *A Europe of Regions* reflects this development.

Strong economic growth has characterized the

latter part of the 1990s and the beginning of the 2000s. The new growth sectors, especially information and communications technology, have set the pace. Finland is moving towards *information society* at full speed (e.g., Alkio & Möttölä 2000).

The changes may involve threats to, and opportunities for, the development of sub-areas. This depends on their strengths and weaknesses in relation to pressures for external and internal changes and their competitiveness in relation to other sub-areas of the country.

This survey is an attempt to answer the question: "What are the prospects for success of the sub-areas of Finland in an integrated Europe and, more generally, in a globalized world?"

The sub-areas' prospects for success will be evaluated mainly on two regional levels: *regions* and *small economic areas*. These regional divisions are associated with the comprehensive reorganisation of the regional administration of Finland that was carried out in the 1990s. For the regional development work, the country was divided into nineteen functional-economic "regions" (Policy decisions by the Council of State, 8 July 1992 & 9 September 1993), and further into 88 "small economic areas" (Policy decision by the Ministry of the Interior, 19 January 1993). Since then, one region has been added (Itä-Uusimaa, Policy decision by the Council of State, 6 February 1997) and the number of sub-regional units (small economic areas) has decreased to 79 after the changes made at the beginning of 2001 and earlier. In addition, in 1997, the administrative provinces were reduced from twelve to six. At the same time, fifteen Employment and Economic Development Centres and their jurisdictions were established (Regional… 1998).

The content of competitive advantage

The present and future prerequisites for regional success can be approached from the standpoint of *competitive advantage*, a concept introduced by Michael Porter (1990). In his book, Porter examines competitive advantage primarily on the national level, but the concept can also be applied to the sub-areas of a nation, because – as Porter (1990: 19, 29) points out – competitive advantage is created and sustained through a highly localized process.

The following two premises form the starting-point for a definition of competitive advantage in the present study:

1) In an open economy, the success of sub-areas depends on the existing basic industrial structure and its sensitivity to intensified international competition.
2) Sub-areas that possess those locational requirements of firms that are (now and in the future) regarded as central are the most favourable operating environments for new and existing companies.

Below, the content of structural and locational factors and the picture these provide of the prerequisites for success of the sub-areas of Finland in an increasingly international world is described in more detail. The description is based mainly on a comprehensive study completed in the mid-1990s (Mikkonen 1994) and on an analysis complementary to it (Mikkonen & Luoma 1996; cf. Silander et al. 1997).

Basic industrial structure

The relation of GDP to population is widely used as a measure of competitive advantage. It gives an overall picture of the level of production in an area, together with its efficacy and stage of development (cf. *the Rostow model*, e.g., Barke & O'Hare 1991: 44).

A more finely divided specification of the production structure sheds some light on future prospects. Predominantly agricultural regions are in a weaker position than others to meet internationalisation. Before and at the time of Finland's joining in the EU, researchers were unanimous in this assumption: they believed that Finnish agriculture would have difficulties in adjusting to internationalisation and that reductions were inevitable (e.g., Rosenqvist et al. 1993: 98; Törmä et al. 1995). The pressure on agriculture was due both to Finland's EU membership and the implementation of the GATT programme for tariff reduction. This assumption has since come true. There were 95,562 subsidised active landholdings in Finland in the first year of EU membership, in 1995. In 2000, the number of corresponding landholdings was 77,896 – a decline of 17,666 landholdings, or 18.5 percent (Suomen… 2001: 20–21). The decline is expected to continue so that the number of landholdings is likely to be about half of what it is today in ten years' time (according to the Min-

ister of Agriculture Kalevi Hemilä in a radio interview, 5 March 1999). According to Statistics Finland, the size of the employed labour force in the primary sector decreased by 15,881 persons (12%) during the three years from the end of 1995 to the end of 1998. At the same time, the total employed labour force increased by 199,952 persons (10%) (SVT 1997: 110, 2001: 112).

There are also differences between industrial sectors and between firms inside sectors in relation to international competition (cf. Porter 1990: 24–25, 71–72). The volume of exports is one indicator of a region's level of internationalisation. Exports bring more profit and growth potential to a region than business transactions within the region. Exports prove that the internationalisation process of a region has started, at least as far as trade is concerned. The most vulnerable industrial sectors are those whose operation has been secured through export subsidies or, on the domestic market, through import controls. The strongest ones are those which have already been integrated into foreign trade.

Differences between industrial sectors and between firms are reflected on the regional level in the fact that regions and smaller areas which have more enterprises in the export and growth sectors will succeed better than those regions and smaller areas whose economic activities favour declining sectors or are narrow and one-sided (cf. *differential growth theory*, Thompson 1966: 359–360).

As for internationalisation, large international companies are in a key position. They have lived through the survival process involved in internationalisation and serve as examples and pacesetters for the development of other companies. They can also create *clusters* of prosperous companies around them.

The characteristics of the basic industrial structure are measured here by means of five variables.

The variables of economic activity

1. Percentage of jobs in the primary sector
2. GDP per capita
3. Export percentage of industrial gross value
4. Percentage of industrial establishments in growing sectors (in this study, the metal industry)
5. Number of clusters with large firms (minimum of 500 employees)

(Mikkonen 1994: 37–80; Mikkonen & Luoma 1996: 102).

Locational factors of industrial firms

Location theories of industry, the key works cited below, and numerous empirical locational studies (e.g., Littunen et al. 1987; Littunen 1991: 47) have been referred to in identifying the most important locational and gravitational factors of entrepreneurship on the threshold of the twenty-first century.

In the long term, some of the main factors disappear and new ones emerge. New factors include educational and research infrastructure, a living environment, the quality of life, and the business climate. The availability of a labour force heads the lists in all studies of locational factors. Recent studies have paid attention not only to the quantity, but, increasingly, to the quality of the labour force. For example, in Porter's model of the stages of competitive development (Porter 1990: 545–546, 452–556), a highly educated labour force, knowledge, and competence are key factors at the innovation-intensive stage of competitive development (cf. Suomi 2015 2000: 9).

Andersson and Strömquist (1988: 29–30), for their part, summarized the five major locational factors of the modern "knowledge society" (*K-samhället* in Swedish) as the five **K**:s (in Swedish):

kunskap	knowledge
kompetens	competence
kreativitet	creativity
kommunikation	communication
kultur	culture

In their view, traditional locational factors, such as natural resources and market access, are not necessarily the most essential prerequisites for efficient production in a K-society. Instead, companies resort to areas characterised by networks, knowledge, and rapid growth.

On the basis of these references, the following have been chosen as the locational factors of firms, describing the gravitational pull of regions: demand conditions (population potential and income level, respectively); the quantity and quality of the labour force; the educational and research infrastructure; accessibility; and the living environment (cultural services and physical factors). This kind of list is always a generalization. It does not take into account the special demands of individual sectors and the order of importance of the factors in each sector.

The locational variables of firms

1. Population potential was calculated using the formula

$$V_i = P_i + \sum_{j=1}^{n} \frac{P_j}{D_{ij}} \qquad i \neq j$$

where $P_{i,j}$ = the population of regions i and j
D_{ij} = the distance between regions i and j

The distances between the regions were calculated using coordinates of the main centres of the regions and the Pythagorean theorem.

2. Income level of population (tax units per capita)
3. Percentage of population aged 15–64
4. Educational level of population
5. Educational and research infrastructure
6. Accessibility
7. Cultural services
8. Physical factors

(For more details of the measure of variables and data collection, see Mikkonen 1994; Mikkonen & Luoma 1996: 102–103).

The regional dimension of competitive advantage

The combination of the above-mentioned economic activities and locational factors of enterprises answers the question of the interregional competitive advantage of Finnish regions and small economic areas.

Handling of the data

The concentration of the information contained in the initial variables was carried out by means of *principal components analysis*. Variables describing economic activities and those referring to locational factors were analysed separately. The first principal component of the economic activities is called *industrial structure* and that of the locational variables *regional gravitation*. The next stage in the principal components analysis is calculating the values (the component scores) for each region and small economic area through the industrial structure and gravitation components (cf. Short 1991: 146–148). The regional values were standardized so that their mean is 0 and deviation 1. The general principle of interpreting the results is: "The higher the regional value, the better the region's position in the interregional comparison with regard to each dimension."

In the final stage of the analysis, the regions and

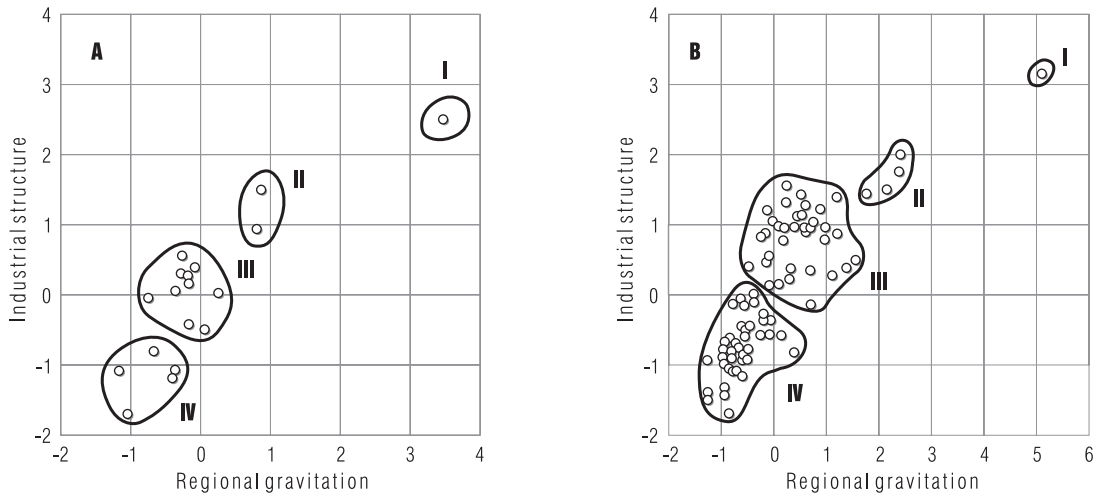

Fig. 1. Values of the principal components (industrial structure and regional gravitation) in each region (A) and small economic area (B), and four groups produced by cluster analysis.

small economic areas were categorized on the basis of the two main component scores by means of cluster analysis. The standardized values of the industrial structure and gravitation components for each region and small economic area, and the results of the *cluster analysis* in the case of four clusters, are given in Figures 1A and 1B (for details of the principal components analysis and cluster analysis, see Mikkonen & Luoma 1996: 104–106).

Results

The prerequisites of success for Uusimaa in international competition are the best in Finland. This region achieved by far the highest values both in terms of industrial structure and regional gravitation. It was the only region to be placed in Category I (Fig. 1A & Fig. 2A). The next category (II) includes Southwest Finland (and Turku, its main centre) and the Tampere region (Pirkanmaa). Their prospects in interregional competition attain at least the level "good." Most regions, eleven altogether, are found in Category III. The weakest category (IV), from the standpoint of competitive advantage, comprises five regions. Of these, Kainuu (dominated by its main centre Kajaani) is best placed thanks to its wood processing industry, while South Ostrobothnia (Seinäjoki) comes last, mainly because of its predominantly primary pro-

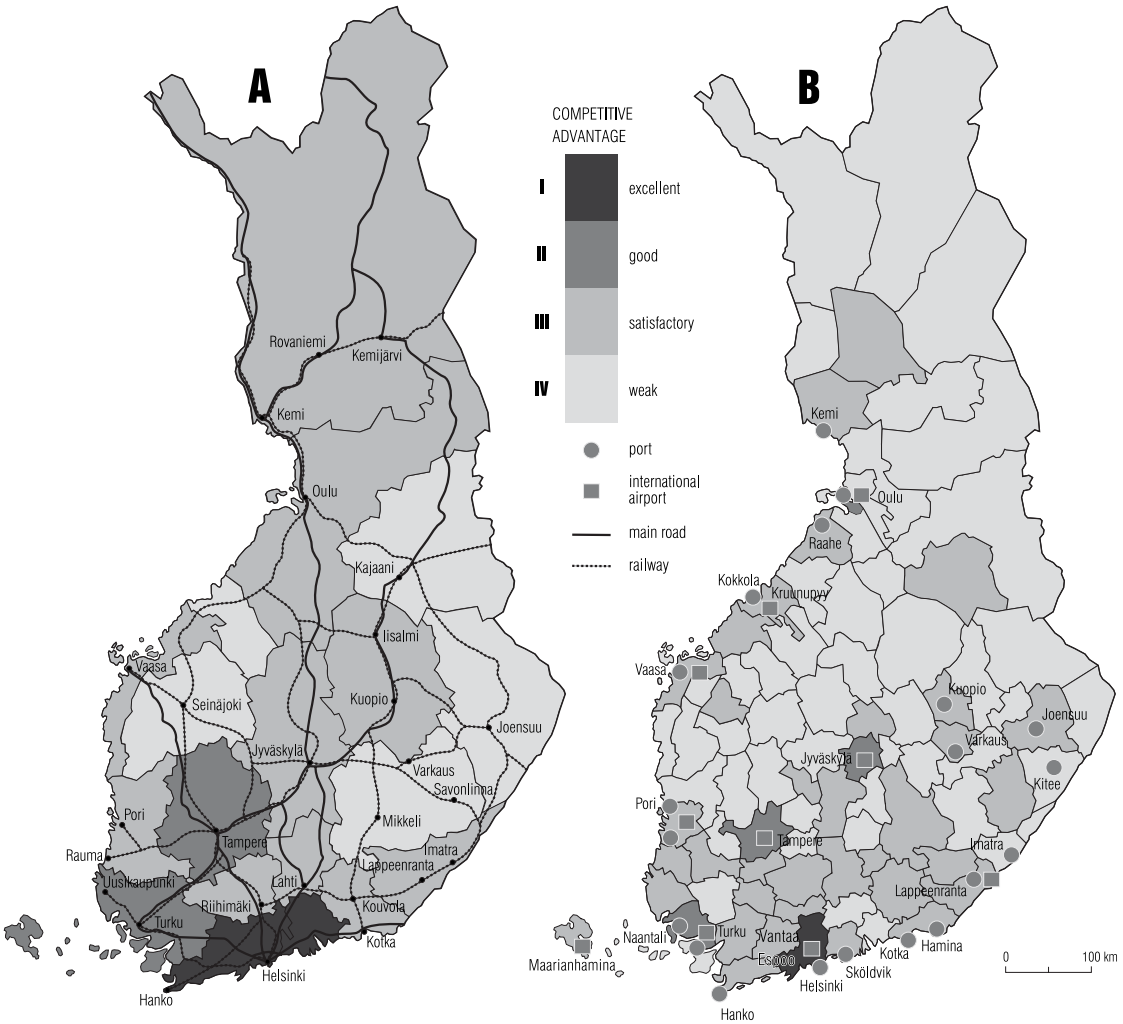

Fig. 2. The competitive advantage of regions (A) and small economic areas (B) in Finland (Categories I–IV).

duction. The other regions in this category are North Karelia (Joensuu), South Savo (Mikkeli), and Central Ostrobothnia (Kokkola).

The competitive advantage varies both between and within the regions. The area dominated by the main centre of the region represents a higher level than the peripheral areas almost without exception. Only some small economic areas characterised by export industry offer an exception to this pattern (e.g., Rauma in Satakunta, Varkaus in North Savo, and Kemi in Lapland).

The Helsinki area is indisputably in the leading position in the country (Fig. 1B & Fig. 2B). The Turku, Tampere, Oulu, and Jyväskylä small economic areas follow (Category II). In Category III, the small economic area of Vaasa has the best prerequisites in terms of structural and gravitational factors. Kuopio, Lahti, and Pori are also examples of small economic areas that are well placed among the core areas of the regions. To Category IV belong the predominantly rural areas with few industries or only some domestic industries. Geographically, most of the small economic areas in this category are located in the barren watershed zone of Suomenselkä, which stretches north-east from the coast of the Gulf of Bothnia and includes the central regions of Finland and Lapland (Fig. 2b).

Comparisons with other studies

Other studies concerned with regional competitive advantages confirm the results of this research.

Using several mutually complementary indicators, Ovaskainen (1998) investigated the sensitivity of Finnish regions to the European Economic and Monetary Union (EMU). His indicators were: structural factors (production and export structure, export orientation, number of SME enterprises, primary production predominance, the public-sector share of GDP); factors indicating regional differences (income per capita, unemployment rate); and factors indicating regional competitive advantage (educational and technological infrastructure). Judging by the results, Uusimaa has the best chance of benefiting from the EMU. The prospects of the Tampere region, Southwest Finland and the Vaasa coastal area are also good. Kainuu and South Savo are in the weakest position. Other problematic areas with regard to EMU sensitiveness are North Karelia, South and Central Ostrobothnia, and – somewhat surprisingly – South Karelia in spite of its strong wood processing industry (Ovaskainen 1998: 28–29, 50–53).

Vartiainen has, by request of the Ministry of the Environment, developed a national method for describing communities. After his initial investigation (Vartiainen 1995), Vartiainen and Antikainen (1998) carried out a study of the *urban network*, adapting and further developing the new descriptive method. The method comprises the following items: (1) the strength, versatility, and functional specialisation of the urban district; (2) prerequisites for development in terms of skills and knowledge, cultural factors, and potential for internationalisation; and (3) results as compared with recent patterns of development. Each item contains several variables. Because Vartiainen's method forms a means of describing and comparing urban districts, large rural areas with their centres remain outside the investigation. This limitation is based on the importance of the urban network for the regional development of Finland and its connection with the development of the urban network of the Baltic region and the European Union (foreword by H. Pitkäranta in Vartiainen 1995: 5). The urban districts included in the urban network study were 37 in all. In spite of the different set of objectives, the results of the investigation can be compared with the results of the previously mentioned studies.

In nearly all respects, the Helsinki urban district is in a class of its own in Finland. Tampere and Turku follow. With regard to its prerequisites for the development defined above, Oulu is the fourth "excellent" urban district – in the words of Vartiainen and Antikainen. The Jyväskylä, Kuopio, and Vaasa urban districts form the next group, which can be characterised as having "good" prerequisites for development. The core areas of the remaining provinces have been characterised as "satisfactory" from the standpoint of their prerequisites for development (Vartiainen & Antikainen 1998: 42–46).

Conclusions and further remarks

The prospects of the regions of Finland for success in the international world vary greatly. Southern Finland is in a more favourable position compared with the rest of the country. The Oulu region emerges as the overwhelming growth centre of northern Finland. The differences within the various regions are considerable in southern Fin-

land as well. The regional structure tends to polarise. This development is being speeded up by Finland's membership in the European Union and by globalisation in a broader sense. One manifestation of polarisation is strong migration, which continues to flow from the countryside to the population centres and from the northern, central, and eastern parts of Finland towards the south. One special feature is the great success of most university cities, led by the strong growth centres that represent top expertise – Helsinki, Tampere, and Oulu (cf. Alkio & Möttölä 2001).

In addition, the future development of regions depends on a number of factors which cannot be quantified exactly. For instance, the bilingualism and international atmosphere of the Ostrobothnian coastal region, Uusimaa, and the Turku region are an undeniable advantage in international interaction. The centres of border districts and of international communications are expected to benefit from expanding internationalism. The eastern and south-eastern parts of Finland have a potentially advantageous position when the Russian economy and Russian trade recover. In a corresponding way, cooperation across the Baltic Sea will be an opportunity for the Finnish ports and more generally as well. The harbours are, among other things, advantageous storing-places for entrepreneurs whose business activity is based on importing raw materials. Lapland and the harbours of the Gulf of Bothnia have, for their part, a strategic *gateway* role in the development of the transit trade of north-west Russia (the Barents region).

The trends and development measures of national regional policy also have their influence on regional development and competitive advantage. The regional policy target program, approved by the Finnish government (9 November 2000), aims at making the content of the Finnish regional policy and its measures of execution answer the growing challenges of the open economy (Valtioneuvoston… 2000). The recommended measures include the development of a network of regional centres that comprises all the provinces and the support of the rural areas by means of a regional program of their own. The number of regional centres will be 30–40. The Government recently confirmed the selection of regional centres for the development program for the period 2001–2006. The planned number of regional centres is based on the number of urban districts (37) examined in the discussed urban network study. In the development of all regions, the new regional policy emphasizes an increase in expertise and the strengths of the different types of districts. This will be further supported by regional political measures. The policy of regional initiatives has thus been placed on a level with the traditional money distribution policy.

The parameters and practical measures of the new regional development policy confirm the picture of development indicated by the results of this survey concerning the natural prerequisites for the success of Finland's regions and sub-regions.

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