PART III

# The Nordic model – challenges and reform needs<sup>1</sup>

Vesa Vihriälä

The Research Institute of the Finnish Economy

<sup>&</sup>lt;sup>1</sup> This is a self-standing discussion of policy challenges and possible responses while drawing heavily on the findings in Part I and Part II. I am grateful for the comments on an earlier version by Lars Calmfors, Torben Andersen, Sixten Korkman, Tarmo Valkonen, Rita Asplund, Terttu Luukkonen, Niku Määttänen, Jukka Lassila and Petri Rouvinen, and for research assistance by Sinikka Littu and Johanna Soininen.

#### 1. Introduction

The Nordic countries have fared well in comparison with other advanced economies in recent decades. All of them have been able to combine efficiency and equity well: a high average standard of living with small income differences and a low level of poverty. The key elements of the Nordic model have typically been identified to include trust in markets in the allocation of resources in the private sector, opening up for free trade, comprehensive public safety nets to allow risk taking and to reduce poverty, free and mostly high quality education, efficiently produced and high-grade tax-financed health and social services, substantial public spending on R&D activities and efficient tax systems to collect the high tax revenues needed to finance the large public sectors, and strong trust in institutions including in the political system.

Calmfors' analysis in Part I of the book shows that while it is still justified to talk about a Nordic model, it may not be as special and internally uniform as the expression suggests. Several other countries have expenditure and tax levels of the same magnitude and have also reached rather similar combinations of average welfare and equality. Nor has the performance of the Nordics been uniformly as stellar in the past few years as say from the mid-1990s until the onset of the global crisis in 2008. The Nordics have clearly been vulnerable to external shocks and unstable internal developments, in different ways in different countries.

The Nordics face many important challenges going forward. Many of them are common to all developed economies while some are more specific to small open economies with a high level of taxation and a comprehensive welfare system. On the other hand, some of the emerging trends may also provide good opportunities for the Nordic societies. Responding to the challenges as well as full utilization of the opportunities calls for forward-looking evidence-based policy reforms. In this concluding part of the book I will first discuss these challenges and opportunities and then look at potential policy responses.

Diagram: Combinations of average living standard and equality

## 2. Key challenges and opportunities

## 2.1. Macroeconomic instability

The global financial crisis and the Euro crisis have shown that deep recessions are not just part of economic history. The "Great moderation", extending from the mid-1980s to 2007 turned out to be a phase of building up large macroeconomic imbalances within and across countries and excessive risk taking in the financial sectors. The reversal of unsustainable positions has resulted in the weakest growth performance in the advanced economies since the 1930s.

The Nordic economies are open, both in terms of gross trade and the degree to which they participate in global value chains. Therefore they obviously are vulnerable to global and European shocks. However, the extent to which the Nordics have been affected has depended very much on the economic structures and domestic policies.

Norway has been least affected thanks to its steady incomes from natural resources, solid public finances and a stable financial system. At the other end of the spectrum is Iceland, which had developed a major credit-financed bubble prior to the global crisis, just as Sweden and Finland had done in the late 1980s. The Icelandic experience is similar to that of Spain and Ireland at the same time, but the bubble was on a much bigger scale in relative terms. According to some accounts, the Icelandic boom-bust episode resembles more the Mediterranean and emerging economies crises than the earlier Nordic crises (Gylfason 2014). In any case, the crash was exceptional and very painful. Nevertheless, thanks to drastic policy measures involving for example major depreciation of the currency and the introduction of foreign exchange controls the economy has recovered at a relatively fast pace.

Denmark and Sweden were rather equally affected by the global shock in 2009, GDP declining by some 5 per cent. Sweden has recovered from the slump quite well, thanks mainly to solid public finances, strong competitiveness and a robust financial system (despite significant exposures of some banks to the plummeting Baltic economies). The Danish economy has recovered much more slowly, owing to a massive credit-financed domestic property boom and loss of cost competitiveness over an extended period of time before the onset of the global crisis. Perhaps reflecting lack of earlier serious crisis experience, the banking system has also been more strongly affected in Denmark than in the other Nordics leading to the closing of a number of small banks.<sup>2</sup> Denmark and Iceland were spared from the systemic banking crises Norway, Sweden and Finland experienced in the early 1990s and which very likely has impacted on subsequent bank and supervisory behaviour.

Finland was hit hardest among the Nordics by the global crisis and lost 8.5 per cent of GDP in 2009. This was mainly due to the strong specialisation on investment goods in manufacturing, as the global investment boom of 2007 - 2008 turned into a collapse of investment activity. However, also the recovery has been very weak reflecting primarily the decline of ICT production (Nokia!) and long-term weakness of paper demand. Apart from a symmetric global shock Finland has also been hit by an asymmetric shock. At the same time, weakened cost competitiveness particularly since 2008 has led to a loss of market shares in other sectors as well. The combined effect has been a stagnation of the Finnish industrial output and GDP at well below the pre-crisis level.

The different patterns of the Nordic economies in the recent years suggest what is likely to be important for macroeconomic stability going forward. First, a credit-fuelled property and asset price boom makes an economy vulnerable to shocks and also slows down the recovery due to a debt overhang problem. Second, a strong reliance on one or two export sectors contributes to vulnerability even if such specialisation is good for long-term growth. Third, while gradually weakening cost competitiveness may not be a big issue in good times, this can have a major impact in bad external conditions.

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<sup>&</sup>lt;sup>2</sup> That several banks have been closed and there has been some market turbulence associated with the events may at least in part be due to the aggressive bail-in policy.

Strong public finances are of course very important to allow for temporary fiscal stimulus and to avoid destabilising expectations about sovereign credit quality. In the most recent recession all the Nordics have in fact made extensive use of the fiscal space for stabilising fiscal policy while avoiding any speculations about government debt quality, with the notable exception of Iceland. Apart from Iceland, the government gross debt levels are still moderate in the Nordic countries. Equally important, in Norway and to a lesser degree in Finland and Sweden the public sectors have more financial assets than liabilities. This is a good starting point. The Nordic sovereigns (Iceland being an exception) have in fact maintained AAA credit ratings throughout the recent crisis. This has helped them to keep interest rates low. But given the sustainability gap and the gradual increase in the gross debt level, not only Iceland but also Finland could see its fiscal policy severely constrained by increasing public debt in the years ahead, and some risks exist also in Denmark.

Finally, it is of some importance that the choice of the monetary policy and exchange rate regimes does not seem to be all that important for macroeconomic stability under normal conditions. Undoubtedly, the fast recover of the Icelandic economy is partly due to the significant depreciation of the currency just as the Swedish and Finnish recoveries benefitted from depreciation in their respective crises in the early 1990s. However, under more normal circumstances the exchange rate and the possibility to fine tune short-term interest rates does not seem to matter that much. The Swedish and Finnish economies, which have many structural similarities, performed almost like twins in the first decade of the EMU until the global crisis despite very different monetary arrangements. It is likely that the depreciation of the Krona helped the Swedish economy somewhat in 2009 and 2010 relative to Finland, but the effect was not large and did not last long. The fact that Finland lags considerably behind Sweden in terms of cumulative output growth since the trough of the crisis is due the structural problems referred to earlier rather than the monetary regime (Suni and Vihriälä 2013). This does not imply that adjusting to a major structural shock could not be helped by exchange rate flexibility.

## 2.2. Global competition and technological change

Increasing global competition and technological change have been the two key drivers of the global economy over the past two decades. True, the "Great Recession" dented growth of world trade and output. Also the pace of technological change as measured by the rate of total factor productivity growth has slowed down since 2008. Nevertheless, growth of the emerging economies recovered fast and their share in the global economy has steadily increased. Global competition is increasingly felt in the developed economies including in many services sectors which were earlier quite sheltered from foreign competition. At the same time, new technologies are being continuously introduced to the market by start-ups and other companies challenging the competitive advantages of incumbent firms.

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#### Breaking-up of the value chains

An important element of the change that has taken place in the global economy is the breaking up and reorganisation of value chains. Until the 1980s industrial production was concentrated in clusters where all key phases of production of a final good took place in the same location, often although not always based on domestic raw materials. In that context globalisation meant more extensive foreign trade in final goods and raw materials. This was also the way the Nordic economies opened up. Forest clusters, in particular in Finland and Sweden but also in Norway, exported paper and other wood-based products. Similarly, plentiful renewable energy sources made Norway and Iceland important producers of energy-intensive goods such as fertilizers and aluminium for export. Domestic iron ore was in turn a central factor contributing to the development of the Swedish metal and machinery industry. Danish specialisation in farm products for exports is another example.

The ICT revolution in particular but also a continued decline of freight costs and lower tariffs since the 1980s have changed this pattern and led to a new phase of globalisation. The "second unbundling" (Baldwin 2006) of industrial production has radically changed the way production processes are structured. The production of a final good or service can be split into many stages which can take place very far away from one another. While in many cases several of the stages occur within the same global corporation, often important parts (intermediate goods or services) are outsourced to other companies which again may be located very far from where the final product is produced.<sup>3</sup> One has started to talk about global value chains (GVC). A key issue is how the value added of the whole production chain is distributed between companies and the locations of their activities.

The technological change that has facilitated the second unbundling has at the same time been skill-biased or rather "non-routine-biased" in the sense that the new technologies have often been complementary to highly skilled labour engaged in non-routine tasks while they have been substituted for many non-skilled and also routine jobs with higher skill requirements. The combination of replacing routine work by computers and offshoring such work to low-cost emerging economies has been a central transformation of the global economy over the past two decades. It has also had a profound impact on the Nordic economies. Many Nordic companies have benefitted from these developments, which have allowed them to increase productivity and lower costs. Some of them have become truly global companies as a result, with the bulk of their employment being located outside their home country. Nokia and Kone of Finland and Ericsson and Ikea of Sweden are prime examples of this.

<sup>&</sup>lt;sup>3</sup> While the share of intermediate goods in world trade declined until the early 1990s, their share has slightly increased since and in particular the share of foreign intermediates in all intermediate products has increased robustly (Yane 2013).

The loss of manufacturing jobs in the Nordic countries has been fairly similar to that in other advanced economies. This has created substantial adjustment challenges and also impacted on the distribution of market incomes, as the job losses have been concentrated in low to medium-paid manufacturing occupations and new job opportunities have emerged in high-paid professions as well as in some low-paid service occupations. There has been a tendency towards polarisation in the labour market (Eurofound 2013, Asplund et al. 2011). While unemployment has increased markedly in some locations, the increase in overall unemployment has been moderate. New jobs have been created both in private and public services.

Over the past few years new features of technological change and global competition have become visible and have also started to impact on the Nordic economies. The digital revolution has advanced creating superior or completely new digital services and new business models. Geographical distances are irrelevant in the production of such services and their production can be scaled up at no or minimal costs. These trends greatly help companies in conquering markets on the basis of superior technology or business ideas and make incumbent companies vulnerable to new competition.

A prime example of the impact of such new competition is the evolution of Nokia. The company was the global market leader in mobile phones by a wide margin in 2007. However, the introduction of touch screen technology by Apple on the iOS operating system and the emergence of the Android operating system by Google as well as the exploding number of applications that became available for these operating systems quickly toppled Nokia from its position; Nokia's market share plummeted. As a result, the company was forced to sell its mobile phone business to Microsoft, shed more than half of its employment in Finland and refocus its operations in a fundamental way.

Forecasting technological developments is hazardous. In fact rather diverse views exist about future productivity trends. Some interpret the observed recent global slowdown of the growth of total factor productivity as a beginning of a new era (Gordon 2013). Others emphasize the potential of digital technology and predict a recovery of productivity growth even if not perhaps to the level seen in the more than ten-year period prior to the global crisis (Byrne, Oliner and Sichel 2013). In any case, it seems unlikely that the transformative power of digital technology is fully exhausted. Similarly, it is unlikely that the trend towards an even more closely integrated global economy would be reversed in the foreseeable future. The on-going negotiations about new regional free trade agreements suggest that the political will to advance free trade and integration is still there.

These trends provide both challenges and opportunities for the Nordics. As other developed economies, the Nordics continue to face significant adjustment pressures. Lines of production

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can quickly turn unprofitable, companies face extinction if not capable of changing, and jobs continue to be destroyed.

#### Automation threat to jobs

That technological advances destroy jobs is no news. Nevertheless, the perspective that the ever more powerful digital technology could wipe out a large fraction of the current jobs, some of which require considerable skills, in a relatively short period of time has received much more attention recently. The analyses by Frey and Osborne (2013) and Pajarinen and Rouvinen (2014) suggest that one-in-three to one-in-two jobs have a very significant risk of being replaced by automation in the coming 10-20 years. The analyses indicate that the pressures on jobs to disappear due to technological change continue to be the greater the lower the wages and the lower the skill requirements are. With the existing occupation structures jobs in the private sector are more vulnerable than jobs in the public sector. In the light of Pajarinen's and Rouvinen's comparative analysis the Nordics may be slightly less vulnerable to this development than the US, assuming that the job structures in the other Nordics resemble more those of Finland than those of the US.

Diagram: Jobs threatened by computerisation in Finland and the US (two panels)

Diagram: Jobs threatened by computerization in Finland by level of education (two panels)

The automation potential has important distributional implications. The evidence of the impact of technological change on jobs so far suggests that while overall employment may not have changed too much, the new jobs replacing the old ones tend to be concentrated at the low end and the high end of the pay scale (Autor, Dorn and Hanson 2013). Also going forward, existing low-to-medium wage jobs are more likely to be destroyed, while the immediate benefits are likely to accrue to the owners of the machines and the highly skilled who operate the machines and manage the machine-dominated production processes. Although new "nonroutine" jobs are created at the low-skill end too, they tend to be in personal services and the like where productivity and as a consequence pay remains low. Taken together, it is likely that the tendency towards polarisation of the labour markets observed in many countries continues (Manning 2014, Boehm 2013). This suggests that there is continued pressure for income disparities to increase.

The rather generous unemployment benefits and other safety nets soften the immediate impact of automation on income disparities in the Nordics. On the other hand, the unemployment consequences could be more serious if the same factors make the "reservation wages", i.e. the wages below which people are not willing to accept job offers, relatively high unless the incentives structures are modified and/or paths to re-employment improved in other ways.

The new technologies will foster competition and could destroy jobs in uncompetitive firms more easily than before. For the "creative destruction" to function properly, there must be sufficient incentives for creating new businesses and labour needs to be mobile across companies, occupations and locations. This in turn requires not only appropriate competences but also sufficient economic incentives to move.

## Specialisation a must but risky

A particular issue stems from the small size of the Nordic economies. The economies cannot spread activities around in many fields of production but need to specialise if they are to be efficient. Iceland and Norway are highly specialised due to their natural resources. The exports are concentrated to an exceptional degree in aluminium and fish (products) in the case of Iceland and in oil and gas (products) in the case of Norway.

Sweden, Denmark and Finland are more typical small countries in terms of specialisation, irrespective of the precise measure used. Of these countries Denmark displays "revealed comparative advantage" (RCA) in more industries than Sweden or even Germany, while Finland has the fewest such industries.<sup>4</sup> However, there appears to be little difference in the quantitative importance of the RCA industries between Sweden, Denmark and Finland currently, as the size of the Finnish ICT sector declined substantially from the exceptional level reached before the current crisis (Kaitila and Virkola 2014).

Diagram: Concentration of exports and country size

Diagram: The importance of industries in which countries specialise

Specialisation according to comparative advantage is obviously what we would expect and applaud when countries seek to gain from international trade. But it has the downside of making the country vulnerable to shocks to that particular industry or line of production. The dramatic decline of Finnish manufacturing exports due to the Nokia shock and the coinciding secular decline in paper demand is an example of the materialisation of such a risk.

The fact that the Nordics have reached the global technology frontier in many areas is likely to accentuate this vulnerability. This implies that more than in the past, the Nordics have to rely on innovation rather than imitation, even if most of the new technologies to be applied in any country still originate abroad. The small size of the Nordic economies implies that they cannot invest heavily in absolute terms in innovation, be it money or human resources, in many fields at the same time. The dilemma of all policy makers about how to promote innovation with

<sup>&</sup>lt;sup>4</sup> Revealed comparative advantage of industry i of country j is the ratio of the share of that industry's export in all exports from j divided by the share of industry i export's share in global exports.

strong enough policy measures while not trying to pick winners is therefore likely to be starker in the Nordics than in bigger economies.

A logical policy response to higher volatility in the economy is to reinforce the insurance elements that protect against idiosyncratic risks. This can happen on different levels. An extensive social safety net obviously helps individuals to adjust smoothly by allowing them time to seek new jobs in which they can make good use of the their skills and thus be productive. Diversified equity ownership across the Nordics and more widely can shield capital incomes from shocks specific to one country. Similarly, an integrated Nordic and European banking market helps credit flows to smooth country-specific shocks. An obvious further step would be cross-country fiscal stabilisers, which are being discussed in the Euro area context. The political hurdles for such new mechanisms are however very high, and unless properly addressed, moral hazard problems could be serious.

Unfortunately, the shocks hitting the economies are not just manifestations of symmetric cyclical variation in demand. More often than not they are permanent in the sense that a whole line of production disappears as tastes change or superior technology used by competitors make existing production obsolete. Therefore and because all of the above insurance options are incomplete, the capacity to adjust, call it *agility* or *resilience*, must be the primary means to keep the economies stable and able to benefit from the gains of trade.

## Nordic strengths

The new competitive landscape is not just a challenge. There are at least a couple of factors which might favour the Nordics relative to some other developed economies. One is the aforementioned fact that many of the rapidly growing digital services are easy to scale up and distribute around the globe with close to zero marginal costs. This reduces the disadvantages that small producers from relatively peripheral locations without large home markets have previously faced in introducing new products globally. The game industry is an extreme example of this. These technological developments as well as the opening up of the North East Passage to Asia further down the road are likely to make the Nordic region a more attractive location for economic activity from the point of view of economic geography.

Second, the Nordics, particularly Sweden and Finland, have invested heavily in digital technology, in education, research and development and in infrastructure. As this general purpose technology has a wide variety of applications, the competences developed are likely to be useful in many different undertakings. In addition, many Nordic companies have been active in developing new products and processes to address environmental challenges, which are becoming increasingly important. Demand for cleantech solutions is bound to increase.

Third, the Nordics have relatively well-functioning labour markets and the skill level of the adult population is generally speaking good. What may be even more important is that the

Nordics have a tradition of extensive participation in adult education. All these factors should help the labour force to respond to changes in the relative demand for different skills thus aiding adjustment to any structural change in the economy.

## 2.3. Demographics and the sustainability of public finances

The Nordic countries are no exception with regard to the main trends in demographic developments. Life expectancy continues to increase while fertility is much lower than it used to be and below the level needed for a stable population. As a result, the share of those in the working age in the total population is declining, or, put differently, the dependency ratio is increasing. This creates increasing pressure on public finances when the public sector has important responsibility for the welfare of the non-active population. In the Nordic welfare states such a responsibility is obviously extensive, making the ageing of the population potentially a very significant challenge.

Fortunately, there are factors mitigating these tendencies substantially although in very different degrees among the Nordics. First, even though below the reproduction rate, the fertility rates in all Nordics have remained high in comparison to most other advanced economies. Child-friendly family policies have been instrumental in this. Second, the Nordics have also started to attract more work-related immigration. Sweden has traditionally been a destination of a lot of migration, work-related and otherwise, and immigrants account for some 15 per cent of the population. Also in Norway the immigrant population has increased rapidly over the past decade to some 12 per cent of the total population. In Denmark immigration has increased rather steadily but the level reached is lower than in Sweden or Norway. Similar trends can be observed in Finland, although the share of the foreign-born population in Finland still is among the lowest in the advanced economies. In Iceland immigration increased substantially prior to the economic crisis and the immigrant population reached some 12 per cent of the population but has diminished somewhat since.

Going forward, quality-of-life aspects might become a Nordic asset in the competition for skilled labour in the long term. The Nordics come out well in almost all international quality-of-life comparisons, including the OECD's Better Life Index. In the short term, the difficulties of many Southern and Eastern European countries combined with more restrictive attitudes towards work-related immigration of some key immigration destinations such as the US and the UK could boost the Nordics' relative position in this regard.

All in all, while old-age dependency ratios will increase significantly in all Nordics in the next 25 years, the ratios are expected to stabilise in Iceland and Denmark and increase only a little in Sweden, Finland and Norway beyond the late 2030s. By 2040 the ratio is forecast to be below the EU average in all the Nordic countries. Among the Nordics, Finland is projected to have the highest old-age dependency ratio until 2050 and particularly so until 2030.

Apart from better than average demographics, the Nordics have succeeded in reaching and maintaining high participation and employment rates by international standards. This is primarily due to the high female labour market participation reflecting again policies encouraging and facilitating such participation, for example, through individual taxation, widely available day-care and old-age care services. Iceland is at the global top in this regard, while Finland is a little bit of an outlier with an overall employment rate below 70 per cent. This is mainly due to the low employment rate of people above 55 years of age, particularly men. But also females in the reproductive age participate in the labour market a little less than in the other Nordics most likely because of relatively generous subsidies to mothers staying home with children under three years of age. The high employment rates are positive for public finances both through wider tax bases and through smaller demand for social transfers (for more detailed analysis, see Part I).

#### Diagram: Employment rate and public debt (two panels)

Furthermore, pension policies have been adapted to the changing demographic outlook rather proactively. With the exception of Iceland, either the level of pensions or the retirement age has been linked to life expectancy. This implies that the impact of increasing longevity on pension expenditures is largely eliminated. The Swedish system also protects the contribution rate against the effects of variations in the contribution base and the yield of the pension funds. Obviously, this at the same time makes the level of pensions vulnerable to such shocks. In Denmark the retirement age has been increased as a discretionary decision and linked to life expectancy although with a lengthy transition period. The link to life expectancy decided upon is very strong, as every additional year of life expectancy will increase the pension age by a year. In all countries early pathways from employment to retirement have been restricted or made less attractive. Further reforms are being contemplated in Sweden and Finland.

Public sectors are moreover considered relatively efficient in the Nordics even if reliable comparisons are difficult to make. Thanks to these factors and a tradition of fiscal prudence in general, the public finances of the Nordic countries are among the best in Europe; Iceland is an exception since the crisis. Particularly Norway and Sweden have strong public finances. Nevertheless, as discussed in Part I, there is reason to be worried about the long-term pressures on public finances in the Nordics, too. While national and OECD estimates are somewhat more positive (particularly for Sweden and Denmark), all Nordic EU countries have a sustainability gap according to the European Commission (European Commission 2013). The situation is worst by a large margin in Finland. The latest Commission estimate of the sustainability gap is a whopping 6.2 per cent of GDP. While this is likely to exaggerate the true gap, Finland's relative long-run fiscal outlook is clearly the worst among the Nordics. Also Iceland has a serious sustainability challenge in the medium term; according to the OECD (2013), the consolidation requirement to reach the 60 per cent public debt ratio by 2030 is around 5 % of GDP, higher than in the case of Finland.

All the positive factors notwithstanding, there is a structural risk in the Nordic public finances. As the "public welfare promise" is extensive in the Nordics, the so-called Wagner's law and Baumol's disease pose bigger challenges for them than for most other developed economies. According to the former hypothesis, demand for public services tends to increase as a share of GDP as the economy develops and GDP per capita increases. Baumol's disease in turn suggests rising relative prices of the services whose productivity growth is weaker than in the economy on average. As many services of this type are taken care of by the public sector in the Nordics, public finances come under continued cost pressure.

More specifically, any shocks that increase the demand for or cost of providing care for the vulnerable in the society are likely to put great pressure to increase public spending in the Nordics with the strong egalitarian political preferences. In particular, the wider the concept of treatable medical conditions becomes, and the more expensive technically possible medical interventions become, the stronger will be the calls that the state should finance such new services in order to ensure equal access to services. In countries where families traditionally have had more responsibility for providing care for the old and sick, such developments are likely to impact less on public expenditures.

#### 2.4. Factor mobility and taxation

Maintaining a level of taxation which is sufficient to finance an extensive welfare state is obviously a challenge for the high-tax Nordics if tax bases are mobile across national borders. Indeed, the tax literature underlines the high mobility of corporate incomes through location decisions and transfer pricing, as well as the mobility of capital incomes, as important constraints to the tax policies of individual countries (Devereux and Sorensen 2006).

As a matter of fact, uncoordinated efforts to keep the corporate tax rates competitive have led to a general decline in corporate tax rates in developed countries. The Nordics have followed this general trend with some hesitation. In the past decade or so, the Nordic rates have remained relatively flat (with the exception of Iceland), while in the EU the rates have typically continued to fall taking the average EU rate below those of the Nordics, except for Iceland. However, as of 2014 Finland reduced its corporate tax rate by over 4 percentage points to 20 per cent, marginally below the current EU27 average.

Apart from trying to avoid major competitive disadvantages with regard to the corporate tax rates, a key Nordic response to the tax competition associated with mobile capital has been dual income taxation, i.e. capital incomes are taxed at a relatively low and (almost) flat rate, while earned income as a rule is taxed according to a progressive scale and at a higher average rate. Given that capital incomes are very unevenly distributed this choice has obviously been

subject to substantial political debate in the egalitarian Nordic societies. A particular point of contention is the treatment of entrepreneurial income from closely held companies, where the owners can to some extent choose in what form to take their income.

This approach is based on the assumption that tax revenues on labour incomes are not sensitive to tighter economic integration. To the extent this assumption holds, taxing labour incomes can be determined purely on the grounds of designing appropriate incentives to work and put in effort as well as of domestic redistribution objectives. It seems that this premise has in fact held relatively well so far despite the continued globalisation trend. True, tax rates on earned income have been reduced over the past 15 years in all the Nordic countries, but this has been motivated primarily by aspirations to increase incentives for higher employment, effort, and perhaps also private investments in education, not as a response to lower taxes elsewhere.

Andersen's and Sorensen's analysis in Part II of the book explains why product market integration need not result in a race to the bottom of labour taxation, even when such integration increases the sensitivity of labour demand to labour costs. One factor is that product market integration improves the division of labour across countries and increases thereby productivity and the tax base. A "sufficient" level of tax revenues can be collected even if the tax rates decline somewhat. An obvious prerequisite for this protection of the tax base to function is that the economies adjust quickly and seize the opportunities provided by globalisation.

Another factor is that, to the extent that foreign products are not perfect substitutes for domestic products in the world market, higher domestic costs lead to improvement of the terms of trade. In other words, part of domestic labour taxes are effectively shifted onto foreign consumers via higher export prices. This effect is stronger in more open economies, where exports account for a bigger part of the total demand than in closed economies.

Nevertheless, deeper economic integration poses a challenge to high taxation. One aspect is that an ever increasing share of production takes place in global value chains controlled by multinational corporations. This increases the scope to minimise the overall tax burden through judicious application of transfer pricing and by locating key parts of the value chain in locations with lenient tax rules. An important element in this is intellectual property rights (IPR), which are very easy to assign to almost any destination. Many countries have in fact created preferential rules in IPR taxation ("Innovation boxes" etc.), inducing the Nordics to consider such special treatment as well.

Another aspect is that highly skilled labour is becoming more and more mobile. Improved language skills, convergence of educational standards and life styles, and the very existence of global companies and networks of closely cooperating companies make people less bound to a

given country. At the same time skilled labour is becoming ever more important for the production process, and its remuneration gets boosted accordingly. In extreme cases, "superstars" account for a major part of the costs of producing certain services. This combination of increasing mobility and increasing importance in the production process is likely to put downward pressure on taxes on such individuals. Many countries, including all the Nordics, have in fact introduced special tax brackets for foreign experts to attract them to work for a few years in the host country. However, the tax pressures concern a much broader segment of the labour force than a few foreign experts.

The empirical evidence of the determinants of labour migration and in particular on the role of taxation is not very extensive. There is nevertheless some evidence that taxation indeed can impact on the location choices of highly skilled individuals (Kleven et al. 2013). Interestingly, some evidence has emerged that also the location of corporate headquarters is affected by labour taxation (Egger et al. 2013). This can be rationalised precisely by the aforementioned importance of key personnel for the production process.

## 3. Policy priorities

#### 3.1. The policy conundrum

The Nordic Model has relied very much on a virtuous circle between high employment rates and extensive public services and safety nets. Public services and safety nets have facilitated high labour supply through publicly provided education, well-functioning health care and day care services for children. Equal opportunity education and extensive public expenditure on R&D have supported high productivity. Productivity has also been supported by the specialisation opportunities and competition facilitated by a positive attitude toward free trade. Free education, high employment rates and extensive social safety nets have contributed to low income disparities and trust or social capital which have probably reduced transactions costs and supported acceptance of the high taxes needed to finance large public expenditure. Active labour market policies have sought to combat the detrimental incentives that high taxes and generous safety nets create for labour supply and its allocation. Fiscal prudence has helped to create room for countercyclical fiscal policy to support stable and high employment. Finally, high employment, mostly in good jobs, has produced a large and stable tax base for collecting the tax revenues needed for the welfare state.

The trends discussed above put pressure on many elements of the Nordic model. Technical change threatens jobs in a way which is likely to increase income disparities. The increasing competences of the developing countries create new competition in high-value-added production. The unbundling of production processes bring international competition to the level of phases of production and tasks reducing possibilities to maintain solidarity wages. Toughening competition in the product market increases pressure to specialise further, which increases the Nordics' vulnerability to shocks. Population ageing increases age-related public

expenditures and reduces labour supply. In the egalitarian societies there is strong pressure to provide all citizens new expensive medical services at taxpayers' expense. The scope to impose high taxes is reduced by increasing mobility of skilled labour and competition for the most valuable parts of the value chains.

To put it concisely, demand for public spending is increasing due to ageing, endowing the domestic labour force with competitive skills, providing an attractive environment for footloose innovation activity and providing adequate safety nets. Simultaneously, the scope to collect taxes is reduced by increasing mobility of important tax bases. Moreover increasing income disparities threaten to weaken the social cohesion that has underpinned a smooth functioning of the political systems to cater to the long-term needs of the society.

The question is whether the Nordic model is capable of meeting these challenges, perhaps with some modifications, or whether a more fundamental revision of the model is necessary. In what follows, we will discuss how policies could and should evolve in selected policy fields to respond to the pressures outlined.

## 3.2. Even more emphasis on ensuring adequate skills

It is obvious that a well-educated labour force continues to be a foundation for a successful combination of economic efficiency and equality. A strong educational background supports labour market participation, capacity to adjust when skill requirements change and productivity.

The fact that many current low-to-medium skilled jobs are threatened by technological change underlines the need to equip people with the skills for which there is demand, and more importantly, ensure people's capacity to acquire new skills as required. Simultaneously, the constraints on redistribution through taxes and transfers underline the need to limit the widening of market income disparities if one wants to keep the disparities of disposable income and poverty in check. For that to happen, maximising the share of the population that can earn a decent living through labour market participation without needing support from the public purse is essential. A well-functioning comprehensive education system is a necessary condition for this.

There is also an important dynamic aspect to education. An education system that endows the population widely with strong skills is good for long-term equality as well as for productivity. When people can advance to well-paid jobs on the basis of their competence and effort rather than the economic and social position of their parents or their place of birth, society's human resource are likely to be used more efficiently. The Nordics have succeeded very well in achieving high intergenerational mobility, i.e. the parents' incomes have not had a strong impact on children's incomes (Björklund and Jäntti 2009, Corak 2013). It is no coincidence that the Nordics do well in both income mobility and high average level of adult skills. A fresh study on intergenerational mobility as clearly associated with factors which are important elements of

the Nordic model: income equality, little residential segregation, good primary school education and strong social capital<sup>5</sup> (Chetty et al. 2014).

## Diagram: Adult skills and intergenerational mobility

The results of the recent comprehensive comparative analysis on adult skills, PIAAC, suggest indeed that the Nordics are in a good position (OECD 2013a). They perform clearly better than the OECD countries on average. Finland comes out as global number two and three in the literacy and numeracy tests, respectively, and does quite well in the capacity to solve problems in a technology-rich environment. By one metric used in the study, Sweden tops the test on the capacity to solve problems.

However, at closer look the picture is not without problems. Even in Finland old age groups perform only at the OECD average. Denmark scores well below the OECD average in literary skills. Also in Norway young adults score below average in literacy. In Sweden, a weak point is foreign-language immigrants, who score very poorly in literacy.

Interestingly, returns to PIAAC skills are low in the Nordics compared to all other countries examined: higher individual skill scores are not associated with much higher individual wages (Hanushek & al. 2013). This may at least in part be because the Nordics employ a lot of highly educated people in the public sector, where wages and wage differences between educational groups are small compared to the private sector. But even if this is true, the observation raises the question whether the skills are used optimally in the economy, i.e. whether individuals have sufficient incentives to seek jobs that correspond to their competences.

With the exception of Finland, the relative PIAAC results are much better than the PISA results on the skills of the 15-year-olds have been over the past decade (OECD 2013b). In the PISA studies, with the exception of Finland, the Nordics have performed below OECD averages.

The difference between the PIAAC and PISA results suggests that somehow the Nordic societies have been able to equip their labour forces with competitive skills on average even if basic education may not always have performed very well. Well-functioning and widely available secondary education, including for those who do not continue at the tertiary level, could be one explanation. But most likely also a strong emphasis on adult education has played a role; Nordic populations participate substantially more in adult education than in most developed countries. Linked to this is probably a general positive attitude to adopting new techniques and processes in the work place and the associated learning in the work place (Part I discusses this in more detail).

On the other hand, the average PISA results have deteriorated from 2003 to 2012 in all the Nordics. This is also true for Finland, even though it remains very close to the global top. Furthermore, in Finland, Sweden and Iceland there has been an increase in the share of those

<sup>&</sup>lt;sup>5</sup> Social capital is measured in the study by an index that comprises i.a. voter turnout rates and participation in community organisations.

who have not reached beyond the lowest performance level. Similarly, in Finland and Sweden the dependency of performance of family background has increased, even if it still remains small. If these trends continue, it would be difficult for the Nordics to maintain their relative position regarding the competence of the labour force and also the equalising role of education diminishes. There are limits on how much adult education can compensate for the lacking basic cognitive and non-cognitive skills, which are developed during the childhood and adolescence. This is an important point also with regard to maintaining equal distribution of income.

At the other end of the spectrum, not many Nordic universities are very good in international comparisons of the quality of research in universities. Only few Nordic universities enter lists of best universities in the world. For example, according to Shanghai Jiao Tong University (2013) rankings, only one university in Denmark (University of Copenhagen, 42<sup>nd</sup>) and one in Sweden (Karolinska institute, 44th) make it to the top 50 universities. Among the 200 best there are a further 8 universities (4 from Sweden, 2 from Denmark and 1 from Finland and Norway each). Qualitatively the same result is obtained by Times Higher Education Ranking (2013), which includes indicators seeking to capture also the quality of teaching in addition to the quality of research.

While all Nordics do quite well in terms of the number of scientific publications relative to the size of the population, only Denmark seems to do very well in terms of relative citations in general and specifically in the most highly-cited group (top 10 per cent)<sup>6</sup>, both of which are likely to tell more about the quality of research than citations per population alone (Academy of Finland, 2012).

On the other hand, an undisputed Nordic achievement is the high share of women with tertiary education, which is beneficial for equity but also from an efficiency point of view: existing talents are recruited to professions requiring high educational attainment levels to a higher degree than if women's educational levels were lower.

As a whole, while the Nordics have done fine in providing the vast majority of the population with the skills required in the working life, there is clearly room for improvement. First, there are groups of people which lack the skills necessary for a successful integration into the labour market. These groups, where immigrants are overrepresented, face a serious risk of unemployment, exclusion from the labour market, weak health, and long-term if not permanent dependency on social benefits.

There is strong evidence that skill deficiencies in adulthood are often a result of neglect in early childhood, and that early interventions to improve skills are much more cost-effective than later corrective measures. This applies to both cognitive and non-cognitive skills such as

<sup>&</sup>lt;sup>6</sup> The Top 10 index is constructed by comparing each country's most cited publications as a proportion of the country's total publication number to the world's most cited publications as a proportion of total world publications, whereby the world average is one.

perseverance, self-control, trust, self-esteem and resilience to adversity (Heckman and Kautz 2013).

The Nordics have a good starting point in that families with small children receive many kinds of support and publicly financed early education is widely available. There are nevertheless indications that there are pockets also in the Nordic societies where the prerequisites for developing the basic skills are weak, including in families with serious drug abuse, long-term unemployment and an immigrant background. And as noted above, there are some worrying signs that the performance students has started to depend more on their family background than before. Addressing these issues is essential for providing the population with skills needed in the future work place and to reduce exclusion.

The analyses on early school leavers and young pensioners reported in Part II only underline the importance of early intervention. The young people who do not complete secondary education and in particular those who end up as pensioners at a very early age typically have experienced many kinds of problems early on in their lives. To reduce the incidence of early disability pensions, strong and persistent interventions are required once the compulsory schooling age is over, and even then such efforts may not be that successful.

There are probably much better chances to reduce the dropout rates and marginalisation of those who have difficulties in completing the regular secondary education. Apprenticeships have proved rather efficient in providing the sort of training that interests youngsters who do not like formal education. The Nordics could learn from the German speaking part of Europe in this regard, even if precisely the same model may not be transferable. Given the rapidly changing skill requirements, special attention should nevertheless be given to avoiding locking in people in too narrow fields of competence.

Second, the declining PISA results call for more attention to quality in the primary school systems. The OECD (2013b) points to at least two important factors, very much in line with the Finnish experience. One is highly motivated and well educated teachers. All qualified primary school teachers are required to complete a university degree in Finland. This requirement should be easy to copy where that is not yet the case. More difficult may be to attract high quality applicants into the profession, which may depend on deeply rooted valuations of different professions. Raising teacher salaries could help and might be necessary in some cases, but high salaries are not very attractive from the public finance point of view and clearly have not been the trick in Finland. A second issue is the autonomy of the schools to determine how the learning objectives should be achieved, i.e. what material to use, etc. This again should be a transferable feature. Finally, sufficient calm and discipline in the class room appears necessary for good leaning results, particularly for those with weaker than average backgrounds.

An issue which has received some attention particularly in Sweden is the role of competition between the schools. As in other services, competition could in principle improve performance

in schooling, and some evidence to that effect has been presented on Sweden recently (Böhlmark and Lindahl 2012). However, there are also drawbacks. Potentially the most important one is increasing segregation according to pupil background. Those with parents who are interested in the quality of education and probably have taken good care of providing a safe and supportive childhood including early education, would most likely cluster in the better schools while the pupils with weaker backgrounds would end up in worse schools. In any case, the Finnish experience does not lend strong support to competition as a key factor to improve learning results.

Third, the quality of the tertiary education definitely needs further attention. Given that increasing public funding is difficult, the focus should be on increasing efficiency and exploring other sources of financing. A question can be asked whether all of the universities are big enough or specialised enough to create a sufficient critical mass of talented people.

At least in Norway and Finland the resources appear to be distributed too thinly. In Norway there are 8 larger universities and 9 specialised universities, 20 state university colleges and two national colleges of art. Finland hosts 10 larger universities and 4 specialised universities as well as 16 polytechnics or universities of applied sciences, even after some important mergers recently. Sweden manages with 14 universities and 11 university colleges even if Sweden's population is 75-85 % bigger than that Finland or Norway. Denmark has the most consolidated university system of the four countries with only 5 larger universities and two technical universities, even if there are many art schools, business schools and university colleges in addition.

A large number of universities with wide coverage of fields implies that many departments exist in the same or much overlapping fields in different universities. This is likely to pose a risk to the average quality of research and education. The fact that according to the citation indexes, the Danish research is on average on the highest level may have something to do with the capacity to create critical mass in universities. Consolidation and specialisation could help at least in Finland and Norway, even if the size is unlikely to be the only important factor, and geography makes the trade-off between good availability of higher education and the quality more difficult in Norway and Finland than say in Denmark.

Another way to improve efficiency is to give universities more autonomy and subject them more clearly to competition. Competition between universities in not likely to be associated with similar unintended consequences as that between primary schools might be. Therefore there is a stronger case to encourage it. Nevertheless, the outcomes depend on the specific type of governance and management systems adopted and the way in which performance-based measures are used in resource allocation (Butler, 2012). Performance-based funding has been a trend in the Nordics.

There have in fact been changes in university governance. Especially in Denmark the universities have been given a lot more autonomy. Recently also in Finland universities have

been given a legal status that is independent of the state implying i.a. that the personnel has ceased to be civil servants. The appointment processes have been simplified and salary structures have become more flexible. Also language requirements have been loosened. As a result, Finnish universities have started to recruit more foreign professors, which is a highly desirable outcome, considering that the Finnish university system has had relatively little international mobility. Similar reforms have taken place in other Nordics as well.

Additional financing can be obtained from private sources. Donations have increased as such a source and could be further encouraged. Tuition fees are in principle a natural way to finance universities and at the same time provide incentives for the students to complete their studies in reasonable time. However, introducing tuition fees has met with strong resistance as it goes against the established Nordic tradition of free education for all. There is no denying that high tuitions could discourage students from financially weaker backgrounds entering tertiary education. Therefore, should such fees be introduced, they would have to be accompanied by sufficient grants for those who could not afford the fees. On the other hand, charging fees on students from outside the EEA would seem less problematic assuming that demand for such fee-based education exists. The experience of Sweden with such fees does not, however, seem very encouraging, as the number of applications has fallen significantly.

## 3.3. Tax policies in support of labour supply and efficiency

Several factors create pressures to increase taxation. Expenditures related to ageing are increasing, skills could be better improved by more expenditure, and reducing the impact of widening disparities of market incomes on inequality would be helped by more redistribution. However, increasing, at least essentially, the overall tax burden is hardly a realistic option.

On the contrary, as discussed, there is pressure to reduce some taxes. Tax competition linked to increasing mobility of the relevant tax bases creates pressure to reduce taxes on corporate profits, capital incomes as well as on the earned incomes of the most mobile workers, who usually are at the high end of the pay scale.

These observations suggest that tax structures should be developed to be more employment and growth friendly and less vulnerable to tax base erosion. In this regard, some broad principles are rather obvious on the basis of the tax literature (Mirlees et al. 2011). One should focus as much as possible on immobile tax bases. Broad tax bases, allowing lower rates for a given tax revenue, would be preferable. Taxation of labour should be reduced if possible, focusing in particular on brackets where the marginal rates are high taking social transfers into account. Also, taxes hampering risk taking and reallocation of capital and labour should be avoided.

As discussed earlier, the Nordic tax policies have aimed at these objectives, and many reforms have been taken to that effect over the past 25 years. However, some reforms have also gone

in the opposite direction, including introduction of additional "holes" in the tax base. Thus, improvement would seem possible, in various ways and degrees in various countries.

First, taxes on real estate are low in Norway, Finland and Sweden compared to other OECD countries, while they are relatively high in Denmark and Iceland. There is thus space to rely more on such taxes to reduce pressure on other more vulnerable and distorting taxes in these three countries. In some cases real estate taxes could even help to correct weaknesses in the way the real estate market functions, i.e. when the supply of land for construction or financing of infrastructure is constrained by lack of public funding. Real estate taxation also reduces wealth inequality. Another rather neutral tax limiting wealth differences is taxation of inheritances.

Second, reduced VAT rates could be raised in all Nordics except Denmark to or at least closer to the general tax rate to allow lowering other taxes. Similarly attention should be given to other tax expenditures, for which there is no rationale supported by empirical evidence. Favourable tax treatment of owner occupancy in housing is one such thing. Taxing imputed housing income would seem optimal, but if that is not feasible, one should eliminate any remaining tax deductions of interest expenses.

Third, as high employment rates are a key prerequisite for the sustainability of the Nordic model, lowering labour taxation should be used to the extent possible. This would be welcome not only to support labour supply across the board but also to improve the attractiveness of the Nordics as locations for headquarter functions. There would seem to be need and scope for such reforms in all Nordics, though in different ways and degrees in different countries. The tax wedge created by income taxes and social security contributions is on average highest in Sweden and Finland, while top marginal taxes are high also in Denmark. In the case of low-incomes, the combined effect of taxes and transfers is often more important for incentives than tax rates alone. Increasing net earnings at low incomes would be more important for increasing labour market participation while lower marginal tax rates at higher incomes would impact more on hours and effort.

## Diagram: Tax wedge

Fourth, taxes on transactions which burden relocation of employees are harmful for efficient reallocation of labour and should be reduced or even eliminated completely. Given that more than half of all dwellings are owner-occupied in all Nordics and the share is around 60 % in Norway and Finland, reducing stamp duties on dwelling transactions could be helpful. Similarly, the Nordic EU countries' reluctance to introduce financial transaction taxes is well-founded from the point of view of facilitating efficient allocation of capital.

Corporate tax rates appear to be reasonably competitive in the Nordics currently. It would be in the Nordic interest to limit tax competition in this field, and retain an as wide a tax base as possible. The EU initiative on Common Consolidated Corporate Tax Base deserves Nordic support. Similarly strict policies against tax fraud and evasion in all countries would benefit the Nordics, where tax authorities have a tradition of applying all rules stringently. However, if the downward trend in corporate tax rates continues, the Nordics have little alternative but to follow suit.

Finally, according to the influential Mirlees Review, corporate and capital income taxation should aim at neutrality on several margins unless a strong case can be made for a deviation. The tax rates should be chosen so that taxation of different sources of finance and different forms of corporate income are equal. Similarly, the marginal tax rates of earned incomes and the combined taxation of corporate profits and shareholder taxation should be equalised. Still another element in neutral taxation is that the risk-free rate of return on capital is exempted. A prime example of a tax system that largely fulfils these criteria is the one applied currently in Norway.

## 3.4. Pension policies and other policies to increase labour supply

The primary objective of pension systems is to provide sufficient incomes for retired people. When the share of pensioners in the total population is increasing due to the ageing of the population, providing adequate pensions obviously requires more pension contributions. At the same time labour supply relative to population is declining, putting pressure on tax revenues. If the overall tax burden cannot be raised, increasing pension contributions constrains the use of public funds for other purposes, such as education and health care.

To meet this challenge policy action is needed on several fronts. A natural response to the increase in longevity is to lengthen working careers. For the majority of the population this is a viable alternative given the constantly improving health in advanced age. As a consequence, longer working careers have been a central policy objective in the Nordics over the past decade, supplementing increases in pension contributions, which have also been carried out in several countries.

However, further reforms are needed, to different degrees in different countries. In all countries it is important to focus on the occupational health issues of those who are likely to drop out of the labour force due to various physical and mental health conditions. Men with a weak educational background typically in blue-collar occupations are a key target group in this regard. The health disparities according to the educational background seem to be highest in Finland among the OECD countries (Devaux and de Looper 2012). As the occupational health system seems to work quite well in Finland, policy reform should probably focus on ensuring

that those with weaker attachment to regular work receive adequate services and are incentivised to look after their health.

Similarly, in all countries attention needs to be paid to ensuring sufficient skill-upgrading and re-training of ageing workers. Without such efforts there is a great risk that elderly workers are pushed out of the labour force when skill requirements change, even if physical or mental conditions would not prevent a continuation of their working career. As discussed earlier, in this regard the Nordics are well placed in international comparison. Life-long learning is a recognised concept and participation in adult education, be it formal or informal, is high in the Nordics by international standards.

But there is strong evidence that the age limits and economic incentives of the pension systems are central determinants of when people leave the labour force. In recognition of this, recent reforms in many European countries have increased the statutory retirement age, reduced the scope for using various early pathways from the labour force to retirement, and also made it economically less attractive to retire early.

In all Nordic countries there is a basic old-age pension for which the eligibility age is typically 65 years (in Iceland 67). The earnings-related pensions have flexible retirement ages which vary between countries. The economic incentives to continue to work after the lower boundary vary across the countries. In Sweden and Norway monthly pensions are adjusted to the age in which the individual retires. In Iceland the same applies to the retirement age in the mandatory occupational pension system. In Finland the accrual rate of the pension is higher after the earliest eligibility age. In Denmark early retirement is possible using the voluntary contribution based on the so-called "*efterlön* system".

It would seem essential that the incentives to remain in the labour market are strong in the systems where the worker has a choice about the precise timing of retirement. This implies that any subsidies to early retirement should be eliminated. Apart from making the statutory pension schemes actuarially fair, also the tax-subsidised occupational pensions and individual voluntary pensions should be reformed to dis-incentivise early retirement.

Nevertheless, also the age limits require further attention. There is quite a bit of evidence that retirement tends to be concentrated at the time when people reach the lowest statutory pension age. This suggests that raising the age limits of the (flexible) retirement age would be efficient in lifting the effective retirement age provided the early retirement schemes do not constitute an easy alternative route away from the labour market.

A simulation analysis of various options to reform the Finnish pension system confirms this conjecture (Määttänen 2014). The effects of raising the age limits on labour supply are clearly stronger than those of a reduction of pension benefits with roughly the same impact on public

finances. The study furthermore suggests that raising simultaneously the age limits for old-age pension and the early retirement schemes would also be better from a distributional point of view than cutting the pension level. There are several reasons for this outcome. One of them is that a higher statutory retirement age does not usually affect individuals with very low life time earnings such as those who have retired on a disability pension at a young age. While the precise numerical predictions of the analysis are specific to the Finnish system, the qualitative conclusion is rather general.

On these grounds, at least in Finland, but probably also in Sweden and Norway, lifting the pension age limits should be seriously considered. Moreover, a link to life expectancy would seem a very natural way to go. Denmark has already decided about a radical reform in this regard and also reduced the attractiveness of the early retirement scheme. In Iceland the statutory pension age is already very high as is labour supply as a whole.

Apart from postponing retirement labour supply can obviously be increased at earlier stages of life. Two groups of people deserve special attention in this regard. While high participation of women in the labour market is a hallmark of the Nordic model, there is still room to improve their attachment to the labour market. Adequate day care services are important in this regard and moderation of subsidies to parents (typically women) who stay home with their children very long might be useful in some countries as well. The fact that the female labour supply seems to be much more elastic with regard to take-home pay than men's labour supply should make the use of financial incentives attractive.

A second group where labour market participation could be increased relatively easily are students, particularly in the tertiary education. Students complete their studies late. This stems from both a late starting age (particularly Iceland, Sweden and Denmark) and long study times (particularly Finland and Sweden). Making the selection processes more efficient would be one way to improve the situation. For example, one could make better use of the results of the matriculation exams in selection. Given that students receive rather generous financial support in all Nordics and there are no tuition fees, financing constraints can hardly be a major reason for long study times. In fact the soft budget constraint may be one of the causes for staying so long in the university. Redesigning the incentives of student support would probably be helpful.

Diagram: Median age of completing tertiary education

As described earlier, immigration has become a very significant source of labour supply in all of the Nordic countries except Finland and even in Finland net immigration has increased steadily over the past decade. Apart from Finland, the Nordics clearly attract migrants, and the key policy challenge is integration of the newcomers into the labour market and the society at large rather than creating additional incentives for immigration There are large differences in the speed of integration and economic net benefits to the destination country depending on the characteristics of the immigrant i.a. with regard to the level of education and cultural closeness. Quite understandably immigrants who are attracted to the county by job opportunities in fields where there is shortage of labour tend to integrate faster than say asylum seekers. Thus, targeting the immigrants with the best integration probabilities would obviously be economically attractive.

As elsewhere, immigrants are more likely than the natives to remain unemployed and face a much higher risk of exclusion. The empirical evidence on Norway presented in Part II shows that while the immigrants from the new EU member states since 2005 originally found jobs very well, their unemployment rates have been substantially higher than those of the natives since the start of the financial crisis. This confirms the results of earlier studies that recently arrived migrants are more vulnerable to demand shocks than the natives.

While Finland faces the same integration challenges as the rest, it also has the greatest need to increase immigration and integrate immigrants efficiently, as the projected labour force evolution is particularly weak. With its relatively new position as a destination of work-related migration, Finland can benefit a great deal from the experiences of the other Nordics in terms of both good and bad practices.

## 3.5. Improving the functioning of the labour market

The labour markets in all developed economies are under a multitude of pressures stemming from technological development, globalisation and macroeconomic shocks. While the Nordic labour markets have performed quite well in many ways in international comparison, also the demands are high. The extensive public welfare promises can only be financed and the egalitarian distributional objectives achieved if employment rates are very high.

A high employment rate based on extensive participation in the labour market and low unemployment is important for low income disparities in two different ways. First, as noted, it is essential for the sustainable financing of the large welfare state, which redistributes incomes through both the tax and transfer system and through free or below-market-price public services. But equally important, a high employment rate contributes to low disparities of market incomes. Even low wages and salaries or entrepreneurial incomes typically exceed the transfer incomes one can get in the long term.

While many factors impact on the distribution of market incomes, there is a clear correlation: countries with high employment rates tend to have low disparities of market incomes. This shows up in the way the Nordics and some other countries arrive at lower income disparities than the US. The much more equal distribution of disposable incomes in Iceland than in the US is almost solely because the market incomes are more equally distributed. This in turn very

likely is due to the extremely high employment rate in Iceland. In Sweden, Denmark and Norway as well, more equal market incomes account for a larger fraction of income equalisation than redistribution. Only in Finland, which has the lowest employment rate among the Nordics, is redistribution a more important income equaliser.

#### Diagram: Employment rate and disparity of market incomes

#### Diagram: Sources of income equalisation relative to the US

While in the long run supply factors determine the employment rate, also demand factors are important. In an open economy, cost competitiveness is essential for full employment. This calls for flexibility of the wage level when the economy is hit by shocks. Wage flexibility is particularly important in countries which cannot use the exchange rate as an adjustment mechanism. Among the Nordics Finland and also Denmark belong to this group. Wage flexibility has increased over time and may not be as limited as some earlier studies have suggested (Kauhanen and Maliranta 2012)). Nevertheless, significant variation in competitiveness (see Maliranta et al. in Part II), market shares and also employment and unemployment in the last few years suggest that more responsive wage formation processes would be welcome, at least in Finland and perhaps also in Denmark.

Apart from macro level flexibility, also flexibility of wage structures is important when the economy is hit by various shocks, be they short-term variations in demand for certain types of goods and services or more permanent changes. The splitting of the value chains exposes individual phases of production, and even individual tasks to global competition. As a result, there is increasing pressure towards equalisation of productivity-adjusted wages at the level of different occupations and skill levels rather than at the level of the national economy, branch or even company. Under these circumstances trying to reduce wage dispersion leads more easily than before to unemployment for those whose productivity-adjusted labour costs are not competitive. Sufficient flexibility of relative wages would smooth the quantitative adjustment.

With the ageing labour force flexibility of wages is particularly important for sustaining demand for elderly workers. The measures to spur labour supply of older age groups are of no use if demand for labour does not respond correspondingly. Sufficient wage flexibility is necessary though not sufficient for demand to keep up. A particular aspect is that the wages of elderly workers should adjust when the productivity declines with age. The fact that layoffs are often concentrated on elderly workers is an indication of a market failure in this regard, although pure age discrimination may play a role as well.

Flexibility of relative wages requires that occupation and firm-specific conditions influence wages. This can only happen if a significant part of any changes in wages is agreed upon at the

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firm or plant level. Decentralisation of wage formation from the central and union level to firm and plant would thus seem warranted from a microeconomic perspective. This is in fact the direction in which wage formation has evolved particularly in Sweden and Denmark, though less so in Finland and Norway. In Iceland wage formation is already one of the most flexible in the OECD area (OECD 2011).<sup>7</sup>

Still, given the high degree of unionisation and the tradition of co-ordination in wage negotiations in the Nordics, it is not likely that the Nordics will shift to a much more decentralised Anglo-Saxon system of wage formation. The challenge is thus to find a good compromise between co-ordination that ensures wage developments consistent with full employment and a sustainable external balance at the macro level and sufficient flexibility at the level of individuals and firms. It seems that Sweden has recently succeeded best in this regard, and the other countries could learn from it.

An important aspect of well-functioning labour markets is that the unemployed - or already people under a threat of unemployment - quickly transit to new jobs. This is in part an issue of appropriate training, rehabilitation and placement services for the unemployed. The Nordic countries have been frontrunners in active labour market policies (ALMP). The originally Danish "flexicurity" model combining strong activation measures with equally strong incentives to accept any jobs offered has become famous as an effective policy approach. Among the Nordics Finland has used relatively fewer resources on ALMP and resembles in this regard many continental EU countries.

The recent increase in unemployment in all Nordics, except in Norway, and in particular the increase of long-term unemployment suggests nevertheless that the Nordic policies haven't perhaps been as stellar as often claimed. Empirical research has raised doubts about the efficiency of many activation measures (Kluve 2010, Card et al. 2010). It seems that the positive effects are often limited to the activation period, and do not permanently improve the participants' employment chances. The activation measures deserve careful empirical analysis to allow focusing on the most effective ones.

A potential shortcoming is that the unemployed do not have sufficient incentives to move to a new job, perhaps paying substantially below the previous wage. A large body of empirical research (Lalive et al. 2006, Layard et al. 2005) supports the conclusion that a generous unemployment compensation for a long period of time tends to reduce the likelihood of regaining employment. Cutting the benefits more quickly towards the level provided by social

<sup>&</sup>lt;sup>7</sup> Perhaps the most dramatic decentralisation of wage bargaining in Europe has taken place in Germany. It has recently been argued that this change has been a key element in Germany's economic resurgence in the last 15 years (Dustman et al. 2014). The success of the decentralisation process has probably been linked to specific institutional features such as works councils. Thus, adopting the German approach in the Nordic countries may not be straightforward.

assistance would probably be helpful. The German experience following the so-called Hartz reforms a decade ago lends at least some support to this conjecture, although the issue remains controversial.<sup>8</sup>

An obvious problem is that all people do not find jobs even with strong incentives. Reducing the unemployment compensation only lowers the living standards of such people and may hasten their exclusion from the labour market. Therefore, strengthening incentives should be accompanied by appropriate activation measures. There is thus no obvious substitute to the flexicurity paradigm. Perhaps the best one can do is to experiment with different combinations of activation measures and financial incentives, in particular with regard to the length of unemployment benefits at high replacement rates.

Our open economic system is characterized by constant changes in preferences, technology, and the strategies of foreign competitors. Supporting people rather than jobs seems the only sensible strategy in this context. Only constant improvement of productivity in line with the global technical change can guarantee high employment without a declining relative standard of living. For this to happen, the process of creative destruction should not be obstructed. The Nordics have followed this approach to a large extent. As demonstrated in Part I, employment protection is not particularly strong in the Nordics, with the potential exception of temporary employment in Norway. Also government interventions to rescue jobs through targeted subsidies to companies under distress have become more and more infrequent, partly probably in response to the tougher EU state aid rules.

## **3.6.** Innovation policy – industrial policy

There is a wide consensus on the key factors promoting growth: macroeconomic stability, adequate physical infrastructure, investments in education, research and development activities, competition, product market regulation aiming at a level playing field and avoiding excessive regulatory burden, relatively neutral tax systems aiming at minimising distortions, flexible labour markets, efficient capital markets and an efficient and non-corrupt public administration. In the case of developed economies which are at or close to the technological frontier in many sectors of the economy, the importance of policies that support innovation is underlined.

The Nordics fare well in international comparisons of the growth promoting characteristics listed above. In particular, they can be characterised as knowledge-based economies. As discussed earlier, skill levels are generally high. With the exception of Norway, R&D

<sup>&</sup>lt;sup>8</sup> Krebs and Scheffer (2013) produce evidence in support of strong effects of the Hartz reforms on unemployment, while Dustman et al. (2014) argue that a very significant decentralisation of wage bargaining has been the key factor behind reduced unemployment.

expenditures are high relative to GDP. The same goes for the share of researchers in total employment. In terms of easily measurable innovation outputs, the Nordics fare quite well, too. Patents per million of inhabitants are high<sup>9</sup>.

Thus, at least at first glance, it is difficult to argue for a need to fundamentally revise the Nordic policy approach. The Nordics are doing what according to the widely accepted view is good for growth, including promoting innovation. Some questions can nevertheless be posed. How can the Nordics avoid excessive vulnerability to sector and technology-specific shocks when they seek to be at the global technological frontier, which requires specialisation? Does the rising importance of the global value chains impact on what is appropriate innovation policy in an individual small open economy?

It is obvious that small countries such as the Nordics cannot excel in a large number of fields in research and in product or process development. A large American research university alone has roughly the same amount of resources for research as the whole university system of, say, Denmark, Norway or Finland.<sup>10</sup> Nordic start-up activity can hardly compete in absolute terms with that of Silicon Valley, even combined. Large countries obviously host many more large multinational companies than the Nordics.

The Nordics have to specialise in research and innovation activity. A natural way to do that is to continue to invest in fields where one has done well and presumably has a comparative advantage. The success of Danish and Swedish pharmaceutical companies based on long-term investments in research in the field is an example. Similarly, the investments in developing communication technology by the governments as well as by the companies themselves served Ericsson, and until recently also Nokia, well. But betting on the same horse can lead one astray, too. Nokia's recent fall is one example.

For policy makers the issue is about how to allocate the limited resources to support innovation. Given the bad track record of industrial policy in the sense of the authorities picking sectors and even companies to be promoted, the recommended policy approach with regard to innovation policy is to be as horizontal as possible and to leave the selection of ideas to the innovators and the markets. The strength of this argument is hard to deny, even if some growth economists have qualified the conclusion somewhat recently.<sup>11</sup> It is hard to see a sensible alternative to a policy which leaves the ultimate choice of the precise technologies

<sup>&</sup>lt;sup>9</sup> Triadic patents per capita, i.e. patents filed in the US, Japan and Europe, are in fact higher in Sweden, Denmark and Finland than in the US.

<sup>&</sup>lt;sup>10</sup> MIT's budget for 2013 was 2.9 bn. dollars or about 2.1 bn. euros. Of this, three quarters goes into research and instruction. According to the OECD statistics, the entire higher education systems spent on research 1.4 bn. € in Finland, 1.8 bn. € in Norway and 2.2 bn. € in Denmark in 2011, the last year of comparable data.

<sup>&</sup>lt;sup>11</sup> Aghion et al. (2011), for example, argue that tradable sector investments have been neglected due to an excessively laissez-faire approach and also emphasize the need to invest in clean technologies. But they, too, underline that no policy should favour any individual incumbent company and the support mechanisms should be designed to encourage competition.

and business ideas to be pursued to the market to the extent possible. The best role of the public sector in this choice process probably is to participate in risk sharing, for example, by providing risk financing in the early stages of the process. Still choices cannot be avoided.

One possibility is to make a compromise by spreading some of public innovation support solely on the basis of demand and target the rest to the technologies with the best chances of success as assessed by some expert body. Most countries follow this approach by providing innovation subsidies through the tax system to all R&D activities fulfilling some general requirements, and then having programmes for advancing research and development of specific technologies. The Nordics have followed different approaches in this regard. Denmark and Norway have used tax subsidies quite extensively, while in Finland and Sweden such subsidies have been introduced only recently on a relatively small scale. In Finland they will in fact be phased out soon. In Sweden and Finland the dominant forms of innovation support are grants and loans from special agencies (Vinnova and Tekes, respectively).

An additional complication is that it is difficult to ascertain the benefits of R&D subsidies even ex post. For example, studies on the impact of R&D subsidies on firm-level productivity in Finland have come up with different results depending on the precise subsidies examined and the analytical approach (Koski and Pajarinen 2012, Einiö 2013). Moreover, the main benefits of such subsidies may be the external effects which are even more difficult to analyse than the effects on the firms subject to the intervention. This uncertainty does not imply that R&D subsidies should not be used but rather that great care needs to be exercised when designing such schemes and that high-quality evaluation should accompany any subsidy scheme.

The rise of the global value chains exacerbates the challenges of national innovation policies. The problem is that the interests of the multinational companies do not necessarily overlap with those of any host country. An R&D subsidy to a multinational company in a given country may lead to innovation, the benefits of which in terms of value added materialize in other countries and tax jurisdictions. The same thing can happen if a domestic company is acquired by a foreign buyer before the innovation leads to significant domestic value creation and the high-value-added parts of the production process are transferred abroad.

To the extent this sort of mobility of value added threatens to cause an overall reduction of public spending on innovation support, international co-operation, for example, within the EU would be a natural response. However, it would not solve the problem of how to promote innovation in a given country.

These observations suggest that measures to support innovation should target and create resources, which are likely to remain attached to the country (Baldwin and Evenett 2012). One option is simply to concentrate on educating high-quality researchers and other personnel in large quantities on the assumption that a significant fraction of them would stay in the country

paying for the education. The availability of immobile experts would then attract innovation activity and the related production. As discussed earlier, an obvious challenge is that such experts are becoming increasingly mobile.

A step further would be to assign the subsidy directly to the personnel working in the country or to set requirements that any subsidy is conditional on locating a given fraction of the R&D activities in the host country. A handicap in this approach is that it might weaken the possibilities for international co-operation, which in many fields is essential for truly important innovations.

Providing a good physical and social environment for innovation activities is also an obvious choice, which many countries have deliberately pursued. Science parks, incubators, etc. with attractive physical infrastructure and various auxiliary services have in fact figured highly in many countries' and regions' innovation strategies. While the Nordics may have few natural advantages and certainly not overwhelming financial resources to attract innovators, there are governance and social aspects which may make the Nordic environments attractive places for them. Predictable, relatively simple administrative procedures, secure, clean surroundings, well-functioning public services including day care for children as well as tolerant social attitudes can become increasingly important for the sort of people who have the most to contribute to innovation. The success of "Slush", an annual start-up event in Helsinki attracting several thousands of innovators and financiers from all over the world, suggests that relatively small investments can spur start-up activity. The emergence of innovative entrepreneurial ecosystems and their growth does not necessarily require massive subsides. Sometimes a little nudging may suffice.

## 3.7. Improving the efficiency of the public sector

In principle, the most attractive way to lessen pressures on public finances is to improve the efficiency of the public sector. This is particularly so in the case of the Nordics, where the share of public provision of services in GDP (or more reliably the share of public sector employment in total employment) is exceptionally high; in fact the Nordics are more distinctive in this regard than in the ratio of overall public expenditure to GDP, as described in Part I.

In practice this avenue is far from easy. The problems start with the difficulties in measuring efficiency in the public sector. The standard measurement approach is not available for most of public sector production as the output is not sold in the market, which would determine the value of the services. Recording quantities of output, which usually is feasible, is often useless as the key issue is the impact of the output on the ultimate objective, the quality of the service provided. Increasing the number of hours of teaching or surgical operations is not very

interesting if the higher numbers are associated with lower quality and one cannot measure the quality reliably.

When one cannot measure properly, it is difficult to assess the potential for improvement or verify progress over time. In spite of these difficulties some broad observations and comparative studies suggest that the Nordic countries have relatively efficient public sectors in an international comparison. For example, in one often cited comparative study (CPB 2004), Sweden, Denmark and Finland are among the best performing countries in different dimensions and often at the very top among the 22 developed countries included in the analysis. Similarly, according to the World Bank's indicator for government effectiveness, all the Nordics come out either at the absolute top or very close (OECD 2013c).

This conclusion is not uniform, though, and room for improvement exists. For example, comparing public expenditure on education and adults' average skills (PIAAC), Finland and Sweden appear very efficient while Denmark and Norway spend much more resources but with no better results. On the other hand, if one compares public expenditure on education and the PISA results, all the Nordics with the exception of Finland look rather mediocre if not worse. Similar comparisons of public expenditure on health and an indicator of health outcome (healthy life years) suggest that Iceland, Norway and Sweden are efficient while Denmark and Finland are relatively inefficient. Of course, simple scatter plots should not be given too much emphasis. Still they may have some indicative value in suggesting where the performance may be undershooting. Interestingly the weak health performance of Denmark and Finland is corroborated by a more in-depth comparative assessment of the health sector efficiency by the OECD (Joumard et al. 2010).

## Diagram: Public expenditure and education health outcomes (two panels)

In the private sector well-functioning competition can be assumed to eliminate gross inefficiencies in production, and promoting competition is one of the key policies recommended, for example, by the OECD to improve productivity. Unfortunately, competition cannot usually be relied on in the same way in solving problems of inefficiency in the public sector. The reason is simple: many activities carried out by the public sector take place in that sector precisely because one cannot trust that private provision of services spurred by competition would be a good way of taking care of such services owing to information problems, externalities or distributional implications (Andersen et. al 2007).

Still, public provision does not necessarily require public production, many ideologically charged claims notwithstanding. For example, in countries where service provision is based on social insurance it is common that services are privately produced. Nordic countries are well-known for the large share of public production, but there is large variation also among them in how, e.g., health care and long-term care is organized. Extreme cases are Denmark, where primary and outpatient specialised health care is mainly produced by self-employed

professionals and Finland where the role of the private sector is still marginal, even though it is increasing. In all the Nordics, long-term care is increasingly produced by the private sector.

There are in fact several ways through which market principles can potentially help increase efficiency in the public sector short of complete privatisation of services: (1) private ownership and contracting out (tendering, outsourcing, public-private partnerships), (2) user choice and competition and (3) price signals in funding (Blöchliger 2008).

These different avenues have been experimented with in different ways in different countries, including the Nordics. Unfortunately no clear-cut general conclusions appear warranted about which approaches work and which do not. Much seems to depend on the specific circumstances and applications. For example, efficient outsourcing requires enough competition and skilled purchasing to get the incentives and conditions right. These requirements have not always been met.

In any case, a key issue for a well-functioning system, be it one relying on "command and control" within a traditionally organised public sector or one using market mechanisms, is adequate information about the quality of the services as well as the use of different types of resources in the production process. Such information is essential to allow challenging the existing production methods and incumbent producers (Sunden et al. 2014). Even when one does not want to resort to private production of publicly provided (financed and organised) services, such information is key in promoting efficiency. It allows identifying best practices and benchmarking any other production against them. Similarly only when patients have knowledge about the quality of the service producer can they make an informed choice when given a chance of choosing.

As a whole, there would seem to be room for applying market principles in the provision of public services more widely than has happened so far in the Nordic countries. However, given the many informational and distributional challenges, this should take place on a carefully planned experimental basis. An evaluation process should always accompany a new way of production to allow an early modification, extension or termination of the experiment.

While private provision of public services may still remain an ideologically charged issue, making full use of the opportunities created by digital technology should be a rather obvious way to go irrespective of political considerations. There are many examples of great savings achieved which suggest that the further saving potential is huge.

Still, progress is slow in many fields, even if most of the Nordics are well advanced in international comparison (Digile et al. 2014). One obstacle is the existing mutually incompatible technologies used by various units. This is a particular problem when the service production has been decentralised to a large number of autonomous producers as in health care in Finland. Another problem is ossified organisational structures with an outdated and stiff division of labour between different professions. Also the fear of job losses can hamper the adoption of new technology. It seems that strong leadership combined with extensive training is necessary to overcome these difficulties.

Finally, in some instances economies of scale are not used efficiently, even given the level of the use of digital technology. For example, highly specialised medical services are produced in an unnecessarily large number of hospitals even if strong evidence exists that such services could be provided at lower cost and better quality by a smaller number of producers. Unfortunately, discontinuing a service in a given location often confronts strong local political resistance, even if the availability of the service would not significantly weaken.<sup>12</sup>

## 4. The Nordic model – still alive but in need of refocusing and recalibration

There is no doubt that the Nordic model is seriously challenged by three megatrends: digital revolution, globalisation and ageing. In a nutshell, demand for safety nets and publically financed services increases while there is less scope to tax.

While technological development, globalisation and ageing affect all developed countries, two factors make the Nordics particularly vulnerable. The first one is the extensive public welfare promise deeply ingrained in Nordic societies and manifested in the large share of publicly produced welfare services. Because of this, pressures for additional public expenditure are strong; the so-called Wagner's law and Baumol's disease are likely to affect the Nordics more than most other developed economies. Second, as small and open economies at or close to the technology frontier the Nordics are vulnerable to shocks that affect the fortunes of the highly specialised export industries. A negative shock in any of them creates a larger relative adjustment need than in more diversified economies.

At the same time, the Nordics are in some important respects better placed than many other societies to meet the challenges. The Nordics have a strong track record in adjusting to pressures of structural change. They have succeeded in mobilising a large fraction of the population in gainful economic activity with close-to-world top productivity in an open competitive environment. This is essential for generating large revenues for the public sector with a sustainable tax burden.

High employment rates are a result of a combination of several factors, the most important being (1) high or reasonably high quality education for everyone, endowing the population with the necessary skills, (2) a culture of gender equality, adequate incentives for women to participate in the labour market implemented e.g. through individual taxation and support mechanisms, and

<sup>&</sup>lt;sup>12</sup> An interesting example of the political difficulties involved is the reform of the Finnish health and social services. The government tried for almost three years to produce a complicated reform proposal that would suit different political and regional constituencies. Only when the proposals hit overwhelming legal and political hurdles, a clear and simple structure to facilitate major economies of scale emerged in March 2014.

(3) labour market institutions that have been able to keep unemployment rates reasonably low on average.

High skill levels, substantial public investments in innovation, openness to trade and acceptance of creative destruction have contributed to high productivity, which has supported high overall living standards. High employment, mainly in good jobs, and generous safety nets have kept income disparities low and allowed individuals to take risks, while equal opportunity education has underpinned high intergenerational income mobility. This has fostered trust and social cohesion in a way which has contributed to the acceptance of creative destruction and to political stability. Political stability has helped focusing on long-term objectives and managing public finances in a way which has created room for fiscal stabilisation.

The question is whether these mechanisms underpinning the Nordic model are strong enough to sustain the new assaults by the aforementioned three drivers, which simultaneously destroy jobs, increase inequality, raise public expenditure, reduce tax intake and make the economies more volatile.

Answering this question with any great confidence is hardly possible. Nevertheless, we would be inclined to give a qualified yes as an answer. Evaluation of the six policy areas above - education, taxation, pension policy and other policies in support of labour supply, policies to enhance labour market flexibility, innovation policy and reforming the public sector – suggests that while the relative position of the Nordics remains good, there is also further room for improvement in all areas, in different ways and degrees in different Nordic countries. Adjustments in a realistic scale could quite well be enough and, if well implemented, would not alter radically the way the Nordic societies function.

While there are many precise policy combinations that could do the trick and political preferences may lead to different choices in the different Nordic countries, it would seem hard to avoid the following general policy conclusions:

1) More emphasis in the use of public resources should be put on skill formation. These efforts should cover all phases of life from the very early childhood to retraining of elderly workers. Life-long learning and equal opportunity education should be the catch words even more than has been the case so far. In the early years of life such educational efforts link strongly with social and health policies and the social returns of well-designed government interventions are much higher than those applied in later stages of life. While the role of the government financing in skill formation can and (to keep the expenditures in check) should decline progressively with age, the governments should make sure that high-level education is available to everyone of all ages. At the universities, academic excellence should be given a clear priority to other objectives. The emphasis on skill formation is good not only to increase the employability of the population in changing technological and competitive circumstances and productivity growth, but also important for equality, social cohesion and trust.

- 2) High participation in labour markets requires determined measures to compensate for the negative impact of ageing on labour supply. Pension policies are of pivotal importance in this regard, and all Nordics should aim to bring about an increase in the effective retirement age in line with the increasing life expectancy. While the precise reforms may differ, elevating the statutory retirement ages is a necessary element of effective reforms, accompanied by reducing the attractiveness of the early exit routes from the labour market. Well-designed reforms can result in longer working careers, better pensions, better public finances simultaneously and decrease rather than increase old-age poverty. In addition, participation by females in their prime working years can still be increased by financial incentives and modifications in family policies. There is also significant room to bring forward the age at which people enter the labour market from tertiary education. Making better use of immigrant labour resources is important in all Nordics, and attracting more work-related immigration in particular for Finland.
- 3) Minimising unemployment and ensuring an efficient allocation of labour resources to the most productive jobs are the ultimate objectives of well-functioning labour markets. Under conditions of rapid technical change, global competition at the task level, and high macroeconomic volatility, wage flexibility is essential for keeping unemployment low. At the same time, employment protection or unemployment benefits should not hamper reemployment and reallocation. While the Nordic labour markets function mostly quite well, there is room for reforms towards further flexibility. Such reforms are likely to increase workers' income variability over time and income disparities, but some additional income uncertainty and wage inequality probably cannot be avoided if one aims at high employment and low unemployment in the new environment.
- 4) Fostering innovation and structural change (creative destruction) to support productivity growth in line with the global technical change continue to be of key importance for high living standards. Given the high level of public spending on research and development the opportunity costs of increasing such spending further would probably exceed the benefits. One should rather aim at using the money more efficiently. A particular challenge is how one could allocate the public funds so as to maximise the spill-overs into the domestic economy. There are no easy answers to these questions. Putting more emphasis on start-up financing and supporting the creation and development of entrepreneurial ecosystems might be one way to go. Strong specialisation is undoubtedly a risk but is also necessary in the small Nordic economies. An efficient way to limit such risks might be promoting applications of general purpose technologies rather than by trying to deliberately spread innovation support widely to different branches. In any case promoting competition continues to be important.
- 5) While the level of the overall tax burden is ultimately a political choice, taxes as a share of GDP can hardly go significantly up. The question rather is how much the overall tax ratios may have to decline under the pressure of increasing mobility of important tax bases. While tax structures can be considered relatively efficient in the Nordics, there is still room for improvement. That should be used to stimulate labour supply, labour mobility, risk

taking and capturing value in the global value chains. Reducing labour taxation and increasing real estate and consumption taxes would be advisable, as would ending the favourable tax treatment of owner-occupancy. Corporate tax rates should be kept competitive but a race to the bottom hardly is in the Nordics' interest.

6) Finally there is no way around continued efforts to improve the efficiency of the public sector. While the Nordics compare rather well in this regard internationally, to the extent such comparison can be trusted, there is clearly room for improvement in every country. There is no single superior way to organise public services. Nevertheless, improvements would most likely be achieved by making better use of market mechanisms. Also an open-minded application of digital technology in public administration and services could result in substantial savings. A prerequisite for any successful reform, be it within a "command and control" type of organisation of public services or in one relying more on market mechanisms, is adequate information about the quality of services. Much more effort should be put into producing such information as well as into the evaluation of the reforms.

Sound macroeconomic policies are an important basis for the aforementioned structural policy responses. The experience of Finland and Sweden in the early 1990s and Iceland and to some extent Denmark in the Great Recession show that mismanaged macro policies can derail the economy badly and result in a long legacy of high unemployment and high public debt. Macro-prudential policies to keep credit expansion in check and the banking sector on a sound footing are a very important part of a prudent preventive policy approach. Similarly, when shocks hit, stabilising macro policy is important. In this regard, Sweden, Norway and Iceland have a more versatile tool box as they can use also monetary policy for stabilisation. However, at least so far the experience does not suggest that adequate stabilisation could not be done through fiscal policy, though the requirements for prudent fiscal stabilisation are tough.

A necessary precondition for effective fiscal stabilisation is that there is enough budgetary space for cyclical stabilisation – be it through automatic stabilisers or through discretionary policies. The Nordics have a rather good track record in this regard. However, it is far from easy to build sufficient fiscal buffers even in the best of the times, and certainly so when there are secular pressures on age-related spending, on the one hand, and on mobile tax bases, on the other hand. It is also very difficult to determine when a negative shock to demand should be considered transitory to which "bridge building" is an appropriate response and when the shock is permanent, which requires adjustment. There is an obvious danger of stretching stabilisation too far and sliding into a process of burgeoning debt. Independent expert bodies assessing fiscal and economic policies may limit such a risk. The experience of Denmark and Sweden on fiscal councils is encouraging, and a similar body is currently being established in Finland<sup>13</sup>. Also the new

<sup>&</sup>lt;sup>13</sup> In fact two separate bodies will soon exist in Finland for the assessment of economic policies. The National Audit Office functioning under the Parliament has been tasked with monitoring the implementation of EU's Stability and Growth Pact and Fiscal Compact, while a new, more academically oriented body is being set up to assess more broadly the appropriateness of fiscal and economic policies.

stronger fiscal rules in the EU may help the three EU member states to keep on a prudent path. Nevertheless, ultimately it all depends on national political culture and leadership.

Among the Nordics, **Finland** faces the most severe adjustment challenges. They relate to the – by the Nordic standards – low employment rate in conjunction with the fastest ageing process and the exceptional structural shocks the economy has been hit by recently. Strong measures to increase labour supply including an ambitious pension reform and measures to attract work-related immigration as well as labour market reforms to increase wage flexibility and labour mobility are called for. Similarly, action to improve public sector efficiency is important, in particular with regard to the health care system. Finland still has a good primary education system even if the quality has deteriorated recently. Also the innovation system can be considered among the best, and there is a strong knowledge base in digital technology and some encouraging start-up activity. These strengths bode well for the capacity of the Finnish economy to respond to technological change.

In **Iceland** the most urgent task remains solidifying the return to growth after the unprecedented boom-bust episode and addressing the legacy issues. While the economy has grown modestly and unemployment has declined recently, the public debt remains very high and there is still need for substantial consolidation to ensure sustainability. There appears to be room for improving public sector efficiency, given that, for example, public spending on education is high relative to the results achieved. A longer-term issue is the weak productivity growth because of which Iceland's relative GDP per capita position has been declining for almost two decades. In addition to looking into the education system, reducing barriers to competition in the product markets would be helpful. Also ensuring the soundness of the banking system requires considerable attention. The high participation rate and low income disparities despite relatively modest redistribution through taxes and transfers are a good starting point for stronger growth while keeping it inclusive.

**Denmark** is only slowly recovering from the crisis, but the usual macro-indicators do not point to severe imbalances in a medium-term perspective. The overall strategy in addressing the problem of fiscal sustainability has been to strengthen labour supply and employment via an overhaul of all elements of the social safety net. The reform intensity has thus been high in recent years, but a number of implementation elements remain to ensure that these reforms deliver the projected results. Productivity growth has for some years been on a downward trend and lower than for most other countries and it is a major challenge to boost productivity growth. This applies equally for the private and the public sector. For the private sector it is crucial if Denmark is going to maintain its position as a high income country, and for the public sector it is essential if pressure for improvements in e.g. health and education should be accommodated without jeopardizing public finances.

**Sweden** has been among the best performing European economies recently. While the crisis hit Sweden too, it has recovered well. Current account posts a healthy surplus and public finances are in a good shape both in the short- and long-term perspective. Increased unemployment, particularly among the young and un-skilled is a challenge, but could in part be traced back to the

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rapid increase of labour supply pursued by various reforms. While the population is endowed with good skills on average, there are some worrisome trends. The quality of primary education is not very good by international standards. A particular concern is that the educational outcomes have weakened and started to depend more on the family background than before. A more versatile economy than that of the smaller Nordic countries is a Swedish strength. So is the proven ability to continuously reform economic institutions in response to new perceived challenges. Many countries could learn from the Swedish approach in this regard.

**Norway** is one of richest countries in the world thanks to its vast hydrocarbon reserves. While it has used the revenues prudently, it has also been able to provide very high and equal welfare to its citizens. Tight demand conditions have kept unemployment low and attracted immigrants to the Norwegian labour market. Population ageing does not pose a similar problem for public finances as in many developed countries including some Nordics. While natural resources continue to remain an important source of revenues to the economy and the public sector in the coming decades, more attention should be paid to productivity growth in the mainland economy. The education system does not deliver results in line with the vast expenditures. Teacher quality and the fragmentation of higher education could be areas of useful reforms. New firms are created at a low rate and there are few rapidly growing start-ups. Nevertheless, finding effective remedies may not be easy as long as the hydrocarbon sector continues to play such a predominant role in the economy. As a whole, Norway remains in a very good position to maintain and develop the key features of the Nordic model in the foreseeable future.

An unfortunate feature of much of policy making is that the effects of various policy interventions are inherently very uncertain. This accentuates the difficulties in mustering the necessary political support for reforms which are painful in the short run. Thorough evidence-based ex ante evaluation of various reform proposals and their careful vetting in the political process are of course helpful, but cannot eliminate all uncertainty. This underlines the need to have an experimental approach to reforms to the extent possible. Two elements are essential in this: an open-minded approach to new ideas and a rigorous evaluation on the basis of well-designed pilots.

The directions of reform outlined above would in all likelihood improve the Nordics' capacity to sustain, and in some cases still elevate, the high employment rates and a competitive rate of productivity growth. At the same time, some widening of income disparities may not be avoided in an environment where there are significant pressures for the distribution of market incomes to widen and the size of the redistributive public sector cannot be increased but may even have to decline. However, such a change need not be big, if reforms succeed in producing continuously high employment rates and increasing the efficiency of the public sector. The impact on social cohesion and trust could also remain modest as long as one manages to keep social mobility high, particularly between generations. Strong emphasis on providing equal opportunities for children of all backgrounds should limit the risk of weaker mobility. The Nordic model does not need dismantling and reconstruction but rather refocusing and recalibration.

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