

## **Do Good Rankings Matter? The Paradox of Finland**

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### **Abstract**

A policy shift from regulation, competitions policy and public ownership of businesses to waves of deregulation, privatisation and a decreased emphasis on competition has been noted. The new policy approach focuses rather enabling the creation and commercialisation of knowledge, e.g. encouraging R&D, venture capital and new technology-based firm start-ups. Finland has allocated lots of resources to build a knowledge-based society building on innovation. A number of indicators such as competitiveness, growth, investments in R&D, national innovation system and global creativity index place Finland among top performers. However, these high rankings have not helped Finland in solving a number serious problems such as high unemployment, low foreign direct investments and only moderate standard of living. This phenomenon is called Finland's paradox, given that a very competitive and skilful nation does not attract investments and is not in the pole position in the race for a high standard of living. A good platform from which to take-off calls for a bold policy reform to avoid a downward trend already in sight. Higher entrepreneurial activity will be one major priority for the future and rhetoric must become reality.

### **Introduction**

Michael Porter raised the 200-year old concept of 'comparative advantage' and its practical applications in the economic headlines in the national context in the early 1990s (Porter, 1990). Since his seminal work "The competitive advantage of nations" we have lived a time when economic performance rather than military might will be the index of national strength. Today we are constantly exploring what makes nation's firms and industries competitive in global markets and propels a whole nation's economy to advance. Porter and his associates conducted in-country research in ten countries, closely exploring the patterns of industry performance as well as company strategies and national policies that achieved it.

One of the contributions of this work was the effort to identify the basic determinants of national competitive advantage in an industry and how they work together as a system. The important phenomenon of 'clustering' came up, meaning related groups of highly performing firms and industries emerge in one nation to gain leading positions in the world market. Later he has highlighted the importance of new clusters in achieving and maintaining the competitive advantage. These findings have implications for both firms and governments.

As industrial analyst Porter pays less attention to entrepreneurship and the SME sector, but mentions that invention and entrepreneurship are at the heart of national advantage (Porter 1990, 125-126). A visionary or inventor might be located in any nation, which means that the birth of a world-class industry can take place anywhere. Thus, the determinants such as factor conditions, demand conditions, related and supporting industries and firm strategy, structure and rivalry (Porter 1990, 71-130) become important in developing an industry but its initial formation is a 'chance event.' The determinants seem to play a major role in locating where invention and entrepreneurship are most likely to occur in a particular industry. Last but not least, government can influence each of the four determinants either positively or negatively. Factor conditions may be affected through subsidies, policies toward the capital markets, policies toward education, and the like.

Most European countries face a major entrepreneurial challenge. They need to foster entrepreneurial drive more effectively. They need more new and thriving firms willing to reap the benefits of market opening and to embark on innovative ventures for commercial exploitation on a larger scale. Structural changes in the economy have shifted Europe's comparative advantage towards knowledge-based activities. Globalisation has increased competitive pressure on manufacturing firms in high-cost locations, which has led not only to a shift in production capacity to low cost countries, but has also to increasing productivity by using technological inputs.

The capacity to adapt to economic changes is crucial for competitiveness. Comparison between Europe, the US and Japan suggests that change in European manufacturing have not been fast enough in relation to change in demand and technology. The European Council defined its objectives in terms of employment, economic reform and social cohesion in Lisbon in 2000. For 2010, the Union aims "to become the most competitive and dynamic knowledge-based economy in the world, capable of sustainable economic growth with more and better jobs and greater social cohesion" (Green Paper. Entrepreneurship in Europe, 2003) First five years have unfortunately shown that this goal seems to be more rhetoric than reality.

### **Finland's paradox**

Finland has become a successful small country after the WWII 'by hard work and determination' (Suomi innovaatiotoiminnan kärkimaaksi, 2005). There are several achievements such as the Nordic type affluent society with free education, social and health-care services available to everybody, small income disparities, and little poverty. Largely shared values, such as an appreciation of education and work, an ambition to attain equality for women, and technology optimism have also supported Finland's success. The Finnish innovation system is widely recognised if contributions to research and development and the share of high technology in country's industrial production and exports are used as indicators.

Finland has developed substantial strengths with regard to competitive ability and innovation activity, the following of which are worth mentioning:

- The external balance of the economy and public finances are in good order so far
- The growth of the economy has been among the fastest in the world since the middle of the 1990s (the estimate for 2006 is 3.9 per cent)
- Finland uses about 3.5 per cent of her GDP for research and development; this is the third highest figure after Sweden and Israel
- Labour productivity has increased rapidly in industry, particularly in the electro technical industry, surpassing the level of the United States
- With regard to achieving the objectives of the above mentioned Lisbon strategy, Finland is among the three best countries
- In comparison of competitiveness conducted by the World Economic Forum (WEF) and the International Institute for Management Development, Finland has been ranked among the top countries for the last number of years
- The WEF Environmental Sustainability Index ranks Finland in first place
- Richard Florida's Creativity Index ranks Finland in position 2 after Sweden and position 3 in Global Creativity Index after Sweden and Japan
- Finland holds position 5 in the eEurope index 2005 and position 3 after Singapore and Iceland in the WEF ICT listing
- Among the OECD countries, the number of people employed in information and communication Technology in proportion to the total labour force is the highest in Sweden, followed by Finland and Denmark
- Among the younger age groups, the proportion of people with a higher education degree is one of the highest in the world
- The share of researchers and R&D staff among the employed is higher in Finland than in other EU countries, the US and Japan
- Finland is the second least corrupt country in the world after Iceland (2005).

According to these indicators Finland can be placed among the top performers. However, there is also the dark side of the same token. The unemployment figure is still about 8 per cent, the labour force is actually decreasing (from 2005 on) and the dependency ratio is weakening. Aging causes permanent change in the availability of labour, which will particularly hamper the offering of services. In terms of a downward trend currently in sight the following list is worthy attention:

- Measured by GDP per capita, Finland is far from the vanguard of OECD countries in position 15
- The rate of employment in Finland is relatively low (68.7 per cent in May 2005), while Denmark, for example, is 75 per cent
- The population is ageing rapidly and the dependency ratio is weakening more steeply than in the OECD countries on average. This will presumably lead to a very moderate annual GDP growth (average growth 2-2,5 per cent from 2011 on). There is also a risk of a rapid budget deficit rise from 2015 on
- The R&D intensity of the service sector (R&D costs in proportion to the value of production) does not reach the level of the top OECD countries
- Labour productivity within most service sector is relatively weak and the proportion of service

sector accounts only for 17 per cent of total exports

- The investment rate is relatively low in Finland, clearly below the OECD average. It is expected that the growth of the investments in the industry sector will be only slightly above 1 per cent in 2006 compared with 6 per cent in 2005
- The share of GDP represented by direct investments coming to Finland is noticeably below the EU average. According to a recent interview-based survey by Ernst & Young (2006), Finland was in position 28 in Europe in FDIs, far behind neighbouring Sweden and Estonia, for example.
- Even though the level of education in the younger age groups has risen fast, about 15 per cent do not have a secondary-level qualification or a higher degree
- Immigrants represent about 1.7 per cent of the population, while their proportion in most western countries is at least 10 per cent
- Entrepreneurial activity is low in Finland as in other Nordic countries, which is linked to the lack of tax incentives, among other things.

Thus, it is reasonable to talk about *Finland's paradox*, given that a very competitive and skilful nation does not attract investments, is not in the pole position in the race for a high standard of living and is not able to eliminate large-scale unemployment. Finland's paradox may mean a bad prognosis for its competitive ability and for the prospect of it becoming wealthy.

### **Education – our destiny, but does it help?**

An appreciation and resource allocation on education is a commonly shared value in Finland. According to OECD PISA (Programme for International Students Assessment) young Finns are among the world top in learning outcome. PISA is an internationally standardised assessment which produces data on state education, learning outcomes and extra-curricular learning. The triennial PISA programme (2003) assessed the knowledge and skills of 15-year-old students in the domains of reading, mathematics and science. The first review (PISA 2000) focused on reading literacy; these findings were published in 2001. The “major” domain of PISA 2003 was mathematics. Science literacy will be gauged in detail in the third PISA in 2006.

Young Finns are the best in mathematical literacy in the OECD. The same level of mathematical competencies were found in Korea, the Netherlands and Japan, and the non-OECD participating area Hong Kong (China). Young Finns reached a high level in all measured aspects of mathematical skills, but their area was quantitative reasoning. Paradoxically, young Finns' interest in mathematics was below the OECD average. Thus, Finland still has many challenges in instilling attitudes conducive to learning and developing learning strategies. The overriding characteristic of young Finns' learning outcome is that it is very even, the proportion of low-achievers is small compared to other OECD countries.

Young Finns were also at the OECD top in PISA reading literacy both in 2000 and 2003. They had statistically significantly better reading skills than their peers in other countries of high literacy, such as Korea, Canada, Australia and New Zealand. In PISA 2003 four countries clearly outperformed the others in

scientific literacy. Those were OECD countries Finland, Japan and Korea and the partner country Hong Kong-China.

The results given above represent the results of Finnish comprehensive schools. When it comes to vocational schools, their relatively high dropout ratio is worrying. There are 20 universities and 30 polytechnics (“universities of applied sciences”) in the country whose population is only 5.2 million. As to higher education, there is a critical ongoing debate about the official goal to provide third level education to 70 per cent of the age group. For example, the Confederation of Finnish industries has stated that 25-30 per cent would be enough. The country needs plumbers, metal workers, bus drivers, welders, sellers etc. Bell’s concept of “educated incompetence” is becoming a real issue. On the other side of the educational continuum, foreigners represent only about 6 per cent of all doctoral students in Finland, while their share is more than 15 per cent in Switzerland, the UK, Belgium, the USA, Australia, Sweden, Denmark and Norway, for example.

Entrepreneurship education in the Finnish comprehensive school is a relatively new phenomenon. In spite of some projects from the 1980s on, The Finnish Ministry of Education announced an initiative titled ‘The Clarification and the Action Programme of Entrepreneurship Education’ only in 2004. In terms of the comprehensive school level, the National Board of Education has introduced ‘The National Core Curriculum for Basic Education 2004’. Through this entrepreneurship education is aimed to be integrated into the subjects and school cultures through the realisation of the local curriculum reform. An evaluation study conducted in 2006 in medium-sized municipalities (Seikkula-Leino, 2006) showed that entrepreneurship education is developing rather well through the curriculum reform. Some 30 per cent of school respondents strengthened considerably their entrepreneurship education during the years 2005-2006. Several preventing factors were identified, too. Lack of knowledge and teachers’ negative attitudes were among most visible ones. It will be a massive marketing task to launch the new curriculum successfully in all schools. There is also a clear need to increase entrepreneurship education at university and polytechnic levels.

Policy makers realise that earlier ad hoc efforts to expose youth entrepreneurship will not be enough to build a strong entrepreneurial society. Entrepreneurship education must be integrated in the school curriculum at all levels from primary school through to university. This poses a major challenge for several reasons and is only in the beginning through the efforts by Ministry of Education and National Board of Education. Successful implementation will take time and patience. Issues such as professional development of teachers, business-education partnerships, building of community support etc. call for new requirements and commitment from all parties involved.

### **The challenge of entrepreneurship**

Entrepreneurial activity has been rather low in Finland like the other Nordic countries, which is linked to the lack of tax incentives, among other things. However, according to the GEM 2005 reports (Heinonen et al., 2006) the total amount of small and medium-sized enterprises (their proportion of all firms is 99.8 per cent and they employ 62 per cent of people in the private sector and account 52 per cent of total turnover) and

entrepreneurs is now higher than ever before. During the last three years the amount of enterprises has increased by 7.2 per cent. The amount of new enterprises has grown particularly in business services, real estate services, construction, social services and other personal services. The problem is the small amount of innovative growth companies. These are the providers of genuine new jobs and thus badly needed.

There is a recent survey about new companies established in 1999-2000. In 2004 only 2.15 per cent could be identified growth companies. Growth was very concentrated: the amount of employees in growth companies doubled in 2001-2004, while the growth of personnel in other start-up companies was only 7 per cent. In most other similar surveys the proportion of growth companies has typically been 3-5 per cent after five years from their start-up. It has been also estimated that these growth companies may create even 75 per cent of the total number of jobs created by new enterprises.

According to the latest GEM report (2005) 5 per cent of the Finnish adult population was actively founding an enterprise or worked as an entrepreneur in a new firm. A slight increase from the previous year was 0.6 per cent. Finland ranked in position 26 out of 35 countries studied. Compared to other Nordic countries the activity in early stages was average, but slightly higher than in Sweden and Denmark. Proportion of those people in Finland who have worked longer as an entrepreneur (“established entrepreneurs”) was 8.6 per cent. This figure is highest in the Nordic countries and clearly above average internationally, too. It seems that the Finnish start-up companies manage the critical first years better than average.

New start-up firms and established enterprises together measure the total entrepreneurial activity in the country. Its proportion in Finland was 13.5 per cent of adult population in Finland (Heinonen et al., 2006). It ranked in position 6 of 20 countries in Europe investigated. The female entrepreneurial activity has also increased in Finland during the new millennium. In 2005 there women founded 45 per cent of all start-up companies.

The Entrepreneurship Survey of the Ministry of Trade and Industry in Finland gives another overall picture of the operating conditions and trends of entrepreneurship and entrepreneurial activity in Finland. It also maps out the progress of the Government’s Entrepreneurship Policy programme started in 2003. Business start-ups, growth of enterprises and their impact on employment are objects of special attention. This survey shows that development of service firms is an important challenge for Finland. The proportion of private service trades of both production and employment is low on the international scale. Business services with growth potential still employ a relatively low number of persons compared to the other developed countries, although there has been some progress over the past couple of years. More high-quality business services are still badly needed to support the growth and internationalisation of enterprises.

The proportion of ‘academic entrepreneurship’ is still low in Finland, although it has doubled in two decades. This phenomenon used to be a component in Finland’s paradox: the higher education the less probable it was to become an entrepreneur. Now the situation is changing: every fourth highly educated young Finn considers entrepreneurial career as possible or probable by the time they become 30-35 years of age. The amount of new high tech ventures has also grown rapidly by 40 per cent (2006) compared to the

previous year. It is too early to say if this boom will continue, but it has positively surprised policy makers. The role of university spinn-offs is also strengthening due to new legislation.

Stevenson and Lundström (2003) have noted a policy shift from regulation, competition policy and public ownership of businesses to waves of deregulation, privatisation and a decreased emphasis on competition policy. The new policy approach focuses on enabling the creation of commercialisation of knowledge, e.g., encouraging R&D, venture capital and new firm start-ups. Other dimensions of the policy shift are an emerging devolution of enabling policies to the state, regional and local level and the indirect promotion of new technology-based firms in technology policies (Jacob et al., 2003).

### **Both entrepreneurship and innovation**

In the Finnish context, innovation or innovation system is the ‘mantra’ oftentimes mentioned together with entrepreneurship. Policy makers emphasise that Finland’s future is in knowledge and competence, particularly in knowledge-based business and its renewal and growth. Knowledge and competence will play a major role in the renewal of both the private and the public sector and in increasing productivity. Renewal is based on development, management, and on clear cut focus areas. Technological knowledge and competence are Finland’s current strengths, enabling the country to build new innovations. Technology-based new firms play a special role in entrepreneurship research as the classical Schumpeterian innovation agents introducing creative destruction in the market place. Today technology is considered much stronger as the key driving force of economic change and growth than about one hundred years ago when Schumpeter postulated his well-known thesis.

Modern innovation theory presents a systemic approach to economic growth and prosperity – an approach often seen by policy-makers as the backbone of their endeavor foster economic and social well-being. This was clearly indicated by the evaluation of the TULI programme (“From ideas to Innovations: Valovirta et al., 2006) conducted in Finland in 2002-2005. The nation-wide programme aimed to develop a regionally operating, nationally coherent model to identify, assess and develop business stemming from research results. Behind this programme was generally accepted observation that a research-based invention can be a promising starting point for commercialisation contributing not only to the inventor but the scientific community and national economy as well (Shane, 2004). There are great many research findings and inventions made in universities, polytechnics and research institutes that just remain unexploited. There are feelings about the difficulties of entrepreneurship, underestimation of the value of one’s own invention and worries about bureaucracy among scholastic inventors.

An extensive network of experts from technical to commercial ones was mobilised to evaluate and enhance the ideas. The TULI project was based on regionally diversified implementation. Already existing regional innovation system consisting of research institutions, firms, brokers, public agents and various service providers formed the local implementation context. It appeared that a special success factor for a regional innovation system was based on the interrelationships between the actors. The network they form is a systemic and dynamic wholeness, because the mere existence of actors and institutions is not enough.

Although universities were the dynamos of the programme, the regional success was much dependent on the functioning of the other parts in the innovation system (Valovirta et al., 2006).

Increasing entrepreneurial activity (incentives, changes in the atmosphere, elimination of the obstacles to entrepreneurship) is a driving force for the regional innovation system. Current relatively low level of entrepreneurial activity is a significant weakness. Finland seems still to lack financial as well as mental incentives for entrepreneurship and risk-taking. Culture appreciating equality has not been able to place enough value on individuals and their desire for success. Finland is not particularly tolerant of differences (Florida, 2006). A tolerant atmosphere has to be strengthened both by national measures and within work communities. The significance of tolerance will become more emphasised when the number of immigrants and multi-cultural work communities increases.

Experiences and analyses of globalisation indicate that the global economy has entered an innovation-oriented phase. It can be characterised by:

- Intensifying competition in the global market
- Human and entrepreneurial capital becoming one of the most central factors of competitive ability
- Emphasis on research and development nationally as well as in enterprises
- Differentiation of products and services according to customers and markets

Each national economy is its own phase of development and all such economies are not necessarily on the same development track. Nevertheless, new developing national economies will be rapidly moving to the innovation-oriented phase. Correspondingly, many current industrial countries are in risk of drifting to a prosperity –oriented phase, characterised by excessive complacency with the competitive ability and standard of living. This may lead to regression and freezing of the society's transformation ability. High rankings in international economic and societal indexes are not enough, but signs of stagnation are already visible in Finland. Increasing social dynamics is one of the most fundamental challenges when maintaining Finland's position in competitive advantage.

As an immediate proposal for action, a national multidimensional campaign must be continued particularly in schools and workplaces with the aim of encouraging individuals and communities to become more courageous, risk taking, accept differences and engage in entrepreneurship.

## References

- Florida, Richard (2006). *Luovan luokan pako*. Talentum, Helsinki (“The Flight of the Creative Class”, 2005).
- Green Paper Entrepreneurship in Europe*. European Commission, Brussels 2003.
- Heinonen, J., Kovalainen, A. and Pukkinen, T. (2006). *Global Entrepreneurship Monitor 2005 Executive Report Finland*. Turku School of Economics and Business Administration. Series B Research Reports, Turku.
- Jacob, M., Lundqvist, M. and Hellsmark, H. (2003). Entrepreneurial transformations in the Swedish University system: the case of Chalmers University of Technology. *Research Policy*, 32, 1555-1568.
- Kohti yrittäjyysyhteiskuntaa. EK:n pk-ohjelma vuoteen 2010*. EK, Helsinki (in Finnish: Towards entrepreneurial society. The SME programme of the Confederation of Finnish Industries).
- Need to Know. Nordic innovation policies for the future*. Nordic Industrial Fund, Oslo 2006.
- Porter, M. (1990). *The Competitive Advantage of Nations*. The Macmillan Press Ltd, London and Basingstoke.
- Seikkula-Leino, J. (2006). Promoting Entrepreneurship in the Finnish Comprehensive School. A paper presented in the IntEnt 2006 Conference in Sao Paulo, Brazil, July 10-12, 2006.
- Shane, Scott (2004). *Academic Entrepreneurship. University Spinoffs and Wealth Creation*. Edward Elgar, Cheltenham UK and Northampton, MA.
- Stevenson, L. and Lundström, A. (2003). *Patterns and trends in entrepreneurship /SME policy and practice in ten economies. Volume 3 of the Entrepreneurship Policy for the Future Series*. Stockholm, NUTEK.
- Suomi innovaatiotoiminnan kärkimaaksi. Kilpailukykyinen innovaatioympäristö-kehittämishjelman loppuraportti*. Sitra, Helsinki 2005. (In Finnish: Making Finland a leading country in innovation. Final report of the Competitive Innovation Environment Development Programme. The Finnish National Fund for Research and Development).
- Valovirta, V., Oosi, O., Uusikylä, P. and Maula, M. (2006). *Ideat kasvamaan innovaatioiksi*. Tekes, Teknologiahjelmaraportti 2/06, Helsinki (In Finnish: From ideas to Innovations).