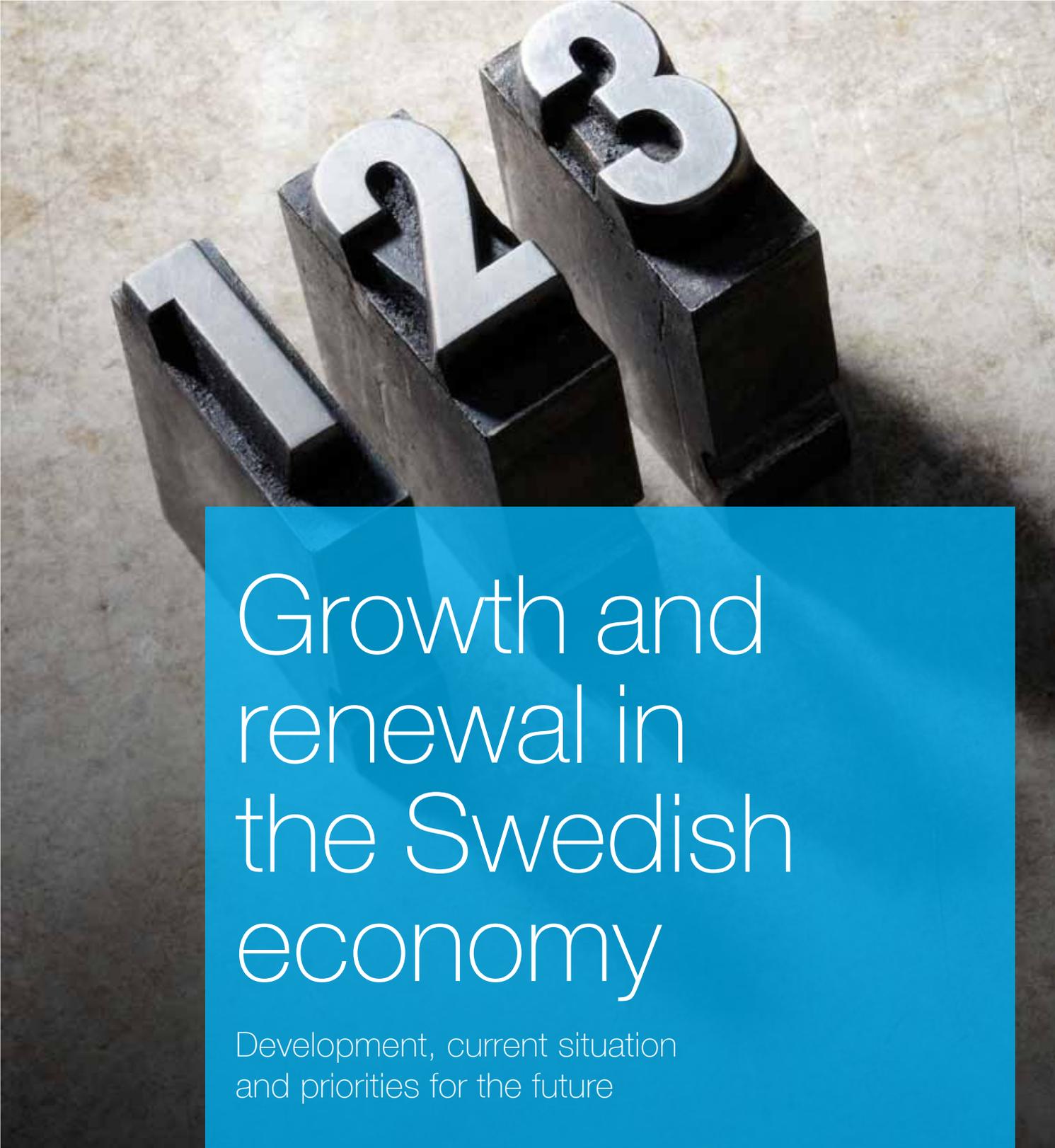


McKinsey Sweden  
McKinsey Global Institute



# Growth and renewal in the Swedish economy

Development, current situation  
and priorities for the future

This study has been initiated, conducted and fully funded by McKinsey & Company and McKinsey Global Institute. As such, it is entirely independent and has not been commissioned by any company, government agency or other organisation.

# Preface

*McKinsey & Company has on two previous occasions – 1995 and 2006 – published reports on the Swedish economy in collaboration with McKinsey Global Institute. The reports analyzed Sweden’s economic development and identified opportunities for improvement. Since 2006, major changes have occurred in Sweden and internationally, including a severe financial crisis, continued strong growth in Asia and a rapid technological development. Therefore, we have now updated our perspective on Sweden’s economic situation.*

The purpose of the report is threefold: to assess Sweden’s current economic situation, to identify key opportunities and challenges, and to discuss areas of priority for the Swedish economy. Our ambition is to provide a factual basis for the continued understanding and development of a shared view on which measures are needed to achieve a strong, long-term economic growth in Sweden.

To assess a country’s economic development, McKinsey Global Institute uses a framework consisting of three dimensions: economic growth (GDP and GDP per capita), inclusiveness (how well economic growth and opportunities are distributed throughout society) and robustness (the economy’s resilience to various shocks as well as broader sustainability criteria). In this report we will focus primarily on economic growth, but we will also cover inclusiveness and robustness. During the study we have had the privilege to get extensive and active support from our academic advisors, Klas Eklund, Senior Economist at SEB and Visiting Professor at Lund University, Lars Calmfors, Professor at the Institute for International Economic Studies at Stockholm University, and Martin Baily, Senior Fellow at the Brookings Institution and former Chairman of the Council of Economic Advisors in the Clinton Administration. We would like to express our sincere gratitude for this support. We would also like to thank all those representatives of businesses, trade associations, trade unions, government agencies, political parties and other organizations that have contributed insightful comments and views during the course of our work.

Finally, we would like to express our gratitude for the valuable help we have received from a large number of colleagues at McKinsey, both internationally and in Sweden, and especially from the McKinsey Global Institute. The team driving the work has included Per-Anders Enkvist, Martin Hjerpe, Björn Annwall, Oscar Boldt-Christmas, Sara Jonsson, Anders Åhlén, Henrik Augustsson, Johan Sanderöth, Sara Ekeblad and Jan Mischke.

In line with our tradition of actively contributing to the development of society, this study is, like our previous reports, an entirely independent work, initiated, fully funded and conducted by McKinsey.

Stockholm, May 2012



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### McKinsey & Company

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Since its founding in 1926, McKinsey has focused on helping its clients to achieve substantial and lasting improvements in their businesses. In addition to traditional client work, McKinsey has a long tradition of working pro bono on important social issues.

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McKinsey Global Institute (MGI) was established in 1990 as an independent global research institute within McKinsey that focuses on macroeconomic issues. MGI's research is aimed at providing support, through facts and insights, to economic decision-makers in the political and business worlds.

In its work MGI benefits from McKinsey's global network of experts and also works with leading academics.



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# Summary

Low public debt, a current account surplus and an economic growth rate that over the past 15-20 years has exceeded the growth rates of both the United States and the EU-15. The Swedish economy is currently held up as a role model internationally, not least in light of the current financial crisis in Europe. It is primarily the international sector<sup>1</sup>, and especially the manufacturing industry, that has been the main engine of growth in the Swedish economy and has helped the country outperform the EU-15 since the early 1990s.

This performance has put Sweden in a strong economic position compared with many other countries. Yet, Sweden faces several challenges going forward. It is only the international sector (representing about one third of the overall economy) that has experienced an indisputably strong growth, significantly stronger than the average in the EU-15 during 1993-2010. Growth in the Swedish local services sector was only in line with the EU-15, while the Swedish public sector experienced a negligible growth in its value added in the same period. This is unsatisfactory, especially as these sectors together account for about two thirds of the Swedish economy. There are also a number of concerns about Sweden's long-term growth outlook such as the increasing competition from emerging economies, the declining quality of the Swedish education system and an ageing population.

In order for Sweden to be able to sustain and improve its economic growth in the coming decades, the country should strive to move from one to three strong engines of economic growth and also improve the economy's long-term competitiveness by further expanding the supply of skilled labor. To achieve this, Sweden would benefit greatly from bold measures in five areas:

1. Increase productivity significantly in the public sector. With an ambitious approach, there are good reasons to believe that productivity in the public sector could be raised by 25-30 per cent over the next ten years (while maintaining the same level of quality). Key elements include more ambitious targets, greater transparency on results, consolidation of Sweden's public administration structure (primarily the municipalities) and a national centre of excellence for public procurement.
2. Improve growth in the local services sector through a second wave of deregulation and regulatory reforms. Sweden used this tool successfully in the 1980s and 1990s, but there are still many areas that remain to be addressed. A good approach could be to systematically eliminate growth-inhibiting regulations industry by industry through a joint effort by politicians, employers and trade unions.
3. Sustain the high growth in the international sector through increased innovation productivity. Competition from companies in emerging markets is increasing rapidly, as is the pace of innovation globally. The number of engineers in the world, for instance, more than doubled from 1998 to 2008 and increased by a factor of four in China. Sweden should therefore ensure that it maximizes the return on its R&D investments by becoming a leader in innovation productivity in the same way as it has become a leader in production efficiency in many industries. Can Swedish business be a front runner in creating global innovation models in the same way as it was in globalizing its production and sales?

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<sup>1</sup> "The international sector" refers throughout the report to the sector of the economy that is exposed to international competition.

4. Make Sweden a world leader in education. McKinsey's previous school reports have shown that the most important area to address if the trend of falling school results is to be reversed is to significantly raise the skills profile of teachers and school leaders, for example through teacher coaching programmes and by increasing the attractiveness of the profession.
5. Increase the share of the population in employment. Address the high rate of unemployment among young and foreign-born people, for instance by exploring a Swedish apprenticeship model, and by counteracting the effects of the ageing population, for example by following the Danish model of linking the retirement age to life expectancy.

Sweden's stable fiscal position gives it a golden opportunity to build an even stronger foundation for robust future growth over the next few years while other countries face the task of addressing their acute financial problems. Sweden also has a culture of consensus and less political tensions than many other countries, which, if this tradition is maintained, should improve the prospects of finding pragmatic solutions. By taking these measures, Sweden will be in a good position to achieve equally strong or stronger growth in the future as in the past 15–20 years. These are the findings presented in this study of the Swedish economy by McKinsey & Company Sweden in collaboration with McKinsey Global Institute.

This is the third time McKinsey & Company Sweden, together with McKinsey Global Institute, is conducting a comprehensive study of the Swedish economy. The first study was published in 1995 and the second in 2006. The aim is to contribute facts to the debate about Sweden's economic priorities and how best to achieve them.

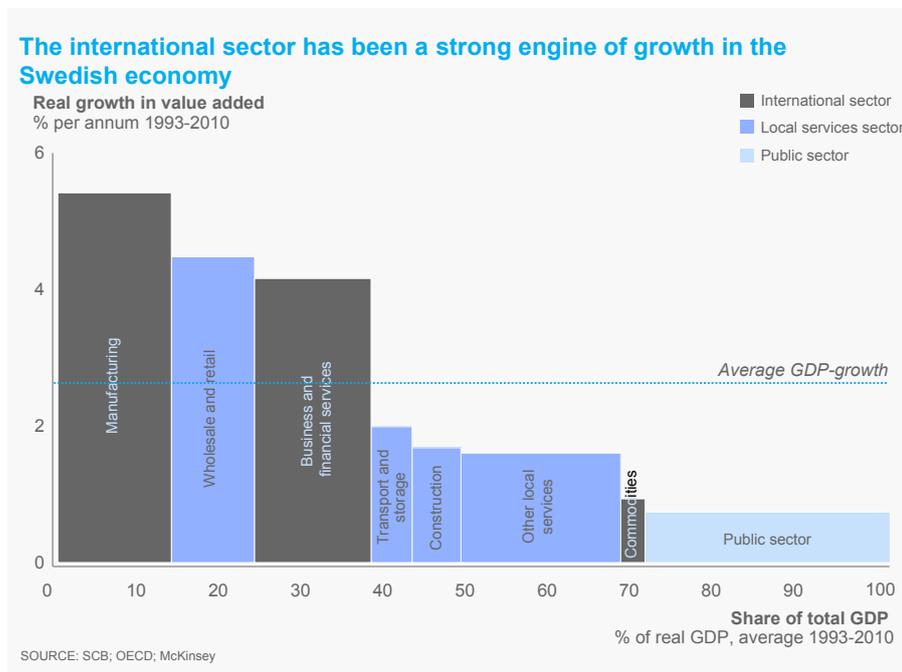
### *Strong economy since the 1990s*

From 1993 to 2010, the Swedish economy grew at an annual rate of 2.5 per cent, outperforming the EU-15 as well as the United States. Sweden's GDP growth per capita, 2.0 per cent per year over the same period, was also higher than in the EU-15 and the United States. As a result, Sweden advanced from 14th to 11th place in OECD's ranking of countries by wealth and Sweden's GDP per capita is currently 15 per cent higher than the OECD average. Sweden also scores high on several other key metrics that are commonly used to assess a country's economic performance. The country has a comparatively low public debt, a balanced budget and a current account surplus.

The strongest growth engine in the Swedish economy over this period has been the international sector, i.e. the manufacturing industry, business and financial services, and commodities (illus. 1). This sector accounts for around one third of the Swedish economy, and its value added grew by 4.3 per cent per year from 1993 to 2010. The manufacturing industry, in particular, has achieved a rate of annual productivity growth of 5.7 per cent, which is very strong by international standards. However, Sweden also differs from other European countries in that the number of jobs in the manufacturing industry is actually increasing if the share of business and financial services that are sold directly to the manufacturing industry is included.

The other two major sectors of the Swedish economy – the local services sector and the public sector – have not provided the same boost to growth. The local services sector accounts for about 40 per cent of the economy and the value added generated by this sector grew by only 2.3 per cent per year from 1993 to 2010, with a single industry (wholesale and retail trade) accounting for a high portion of that growth. Annual productivity growth in this sector was in line with the EU-15 throughout the period at 1.5 per cent. The growth rate was the highest in the 1990s averaging 2.3 per cent per year from 1993 to 2000, mainly driven by increased competition following a wave of deregulation, while annual productivity growth over the 2000-2010 period was a mere 0.9 per cent. At the same time, the number of jobs in the local services sector grew by almost 200,000 from 1993 to 2010. This increase in employment has made a significant contribution to Sweden's GDP growth. However, the rate of employment growth, at 0.9 per cent per year, is below the average for the EU-15 (1.4 per cent per year from 1993-2006) and the local services sector accounts for a smaller share of the total labor supply in Sweden than in the EU-15 (40 per cent and 43 per cent, respectively, in 2009). If Sweden were to succeed in closing this gap to the EU-15, 140,000 new jobs could be created. This is to be compared with the total number of unemployed in Sweden of 416,000.

Illustration 1



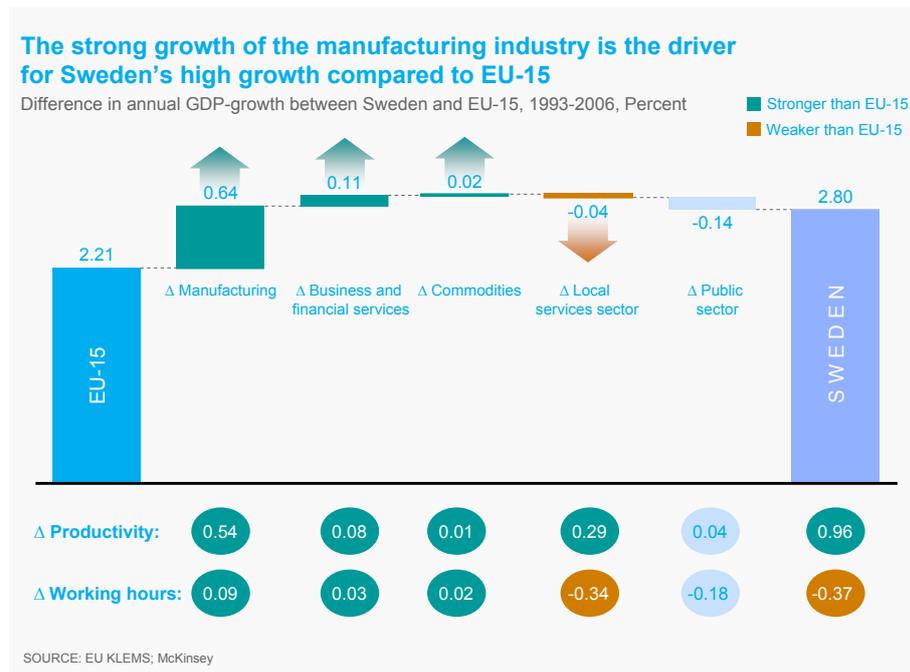
The public sector accounts for about 30 per cent of the Swedish economy and performs many important functions in the society. Value added and productivity growth in the public sector are difficult to measure, as many of the services are difficult to price, but the available statistics point to a productivity growth of close to zero<sup>2</sup>. As in the private sector,

<sup>2</sup> Statistics Sweden has recently started to publish productivity surveys for the public sector. These indicate a productivity growth rate of close to zero over the period 2002-2008, which is in line with the conclusions drawn by the Expert Group on Public Finance in the 1980s and 1990s. However, there is still insufficient information on quality, and the statistics therefore need to be further developed.

competitive intensity and regulation are closely linked to productivity growth and as many public services are regulated, and therefore subject to limited competition, the conclusion drawn from the available figures appears reasonable.

In debates about the Swedish economy it is often assumed that it is in the services sector that Sweden's economic future lies, and it is often seen as inevitable that Swedish manufacturing jobs will eventually be lost to low-cost countries. The historical development described above, where the manufacturing industry accounts for a large portion of growth and has succeeded in maintaining employment in Sweden if directly purchased services are included, suggests that the debate should instead focus on achieving strong future growth for both manufacturing and services in Sweden. In fact, the manufacturing industry was the main driver of the strong GDP growth in Sweden 1993-2006 compared with the EU-15<sup>3</sup> (illus. 2).

Illustration 2



Sweden's strong performance can to a large extent be attributed to four underlying success factors, which we need to bear in mind when discussing priorities for the Swedish economy going forward. These are marked in green or with a positive trend in illustration 3:

- Good access to skilled labor and a constructive relationship between employers and employees.** Swedish school results were very competitive until the mid-1990s (placed four in the TIMSS<sup>4</sup> ranking in 1995), which has helped to give

3 Comparable figures for the EU-15 are available for the period until 2006. An indicative analysis of national data from 2007-2010 suggests that the pattern is the same for the whole of the period 1993-2010.

4 "Trends in International Mathematics and Science Study", TIMSS.

Sweden a highly educated labor supply Sweden also distinguishes itself on a number of key metrics for assessing the relationship between employers and employees. Employee turnover is lower than the average in the EU-15, the number of days lost to labor disputes is lower and investments in vocational training are higher than in any other EU-15 country. The Agreement on Industrial Development and Wage Formation, known as the Industrial Agreement, between unions and employers has been another strong contributing factor to the positive trend in real wages that has also helped to sustain the competitiveness of the Swedish industry.

- **Deregulation and increased competition.** The 1980s and 1990s were periods of deregulation and lowering of trade barriers, partly as a result of Sweden's accession to the EU. This resulted in increased competition and significant productivity gains, notably in the retail, telecom and banking industries. In 2010, the OECD stated that this round of deregulation may have added as much as 0.4 percentage points to the annual productivity growth over the period 1994-2003 (in the business sector as a whole)<sup>5</sup>. As other countries also deregulated during the same time period, the current Swedish economy is only marginally less regulated than the OECD average (according to OECD rankings).
- **Favourable international market development and successful MNCs.** Large companies account for an unusually high share of the Swedish industry, and many large companies have been successful in their respective industries. In the period 1993-2010, the ten largest Swedish manufacturers directly accounted for 35 per cent of growth in the manufacturing industry and even more if the contribution from subcontractors is included. Another indication of their success is that the 50 largest companies on the Stockholm Stock Exchange generated a total annual return for shareholders of 17 per cent over the period 1993-2010, compared with 11 per cent in the United States and 12 per cent in Germany<sup>6</sup>. The main reasons for this is probably that Swedish companies took their businesses global early and benefitted from the rapid growth in international trade, they have had a significant technological advantage over companies in emerging economies, they have invested heavily in research and development<sup>7</sup>, and that they have had good access to skilled labor, as described above. In addition, MNCs are in general better at improving their productivity than SMEs are<sup>8</sup>, which favours Sweden with its high proportion of large companies.
- **The strong economic and political foundations that were established in the 1990s.** Following the Swedish financial crisis in the early 1990s, a number of important cross-party reforms that significantly strengthened Sweden's economic and political prospects were enacted. These included a comprehensive tax reform, the pension reform and a stricter fiscal policy framework with a surplus target and a limit on government expenditure.

A recovery and currency effect in the first few years following the crisis in the 1990s and the breakthrough in information and communications technology were other factors that

5 "How regulatory reforms in Sweden have boosted productivity", OECD (2007).

6 The conclusion is similar even if 1994 or 1995 is used as a baseline.

7 See, inter alia, "Can investment in intangibles explain the Swedish productivity boom in the 1990s?", Harald Edquist (2009).

8 See "Growth and Competitiveness in the United States: The role of its multinational companies", McKinsey Global Institute (2010).

probably contributed to Sweden's strong economic growth. Over the period, Swedish households also increased their debt from 95 to 165 per cent of disposable income, mainly through higher mortgages. This expansion of credit has probably also stimulated the demand and benefited the economy, although the effect is hard to quantify.

As a result of all these factors, the Swedish economy has in the last few years often been presented as a model internationally, especially as the country emerged relatively unscathed from the global financial crisis in 2008-2009. Although the Swedish GDP contracted by 5.2 per cent in 2009 (4.4 per cent in the EU-15) mainly driven by Sweden's high exposure to cyclical industries, the economy staged a strong rebound already in 2010, growing by 5.6 per cent (1.8 per cent in the EU-15).

### *Future challenges and opportunities*

As described above, Sweden is, compared with many other OECD countries, in a good economic condition. Yet, Sweden faces challenges going forward. The international sector is the only sector that has been an indisputably strong engine of growth with a world class growth rate. The local services and public sectors have increased their value add at a considerably slower pace, as discussed above. As the latter two sectors account for about two thirds of the economy, and as the current growth rate of the international sector cannot be taken for granted, this is a problem. In addition, our analysis of key factors for long-term economic growth also present future challenges. The key challenges are marked in red in the right-hand column of illustration 3:

- *A shortage of skilled labor.* In comparison with other countries, Swedish primary school results have deteriorated significantly since the mid-1990s (Sweden has, for instance, dropped from fourth place in the in the TIMSS rankings in 1995 to 21st place in 2007, and the PISA rankings point to a similar trend), and the number of applicants to teacher education programs has declined. There are also a number of positive trends, such as a significant improvement in freedom of choice, but the overall trend in the Swedish school system is a cause for concern. Moreover, there are a number of important business categories where the availability of higher education does not correspond to the expected future needs of the labor market. For instance, according to Statistics Sweden, the country is expected to have a shortage of about 80,000 engineers by 2030<sup>9</sup>.
- *Increased global competition and an accelerating pace of innovation.* The centre of gravity in the global economy is rapidly shifting from the West to the emerging markets, especially to Asia. This in itself is not a problem: Sweden benefits from the rapid growth of emerging economies, and many Swedish businesses have been successful there. Yet while the emerging economies 10-15 years ago mainly represented an export opportunity and Western companies had a significant technological advantage, Swedish businesses in many industries are now facing stiffening competition from companies in the these countries. In several industries a pattern is emerging where local Asian companies first rapidly gain market share in their large domestic market – in some cases with government support – and then exploit their volume advantage globally. In telecoms, for instance, Huawei of China advanced from being the 28th largest supplier of

9 Based on: "Trender och Prognoser", Statistics Sweden (2008).

telecom equipment globally in 2001 to third largest in 2010. The pace of global innovation is also picking up, as illustrated by the doubling of the number of engineers from 1998-2008.

- *An ageing population and high unemployment among vulnerable groups.* The real dependency ratio<sup>10</sup> is expected to increase significantly by 2030 (from 1.32 in 2010 to 1.49 in 2030) due to the ageing of the population (the number of people over 65 is expected to increase by 35 per cent by 2030). Although the situation is better in Sweden than in many other European countries, this shift will make it harder to fund public spending and will have a negative impact on annual growth of an estimated 0.4 percentage points in the period up to 2030. Also vulnerable groups, such as young people, those with a low education and foreign-born citizens, are struggling to gain a foothold in the Swedish labor market. This was one factor behind the total unemployment rate of 7.5 per cent in 2011.

Illustration 3

Other challenges that are often mentioned in the debate is that the advantage which

Key drivers of economic development in Sweden		Strength	Reason for concern
	Retrospective (1993–2010)	Present/forward-looking	
<b>Skilled labor</b>	<ul style="list-style-type: none"> <li>High international standards in education to the mid 90's, thereafter decreasing</li> <li>Number 4 in the TIMSS<sup>2</sup> ranking 1995</li> </ul>	<ul style="list-style-type: none"> <li>Intermediate/poor international standards in education</li> <li>Number 21 in the TIMSS ranking 2007</li> </ul>	
<b>regulation and competition</b>	<ul style="list-style-type: none"> <li>Extensive deregulation, increased competition, and improved incentives to work</li> <li>Telecom, banking, electricity, retail, EU entry in 1995</li> </ul>	<ul style="list-style-type: none"> <li>Somewhat more deregulated economy than OECD</li> <li>Product markets: 1.2 in Sweden vs 1.4 OECD in 2008</li> <li>Labor market: 1.9 in Sweden vs 2.0 OECD in 2008</li> </ul>	
<b>International market development</b>	<ul style="list-style-type: none"> <li>"Western competition"</li> <li>Asia 34% of global growth in 1995</li> <li>OECD technological advantage</li> </ul>	<ul style="list-style-type: none"> <li>Global competition and decreased rate of innovation</li> <li>Asia 47% of global growth in 2010</li> <li>OECD significantly less technological advantage; substantially increased competition from non-OECD companies</li> </ul>	
<b>Innovation and renewal</b>	<ul style="list-style-type: none"> <li>High R&amp;D investments, but low interest in entrepreneurship and few new large companies</li> <li>R&amp;D: 3.5% of GDP in 1997 (USA 2.6%, EU-15 1.8%)</li> <li>1 of top 20 Swedish companies &lt;40 years (5 in USA)</li> </ul>	<ul style="list-style-type: none"> <li>High R&amp;D investments, but low interest in entrepreneurship and few new large companies</li> <li>R&amp;D: 3.8 % of GDP in 2008 (USA 2.8%, EU-15 1.9 %)</li> <li>1 of top 20 Swedish companies &lt;40 years (8 in USA)</li> </ul>	
<b>Demography and employment</b>	<ul style="list-style-type: none"> <li>Stable populations structure, high participation</li> <li>Effective dependency ratio ~1.3 throughout the period</li> <li>Unemployment 6-12 % 1993-2010</li> <li>Internationally low Gini-coefficient (0.21 in 1993)</li> </ul>	<ul style="list-style-type: none"> <li>Agging populations, high youth unemployment</li> <li>Effective dependency ratio from 1.32 yrs 2010 to 1.49 yrs 2030</li> <li>Unemployment 8.6% in 2010 (higher among youth)</li> <li>International low Gini-coefficient (0.24 in 2010)</li> </ul>	
<b>Political, financial, social stability</b>	<ul style="list-style-type: none"> <li>Significant improvement in public finances and high political/financial/social stability</li> <li>Public debt 77% of GDP in 1993, budget -11%</li> <li>Well-diversified business world given Sweden's size</li> </ul>	<ul style="list-style-type: none"> <li>International strong public finances and high political/financial/social stability</li> <li>Public debt 39 % of GDP in 2010, 2% budget surplus</li> <li>Continued well-diversified business world given Sweden's size</li> </ul>	
<b>Resource productivity and environmental impact</b>	<ul style="list-style-type: none"> <li>High resource productivity and low environmental impact relative to other industrial countries</li> <li>8.3 ton CO<sub>2e</sub> per capita 1993 (13.7 EU-15)</li> </ul>	<ul style="list-style-type: none"> <li>High resource productivity and low environmental impact relative to other industrial countries</li> <li>6.5 ton CO<sub>2e</sub> per capita 2009 (11.5 EU-15)</li> </ul>	

Swedish businesses have historically enjoyed from low electricity prices has diminished significantly over the last 10-15 years. Bottlenecks in the infrastructure of major cities (housing, transport) are another focal point for the debate, as is the challenge created by the fact that the expansion of credit that has stimulated consumption over the past 10-15 years cannot continue, as Swedish households have a comparatively high level of debt.

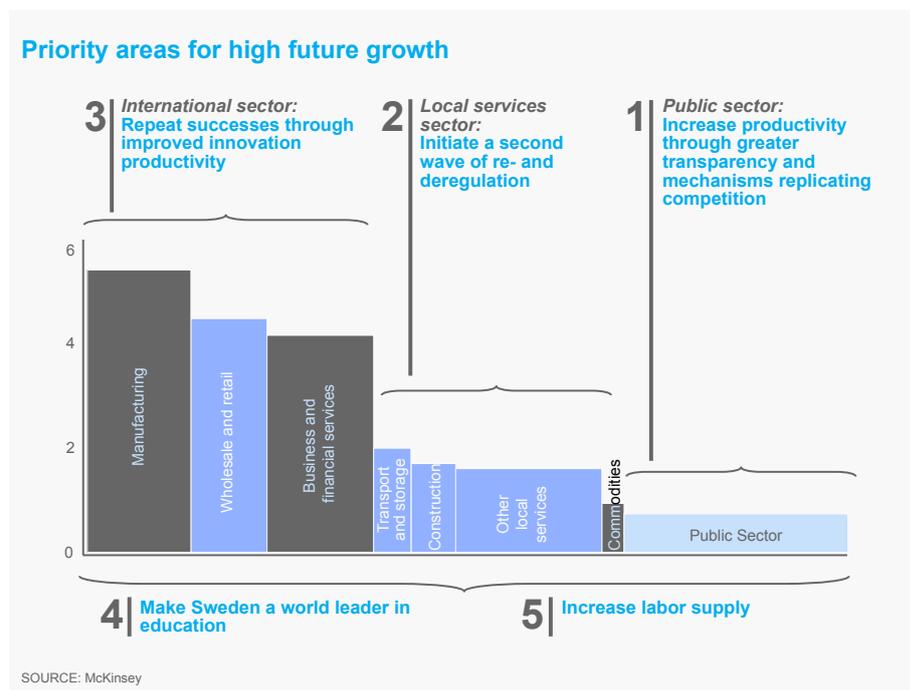
<sup>10</sup> The number of people not in employment divided by the number of people in employment (adjusted for man-years).

### Priorities for high growth

While many other OECD countries face the task of addressing acute financial problems, Sweden's strong starting position gives it a golden opportunity over the next few years to invest time and resources in further strengthening its prospects for good long-term economic growth. This report has identified five areas that would be valuable to address in the Swedish economy and possible paths forward have been identified as a starting point for further debate. The general theme is to go from one to three strong engines of growth in the Swedish economy while also improving the country's long-term competitiveness by expanding the supply of skilled labor. If Sweden succeeds in implementing these improvements, the country will be in a good position to match or exceed its high growth rate in the past 15-20 years (illus. 4).

Illustration 4

#### 1. The public sector: Increase productivity with maintained or improved quality.



- Improve governance of public-sector service providers and increase the pressure for improvements through more ambitious targets and increased transparency, for instance through annual national comparisons of the key productivity and quality parameters among individual government agencies, municipalities and county councils.
- Develop and implement specific plans for improving productivity in each of the largest public-sector service providers. In the United Kingdom, for instance, an Efficiency and Reform Group was established for a similar purpose in 2010, while the United States appointed a Chief Performance Officer in 2009 with the task of raising productivity in all federally funded services.

- Create a national competence centre to assist municipalities, county councils and government agencies in raising standards of quality in the largest categories of public procurement. With public sector procurements of products and services worth an estimated SEK 500 billion a year, there is significant scope for improvement.
- Consolidate Sweden's public administration structure, especially at municipality level, by significantly reducing the number of municipalities in order to enable a higher level of expertise and efficiency in public administration.

**2. Local services: Implement a “second wave” of deregulation and regulatory reforms at industry level to maximise competitiveness and streamline the application of regulations by government agencies.**

- Conduct a systematic review together with employers and unions of all major industries in the local services sector and remove growth-inhibiting regulations. Particular attention should be given to industries which have had an average or weak growth rate compared with the EU-15 (construction, real estate, transport and storage, and energy and water). There are several studies which suggest that construction costs, for instance, could be reduced significantly by moving from detailed regulations to functional regulations in the construction industry.
- Improve the local application of regulations that are important for enterprise, such as faster handling of building permits and environmental permits. This could be achieved by improving the transparency of how efficiently these cases are handled by individual government agencies, municipalities and county councils. A specific initiative to raise efficiency in the local planning and building process (The Planning and Building Act) would also be valuable.

**3. International sectors: Repeat past growth successes by making Sweden a leader in innovation productivity as well as one of the most attractive countries in the world for applied research and innovation investments.**

- Investigate how companies' innovation productivity could be further improved, for instance by increasing the pace of globalization of research and development. This can be done by ensuring that businesses raise their level of ambition for the next wave of innovation, placing a stronger emphasis on innovation in the borders between products, services and business models. Businesses also need to adapt their R&D models to ensure they maximise their benefits from the changes taking place in the global R&D environment.

- Strengthen better incentives for businesses to locate their R&D activities in Sweden, for instance by reviewing tax incentives for R&D investments.
- Intensify the ongoing efforts to create leading innovation environments with world-class expertise by concentrating funding and promoting international recruitment. Examples of possible measures for expanding international recruitment include better marketing of Sweden and Swedish businesses, and a wider range of English-language schools.
- Create a more effective working relationship between academia and industry. Strengthen knowledge transfer by increasing mobility between industry, research institutes and academia, and by strengthening industry research institutes.
- Assess public-private partnerships and other strategic research initiatives as ways to accelerate innovation in industries where Sweden is strong and where major technological shifts are expected.

#### **4. Education: Turn Sweden into a world leader in education.**

- Raise skills levels among existing teachers and school principals by establishing a system for continuous teacher coaching and competence development.
- Raise skills levels among future teachers and school principals by significantly increasing the attractiveness and status of the profession (for instance, through clearer career paths and a better work environment), thus increasing the number of applicants to teacher education programmes.
- Increase the transparency and comparability of school results, for instance by improving the design and marking of national tests.

#### **5. Labor: Increase the supply of labour by assessing whether a “Swedish apprenticeship model” is a workable path for reducing unemployment, and by gradually raising the retirement age.**

- Assess a Swedish apprenticeship model. Several of those EU countries that have the lowest rates of youth unemployment have ambitious apprenticeships which employ up to 15-20 per cent of all young people aged 15-24. Apprenticeships can have undesired negative effects on wage formation for adults or create lock-in effects for young people. If Sweden could develop a Swedish apprenticeship model that creates an effective way for young people to enter the labor market while avoiding these negative effects, this could be an effective way to reduce joblessness among young people as well as other groups with high unemployment.

- Raise the actual retirement age by linking it to the life expectancy of the population. In Denmark, the retirement age will gradually be raised from 65 to 67 years by 2022, and will then be linked to life expectancy. Other components is the opportunity to work part-time during the last few years of one's working life as well as other initiatives to make working life more sustainable.
- Sweden would benefit greatly from taking bold measures over the next few years to address these five priorities in a similar way to how the country tackled the economic problems it faced in the 1990s. If it does, we believe Sweden will be in a good position to maintain or even exceed its historical growth rate and continue to climb the international wealth league.

\* \* \*

We hope this report will serve as a valuable basis for the debate on the best way for Sweden to secure its future economic welfare.



# Historical background

Several countries in Europe and the United States are struggling with public debt issues and anaemic growth as a result of the financial crisis. In light of this, the Swedish economy is often held up as a model internationally. With an economic growth rate that has exceeded the growth rates of the EU-15 and the United States over the last 15-20 years, Sweden has advanced from 14th place in the OECD's ranking of countries by wealth in 1993 to 11th in 2010. This growth is largely driven by increased productivity and businesses that are exposed to international competition have been the strongest engines of growth. Increased competition, skilled labor, a collaborative relationship between employers and employees, and a strengthened economic and political framework have been key enablers of this growth.

This chapter describes Sweden's economic performance over the period 1993-2010 and explains the underlying drivers and enablers that have been identified in the study.

## *Sweden climbing the wealth league again*

In 1970, Sweden was placed fourth in the OECD's ranking of countries by GDP per capita, but fell to number 14 in 1993. The main reason was stagnating productivity growth, largely due to insufficient competition in many markets<sup>11</sup>. In the 1980s, Sweden devalued its currency on several occasions to maintain its competitiveness. However, these actions only fuelled inflation and created a need for further devaluations. In the early 1990s, Sweden faced a severe financial crisis as the real estate bubble that had been inflated in the latter part of the 1980s burst, resulting in significant credit losses and a crisis in the banking sector. Coupled with a cost level in the economy that was too high and a failed attempt to defend the country's fixed exchange rate, this led to a deep recession in which GDP contracted for three years in a row, unemployment increased by a factor of four and the public deficit ballooned to double digits.

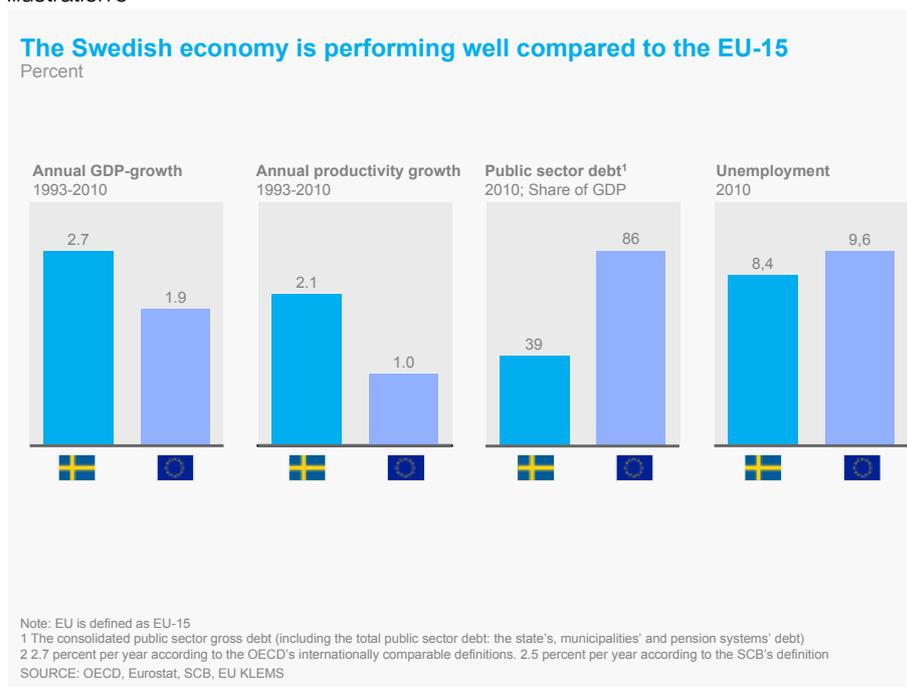
The Swedish economy reached a turning point in 1993-1994 and since 1993 Sweden has once again been climbing the OECD wealth league (ranking of countries by wealth). Using Swedish metrics, Sweden's GDP increased at an annual rate of 2.5 per cent 1993-2010. Using the OECD metrics, for international comparisons, Swedish GDP grew at an annual rate of 2.7 per cent while GDP per capita increased by 2.3 per cent per year 1993-2010. This implies that Sweden has grown faster than both the United States (2.6 per cent against 1.5 per cent per year, respectively) and the EU-15 (1.9 per cent and 1.4 per cent per year, respectively). Sweden now place 11th in the OECD's wealth ranking, with a GDP per capita that is 15 per cent higher than the OECD average

Today, Sweden also perform well on other metrics that are commonly used to assess a country's economy. Public debt is comparatively low and unemployment is lower than in the EU-15 (illus. 5). As a result, the Swedish economy is today often held up as a model for other countries, not least in the light of the public debt problems in Europe and the United States.

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<sup>11</sup> See, for example, OECD Economic Surveys – Sweden (1989).

Illustration 5

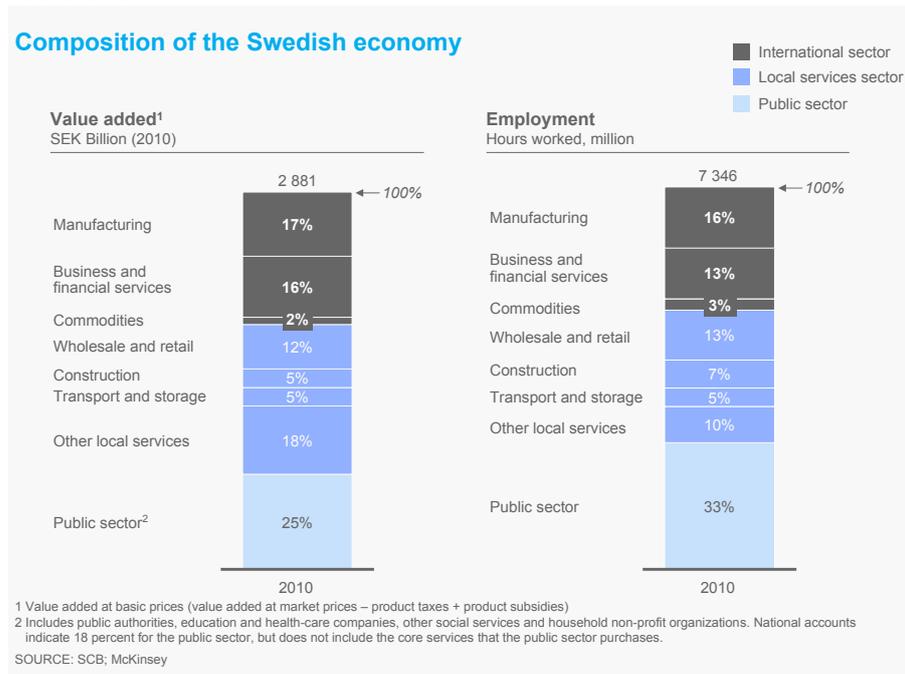


In this study we have chosen to use the period 1993 to 2010 as a starting-point for our historical analysis, as the years 1993-1994 marked such a turning-point in the Swedish economy. Therefore, it is difficult to draw common conclusions for the periods before and after this turning-point. During the course of our work we have been asked whether our choice of 1993 paints an overly rosy picture of history. This turns out not to be the case: Sweden's growth and productivity trends are similar regardless of which year in the period 1993-1997 is selected as the baseline.

### *The international sector has been a strong engine of growth*

To improve our understanding of Sweden's economic performance, this report segment the economy into three broad sectors: the international sector, the local services sector and the public sector (illus. 6). Of these, the local services sector has the largest share of GDP (40 per cent in 2010), followed by the international sector (35 per cent in 2010) and the public sector (25 per cent in 2010). In terms of their share of employment, the public sector accounts for a larger share of the economy (33 per cent in 2010) and the two other sectors for slightly less.

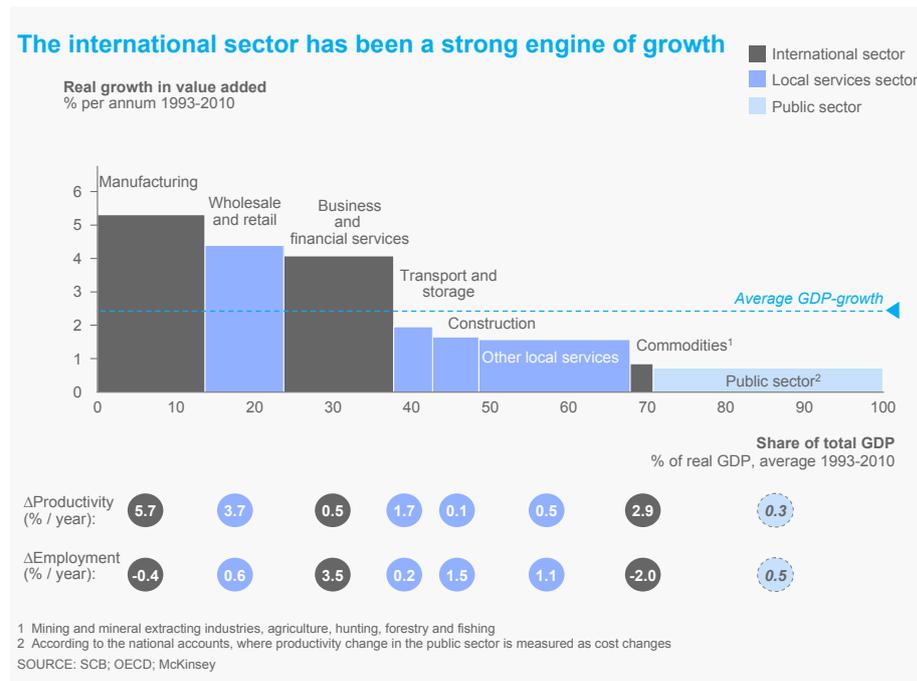
Illustration 6



The growth rates of these sectors over the period 1993-2010 diverge significantly (illus. 7). The international sector has been the strongest engine of growth, achieving an average rate of value added growth of an impressive 4.3 per cent – considerably more than the average growth rate of the economy of 2.3 per cent annually. The local services sector increased its value added by an average of 2.2 per cent annually, although there are significant differences within the sector, with a high growth rate in the wholesale and retail industry (4.4 per cent per year) and significantly lower growth rates in other industries. According to the national accounts, the public sector increased its value added by 0.7 per cent per year over the period. Yet, the picture of the public sector painted by the data is only partially true: up until the early 2000s productivity growth in the public sector, according to the national accounts, was by definition close to zero, as value added was defined as total salary costs including social-security contributions plus consumption of fixed capital, i.e. with no adjustment for production. However, Statistics Sweden has recently started to publish productivity metrics for large parts of the public sector and the trends in the 2000s. Although productivity growth is difficult to measure in the public sector, Statistics Sweden's measurements – like older Swedish studies – point to a weak productivity growth in the public sector (-0.5 per cent annually from 2002-2008, according to Statistics Sweden's measurements<sup>12</sup>).

12 See, for example, the Swedish Agency for Public Management's report "Förutsättningar för en samlad och systematisk uppföljning av kvalitet, produktivitet och effektivitet i offentlig sektor" (2011). The survey only includes the individual services, which account for about two thirds of the public sector.

Illustration 7



Growth patterns differ significantly between the sectors:

*The international sector.* The international sector consists mainly of the manufacturing industry and business and financial services. Productivity growth in the Swedish manufacturing industry has generally been very strong (5.7 per cent annually from 1993–2010) and only a small number of fast-growing emerging economies such as China and Brazil have been growing faster. Employment has declined somewhat, although significantly less than in other European countries. Business and financial services have grown, however, mainly thanks to an increase in employment (3.5 per cent annually from 1993–2010) while productivity growth has been low (0.5 per cent annually from 1993–2010). Even in international comparisons, Sweden’s employment growth in business and financial services was high during the period for which comparable data is available (0.5 percentage points higher per year than in the EU-15 and 1.1 percentage points higher per year than in the United States from 1993–2006). Productivity growth was also 0.5 percentage points higher than in the EU-15 from 1993–2006. Commodities has grown in line with Europe but at a significantly slower pace than in Australia, South Africa, China and other commodity-rich nations.

*The local services sector.* The local services sector comprises a number of different industries, and growth patterns have varied significantly between the industries. The wholesale and retail industry achieved a prominent productivity growth of 3.7 per cent per year 1993–2010<sup>13</sup>. Transport and storage saw annual productivity growth of 1.7 per cent 1993–2010 but still grew at a slower pace than most other Western economies.

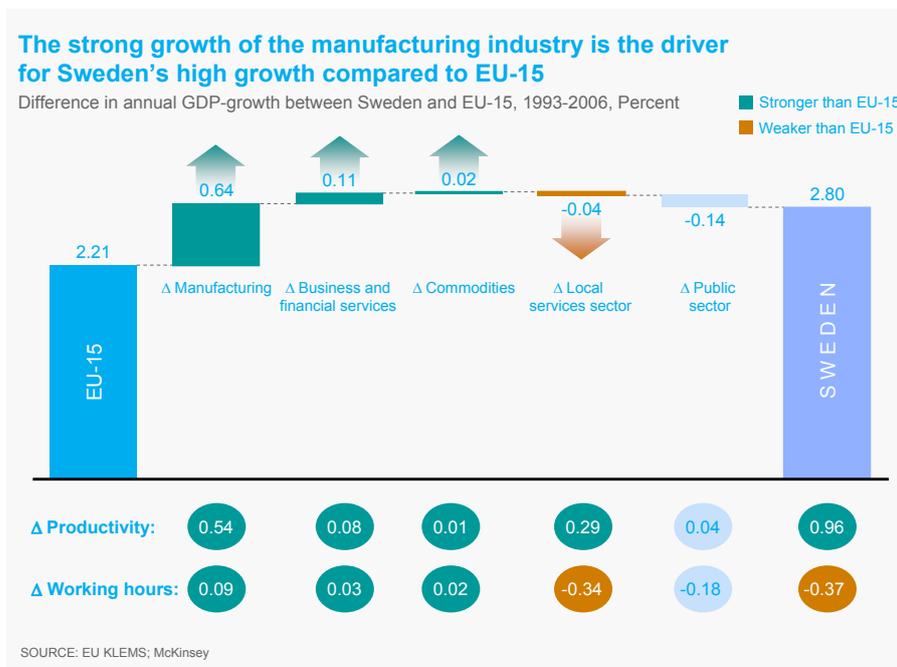
<sup>13</sup> Quality-assured and comparable productivity data at industry level is currently available only for the period until 2006 for the EU-15 and for the period until 2007 for the United States.

The construction industry has grown on the back of increased employment (1.5 per cent per year 1993-2010) while productivity growth has been weak, as in most other EU-15 countries. As a whole, the local services sector grew in line with other European countries 1993-2006, with the difference that productivity growth was higher than in the EU-15 while employment growth was weaker.

*The public sector.* Internationally comparable productivity data for different parts of the public sector is not available, thus, it is difficult to assess the Swedish public sector's efficiency relative to other countries. However, there is a clear trend of the sector's share of total GDP and employment declining in Sweden while it is increasing in many other European countries. Although the Swedish public sector is still comparatively large (5 percentage points higher as a share of GDP than the average for the EU-15 in 2009), the gap has narrowed over the last 10-15 years (7 percentage points higher as a share of GDP than the EU-15 average in 1995).

In summary, overall economic growth has been good, but it is only one of the three sectors (the international sector) that has been an indisputably strong engine of growth, while the local services sector has only grown in line with the EU-15 average and the public sector has not increased its value add at all. It is thus primarily the strong performance of the manufacturing industry that explains why the Swedish economy has grown faster than the EU-15 over the period (illus. 8)<sup>14</sup>.

Illustration 8



<sup>14</sup> Comparable figures for the EU-15 are available only for the period until 2006. An indicative analysis of national data from 2007-2010 suggests that the pattern is the same for the whole of the period 1993-2010.

### *More work and improved efficiency*

An evaluation of productivity and employment trends in the Swedish economy as a whole – on top of the sector-by-sector evaluation above – shows that around two thirds of the

2.5 per cent annual growth rate in the Swedish economy since 1993 is attributable to increased productivity, and one third to an increase in the number of working hours.

Thus, the value of each working hour in Sweden increased by about 1.7 per cent per year from 1993 to 2010. Compared with other countries, this is a rapid pace of growth as it is almost one percentage point higher than in the EU-15 up until 2006 (as far as comparable productivity data is available for the EU-15).

The number of working hours in Sweden increased by about 0.7 per cent annually from 1993 to 2010. Business and financial services and the public sector experienced the highest growth rate in working hours, while the manufacturing industry and commodities experienced a decline. In aggregate, these trends have resulted in an increase of 12 per cent in the number of working hours over the period. The much discussed employment rate, defined as the number of employed people aged 15-64 as a proportion of the total population in the same age group, thereby increased from 72.5 to 74 per cent over the same period (illus. 9). Overall, Swedes today work nearly eight per cent more hours per capita than the average citizen in the EU-15, but about four per cent less hours than in the United States<sup>15</sup>.

What distinguishes Sweden in comparisons with other countries is that a high proportion of 15-74-year-olds are in employment but the number of annual working hours per employed person is relatively small (illus. 10). In particular, Sweden has a high rate of labor force participation among women (87 per cent against 78 per cent in the EU-15 and 76 per cent in the United States) and elders (74 per cent of people aged 55-64 against 51 per cent in the EU-15 and 65 per cent in the United States).

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<sup>15</sup> Figures for 2009. The EU-15 is calculated as an average value weighted by the total population. Comparisons with other countries are based on the OECD's surveys.

Illustration 9

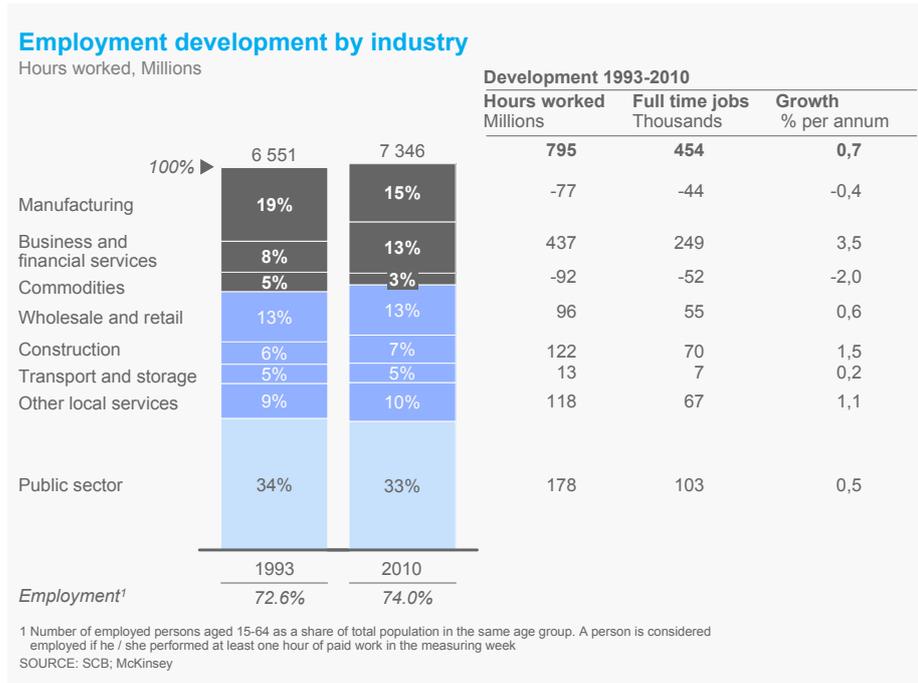
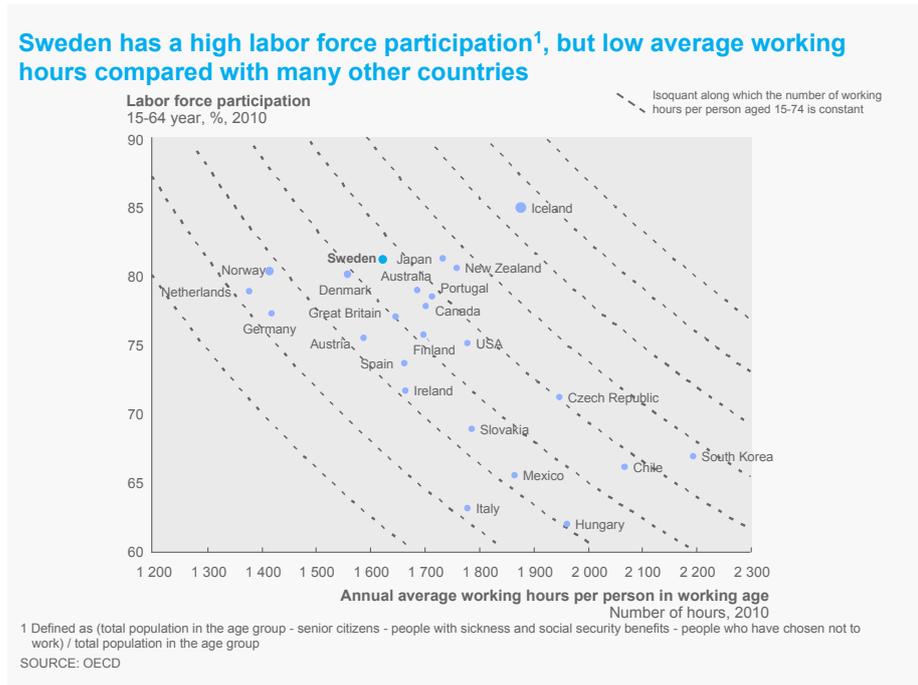


Illustration 10



### *Four success factors*

As we just described, the economic crisis in the early 1990s marked a turning-point for the Swedish economy. This study has identified four explanatory factors behind Sweden's strong performance in the last 15-20 years. It is important to bear these in mind in discussions about priorities for the Swedish economy.

#### **Qualified labour and a constructive relationship between employers and employees.**

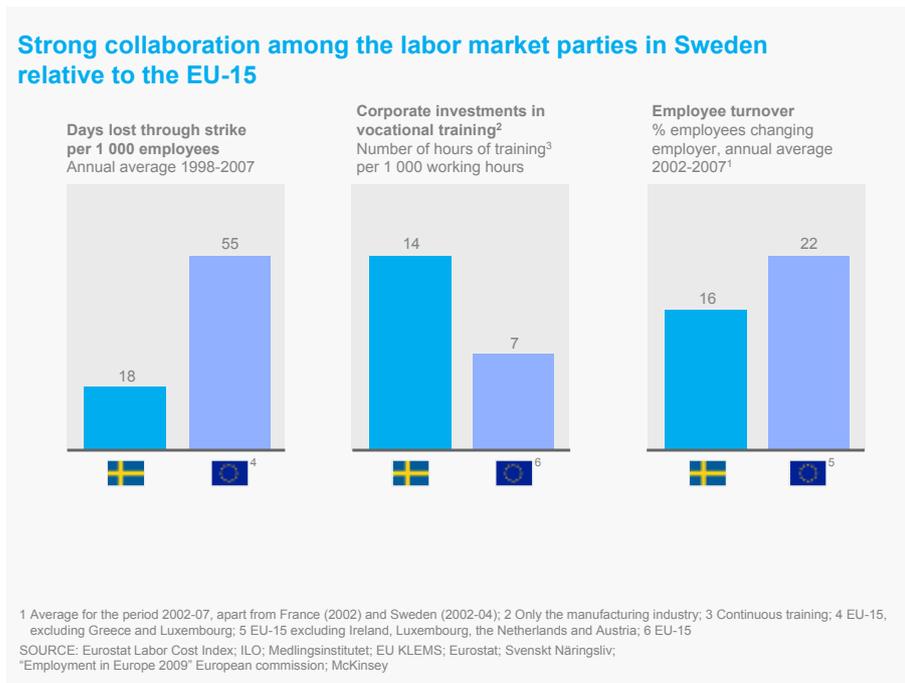
Until the mid-1990s, Swedish schools were among the top ten in the world according to the international TIMMS ranking (4th place in 1995). Sweden distinguishes itself in terms of a number of key parameters on the relationship between employers and employees: the number of days lost to labor disputes is significantly lower than in other OECD countries, Swedish employers invest more in developing the competence of their employees than in any another OECD country and salary statistics point to a shift towards higher value added activities, and employees in Sweden stay in their jobs for longer than employees in other countries (illus. 11). Altogether, these factors contribute to a skilled labor supply with experience and a high level of competence.

In Sweden, there has also been a consensus that the sector that is exposed to international competition should influence the level of salary increases also in other sectors. In 1997, the Agreement on Industrial Development and Wage Formation, or "Industrial Agreement", was concluded between unions and employers in the manufacturing industry<sup>16</sup>. The agreement has created a greater scope to set salaries on an individual basis at workplaces and has enabled employers to make greater use of salary levels to incentivise employee productivity and raise the premium on education. In 2011, a new Industrial Agreement was concluded, and it is hoped that the constructive relationship between unions and employers will continue.

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16 Including IF Metall, the Paper Workers Union (Pappers), the Association of Graduate Engineers (CF) and the Union of Clerical and Technical Employees in Industry (SIF) on the one hand, and Teknikföretagen, the Forest Industries Association and the Steel and Metal Employers Association on the other.

Illustration 11

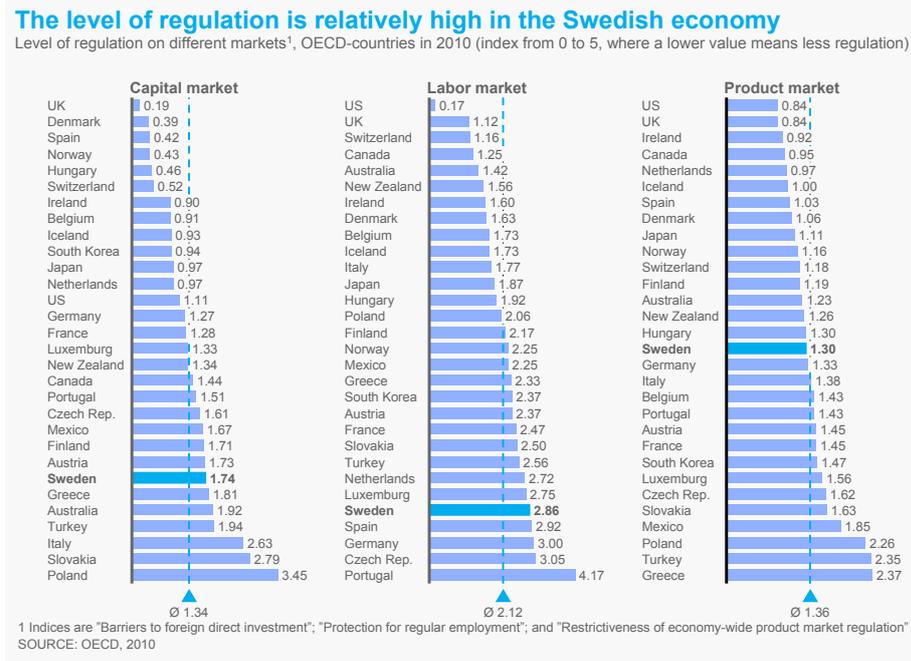


### Deregulation and increased competition

One of the key driving forces behind the increased productivity is the increased competitive intensity. From 1993 to 2010, competition in many areas of the Swedish economy intensified, mainly driven by the deregulations in the 1980s and 1990s, notably in the telecom, electricity, gas, postal, retail and banking sectors. Competition laws were also strengthened through the introduction of clearer laws against cartel formation and exploitation of a dominant market position. Following the creation of the World Trade Organization (WTO) in 1995, customs duties for industrial goods were lowered by an average of 40 per cent in the industrialised nations. Sweden also joined the EU in 1995, which facilitated free movement and international trade in several areas. These changes encouraged an increase in productivity. A study published by the OECD suggests that reduced barriers to market entry added about 0.4 percentage points to annual productivity growth over the period 1994-2003<sup>17</sup>. Many other countries have seen a similar development. Thus, product markets in Sweden are currently slightly less regulated than the OECD average, while the capital market and labor market are more regulated (illus. 12).

<sup>17</sup> "How regulatory reforms in Sweden have boosted productivity", Economics department working paper no. 577, OECD (2007).

Illustration 12



### Favourable international market development and successful MNCs

Sweden's international sector consists mostly of MNCs. The ten largest manufacturers directly account for one third of growth in the manufacturing industry and even more if the contribution from subcontractors is included. Sweden's large companies have been unusually successful compared with other countries. Over the period 1993-2010, Sweden's 50 largest listed companies generated a total shareholder return of 17 per cent annually, compared with 11 per cent in the United States and 12 per cent in Germany<sup>18</sup>. Several key drivers have interacted to create this favorable situation (see the chapter on the international sector): 1) Swedish companies were early to globalize their businesses, and were thus able to benefit from the strong growth in global demand and rapid increase in international trade (international trade grew at a 50 per cent higher rate than the global economy from 1993 to 2010), 2) Swedish companies have had access to skilled labor and have established a constructive relationship with their employees, 3) Sweden and Swedish companies have made significant investments in R&D, and 4) Sweden appears to benefit from professional leadership (the country's managers are ranked second out of 12 in a study produced by the London School of Economics, which through 4,000 interviews evaluates how professionally managers in different countries handled different types of leadership issues<sup>19</sup>). Finally, the fact that large companies are, on average, better than small companies at driving productivity growth, has benefitted Sweden more than other countries as Swedish has a higher ratio of large companies to small<sup>20</sup>.

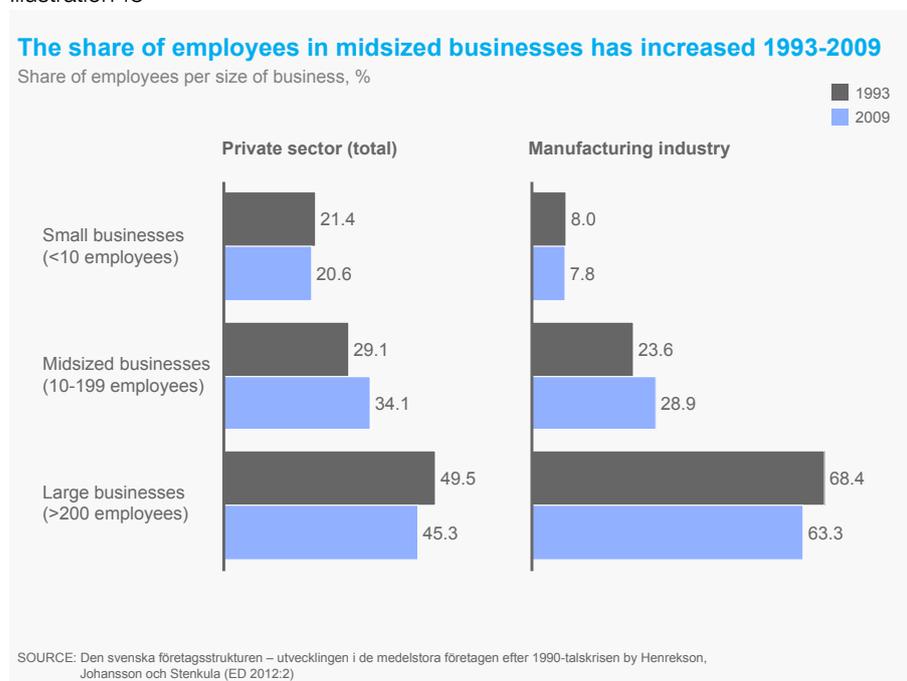
18 Only companies that were listed on an exchange throughout the period concerned were included: 28 in Sweden, 41 in the United States and 34 in Germany.

19 "Management Practice and Productivity: Why They Matter", Centre for Economic Performance at the London School of Economics and McKinsey (July 2007).

20 "Growth and competitiveness in the United States: The role of its multinational companies", McKinsey Global Institute (2010).

Yet, Sweden's successes are not only due to its large companies. Over the period 1993 to 2009, medium-sized companies also increased their share of the total number of employees, which resulted in a more "normal" corporate structure in a European context. Sweden no longer stands out as a country with unusually few medium-sized companies (illus. 13). Henrekson et al. identify improved conditions and incentives for enterprise, such as increased flexibility in the labor market and in wage formation, deregulation and the tax reform, as some of the key reasons behind this shift<sup>21</sup>.

Illustration 13



### A stronger economic and political framework

During and after the crisis in the 1990s, a number of key reforms were implemented through cross-party decisions. These laid the foundation for a stable macroeconomic framework<sup>22</sup>. Even before the crisis, in 1991, an extensive tax reform (the "tax reform of the century") was implemented, resulting in lower rates of marginal income tax, lower rates of corporate tax, a broader tax base and more uniform taxation of different types of income. In the mid-1990s, a pension reform was implemented, which introduced self-funding and linked the size of pensions to economic performance. This created a more robust pension system and strengthened incentives to continue working in old age. In the second half of the 1990s, new budget rules were also introduced: a process for budget decisions in which the Swedish parliament is required in a single context to decide on total government expenditure, a surplus target for public finances and a government expenditure ceiling.

21 "Den svenska företagsstrukturen - utvecklingen i de medelstora företagen efter 1990-talskrisen", Magnus Henrekson, Dan Johansson and Mikaela Stenkula (2012).

22 See, for example, "Sweden from Macroeconomic Failure to Macroeconomic Success", Lars Calmfors (2012).

Taken together, these reforms helped to significantly strengthen Sweden's public finances over this period. Public debt, for instance, was reduced from 77 per cent of GDP in 1993 to 39 per cent in 2010.

### *A robust economy with a high but possibly declining rate of inclusiveness*

In addition to economic growth, McKinsey Global Institute also uses the terms robustness and inclusiveness to analyze a country's economy. Robustness is defined as the economy's resilience to various forms of external shocks, and also includes sustainability criteria, such as emissions of greenhouse gases. Inclusiveness refers to the distribution of economic opportunities across society.

Sweden performs relatively well along these two dimensions. As regards robustness, Sweden has, as we have shown, healthy public finances, as well as a diversified business sector for a country of Sweden's size (with clusters in the automotive, capital goods, process manufacturing, telecom, consumer products and pharmaceutical industries) and a high rate of labor force participation. However, Sweden has a high exposure to individual companies, with the ten largest companies accounting for 35 per cent of growth in the manufacturing industry, which creates a certain vulnerability.

The economy's resilience was demonstrated during the global financial crisis in 2008–2009. Sweden initially took a comparatively big hit from the crisis due to the country's significant export dependence, and GDP declined by 5 per cent in 2009. A floating exchange rate which depreciated during the crisis and a fiscal policy which, thanks to Sweden's low public debt – 39 per cent of GDP in 2010 compared with an average debt of 86 per cent in the EU-15 – could be made relatively expansionary helped to ensure that the Swedish economy recovered faster than in other countries<sup>23</sup>. Encouraged by a recovery in exports, this contributed to a 6 per cent increase in Swedish GDP in 2010 and a further 5 per cent from the first to third quarters of 2011.

From an environmental perspective, Sweden compares favourably with other European countries in several of the most commonly used dimensions. For example, Sweden emitted

6.5 tonnes of greenhouse gases per capita in 2010, compared to 11.5 tonnes in the EU-15. However, Sweden's emission levels are still much higher than what climate researchers deem to be sustainable (1-2 tonnes per capita).

This high level of robustness does not mean that Sweden is not facing challenges. There are several threats to the Swedish economy, but these are of a more long-term nature. These challenges are described in a separate chapter later in this report.

Sweden's *inclusiveness* is relatively good compared with other countries, but the trend is pointing in the opposite direction. The so-called gini coefficient indicates the degree

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<sup>23</sup> See, for example, the Swedish Fiscal Policy Council's reports "Swedish Fiscal Policy" reports (2010 and 2011).

of income distribution on a scale of 0 (=no income distribution) to 1 (=maximum income distribution). Sweden's gini coefficient has increased from 0.21 in 1993 to 0.24 in 2010, compared with 0.30 in the EU-15 in 2010. It is hard to objectively define what the "right" level of income distribution is, but it is worth noting that the distribution has increased since 1993. Another cause for concern is the long-term unemployment, and its clearly negative social consequences, that has fluctuated between 70,000 and 130,000 individuals since 2001.

\* \* \*

In the following three chapters we will provide a detailed description of recent developments in the public sector, the international sector and the local services sector.



# Public sector

With a total consumption and investments of about SEK 1,000 billion (31 per cent of GDP) and nearly a third of total employment, Sweden's public sector accounts for a significant share of the country's economy<sup>24</sup>. Several important services are performed every day in the sector. Since the mid-1990s, expenditure excluding transfers has remained largely constant relative to GDP. Thanks to the efforts to restore fiscal health in the 1990s and a disciplined budget process, Sweden now has strong public finances and the country's public sector stands strong in international comparisons with high quality and efficiency. However, there are a number of challenges ahead. An ageing population and growing demands for welfare services are putting increased pressure on public finances. Productivity growth in the public sector has also been weak. Thus, significant improvements are needed to meet the growing needs.

The public sector has an ample scope to raise its productivity (in terms of both quality effectiveness and cost efficiency). Several government agencies (including the Migration Board and the Tax Agency) have shown that it is possible to raise productivity by 25-30 per cent in a relatively short space of time, and it is important to ensure that all areas of the public sector are now given the opportunity to do the same. The ambition in terms of productivity will of course express itself in different ways in different areas of the public sector depending on the starting-point and the priorities that we as a society choose to make. It is likely that the focus in healthcare will be on improved quality and on handling the growing demand, that the focus in the school system will be on improved quality, while the focus in public administration will be on delivering today's services at a lower cost.

In the following sections, we provide a detailed description of how productivity improvements can be achieved as well as concrete examples in two important areas: education and healthcare.

## *A large public sector with more or less unchanged consumption and investment spending relative to GDP since the crisis in the 1990s*

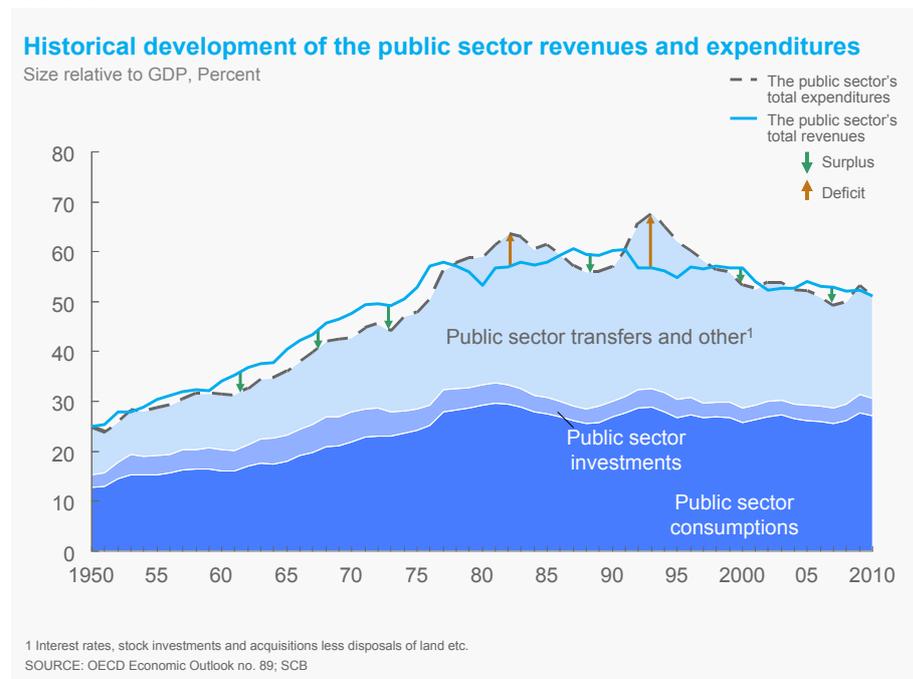
A large public sector has long been a key part of Swedish society and has coloured other countries' perception of Sweden as a country. The expansion of the public sector largely happened in the three decades after WWII. From 1950 to 1980, the sector's share of consumption and investment spending increased from 15 to 33 per cent of GDP, while total public spending went from 25 to 59 per cent<sup>25</sup> (illus. 14). In 1960, Sweden's total public expenditure relative to GDP was close to the OECD average, but in the early 1980s it was nearly 20 percentage points higher.

24 In addition to this, there are primarily expenditures for transfers (approx. 20 per cent relative to GDP). Transfers are a cornerstone of Swedish redistributive policies and are dependent on political decisions. In our continued discussion we will focus on consumption and investment expenditure, as these constitute the actual activity of the public sector (and where it is meaningful to talk of productivity and jobs).

25 Consumption expenditure, investment expenditure, transfers, interest expenses and other spending (including inventory investments and the acquisition of land). Measured in accordance with Statistics Sweden's definitions, which result in slightly lower total expenditure than when the OECD's definitions are used.

The economic crisis in Sweden in the early 1990s had serious repercussions on the public sector. Total expenditure was reduced from 69 per cent of GDP in 1993 to 54 per cent in 2000. The change was primarily driven by lower transfers (11 percentage points relative to GDP due to cuts to pensions, unemployment insurance and health insurance) and the removal of bank support schemes<sup>26</sup>. Since then, total consumption and investments has remained relatively stable relative to GDP (around 30 per cent). From 1993 to 2009, costs relative to GDP increased mainly for healthcare (0.8 percentage points), general public administration (0.4 percentage points), and transports (0.4 percentage points). At the same time costs relative to GDP fell mainly in the areas of defence (-1.4 percentage points), leisure activities, culture and religion (-0.6 percentage points), and social security (-0.5 percentage points). Costs for education remained largely unchanged relative to GDP during the period. Today the public sector accounts for about 29 per cent of total employment (i.e. about 1.25 million people). The largest cost item is transfers, accounting for about 4 out of every 10 kronor in tax revenues. This is followed by healthcare, education and general public administration, which each account for 13-14 per cent of spending. Infrastructure, construction, and trade and industry account for about 10 per cent, while the police service, defence and judicial system account for about 4 per cent (illus. 15). Comparing Sweden with the EU, it can be noted that the 13 per cent of tax revenues spent on healthcare and 13 per cent spent on education in Sweden are in line with the average for the EU-27.

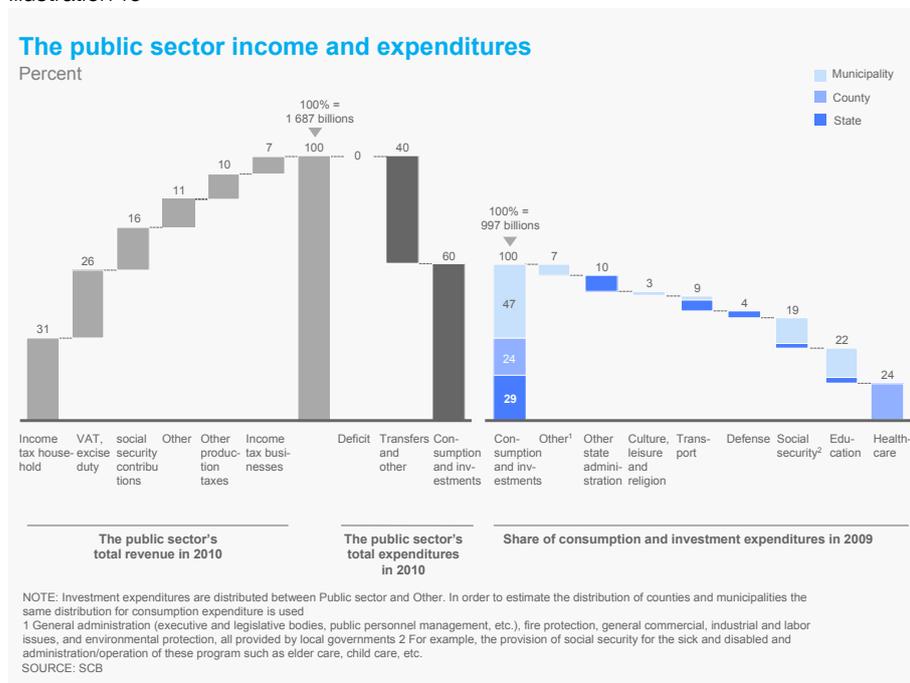
Illustration 14



<sup>26</sup> Bank support totalling about SEK 70 billion was issued to Gota Bank, Nordbanken, Föreningsbanken and Sparbanken. A relatively large portion of this support was later returned to the public exchequer through the sale of primarily real estate assets held by Securum, a vehicle set up by the government to manage the most high-risk credits and share holdings that had been transferred from the banks.

Sweden has one of the world's largest public sectors, both in terms of expenditure relative to GDP (31 per cent of consumption and investment spending relative to GDP) and in terms of the share of people working in the public sector (29 per cent of the labor supply). Because of its size, it is even more important in Sweden than in most other countries that the public sector operates efficiently and makes a positive contribution to productivity growth.

Illustration 15



### *Productivity growth is necessary and possible*

The demands on the public sector are increasing. The ageing population is increasing the dependency ratio (the number of people not of working age divided by the number of people of working age, i.e. aged 20-64). As nearly half of all public revenues come from household income taxes and social-security contributions, the revenues are sensitive to the size of the share of the population that is working. Over the next 20 years, the Swedish population is set to age. This means that the so-called dependency ratio is set to rise from 0.71 to 0.83 between 2010 and 2030 after being constant the last 50 years. Even more interesting to look at, is the real dependency ratio, which is defined as the number of people not in employment divided by the number of people in employment<sup>27</sup>. On the assumption that working patterns will remain unchanged and unemployment stable, the real dependency ratio is expected to rise from 1.32 to 1.49 between 2010 and 2030. This means that for each person in full-time employment there will be one and half people not in employment. And in addition, as living standards improve further, the expectations

27 Adjusted for working hours (full-time and part-time work) to describe man-years. The expected number of hours worked for different age groups is calculated based on the assumption that the groups will continue to work to the same extent as today.

on the quality and availability of welfare services increase<sup>28</sup>. This applies, for instance, in healthcare, where there is a connection over time between rising incomes and the share of GDP that is spent on healthcare. Technological advances also mean that a greater number of diseases can be better treated or cured, often with the help of expensive drugs or technologies. There is also an underlying tendency towards a faster pace of cost inflation in the public sector than in the economy as a whole, as the public sector is staff-intensive<sup>29</sup>.

These growing demands mean that either funding or productivity needs to increase. Earlier estimates made by the Swedish Association of Local Authorities and Regions (SKL) have shown that if these demands are to be met using the funding route, local and regional taxes would need to be raised by nearly half (from the current level of around 30 per cent to around 50 per cent) over the next 20-30 years<sup>30</sup>. It is unlikely that such an increase is either possible or desirable, which is why productivity increases are necessary to maintain and increase the quality and availability of welfare services.

Historically, productivity growth in the public sector has been weak (though it should be added that measuring public-sector productivity is fraught with problems<sup>31</sup>). In the 1990s, for instance, the Expert Group on Public Finance conducted a study which pointed to an annual decline in productivity (based on the number of tasks performed in relation to resourced used) in five of the six five-year periods between 1960 and 1990. Statistics Sweden is currently working on improving the way it measures productivity in the public sector. In a new approach, the number of tasks performed (at a more detailed level) is measured and related to the number of hours worked. The initial results point to an annual decline in productivity in individual public-sector service providers of ~0.5 per cent over the period 2002-2008 (illus. 16)<sup>32</sup>. However, a lot of work remains to be done to obtain fully reliable figures. The quality of the services that are performed, for instance, needs to be measured in a better and more comprehensive way to ensure a true and fair view of quality improvements in the statistics.

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28 See, for example, the main report in "Långtidsutredningen 2008", Chapter 7.

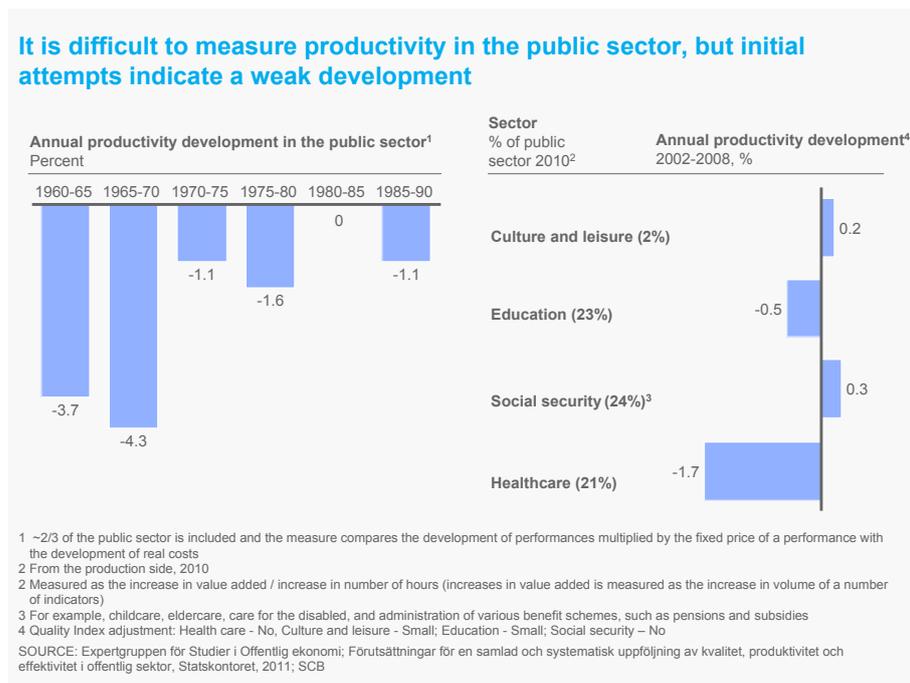
29 The phenomenon is called "Baumol's cost disease" after American economist William J. Baumol.

30 "Framtidens utmaning - Välfärdens långsiktiga finansiering", Swedish Association of Local Authorities and Regions (SKL) (2010).

31 Productivity in the public sector has not been measured historically in the national accounts, partly because it is difficult to measure quantity and quality in the various services that are produced without a pricing mechanism, as the services are not priced on a market. Instead, the cost (in the form of salaries and payroll taxes paid plus consumption of fixed capital) is used in place of the value added. Productivity growth is defined as the increase in value added (costs) divided by the increase in employment. As value added in a large part of the public sector is calculated in real terms based on hours worked, productivity growth was by definition close to zero.

32 Services which have a clear recipient and are produced primarily in the healthcare, culture and leisure, education and social security sectors. In 2009 these sectors accounted for about two thirds of the public sector's consumption and investments. The remaining third mainly produces collective services which benefit everyone, such as fire services and land use planning.

Illustration 16



There are, however, several examples from various parts of the public sector in Sweden and other countries which show that it is possible to achieve considerable quality and productivity improvements over a relatively short period of time (see fact box). In many cases the two effects go hand in hand; working towards clear quality targets results in productivity increases and vice versa.

### Fact box: Examples of productivity increases in the public sector

**The Swedish Migration Board** carried out a programme of change which halved lead times and increased annual productivity by four per cent. The Migration Board handles asylum and citizenship issues and the disbursement of central-government funds to municipalities and county councils for people that have received a residence permit. In the 1980s and 1990s the Migration Board experienced difficulties arising from wide fluctuations in the number of asylum applications (from a low of around 6,000 to a peak of around 84,000 per year), depending on where and when troubles arose around the world. However, processing times for asylum applications were also long. From 1993 to 2010 the average was around 230 days, with a peak of around 402 days in 1997.

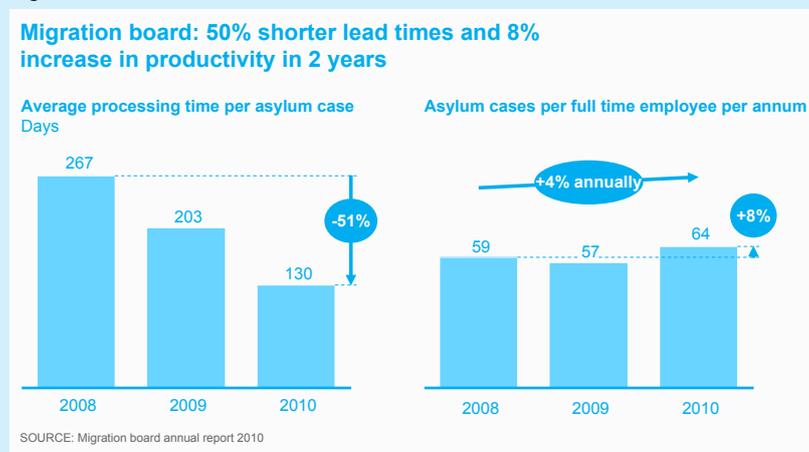
In 2004, the government (as the principal) set a clear target, which put pressure on the authority. In its appropriation directions for 2004 the government defined the target as “open cases that have not been resolved in the first instance may not be more than six months old”. In the same year the Migration Board set an internal target of a maximum lead time of six months for 60 per cent of all open cases (i.e. cases still being processed), which the National Audit Office later stated differed from the government’s appropriation directions. The long processing times remained, however, and from 2001 the annual average remained above 200 days until 2007. Towards the end of 2007, the Migration Board decided to address the situation and improve the efficiency of the process. An ambitious improvement program was launched to get to grips with the long processing times. Inspired by the principles of Lean manufacturing, the Board introduced a project named “Less Waiting”, which began by addressing the asylum application process and has since been rolled out across the whole organization. Two main themes in Lean that the Migration Board seized on, were to find a structured way to continually implement improvements and to base all activities on the needs of the customer in the process experienced by the customer as the case is being processed.

- Continuous improvements were achieved by introducing more appropriate teams, structured morning meetings at which each employee’s tasks for the day were reviewed and discussed, a focus on coaching, and structured weekly problem-solving meetings.
- The customer’s experience became the focal point in a new work method which in a structured way addressed those areas requiring attention and ideas that were identified by customer-facing staff, and made it easier to solve problems and make improvements which can be spread through the organization.
- The Board also took a comprehensive approach to operational execution by involving the most qualified staff at an early stage of the process.

The result was a halving of lead times from 267 days in 2008 to 130 days in 2010. Productivity also improved (defined as the number of processed asylum applications per employee) by four per cent per year (fig. 1). The cost per day of residence, according to the Migration Board’s annual report, is SEK 355, and based on the assumption that the average number of asylum applications will be close to

the average for the past five years (SEK 28,000 per year) the reduction in lead times would result in annual savings of over one billion kronor. These cost improvements have not affected the quality of the process; quite the contrary: the number of successful appeals in the Migration Court has fallen, for instance.

Figure 1



**Cutting lead times in the Swedish Police through Lean.** The Swedish Police has also succeeded in cutting lead times in several areas of activity, notably at the Border Police Department in Skåne. If an asylum application is unsuccessful the applicant is required to return to his homeland. If the person does not return voluntarily responsibility for ensuring that the person concerned returns to his homeland passes to the Border Police. The Border Police has been struggling with long lead times for many years, resulting in higher costs as well as a lower quality for the individual asylum applicant, who suffers from the uncertainty and will in many cases face increasing difficulties returning to normal life the longer the time away has been. As in the case of the Migration Board, the government demanded in its appropriation directions for 2011 that the Police, the Migration Board and the Prison and Probation Service should work together to speed up the process. The Border Police in Skåne was selected to carry out a pilot project based on Lean principles. Just like the Migration Board, the Border Police focused on striving for continuous improvements and on putting the “customer contact” centre-stage. Key elements of the approach were to segment and standardize work methods and to operate in well-defined teams. Segmentation meant that the work was divided into two types of cases based, for instance, on how much is known about the individual. This enabled specialised teams to develop standardised work methods and thus become more effective at handling their particular type of cases. Each team was assigned a team leader and daily meetings were introduced to discuss the next step, set priorities and solve problems together. The measures taken have made it possible to, through those employees that are in closest contact with the persons facing deportation, efficiently identify improvement areas. The improvement activities cut lead times in the deportation process by 20–60 per cent while productivity increased by 25 per cent in 2011 compared to the levels in 2009–2010.

*Principals and public-sector service providers should work together to create mechanisms which lead to improvements.*

Several examples show that it is possible to realise significant improvements in the public sector, and most organizations in the public sector are working continuously to improve their service. Even so, the available figures show that productivity increases are not being achieved on a broad front. So what is holding things up?

A key reason is a shortage of competition-like mechanisms. Private businesses continually operate under a pressure to perform as a result of competition. In most industries competition is effective, which means that a company which does not continually improve (through higher quality, new products, lower costs) is at risk of losing out to its competitors and going out of business. In the private services sector the efforts made by all service-sector companies add up to an annual productivity growth of 1.4 per cent<sup>33</sup>. McKinsey Global Institute's sector-level studies of productivity in more than 20 countries (including Sweden) also show that competition is the key driver behind productivity growth<sup>34</sup>. In the public sector there is not the same external pressure to perform as in the private sector, as a competitive environment is not present to the same extent. In large sections of the public private sector it is not possible nor desirable to introduce competition in the same way as in the private sector. Nor is there, based on currently available research, a clear connection between exposure to competition as such and productivity growth in the public sector, as shown, for instance, in a report from SNS on the effects of competition and privatization in the public sector<sup>35</sup>. Exposing a public service to competition without the right structure and follow-up could prove counterproductive (for instance, if oligopolistic structures, poor availability of information for customers or lock-in effects create a situation where competition becomes ineffective). It is possible, however, to introduce other mechanisms which increase the pressure to perform in the public sector by improving the interaction between principals and public-sector service providers.

There are two main roles in the public sector: principals (the parliament and government, municipal administrations or county councils) and service providers (government agencies, individual hospitals and schools, etc.) The principals are responsible for allocating funding and defining the mission and objectives of each public-sector service providers. The service providers are then responsible for realising their defined mission. The interaction between the two roles is of key importance for achieving improvements. The principals and service providers first need to define a common agenda with a clear priority to deliver more and better services using the same or less resources throughout the public sector. The principals also need to conduct a systematic review of all major parts of the public sector and develop a robust plan for how to improve productivity in each area. This plan needs to be more ambitious and go beyond the continuous improvement work that is currently ongoing in most public-sector service providers. The improvement

33 Business and financial services, wholesalers and retailers, property services, transport and storage, the construction industry, postal and telecom services, energy and water, the hotel and restaurant industry, and other local services, which in this report are collectively termed "local services", 1993-2010.

34 See, for example, "Sveriges ekonomiska välstånd - utveckling, nuläge och prioriteringar inför framtiden", McKinsey, 2006.

35 The SNS report "Konkurrensens konsekvenser", for example, states that we currently have insufficient knowledge to determine whether increased exposure to competition in the public sector resulted in an increase or decrease in productivity (Laura Hartmann (ed.), Konkurrensens konsekvenser - Vad händer med svensk välfärd?, SNS Förlag, 2011).

plans will look different for different areas, as the challenges and opportunities vary. Consequently, the paths to improvement also vary.

At the end of this chapter we describe in greater detail how productivity in two of the largest areas of the public sector – healthcare and education – can be improved.

**Firstly: The principals need to improve their governance of public-sector service providers. This can be achieved through four tools:**

- *Clearer goals and parameters for each service.* In the business sector there is a simple measure of success: the company which succeeds in selling its products at a profit in a free market is successful<sup>36</sup>. In the public sector such a yardstick is generally absent. The principals therefore need to define measures for success by setting clear, relevant and ambitious performance targets, for instance in the government's appropriation directions. The principals also need to measure and follow up clear performance measures for each service and link clear consequences to achieved and missed targets (for instance by placing a premium on productivity growth) with the aim of replicating the performance pressure that arises in competitive markets. It is also important to ensure that the adopted targets include quality measures that can be measured in a robust way. Some form of targets and parameters of course exist in all areas of the public sector, but many areas lack those clearly defined targets which define, in an easy-to-understand manner, what the service is really intended to achieve. In this process the principals, too, need to have a good understanding of the service concerned in order to be able to define effective and relevant targets, and the targets need to be sufficiently ambitious if they are to lead to real improvement. This means, for instance, that the targets must not "blindly" be based on the preceding year's results, but should be defined on the basis of levels that are achievable. An example of the latter is illustrated by the Public Employment Service. In April 2012 the National Audit Office published an extensive report on efficiency in the Public Employment Service. After a thorough analysis of production measures relative to input of labor it is assumed that 84 of the 184 offices covered by the analysis are fully efficient and unable to increase production without additional resources. The argument for this is that these offices are currently the most efficient offices in the Public Employment Service. This argument is not uncommon, but it does not really contribute to creating an adequate pressure for improvement. In an organization that operates in a competitive environment it is not enough simply to improve those parts that are the weakest internally; the strongest parts also need to continually improve to ensure that the organization as a whole continues to develop.
- *Increased transparency on results and productivity.* To further increase the focus on productivity improvements in the public sector the parliament and government should increase transparency by producing and publishing national comparisons showing how efficiently municipalities and county councils handle their principal missions (for instance, levels of knowledge in schools and quality of care). Today certain comparisons of quality levels are made – such as the National Board of Health and Welfare's "Open Comparisons", which are produced in collaboration with the

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<sup>36</sup> This is somewhat simplified: the statement only applies, of course, if the company also complies with applicable laws and regulations, ensures sustainability through the right level of investments and maintenance, and does not unduly exploit finite assets.

Swedish Association of Local Authorities and Regions (SKL) – but more comprehensive comparisons which include a focus on efficiency should also be made. As a rule, it is also difficult for an individual citizen to obtain easy-to-understand information on which services (health services, schools, nurseries, etc) achieve the best quality, which results in asymmetrical information and a reduced pressure for change. One further example for achieving improvements and productivity gains could be to compare productivity in public-sector construction and infrastructure. The public sector accounts for a large volume of construction and infrastructure projects (the Transport Administration, Stockholm Transport, the county councils, traffic offices at municipalities), but there are no general comparisons of productivity. The Transport Administration and the National Audit Office are working intensively to devise a better way to follow up productivity gains in infrastructure (investments and maintenance), and many other government agencies and organizations should be able to benefit from the lessons drawn therefrom.

- *Optimised demand management.* Large parts of the public sector lack a price mechanism which naturally limits demand. Another role which the principals need to perform is therefore to define limits for demand. This can be achieved through financial incentives (for instance, partial payments such as patient fees, congestion charging or variable charges for the use of railway infrastructure), an increased cost awareness among consumers (for example, by providing clear information about what the actual, unsubsidised cost of the service is) or through a greater emphasis on preventive measures (such as blood sugar checks for diabetics). The principals can also define which services should be provided by the public sector and which should be paid for by the consumers (for instance, by defining what counts as illness, the number of qualifying days, etc.) The priorities that are made in this field are of course a matter of political choice, but increased transparency on the costs and consequences of different choices would improve opportunities for optimization.
- *Improved competition-like mechanisms.* In the public sector there is generally no consumer that actively purchases a service and thus makes a choice between more or less efficient solutions. This can lead to inefficient solutions as well as a failure to focus on the perspective of the citizen. However, the principals can in various ways create a pressure to perform by introducing various competition-like mechanisms. Here we need to stress that competition-like mechanisms are not the same as privatization. In certain cases these mechanisms can be introduced by dividing up the delivery into payor and provider functions (for example, healthcare boards as payors and hospitals as providers in the health sector). In some cases this can create a situation where the consumer has a choice of provider (a choice of primary care provider, for instance) and where funding is tied to the consumer's choice (as in the school voucher system).

**Secondly: The public-sector service providers need to improve the efficiency of their service provision through clear long-term targets and continuous improvement initiatives. This can be achieved through three general tools:**

- *Break down the general targets and parameters for the service by individual units and employees.* The service providers themselves need to clearly convey the performance requirements defined by the principals to all units and employees. This can be done by formulating clear, relevant and ambitious targets for individual units and employees,

measuring and following up clear performance measures, ensuring transparency and clear communication of results, and by linking consequences to target achievement (rate of promotion, salary growth, formal appreciation, other incentives, etc).

- *Structured improvement programmes.* In some cases the management of a public-sector service provider focuses primarily on its administrative role, and thus lacks a sufficiently ambitious agenda for developing and improving the service. An ambitious and structured improvement programme creates a big challenge for the organization and is often very demanding for management. When coupled with an absence of ambitious targets from the principal, this can lead to an emphasis on administration. Many service providers would be able to achieve significant improvements through initiatives such as Lean programmes, purchasing programmes or capital optimization programmes (aimed at for instance, optimising the balance between IT and equipment investments on the one hand, and investments in labor on the other). A natural part of such improvement programmes is to reduce the time that is devoted to ancillary activities and focusing exclusively on performing activities which create value for the customer.
- *Improve the organization of activities and resources.* The public sector is staff-intensive, and it is therefore particularly important to consider how the service providers are organised and ensure that the right person is used at the right time. It is, for example, unlikely that it would be effective to require that highly qualified staff such as physicians or school principals devote a large portion of their working time to administration. Through a trade-off between economies of scale and any potential negative consequences thereof (for instance, the resource benefit of having many pupils in a class and the negative aspect of having less contact with each individual pupil) and by identifying the right level of segmentation, public-sector service providers can achieve an efficient organization. The service providers also need to focus on attracting the right talent, using employees with the lowest effective level of expertise for the right task and ensuring that employees continually develop their competence.

### **Thirdly: Improve public procurement throughout the public sector.**

- Improved procurement of external suppliers. In cases where external parties are involved the principal also needs to improve and professionalize its purchasing and procurement process. Each year Sweden's public sector purchases inputs and procures services worth about SEK 500 billion. Experience from purchasing projects in the public sector show that there is a significant potential to cut costs through efficient purchasing with regard to quality, focus and price. Despite many individual examples of improved purchasing procedures, Sweden's public sector as a whole still does not appear to have addressed this issue to a sufficient extent. The ongoing inquiry into public procurement has also identified many failures<sup>37</sup>. In its interim report "Looking for the good deal – an analysis of and experiences from public procurement" the author identifies a number of failures which prevent good deals from being struck: a complex application of rigid public procurement laws, inadequate expertise on procurement and purchasing, uncertainty about the extent to which it is permissible to consider other factors than price, poor follow-up of contracts and a growing number of appeals. To improve the efficiency of

<sup>37</sup> The Procurement Inquiry, led by the special rapporteur Anders Wijkman.

purchasing, it is important to ensure that purchasers have the required level of expertise and that there is a strong focus on purchasing in the organization. The purchasing process also needs to encourage innovation among the suppliers. The challenge increases due to the additional complexity which comes from regulations governing public procurement. It is also very important to ensure that objective criteria for quality can be used where this is desirable. There are far too many examples of procurements that focus on minimising the cost irrespective of quality, as shown by the ongoing debate about elderly care. One example from the health sector is the recently completed procurement for the operation of S:t Görans sjukhus, a hospital. According to a report in the Swedish daily Svenska Dagbladet from 27 March 2012, price was accorded a weight of 95 per cent in determining the choice of supplier while quality had a weight of only five per cent. By contrast, in the procurement for the geriatric department at Dalens sjukhus, another hospital, in 2008 the procurer stated a fixed price and let the tenderers compete entirely on quality. It is not hard to see how two such different approaches to procurement will in the long run lead to different results. The Procurement Inquiry identifies many of these areas and describes the importance of increased follow-up and control of contracts, the need for less micro management and a more functional approach to procurement as well as the tendency to try to minimise appeals by opting for “safe” alternatives for evaluation, for instance by drawing up extensive requirements specifications and choosing the tender with the lowest price regardless of quality or opportunities for innovation and product development.

- *Introduce a national centre of excellence for public procurement.* By gathering leading experts on public procurement at a centre of excellence that can assist municipalities, county councils and government agencies in their procurement activities, quality could be improved. The centre would be able to assist public-sector service providers in complex procurements, but would first and foremost work on developing methods and ensuring that successful approaches spread to all parts of the public sector.

**Fourthly: Consolidation of Sweden’s public administration structure or deeper collaboration among public-sector service providers in order to enable greater efficiency and expertise in key areas.**

- *Consolidate the administrative structure.* There are currently 290 municipalities, 21 county administrative boards and 20 county councils in Sweden. In addition, three county councils and one municipality have a regional mandate as regions. Collaboration takes place through about 90 unions of municipalities, six healthcare regions, etc. Several problems arise in these structures. Local or regional functions are often performed on too small a scale, which inhibits innovation, improvement activities, and restructuring. Many municipalities are so small that it is hard to maintain staff with leading expertise in all those areas that are required for the administration of the municipality. The result is that the service provided to the inhabitants is less effective and efficient than it could be. It is not reasonable to believe, for instance, that all 290 municipalities can have leading purchasing expertise, ensuring that all of the municipality’s purchases are made in a way that optimises the use of resources. In all too many cases the result is that many procurements look only at the price and therefore risk leading to quality issues or increased costs at a later

date (as the lifecycle cost of the material or service provided is in many cases not determined by the purchase price). Inadequate coordination among the various local and regional structures also creates additional work and complications. Work is now underway to improve the situation. One example is the inquiry into the State's regional administration, the results of which are due to be presented at the end of 2012. The purpose of the inquiry is to present proposals for how the State's regional administration can be made clearer, more coordinated and fit-for-purpose. Yet the inquiry does not touch on the municipal structure, so the issues relating to small scale in this area remain. Due to local opposition, it has also proved difficult to implement earlier recommendations on structural mergers that have been presented. A source of inspiration for the level of ambition could be the Danish municipal reform, which in 2007 reduced the number of municipalities from 270 to 98 and the 13 counties ("amts") to five regions. As a result, the median size of a Danish municipality increased from 10,700 inhabitants to 43,000. By comparison, the median size of a municipality in Sweden is just over 15,000 inhabitants.

- *Encourage greater collaboration among public-sector service providers.* One way of achieving improved efficiency is through collaboration among public-sector service providers. One example of this is the central-government service centre that is set to open in summer 2012, which for a fee will offer finance and payroll administration services, including salary payments and invoice processing, to other central-government agencies. The aim is to offer efficient services and lower the overall cost also under the current structure.

### *Significantly improve access to public sector services*

Based on what has been shown to be possible through several good examples in the public sector, it should be possible to achieve a significant increase in productivity in the sector. The improvement potential varies from one area to another, and the time it takes to complete a programme of change varies. Nevertheless, by implementing the measures described above, we believe it is realistic to achieve a productivity gain throughout the public sector of 25-30 per cent over a ten-year period while increasing the ability to make continuous improvements sufficiently to bring productivity growth (at least) in line with the private services sector, i.e. an annual rate of productivity growth of 1.4 per cent.

An increase in productivity of this size would ensure improved access to public sector services or release resources equivalent to ~4-5 per cent of GDP by 2030 (~SEK 140-170 billion at 2010 levels). This is equivalent to ~4-5 times the cost of primary care in Sweden and about two times the cost of all primary schools in Sweden. If, in addition, we assume that it is possible to reduce purchasing costs throughout the public sector by 5-10 per cent by 2030, this would generate further annual savings of SEK 20-40 billion based on 2010 levels. Together, these improvements would probably eliminate the need for the significant tax hikes indicated by SKL's previous calculation while increasing the quality and scope of the services provided.

To gain a better understanding of how the toolbox described above could be used in a more concrete sense, we have chosen to take an in-depth look at two of the largest areas of the public sector: education and healthcare.

## Education

Education is the second largest area in the public sector. The majority of the services, close to 85 per cent, is funded at the municipality level (nurseries, primary and secondary schools and post-secondary education other than universities). The remaining 15 per cent is run by central government agencies (university-level education). Sweden was the first country in the world to introduce universal education, and historically the educational level of Sweden's labor force has been a competitive asset for Swedish businesses. The education system remains central to the effort to strengthen Sweden's future competitiveness.

However, in recent years Sweden has been falling in the PISA and TIMSS international rankings of standards of knowledge in primary schools (illus. 17)<sup>38</sup>. This is partly because Swedish school results have declined in absolute terms over the past ten years, but a more important factor is that Swedish results have declined in relative terms as several other countries have achieved significant improvements<sup>39</sup>. Differences in performance among schools have also increased<sup>40</sup>. Results can of course be measured in many other ways than through PISA and TIMSS, and there may be other dimensions where pupils' knowledge has taken a turn for the better. Even so, there is reason to implement improvements in Swedish schools.

Illustration 17

### Sweden falls behind in international comparisons of educational results



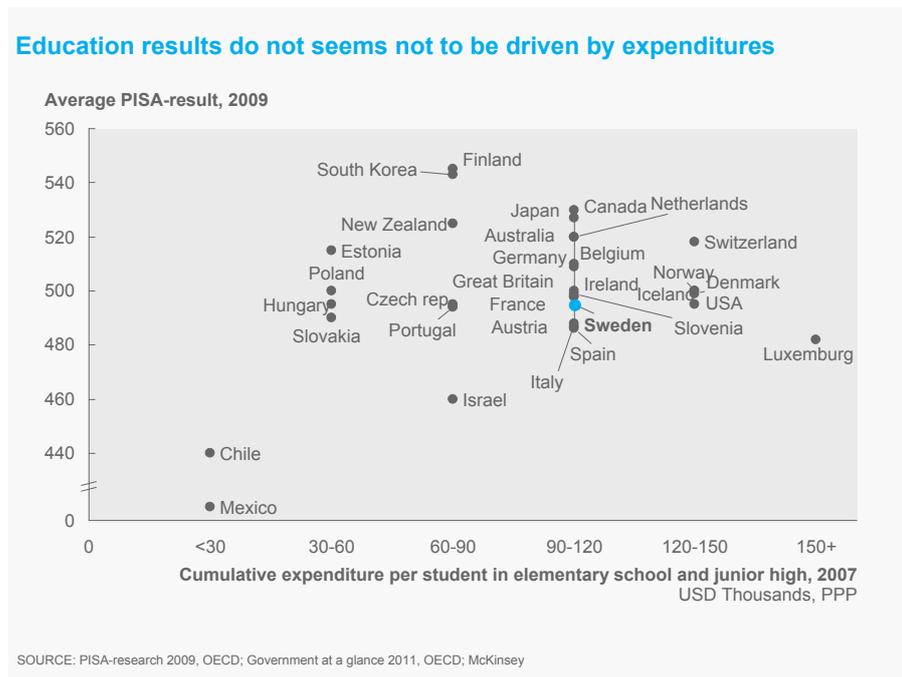
SOURCE: Trends in International Mathematics and Science Study (TIMSS), Program for International Student Assessment (PISA)

- 38 Programme for International Student Assessment (PISA) and Trends in International Mathematics and Science Study (TIMSS).
- 39 Sweden's placing in the table is also to some extent negatively affected by an increase in the number of countries participating in the international surveys over time.
- 40 According to the PISA surveys conducted in the 2000s, Sweden lost its position as one of the countries offering the most equal school education and is now no more than an average country in terms of equality aspects. The distribution of results in reading comprehension, for instance, was 12 per cent higher than the average OECD distribution in the 2009 PISA survey. This was the first time since PISA surveys started to be conducted that Sweden had a higher than average distribution in reading comprehension. (See "Rustad att möta framtiden? PISA 2009 om 15-åringars läsförståelse och kunskaper i matematik och naturvetenskap", Rapport 352, Swedish National Agency for Education (2010)).

After analysing over 20 different schools and more than 600 possible interventions in its international studies of school systems, McKinsey has established that significant improvements can be achieved at all result levels in a relatively brief space of time<sup>41</sup>. Several of the school systems highlighted in the study improved by as much as 0.5-0.75 school year equivalents from 2000 to 2006<sup>42</sup>. It should therefore be possible also for Sweden to achieve significant improvements. The studies also show that increased resources to schools are neither necessary nor sufficient (illus. 18). The key factor for improving a school system at Sweden's level is instead to raise skills levels among teachers and school principals. The transparency of school results also needs to be increased to become a stronger driver for quality.

The Swedish Fiscal Policy Council's report from 2011 also identifies education as a key area for competitiveness and describes several proposals for improving education and skills levels among teachers.

Illustration 18



■ **Raise skills levels among existing teachers and school principals.**

- *Increase the exchange of knowledge and collaboration among teachers.* The best way to raise skills levels among teachers is to improve collaboration among peers so that good methods are transferred to a greater extent. Today the overwhelming majority of educational planning is done on an individual basis (in many cases, four times as much time is spent on individual planning as on joint

41 See "How the world's best-performing school systems come out on top" (2007) and "How the world's most improved school systems keep getting better" (2010).

42 One school-year-equivalent (SYE) represents 38 points on the PISA scale.

planning) and teaching methods are to a large extent a private matter for each individual teacher. A more collaborative approach where teaching methods are decided jointly, teachers observe and provide feedback on each other's lessons and new teachers receive coaching from a more experienced mentor could raise standards of education. Teachers that have excelled in this area could also be given greater responsibility. In Singapore, for instance, certain teachers at each school are responsible for internal coaching and development while devoting less time to teaching<sup>43</sup>.

- *Develop and spread teaching methods based on results.* Test results and data from observations are today used primarily to assess pupils' needs for additional support. Even more important, however, is to use this source of facts for evaluating which teaching methods are effective. By analysing pupils' performance with this goal in mind it is possible to identify better and more adapted teaching methods. It is important to use a structured approach to identifying these methods, both locally at schools and centrally by the state, in order to develop and spread the methods within and among schools. With the aim of spreading good methods among schools, the UK, for instance, has introduced a system of national coaches, who in turn train coaches at every lower primary school in the country. In Sweden, similar systems are currently being assessed, albeit on a much smaller scale, and the National Agency for Education has been commissioned to launch a coaching initiative in challenged areas. Individual municipalities and the Swedish Association of Local Authorities and Regions (SKL) has, independently, initiated a teacher coaching programme in certain subjects.
  - *Re-establish the school principal's role as a pedagogical leader and coach.* For school principals this means that more time will need to be freed up for activities more closely associated with teaching, for instance by reducing the amount of time that is devoted to administrative work and by delegating tasks such as service procurement to the municipalities. The time that is released should be devoted to leading and coaching the teachers in their teaching activities and thereby help to develop their skills.
- ***Recruit and train teachers and school principals with a stronger skills profile.***
- *Increase the attractiveness of the teaching profession.* The most important measure for raising skills levels among future teachers and school principals in the Swedish education system is to strengthen the attractiveness and status of the profession and thereby increase the number of applicants to teacher education programmes. The changes required are dramatic. Giving Sweden the same selection effect as Finland, for example, would require a three- to five-fold increase in the number of applicants to teacher education programmes. This can be done, for instance, by creating tools that teachers and school leaders can use to establish a better working environment, providing clearer career paths

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43 Coaching can take the form of teachers with similar experiences giving each other feedback on the application of jointly developed teaching methods, or of more experienced teachers supervising new teachers on classroom teaching but also on other aspects of their work, such as planning.

with transparent qualification requirements and salary steps and marketing the teaching profession in a targeted manner<sup>44</sup>. In Sweden there is currently a proposal to reintroduce the position of “lector” (a senior teacher, normally holding a Ph.D.) in order to raise the status of the profession and create clearer career paths. Experiences from successful systems in other countries, such as Singapore, show that a greater differentiation of career opportunities (teachers in Singapore have three career paths: a leadership path, a subject specialist path and a “master teacher” path involving coaching of new teachers) can significantly increase motivation among teachers.

— *Improve teacher training. Initiatives have been taken to strengthen the teacher education programme of teachers.* This is a step in the right direction, but there is still uncertainty about whether this will be enough to solve the quality issues that have plagued education in Sweden for a long time<sup>45</sup>.

- **Quality-assure data for comparisons of school results with the aim of establishing a basis for targeted and effective action programmes.** Swedish schools have a high degree of transparency in terms of schools’ academic results. The publication of results from national tests and other comparisons help to increase the pressure to perform. The Swedish system of school vouchers and a free choice of schools creates a situation where teachers could face pressure from school principals as well as parents to award high grades and correct national tests generously. Over the next few years national tests will be introduced for more school years and for additional subjects. To promote fair assessments and improve the comparability of results, it is advisable that these tests are corrected centrally. The Swedish Schools Inspectorate’s re-correction of national tests in autumn 2011 showed that many tests had been corrected far too generously, with a consequent risk of grade inflation<sup>46</sup>. The principals should also initiate targeted action programmes for poorly performing schools. Although these programmes require several different components, one option is to conduct a more far-reaching review of the possibility of a general extension of teaching periods.

A high-quality and equal education for all is a key ingredient for ensuring equal opportunities for all children and creating a foundation for economic growth in Sweden. As discussed above, there are many options for improving the Swedish school system. Of key importance is that both municipalities, the government and individual schools use the available toolboxes to take education to a new, higher level.

44 School systems with highly developed career paths for teachers have clear and broad career steps where, for example, more than 30 per cent are above the first step.

45 “Uppföljande utvärdering av lärarutbildningen”, Rapport 2008:8 R, Swedish National Agency for Higher Education.

46 Swedish Schools Inspectorate: “Lika eller olika? Omrättning av nationella prov i grundskolan och gymnasieskolan” (2011).

## Healthcare

*Sweden's healthcare system is among the best in the rich world. Costs are increasing at a slower pace than the average of the OECD, and Sweden scores highly on parameters such as life expectancy, infant mortality and survival rates for cancer and other diseases. However, productivity growth has been weak and the population is ageing and demanding a higher standard of care. This creates significant challenges for the healthcare sector. In this chapter we present five possible ways to increase productivity in healthcare<sup>47</sup>.*

Healthcare and elderly care account for the largest share of the public sector, representing 13 per cent of GDP. Of this, the healthcare services run by the county councils account for about three quarters, with specialised somatic care representing more than half of the costs<sup>48</sup>. The remaining quarter refers to elderly care and care for disabled people, which are primarily the responsibility of the municipalities.

While assessing how Sweden's healthcare sector as a whole meets its objectives, we also need to highlight the extraordinary progress that has been made. Today it is possible to provide treatments and perform operations that would have been unthinkable to earlier generations. Previously fatal diseases can be cured to a greater extent, and much suffering can be avoided. Sweden's inhabitants enjoy a very good standard of health compared with other countries; we have the fourth lowest infant mortality rate, the seventh highest life expectancy and the fourth highest five-year survival rate for breast cancer in the OECD.

In addition to increasing the life expectancy and quality of life of the population, Sweden's healthcare sector has also improved the prospects for economic growth<sup>49</sup>. Better health results in more days of work, greater opportunities to benefit from training and a greater chance of working until the retirement age – or longer. Healthcare is also a valuable source of skilled labor and entrepreneurship, such as when individuals with experience from the healthcare sector choose to work in other sectors.

It is hard to measure productivity in the healthcare sector, as there is no market price against which quantity and quality can be assessed. However, different calculations produce similar results and suggest that productivity growth in the Swedish healthcare sector has been weak over the past ten years. At the same time demand for and the availability of care have increased, resulting in increased total costs. There are also challenges in the form of long waiting times and differences in healthcare among different regions and socio-economic groups<sup>50</sup>.

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47 Parts of the work behind these conclusions were developed jointly by the World Economic Forum and McKinsey & Company in 2012 and published in the report "The financial sustainability of health systems – a case for change".

48 Somatic care refers to the care of bodily complications in contrast to psychiatric care.

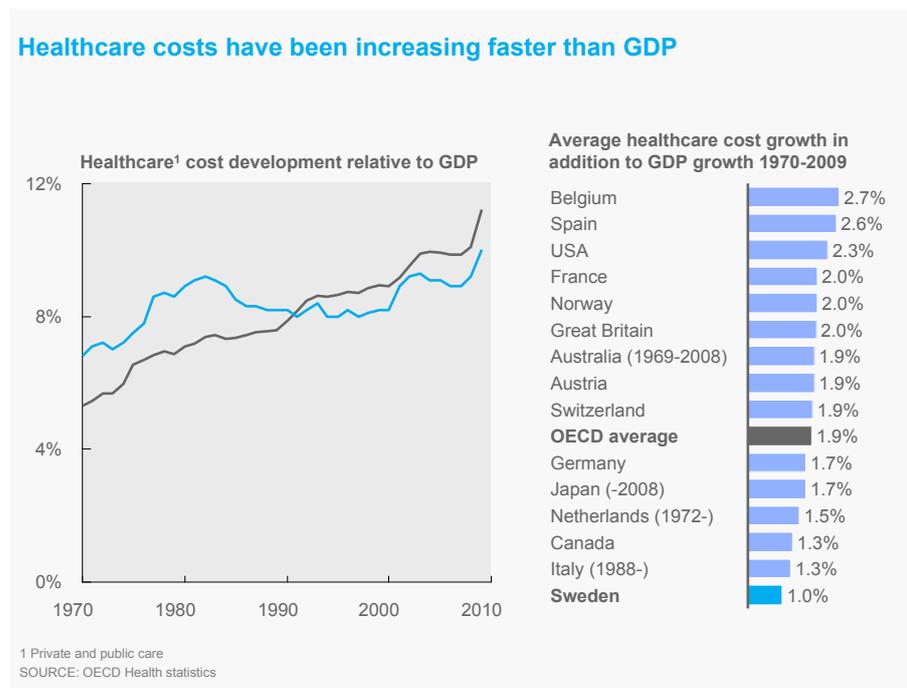
49 Swedes' life expectancy increased from 77.6 to 81.5 years between 1990 and 2010. In 1960 it was 73 years (OECD).

50 Sweden is ranked third from the bottom in Europe; "Väntetid till behandling" in Euro Health Consumer Index 2009.

## Mounting costs

Total expenditure on healthcare in Sweden has increased at a faster pace than total expenditure in society, as is the case in the rest of the Western world. Over the past 40 years annual cost inflation in healthcare has exceeded annual GDP growth by about one percentage point. This is lower than in most OECD countries, which is partly explained by the cost improvements that were implemented during the crisis in the 1990s and by successful cost control in pharmaceuticals, for instance through generic substitution (illus. 19).

Illustration 19



If the historical trend in costs continues, the share of GDP that is spent on healthcare will account for 10.4 per cent of GDP by 2040<sup>51</sup>. The Ministry of Health and Social Affairs estimates a share of 11.2 per cent<sup>52</sup>. The share of GDP devoted to elderly care is also expected to increase. According to calculations made by the National Board of Health and Welfare, costs are expected to increase by around one percentage point by 2040, from

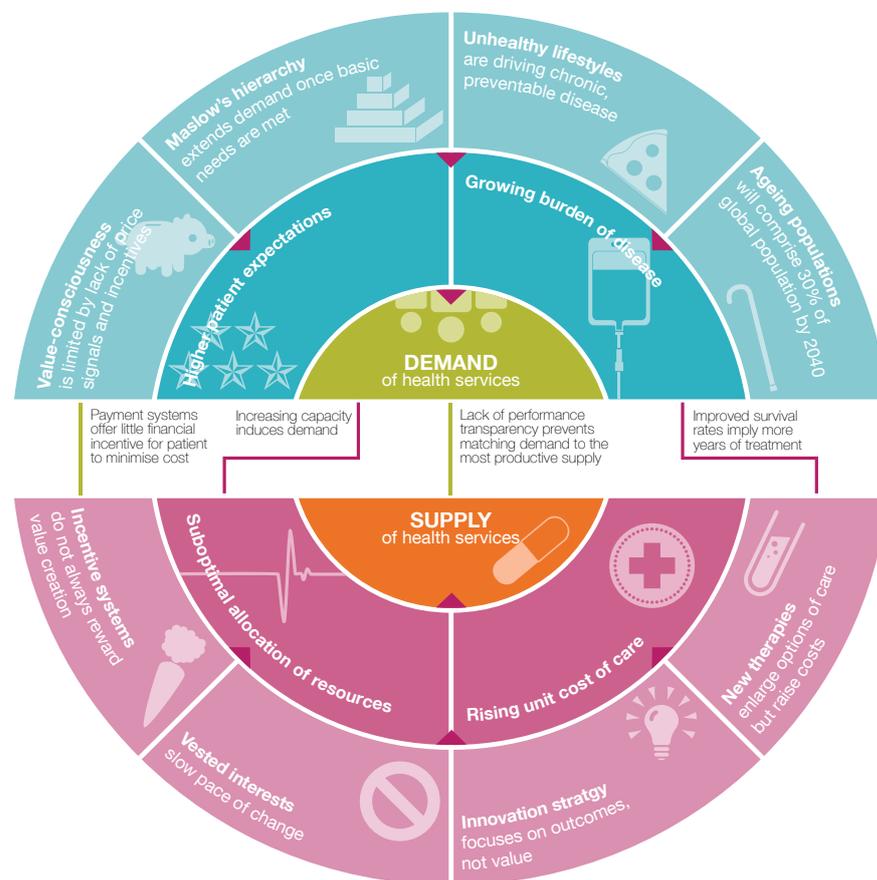
51 This is based on historical best-fit regression for data covering the period 1970-2009. This is not the same as an extrapolation of average annual growth, as this would result in an equally large impact from the start and end data points. Sweden's current value of around 10 per cent is at the upper end of the observed historical fluctuations. A straightforward extrapolation with 1 per cent growth above GDP would result in a share of around 13 per cent.

52 "Den ljusnande framtid är vård", 2010. Contains several scenarios; referenced scenario 'Deferred morbidity including technology' 53 The lower end of the range if historical extrapolation is used, the upper end of the range of if the calculations of the National Board of Health and Welfare are used,

3.2 per cent to around 4.2 per cent. This would mean that the share of GDP represented by health and care would rise from 13 per cent currently to 14.6-15.4 per cent<sup>53</sup>.

Cost inflation in healthcare is multifactorial; the main reasons are seen to be growing demand caused by a greater disease burden as well as rising expectations, increased unit costs as a result of new treatment options, and poor productivity growth caused partly by sub-optimal allocation of resources (illus. 20).

Illustration 20



Four main factors explain the growth in demand<sup>54</sup>.

- Ageing population.** A lot of attention has focused on the ageing of the population, so much that it is hard to find a debate about healthcare that does not touch on the issue. As mentioned, Sweden's dependency ratio – the number of citizens not of working age divided by the number of citizens of working age – is 0.71 at present<sup>55</sup>. As early as 2030 the figure is expected to have increased to 0.83.

53 The lower end of the range if historical exploration is used, the upper end of the range if the calculations of the National Board of Health and Welfare are used.

54 "The financial sustainability of health systems - a case for change" co-authored by the World Economic Forum and McKinsey & Company in 2012.

55 This measure shows how many children, young people and elderly there are for every 100 people of working age (20-64 years).

- *Growth in lifestyle diseases* have been another frequent topic of debate in recent years. Diseases such as type II diabetes, high blood pressure and stroke can in many cases be prevented through healthy eating, physical activity, moderate consumption of alcohol and avoidance of smoking. As Sweden as country becomes richer we as inhabitants do not necessarily become healthier, and this is one factor behind the rising costs of healthcare. The annual cost of care for an overweight person, for example, is about twice as high as for a person of normal weight, and the share of severely overweight Swedes has more than doubled over the past 30 years<sup>56</sup>.
- *Patient expectations are rising.* Demand is driven not only by the underlying needs of individuals, but also by the care that they expect. These expectations are rising in line with growing wealth, and young people today have higher expectations for care than older people.
- *Lack of value consciousness.* In Sweden's healthcare sector most citizens only bear a small portion of the actual cost themselves through direct personal contributions<sup>57</sup>. One consequence of this is that the consumers' expectations are not met by the restraining force that would exist if the costs were to be felt directly by the consumer. Nor is the value of the services that are provided emphasised.

Unit costs are also increasing, partly as a result of the introduction of new, more expensive therapies. This is of course positive, as it can reduce human suffering as well as the disease burden. Yet it also increases the costs, especially as innovations in pharmacology and medical technology to a large extent focus on improving medical results rather than lowering the total cost for the system.

A third explanatory factor behind the increase in costs is weak productivity growth, which is partly due to a less than optimal allocation of resources. Productivity growth has so far been insufficient to offset the increase in costs. When new healthcare capacity is built it often "copies" a historical structure and thereby cements outdated methods of providing care. Health workers work for the best of the patient, but incentives for promoting the highest possible quality and patient benefit at a systemic level are also needed. There are not many healthcare systems that are introducing this type of incentive systems. The difficulty lies not just in designing new models, but also in overcoming conflicts of interest among those who benefit from the current structure and resource allocation model.

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56 "Fetma ett ekonomiskt samhällsproblem - kostnader och möjliga åtgärder för Sverige", Ulf Persson och Knut Odegaard, no. 1 2011 year 39. The share of people with BMIs over 30 was 5 per cent in 1982 and 11.2 per cent in 2010 (OECD).

57 The private portion of healthcare, directly funded through patient fees and insurance policies, accounts for about 18 per cent of total healthcare costs (OECD).

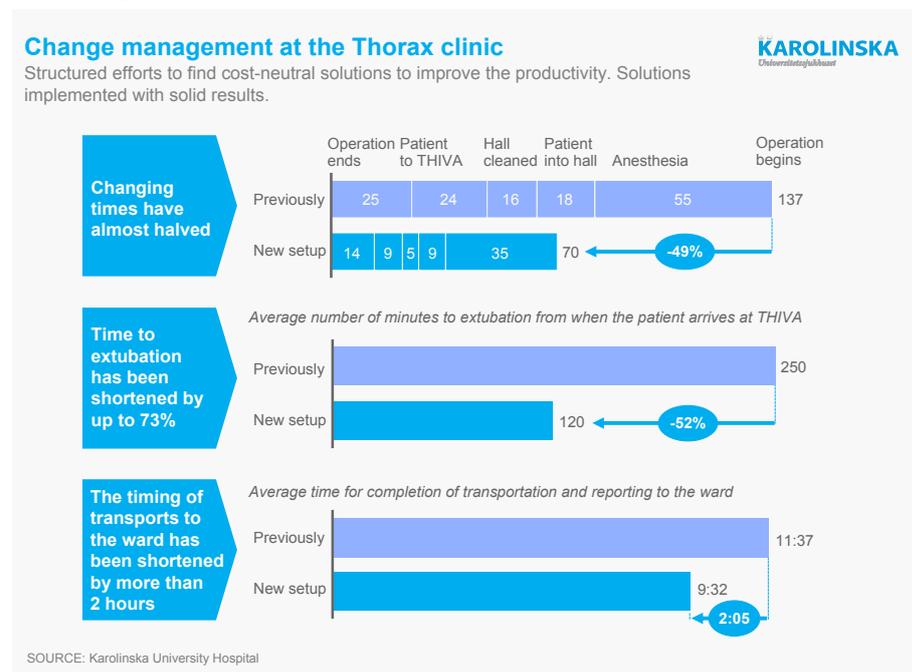
## The road ahead – increased productivity

Regions and county councils have four basic ways to address future cost increases in the Swedish healthcare sector: 1) limit access to care, 2) shift the cost burden, 3) increase funding and 4) raise productivity. Sweden will probably need to take action in all four of these areas. The first three, however, are more problematic for various reasons. They can have negative consequence in terms of redistributive policies, hit vulnerable social groups, curtail other forms of welfare and/or distort competition. We believe the fourth option – raising productivity – is the most attractive.

Producing more care with the same or less resources while improving medical results will be necessary to ensure the economic stability of the healthcare system as well as the long-term sustainability of healthcare. This does not mean that health workers need to work faster, or for longer hours, but rather that their work needs to be structured more efficiently and with other support structures.

Sweden can fund both increased demand and improving the quality of healthcare by taking a long-term approach to productivity issues. In a recent pilot project the Karolinska University Hospital introduced “fast theatres”, which, using solutions developed by the employees themselves, are able to perform twice as many operations using the same resources (illus. 21). In another example an outpatient clinic which introduced a “drop in” system in place of the previous appointment-based system achieved both an improvement in efficiency and increased patient satisfaction. There are many examples of simple and successful solutions. The challenge lies in establishing similar solutions on a larger scale – from concept and resource allocation through implementation to follow-up and institutionalization.

Illustration 21



Improved productivity in healthcare can have a big impact. In its Long-term Report the Stockholm County Council estimates that annual productivity growth of 1.3 per cent would be sufficient to ensure that the council is able to maintain a balanced budget up to 2030<sup>58</sup>. Sweden should be able to achieve greater productivity improvements than this. Annual productivity growth of 2-3 per cent over the next 20 years should be achievable.

In the general section about the public sector we describe how both principals and public-sector service providers have important roles to play and tools to use to increase productivity. Applying this to healthcare, we can crystallise five focus areas for achieving improved productivity.

### **1. Develop new models for the provision of healthcare**

The healthcare sector needs new models for providing efficient care. There are five important areas to address: 1) identify new work methods, 2) standardise work methods, 3) concentrate care, 4) create compensation systems which support efficient care and 5) professionalized.

**New work methods** – Future models for providing healthcare will need to make use of a currently under-utilised resource – the patient. Several patient groups, such as diabetics, are already providing a large part of their healthcare themselves. By identifying the various activities in the chains of healthcare and critically reviewing needs, costs and patient safety aspects, it is possible to transfer parts of today's healthcare to the patients themselves. How many people really need to see a health worker to remove the stitches from a wound if everything looks ok? Specialist physicians can spread their knowledge to larger groups of patients through telemedicine and care programmes taking place outside the walls of the clinic. Online booking of appointments should be a given, and new technology can also make it possible to maintain contact with patients in their homes to for example check blood sugar and blood pressure levels. A related issue is the need to question whether certain care activities are currently being provided by over-qualified staff. All care activities can be valued based on a single criterion: Who is the least costly health worker that can provide the required service in a way that is safe for the patient? Such a prioritization can often result in a shift in current use of competence. There are many areas where this approach can be adopted. Nurses, for instance, can stop spending time on booking appointments, and certain operations that are currently performed by two surgeons can be performed by one surgeon and one surgical nurse. The possibility of innovation in Swedish healthcare is complicated by annual cycles with lengthy budget processes that sometimes create obstacles to long-term work and planning. A longer planning horizon would release hospitals from the burden of annual purchasing cycles while providing greater freedom and more space for innovation. Multi-year agreements have been introduced in acute somatic care in the Stockholm County Council.

**Standardization** – It would be possible to increase both the efficiency and quality of healthcare by standardising treatments. Today the treatments provided vary considerably even in areas where there is a good evidence on treatment methods. To illustrate the variation from one county council to another, one can look at differences in treatment results. The

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58 "Framtidens hälso- och sjukvård, Långtidsutredning om hälso- och sjukvården i Stockholms läns landsting 2008-2025", SLL (2009).

risk of dying from a myocardial infarction within one year of treatment is two per cent at a certain hospital and 23 per cent at another<sup>59</sup>. A patient who suffers a stroke in one county runs a 12 per cent risk of dying within the first 28 days, while the risk is about 18 per cent for another. Similarly, the risk of re-operation within two years after a hip replacement is 0.7 per cent in one county and 3.2 per cent in another<sup>60</sup>. By highlighting differences and defining national requirements on leadership for standardization, levels of quality can be raised at the national level. An initial measure for Sweden would be to expand SBU (the Swedish Council on Health Technology Assessment) – the Swedish government’s centre of knowledge on healthcare – into a national centre of excellence similar to the National Institute for Health and Clinical Evidence (NICE) in the United Kingdom. This centre could be staffed partly by people from regions and county councils and partly by in-house staff.

**Increased concentration** – A closely related issue is how highly specialised care can be concentrated to a smaller number of healthcare facilities in order to raise levels of experience. Much of the available evidence suggests that high quantity is necessary to perform advanced operations with a high level of quality. The Aravind Eye Clinic in India performs cataract operations at less than one fifth of the cost of similar operations in Sweden, and with better results to boot<sup>61</sup>. Aravind works actively to ensure that resources are used efficiently, with an even flow of patients and high medical quality. Similar systems could of course be applied in Sweden’s healthcare sector, but the innovations that are being implemented in various flow projects in Sweden are often limited to minor improvements in a system with fundamentally low productivity.

**More appropriate compensation systems** – Another possibility is to develop incentives which promote good health for entire patient groups, and to continue to develop compensation models which take account of outcomes over time. Examples exist even today: In Stockholm County Council healthcare providers receives no compensation for a re-operation within two years of a hip or knee replacement operation. A primary care model where a portion of the compensation is linked to a registered patient rather than the number of visits – known as per capita compensation – encourages a focus on value over volume. One way of developing the system would be to link a larger portion of each patient’s total healthcare budget to primary care. Health centres would then be able to fund all care that is consumed by their patients, even when the care is provided outside the health centre. If the patient remains healthy the health centre will be entitled to keep the surplus. Primary care providers would then have a very strong incentive to keep their patients healthy and focus on prevention and high availability. Projects that are aimed at evaluating the possibility of using the extensive quality data contained in Sweden’s quality register to create a more value-based system of follow-up are also under way. This could for example be through linking a portion of the compensation to reported quality outcomes in the year after the procedure.

**More efficient procurement and purchasing** – Procurement is set to become increasingly important for county councils and health care providers in two ways. Firstly,

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59 Swedeheart 2010.

60 “Öppna jämförelser av hälso- och sjukvårdens kvalitet och effektivitet, jämförelser mellan landsting 2011”, Swedish Association of Local Authorities and Regions (SKL) and National Board of Health and Welfare (2011).

61 Adjusted for differences in cost levels for labor and materials. “Aravind Eye Care System activity report 2010-2011” and “Managing Innovation, Case Studies, Aravind Eye Clinics”, Joe Tidd, John Bessant, Keith Pavitt (2005).

county councils need to secure productivity and efficiency improvements in health services that are procured from private healthcare providers. Secondly, all healthcare producers need to become more efficient in their procurement of medical technology, pharmaceuticals and healthcare materials. County councils and healthcare producers are large and important customers for the pharmaceutical industry, and there are ample opportunities for improved collaboration between the industry and the county councils. One example of such collaboration is the relationship that exists between insurance companies and drug makers in the United States, where risk sharing models and outcome-based compensation models are used to improve cost efficiency.

## ***2. Measure and invest in value and quality rather than volume***

The ability to measure value and quality is a necessary condition for ensuring that the healthcare system is able to allocate resources where the positive effect on health and quality of life is greatest. International comparisons of patients with chronic heart failure show, for example, that the Lothian region in Scotland uses four times more resources than in Singapore yet achieves inferior medical results<sup>62</sup>. In the United States penalty fees will be introduced for hospitals with high rates of avoidable rehospitalization, starting in 2013. The scheme will initially cover three disease groups – chronic heart failure, myocardial infarction and pneumonia – and will then be expanded<sup>63</sup>. In Sweden regions and county councils invest in their care chains in differing degrees, for instance with regard to screening programmes and the use of certain drugs<sup>64</sup>. These differences are partly due to inadequate data on which interventions produce the best outcomes with the smallest investments. A similar systematic health-economic evaluation that is currently being made for drugs should also be made for medical equipment and entire care chains, as this would enable an efficient reallocation of healthcare resources.

## ***3. Create value awareness and clearer incentives for patients***

With the right information, patients have greater opportunities to make well-informed decisions, but incentives for cost awareness are also required. A stronger linkage between perceived personal cost and consumption of healthcare would make it possible to avoid some of the additional consumption of care that is currently the result of good access to highly subsidised care and that only makes a marginal contribution to our health. In Singapore a model is used where citizens have individual health accounts that are credited by employers and then can be used to pay for healthcare from public and private care providers. This system runs in parallel with another system that is designed to help those who are out of work or suffer from diseases that are expensive to treat. The balance on the health account can be used, for instance, to obtain a private room at the hospital but not to

62 McKinsey Leading Systems Network (2010).

63 "Readmissions Reduction Program, Section 3025", [www.cms.gov](http://www.cms.gov)

64 In 2009 five county councils did not follow the guidelines for mammography, for example by calling women for screening only at the age of 45 ("Öppna jämförelser av hälso- och sjukvårdens kvalitet och effektivitet").

gain access to better care. The system thus allows citizens to pay for a better experience, but not better care, while helping to co-fund the rest of the healthcare system.

#### **4. Predict and prevent ill health and disease**

Today's healthcare system focuses on the care of ill patients. The system should increasingly shift its focus to a more integrated approach where patients with an increased risk of disease are identified and treated before their situation worsens. This can, for example, be done by creating opportunities for individuals with chronic diseases to continuously report health data for risk assessments. Every emergency department has patients who return several times a year, resulting in great suffering and high costs. An example of direct prevention that has a considerable impact is to prevent fall accidents among the elderly. In 2006 the direct cost of injuries and deaths caused by fall accidents was estimated at SEK 4.8 billion<sup>65</sup>. Fall-preventive measures can include strength and balance training, risk assessments of the home environment, eye examinations and medical reviews. Another example is to predict the care needs of those who are chronically ill. In the UK a major pilot study involving electronic monitoring of chronically ill patients has produced good results, including a 45 per cent reduction in mortality and 20 per cent less emergency hospitalizations during the measuring period. An extensive initiative is set to be launched covering three million patients over a five-year period<sup>66</sup>. It is likely that Sweden, too, could benefit from similar initiatives.

#### **5. Introduce modern leadership and focus on results**

In a healthcare system that has few other forces than budget limitations for encouraging productivity growth, leadership assumes a key role. The Swedish healthcare system needs to do two things above all to improve leadership: define and monitor clearly defined targets, and train and develop leaders in the healthcare sector.

Define and monitor clearly defined targets – A successful leader succeeds in driving change and applying new guidelines rapidly and effectively. Today, central guidelines for treatment and care exist, but clinics have a strong tendency to adapt these and establish their own procedures. Observance of guidelines is inadequate and it takes a long time for new knowledge to spread. From being established in the literature, it takes on average nine years before a method becomes widely applied in clinical use<sup>67</sup>. Regular follow-up of relevant parameters and clear feedback, with a focus on quality, is necessary. In the Swedish healthcare sector there is a good tradition of registering data. What is often missing is a process which defines relevant parameters as well as stringent follow-up dialogues in cases where the quality or cost aspects are unsatisfactory.

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65 Swedish National Institute for Public Health, "Fallolyckor bland äldre - En samhällsekonomisk analys och effektiva preventionsåtgärder", Harald Gyllensvärd.

66 "Whole System Demonstrator Programme, Headline Findings" (2011), [www.3millionlives.co.uk](http://www.3millionlives.co.uk)

67 "Managing Clinical Knowledge for Health Care Improvement", E. A. Balas, S. A. Boren.

Train leaders in healthcare – The career path for physicians has traditionally focused on clinical and academic merit. Yet extensive clinical and academic experience does not necessarily translate into the expertise that is required to increase productivity at a clinic or health centre. What matters is rather to define and emphasise different career paths in the healthcare sector. The need for leaders with the ability to drive change and long-term development of the production system – not just the medical content – will be considerable. The UK has introduced the Darzi programme, which since 2009 has been successful in developing clinical leaders in the medical profession. Under the programme, physicians take one year off after the specialization phase of their training to work as project managers in healthcare, often with the task of driving change, working in close collaboration with and with the support of a mentor from the hospital's management. The programme has been welcomed both by participants and hospitals and could serve as a model for a similar initiative in Sweden<sup>68</sup>.

Good opportunities to meet the challenges, if the resolve is there

Sweden's healthcare sector faces major challenges. Addressing these will require courage to make bold decisions and an open-minded attitude to new ideas.

Certain circumstances make it more difficult for Sweden to achieve success. Sweden has, for instance, divided up responsibility for healthcare among 21 regions and county councils and 290 municipalities. This reduces opportunities to achieve economies of scale, especially with respect to the expertise that is required to drive key issues. The need for national centres of knowledge in healthcare is considerable.

However, Sweden also has characteristics which create opportunities for success. Independent county councils are in a better position to implement change, and prospects for innovation increase when there are many independent players. Sweden also has a strong foundation in terms of IT and computer use as well as data infrastructure, including our national quality registers. This makes it possible to rapidly introduce new IT solutions for broad use. Finally, we have a strong tradition of publishing regular and accurate data. This can be used to create pressure for change among county councils, individual care providers and the citizens.

Sweden is in many ways a pioneer and a model for many other countries. Through bold and carefully considered choices in the areas, Sweden can continue to develop its healthcare system, and strengthen it in face of the coming challenges. Sweden can thus consolidate its strong position in healthcare, and provide high-quality care.

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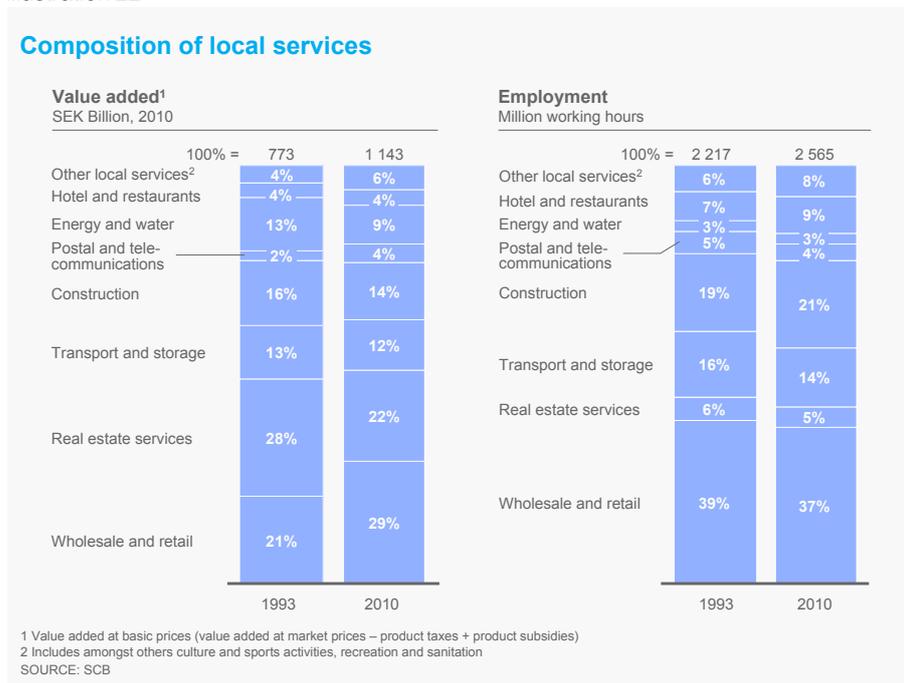
68 "Fellowships in Clinical Leadership", [www.london.nhs.uk](http://www.london.nhs.uk)



# Local services sector

Local services account for a large portion of the Swedish economy – 40 per cent of the total value add and 35 per cent of total employment. The sector includes the industries wholesale and retail, property services, transport and storage, construction, energy and water, postal and telecom, hotel and restaurant and other local services (illus. 22).

Illustration 22



Annual growth in this sector in Sweden is in line with the EU-15. Annual productivity growth has been higher than in the EU-15 (0.8 percentage points higher from 1993-2006) while employment growth has been somewhat slower (0.7 percentage points lower from 1993-2006)<sup>69</sup>. Productivity growth has, however, shown a tendency to stagnate over the period – from a 2.3 per cent annual rate from 1993-2000 to 0.9 per cent from 2000-2010. The high rate of productivity growth in the 1990s is probably due to the significant regulatory reforms that were implemented during the period, especially in the wholesale and retail industry but also in postal and telecom. Looking ahead, Sweden is in a good position to turn this sector into a stronger engine of growth, both by increasing productivity in a number of key industries (including construction, energy and water, and transport and storage) and by creating new jobs. The key measures for achieving this are to lower the barriers to market entry, which still exist and to create a better environment for growth and new enterprise through more efficient local application of regulations.

<sup>69</sup> This pattern continues also after 2007, although later comparable data is not yet fully accessible.

### *Increased productivity drives growth*

From 1993-2010 local services grew at a slightly slower pace than the economy as a whole (2.3 per cent annual growth compared with GDP growth of 2.5 per cent) and the trend is somewhat declining (2.9 per cent annual growth from 1993-2000 compared with

1.9 per cent from 2000-2010). The sector accounted for more than a third of Sweden's total growth. Local services account for a comparatively low share of total employment in the Swedish economy (around 35 per cent compared with about 40 per cent in the EU-15 in 2006). Probable reasons for this are high labor costs as a result of high tax wedges (accounting for 43 per cent of total labor costs in 2010 against 35 per cent in the OECD) and that Sweden has been successful in maintaining jobs in the manufacturing industry.

If we examine the various industries at a more detailed level the picture that emerges of growth and productivity and employment growth is somewhat disparate (see also illus. 23 and 24):

- *The wholesale and retail industry* has seen a sharp increase in productivity exceeding that in other Western countries (4.0 per cent annual productivity growth from 1993-2007, 2.5 percentage points higher than in the EU-15 over the same period). A key factor was the amendment of the Planning and Building Act in 1993. The new law prescribed that municipalities need to take greater account of the competitive situation in decisions to award licenses for new retailers. The aim was to use the new law to increase competition, as municipalities had previously often chosen to limit new start-ups out of concern for established businesses. The intended effect was achieved. In the 1990s it became much easier to establish a business in a Swedish municipality, especially for out-of-town superstores. In the retail industry productivity growth has also been driven by a shift towards new types of stores. More productive formats, such as superstores and specialised chains, have become more common at the expense of other, lower-productivity formats. New advances in IT have also made it possible to achieve more efficient logistics, which has helped to raise productivity. In parallel with this rapid increase in productivity, the employment in the retail sector has grown in line with the EU-15 (0.1 percentage points lower than in the EU-15 from 1993-2006).
- *The construction industry* has, like in many other Western economies, hardly seen any productivity growth over the period (0.1 per cent annually from 1993-2007). Employment growth in Sweden has been somewhat lower than in the EU-15 (0.2 percentage points higher than in the period 1993-2006).
- *Productivity in the transport and storage industry* increased at a 1.8 per cent annual rate while employment grew by 0.3 per cent per year from 1993-2007, which is slower than in other Western countries in both cases.
- *Postal and telecom industry* have seen a very sharp increase in productivity (7.3 per cent per year from 1993-2007), largely on the back of the deregulation of the industry in the 1990s and rapid technological progress<sup>70</sup>. However, employment fell somewhat over the period, which is in line with the EU-15.

<sup>70</sup> "Sveriges ekonomiska välbefinnande - utveckling, nuläge och prioriteringar inför framtiden", McKinsey & Company (2006).

To sum up, the wholesale/retail and postal/telecom industries have performed strongly in Sweden and compare favourably with other countries. The construction, energy and water, and transport and storage industries have grown at a much more modest pace and are also weaker in comparison with other countries.

Illustration 23

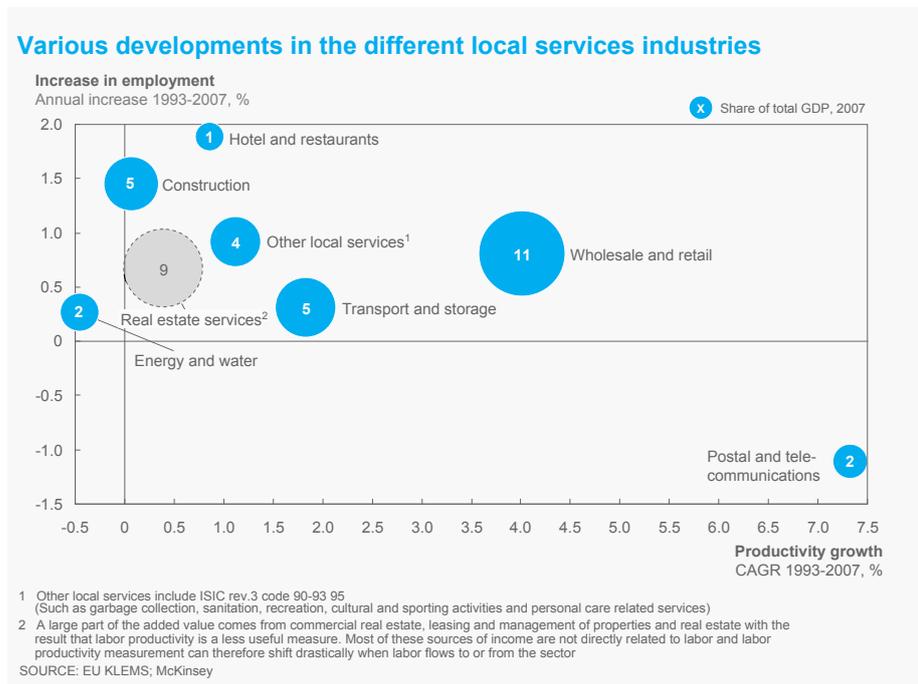
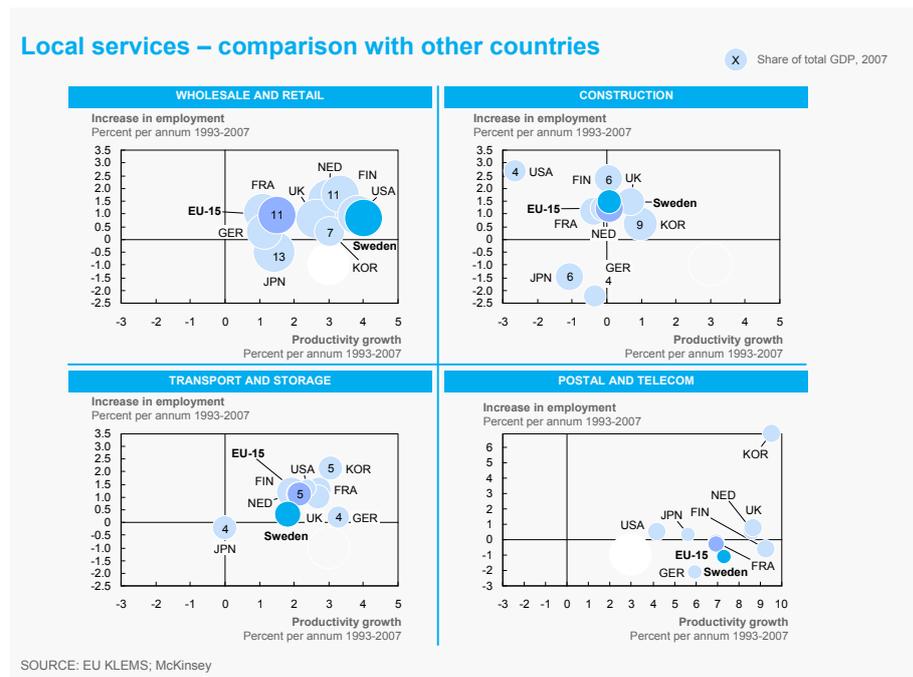


Illustration 24



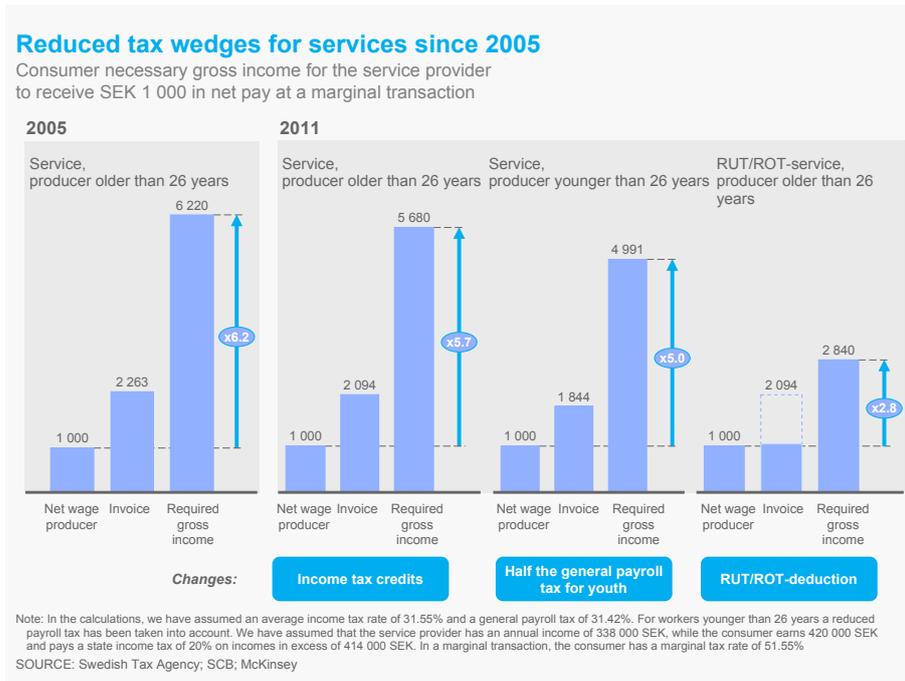
Employment growth in certain service industries has probably benefited from lower tax wedges over the last few years. In particular, increased basic tax allowances (known as “working tax allowances”) and lower payroll taxes reduced the tax wedge in Sweden by nearly one tenth over the period 2005-2011 (illus. 25). Special tax relief programmes for renovation work (ROT) and household work (RUT)<sup>71</sup> have further reduced the tax wedge for renovation, reconstruction and extension work as well as household services<sup>72</sup>, as the State pays 50 per cent of the labor cost for services up to SEK 100,000 a year. These tax reliefs also appear to have helped shrink the informal sector. The Swedish Tax Agency estimates that 10,000 to 20,000 new jobs have been added in the “white” economy as a result of ROT and RUT<sup>73</sup>. In another change, payroll taxes for people under 26 were halved in three stages from 2007-2009.

71 The government’s tax relief programme for renovation, reconstruction and extension work (ROT) was introduced as a temporary measure for the first time in 1993 and has since been repeated a number of times. Most recently, it was reintroduced on a permanent basis in 2008; the tax relief programme for cleaning, maintenance and laundry work (RUT) was introduced in 2007.

72 Included in other local services (SNI code 93050).

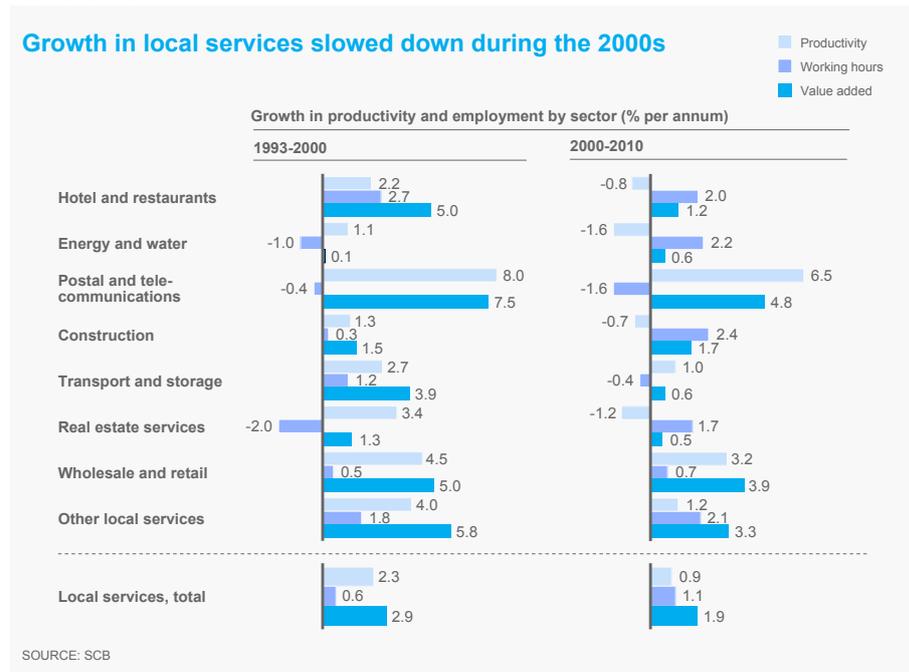
73 Swedish Tax Agency’s report 2011:1, “Om RUT och ROT och VITT och SVART”.

Illustration 25



Worryingly, the healthy rate of productivity growth that Sweden has had in local services over the past two decades declined in the 2000s (the annual growth rate was 0.9 per cent from 2000-2010, compared with 2.3 per cent from 1993-2000) (illus. 26). The major wave of deregulation that was implemented in Sweden in the 1980s and 1990s was a key driver behind productivity growth in the 1990s. An OECD study estimates the effect til as much as 0.4 per cent annual productivity growth from 1994-2003 (in the economy as a whole) but thereafter the pace of change appears to have levelled off.

Illustration 26



### Regulations can be improved

Sweden is in a good position to turn local services into a stronger engine of growth in the future. Key tools include improving the regulatory framework in those three large industries that have experienced weaker growth (construction, transport and storage, energy and water), and improving local application of existing regulations. Two concrete initiatives are presented below.

#### Conduct a systematic review of slow-growing industries and take measures to curb growth-inhibiting regulations.

Decision-makers should pay extra attention to sectors which have grown at a weak or average pace compared with other countries, as these offer scope for improvement. Previous deregulation and regulatory reforms (in, for instance, telecom, retail and transport market) have had a positive impact on productivity. Policy makers, trade associations, and employer and trade unions should now consider the next wave of deregulation. The previous wave of deregulation in the 1980s and 1990s addressed the largest and most obvious monopolies, so there are no Alexandrian solutions in this area. What needs to be tackled this time are those many minor regulations and barriers which affect a range of different industries and which need to be improved or removed altogether. Each industry should therefore be systematically reviewed with the aim of identifying and changing those rules, standards and agreements which inhibit growth. The following are a few examples of barriers that should be addressed.

- *The construction industry.* Productivity growth in the Swedish construction industry was a mere 0.1 per cent from 1993-2010 while the UK construction industry, for example, achieved annual productivity growth of 0.7 per cent from 1993-2007. McKinsey's first report on the Swedish economy<sup>74</sup> showed that this can largely be explained by those many detailed regulations and industry standards which still exist as well as a lack of common EU rules in several areas (and thus less competition in Sweden). The strong detailed regulation of the construction industry leads to inefficiency – unnecessary losses (“waste”) have been estimated at 20-30 per cent of total construction costs. A rigid Planning and Building Act (PBL) and a bureaucratic detailed development planning process prevent adjustments, detailed building standards prevent innovation and a lack of common EU rules for building materials reduce competition in the production and distribution of inputs. On top of that, a much too detailed division into separate construction stages leads to many handovers and inefficiency. Finally, productivity growth is prevented by the existence of an informal sector, although this sector has been reduced in size following the introduction of the tax relief programme for renovation work (ROT)<sup>75</sup>. The impact of attempts to improve the systems have been limited. It is likely that a transition to functional regulations would enable the industry to raise itself to levels of productivity growth similar to those that have been achieved in the UK.
- *The retail industry.* In the retail industry many new jobs could probably be created if the rules governing overtime compensation were amended to enable a higher level of service in evenings and weekends. McKinsey's previous Sweden report estimated that if the share of people working in the retail industry in Sweden were the same as in the UK this would represent 180,000 new jobs (including wholesalers). The rules have not been changed since the previous report was published in 2006, so there is still significant potential. In food the Swedish retail industry is still concentrated to a relatively small number of players. In many locations it would be desirable to increase competition, a process that could be facilitated by municipalities through speedier processing of applications and more flexible detailed development plans.
- *Examples from other industries.* The restaurant industry is subject to a wide array of regulations, covering alcohol licensing (licensing hours, guards, license officers, training), dancing licenses if the guests are to be allowed to dance, various food licenses, etc. Many of these regulations fulfil an important purpose concerning health and order, but voices have been raised suggesting that the overall picture is too complex and costly. The small-scale software industry has recently struggled under the burden of double VAT taxation on foreign app sales via iTunes and other channels. Although this rule was abolished in late 2011, it is a clear example of how seemingly simple rules can create a barrier for an industry.

74 “Sveriges ekonomiska välförhållanden - utveckling, nuläge och prioriteringar inför framtiden”, McKinsey & Company (2006).

75 See, for example, the Swedish Tax Agency's report 2011:1, “Om RUT och ROT och VITT och SVART”.

- *Barriers across multiple industries.* Examples of other growth-inhibiting regulations which cover multiple industries include excessively detailed breakdowns into different work stages and minimum staffing levels. These also include many rules which make life harder for business owners, such as deciding which VAT rate applies due to the differentiation in rates (a lower rate of VAT for restaurants, for example, which doesn't apply if food is included in the conference package), complicated VAT accounting for goods imported from outside the EU (today VAT needs to be reported to Swedish Customs and then to the Tax Agency while imports from the EU only need to be reported in the tax return), or so-called gold plating, where Swedish rules go further than the applicable EU rules (simplified invoices for small amounts under the VAT Act, for instance, or what size company has the right to opt out of auditing).

An initiative to review all industries on a broad front with the aim of identifying, analysing and simplifying this type of barriers could be launched at the political level and take the form of a partnership between politicians, trade associations, employers and trade unions in each industry.

### **Streamline the local application of regulations**

In addition to this detailed review of slow-growing industries, there are opportunities to improve the local application of national regulations at municipalities and county councils. Processing times for building permits, business licenses, environmental permits and other licenses vary from a few weeks to several months depending on the municipality or county council concerned. Long processing times have a negative impact on the business climate. These issues have been highlighted by many different organizations. The Swedish Federation of Business Owners points to this as an area where improvements could make life easier for small business owners<sup>76</sup>. The Board of Swedish Industry and Commerce for Better Regulation (NNR) and the Confederation of Swedish Enterprise have also conducted surveys which point to a potential in this area<sup>77</sup>. One possible way forward could be to instruct the Swedish Agency for Public Management to create transparency on key processing times for each municipality and county council. In a second phase such an initiative could be combined with an incentive system for efficient municipalities (modelled, for example, on “kömiljarden”, an incentive scheme under which SEK 1 billion is distributed among those county councils which have succeeded in providing care to patients on time and cutting waiting lists).

76 The report “48 förslag för att lindra småföretagens regel-värk”, Swedish Federation of Business Owners, February 2011.

77 “Framtiden väntar inte - om världen och Sveriges välstånd”, Stefan Fölster och Johan Kreicbergs (2011), and the report of the Board of Swedish Industry and Commerce for Better Regulation (NNR), “Regelförenkling på kommunal nivå” (2011).





# The international sector

The sector that is exposed to international competition (the “international sector”) comprises the manufacturing industry, business and financial services, and commodities. The sector currently accounts for one third of the economy and has over the past 15-20 years been Sweden’s strongest engine of growth on the back of very strong productivity growth (3.6 per cent annually) and growing employment (0.7 per cent annual growth). The sector has accounted for more than half of total GDP growth and has been one of the key drivers behind Sweden’s outperformance of the EU-15 in GDP growth from 1993 and 2006<sup>78</sup>.

This growth has been achieved on the back of a successful global commercial expansion as well as efficiency improvements in production in Sweden that have ensured that Swedish businesses continue to manufacture products in Sweden, especially in more advanced areas. However, globalization is changing character, which creates new requirements: competition from businesses in developing countries is growing and competition among countries aimed at attracting the world’s most innovative businesses is intensifying. R&D activities are also changing character: research and development is becoming more network-based, product lifecycles are becoming shorter and new offers are increasingly being developed in the borderland between products, services and business models in a trend that is creating new requirements but also opening up new opportunities.

To meet these changes, and to enable continued strong growth for the international sector, it would be of considerable value if Sweden and Swedish businesses could find a way to increase their innovation productivity – defined as value creation from new products, services and business models compared with R&D investments – and thus derive even greater benefit from Sweden’s high R&D investments. Can Sweden and Swedish business become leaders in innovation productivity in the same way as the country in many industries has become a leader in production efficiency?

A key component is probably for businesses to globalise and streamline their innovation models to a greater extent, in the same way as they over the last few decades have globalised and streamlined their production and sales activities. Businesses can benefit from the considerable innovative power that exists among suppliers and in the fast growing economies while strengthening their position as coordinators of R&D value chains and owners of advanced research.

*Can Sweden achieve leading innovation productivity by adjusting effectively to a more global innovation environment?* This is the key issue for the future of the international sector. We believe it is possible provided that Sweden takes ambitious further steps in three areas:

- *Study how innovation productivity in the business sector could be further improved, for instance by increasing the rate of adjustment to global innovation models.*
- *Turn Sweden into one of the world’s most attractive countries for investments in R&D and innovation – strengthen the fundamentals.*
- *Assess whether public-private partnerships and other types of strategic research initiatives can be a way to accelerate innovation in specifically interesting areas.*

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<sup>78</sup> See Chapter 2 Historical background.

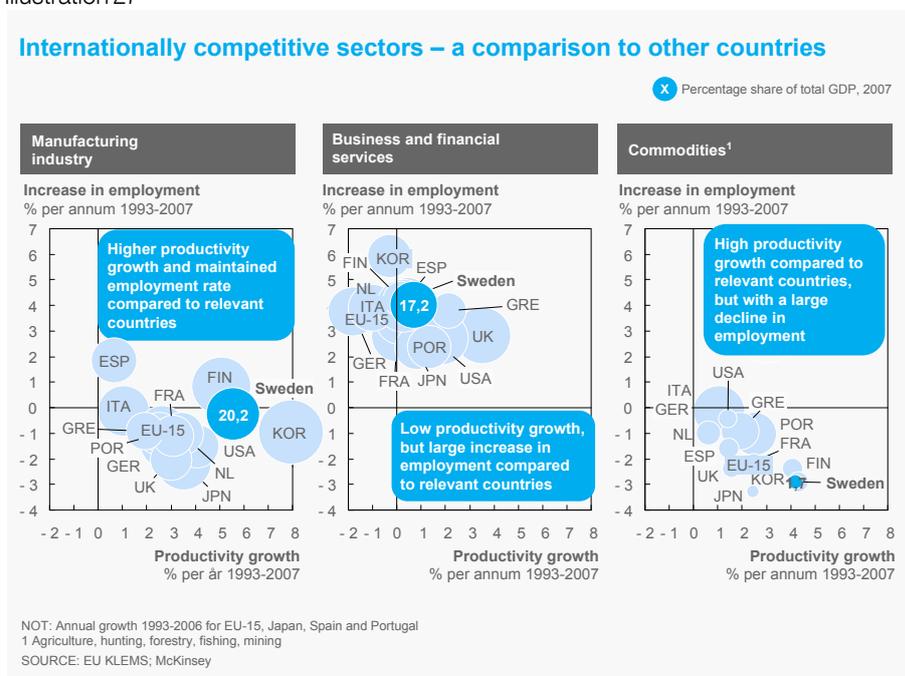
In addition to measures to promote innovation, Sweden should ensure that necessary fundamentals for a competitive industry are in place; efforts should be made to raise standards of quality in primary schools, higher education should be adapted to current labor market requirements, and the relative strength of infrastructure should be strengthened.

### Strong growth in the past 15-20 years

The international sector accounts for 35 per cent of Sweden's GDP and has been the driving force behind half of total GDP growth in the past 15-20 years, generating annual value added growth of 4.3 per cent. This sector also explains Sweden's higher GDP growth rate compared with the EU-15<sup>79</sup> and has enabled Sweden to more than double<sup>80</sup> its total exports while net exports have gone from a deficit in the early 1990s<sup>81</sup> to a surplus of around seven per cent of GDP.

All industries in the international sector have contributed to this positive performance (the manufacturing industry has generated an annual value added growth of 5.3 per cent, business services 4.1 per cent and commodities 0.8 per cent), but performances vary (illus. 27)<sup>82</sup>.

Illustration 27



<sup>79</sup> See Chapter 2 Historical background.

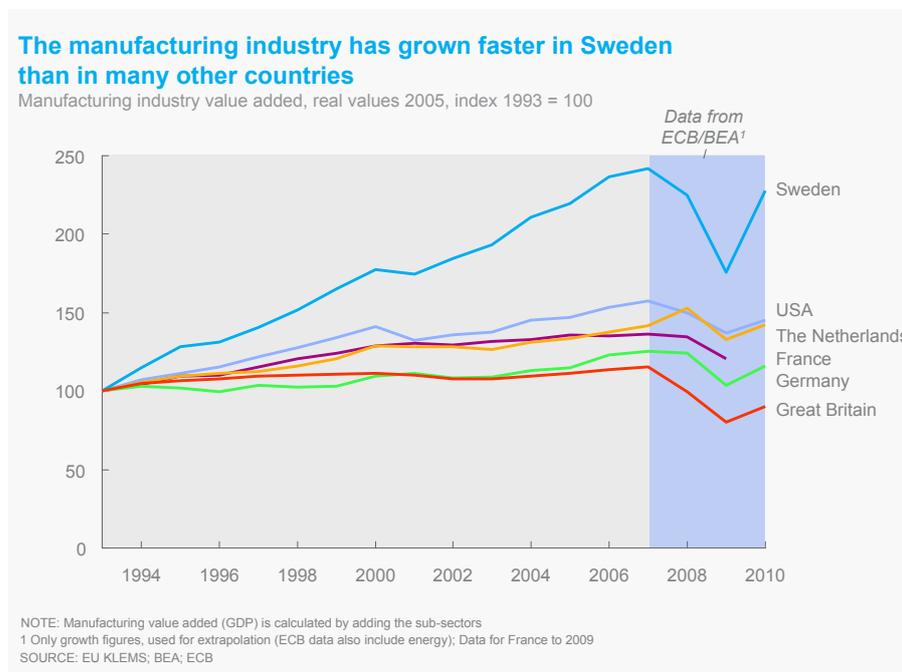
<sup>80</sup> Total exports increased from SEK 800 to 1,600 billion from 1998 and 2010. Data on the services sector from before 1998 is not available – exports of goods increased from SEK 400 to 1,000 billion from 1993 to 2010.

<sup>81</sup> Sweden had a current account deficit or very small current account surplus in the late 1970s and throughout the 1980s.

<sup>82</sup> The international comparison refers to 1993-2007, as comparable data for 2008-2011 is not available. Our assessment is that the pattern has remained in place after the most recent recession, in which Sweden experienced a sharper downturn than many other countries but also a swifter recovery once the economy turned around.

Over the period 1993-2007 the manufacturing industry achieved strong productivity growth with a slight decline in the number of hours worked (annual changes of 5.7 and -0.4 per cent, respectively<sup>83</sup>). Sweden's manufacturing industry has been a world leader in productivity growth<sup>84</sup> (1.5 percentage points higher than in the United States and 2.9 percentage points higher than in the EU-15<sup>85</sup>) while employment has declined less than in other countries. Overall, this has led to a remarkably strong performance (illus. 28).

Illustration 28



In the manufacturing industry value added growth has been strongest in electrical and optical products, driven primarily by the telecom industry, followed by the transport equipment, chemical and mechanical engineering industries. All industry groups except the pulp and paper industry, food and textiles have, however, achieved annual value added growth in excess of three per cent (table 1). Comparisons with the EU-15 show that the strong performance is primarily due to a stronger performance in each industry group, and not to a more favourable mix of industry groups in Sweden<sup>86</sup>. A number of major companies have

83 -0.4 per cent is based on the number of hours worked from 1993-2007. Illustration 2 shows an annual decline in the number of full-time employees of 0.8 per cent from 1993-2010.

84 The remarkably high rate of productivity growth was relatively constant throughout the period, with the exception of the recessions in 2001 and 2008-09.

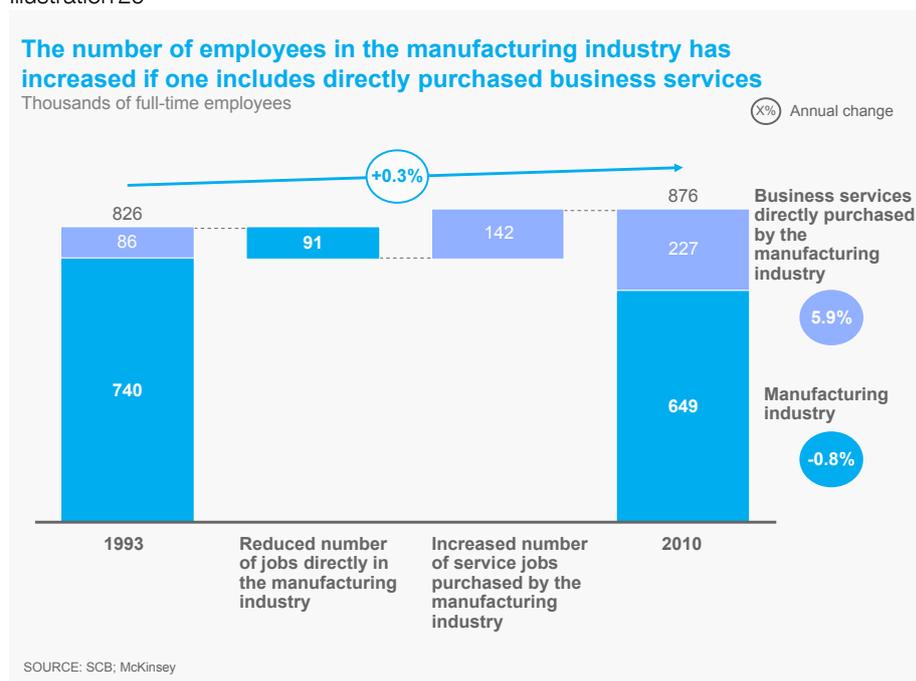
85 This comparison applies for 1993-2007, as the comparability of data for 2008-2011 is still too low. Our assessment is that the pattern has remained in place also after the most recent recession, in which Sweden experienced a sharper downturn than many other countries but also a swifter recovery once the economy turned around.

86 89 per cent of Sweden's outperformance in terms of value added growth relative to the EU-15 over the period 1993-2005 is due to a stronger performance at industry group level, with the remaining 11 per cent attributable to a more favourable mix of industry groups. The same analysis for employment results in industry group performance, 63 per cent, and composition effect, 37 per cent. EU Klems, McKinsey Global Institute.

played a key role; the ten largest companies account for about 20 per cent of value add in the manufacturing industry (a figure which is yet higher if local subcontractors are included) and accounted for 35 per cent of value added growth over the period 1997-2007<sup>87</sup>.

The performance of the manufacturing industry and business services is intimately connected; many of the jobs that have disappeared from the manufacturing industry have shifted to companies providing business services. The number of people working in manufacturing declined from 740,000 to 650,000 over the period 1993-2010, largely due to streamlining and automation as well as a stronger focus on increasingly advanced production where simpler manufacturing activities and services are outsourced. Out of total employment growth in business services, around 142,000 jobs are directly attributable to the manufacturing industry. This means that employment in the Swedish manufacturing industry actually increased over the period (illus. 29).

Illustration 29



*Business and financial services* have also grown at a rapid pace, but unlike the manufacturing industry this growth has been driven mainly by an increase in employment (0.5 annual productivity growth and 3.5 per cent annual employment growth from 1993–2010). Employment growth has been high compared with other countries (1.1 percentage points higher per year than in the United States and 0.5 percentage points higher than in the EU-15) while productivity growth has been on par with other comparable countries. Business services, such as recruitment, legal advisory and consulting services,

87 Statistics Sweden, data from 1997 and 2007. Value add among the ten largest (largest capitalization in 2010) companies in the manufacturing industry including subsidiaries. Data not available further back than 1997.

account for most of the increase in employment while financial services have seen a moderate increase in productivity and employment (table 1).

In commodities productivity growth has been strong on a comparative basis (2.9 per cent annual growth), but the number of hours worked has declined (-2.0 per cent per year). This trend has been driven primarily but the agricultural sector, while productivity and employment growth in the mining sector has been largely flat (table 1). In mining Sweden has not experienced the same sharp growth that has been seen in other countries; Sweden's iron ore production, for instance, increased at an annual rate of only 3 per cent from 2002 to 2010, compared with 11 per cent in Australia, 18 per cent in China and 7 per cent in South Africa<sup>88</sup>.

Table 1

<b>Development by industry within the international sector</b>					
<b>Development by sector within the manufacturing industry</b>					
Sector	Value added by sector 2008 SEK Billions, real value	Contribution to GDP growth 1993-2008 Percentage points	Value added growth 1993-2008 Annual growth rate, %	Productivity growth 1993-2008 Annual growth rate, %	Growth in number of working hours 1993-2008 Annual growth rate, %
Metals and metal product industry	81	0.11	3.0 %	1.1 %	1.9 %
Machinery and equipment industry	75	0.14	4.7 %	3.8 %	0.9 %
Electrical and optical equipment industry	67	0.24	22.8 %	22.6 %	0.2 %
Chemical industry	58	0.11	4.8 %	3.6 %	1.1 %
Pulp, paper and printing industry and publishing	55	0.01	0.2 %	1.7 %	-1.5 %
Transportation industry	50	0.11	6.2 %	4.9 %	1.2 %
Food, beverages and tobacco industry	36	0.02	1.3 %	2.8 %	-1.5 %
Forest product industry	20	0.03	3.5 %	2.7 %	0.7 %
Rubber- and plastic industry	15	0.02	3.8 %	3.2 %	0.5 %
Mineral industry	13	0.02	3.3 %	3.2 %	0.1 %
Coal and petroleum product industry	9	0.03	23.1 %	20.8 %	1.9 %
Textiles, clothing, leather industry	5	0.00	-0.2 %	2.7 %	-2.8 %
Other manufacturing industry	15	0.03	5.2 %	7.0 %	-1.7 %
<b>Total</b>	<b>497</b>	<b>0.87</b>	<b>6.4 %</b>	<b>6.1 %</b>	<b>0.2 %</b>
<b>Development by sector within business and financial services and commodities</b>					
Sector	Value added by sector 2008 SEK Billions, real value	Contribution to GDP growth 1993- 2008 Percentage points	Value added growth 1993-2008 Annual growth rate, %	Productivity growth 1993-2008 Annual growth rate, %	Growth in number of working hours 1993-2008 Annual growth rate, %
<b>Business and financial services</b>					
Business services	337	0.44	4.4 %	0.3 %	4.2 %
Financial services	121	0.13	3.2 %	2.1 %	1.0 %
<b>Total</b>	<b>458</b>	<b>0.57</b>	<b>4.1 %</b>	<b>0.6 %</b>	<b>3.5 %</b>
<b>Commodities</b>					
Agriculture	53	0.03	1.4 %	3.5 %	-2.0 %
Mining	20	-0.00	-0.5 %	0.8 %	-1.2 %
<b>Total</b>	<b>73</b>	<b>0.03</b>	<b>0.8 %</b>	<b>2.9 %</b>	<b>-2.0 %</b>

SOURCE: SCB

### Key factors behind the success

During the decades leading up to the crisis in the 1990s a state of stagnation arose in the international sectors as well as in the Swedish economy as a whole. Devaluations in the 1970s and 1980s stimulated short-term demand but failed to achieve any long-term improvement, as the sector did not introduce those large-scale efficiency-raising measures which could have improved competitiveness over the longer term. Nor was wage inflation in balance with productivity growth. When the financial and property crisis broke out in Sweden in the early 1990s a large number of companies with low productivity in the international sector went out of business, with 50 per cent more bankruptcies

88 Yearbooks, World Steel Association 89 Statistics Sweden: number of bankruptcies in the manufacturing industry 1982-1999.

in the manufacturing sector in the 1990s than in the 1980s<sup>89</sup>. As a result, one fifth of all manufacturing jobs and nearly one tenth of all jobs in business and financial services disappeared from the mid-1980s to mid-1990s.

However, the strong performance of Sweden's international sector from the middle of the 1990s can only to a very small extent be explained by a low starting-point in the wake of the 1990s crisis. For most of the subsequent growth other explanatory models need to be sought. The crisis gave way to very strong and continuous growth in the manufacturing industry, both compared with the prior period and compared with other Western economies. Sweden stood out compared with other countries – and with previous decades – through a number of factors: commercial success in a growing global market, effective adjustment for competitiveness and a good environment for R&D and skills development. Our view is that these factors lie behind the strong performance, and that adjustments are now required to enable a continued strong performance.

### **1. Strong global demand and commercial success in a growing global market**

The world economy has over the last 15 years seen a sharp increase in international trade. Total global exports as a share of GDP grew by around 50 per cent from 1995 to 2008, compared with a much more modest increase of about 10 per cent from 1982 to 1995.

The driving forces behind this trend are reduced trade barriers coupled with easier communications, partly on the back of rapid advances in IT, more accessible transport routes and a dramatic decline in transport costs; the cost of a transatlantic container transport, for instance, fell by 25 per cent in real terms from 1993 to 2009. An example of the lowering of trade barriers is the founding of the WTO in 1995, which led to a spate of international agreements on trade in services and a 40 per cent reduction in tariffs for industrial goods. The EU's internal market has also promoted increased trade in Europe.

Sweden's manufacturing industry was internationalised at an early stage and was able to take advantage of the open global market. Already in the 1990s the value of Swedish exports accounted for 36 per cent of GDP, which was significantly higher than in the United States (10 per cent) and the average for the EU-15 (29 per cent) and Germany (26 per cent)<sup>90</sup>. Many Swedish companies had products with leading technology and well developed international marketing organizations that were able to rapidly expand market channels, especially in the growing Asian market. The ten largest industrial firms, for instance, increased their share of sales from Asia from about 10 per cent in 1997 to around 20 per cent in 2010<sup>91</sup>.

Swedish exporters also received a temporary demand injection from the floating of the krona in 1992, which triggered a 25-30 per cent decline in the value of the currency. This boosted demand for Swedish goods and services and enabled manufacturers to increase capacity use in the first half of the 1990s (from 82 per cent in 1992 to 89 per cent in 1995). This resulted in a relatively "simple" increase in productivity, as in the case of previous devaluations. Experiences from the devaluations in the 1970s and 1980s show, however,

89 Statistics Sweden: number of bankruptcies in the manufacturing industry 1982-1999.

90 Global Insight.

91 The companies' annual reports for 1998 and 2011, estimates, as sales to different geographic regions are not defined uniformly for all companies.

that a devaluation in itself is not a miracle cure, but often has only a short-term effect. It is only if the country simultaneously addresses structural issues and improves its underlying competitiveness that lasting strength can be achieved.

## 2. Effective adjustment for competitiveness: world-class productivity through a spirit of consensus

The period after the 1990s crisis has also been characterised by relatively good labor market relations. The constructive spirit which found its manifestation in the Industrial Agreement<sup>92</sup> has created a situation where wage costs are in balance with productivity growth and the dialogue is focused on productivity. Despite legislation which gives unions wider strike rights than in many other countries<sup>93</sup>, Sweden has had few strike days, has created greater scope to set salaries on an individual basis and has developed contractual solutions at the local level that have strengthened companies' competitiveness (illus. 30). One example is the crisis agreement that was concluded at Scania during the financial crisis in 2009: employers and unions agreed to introduce a four-day week with a ten per cent cut in wages for six months in exchange for a moratorium on redundancies during that period. The agreement covered 12,000 employees and saved the company somewhere in the region of SEK 300 million. Compared with their peers in other countries, Swedish businesses have also invested heavily in developing their employees' skills and have had a low rate of staff turnover (illus. 31).

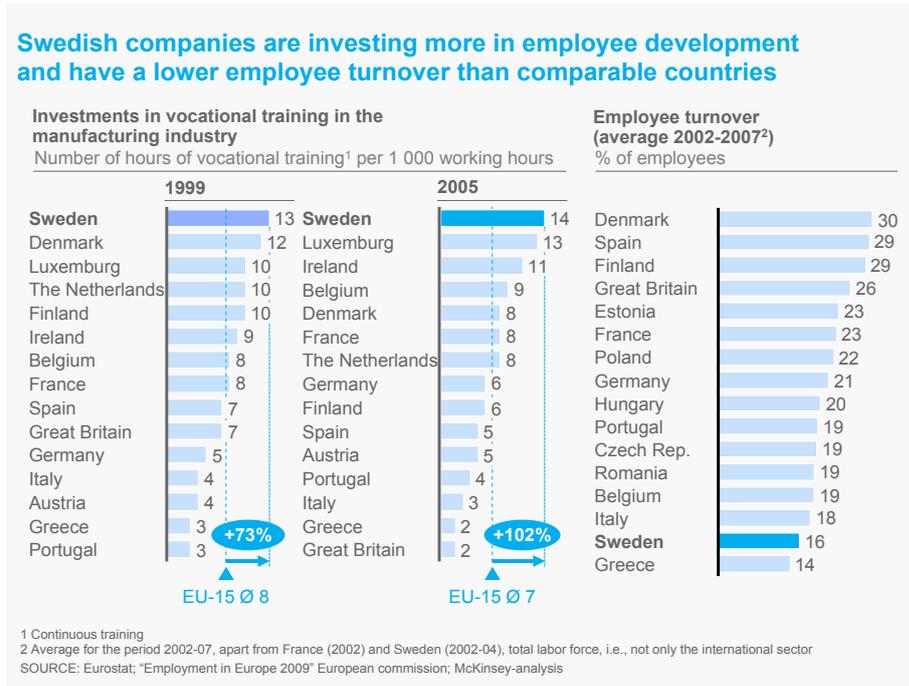
Illustration 30



92 The Industrial Agreement, which was first concluded in 1997 and updated in 2011, has been a cornerstone for wage formation in Sweden and regulates the relationship between employer organizations and trade unions in industry. The agreement consists of a cooperation agreement (how the parties should collaborate to develop Swedish industry) and a negotiation agreement (regulates the negotiation processes).

93 See, for example, Wiebke Warneck's report "Strike rules in the EU27 and beyond: A comparative overview".

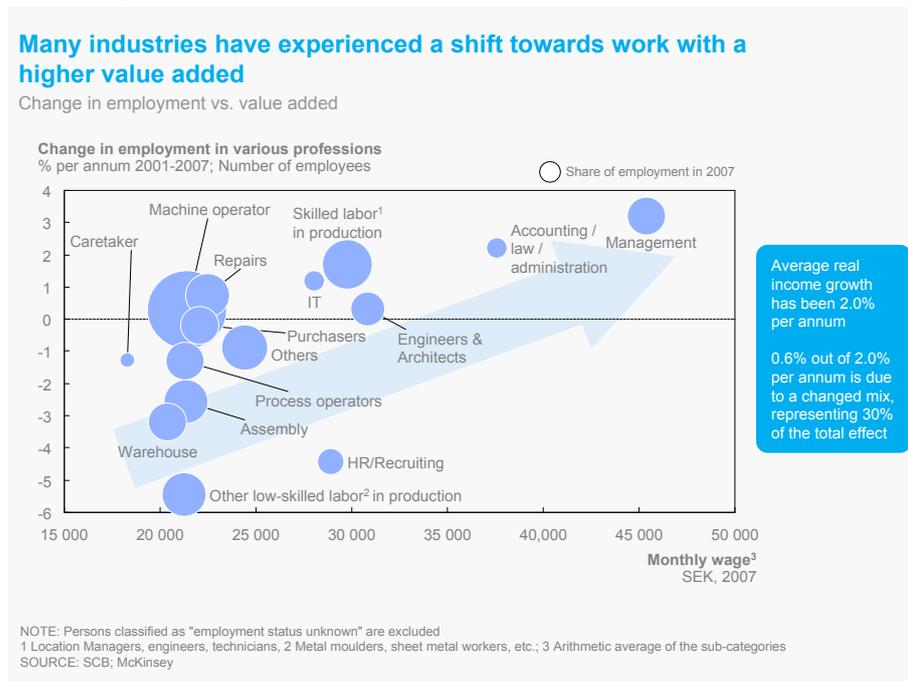
Illustration 31



This constructive spirit has enabled a transition to higher-value-added activities and an upgrading of the labor supply's skills to a significantly greater extent than in other countries. A clear shift from unskilled to highly qualified tasks and jobs has taken place. The number of unskilled jobs in the international sector has declined as a result of the outsourcing of simpler manufacturing and activities. At the same time more complex tasks and services, such as managerial tasks and R&D and design jobs, have increased as a result of specialization and continued strong global demand (illus. 32). The increase in highly qualified services has been more palpable in Sweden than in other countries over the past two decades. From 1993 to 2005 the number of hours worked in the manufacturing industry by highly qualified staff increased by 125 per cent in Sweden, compared with an increase of 25 per cent in Germany and 27 per cent in the United States<sup>94</sup>.

94 EU KLEMS, an EU-funded project conducted between 2003 and 2008 with the aim of creating a database of comparable economic growth, productivity, employment and other data at industry level for all EU member states.

Illustration 32



### 3. Strong fundamentals

Sweden's strong competitiveness and effective adjustment have been achieved on the back of a number of fundamental strengths.

Sweden has invested in research and development (R&D). The country has continuously invested a higher share of GDP in R&D (an average of 3.6 per cent during the period 1993-200) than the United States (2.6 per cent) and the EU-15 (1.8 per cent)<sup>95</sup>, and these significant differences are explained by R&D investments in the business sector. Government funding has also been high in comparison with other countries; an average of 0.9 per cent of GDP from 1993-2009<sup>96</sup> against 0.8 per cent in the United States and 0.6 per cent in the EU-15. A majority of Swedish businesses' investments come from the manufacturing industry (70 per cent of total R&D investments in the business sector). It is also worth noting that although Swedish businesses have invested heavily in R&D outside of Sweden the share invested in Sweden has remained relatively stable throughout the 2000s.<sup>97</sup> A study of 21 large Swedish groups conducted by the Swedish Agency for Growth Policy Analysis over the period 1999-2009 showed that the groups increased their R&D investments at a somewhat slower pace in Sweden than in other countries (total increase 3.5 per cent per year in real terms<sup>98</sup>; 2.8 per cent in Sweden and 4.4 per cent outside Sweden). The expansion of R&D activities outside Sweden is a natural

95 OECD iLibrary.

96 OECD Science, Technology and R&D.

97 "Forskning och utveckling i internationella bolag", Swedish Agency for Growth Policy Analysis (2009). The corporate groups included in the surveys, 21-Swedish owned and 16 foreign, accounted for 73 per cent of private-sector R&D expenditure in Sweden in 2009.

98 2009 price levels.

consequence of globalization; the primary reasons cited by the studied companies for locating R&D activities abroad are that “the company needs to have a presence in this country in order to be able to adapt its products or processes to specific customer or market requirements” and “the company’s production unit(s) require separate R&D capacity in this country”.

*Sweden has had a strong position in terms of skills and business management. We have had good access to and a steady supply of well-educated workers and engineers. 2.7 per cent of Sweden’s population have a post-secondary engineering degree, which is higher than the average for the EU-15 at 2.2 per cent<sup>99</sup>. The educational level of the labor force is generally high; a survey of educational levels in the manufacturing sector shows, for instance, that Sweden has the highest share of non-managers with a post-secondary education after Japan.<sup>100</sup> Swedish industrial firms generally also have strong management processes; a survey of management structures in industrial firms places Sweden at the top along with Japan and the United States, ahead of all other EU countries. This is also underlined in the World Economic Forum’s Global Competitiveness Index, which ranks Sweden as one of the leading countries (out of 142) in the categories “reliance on professional management” (1st), “well-functioning corporate boards” (1st) and “strong auditing and reporting standards” (2nd)<sup>101</sup>. It has also been suggested that strong language skills, especially in English, have a positive impact on managerial skills in Sweden’s international companies.*

Overall, it could be said that the manufacturing industry in Sweden has succeeded in managing the transition from an “export logic” with a focus on exporting products where most of the production takes place in Sweden to an “international logic” with a focus on finding a natural place in an increasingly globalised world with new requirements. Swedish businesses have achieved strong productivity growth, both by improving their offering by adapting it to the global market and by streamlining production. The country has succeeded in implementing a transition to more value-creating services that have enabled Sweden to maintain its role as a central hub in international value chains. This transition becomes most apparent when one looks at the ten largest, and thus most globalised, Swedish manufacturers. Over the past 15 years these have reduced their share of sales to Sweden (from eight per cent to four per cent of total sales) and reduced their share of employees in Sweden (from 31 per cent to 17 per cent of the total number of employees) but have also directly accounted for around 30 per cent of the manufacturing industry’s total value added growth and about 10 per cent of total real GDP growth for Sweden as a whole.

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99 Eurostat; engineers classified as “engineering, manufacturing and construction”; does not include ‘science, mathematics and computing’.

100 16 per cent in Sweden compared with 10 per cent in Germany and 14 per cent in the United States. “Management Practice and Productivity: Why they matter” (2007). Centre for Economic Performance at the London School of Economics and McKinsey.

101 “The Global Competitive Index 20110-2012”, World Economic Forum.

## *Challenges for continued success*

In an era of rapid globalization Sweden's international sector has thus proved significantly more successful than in many comparable countries. However, there are challenges ahead which need to be met to ensure continued success.

### **1. Tougher competition from companies in the fast growing economies**

Globalization is changing character and creating new requirements; there is reason to expect continued robust global growth in the long term, but competition in the global market is also set to intensify, which will require a more innovative offering. Companies in emerging economies improve their competitiveness by increasing their scale and level of technology, resulting in increased competition both in these companies' domestic markets and globally. In the telecom sector, for instance, Huawei has moved from a market share in the global mobile infrastructure market of less than one per cent in 2002 to become the second largest player after Ericsson, with a market share of 16 per cent<sup>102</sup>. In 2011 Huawei registered the third largest number of patents in the world among all companies<sup>103</sup>. Competition from fast growing economies is increasing most rapidly in the mid-technology segment, which makes up the backbone of the Swedish export sector, comprising industries such as motor vehicles, metals and chemicals.

### **2. Continued pressure for adjustments: An increased pace of innovation and a global innovation environment**

*The international R&D map, and the structure of research, are changing character.* Emerging economies like China, India, Brazil, South Korea and Indonesia are increasing their R&D investments significantly, which reduces Sweden's relative weight; Sweden's share of the number of new patents is falling rapidly, for instance. These countries, with the exception of Brazil, also have a clearer focus on applied and needs-driven R&D<sup>104</sup> in technology, IT, materials science, with less of a focus on medicine, arts subjects and social sciences than the established research nations in Europe and the United States. This further strengthens their progress in fields of more direct relevance to the competitiveness of the international sector. At the same time the character of R&D activities is changing: R&D is becoming more "network-based"<sup>105</sup>, the pace of innovation is increasing and product lifecycles are becoming shorter, and new offers are increasingly being developed

<sup>102</sup> Huawei's market share in infrastructure for mobile telephony has grown from -4.5 per cent in 2006 to -16 per cent in 2011, ZTE's market share has grown from 2.1 per cent in 2006 to 9 per cent in 2011.

<sup>103</sup> World Intellectual Property Organization.

<sup>104</sup> För svensk framgång inom forskning och innovation 2012-2016 - "Underlag till forsknings- och innovationsproposition" from the Swedish Research Council, the Swedish Governmental Agency for Innovation Systems (Vinnova), Formas, the Swedish Council for Working Life and Social Research (FAS), the Swedish Energy Agency and the Swedish National Space Board.

<sup>105</sup> Network-based or open R&D refers to an inflow and outflow of knowledge aimed at accelerating the pace of innovation. In a world with a uniform knowledge bank companies are no longer able to rely solely on their own research, but should acquire ideas, inventions and intangible assets from other companies or universities when these improve their own business models.

in the borderland between products, services and business models. This necessitates change, but if Sweden and Swedish businesses are able to adjust successfully and benefit from these trends the increase in global R&D activities can be turned to Sweden's advantage.

*Yet there are also question marks about the efficiency of R&D activities in Sweden.* There are signs that Sweden has not fully kept up with the rest of the world in terms of quality. The relative quality (defined as average citations) of Swedish research has declined according to an evaluation by the Swedish Research Council, and no field of research has increased its average citations in the past ten years. Mathematics, information and communication technology, materials science and engineering science – fields of research that are highly relevant for innovation in the international sector – have lost ground. From being well above the global average in 2000-2002, Sweden was only slightly above the average in 2006-2008<sup>106</sup>. There are also indications that Sweden is better at basic research than commercialization, and question marks have been raised about the links between academia and industry. The Swedish Governmental Agency for Innovation Systems (Vinnova) has shown that the share of government-funded, needs-based research that is governed by or decided on in consultation with industry has declined since the 1990s. This research can often constitute an important cornerstone for companies' choice of location, and any decline could make it difficult to attract and retain corporate R&D activities in Sweden. An analysis of several manufacturing sectors indicates that Sweden is relatively strong in terms of creating ideas, but relatively weak in terms of commercialization (illus. 33).

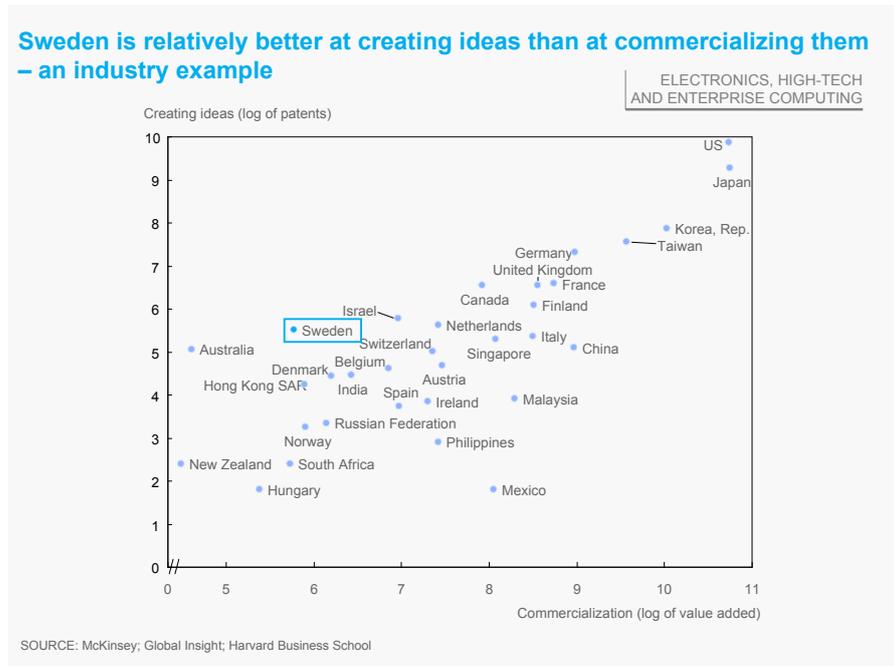
There is also reason to assume that *competition for the siting of R&D activities will be strong in future.* A large portion of Swedish R&D investments are made in a small number of Swedish corporate groups<sup>107</sup> with other R&D centres outside Sweden that compete for the investments. At the same time other countries are stepping up their efforts to attract R&D centres and innovative companies. In the United States, for instance, a council on competitiveness has been established to provide politically independent advice to the president on matters relating to job creation and competitiveness, and this council also attaches great importance to attracting R&D investments. France offers 30 per cent tax relief on R&D investments up to €100 million, and Singapore also offers a favourable tax framework for R&D investments.

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106 "Nationella analyser, Underlag för strategiprojektet Svensk forskning 2010-2030" - Swedish Research Council.

107 Statistics Sweden. The ten companies having the largest R&D investments accounted for 53 per cent of all investments in 2009.

Illustration 33



### 3. Sweden's relative strength on a number of key fundamentals is diminishing

Securing access to skilled individuals who are able to handle increasingly complex services is a major challenge. A large number of engineers will soon go into retirement, interest in natural sciences and technology is declining<sup>108</sup>, and the quality of primary schools is deteriorating<sup>109</sup>. Nor is the range of current higher education courses fully adapted to the needs of the labor market. There is, for example, expected to be a shortage of around 80,000 technical college and university engineering graduates by 2030<sup>110</sup>. There are also challenges in recruiting staff from other countries. Since 2008 Sweden has been one of the world's most open labor markets, giving companies wide opportunities to recruit staff from any country. Yet this opportunity has only just begun to be used, and mainly for recruitment of less skilled labor. In 2009, for example, 1,000 engineers received work permits in Sweden, compared with around 7,000 people looking for work in the farming, horticulture, forestry and fisheries industries. Out of all non-citizens with Swedish

108 For instance, the number of first-choice applicants for M.Sc. courses in engineering fell by nearly 30 per cent from 1998-2009 (from 11,400 to 8,200). Swedish National Agency for Higher Education.

109 This is discussed in the chapter entitled The public sector: Sweden fell from number 4 in the TIMSS ranking in 1995 to number 21 in 2007.

110 Based on Statistics Sweden's "Trender och Prognoser 2008" with adjusted assumptions concerning needs (assumes the same growth in 2010-2030 as in 1990-2010 instead of a halving of the growth rate, as assumed by Statistics Sweden) as well as access (more course places filled and simpler labor immigration rules, changes that have been realised since the report was released).

work permits in February 2012 only about one third were working in professions where a higher education is normally required.<sup>111</sup>

There is also a renewal and robustness challenge as regards enterprise in Sweden; we need to become better at ensuring new growth. Investments in R&D are made primarily by big companies; only 18 per cent of R&D investments are made by small and medium-sized businesses<sup>112</sup>. We also have a low degree of entrepreneurship with few “gazelle” companies<sup>113</sup> and a lower share of new large companies than the United States<sup>114</sup>, for instance, despite good prospects in theory<sup>115</sup>. The reason is probably a lack of interest in entrepreneurship – Swedes have the lowest interest in Europe<sup>116</sup>. There are some positive signs, however; the share of people working in medium-sized companies has increased since the 1990s crisis<sup>117</sup>.

Challenges also exist in infrastructure. Sweden's transport infrastructure has deteriorated compared with other countries. The quality of Sweden's rail and road networks, for instance, has declined compared with other countries since the mid-1990s<sup>118</sup>, and in the case of the rail network the quality has also declined in absolute terms. There are also signs of growing capacity problems in both the road and rail networks, especially in the metropolitan regions and along key freight rail routes. In its capacity report from spring 2012 the Transport Administration proposes that investments maintenance and small capacity-raising measures be increased in order to address the problems, but it will take several years to get to grips with the situation. Energy policy and electricity prices are another subject of intense debate. Swedish electricity prices have increased over the past decade, partly due to the emissions trading scheme for greenhouse gases that was introduced by the EU in 2005, but also due to a more strained relationship between supply and demand for electricity and higher international coal prices. Compared with Continental Europe, average annual electricity prices are still lower in Sweden but the competitive advantage has diminished significantly. Compared with the United States, Sweden has gone from a 16 per cent lower electricity

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111 See “Kampen om talangerna”, Confederation of Swedish Enterprise (2012). This report also points out that nearly half of all Nobel Prizes awarded to US citizens were won by foreign born researchers.

112 Statistics Sweden (2009).

113 A gazelle company is a fast-growing company with more than ten employees at the beginning of the measuring period that has generated annual revenue growth of over 20 per cent in the past three-year period. A summary of gazelle companies has been made by the OECD in the report “Entrepreneurship at a Glance 2011”.

114 In an analysis of the 100 largest-cap companies in the United States, Sweden, Germany and the Netherlands, companies that were less than 40 years old (and the result of a merger, takeover or spin-off from an existing company) accounted for 22 per cent of the market capitalization in the United States compared with 8 per cent in Sweden. The Swedish figure is on a par with the Netherlands (9 per cent) and Germany (8 per cent), however. McKinsey analysis based on Bloomberg data.

115 The World Economic Forum ranks Sweden as number two on innovation climate: “World Economic Forum The Global Competitiveness Report 2011-2012”.

116 In Global Entrepreneurship Monitor's survey from 2007 the share of US citizens that have started their own company or have advanced plans to do so is twice as large as in Sweden. The EU-15 is also ahead of Sweden.

117 Henreksen, Johansson, Stenkula: “Den svenska företagsstrukturen - utvecklingen i de medelstora företagen efter 1990-talskrisen” (2012).

118 According to the World Economic Forum Global Competitive Index, Sweden has gone from number 12 in railways and roads in 1996 to number 17 and 23, respectively, in 2011.

price in 2000 to a 37 per cent higher price in 2010. This is partly due to the increase in prices in Sweden, but another factor is the large amount of shale gas that is now being extracted in the United States. This has led to a sharp decline in the price of natural gas, with knock-on effects on electricity prices. Overall, this means that the competitive advantage that Swedish businesses have historically enjoyed from low electricity prices is eroding. Generally speaking, infrastructural limitations risk creating obstacles to future growth.

### *Measures for maintaining growth*

The international sector is in a good starting position, but there are clear challenges which necessitate a stronger emphasis on innovation if Sweden is going to hold its own in a world where competition is intensifying by the day.

To enable continued strong growth in the international sector, Sweden will need to make use of the emerging global innovation environment in the same way that we previously adjusted effectively to the global production environment. Sweden and Swedish businesses now have an opportunity to lead the development of a global networking model for innovation work and R&D; businesses can draw on the considerable innovative power that exists among suppliers and in the fast growing economies while strengthening their position as coordinators of R&D value chains and owners of advanced research.

*Can Sweden repeat its successes by becoming a leader in innovation productivity and one of the world's most attractive countries for applied research and innovation investments? We believe it is possible provided that Sweden takes ambitious further steps in three areas:*

- *Study how innovation productivity in the business sector could be further improved, for instance by increasing the rate of adjustment to global innovation models.*
  - Efforts to globalise innovation work are currently underway at many Swedish companies. This requires a high level of ambition for the next wave of innovation as well as an increased focus on innovation in the borderland between products, services and business models. Many businesses are devoting an ever greater share of their innovative power to service concepts and business models, such as productivity contracts and system solutions, but the adjustment is taking time; development processes, vocabulary and corporate cultures remain product-oriented. Corporate managements have an important job to do in explaining the value of innovation surrounding the product and in transforming companies' innovation systems. An additional focus at universities' technology and economics faculties on building knowledge about business models would also be desirable.
  - Businesses should also adapt their R&D models to derive the greatest possible benefit from the changes taking place in the global R&D environment. They also need to decide how R&D activities should be conducted, and how they can maximise their benefit from the changes that are taking place in the R&D landscape. This requires a clearly defined plan for what needs to be done by the businesses themselves and by subcontractors or researchers that are affiliated through various networks (for instance, through academia or research institutes), and how companies' internal R&D activities should be distributed globally. Sweden was a leader in meeting the challenge created by globalization; the country increased its productivity, thereby ensuring that

production remained in Sweden while focusing clearly on more advanced activities where Sweden had advantages and successfully outsourced less advanced tasks to other countries. In a similar way, Sweden can now be a frontrunner in developing a networking model for R&D; businesses should take advantage of the strong innovative power that is emerging in the fast growing economies, especially in respect of more routine R&D, while we strengthen our position as coordinators of value chains and owners of more advanced research. In this way Swedish businesses can strengthen their competitiveness while Sweden consolidates its leading role in global R&D and retains jobs in Sweden.

- *Turn Sweden into one of the world's most attractive countries for investments in R&D and innovation – strengthen the fundamentals*
  - *Strengthen the incentives for businesses to locate R&D activities in Sweden.* A large portion of Swedish research and development investments is made by private companies<sup>119</sup>. Several studies, including the Innovation Plan Sweden<sup>120</sup> study produced by the Royal Swedish Academy of Engineering Sciences (IVA), suggest that tax rates and incentives for experts are key tools for increasing these investments. Those interviews and case studies that have been made within the framework of this study support these conclusions. There are several examples of countries that have taken measures to strengthen the incentives. Part of the remit of the Corporate Tax Committee appointed by the Swedish government in 2011 is to review the existing tax incentives. Incentives of this type need to have broad political support to ensure stability and achieve the desired positive effect.
  - *Intensify the ongoing effort to build leading innovation environments with world-class experts.* Leading universities and research environments are important for generating economic growth<sup>121</sup>. A country of Sweden's size is only able to create a few such environments. The Swedish government has a stated goal of investing in world-leading research, leading to an emphasis on fewer but larger investments, such as the natural sciences facilities in Lund (MAX IV and ESS) and the biomedicine facilities in Stockholm and Uppsala. From a quality and growth perspective we believe this concentration should be accelerated, although regional-policy consequences also need to be taken into account. As part of the internationalization of R&D, Swedish investments should also be more clearly linked especially to the EU's framework programme for research and technological development, and Sweden should take an active role in shaping the EU's research focus. Another important objective is to secure the inflow of leading international experts. As mentioned, the good opportunities for international recruitment which Swedish legislation offers are currently used to a relatively small extent, and when they are used it is primarily for recruiting less skilled labor. In view of the fact that many Swedish companies state that they are suffering from a lack of skilled labor<sup>122</sup>, they should make wider use of the new opportunity to recruit leading international experts. Swedish companies could

119 In 2010 around 70 per cent was funded by private companies.

120 "Innovation Plan Sweden - a basis for a Swedish innovation strategy" (Royal Swedish Academy of Engineering Sciences 2011).

121 See, inter alia, "The Competitive Advantage of Nations". New York: Free Press, 1990. (Republished with a new introduction, 1998.), Michael Porter

122 See, for example, "Mismatch - Det ekonomiska läget mars 2011", Confederation of Swedish Enterprise (2011).

even today use these recruitment opportunities to a greater extent, but politicians and government agencies could also facilitate the process, for instance through discussions with private businesses on how to make it easier for leading experts to move to Sweden. The recruitment of international experts is also facilitated by good social conditions. Examples of measures that could be taken include shorter processing times for approval of “expert tax” applications, a wider range of high-quality English-language schools and shorter processing times for applications for permanent work permits in certain skills categories. For the identified target groups it is also necessary to highlight how attractive Sweden is to live in and what career opportunities Swedish companies offer. A relevant comparison is Australia, which is actively seeking to attract highly educated individuals by arranging expos around the world and conducting interviews with selected candidates. To further stimulate the recruitment of leading experts to Sweden, foreign recruitment could be included as a criterion in the award of basic funding for universities. The Swedish Research Council has proposed that a support programme be developed to stimulate recruitment of researchers in the form of supplementary part-funding for research environments which succeed in recruiting prominent international researchers.

- *Create a more effective working relationship between academia and industry.* The transfer of ideas and experiences between academia and industry is essential to the successful development and commercialization of research activities. A number of measures can be taken to encourage this transfer:
  - *Increase personal mobility between industry, research institutes and academia.* Several different proposals in this direction are currently being discussed. These include proposals to put a premium on collaboration between academia and industry in the merit rating process when allocating resources to universities (while maintaining the essential independence of academia and the status of basic research), or to assign a higher rating to industrial experience or collaboration with industry in recruitment and in salary and career development in the academic world. To signal the importance of collaboration to younger researchers one could also consider introducing mandatory traineeship stages in Ph.D. courses to facilitate knowledge transfer to industry and establish systems for channelling funds to researchers from industry without portfolios of academic achievements (and younger researchers).
  - *Strengthen the role of research institutes* through increased basic funding and improved infrastructure for industrial research, such as databases, experimental facilities, demonstrators and test activities. It is also important to increase the level of interaction between research institutes and small to medium-sized enterprises. These companies often experience collaboration with research institutes as complex and uncertain, as they have no established relations. In many European countries efforts are being made to encourage businesses to overcome this initial barrier through “innovation cheques”, which provide financial assistance for the purchase of services from research institutes, universities and other organizations.
- *Assess whether an expansion of public-private partnerships and other types of strategic research initiatives can be a way to accelerate innovation in specifically interesting areas.* The State has played an important role in promoting the growth

of MNCs in many countries, by setting standards, being an advanced customer or funding research. The GSM standard is an example that is often pointed to in Sweden. Several of Sweden's big industries may be on the brink of major technological shifts, including the automotive (electrification), energy (renewable energy), construction (energy efficiency) and telecom (increased focus on software) industries – there are many other examples. It would be valuable to explore if there are other areas where public-private partnerships or other types of strategic research initiatives could help Sweden and Swedish businesses to benefit from these technological shifts in the way that Sweden benefited from GSM technology. Yet we also need to ensure that public R&D resources are used carefully. IVA has already produced a proposal for how the State could take a more active role that can serve as starting point for a broad discussion. Public procurement, in particular – SEK 480-580 billion per year – can be used to stimulate innovation. The UK and the Netherlands use a system for innovation procurement that is based on precommercial procurement for an identified need, where different companies are invited to present concept solutions and winning concepts are given an opportunity to develop a prototype before the final competitive procurement begins.

In addition to key measures for promoting innovation, initiatives are needed to maintain a high level of the necessary fundamental underpinnings for a competitive industry.

- Even today, securing access to skilled individuals who are able to handle increasingly complex services is a major challenge. If Sweden is able to raise the quality of its primary schools, promote interest in natural sciences and entrepreneurship among young people, and better adapt higher education to labor market requirements with the aim of guaranteeing good future access to skilled labor, this would strengthen the competitiveness. Possible measures for strengthening primary schools are described in the section entitled Priorities for maintaining high growth; for the international sector the quality of mathematics and natural sciences tuition is of particular importance. To reduce the expected future shortage of university engineering and technical college graduates, another possibility is to reintroduce the four-year technical programme in secondary schools, and increase the number of places on engineering courses at universities and university colleges. This also requires that young Swedes want to go into the manufacturing industry; here companies have an important task to perform in improving the way they market themselves by showing the exciting global career opportunities that are offered and shaping an attitude in which technology is seen as an exciting opportunity for meeting tomorrow's challenges.
- Good infrastructure is necessary for continued competitiveness, and investments will be required to secure sufficient capacity for growth. An example of this is Malmbanan (the Iron Ore Line), where an increase in capacity will be necessary to transport the growing volumes of iron ore that the mining companies are able to extract and sell. Sweden's metropolitan regions also suffer from a shortage of capacity, which needs to be addressed to enable continued strong growth. Electrical supply infrastructure is another area where Sweden needs to secure its long-term competitiveness – the competitive advantage which Sweden has historically enjoyed from low electricity prices is being eroded. In an age when the United States has cut its electricity prices significantly thanks to the extraction of shale gas, and other countries may be about to embark on the same path, it is important for Swedish industry to ensure a competitive price level for electricity also in Sweden.

\* \* \*

In an era of rapid globalization Sweden's international sector has proved significantly more successful than in many comparable countries. This is explained by good products, an effective global commercial expansion that has increased the need for more complex tasks in Sweden, as well as efficiency improvements in production which have ensured that companies continue to locate operations in Sweden.

Globalization is changing character, however, which creates new pressures to secure a competitive environment in Sweden and raise the competitiveness of Swedish businesses. With the right environment and initiatives, Sweden's international sector is in a good position to continue to be an engine of growth for the Swedish economy. Fortunately, Sweden is in a situation where both the business sector and the State, unlike in many other countries, can afford to invest in future growth.



# Challenges and opportunities

As described in previous chapters, the Swedish economy grew at a very robust pace during the period 1993 to 2010, with high growth, strong public finances and a current account surplus. In view of this strong performance we need to ask whether *Sweden needs to change anything fundamental in the country's current economic orientation, or whether the driving forces behind its previous successes are robust enough to fuel strong economic growth also in future.*

Our conclusion is that although Sweden has a good economic starting point compared with many other countries, there are a number of challenges that need to be addressed if we are to maintain or even exceed our strong historical performance. Firstly, there is currently only one strong engine of growth in the Swedish economy – the international sector. The performance of the other sectors, which account for significantly more than half of the Swedish economy, is more modest. Secondly, there are three reasons to be concerned about Sweden's prospects for long-term economic growth: the results in our education system have deteriorated considerably since the mid-1990s, the population is ageing and Swedish businesses are facing ever tougher global competition.

Sweden is in a good position to handle these challenges, but this will require a dedicated effort similar to that which Sweden succeeded in mustering after the 1990s crisis, when much of the foundations for today's economic situation was laid.

## *Only one strong engine of growth*

The international sector is the only one that has been an indisputably strong engine of growth, with annual value added growth of 4.3 per cent during the period 1993-2010. This sector only accounts for about one third of the economy, and a large portion of the growth in the sector is directly or indirectly attributable to a relatively small number of successful large companies.

Local services account for about 40 per cent of the Swedish economy, and increased its value add by an average of 2.3 per cent per year from 1993-2010. The public sector – about 30 per cent of the economy – did not increase its value add to any appreciable extent over the same period, according to the available statistics. About 70 per cent of the Swedish economy has thus achieved relatively modest growth since 1993.

This pattern – with only one strong growth engine – means that the Swedish economy is highly vulnerable, as it cannot be taken for granted that the international sector will be able to continue to grow at the same pace in future.

The challenge – to repeat the successes in the international sector while achieving a higher pace of growth in the other sectors – we have, in somewhat simplified terms, chosen to describe as going from one to three strong engines of growth in the Swedish economy.

### Weaknesses in the long-term drivers of economic growth

Illustration 34 summarises a number of key drivers of long-term economic growth in Sweden. It illustrates the four key drivers behind Sweden's past successes that were discussed in the chapter entitled "Historical background", i.e. a high level of education, the big wave of deregulation and regulatory reforms that were implemented during the period, favourable international market development and the strong economic and political framework that was established.

Our analysis identifies three reasons to be concerned about the long-term future of the Swedish economy: the average/poor quality of Swedish schools, intensifying global competition and Sweden's ageing population and high unemployment among vulnerable groups. There are also three other areas where Sweden's prospects are in line with those of other industrialised nations but which could also constitute important levers for improving our long-term economic performance: further deregulation and regulatory reforms to promote competition, increased entrepreneurship and new enterprise, and a further increase in resource productivity/reduced environmental impact. These areas are discussed and exemplified in the sector chapters earlier in this report.

Illustration 34

Key drivers of economic development in Sweden		
	Retrospective (1993–2010)	Present/forward-looking
<b>Skilled labor</b>	<p>High international standards in education to the mid 90's, thereafter decreasing</p> <ul style="list-style-type: none"> <li>Number 4 in the TIMSS<sup>2</sup> ranking 1995</li> </ul>	<p>Intermediate/poor international standards in education</p> <ul style="list-style-type: none"> <li>Number 21 in the TIMSS ranking 2007</li> </ul>
<b>regulation and competition</b>	<p>Extensive deregulation, increased competition, and improved incentives to work</p> <ul style="list-style-type: none"> <li>Telecom, banking, electricity, retail. EU entry in 1995</li> </ul>	<p>Somewhat more deregulated economy than OECD</p> <ul style="list-style-type: none"> <li>Product markets: 1.2 in Sweden vs 1.4 OECD in 2008</li> <li>Labor market: 1.9 in Sweden vs 2.0 OECD in 2008</li> </ul>
<b>International market development</b>	<p>"Western competition"</p> <ul style="list-style-type: none"> <li>Asia 34% of global growth in 1995</li> <li>OECD technological advantage</li> </ul>	<p>Global competition and decreased rate of innovation</p> <ul style="list-style-type: none"> <li>Asia 47% of global growth in 2010</li> <li>OECD significantly less technological advantage; substantially increased competition from non-OECD companies</li> </ul>
<b>Innovation and renewal</b>	<p>High R&amp;D investments, but low interest in entrepreneurship and few new large companies</p> <ul style="list-style-type: none"> <li>R&amp;D: 3.5% of GDP in 1997 (USA 2.6%, EU-15 1.8%)</li> <li>1 of top 20 Swedish companies &lt;40 years (5 in USA)</li> </ul>	<p>High R&amp;D investments, but low interest in entrepreneurship and few new large companies</p> <ul style="list-style-type: none"> <li>R&amp;D: 3.8 % of GDP in 2008 (USA 2.8%, EU-15 1.9 %)</li> <li>1 of top 20 Swedish companies &lt;40 years (8 i USA)</li> </ul>
<b>Demography and employment</b>	<p>Stable populations structure, high participation</p> <ul style="list-style-type: none"> <li>Effective dependency ratio ~1.3 throughout the period</li> <li>Unemployment 6-12 % 1993-2010</li> <li>Internationally low Gini-coefficient (0.21 in 1993)</li> </ul>	<p>Ageing populations, high youth unemployment</p> <ul style="list-style-type: none"> <li>Effective dependency ratio from 1.32 yrs 2010 to 1.49 yrs 2030</li> <li>Unemployment 8.6% in 2010 (higher among youth)</li> <li>International low Gini-coefficient (0.24 in 2010)</li> </ul>
<b>Political, financial, social stability</b>	<p>Significant improvement in public finances and high political/financial/social stability</p> <ul style="list-style-type: none"> <li>Public debt 77% of GDP in 1993, budget -11%</li> <li>Well-diversified business world given Sweden's size</li> </ul>	<p>International strong public finances and high political/financial/social stability</p> <ul style="list-style-type: none"> <li>Public debt 39 % of GDP in 2010, 2% budget surplus</li> <li>Continued well-diversified business world given Sweden's size</li> </ul>
<b>Resource productivity and environmental impact</b>	<p>High resource productivity and low environmental impact relative to other industrial countries</p> <ul style="list-style-type: none"> <li>8.3 ton CO<sub>2e</sub> per capita 1993 (13.7 i EU-15)</li> </ul>	<p>High resource productivity and low environmental impact relative to other industrial countries</p> <ul style="list-style-type: none"> <li>6.5 ton CO<sub>2e</sub> per capita 2009 (11.5 i EU-15)</li> </ul>

### Average/poor-quality schools compared with other countries

Standards of knowledge in Swedish primary schools have declined over the past 15 years, both in absolute terms and relative to other OECD countries. This is serious, partly because of the strong relationship between a high level of education and high growth in a country<sup>123</sup>.

<sup>123</sup> See, for example, "The high cost of low educational performance", Hanushek and Woessmann, OECD (2010).

This is also an area where it will take a long time for changes to have an impact. This area is discussed extensively in the chapter about the public sector earlier in this report.

### **An ageing population and high unemployment among young people and foreign-born citizens**

Sweden's population pyramid has been relatively stable over the past few decades. The so-called real dependency ratio, which measures how many people not in employment each person in employment needs to support, remained relatively constant around

1.3 from 1993-2010 and was 1.32 in 2010. From a European perspective this is a low dependency ratio<sup>124</sup> – the average for the EU-15 in the same year was 1.67 – and this has been a competitive advantage for Sweden. The difference is primarily due to the fact that there are more employed women and older people in Sweden than on average in the EU-15 (illus. 35).

Looking ahead, the real dependency ratio is expected to increase, from 1.32 in 2010 to

1.49 in 2030, unless no significant adjustments are made to the length of working life. The key driver behind this trend is the ageing of the Swedish population, with the number of people over 65 expected to grow by 35 per cent by 2030. The fact that we are living longer is in itself positive, but unless working life is extended to a corresponding degree this trend will result in a slowing of the economic growth rate by an estimated 0.4 percentage points by 2030 (compared with a situation where the dependency ratio remains constant<sup>125</sup>). This is a serious economic threat, although the situation is even more serious in the EU-15, where the dependency ratio is expected to increase to a very high 1.95 by 2030 unless major reforms are enacted.

How to solve this equation is already a subject of intense debate in Sweden. We believe a *broad political initiative which includes representatives of employer and trade union organizations* should be launched with the aim of finding a way to extend working life. In April 2011 the government decided to appoint a committee<sup>126</sup> tasked with analysing how the average retirement age could be raised and developing concrete proposals for measures that would enable more people to work for longer. The committee will submit its final report on 1 April 2013. Possible components could include following the Danish example of linking the retirement age to life expectancy. In Denmark the retirement age will gradually be raised from 65 years currently to 67 years, with the increase made in annual increments of six months over the period 2019 to 2022, after which the retirement age will be indexed to the increase in life expectancy. Other components may be to give employers the right to flexible part-time solutions as the retirement age approaches and initiatives for a more sustainable working life which ensures that more people have the energy to work for longer. Another possibility that has started to be discussed in several countries is to bring forward the age when working life begins by cutting the length of education where possible. To maintain a constant dependency ratio, working life would need to be extended by about three years by 2030.

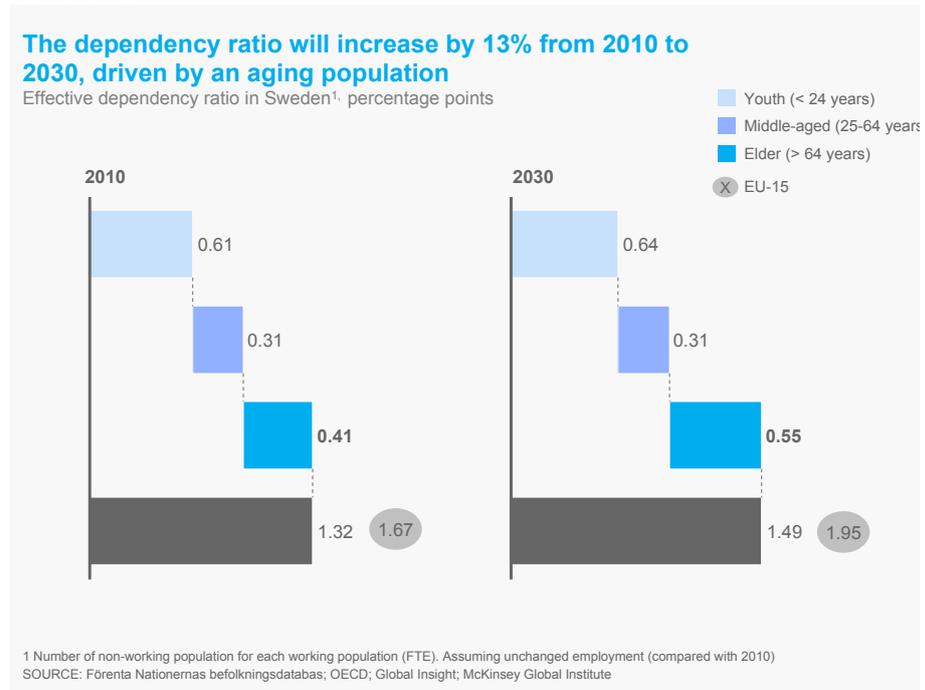
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124 Real dependency ratio is defined as the number of people not in employment divided by the number of people in employment (adjusted for working hours to achieve a man-year).

125 The share of people of working age, aged 16-64, is expected to decline from 63.8 per cent to 59.3 per cent from 2010 to 2030, which represents an annual decline of close to 0.4 per cent.

126 Utredningen om översyn av pensionsrelaterade åldersgränser och möjligheter för ett längre arbetsliv (S 2011:05).

Illustration 35



Sweden also faces a challenge in addressing its high rate of unemployment. Total unemployment was 8.4 per cent in 2010. This is slightly below the average for the EU-15 (9.6 per cent) but high for Sweden by historical standards.

What is particularly worrying is that certain groups are vulnerable: unemployment rates are high among young people and foreign-born citizens and long-term unemployment is high among foreign-born citizens and people born in Sweden with no post-secondary education (illus. 36).

A closer study of youth unemployment shows, however, that the situation is not quite as dire as the official figures based on EU definitions in illustration 35 suggests, and that unemployment is closely related to education: of the 162,000 unemployed aged 15-24 in 2010, 73,500 were full-time students who were looking for work at the same, such as a summer job or weekend work. If these are excluded from the figures, the remaining youth unemployment is 88,500, or about 14 per cent. Of these, no less than 73,000 have not completed their secondary education (illus. 37).

Illustration 36

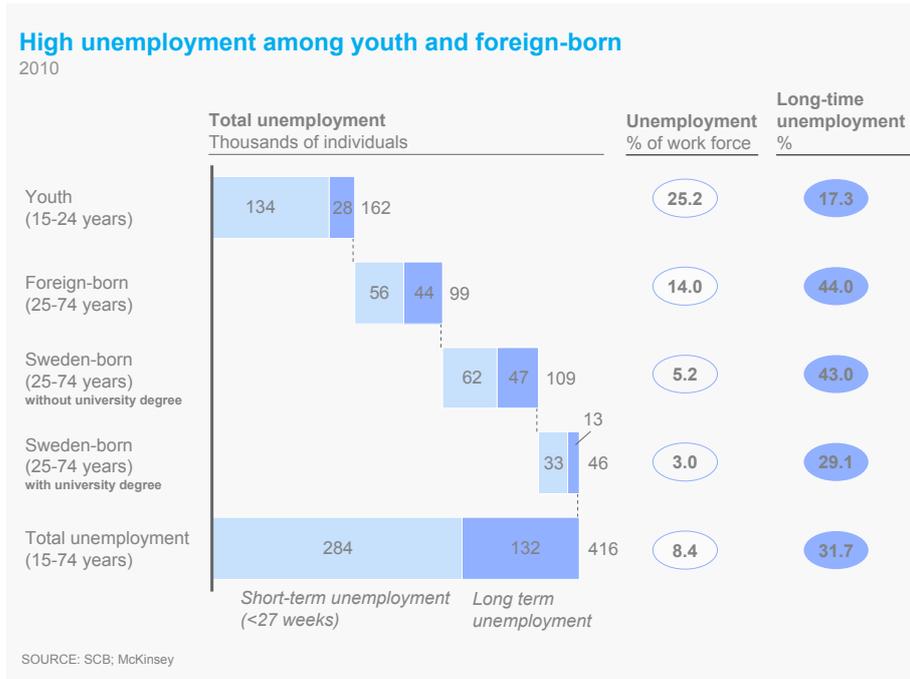
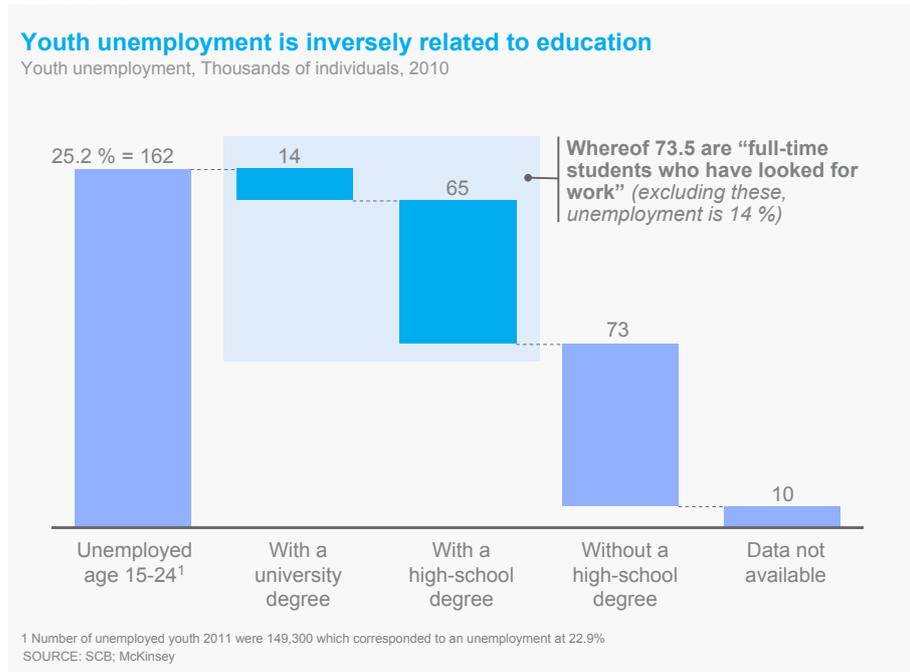


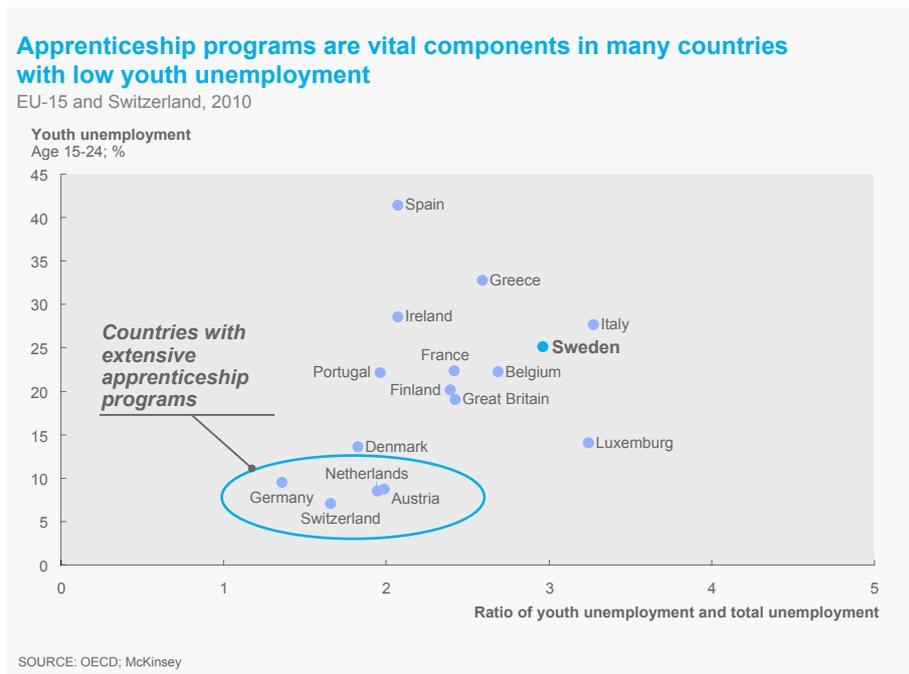
Illustration 37



Which methods are most appropriate to reduce youth unemployment is a subject of intense debate. This report does not attempt to give a definitive answer, but contents itself with contributing international facts in the field. The London School of Economics recently conducted a study which analysed youth unemployment in different OECD countries and what characterised countries with low rates of youth unemployment<sup>127</sup>. The conclusion was that out of the ten OECD countries with the lowest youth unemployment, five (Australia, the Netherlands, Switzerland, Germany and Austria) had apprenticeship systems in which 15-20 per cent of all young people in the ages of 15-24 participated. In these five countries the two primary activities for young people aged 15-24 are full-time education and apprenticeships. Conversely, all five countries with ambitious apprenticeships were also among the ten OECD countries with the lowest rates of youth unemployment. See illus. 38 for a comparison of youth unemployment in the EU-15.

Apprenticeships could be an interesting avenue to explore for Sweden. There are risks with these training programs, however. Young people can get stuck with low salaries, the apprenticeship system can have undesired effects on wage formation for adults, and the doors to higher education are closed for certain groups of young people. A relevant question is therefore whether Sweden can develop an apprenticeship model which combines the positive effects that have been observed in countries with ambitious apprenticeships with the Swedish labor market model. There are several examples where the risks mentioned above have been addressed. In the Netherlands, for example, the starting salary for an apprentice is low but is then rapidly stepped up to an “adult salary” over the course of the apprenticeship. Other mechanisms that countries have successfully used to cut youth unemployment include individually adapted measures to prevent young people from leaving secondary school before graduating. An interesting example from Sweden is the pro-programme developed by Swedbank, which through its local network of corporate customers has managed to create a large number of internships and jobs (see fact box).

Illustration 38



<sup>127</sup> See “Apprenticeship: Remaking an Old Idea for a New Era” by Hillary Steedman, London School of Economics, in McKinsey on Society. <http://voices.mckinseysociety.com>

### Initiatives for reducing youth unemployment

An interesting example of what businesses can do to reduce unemployment among young people is Swedbank's "Young Jobs" initiative, which aims to offer internships to unemployed youths in partnership with local businesses. Local bank branches regularly invite their corporate customers for meetings. Instead of focusing on various financial issues, the meetings are used to discuss Young Jobs. Before each meeting the branch works together with the local employment agency to form an idea of the situation among young people in the municipality concerned. The meeting is then used to discuss what can be done to offer internships, and to provide an update on which rules apply; businesses are often unaware of which compensation levels apply for internships, how candidates are recruited, etc. Swedbank itself offers a number of internships and uses the meetings to encourage its business contacts to offer additional places. Since the programme was launched in 2009, the project has resulted in the creation of nearly 3,000 internships for young job seekers in the ages of 18-24, of which 300 have been at Swedbank and its affiliated savings banks. The internships have also proved to be an important source of recruitment for local bank branches. Swedbank has offered jobs to about half of all interns after the end of their internships. In total, about seven out of ten participants have received some form of employment after the end of their internships. The example provides an interesting example of how businesses can take initiatives to reduce unemployment among young people, and that doing so may be entirely logical from a strictly commercial perspective in that it provides a good source for recruitment.

### Global competition and a higher pace of innovation

The centre of gravity in the global economy is rapidly shifting from the West to the developing countries, especially in Asia (which accounted for 28 per cent of the global economy and 47 per cent of growth in 2010, up from 24 per cent of the economy and 34 per cent of growth in 1995). This in itself is not a problem: Sweden benefits from Asia's fast growth and many Swedish businesses have been successful in Asia. In 2008 Sweden's ten largest listed companies generated around 18 per cent of their sales in Asia. At the same time the advantage which Western companies have previously enjoyed from a technologically leading domestic market is being turned into a disadvantage. In several industries a pattern is emerging where local Asian companies first rapidly gain market share in their large domestic market – in some cases with government support – and then use their volume and technological advantage globally. In the telecom industry Huawei of China went from 28th place globally in 2001 to third in 2010. This threat from Asian rivals, and what Sweden can do to counter it, are discussed in greater detail in the chapter on the international sector.

\* \* \*

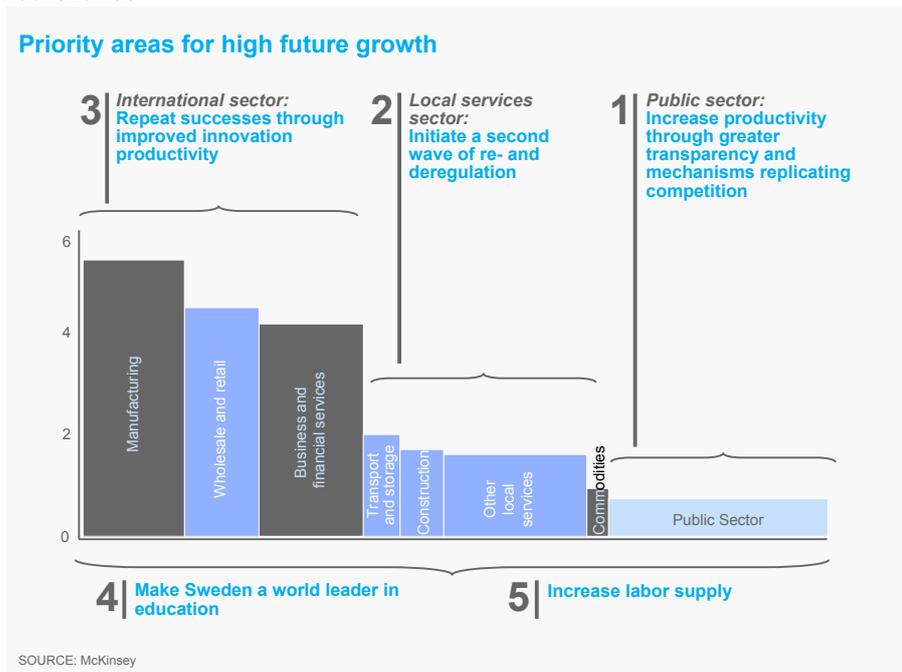
The challenges we have mentioned need to be addressed if Sweden is to succeed in achieving the same strong economic growth that it has in the past. Sweden has a golden opportunity to do this over the next few years while many other countries are forced to focus on solving urgent economic and fiscal issues.



# Priorities for creating high growth

Thanks to its strong economic starting point, Sweden has a golden opportunity over the next few years to invest time and resources in further strengthening its prospects to achieve good long-term economic growth. This study has identified two general improvement themes: going from one to three strong engines of growth in the Swedish economy and improving the country's long-term supply of skilled labor. Within these themes there are five priorities. These are summarised in this chapter and described and justified in other chapters, which look at each area in greater depth. Each area will require considerable effort, but when compared with the challenges that many other countries face it does not appear impossible for Sweden to succeed in implementing these improvements over the next few years. If it does, the country will be in a good position to achieve equally strong or stronger growth in future as in the past 15-20 years (illus. 39).

Illustration 39



## 1. The public sector: Increase productivity with maintained or improved quality

Productivity growth in the public sector is often hard to measure. In healthcare, for instance, it is generally difficult to assign a value to various care activities. The surveys that have been conducted point, however, to productivity of close to zero for the public sector as a whole<sup>128</sup>. Yet there are also many positive examples. The Swedish Migration Board and Tax Agency have shown that productivity gains of as much as 25-30 per cent can be achieved in only two years with maintained or improved service quality.

<sup>128</sup>Productivity growth in the public sector is hard to measure because services are not priced, as in the private sector.

In view of this, we believe there is a big potential to raise productivity in the public sector on a broad front. Based on the examples and studies that are presented in the chapter on the public sector in this report, we estimate that it would be possible to raise productivity by 25-30 per cent over a ten-year period (and significantly more in individual services), followed by annual growth in line with the private services sector after that. A productivity gain of this size would increase access to welfare services worth SEK 140-170 billion by 2030, or release the same amount of resources for other purposes. Productivity gains can thus just as well be used for quality improvements as for cost improvements.

To realise this potential, four concrete measures need to be taken:

- ***The principals should improve their governance of public-sector service providers*** by getting better at imitating the improvement mechanisms that exist in the private sector.
  - *Clearer goals and greater transparency.* Through increased transparency surrounding results and productivity, the principals can significantly step up the pressure for change in the public sector. There is currently little transparency on how effectively different municipalities, county councils and government agencies perform their duties, although certain quality surveys are being conducted, such as the National Board of Health and Welfare's "Open Comparisons", which are produced in collaboration with the Swedish Association of Local Authorities and Regions (SKL). The regular publication of clear, high-quality comparisons of productivity and quality, performed by the Swedish Agency for Public Management, the National Audit Office or another agency, would significantly increase attention and add pressure for change.
  - *Create improved, competition-like mechanisms.* Far too often, the debate on whether it is preferable to use private or public service providers focuses on the wrong things. The key factor is not the form of ownership, but that there is a clear definition of what the service provider is required to deliver, a pressure for change and a constructive relationship between the buyer and service provider. The principals should therefore focus on their role as buyers, carefully follow up contracts and agreements, and take a pragmatic approach to consequence management. There must, for example, be a preparedness to quickly close (or withdraw the license for) both publicly and privately owned services that are failing to deliver.
- ***Develop and implement specific plans for improving productivity in each of the largest public-sector service providers.*** A productivity improvement plan should be drawn up for each field of the public sector. A key ingredient for many services will probably be an increased level of ambition as regards productivity in the government's appropriation directions. Other key ingredients will be clear and relevant parameters, follow-up of results and greater demands on heads of agencies to achieve the agreed targets. Currently the Swedish Agency for Public Management (Statskontoret) monitors developments and quality in the public sector to some extent. However, if the public sector is to realise the potential described above, more ambitious and large-scale measures will be needed, for instance by establishing a new agency with responsibility for improved productivity throughout the public sector or by broadening the mandate of an existing organization. Several other countries have

created similar groups. In the United States a Chief Performance Officer has been appointed to lead the work of raising productivity in federally funded services. In the UK an Efficiency and Reform Group was appointed in 2010 with the principal task of improving efficiency in the civil service.

- ***Establish a national centre of excellence for public procurement.*** There is significant potential in improving the procurement of external goods and services. The Procurement Inquiry<sup>129</sup> estimates the total annual value of public-sector procurements at SEK 480-580 billion, and identifies a number of problems, such as a lack of leading procurement expertise at some municipalities and county councils, uncertainty among many procurers about the extent to which they are permitted to consider other criteria than cost, and frequently inadequate follow-up. This, coupled with the fact that public procurements are often made in difficult procurement areas (such as schools, care services and infrastructure projects), makes it hard to believe that Swedish taxpayers are getting the best possible value for their money. We believe a national unit tasked with supporting municipalities and county councils in public procurements could significantly improve the procurement process.
- ***Consolidate Sweden's administrative structure and increase collaboration among public-sector service providers.*** There are currently 290 municipalities, 21 county administrative boards and 20 county councils in Sweden. In addition, certain county councils have an expanded mandate and are called regions, collaboration takes place through about 90 unions of municipalities, six health care regions, etc. Several problems arise as a consequence of these structures. Functions are often performed on too small a scale, which inhibits innovation and improvement activities and restructuring, and makes it difficult to maintain staff with the required expertise in necessary areas. The result is that the service provided to the taxpayers is less effective than it could be. Work is underway to improve the situation, one example being the inquiry into the State's regional administration, the results of which are due to be presented at the end of 2012. The purpose of the inquiry is to draw up proposals for improving the structure of the State's regional administration. The inquiry does not touch on the municipal structure, however, so the issues relating to a much too small scale in this area remain. A source of inspiration could be the Danish municipal reform, which in 2007 reduced the number of municipalities from 270 to 98 and the 13 counties ("amts") into five regions. As a result, the median size of a Danish municipality increased from 10,700 inhabitants to 43,000. By comparison, the median size of a municipality in Sweden is just over 15,000 inhabitants. One way of achieving increased efficiency is through collaboration among public-sector service providers. A promising example of this is the central-government service centre that is set to open in summer 2012, which for a fee will offer finance and payroll administration services, including salary payments and invoice processing, to other central-government agencies.

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<sup>129</sup> See, for example, "Dålig upphandling leder till skandaler i äldreomsorgen", DN Debatt, 21 November 2011 by the Chairman of the Procurement Inquiry and Special Rapporteur, Anders Wijkman, and Chief Secretary Åsa Edman.

## 2. Local services: Carry out a “second wave” of deregulation and regulatory reforms and improve the application through increased transparency

Annual value added growth in local services averaged 2.3 per cent from 1993-2010 on the back of annual productivity growth of 1.6 per cent and annual employment growth of 0.8 per cent. Sweden’s productivity growth is in line with the average for the EU-15 over the period as a whole, but the trend is declining (0.9 per cent annual productivity growth from 2000-2010 compared with 2.3 per cent from 1993-2000).

Several industries in local services were deregulated in the 1980s and 1990s, which was a key reason behind the increase in productivity. The Planning and Building Act was changed, for instance, to make it easier to open new shops, the postal and telecom industry was opened up to competition and parts of the transport industry were deregulated. This wave of deregulation has been estimated to have increased annual productivity growth by 0.4 percentage points<sup>130</sup>. Following the initial effect, productivity growth appears to have declined, however. There are also significant differences among industries; productivity growth has been weakest in the construction, transport/storage, energy/water and property industries.

Although many industries in Sweden already have well functioning product markets, it is still possible to continue to use the deregulation and regulatory reform tool to remove those growth-inhibiting regulations which still exist. In more concrete terms, we believe two initiatives would be valuable:

- **Conduct a systematic review of those industries (the construction, property services, transport/storage and energy/water industries) which have grown at an average or weak rate compared with the EU-15, and take measures to rectify regulations, standards and agreements which inhibit growth.** Such a review could be initiated at the political level, and take the form of a partnership among politicians, trade associations, employers and trade unions. Improved regulations and standards in this field should also enable Sweden to go from weak/average growth compared with the EU-15 to a strong position.
  - *The construction industry:* Annual productivity growth in the Swedish construction industry was a mere 0.1 per cent from 1993-2010 while the UK construction industry, for example, achieved annual productivity growth of 0.7 per cent. McKinsey’s first report on the Swedish economy<sup>131</sup> showed that this modest rate of productivity growth is to a large extent due to the many detailed regulations and industry standards which still exist in Sweden as well as the lack of common EU rules in several areas. Unnecessary losses (“waste”) have, for instance, been estimated at 20-30 per cent of construction costs<sup>132</sup>. Another problem is that so-called informal sector has, in varying degrees, established a foothold in the construction industry, which holds back innovation and reduces the incentives to raise productivity. Key priorities for the construction industry are:

130 OECD “How regulatory reforms in Sweden have boosted productivity” (2007).

131 McKinsey & Company, “Sveriges ekonomiska välförhållanden - Utveckling, nuläge och prioriteringar inför framtiden” (2006).

132 See, for example, Hindersson, Per (2009), “Chalmersstudie: ‘Så här halverar ni kostnaderna’”. Byggindustrin, June 3, [www.byggindustrin.com/nyheter/chalmersstudie-sa-har-halverar-ni-kostna\\_\\_6550](http://www.byggindustrin.com/nyheter/chalmersstudie-sa-har-halverar-ni-kostna__6550)

- A comprehensive shift away from detailed regulations to functional regulations (i.e. that building standards specify a function instead of a prescribed work method).
  - An analysis of costs for various functional requirements in the building standards in order to enable flexibility on which requirements apply in all buildings. Requirements such as noise standards, adaptations for disabled people and so on are necessary but cause extra costs. A more differentiated application of the standards could be considered (such as slightly less stringent noise standards for student halls of residence, where people live for a limited period of their lives) in order to lower the average cost of buildings.
  - A more productivity-focused procurement process. The public sector accounts for a large share of all construction investments in Sweden. By explicitly setting standards for innovation and productivity growth in procurements, and by permitting alternative tenders, the public sector could help to increase efficiency in the construction industry<sup>133</sup>. This can, for example, be done through so-called functional construction contracts, or profit-sharing mechanisms where savings made during the construction process are shared between the buyer and contractor.
  - Continued tough measures against the informal sector through increased checks.
- *The wholesale and retail industry.* In the retail industry many new jobs could probably be created if the rules governing overtime compensation were changed to enable a higher level of service in evenings and weekends. McKinsey's previous Sweden report estimated that if the share of people working in the retail industry in Sweden were the same as in the UK this would represent 180,000 new jobs (including wholesalers), and the rules have not been changed materially since the previous report was published in 2006. In food the Swedish retail industry is still concentrated to a relatively small number of players. A more efficient process for detailed development plans and building permits would probably help to improve competition in the industry.
  - *Examples of barriers in other industries.* The restaurant industry is subject to vast array of regulations, covering alcohol licensing (licensing hours, guards, license officers, training), dancing licenses if the guests are to be allowed to dance, various food licenses, etc. Many of these regulations fulfil an important purpose concerning health and order, but voices have been raised suggesting that the overall picture is to complex and costly. There are also complex rules relating to VAT rates (a lower rate of VAT for restaurants, for example, which doesn't apply if food is included in the conference package), complicated VAT accounting for goods imported from outside the EU (today VAT needs to be reported to Swedish Customs and then to the Tax Agency while imports from the EU only need to be reported in the tax return), or so-called gold plating, where Swedish rules go further than the underlying EU rules

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<sup>133</sup> See, for example, the Swedish Transport Administration's efforts to promote productivity in the construction and infrastructure industry in its role as buyer: <http://www.trafkverket.se/Foretag/Bygga-och-underhalla/Okad-produktivitet--en-utmaning-for-branschen/>

(for example, the option of using a simplified invoice for small amounts under the VAT Act, or which companies have the right to opt out of auditing).

- **Improve the efficiency of the municipal planning and building process.** An inflexible Planning and Building Act and a protracted detailed development plan process make life difficult for many industries. Uncertainty and long processing times make it more expensive to build, which has a knock-on impact on the retail and other industries, which would benefit from more dynamic construction. A new Planning and Building Act that is aimed at cutting waiting times entered into force in 2011, but much still remains to be done. A number of proposals are presented in the Swedish Competition Authority's (Konkurrensverket) report, "Measures for Improved Competition", including a proposal to lower the degree of detail in detailed development plans, to expand the range of issues that only need to be assessed at the building permit stage, to introduce a requirement for municipal regulations on individual negotiating rights concerning developable land, and to introduce a right of private initiative for building projects.
- **Streamline the local application of regulations by creating transparency on the efficiency of municipalities and county councils.** There is scope to improve the local application of national regulations. Processing times for various permit applications, such as business licenses and environmental permits, vary considerably across the country. Long processing times have a negative impact on the local business climate and ultimately also on economic growth<sup>134</sup>. One possibility could be to instruct the Swedish Agency for Public Management (Statskontoret) to create transparency on key processing times for each municipality and county administrative board. In a second phase such an initiative could also be complemented with incentives for efficient municipalities.

### **3. The international sector: Repeat past growth successes by making Sweden a leader in innovation productivity as well as one of the world's most attractive countries for applied research and innovation investments.**

Sweden's international sector performed very strongly over the period 1993-2010, achieving an annual rate of value added growth of 4.3 per cent, and the sector has been the strongest engine of growth in Sweden.

As described in the chapter on the international sector, early globalization of production and sales, and high R&D investments were key success factors. Globalization is now changing character; competition from businesses in the developing world is increasing rapidly in many industries and countries are competing to attract innovative businesses. The pace of innovation has also picked up (as seen, for instance, in a doubling of the number of engineers in the world from 1998-2008) and new offers are increasingly being developed in the borderland between products, services and business models.

To meet these changes, and to enable continued strong growth for the international sector, it would be of considerable value if Sweden and Swedish businesses could find a way to increase their innovation productivity – defined as value creation from new products,

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<sup>134</sup> See, for example, the Confederation of Swedish Enterprise's survey of business climates in Swedish municipalities. [www.foretagsklimat.se](http://www.foretagsklimat.se)

services and business models compared with R&D investments – and thus derive even greater benefit from Sweden’s high R&D investments. Can Sweden and Swedish business become leaders in innovation productivity in the same way as the country in many industries has become a leader in production efficiency?

A key component is probably for businesses to globalise and streamline their innovation models to a greater extent, in the same way as they over the last few decades have globalised and streamlined their production and sales activities. Businesses can benefit from the considerable innovative power that exists among suppliers and in the fast growing economies while strengthening their position as coordinators of R&D value chains and owners of advanced research.

- **Investigate how companies’ innovation productivity could be further improved, for instance by increasing the pace of globalization of research and development.** To meet the intensifying international competition, a high level of ambition is required for the next wave of innovation, coupled with a stronger focus on innovation in the borderland between products, services and business models. In our experience many companies need to adapt their R&D models to derive the greatest possible benefit from the changes taking place in the global R&D landscape, and address questions such as what types of R&D should be conducted by the companies themselves and what should be conducted by subcontractors or external researchers through various forms of networking models, and how companies’ internal R&D activities should be distributed globally.
- **Turn Sweden into one of the world’s most attractive countries for investments in R&D and innovation – strengthen the fundamentals.**

  - *Strengthen the incentives for businesses to locate R&D activities in Sweden.* A large portion of Swedish research and development investments is made by private companies<sup>135</sup>. Several studies, including the Innovation Plan Sweden<sup>136</sup> study produced by the Royal Swedish Academy of Engineering Sciences (IVA), suggest that tax rates and incentives for experts are key tools for increasing these investments. Several countries have taken measures to strengthen the incentives. France and Singapore, for instance, offer tax benefits to companies that invest in R&D. In Sweden the Corporate Tax Committee is currently reviewing tax incentives in this area.
  - *Intensify the ongoing effort to build leading innovation environments with world-class experts.* Leading universities and research investments are important for creating economic growth<sup>137</sup>, and a country of Sweden’s size is only able to create a few such environments. The government has a stated goal of investing in world-leading research, leading to an emphasis on fewer but larger investments. From a quality and growth perspective we believe this concentration should be accelerated, although regional-policy consequences also need to be taken into

<sup>135</sup> In 2010 around 70 per cent was funded by private companies “Innovation Plan Sweden – a basis for a Swedish innovation strategy” (2011).

<sup>136</sup> “Innovation Plan Sweden – a basis for a Swedish innovation strategy” (2011).

<sup>137</sup> See, inter alia, *The Competitive Advantage of Nations*. New York: Free Press, 1990. (Republished with a new introduction, 1998.), Michael Porter.

account. Sweden also needs to attract leading international experts. Since 2008 Sweden has had one of the world's most open labor markets, but the opportunity to recruit staff internationally has only just started to be used. If Swedish companies, research institutes and universities were to make wider use of this new opportunity to recruit leading international experts this would be beneficial.

- *Create a more effective working relationship between academia and industry.* The transfer of ideas and experiences between academia and industry is essential to the successful development and commercialization of research activities. Measures to increase staff mobility between industry, research institutes and academia will be valuable, as will measures to strengthen the role of research institutes.

- **Assess whether an expansion of public-private partnerships and other types of strategic research initiatives can be a way to accelerate innovation in specifically interesting areas.** The State has played an important role in promoting the growth of MNCs in many countries, by setting standards, being an advanced customer or funding research. The GSM standard is an example that is often pointed to in Sweden. Several of Sweden's big industries may be on the brink of major technological shifts, including the automotive (electrification), energy (renewable energy), construction (energy efficiency) and telecom (increased focus on software) industries. It would be valuable to explore if there are other areas where public-private partnerships or other types of strategic research initiatives could help Sweden and Swedish businesses to benefit from these technological shifts in the same way that Sweden benefited from GSM technology. Yet we also need to ensure that public R&D resources are used carefully. IVA<sup>138</sup> has already produced a proposal for how the State could take a more active role that can serve as starting point for a broad discussion. Public procurement, in particular – SEK 480-580 billion per year – can be used to stimulate innovation.

#### **4. Turn Sweden into a world leader in education: Improve the quality of Swedish schools and adapt the provision of higher education to labour market requirements.**

Standards of knowledge in Swedish primary schools have declined over the past 15 years, both in absolute terms and relative to other OECD countries. This is well known in the Swedish debate, and both the government and the opposition view improving schools as a priority for Sweden.

McKinsey's global survey of 25 different school systems in 2007 drew the conclusion that teachers' skills<sup>139</sup> are the most important reason why certain school systems produce especially strong results. In 2010 McKinsey Sweden applied the same survey methodology to Swedish schools. The key conclusion was that Sweden needs to raise its standards significantly in four areas if Swedish schools are to hold their own against schools in other countries:

138 "Innovation Plan Sweden - a basis for a Swedish innovation strategy" (Royal Swedish Academy of Engineering Sciences 2011).

139 [http://mckinseysociety.com/downloads/reports/Education/Worlids\\_School\\_Systems\\_Final.pdf](http://mckinseysociety.com/downloads/reports/Education/Worlids_School_Systems_Final.pdf)

- **Raise skills levels among existing teachers and school principals through teacher coaches and systematic training.** Several of those countries that come out top in McKinsey’s global survey of school systems have introduced formal systems in which skilled and experienced teachers are given the role of coaching and instructing younger colleagues. In Singapore, for instance, certain teachers at each school are responsible for internal coaching and development while devoting less time to teaching, and Finland and the UK have introduced similar systems. In Sweden a few initial steps in this direction have been taken. The National Agency for Education has been commissioned to launch a coaching programme in challenged areas, and in a separate initiative the City of Stockholm has introduced a teacher coaching programme in certain subjects. We believe Swedish schools would benefit from going significantly further with regard to teacher coaching by establishing the system throughout the nation.
- **Raise skills levels among future teachers and school principals by increasing the attractiveness and status of the profession, thus increasing the number of applicants to the teacher education programme.** This can be done, for instance, by creating tools that teachers and school leaders can use to establish a better working environment, through higher salaries, longer summer holidays, clearer career paths with transparent qualification requirements and salary steps, and by marketing the teaching profession. A teacher certification programme was introduced in Sweden in 2011, and there is currently a proposal to reintroduce the position of “lector” (a senior teacher, normally holding a Ph.D.) in order to raise the status of the profession and clarify career paths. Sweden would need three to five times as many applicants to the teacher education programme to obtain the same wide choice of applicants as in Finland.
- **Quality-assure comparisons of school results.** Swedish schools have a high degree of transparency in terms of schools’ academic results. The publication of results from national tests and other comparisons help to increase the pressure to perform. The Swedish system of school vouchers (“skolpeng”) and a free choice of schools creates a situation where teachers face pressure from school principals as well as parents to award high grades and correct national tests generously. Over the next few years national tests will be introduced in more years and for additional subjects. To promote fair assessments and improve the comparability of results, these tests should be corrected centrally, as shown by the Swedish Schools Inspectorate’s (Skolinspektionen) re-correction in autumn 2011<sup>140</sup>. The principals should also initiate targeted action programmes for schools with weak results.

In view of the decentralised structure of the Swedish school system, the parliament and government as well as the relevant government agencies – the National Agency for Education, the Schools Inspectorate and the National Agency for Higher Education – should assume a strong driving role to realise these changes within a reasonable timeframe.

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<sup>140</sup> The re-correction led to sharp lowering of grades in many cases.

**5. Increase the supply of labour: reduce unemployment by assessing a Swedish apprenticeship system, and by finding ways of extending working life.**

The ageing of the Swedish population will result in an increase in the dependency ratio from 1.32 to 1.49 by 2030 unless measures are taken, and if unemployment remains at the current level. All else equal, this will have a negative impact on economic growth of an estimated 0.4 percentage points per year in the period up to 2030. To meet this challenge, and to ensure that a sufficiently large proportion of the population is in work, we believe Sweden should explore two opportunities:

- **Assess a Swedish apprenticeship system.** Those three EU countries which have the lowest rates of youth unemployment all have ambitious apprenticeship systems which employ up to 15-20 per cent of all young people aged 15-24, and all EU countries with ambitious apprenticeships score highly in international surveys of youth unemployment. However, apprenticeship systems can have undesired negative effects on wage formation for adults, and create lock-in effects for young people. We therefore believe it would be of interest to Sweden to assess whether a Swedish apprenticeship system could be developed that creates an effective way for young people to enter the labor market while avoiding these negative effects.
- **Launch a broad political initiative which includes representatives of employer and trade union organisations with the aim of finding a way to raise the actual retirement age.** As when the pension reform was implemented in the 1990s, we believe a broad political initiative, in consultation with employer and union organizations, is needed to raise the actual retirement age. Possible components include linking the retirement age to life expectancy, in the same way as in Denmark, where the retirement age will gradually be raised from 65 to 67 years by 2022, and will then be linked to life expectancy. Other components may include flexible part-time solutions as the retirement age approaches and initiatives for a more sustainable working life which ensures that more people have the energy to work for longer. To maintain a constant dependency ratio, the average actual retirement age would need to be raised by two to four years by 2030. Sweden was a pioneer in terms of increasing the number of women and people aged 55 to 64 in employment. It would be valuable if we could again be a prime mover by developing a model which enables and encourages more people to work for longer.



