

Chapter 7

Conclusion: Developing Comprehensive, Enabling Welfare States for Offensive Experimentalist Business

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Deriving the Core Lesson from the Nordic Welfare states

While the emergence of the new economy – the global, networked, projective economy – has been problematic for a number of countries belonging both to the liberal market economies/welfare states and to coordinated market economies/conservative welfare states, its merger with the Nordic welfare states/coordinated market economies has been surprisingly successful – at least for a period.

While the US and France have seen the coming of the new economy as associated with a widening gap between the included and the excluded, between the mobile elite of the financial-, managerial-, research- and cultural communities and the immobile unskilled and traditional sectors and occupations, the Nordic countries have managed to carve out spaces for and transform the identities of a much broader spectre of the population within this new economy. In effect differences between the situation of the lowest and the highest strata of the population are small, unemployment is low, activity is high, trade balances positive, public- and private debt negligible and investments in infrastructures, on which the shaping of the future depends, offensive.

There seems to be a covariance between these outcomes and the proportion of the population that gets a higher secondary education. Free education in most continental countries makes it possible to achieve levels around 80% of new cohorts, seemingly equipped with the basic abilities that it takes to live with the new economy, shift or renew occupation, move among jobs and shifting project assignments. Many conservative welfare states share these characteristics, but the difference is that in the Nordic welfare states, high levels of education covary with social services (child- and eldercare, care for disabled, etc.) in ways that enable families to engage adult members of households in the unpredictable working life of the new economy and yet overcome reproductive duties, while simultaneously – though to a highly varying extent among the Nordic countries - also including young and elderly in the labour market. In e.g. Slovenia – as we have seen – the family is, on the contrary, an important source, providing the social services so that some family members

may become active in the new economy. For instance early retirement schemes make it possible for some to retire early so that they can be part of the support that enables e.g. university students to be active on a low paid but probably highly dynamic section of the labour market that introduces them to the new economy – as we shall see below.

Public services enable both males and females to be active in the new economy. As employees they must be able to make swift role shifts, engage in learning while performing jobs, be away from home for weeks to attend further training or participating in projects in different locations or even abroad. The family must be able to live with members that engage in an unpredictable working life both in terms of content, place, and timing. The working life may involve periods of great transitions, such as change from an already achieved profession to a new quasi-profession or navigate from jobs in low to high-esteemed and -demanding projects and networks. Today working careers seldom follow the hierarchical path of a bureaucracy; they are often horizontal, crossing many organizational boundaries, social strata, professional divides, etc. Persons moving in such ways are often insecure, feeling disabled and stressful. Obviously, other things being equal, such a job market is much easier to handle for rich families that can hire a number of private servants to compensate for the reduced time adults may allocate to children, parents and partners. For that reason primarily rich families in countries such as France and the US are able to participate to the fullest in the new economy, often serviced by immigrant labour, paid substantially less than the families they serve. In the Nordic countries families may engage in working life in a similar way, thanks to public services. Esping-Andersen (2000, p 16) therefore sees the provision of social services for families to be

.... the single most effective policy for combating poverty and welfare dependency, while it is also an investment in human resources. In short, family services should be regarded not only as mere “passive consumption”, but also as investments that yield return in the long run.

He argues that social services increase women’s participation rate on the labour market which has proven to be one of the best ways of combating child poverty, which again is playing a major role in determining the educational level of a country. Thus public services, the participation rate of the population on the labour market, educational level and the ability to master the new economy seem to generate a virtuous circle, which the Nordic Welfare states seem to have engineered more or less unintended. Compared to most Southern- or Eastern European countries, the participation rate of women is high in Slovenia despite social services being low and close to Italian levels (where the

female participation rate is low). This indicates that the extended family in Slovenia seems to have played an important role in transitional processes, while the opposite goes for Italy.

The covariance between types of welfare states and forms of organization (as demonstrated in Chapter 1) suggests that social services have consistently provided the ground for creating business- and public organizations in the Nordic countries of a significantly different type than in most other countries. These organizational forms, heuristically labelled “learning organizations”, are characterized by combining high labour autonomy with high efficiency, the exploration of employees’ own ideas and learning at work, networking among organizations directly by employee-levels, measures that are probably explaining the performance of the Nordic countries in terms of innovativeness. The Nordic countries all score high in terms of worker satisfaction. The contrast to Slovenia is quite systematic. Here increases in work intensity have been extensive, and carried out to make Slovenia low on costs and managerially controlled organizations. The Slovenian population seems dissatisfied with their jobs, but the ties among family, house, factory, and region make it difficult to change the social contract between employee and employer at the micro-level in the traditional sectors of the economy. Both Slovenia and the Nordic countries have made use of basic institutions to find novel comparative advantages in tandem with globalization – and these comparative advantages are very different at the moment.

In the Nordic countries, the experimental development of so-called “learning organizations” has made it possible for firms and public institutions to gain a substantial degree of manoeuvrability, as our case-studies show. Firms may pursue a “service-the-sophisticated-customer-strategy” (sesoco-strategy), the customer often being other firms or public institutions making customer-driven innovations a general feature in many of the cases we have studied. Perhaps the most surprising finding is that in all the Nordic countries, firms or organizations may take departure in a product, but then they will move this product very close to customers and start to increase the importance of it, either by solving more and more complicated problems for existing customers and/or move in such a way that they come to work for increasingly sophisticated and demanding customers. In most of our cases, Nordic firms seem ready to accept the risks involved in moving with the tides of customers with whom they are involved, and the internal flexibility makes it possible to re-arrange roles and routines internally as customer relations change. In this way they create a dense network with other firms and suppliers, which enables them to play the role of spider in a web combining a set of suppliers with a set of customers. This network does not constitute a stable and well-defined global value chain, but is rather an open innovative system, where impulses and capabilities for

development are abundant – provided that the firms accept the risks involved. Our cases show that firms and organizations can move in these directions both from being R&D organizations (in Sweden), from being artisan or manufacturing firms (in Denmark and Finland) and from being state-owned (Norway). Many of the firms we studied did not simply supply customers with goods, but used goods as components in a larger set of services that aimed at continuous improvement of core-processes in the customer organization. Where formerly internal staffs had taken care of improvements, Nordic firms now provided these. And by doing this across a number of customer organizations they accumulate an extensive knowledge of practises that can be combined into new approaches. They so to speak increase their assets by bringing them into play. To us this is a break away from strategies of either scale or scope that characterize past corporate strategies and that currently is used to explain the global organization of value chains. But it is also a system in which the best way to learn comes from participating in the continuous response to new challenges emerging in networks, both at the level of firms and of employees. Therefore it causes employees troubles to maintain their working competence and professionalism if they are absent for longer periods, e.g. on parental leave, and it may be very important that the young generation very early, in parallel with their education, enters the job market and learn to participate. In this respect the Nordic countries reveal a number of differences that may be important to assess in detail.

By tying up in this way internationally, firms and employees gain access to the very *root causes* of reflexivity and become entangled in the world of Reflexive Modernization (Beck, Giddens and Lash (1994). As Lash states (Ibid, p 120):

What indeed underpins reflexivity is ... an articulated web of global and local networks of *information and communication structures*. One might best understand this new context in contrast to industrial capitalism, in which 'life chances' and class inequality depend on an agent's place in and access to the mode of production. In reflexive modernity, life chances – the outcome of who are to be the reflexivity winners and who the reflexivity losers – depend instead on place in the 'mode of information'. Life chances in reflexive modernity are a question of access not to productive capital or production structures but instead of access to and place in the new information and communication structures.

The cases we have studied have consistently elevated firms and employees in the Nordic countries to strengthened places in such information and communication structures. No wonder then that popular support for globalization has been high. Pursuing sesoco-strategies by the mentioned forms of learning organizations constitutes in itself a dynamic complementarity for a novel template of business development, where firms become deeply enmeshed in global processes and by being there, the world reveals an abundance of new opportunities and challenges. However, such

opportunities are only exploitable if employees, owners, firms and organizations dare step into unknown and uncertain territory, where they gradually will succeed and/or fail depending on how they create capabilities that meet opportunities and challenges. Put in another way, firms and employees are continually engaging in projects that are beyond their professional boundaries, transcending existing routines that are uncertain and fundamentally unpredictable. They can only move in such ways by taking incalculable risks and accepting to be temporarily disabled. In our view, firms and employees dare take these shaky moves, where institutions share risks with them and/or compensate for being disabled.

When institutional risk sharing takes place and institutions enable disabled that is, in our view, where and how learning organizations and sesoco-strategies evolve in the first place and where and how they continuously evolve in the Nordic countries. Thus the emergence and extension of the Nordic business template is dependent on firms taking the risks associated with these steps into the unknown, and this again is dependent on where and how firms and employees share risks with the larger society and the welfare state. Thus the evolutionary dynamic of each of the Nordic business systems is distinct, because risk sharing and enabling institutions are working in different ways and are socially constructed to meet situational challenges in each their distinct way in each of these countries.

Varieties of Risk Sharing in Nordic Welfare states and Slovenia

Most traditional views of the welfare state see its central obligation as provider of social insurance (Esping-Andersen, Ibid; Iversen and Cusack, 1998), a risk sharing system directed towards accidents, unemployment, diseases; and often to have evolved from the self-help movements of a multiplicity of occupational groups, each creating their distinct set of risk sharing institutions (Marsden, 1063) directed towards damage repair for predictable situations of misfortune. Thus some have seen the expansion of the welfare state to be connected with the international trade liberalization (Cameron, 1978; Katzenstein, 1985) or with the abrupt change to a service economy through a period of sudden de-industrialization (Iversen and Cusack, 1998), which both implied radical changes that increased the vulnerability of traditional – agricultural and industrial – occupational groups, and the need for elaborate social security systems. In this view, the welfare state simply, in a *defensive* way, shares the risk of misfortune with its population, typically by providing unemployment benefits, social security and early retirement schemes, etc. The state compensates the citizens for the evils of capitalism.

But growth in welfare expenses may have, and should perhaps be seen as having *offensive* outcomes co-evolving with a distinct form of capitalism. In our case-studies, thus, we have observed a set of different risk sharing systems that offensively stimulate individuals, firms and regions to explore new opportunities beyond the boundaries of current practises, where both uncertainties and opportunities are unknown, and where risks are incalculable. In a global and open innovation system, firms collaborate on projects where the outcome is unknown, individual firms make investments, the return on which is incalculable and employees cultivate and acquire skills, the usefulness of which are unproven. Entrepreneurial activity so to speak penetrates the system at all levels.

Generally, it has been argued that welfare states, by lessening the exposure to and reducing the entrepreneurial gains from the market, make firms and citizens risk averse, thereby slowing down growth in the long run. Recent research, however, has found theoretical ground for arguing to the contrary, that redistribution leads to real benefits by stimulating risk taking (Sinn, 1995, 1996) and empirical tests made on scattered data “is consistent with (but does not prove) the argument that the welfare state, by insuring incomes, induces risk taking” (Bird, 2001).

In our view, these risk taking characteristics are not so much attributable to the traditional core characteristics of welfare states (income redistribution, social insurance, pensions, etc.) as they are to some co-evolving institutions or some of the reforms that have been made to make the risk sharing institutions translate into enabling risk taking and compensating for disabilities among firms, citizens and regions. In our case-studies we have found such systems in each of the studied Nordic countries, but they differ among cases and hence the dynamic of exploration and search for new opportunities differ among the countries.

Rodrik (2004) has argued that in order for developing countries to discover new dynamic comparative advantages, the state should experimentally subsidize entrepreneurs in new and hitherto untried business areas so that they can explore whether the country in question holds comparative advantages in new specific, emerging areas. In his view this was why and how e.g. Taiwan discovered its advantages in consumer electronics and other branches.

Diversification of the productive structure requires “discovery” of an economy’s cost structure – i.e. discovery of which new activities can be produced at low enough cost to be profitable. Entrepreneurs must experiment with new product lines. They must

tinker with technologies from established producers abroad and adapt them to local conditions. This is the process ... called “self-discovery” (ibid p 9).

The process of self-discovery for a national economy cannot alone be dependent on the functioning of normal market processes:

When we put ourselves in the shoes of an entrepreneur in cost discovery, we immediately see the key problem: this is an activity that has great social value and yet is very poorly remunerated. If the entrepreneur fails in his venture, he bears the full cost of his failure. If he is successful, he has to share the value of his discovery with other producers who can follow his example and flock into the new activity. In the limit, with free entry, entrepreneurship of this kind produces private costs and social gains. It is no great surprise that low-income countries are not teeming with entrepreneurs engaged in self-discovery (Ibid).

Active and timely self-discovery, making it possible to continuously redefine roles, positions and opportunities for firms in the new global economy on a national scale is a complicated aim that involves a new synthesis between politics and business, but also a change in how the national and international relates. For Unger (2007) the important thing for a country is to have businesses that are tied up internationally with other firms that are engaged in pursuing “revolutionary routines” (Sabel,2005) that leads to continuous improvement by employing managerial techniques such as root-cause analysis, appreciative enquiry, simultaneous engineering, heuristic design. But to achieve such a position, national firms must themselves break up from current routines and move beyond the boundaries of normal businesses. To make such a move – and break out of the catch22 situation - on an extended scale, firms and their employees need to take risks continuously and the probability of that happening increase if the state through institutions shares the risks with business firms and employees. As our case-studies reveal, the Nordic countries show a whole palette of different ways of meeting this challenge.

Risk sharing in the Finnish innovation system and welfare state

Finland used to have one of the most elaborated forms of offensive risk sharing systems of any Western country in the aftermath of WWII, enabling paper and pulp mills to move continuously beyond existing best practises. When paper and pulp industries were preparing for the enormous investments in new generations of mills, banks would, in coordination with state-level initiatives and local communities, provide patient financial capital, created by “forced” private savings, so that the population shared risks with banks, banks with mill-companies, while the state would moderate the risks of all by managing the currency value in accordance with global supply and demand for

pulp and paper on the world market (Lilja et al. 1996). This way of organizing risk sharing in many ways served to make Finland the most technologically elaborate producer of high-quality paper, which again triggered a need for engineers and carved out a privileged social space for technological professions in the Finnish society. Moen and Lilja (2005) have shown how this risk sharing system was remodelled to put Nokia on the track towards consumer electronics, simultaneously creating new and updating old R&D institutions and expanding the education of engineers to enable the rapid growth of clusters of electronic firms. As Ornston (undated) has documented, this change was a deliberate attempt by the Finns to copy the Swedish innovation system by a radical investment in more R&D, by making new institutions and by setting up new corporatist bodies. By making a Science and Technology Council, headed by the prime minister, they went beyond the Swedes and made it possible to co-ordinate and strategize at a comprehensive national level. In many ways this effort was simultaneously undermining some of the elements of the old risk sharing and coordinating systems as it allowed Nokia, and a number of other successful firms, to engage directly with the risk sharing that takes place in advanced financial systems, primarily orchestrated by Wall Street and the City of London.

In Sabel and Saxeau's (2008) detailed longitudinal study of Finland's industrial heritage it becomes very clear that the co-evolution of Nokia with a competitive telecommunication system, public regulatory bodies, R&D institutions and standard-setting collaboration among Nordic countries created a unique adventure making it possible for Finland to gain an extraordinary role in cell-phones globally. It is indeed a simultaneous co-creation process that takes place among actors, bringing a new generation of a technology into life. The "enablers" outside Nokia itself were numerous in terms of complementary technology, the creation of infrastructures that could simultaneously underpin a coming market and create demand for cell-phones, etc., R&D and an elaborate national innovation system was only the last element in creating enabling conditions for Nokia to become a strong player. The history of Nokia resembles aspects of the emergence of the windmill industry in Denmark, but in Denmark this new industry came out of a craft based industry of agricultural machinery, and became only much later – after it had gained high market shares internationally - based on systematic efforts in science and engineering technology. In Denmark, the creation of a market and prices for wind-based electricity, the mode of creating cooperatively owned "windmill guilds", tax rules, etc., created a similar interplay between the public and the private sectors in which self-discovery could take place without leaving entrepreneurs with all the risk taking. Other similar examples in Denmark are hearing aid devices, medical measurement systems, medicaments, etc., that is, products which serve advanced demands in the public sector. In

all the Nordic countries it is indeed possible to study how the welfare state constitutes a market that is able to appreciate and interact with producers of elaborate technology and engage in co-creation of new products and businesses. Perhaps the best example is the weapons industry in Sweden.

But in Finland, this evolution took a new turn by the coordinated effort to create a large national innovation system focally organized around Nokia, and often financing a large proportion of Nokia's R&D costs in the 1980s and 1990s. This innovation system plays a major role, too, in the cases that we have studied. The groupings within the studied Finnish subsidiaries that dare take offensive actions are neither workers and sales-people, nor the managerial staff. Engineers from the R&D- and production staff are holding offensive agency and take risky steps, partly by connecting with engineering staff in customer firms, in such a way that they redefine mandates of subsidiaries and their roles within acquiring multinationals. Seemingly it is no longer risk sharing by a system of patient financial capital that is in focus, but rather the existence of a distinct human capital that is at the core of the way in which risk taking takes place. Firms and employees agglomerate around the engineering profession to be part of this risk sharing system. Thus we observe that the subsidiary in Varkaus decides to relocate to a neighbouring city, which embed institutions and other firms that employ and educate engineers, rather than engaging in rejuvenating its host locality.

Together research institutions, educational institutions and engineering intensive firms constitute a risk sharing system that makes it attractive for youths to be educated in engineering, for engineers to move to places where engineers agglomerate, and for firms to allocate their facilities. Risk sharing takes place at many levels. Co-allocation create a labour market, where it is easy for engineers to be re-employed if fired, for firms to search for solutions to engineering problems that are beyond their own capability and for the public to trust that investments in R&D and education will pay off in terms of innovation and increasing employment. More direct tight connections among engineers in firms and public institutions create the strings by which R&D applications can be made to look attractive to the financing bodies (Academy of Finland, Tekes, Sitra, etc.) of the state.

Effects have been non-negligible. The transformation to a high-tech industry in Finland has been fast, but more noticeable – as in Sweden – a much higher proportion of the youth finalize university education within technical areas and natural science (close to 30%), whereas the OECD average is less than 20% (Økonomi- og Erhvervsministeriet, 2006: 88). Both Norway and Denmark are in these areas below the OECD average.

Focused in this way the normal pattern of welfare provisions may seem of secondary importance, and yet they allow firms to be organized in accordance with the templates of high performance work organization, making it possible for employees to adapt to a rapidly changing context, spouses to move with their family risking temporary unemployment before becoming equally active, and to cultivate a culture of living in accordance with a professional life in an innovative business environment.

However, the Finish system of risk sharing only work to the extent that this engineering risk sharing system is able to generate exploration to the extent that it creates employment for other groupings, too. High unemployment figures, the most unequal regional distribution of economic opportunities of the Nordic countries, and an overrepresentation of the ICT-sector as proportion of the Finish economy are signals of the limitation of the Finish system of risk sharing. In many ways Finland could be said to be too dependent on this risk sharing dynamic and leaving many social groupings and regions without institutions enabling them to act if they do not happen to be dragged into the core dynamic. In this way many of the institutions of the welfare state are left to their traditional role of passive social insurance and passive risk sharing. General entrepreneurship outside the pockets of engineering and higher education may be low. Finland has to a lesser extent compensated for loss in agricultural and manufacturing occupations by expanding public and private services than have the rest of the Nordic countries (Iversen and Cusack, 1998). Entrance into the labour market happens later for young people in Finland than in the other Nordic countries, and retirement takes place at an earlier date. Women are absent from the labour market for a longer period after having given birth to children than in the other Nordic countries. In an experimentalist, projective economy organized around "learning organizations" this could lead to a system, where the engineering profession is pulling with them a core of polyvalent employees, which are given opportunities to enter the brave new world of "revolutionary routines" helped by firm financed continuous training, whereas many young, women and elderly workers with low education become increasingly peripheral and only temporarily engaged in the new learning dynamism. Yet, it is obvious from the cases studied that Finish firms by becoming subsidiaries are dragged into the new dynamic, and that this is present in the Finish economy also outside such core firms as Nokia, but it is indeed difficult to assess whether this dynamic may be diffused to the larger system, which in many ways may suffer from being a centrally, rather than locally coordinated market economy. Outside the dynamic core it seems difficult to create novel actors and strategies, which the Varkaus case demonstrates.

Sabel and Saxean (2008) see another risk emerging from the way in which the Finnish system enables self-discovery and risk sharing. Firms and institutions may become so focused on the attractiveness of forming national R&D-partnerships that they neglect to develop search-relations to the wider international landscape of R&D frontiers. In a world of open and decentralized innovation system, they argue that R&D frontiers are exploding and numerous, and for that reason nobody can foresee exactly from where new innovations will emerge. In such a global system a large, yet bounded and limited national innovation system that stimulates different actors to create primarily national ties, may undermine the possibility of creating the multiplicity of international ties that capture new promising research and innovation frontiers of the future.

Risk sharing in the Danish flexicurity and welfare state

Comparing the Finnish and Danish routes to reforms, Ornston (undated) did not identify a deliberate master plan guiding action and transformations in Denmark in the 1990s, as in the case of Finland. Rather swarms of seemingly unconnected tiny changes in existing institutions and novel use of existing schemes were re-combined to respond to novel situations. Focus was on bringing down the level of structural unemployment without causing inflationary pressures, and attempts to rejuvenate the innovation system were scattered if not absent. What in particular came into play was a reformed use of continuous training and life-long learning by activating and extending the use of the Technical Schools and the “Specialized Workers Schools”. In the 1960s both institutions were seen as instrumental in preparing the population for the Fordist mode of production, but both groupings used these institutions in a rivalry over skills, creating high-discretion jobs and class-transcending working careers.

By local experiments in the 1980s, elevated by granting workers universal rights to yearly periods of further training negotiated among unions and employer’ association in the early 1990s and by using the training system extensively from the mid-1990s to activate unemployed, the vocational training system extended its reach during the 1990s. By 1990 24% of the resources devoted to active labour market policies were used for occupational training, by 1999 the proportion had

reached 56%¹ of a rapidly expanding budget. First, workers and unemployed would flock to schools to get highly elaborated courses in ICT and CNC technologies. They would also attend courses in novel ways of organizing factories and work and, as we saw in the Danish case-studies, a new symbiosis between work organization reforms and local labour market situations would be mediated by creating social innovations in the local use of vocational training institutions in an unrecognized abundance.

By compensating firms for both the costs of courses and most of the salary of the participants, the Danish state shared the risk of exploring new competencies and experimentally developing novel work roles. In turn, employees with identities under continuous redefinition shared the risks with employers that experimentally searched for novel ways to organize high performance work systems, creating a distinct mode of self-discovery. And when these searches resulted in increasing demand for novel types of skills, the vocational training system up-scaled, codified new professional identities, such as industrial- and process operators, team-leaders, coaches, etc. Our case-studies show that the experimental search for novel forms of work organization and novel professional identities may engage employees, firms and vocational training institutions in close interaction, during which their mutual tasks become identified through a very intensive learning process. However, by focusing state intervention on the training of employees instead of redefining firms from the outset, employees often triggered the introducing novel technologies or novel forms of organization. In this way the risk of exploration that leads to self-discovery are not left to a few entrepreneurs that share it with the state. Rather the general population is participating in this exploration sharing the risk in a way mediated by the state. The high mobility on the labour market tends to allocate the most competent and skilled workers in dynamic firms, while firms sticking to traditional ways of operating will be left with workers that are much less engaged in the risk taking of carving out for themselves a continuously changing role.

While in the Finnish system we would expect engineers to link up a firm with the global web of innovative interaction among firms, if they are not orienting themselves to the abundance of resources in the Finnish innovation system, and by doing so involve a polyvalent core of workers in experimental search for novel forms of organizing work; in Denmark the mobilizing agents are much more widespread and operate through the general labour market, to a certain extent also

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involving the unemployed, creating a pressure on firms for reforms. In this way firms meet an employee driven pressure to search for challenges that may meet the aspirations that the most skilled and risk taking on the labour market develop. In other words risk taking employees pressurize firms to take risks by searching for customers that offer challenges beyond the current state-of-the-art, and where customers will eventually share the risks involved in co-creating novel products or services.

Compared to the Finnish model, the Danish is much less science driven, and ties to university labs, etc., seem modest. The Danish system seems much less capable of creating radical innovations, and is rather geared towards a constant redefinition of roles, gradually moving firms in the direction of sophistication and toward becoming consultancies for customer firms, even when their legacy is in manufacturing. In our assessment, Danish firms, for the reasons mentioned above, are quite quick in applying novel technologies and combining them with their existing skill-base, but they seem to lack the risk sharing systems that break the ground for entirely new types of businesses. Though, as mentioned above, it was possible to develop the Danish windmill industry in a way similar to that by which the Finns developed Nokia, Denmark did not make a jump from traditional to high technology. Technological quantum leaps seem alien to the Danish mode, that rather opts for responsive co-evolution with international customers, suppliers and frequent use of global sources of technology.

In this way the dynamic of the entire system could be highly dependent on and restricted by the ability of the further training system to constantly renew itself and carve out novel skills and competencies that set in motion the labour markets and firm clusters. For that reason it may prove highly destructive that since 2000 the state has tried reduce budgets for vocational training. And yet, it is interesting to see that the latest general labour market agreement - to reduce potential wage increases – has given rise to new schemes in which funds will be accumulated for employees to finance participation in continuous training after their own choice. In a similar way the conservative-liberal government has made an agreement with unions about modernization and innovation in public services, which emphasises skill-upgrading among public employees. Together these two reforms could bring about a novel quantum leap in competencies, comparable to the 1990s, enabling firms to take on even more demanding roles in international value chains. But at the moment the situation is dubious as it could move in two, very opposite directions.

Denmark is also experimenting with ways to strengthen interaction between research- and educational institutions and private firms, primarily SMEs. Currently this is organized through 13 regional technology centres and 12 high-technology networks, which work along a mixture of measures: stimulating bridge-building, identifying new needs for competencies, and regular collaborative innovation projects. These attempts are very scattered, and the economy of each initiative is limited in terms of public subsidies, probably reflecting the difficult conditions for making such initiatives in a highly diversified economy as the Danish. In 2007 a total of 2,415 firms participated in such activities of which 1,570 were SMEs with less than 50 employees. Many of these networks are not only directed towards Danish firms, but are also involving foreign firms and institutions (Forsknings- og Innovationsstyrelsen 2007). Probably these innovation networks are important for extending the search-networks through which individual firms operate, but less so for producing distinct new products and processes. They could be seen as providing new meeting places for emerging quasi professions, where novel skills can be contested to assess Danish comparative advantages.

Compared to the Finnish system, where neo-corporatist bodies are formed centrally and coordinate in a hierarchical way, corporatist bodies in Denmark seem rather to be formed locally, regionally, and occasionally. For instance the Regionale Arbejdsmarkeds Råd (RAR) (Regional Labour Market Councils) played an important role in activation policies of the 1990s in enabling corporatist bodies at vocational training centres, to collaborate regionally within the RARs in search of novel institutional innovations that could solve situational problems locally (as reported in Chapter 3)). Central allocations to activation policy could locally be translated into schemes for developing local labour markets to fit local aspirations and revolve problems among involved partners. In a similar way, bodies of participants from public institutions, municipalities and firms typically constitute the regional innovation centres thus facilitating the processing of new initiatives directly among the involved stakeholders. The variety of stakeholders represented in these bodies is large and membership seems to be dependent on who wants to hold a stake and commit to developing the institution in question. Corporatism thus is becoming a system of fluctuating membership, with less representation by formal interest groups and more involvement from shifting groups with a distinct interest, representing in many ways the heterodox interests that evolve in a diversified society where demarcations among employees, employers, and different professions become blurred. And yet it makes it possible to get together and collaborate about setting up collaborative projects that make possible concrete forms of risk sharing.

Risk sharing in the Norwegian oil- and welfare State

After WW II the Norwegian state was not only sharing but taking on the major risks in industrialization. Huge plants for processing raw materials were set up jointly with electrical power plants, often owned by the state, to produce iron, steel, aluminium, fertilizers, etc. Tied to raw materials and energy sources, as they were, the development took place in many small communities, close to energy and raw material resources as the general infrastructure, basically dependent on shipping, did not allow for a more centralized development, distributing enterprises and institutions regionally. In these mill communities life-long employment focussed on highly specialized production processes and specialized skills were cultivated to high levels. After WWII the state installed public financed R&D and technology transfer institutions to facilitate a technology-led industrialization. Whereas Norway in this way created institutions that benefitted from collaborative ties within Nato, Sweden compensated for its neutrality by setting up national large scale technology programs that copied many of the traits of the military industrial complex of the US. When oil was discovered around 1970 the Norwegian state was able to coordinate in a similar way the evolution of a highly advanced off-shore oil industry in collaboration with Norwegian shipyards and machine industries.

The Norwegian system was governed by macro economic planning of a Keynesian type, but in many respects went further by optimizing on technical coefficients of input-output matrices, as did Commissariat du Plan in France. Within this framework, the Norwegian state constructed company towns in rural areas, given the vast and difficult geographic setting of the Norwegian landscape. Whereas private businesses in Southern Norway could flourish on private initiative in connection with a large shipping industry, the interdependencies of infrastructure and plants in Northern Norway demanded a much more interventionist state, able to coordinate investments and carrying the burden of risk taking. Obviously, highly specialized towns, dominated by a single enterprise, are much more difficult to restructure in face of dramatic global change than are the more heterodox, industrial district types of regions in Denmark.

The Norwegian case-studies analyse a number of firms and a town struggling for survival during a period, when the traditional Norwegian system is being dismantled, partly inspired by the neo-liberal turn in macro economic ideologies and under the guise of de-regulation within the EU, which Norway basically follows, though it is not a member country. Compared to Finland, Norway has, rather than developing an offensive innovation system, rolled it back. Compared to Denmark it

has basically tied vocational further training to existing businesses and core employees missing the opportunity to create a dynamic, diverse and skill based labour market more broadly. The proportion of occupational training in active labour market policies went down from 36% in 1990 to only 6% by 1999 (see note 1). Norway in this way seems to replicate the Continental and Southern European pattern of employment protection for core workers gaining polyvalent skills, while an increasing grouping works as unskilled on temporary contracts.

On the surface it seems as if Norway has simply dismantled former risk sharing schemes and triggered firms to invest in rationalizing existing production, based primarily on processing of raw materials. Running close to full employment and with earnings from oil, which are making Norway extremely rich, such a strategy seems rational in the short to middle term perspective, but could be dangerous in the longer run. It could mean that Norway simply closes off to the experimentalist dynamic of global ties of innovation.

Ironically, however, the firms and town that we studied seem to compensate for these potential dangers. We see this happening within the core, oil business of the Norwegian economy and within the privatized weapons industry, and in the attempts of regions to modernize when old plants are closed and the locality is looking for new opportunities.

The shift away from a system within the oil sector in which the oil company in great detail designed and ordered parts for off-shore oil rigs to a system, where this is done through co-designing processes with suppliers, has carved out a space for privatized, former publicly financed companies as well as a large number of start-ups to design, standardize and coordinate production of rigs, subsea production systems and subsea equipment that simultaneously make them powerful players in the global off-shore business, able to influence even multinational owners to run business after their newly found templates. Obviously, the state through Statoil plays an important role in this risk taking system, but by doing as described and by suppliers being able to use these options to make ties with the global industry, important nodes for learning are being established, enabling Norwegian players to engage with a much more open, decentralized and dynamic innovation system. Unfortunately, our cases only cover firms at the upper echelon of the value chain, but the new dynamic might be able to pull a larger proportion of mechanical engineering suppliers into the practises and dynamics of the global experimentalist economy (there are examples of this happening).

In a similar way a former, publicly owned weapons producer designated to develop new products based on research in the state's research institutes, has after being privatized and sold out in bits and pieces been able to survive by carving out new roles. No doubt these roles were highly dependent on the reputation gained during the period in which it was state financed. On the other hand, the successor companies and business units would probably never have been able to make use of established links in the increasing dynamic of the international weapons industry and other industrial sectors when it was top-down run by the state. The lesson could be that in R&D and innovation policy, states should follow a stop and go cycle by first creating publicly financed R&D institutions and forge links with companies, and then, when their performance and international reputation is high, draw back support to make them reveal whether or not they have uncovered novel comparative advantages.

Finally, we see that the traditional regional policies with public risk sharing can still be activated in cases where a locality loses a major plant and face dramatic unemployment. In the case we studied, the locality is mobilizing an abundance of schemes, partly assisted by the corporation that plan the plant-closure, and gradually a whole consortium of risk sharing institutions and actors – both at local and national levels - are brought to bear in the construction of novel institutions that ease the road for private entrepreneurs to step in with ideas and plans for a new product (in this case solar energy panels and silicium-refining). In this way the locality ties up with a highly promising, global and innovative industry that carries very high current and future dynamics. Whether this means that the locality ties into the dynamic of global experimentation is difficult to assess. Focus seems to be on protecting and perfecting existing manufacturing processes by holding exclusive rights to certain forms of equipment and by upgrading the process and its automation. This could indicate an inward orientation towards rationalizing existing production rather than engaging in the more broad exploration of novel possibilities and options connected to the solar energy industry. And yet the case is dubious. The extraction and processing knowledge accumulated for ages in this and other communities processing raw material create entrances for and enable other, more networking Norwegian firms, to play roles in the global experimentalist economy, exactly because they provide access to raw material processing capabilities of an extraordinary quality and cost efficiency able to make raw materials with new and specific properties. Whereas Norway used to make use of its comparative advantage of low cost electricity to refine raw materials for the bulk market, it may now make use of its processing skills in raw materials to gain new comparative advantages?

In this light, Norway is a very confusing case. On the surface it seems heading in a wrong direction focussing on oil and raw material refining, and yet it uses these elements to enter into central positions and engage in the new principles of the experimental economy. To us it seems as if that re-orientation to a high extent is made by people, who have been liberated from state governance. The new entrepreneurs, in other words, seem to originate from a risk sharing and –taking system that has either been abolished, or where new initiatives seem to have been brought to a halt. A major question thus is whether Norway will gradually, in this way, diminish its ability to explore new comparative advantages in the future?

Against this view, it could be argued that Norway apparently possesses the ability to rig up - whenever a situation arises - a neo-corporatist set of ad hoc bodies capable of producing risk sharing consortia, which are then in a position to redirect or structure re-structuring. Compared to Finland these corporatist assemblies are much less pre-given and working on a continuous basis-- they may emerge (or they may not). Compared to Denmark, where the corporatist bodies seem to process ongoing processes of continuous restructuring at local levels, the bodies in Norway emerge, intervene and disappear in such a way that they create a development that rather resembles a pattern of local punctuated equilibriums, where the process is more ongoing, non-discrete and continuous in Denmark, while in Finland the apparatus constructs a punctuated equilibrium on a national scale. These are very different ways of searching for comparative advantages.

Simultaneously search seems to be reserved for the *included*, while risks are carried by the *excluded*. As said earlier Norway shows a combination of employment protection for core workers and combines this with a quite high and increasing proportion of workers on temporary contracts. This is again combined with very restrictive practises in duration and qualifications for unemployment benefits and as spending on training during unemployment benefits seems low, people are unable to use such periods to actively search for new skills. Instead this system seems to pacify increasing numbers. Norway spends nearly three times as much as the other Nordic countries on paid sick leave, and close to the double on disability pensions (see Chapter 1). It is as if the state seems to have withdrawn from sharing risks at any agency level.

The Swedish enigma: Re-distributing risk sharing

Sweden used to have all the attributes of an attractive system. An elaborate form of the welfare state, carrying the romantic name of “Folkhemmet”; a labour market governed by corporatist,

central negotiations of wages that, in the long run, would deselect firms with less than average productivity increases (the Rehn-Meidner model); schemes to help re-locate the working population from rural areas in decline to cities in growth; or schemes to compensate certain regions for declining industries by helping create new ones; an elaborate financial system centred around a few major banks with strong ties to international financial centres that could engage in risk sharing, when firms upgraded mass production plants from one generation to the next; a highly elaborate innovation system that from the 1930s took hold in a number of collaborative programs between the state and large corporations to furnish the Swedish state with modern weapons, air-fighters, etc., but later elaborated and diffused into a number of systemic technology fields, furnishing the state and global markets with electrical power, nuclear plants and telecommunication equipment. The Swedish welfare state was not only a coordinated market economy designed to sustain the type of productivity gains that came with Fordism, it was a set of risk sharing systems that could guarantee that the Swedish economy from a small base could accomplish nearly all what its ideal, the American economy, could achieve as a much larger liberal market economy in combination with a military industrial complex, providing the US with an innovation pump. Even today it is unclear whether the Swedish model simply failed or outgrew itself because of its incredible achievements. The model surely fostered large scale enterprises that outgrew national boundaries much earlier than in the other Nordic countries, and Sweden was leading the way to globalization by becoming the home of a large group of big multinationals, often seen as models to imitate. In retrospect this outcome came at a price, as it had been achieved by undermining the formation of viable small firms in many industries. In this way Sweden reduced the number of potential risk takers, while at the same time giving the remaining risk takers a much less national focus.

In the 1970s the Social Democratic government tried to compensate for this by creating “developmental blocks” around very large scale plants in steel production, shipyards, etc., but failed due to poor timing. The new generation of mass producers was ready to serve the national economy exactly at the time when the mass production model faced a global crisis and encountered international competition from low wage NICs. Working after the golden rule of the Rehn-Meidner model would now simultaneously harm emerging SMEs and stimulate Swedish MNCs to invest in foreign countries to escape high costs at home. Since then the comparative indexes on international benchmarks have been confusing concerning the performance of Sweden. The elements of the former model seem difficult to re-assemble into a new version of the much more flexible, experimentalist and difficult to coordinate, knowledge economy of the future. Much of the former corporatist structure, centred on central wage negotiations, has been abandoned. Many large

enterprises have been taken over by foreign multinationals – like in the case studied here – and confusion seems to reign.

In this light, the Swedish case-study in Chapter 5 is highly illuminating. On the one hand, we have a municipality suffering from first stagnating employment in its core enterprise, a paper and pulp mill, and then from down-sizing after being bought by a Finnish multinational. But within the community a coalition of significant partners emerges and initiates a number of projects that together aims at rejuvenating the locality by creating an attractive city space, developing novel forms of higher education, new R&D institutions, etc. This coalition in itself is a risk sharing club across the private public divide, but it simultaneously possesses such capabilities that it can evoke a multiplicity of quasi-corporatist ties to state bodies and thus activate the state to engage in and become part of the risk sharing consortium. Interestingly, the case-study reveals how the local coalition of partners becomes organized in such a way that both local initiatives and the use of state bodies and -financial resources can be locally coordinated over long time during which the community transforms a set of institutions into an infrastructure that can serve the evolution of private services. Within this framework, parts of the R&D department of the paper mill draw on accumulated experience to serve paper and pulp mills globally with business consulting, helping them to make continuous improvement along every step of their value chains. Had it not been for the simultaneous change of the locality, it is difficult to see why this new R&D based service firm would still be located in the mill town. But as things have indeed changed, it is obvious that the locality in many ways shares the risks involved in developing a modern business service firm, and potentially the locality could evolve a cluster of advanced business services despite being located far from Stockholm.

The case-study raises the question, whether Sweden is so confusing because the former system is no longer being re-combined and composed in a coordinated way at the state level, but is rather re-cycled in a multiplicity of different ways in different localities? Is the consequence that we will witness a rich ecology of very different risk taking agents/partnerships embedded in highly differing risk sharing systems designed according to local circumstances? No doubt, the legacy of the Swedish system is very rich institutional environments, where recombinant evolution is potentially richer than in any other Nordic country, but the survival capacity of the recombinants is unclear, also when it comes to the case studied here. Gunnar Eliasson (2007) is very positive in his interpretation of the Swedish system. He sees the break-down of numerous large Swedish firm as a “spilling” of technology and competences, which simultaneously sets the carriers of these resources

free so that they can be recombined into new, regional “competency blocks” (e.g. in biotechnology, life sciences, ICT, mechanical engineering) and like us he is speaking of experimentalist forms of organizations, where the new competencies are not working within the boundaries of large firm’s R&D labs. This pattern is, in many ways, rehearsed in Glimstedt and Zander’s (2003) study of *Sweden’s Wireless Wonders*, where they show how the new ICT technologies and the Internet create new pockets of entrepreneurial competition within a larger frame of the traditional telecommunication industry and providers of services. Their case show how new synergies evolve between new entrants and old players, who together stir up and re-configure into a new, much more debundled network of enterprises that takes part in transforming Stockholm into a high-tech, ICT based locality.

Thus the studied case in this book may not only be indicative of a distinct municipality in transition, but also reflecting a more general transformation taking place, which will not only create an entirely new foundation for Sweden in the future, but make the steps taken, in the case we studied, exemplary for the general development.

Seen in isolation, the scope of transforming a corporate town as radically as our Swedish case demonstrates seems very costly and risky, indeed. It is easy to read into this case-study that it is about a set of local actors that form a coalition and then make use of its numerous ties to the larger national political system to generate an abundance of resources, making it possible to take advantage of tax-payers’ money to carve out a new place for themselves in which they – as a grouping – regain the dominating position over the locality, which earlier belonged to corporate owners in corporate towns. If numerous such local coalitions were mutually competing for directing resources to an unlimited number of localities, this whole process could be very costly and would perhaps undermine the Swedish economy? In this light it is easy to see the advantage of a centrally coordinated system like the Finnish one. But the experimentalist scale and scope of this Swedish creative destruction and reconstruction might, in the longer run, carry great benefits.

Slovenia: Risk sharing between family, workplace, shadow economy and the welfare state

Our study has attributed a strong role for families in the Slovenian risk sharing system, making it seemingly natural to compare it to Italy and Greece, which are widely associated with a strong emphasis on familiarism:

This means that the family have the principal responsibility for their members' welfare, be it in terms of sharing incomes or providing care to those in need. Hence, these countries are: uniquely committed to protecting the male breadwinner via insurance and job protection; highly reliant on social contributions for financing; and, compared with the rest of Europe, very underdeveloped with regard to social services. (Esping-Andersen, 2000, p 5).

Slovenia only partially shares this orientation, though the Greek and Italian experiences have been increasingly shared by an increasing number of countries throughout Europe, giving the family a strong role in economic redistribution:

The economic well-being of today's elderly is the result of a unique combination of factors that have produced high retirement income and lifetime asset accumulation. OECD figures show that the average household at age 65 possesses wealth equalling 4-5 times its annual income. And though there are only scattered data for specific countries, there are indications of pension "overprovision" in some of them. My own analyses of data on Italian family expenditures indicate that income exceeds expenditures by more than thirty percent in the average pensioner household. A recent study by Kohli (1998) on internal flows of money within families indicates a huge volume of transfers from the aged (70+) to their children and grandchildren: 24 percent of income is transferred to their children, and nearly 15 percent to their grandchildren. (Ibid p 8-9).

Slovenia could be seen to replicate this trend as it uses a significantly higher share (47% in 2005) of a smaller expenditure on social protection on "old age" than do the Nordic countries, while Slovenia's expenditure on unemployment benefits and labour market activities is only a third of the percentage spent in the Nordic countries. Simultaneously the integration of Slovenia into the EU has created a booming real estate market creating rich, elderly homeowners and poor young generations finding it difficult to establish themselves in independent accommodations.

As mentioned in the introduction, calculations show that the Swedish welfare state primarily re-distribute incomes/services over a life span, and the above figures indicate that the redistribution of incomes then goes in an opposite direction within the family, effecting a perverse total system, according to Esping-Andersen (Ibid, p 9):

... the redistributive effect must be considered perverse if the welfare of youth is becoming dependent of the retired parents' and grandparents' wealth. It is doubly perverse, in the sense that pay-as-you-go pensions are financed by the working age population. The welfare state was presumably constructed in order to level the playing field; but this is a case where it is helping to re-establish inherited privilege.

There are many signs in Italy that the extended family by placing in this way an overabundance of wealth in the hands of male breadwinners creates a self-conserving structure. Male breadwinners are protecting their employment in particular and extending their privileges into the age of retirement, simultaneously creating difficulties for youth – especially young women - to enter the legally regulated labour market, making it difficult to obtain loans to finance the first home, to create a family and afford to have children – if not approved by the family head. This does indeed make it very difficult to live lives that break with previous patterns and to set up novel types of families that adjust to the life pattern of an experimentalist economy. The long term effect of this in Italy, in particular, is that females are much less represented in the labour market and if they are, suffer much more from unemployment.

Slovenia seems – despite the strong role of the family – to have a surprising even participation of men and women, and no particular high unemployment for women. In terms of equality, Slovenia is only second to Denmark (European Commission, 2004). Thus it seems as if the family here allows for, instead of hindering, members to be active economically. On the other hand, the family is not coming close to be the root-cause for entrepreneurial activity, as it is in the industrial districts of SMEs in Italy. The metamorphosis between family and economy is apparently of a different sort.

The Slovenian system under Socialism was consolidated in a way different from in Italy. Kristensen and Jaklic (1997) have shown how Socialism in Slovenia took departure from extended families living on small farms (growing hey, grapes, olives, etc.), directed towards self-sufficiency. By setting up local factories, Tito's partisans, with local roots and feeling mutually obligated to 'their' localities, offered jobs and incomes that made it possible to modernize the rural life form and build houses with modern facilities. Thus the workplace or factory became de facto a way of sharing risk with and among families on the route to modernization. The partisan directors became the local risk takers searching through their international networks for products and new technologies that could guarantee incomes that in turn made it possible to upgrade the living of local families, being oriented very much towards making a pleasant life in big houses, preferably on the old family lot. During Socialism, one could say that large scale risk sharing took place among the old network of partisans, which would collectively search for new business opportunities and would bail out unsuccessful members and in this way bring the part of the country that were covered by this network into a fairly prosperous dynamic. Living by a combination of self-sufficient farming and factory incomes became a mode of life, which further elaborated the evolution of a

grey economy in which families mutually exchanged “services”. In many ways employment in socially owned factories was *the* system for social protection because parents could create job for their children or have the factory offer stipends for training or education and the young students would typically later return to a job in the factory. In this way we see an almost organic joint growth of factories and communities of family houses, much more oriented towards cultivating the house and lot than pushing for their factories to become challenging providers of new skill and career options. Firms and factories had the role of providing families with opportunities for cultivating the “good life” on small lots. Today no visitor can doubt that it created the foundation for exactly a “good life”. Whereas in the Nordic countries welfare state provisions compensated for failing companies, the company created the welfare provisions beyond subsistence needs in Slovenia, while the grey economy made it possible to become rich.

As a constitutional order, the Yugoslav system fascinated observers already when it existed, and for good reasons. In our perspective one could say that the offensive risk takers, the collective of former partisans, could only retain power by taking risks that favoured the communities in which they were present. Unsatisfied communities could – as factory employees – deselect partisan managers and thereby erode gradually the powerbase of the collective of former partisans. On the other hand, defensive risk sharing was carried jointly by households and local factories, creating a bond for stable growth and prosperity, not least in Slovenia, where this stable bond tapped into ties with Western Europe, where such firms as e.g. Adria (caravans) and Gorenje (white goods) were fairly well-known brands for standardized goods.

Transition away from the former Socialist system by way of privatisation has been slow and gradual in Slovenia and at the surface, the system seems to have been very robust. Kolektor, as an example of old, global players, in the Slovenian case-studies of this book, in many ways demonstrates the predominant pattern of what has taken place in the metamorphosis of enterprises and communities of families. By concentrating on already gained comparative advantages and specializing on these, firms have been able to take advantage of a stock of employees with specialized skills and bounded by ties to a particular company. Increases in work intensity have been significant, work satisfaction has declined but overall development has been stable contrary to many of the other transitory economies. But as the Kolektor-case also demonstrates this process of consolidation seems to happen by specializing to an almost extreme extent – and the question is whether this specialization leads into a blind alley? In the Kolektor-case it is obvious that the firm until recently was not using its business to business ties to sophisticate and expand its role towards customers, and R&D was for

some time unconnected to current business, intended for diversification, undertaken in-house and protected by secrecy, making it very difficult to actively explore potential future comparative advantages.

As far as we can see, no new collective system for exploring coming potential comparative advantages has replaced the risk sharing collective of post-war partisans. Slovenia – like the rest of the transitory economies – has adopted one new image of industrial policy after another, ranging from liberalization/privatization, over clusters, national innovation systems, technology platforms, etc., but without institutionalizing an endogenous pattern of risk sharing and deliberate collective search for potential future comparative advantages that seems well-connected. Risk taking has become privatized and dependent solely on what goes on in a limited number of private enterprises, which the state can assist in a rather passive way through such schemes as the Slovenian Export Corporation (sharing risks in relation to exports), the Slovene Enterprise Fund (providing risk-capital for SMEs); the Public Agency for Entrepreneurship and Foreign Investments (JAPTI) and not least European Structural and Cohesion Funds. What seems lacking is the type of co-evolution, where public interests join hand with private to mutually enable each other. Much of the Slovenian government's effort seems primarily to be formative of a new class of individual capitalists to increase individual entrepreneurial activity. Steps have been taken to create an active labour market policy, but still people are searching for jobs under employment protection creating a significant difference in situation between included elderly workers and excluded youngsters. Among the old firms all this means that they will tend to build their own little world, and almost be pressurized to adopt a Chandlerian innovation mode at a time when the global dynamic is tipping towards an open collaborative form of innovation. Yet it is clear that Slovenia, due to its size and its quite diversified economy, will have extreme difficulties building up publicly financed educational and research institutions that can underpin and share the risks with private risk takers in such a strategy. Maybe this is why a firm like Kolektor seems both to experiment with the old Chandlerian mode, and yet engages in collective ventures pointing in the direction of open systems of innovation. These experiments may force local communities of families to share even more risks with private enterprises by accepting increasing levels of work intensity and stagnant wages in a system, strongly regulated by organizational hierarchy, where the unions are too weak to negotiate fair concessions or eventual changes in business strategy. This could indicate a strong case of lock-in, where the economy is doing well, but its innovativeness is declining or wasted.

In this light, accepting to sell off enterprises to foreign multinationals, as in the case of the Danish owned Danfoss-Trata and the Swiss owned Novatis, seems a pretty attractive way out of the lock-in. In both cases, the new owners experience well-functioning subsidiaries ready to accomplish the tasks that are set for them, and in both cases they are offered room to search for expanded mandates and new role-taking within the global corporation. In both cases, foreign owners discover that the Slovenian firms give access to comparative advantages by the readiness of the Slovenian employees to accept either a Danish or a Swiss form of constitutional ordering of the company. In both cases membership of a multinational means for the Slovenian subsidiaries that they are given access to a much larger world of innovative search and a very different form of risk sharing. Yet we find that the effects are quite reproductive on the Slovenian society. As in the case of the traditional, typical Slovenian firm that carved out a social space for specialized skills and employees, unable and unwilling to search for jobs in other firms or communities, the subsidiaries of foreign multinationals create an enclave, functioning with each their tradition of work organization, distribution of skills and discretion, making it difficult for employees to shift to other employers as there is no general system for accrediting these distinct skills and working experiences. Slovenia is a low trust society in international comparisons, which is probably due to the extreme difficulty of individual employees to build up more broad competencies by exploring horizontal careers in the labour market. Without this mobility there are no mechanisms for transferring practises across firms and localities. Decentralized learning may take place, but transfer of new practises within the private sector is without carriers as employees search for stable employment. The place that used to communicate across boundaries of firms, the collective of partisans, seems not to have been renewed.

Yet the category of new firms, as Parsek illustrates, offers seemingly a way out of these self-limiting characteristics of the Slovenian Business System. In this case, special institutional conditions for students – in terms of salaries and temporary contracting – make it possible for entrepreneurs to organize and run a software company that simultaneously explores options of new technologies, serves local and regional customers and enables students to generate experience with new types of jobs in a way that does not systematically entail being locked in, but rather abandoned as soon as their position as students expires. Whether Parsek is part of a significant tendency in Slovenia, we cannot say, but if it is the case, the scheme for students – being subsidized in many complementary ways - seems ideal as it gives them an early introduction to the labour market, eventually in a rather experimentalist oriented fraction of the business community. If in such a fraction a different socialization to working life is provided, the effect could be a diffusion of novel

practises on a broad scale by students searching for more permanent jobs and not being ready to accept the Taylorist forms of work organizations that are so prevalent in the previously dominating Slovenian firms.

Parsek represents a very interesting form of risk sharing. First, it makes it less costly for the firm to explore new competencies and experimentally co-evolve with customer firms. The students so to speak share the risk by being paid low salaries, this again is only possible because they are subsidized partly by the state (meal-tickets, etc.) and partly by their families. Thus a quite promising way of exploring possible alternative comparative advantages lies open for such firms. Unfortunately, the scheme is also limiting the extent to which this exploration takes place. Until recently Parsek seemed to stick to quite routine forms of jobs, e.g. setting up web-pages for customers, but did not really engage in increasingly elaborate forms of jobs. The reason is simple. Developing capabilities to do so demands experienced professionals with a much higher pay and more permanent employment conditions than are granted students. Without the more sophisticated employees it is difficult to imagine how firms such as Parsek could pursue a ssc-strategy and become interesting collaborators for advanced, foreign firms. And without such ties it is difficult to see how firms of this type could become entangled in the global networks of experimentalist innovation. Parsek seems to have realized this recently, has increased its number of permanent employees, and has been active in creating foreign relations to advanced centres of research. With this shift, firms such as Parsek could become important transitional agencies as they share the risk of new adventures through students with the state, for students they offer opportunities to tie up with a the dynamic patterns of global innovation and its new ways of working – and as these students later on search for more permanent jobs, they may carry new practices with them.

Until recently membership of employers' organizations was compulsory in Slovenia, as is the case in Austria. Formally, Slovenia shares many institutional features with other coordinated market economies, and yet it is as if they are not present in the tales of the Slovenian case-study. We see no attempts to process collective decisions leading to novel organizational devices or initiatives that represent collective risk taking or – sharing. It is as if the legacy of such institutions were purely ritualistic and that all that happens takes place outside the realm of the apparatuses that could negotiate and process collective decisions. Privatization seems to have emptied the space between the economic and public sphere, and the system seems without means to coordinate and create institutional innovations.

Rather families must be entrepreneurial and by combining self-sufficiency farming, wage labour and grey economy activities they are struggling hard to continue a life form that is at risk, and yet is still seen as the primary means to the good life. Perhaps it is also from these struggling families that we might witness a break-up with the lock in? Such families have started to send their youth for educations in Ljubljana or abroad in order for them to escape employment with the employers for whom their parents work. Given the low salaries of students and young professionals, the high costs of housing, of public services, such as day-care for children, etc., such break-ups are highly costly for families and add troubles to their already threatened life form. Families will have to invent new forms of internal reciprocity, being more oriented toward transfers of financial means than toward exchange of personal services. It is unclear whether it will be possible to maintain the quite egalitarian representation of males and females on the labour market, and economic equality would probably suffer because of differences between those who succeed and those who fail in this break-up movement. The risks involved and the uncertainty of outcomes makes it a major challenge for families to overcome the lock-in and cast votes for a welfare state that supplies the benefits and social services that enable young educated families to engage in activities that will grant them membership of the global world of continuous innovation. But through their struggles they simultaneously bring a strongly increasing number of youngsters in contact with firms such as Parsek that offers a route to a different life form, increased mobility and highly innovative practices.

Given these tendencies, constituencies may force regions and municipalities to compete mutually over becoming attractive spaces for coming cohorts of young professionals by searching for new types of job openings, new types of relations to the global market that would enable local life in a reproduced, yet modernized form. From this perspective the formation of Regional Development Agencies jointly with state level Regional Development Programmes could become both discursive fora and platforms of resources for rebuilding localities. Would it be possible to imagine that some communities would set up vocational training institutions in support of subsidiaries, owned by foreigners, training institutions that break with the pattern of Fordism, as in the case of Danfoss-Trata? Obviously, the move toward open systems of innovation in firms like Kolektor would be a favourable way to increase its attractiveness. Could it be that creative destruction of some of the large enterprises could lead to a re-formation of another region to become a replicate of the processes going on in Örnköldsvik? Or are the Slovenians rather hoping that the Slovenian Technology Agency (TIA), like the Swedish Vinnova and the Finnish Tekes, will make them quantum leap from traditional to high-tech-industries? In any case, if such movements take place on an extended scale, it is easy to see that the risk sharing of the family may ease transformations. Yet

at the same time it will mean – to the extent that transitions become successful – that families will have to become liberated from their extended responsibilities and instead need help to be enabled – by growth in public services that is already on its way (in e.g. childcare).

Rather than suggesting that Slovenia is trapped into a low cost route, this indicates that Slovenia has the possibility to enlarge the insular cases of new dynamics on a broader scale by making the labour force more mobile through building enabling welfare state institutions. This could come simply by municipalities starting to compete mutually over becoming attractive places for new professional families to live by offering them the services that make the new life and family form of the new economy possible, gradually exchanging the combination of subsistence farming, grey economic activities and routine factory work with one of continuous professional upgrading and change in firms that quickly run through a metamorphosis from cost effectiveness to innovativeness. Whether this is simultaneously a route to a good life, capable of competing or combining with the previous life form is another question? Gradual evolution from the present to a future state, however, seems possible with the elements already in place if the state and the public sector rather than catering for a neo-liberal route opt for a Nordic approach.

Searching for a Route to a Comprehensive Enabling Welfare State

As a heuristic concept “the enabling welfare state” searches for ways by which the state enables citizens, firms and regions to cope with disabilities and share the risks connected with experimentally out-stepping the boundaries of routines and activities of known comparative advantages and engaging in search for new ones, partly by connecting to international communities of search and innovation dynamically and collaboratively. In contrast to Slovenia, we saw that all the Nordic countries had achieved this at a general level, but in very different ways, partly reflecting divergent legacies of the past. Citizens in the Nordic countries have been enabled to engage in frequent changes in work, further training, etc., by the state providing services to families, which, again, has enabled firms to organize in ways that make experimentalist change happen due to responsibilities for learning being decentralized to employees in a system where union traditions create the constitutional foundation for continuous re-negotiations and collaboration among parties rapidly changing both identities and interests – at the level of individuals, social groupings and firms (eventually as subsidiaries of MNCs). Whether it is more effective for the state to engage in offensive risk sharing directly through citizens by offering rich access to further training and life long learning ,as in Denmark, or conversely by subsidizing the activities of particular groupings,

such as engineers in Finland, to effect transformations of particular firms in a dominating position is difficult to judge. Probably Finland could learn much from Denmark and vice versa? In both the Norwegian and the Swedish case the state has been drawn into wrestling corporate communities out of dependence on corporations, stagnating because of global restructuring that has left them and their local communities comparatively disadvantaged.

The regional dimension seems to play a major role in Finland, Norway and Sweden, where “one corporation town” have played a major role during industrialization, and these “mill-communities” seem not to have been complemented with institutions that enabled them to search for and experiment with novel comparative advantages, while they were cultivating existing specialities. They – so it seems – specialize into a dead-lock, and either major system rebuilding schemes are brought to bear in order to re-configure these societies, or society wide depressions diffuse, when they are being abandoned by their former principals. Alternative costs are difficult to assess, but in the cases studied in both Sweden and Norway the costs of reconfiguring local communities must have been enormous for the state, while in Finland the abandonment of Varkaus makes both the public and private citizens carry large losses. Despite huge costs it is very difficult to tell whether the Norwegian and the Swedish localities studied will not repeat to specialize into blind alleys, in Norway because the project sets a destiny of industrial specialization, in Sweden because the local coalition holds such a dominant position that it is difficult to see whether complementary activities and agents will find sufficient support to search for alternative forms of future comparative advantages.

In the case of Denmark, the regional dimension has played a less important role. There are several reasons for this, which it would be too complicated to review here. In Denmark, coming plant-closings, major steps into outsourcing, etc., are often announced as shocking news in the press, but then after a year when effects has been investigated the conclusion is most often that unemployed have been absorbed, new firms have taken their place, etc. The Danish study mentions a case where exactly this has happened. In contrast to the mill communities of the other Nordic countries, Danish peripheral communities have often been constituted around railway towns with a diversity of craft shops and –firms engaged in a multiplicity of specializations, making each locality much more diversified. These communities were continually competing mutually by building institutions to support their development, and for a complex set of reasons in many places around the country, towns are furnished with a complex of vocational training institutions, often set in motion to create

continuous training schemes to solve problematic situations. In this way local communities may explore alternatives while exploiting current comparative advantages.

In terms of regional equality of economic development, the effects are large. In Denmark the overall convergence across regions in terms of low unemployment and moderate employment increases is the highest among all the Nordic countries, and nearly all types of communities are doing well. In contrast, in particular Finnish development is one of spatial polarization with rapid job creation within regions of low unemployment leaving peripheral regions with high unemployment and negative job creation. Sweden, though to a less extreme degree, repeats the Finnish pattern, while Norway with a generally low unemployment locates net job creation to its capital (Hannell and Persson, 2006, p 190-196).

These differences in regional patterns may have important implications for how the welfare state is working. In Finland, we would expect a lot of welfare state transfer payments, activation schemes, etc., to be of a passive, social insurance nature so that the defensive and offensive risk sharing schemes (the latter related towards R&D) are highly divided. In Denmark, on the other hand, the social or defensive schemes have been much more turned into tools for offensive risk sharing. According to the IFO-Institute ² during the 1990s Finland modestly and Denmark dramatically increased (Denmark reached the Swedish level of) public expenditures as a proportion of GDP on Active Labour Market Policies (ALP) (while this proportion dropped in Norway). ALP is a way of turning passive into offensive risk sharing tools, but in contrast to Denmark (and Norway) where the spending on active measures as a percentage of all expenditures on labour market policies increased rapidly, this percentage dropped in Finland (and Sweden). While in Denmark the percentage distribution of active labour market expenditures was changed towards occupational training, which went up from 24% to 56% (compared from 25% to 31% for Finland), the basic change in Finland was from public job creation to subsidizing employment in private firms. Sweden, on the other hand, reduced the proportion spent on occupational training, and seems to have spent a major proportion on public employment creation and subsidies for employment in the private sector. Finally in Norway spending on occupational training fell from 36 to 6%, while most money was channelled into support for disabled. If the task is to search for future complementary comparative advantages, it is obvious that it is much better to give emphasis to occupational

training than to place individuals in existing simple jobs international competition probably already threaten. Thus it is obvious that the Nordic countries have not found a formula for deliberative search for a way to turn the social into the enabling welfare state. Reforms are continually being adopted, but often in the dark and without any point of reference to what works, why and how.

In our view a combination of the Danish way of transforming social schemes into tools for activation, focusing on further occupational training that allows individuals to gain and explore competencies beyond current reach, combined with some of the Finnish systematic in exploring new technology fields with vigour and determination constitute a promising combination enabling localities and firms to transform gradually as the occupational identities of its population are changing.

Perhaps this hybrid is coming into existence in both Finland and Denmark currently. Thus Finland has over the last decade, with support from the EU-regional funds, created a regionally distributed system of vocational training centres that could be used as tools for gradual regional transformations and become tools for active labour market policies in the future. Simultaneously Denmark, with its Administrative Structural Reform merging municipalities and establishing five regions in place of many more counties, have set up regional Growth Forums intended to initiate R&D projects and collaboration among universities, training institutions, and regional business communities. The latter could become a locally initiated way of getting some of the Finnish system, but without running the risk of binding it to the Finnish form of centralized initiative and coordination. There is no doubt that both Finland and Denmark are currently looking toward each other to learn more about what next steps to take, while both Norway and Sweden provides too confusing lessons to make real sense. But this confusion is a dominating mode as our short review of changes in active labour market policies demonstrates. All the Nordic countries seem in need of new ways to learn systematically from gained experiences, to govern new experiments and to discover routes that can be safely imitated. What can be learned from both Norway and Sweden is that such societies need an institutional matrix that may be combined in distinctive ways so that regions and localities may be able to change from a past set of comparative advantages to a new one.

In Need of Governance for an Experimentalist Economy

For our research team it has been a fascinating surprise to discover the extent and variability of the experimentalist processes that goes on in the Nordic countries both among citizens recasting former professional identities and engaging in continuous efforts to rebuild profiles of competencies, and among firms that continuously change their work organization to pursue strategies that enable them to become increasingly more useful collaborators to their customers. But the way in which agents from both the private and public sectors join forces and make use of and recombine institutions in novel and innovative ways is perhaps the largest surprise. Wherever we have looked into a case-study, the experimentalist vigour of both private and public organizations has been striking and evoked admiration, not least because the general debate in the Nordic countries does not reveal this extent of innovativeness, in particular on the part of the public sector.

The experimentalist and innovative vigour of the Nordic countries cannot be said to be an effect of deliberate policy or strategy from the government – apart from the Finnish case. Rather it is unintended effects of policies that tried to bring about a different, mainly neoliberal orientation, but which became re-engineered by local agents in firms, institutions and localities and brought to bear on developmental projects that are very diverse. Some of our readers may ask whether our findings are typical of each of the countries studied. To some extent we believe they are, because in each of the countries local agents have remade and recombined institutional complexes that are distinct and characteristic for each country. Yet, we would expect other municipalities in Sweden to recast their entire society and economy in very different ways than in the case of Örnsköldsvik, to find different ways of combining restructuring of work-organization and vocational training than in the cases, we actually studied in Denmark. Furthermore, we would now expect that studying any privatized organization in Norway would reveal a novel pattern for making people and resources useful in unexpected ways. Our drill samples are too few to reveal the geology of the underground, but wherever we actually drilled, we found novel ways of innovating and experimenting that made sense from the perspective of the agents involved.

Apart from Finland, where the experimentalist processes are as one would expect from the innovation system type of policy that has been designed centrally combined with a conscious policy for distributing growth poles geographically, the experimentalist processes that we have studied are not the outcome of state planning and governance, and they are basically unrecognized by the state level politicians and administrators. Local agents have joined forces, they have evoked relations to national institutions and corporatist bodies and made local use of shifting national policies to coordinate flows of activities that helped them bring about transformations that would have looked

formidable had they been done by design and implemented by the state top-down. Our study reveals that exactly the abundance of local initiatives, multifarious corporatist channels, a rich and varied institutional environment, etc., have created the foundation for making the Nordic countries score well in global comparisons, not deliberate state strategies for picking winners, choosing new technology-platforms or creating clusters.

In Norway it seems as if privatization under the guise of neo-liberalism created the pressure transforming former public institutions into successful private innovators. In Denmark a weak neo-liberal attack, inspirations from new public management and a systematic yearly reduction of budgets of individual institutions have fostered innovation and readiness to collaborate across divides both within the public and towards the private sector. In Sweden similar measures, combined with a creative destruction of formerly dominating large enterprises, have provided the impetus for searching for novel paths, locally. Unintended this has provided the Nordic countries with experimentalist economies and enabling welfare states.

However, while such an economy and society may come into being unintended, it may not be cultivated, elaborated and come full without a shift in political orientation, new visions of its path and creative ways of learning how to govern it.

Compared to this need, it is depressive to observe how central state agents in most of the countries have become encapsulated by the vision of the neo-liberal turn. Reforms of the welfare state are still discussed in terms of creating more market and competition within the public sector, making the public sector better equipped for sub-contracting activities to the private, and mostly new public management principles install bureaucratic principal-agent forms of governance that lead to standardization or “mainstreaming”. Even with respect to achieving a more innovative public sector, such visions for governance are predominant.

One of us joined a conference in Denmark to discuss a strategy for an innovative public sector in May 2008. Nearly all participants from the state level – politicians and administrators alike – took departure from a view that innovation and public sector was a *contradictio in adjecto*, thereby revealing that the state basically ignores what actually goes on in society. Then they created a vision for how to create leadership and managerial techniques to push from the central level innovative pressures towards the bottom. It seems as if the intended use of benchmarking, evaluations, etc., would prepare for making it possible for the principal to blame agents, or to let the blind guide the sighted.

According to international measurements, the Nordic countries score high on good governance, not because they have found ways of governing experimentalist economies and enabling welfare states. In each country our case-studies show that agents evoke resources by working through corporatist channels and bodies. This probably creates the foundation for governance systems in which it is difficult to appropriate public resources for private ends that are not appreciated by a multiplicity of stakeholders. But it gives no indications of whether public resources are used with the best possible effects. Nobody, today, can assess whether the enormous amount of public and private means that it took to transform Örnköldsvik from a mill society to a service economy has been a good way of spending the money, and whether it constitutes a template for imitation or an example to diverge from. Nobody have compared the “job bank” settlement between the labour market institutions in Odense and Microtronic with alternative ways of organizing local modes of doing active labour market policies, so that the better options can be chosen in the future. Nobody has questioned whether Norway needs to invest in building peak research institution in order to form future high-performance firms similar to those that we have studied. But such discussions need be at the centre if mechanisms for offensive risk sharing in searches for future comparative advantages are to be continuously improved.

Obviously, the Nordic countries are, first and foremost, lacking systems that recognize and appreciate what is going on in terms of decentralized learning and innovation. Only by creating such systems will it be possible for localities, firms and employee groups to learn from each other, to search for better and more competitive ways of combing processes within private firms and surrounding public institutions, to benchmark them against each other and to choose temporary templates for solving more general problems in the continuous struggle for constantly redefining roles in the larger global system. Contrary to the prevailing tendency, at least in Denmark, where it is central bureaucrats and politicians that formulate benchmarks, these must be formulated by those that live in the ongoing motion of the present. Only they can see what problems to overcome, the possible means to work with and what goals are achievable. But they need somebody to discuss this with, to reach mutual agreement with and to exchange information on known alternatives so that local learning becomes public and generalized. As it is now corporatist bodies of the past are being gradually made use of in novel ways so that institutional resources become re-directed in ways that the many stakeholders find legitimate. But the associations involved in these multilevel governing bodies are not comparing and controlling how effective the new ways are in generating a novel development path. To us it seems as if unions and employers associations, together with other

emerging stakeholders, need to assess how different ways of organizing work may work in concert with changes in labour market institutions and public R&D institutions. Municipalities need collaborative institutions, where they can compare transformative outcomes in different localities and learn how to engineer restructuring and ask the state for help to follow strategies, rather than creating strategies gradually, drawing on resources that they happen to be able to wrest from an assemblage of corporate bodies, probably created for different purposes. As we see it, the Nordic countries have managed to create institutions that make it possible to explore potential future comparative advantages by sharing risks and making enabling gradual steps mutually between the public and the private, but there is no deliberate way of governing and improving on these institutional talents when it comes to offensive risk taking.

The same can be seen in the case of institutions for more defensive risk taking. Educational and social policies are primarily being discussed in the light of the old social welfare state. Though social policies are increasingly being seen as schemes for rehabilitating the labour force and bring it back into employment, the schemes are not used deliberately to enhance the skills and cater for employment beyond existing skill-levels in society. Such schemes, though, can be found in Denmark, but they are created locally and owe their existence to a few individual entrepreneurs that move beyond existing institutional barriers. They are not part of an offensive deliberate national search for alternative novel ways of building skills and competencies that may force firms and public institutions to take new paths to attract employees furnished with novel professional aspirations. That the system nevertheless works this way is sheer luck, but this luck could be deliberately cultivated by a system of governance that appreciated, compared across, benchmarked and assessed the usefulness of institutional innovations.

Norway, Denmark and Sweden have recently been taken by surprise in discovering that PISA benchmarks in the performance of their public schools are mediocre though spending is high. Neither reading abilities nor math and natural science mastery seem high. In Denmark this has led to a painful discussion, where politicians have blamed teachers and school leaders for bad performance. Against advice from OECD, lists of performances of individual schools are being published so that the poorly performing schools can be blamed. But how and why the best performing schools are doing well, how they have overcome a set of problems, etc., has never been analyzed. Instead a number of new “disciplining” measures have been installed, such as national tests, obligations to make individualized learning plans for students, for teachers to work in teams on curricula development, etc. The interesting part is that the best performing society in terms of PISA tests, Finland, has not been consulted in order to find out how to re-design the Danish – and

Norwegian and Swedish – school systems. A comparative understanding of different school systems would, however, reveal that the Finns are as concerned about students' lack of creative skills as are the Danish or Norwegian about reading and math abilities. A search for the better school system can only be made in full if we recognize that none of us know how such a system would look.

To make an anti-authoritarian, creative school that also brings about high standards with respect to reading, math, etc., is a challenge that most countries will have to face if they are to bring about individuals capable of mastering life in an experimentalist project economy. Governance systems that primarily focus on being able to blame those schools that fail in these attempts will probably have difficulties in creating the diagnostic knowledge that makes it possible to learn from the more successful ones. Yet such a tool is exactly what we need to enable deliberate search for ways to educate and prepare individuals for the new economy.

The same goes for family services. Most have been governed to make institutions provide some minimum standards that help families out of problematic situations. But if our way of comprehending the current and coming economy's dependence on families able to live changing and unpredictable lives is correct, the public service institutions must systematically be questioned and improved to make it possible for families to meet ever increasing challenges. Families in the Nordic countries have faster than elsewhere been able to enter the new life of mobility and change, because public services enable both mothers and fathers, single and double income families to do so. Yet it is obvious that in many and increasing cases, this transformation comes with high costs in terms of children with a multiplicity of problems, classroom filled with noise, a great need for parents to do homework with their children, children feeling left to themselves or the elderly feeling neglected. An increasing proportion of the populations in the Nordic countries suffers from stress and is burned-out. Looking to the pattern of stable life in Slovenian families and valley communities, Nordic families may easily become the envying part.

The Nordic countries have performed so effectively that today they stand – for better or worse – at the frontier of social and economic development. In many ways they must learn from themselves and each other what to do next. In this light their experimentalist steps are too serious to be collectively neglected as private experience and tacit knowledge. Individually and combined they constitute important experimental laboratories, but they need to create governance systems that make it possible to learn from experiments and make these lessons imitable for other practitioners.

The Global Challenge for an Experimentalist Economy

In many ways the concept of a fairly stable global value chain with a clear division of labour between the highly and not so highly developed countries has served as guidance for the policy orientation of the Nordic as well as the remaining EU countries. Within this framework it was believed that the highly developed should cater for the parts that involved R&D, design, logistic coordination and sales and management, while the less developed countries would serve with manufacturing facilities based on cheap labour. The states in the highly developed countries should primarily supply the economy with public financed R&D, higher education, facilitate entrepreneurial vitality, and help supply venture capital and infrastructure for networking in the digital age. The Lisbon process may be seen as a European wide way to institutionalize among member-countries a rivalry to do increasingly more of this among its members. But the less developed countries have done exactly the same in order to break out of a foregone conclusion of becoming sites for cheap manufacturing. India and China, in particular, have challenged the global space that the West had reserved for itself.

The outcome is a very complex pattern, constantly in transformation, where the location of exploitive and explorative activities is much more mixed and constantly being changed (Herrigel and Zeitlin, forthcoming). Within countries this has moved us away from “closed” to “open innovation” systems. During the last two decades of the 20th century a dramatic shift took place. As shown by Chesbrough (2003: 48) the share of R&D by the largest enterprises (more than 25,000 employees) in the US fell from 71% in 1981 to 41% in 1999, in the same period the proportion of R&D by the SMEs (with less than 1,000 employees) increased from 4% to 22%, signifying that the world is in search of a new “paradigm” of open innovation (Chesbrough et al. 2006). This evolution is no doubt fostered by the simultaneous change toward a high-mobility labour market, in the US created by experts that circulate among different firms on short term contracts and organizing search in novel ways (Barley and Kunda 2004). But it has also been shown by Saxenian (2005 and 2007) that brains are circulating globally among the technology-centres of the highly developed countries and the industrializing Asian countries, making it almost impossible to predict from where the new impulses for innovation will appear. In other words the location of technological frontiers becomes unpredictable and a number of competing solutions may emerge from different quarters of the world:

...the more knowable the world as a whole becomes, the less confident we can be about the kind of knowledge that will prove useful in engaging its parts. By the same token, the more development depends on applying knowledge from domains traditionally unrelated to the industry's core activities, the less meaningful the idea of a technological frontier – it is everywhere and nowhere – and the less confident we can be that leadership today assures leadership tomorrow. In these circumstances it may well be more important to be able to search effectively across domains than to dominate the generation of ideas and technologies within any one of them. The decline of the centralized corporate research laboratory, where stable project groups could pursue a line of research for a decade or more and the ad hoc research consortia, connecting expertise from once seemed disjoint domains is one widely remarked reflection of this transformation (Sabel and Saxenian, 2009: 17).

The challenge for business firms and the wider national setting in which they are hosted is to be invited into such ad hoc research consortia that join together domains in a stream of co-creation. To receive such invitations probably depends on capabilities that the firms already possess or have access to through the wider environment. Private and public investments in R&D, up-skilling of the labour force, abilities to work in a stream of re-combinant projects, etc., are no doubt important for being invited. But the big problem for governments is that the usual policies for innovation systems or for up-scaling skills in national labour markets have been to advance and make the movements of the parts of nations cohere in a joint development. However, on the new world-scene this type of policy could easily make the business units and the wider population less prone to engage in ad hoc projects spanning the world. It seems as if national governments are facing the challenge of making it possible for national actors to engage in a multiplicity of ad hoc projects globally by furnishing the national economies with an abundance of weak ties internally.

The cases we have studied show signs of moving unintentionally in this direction, while at the same time breaking the conformity of the stable global value chain. Take Unimerco as an example. It is not its internal strength in R&D that helps it become invited into joint search processes by its future customers. It is its capability to bring standard solutions together and combine them with a manufacturing capability to solve difficult tooling problems that makes it a good partner across many domains. On the other hand, the more this calling is being responded to globally, the more it weakens its numerical ties to the districts and branches it used to serve locally and nationally. Unimerco becomes less interested in solving usual problems in the national contexts, but becomes a highly valuable partner if unsolved problems in the national realm shall be researched for finding new solutions. Nodes in national networks may transform from being frequently used to becoming multiplicities of departure points for global search when faced with novel problems.

How government policies can assist in making such architecture of national business systems possible is the future challenge, not least for the Nordic countries, where the business firms, which we investigated, seem to have outgrown the infrastructure that made their current success possible