

SWEDEN'S POSITION IN THE GLOBAL ECONOMY

Christian Ketels



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**GLOBALISERINGS
FORUM**

Entreprenörskapsforum är en oberoende stiftelse och den ledande nätverksorganisationen för att initiera och kommunicera policyrelevant forskning om entreprenörskap, innovationer och småföretag.

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Förord

Globaliseringsforum är Entreprenörskapsforums arena med fokus på globaliseringens effekter på entreprenörskap, mindre företag och innovationer. Ambitionen är att föra fram policyrelevant forskning till beslutsfattare inom såväl politiken som inom privat och offentlig sektor. De rapporter som presenteras och de rekommendationer som förs fram inom ramen för Globaliseringsforum ska vara förankrade i vetenskaplig forskning. Förhoppningen är att rapporterna också ska initiera och bidra till en mer allmän diskussion och debatt kring de frågor som analyseras.

Globaliseringsforums andra rapport ger en bred genomgång av samt analyserar de olika faktorer som ligger till grund för Sveriges konkurrenskraft. Hur väl positionerat är Sverige för att hantera framtida utmaningar, globala strukturförändringar och en tilltagande global konkurrens? Vilka områden bör beslutfattarna prioritera för att lägga grunden till ett fortsatt välstånd framöver? Rapporten mynnar ut i en rad förslag på olika policyförändringar som skulle stärka Sveriges konkurrenskraft.

Rapporten är författad av Christian Ketels, forskare vid Handelshögskolan i Stockholm och Harvard Business School. Författaren svarar för de slutsatser och den analys som presenteras.

Stockholm i maj 2012

Pontus Braunerhjelm
VD och professor, Entreprenörskapsforum

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Sammanfattning på svenska

Under 2012 står den svenska ekonomin inför svåra utmaningar och en osäker framtid. Läget i världsekonomin präglas av stagnation och Europa är kraftigt påverkat av skuldkrisen. På längre sikt påverkas Sverige av Europas avtagande inflytande på världsmarknaden, och en svag ekonomisk tillväxt riskerar att utlösa en ny våg av protektionism.

Även om den svenska ekonomin står betydligt bättre rustad än många andra länders, tack vare de ekonomiska reformer som följde i spåren av den ekonomiska krisen under 1990-talet, så finns det orosmoln på himlen. Syftet med rapporten är att blicka framåt och att identifiera vilka nya utmaningar som Sverige måste ta itu med för att även framöver presterar en hög levnadsstandard i en värld präglad av global konkurrens. I egenskap av Globaliseringsforums "basrapport" är ambitionen att teckna en bred bild och lyfta fram viktiga policyområden som bör prioriteras för ytterligare analys och policyåtgärder.

Sverige presterar bra på nästan alla områden som handlar om konkurrenskraft. Men mot bakgrund av detta borde Sverige kunna uppvisa ännu högre nivåer av välstånd än vad man gör i dag. Det är möjligt att de senaste årens förbättringar av konkurrenskraften ännu inte fullt ut omvandlats till ekonomiska resultat. Men det kan också tyda på att det finns strukturella orsaker som förhindrar Sverige från att utnyttja senare års förstärkta konkurrensposition.

Att vässa konkurrenskraften är en ständig utmaning, och kanske utgör självbe-låtenhet det farligaste hotet mot Sveriges relativt gynnsamma position. Medan svenska politiker med rätta kan vara stolta över vad som uppnåtts under de senaste tio åren, pekar rapporten ut två områden som ger anledning till viss oro framöver: Det första rör interna policyutmaningar, som t.ex. delar av utbildningssystemet och arbetsmarknaden. Detta är en av de grundläggande utmaningarna för svenska politiker som identifieras i rapporten: Hur kan politiken kontinuerligt utvecklas och förbättras för att stärka svensk ekonomis framtida förutsättningar?

Den andra området berör externa faktorer och hör ihop med världsekonomin strukturförändringar. Exportsektorn och den inhemska sektorn uppvisar helt olika dynamik i fråga om produktivitetstillväxt och förmågan att skapa arbetstill-fällen. Detta leder till den andra avgörande frågeställningen för svenska besluts-fattare: Hur behöver den ekonomiska politiken utvecklas för att möta behoven i en föränderlig världsekonomi?

Rapporten beskriver tre strategiskt centrala policyområden för att ta itu med dessa interna och externa utmaningar:

- Intensifiera samordningen av enskilda policyåtgärder för att förbättra deras effektivitet. Till exempel kan reformer riktade mot arbetsmarknaden förväntas få ett större genomslag om utbuds- och efterfrågeåtgärder kombineras. Ökade incitament för arbetslösa att söka arbete som samordnas med åtgärder som syftar till att förbättra kompetensen hos arbetslösa, kan öka företagens efterfrågan på arbetskraft.
- Positionerna Sverige på världsmarknaden och identifiera de policyområden som är avgörande för att lyckats i den globala konkurrensen. Företag har stora valmöjligheter vad gäller lokalisering och expansion av sina verksamheter och de kommer att välja den plats som har bäst förutsättningar. Sveriges politiska insatser för att åtgärda brister på vissa områden måste kompletteras med ett strategiskt fokus på styrkeområden, t.ex. en större öppenhet för kluster-specifika strategier.
- Enskilda policyinsatser bör vara anpassade till det internationella affärslivets förändrade verklighet. T.ex. måste små företags möjligheter av att utgöra en integrerad del av regionala innovationssystem och globala värdekedjor förbättras.

Executive Summary

In the spring of 2012, the Swedish economy is, as many of its peers, facing a difficult and uncertain economic environment. The economic climate is weak in large parts of the global economy, and Europe remains deeply affected by the sovereign debt crisis. Apart from these largely short-term challenges, there are also longer term concerns for Sweden: The relative weight of Europe in the global economy is gradually diminishing, the fragile growth outlook not only in Europe could easily trigger a new wave of protectionism, and the growth of emerging economies with a stronger hand of government in many markets poses further challenges.

While these challenges are real, the Swedish economy looks much better prepared to deal with them than many of its peers. Following its own financial crisis in the early 1990s, subsequent Swedish governments have made policy choices that reversed the country's previous economic decline. The objective of this report is to look ahead and identify what new challenges Sweden has to address in order to retain and enhance its ability to achieve high standards of living in global competition. As a 'base report' for the Globalization Forum's work, the intention is to go wide rather than deep: we want to identify areas that are a priority for policy action but also further analysis, not develop specific recommendations for any individual policy field.

The methodological framework used in this report is similar to the Nordic Globalization Barometer and related analyses of country competitiveness (Ketels, 2011). At its core is a definition of competitiveness as "the expected level of output per working-age individual, given the overall quality of a country as a place to do business" (Delgado et al., 2012). This definition is focused on understanding the broad range of drivers of locational prosperity amenable to policy action. The report aims to cover this large range of issues in a way that is accessible and concise: it is comprehensive in its coverage of policy areas but provides detail only where important to establish a specific argument. It draws largely on existing data and analysis rather than significant primary research. It wants to provide overall orientation and identify critical issues, not answer detailed policy questions in a particular field.

Swedish Economic Performance

Sweden, one of the most prosperous economies throughout the post-war period that then lost its dynamism, has since the crisis of the early 1990s regained its footing. Prosperity growth has been higher than in many peer countries. Sweden also ranks high on a range of other indicators that provide a broader view on the quality of life in Sweden. On income inequality, Sweden still registers much lower inequality than many peer countries but the increase in inequality in recent years has been much higher than elsewhere.

Sweden's prosperity growth is broad-based, and it is this combination that differentiates the country from many others. Productivity on the one hand and labor market performance on the other are both solid but neither of them is truly excellent. A significant number of countries perform better in one of these dimensions but very few combine strong performance in both. In terms of forward-looking indicators, Sweden's performance has been mixed: Sweden has lost some position in patenting rates but remains among the top ten countries globally in terms of patenting intensity. Sweden has, at least until recently, seen indicators of entrepreneurial activity improve, an area where the country has traditionally lagged many of its peers.

Sweden remains highly integrated into the global economy, with strong trade and investment activity relative to the size of its economy. Export market shares have been eroding, especially in the first half of the last decade but this seems largely a reflection of trade being substituted by foreign direct investment. The trade profile has remained quite traditional: while services have become more important, goods exports have shifted towards a larger role of natural-resource driven products. Among trading partners, neighbors continue to dominate. There has been some growth in the importance of countries like China, but Germany and Norway remain by far more important. Most exporters are large companies, much in line with other countries, but smaller companies have seen their role in trade increase.

Foundations of Sweden's Global Competitiveness

Sweden performs well in almost all dimensions of competitiveness – this report finds no evidence that would signal a fundamental weakening of its position. Robust macroeconomic policies, supported by a broad consensus in the public and the political system, have enabled the country to weather the storm of the global crisis. Solid microeconomic conditions, including a high openness to FDI, and a base of highly competitive multinational firms positioned Sweden as one of the key beneficiaries of globalization.

Social infrastructure and political institutions and macroeconomic policy have for some time been clear relative assets for the Swedish economy, the latter especially since the financial crisis of the early 1990s. Company sophistication, too, has long been a relative advantage, but here Sweden's performance is matched or slightly topped by leading peers. Sweden's strong performance in this area is likely to be influenced by the important role that its large multinational companies have traditionally played in the economy. This dominance is, however, eroding, at least in terms of their contribution to Swedish employment. In terms of business environment quality, Sweden ranks well but there are clear nuances. Communication infrastructure, demand sophistication, and financial markets rank best, the innovation system, cluster presence, and administrative efficiency are ranked somewhat lower, and physical infrastructure, the context for strategy and market rivalry, and the educational system follow not far behind. For none of them the performance is a disaster. The relatively low performance of the education system is the most serious individual

concern. Sweden also continues to stick out in terms of its overall tax burden. It has lost ground in terms of business taxation, an area where it used to be relatively attractive.

Policy action over the last year has been significant and affected many dimensions of competitiveness. The education system has seen a range of reforms. The labor market has seen tax and social welfare reforms to enhance entry. The delivery of social services has been opened for private providers to enhance choice and increase efficiency. In almost all of these areas, there has been some success but it is still too early for a final assessment. Especially in the education system there is no evidence of a fundamental change of performance. Policy action has been strongly focused on areas of weaknesses. There has been much less attention to areas of traditional strengths. Partly this is a reflection of a strong hesitation to take any action that might be perceived to prioritize some parts of the economy over others.

Given its overall level of competitiveness, Sweden should be able to register higher levels of prosperity than it has today. It is possible that the improvements in competitiveness achieved over the last few years have not been fully translated into economic outcomes. But it could also indicate that there are some structural reasons that keep Sweden from getting the full benefits of its competitiveness.

Implications

Sweden's overall economic performance and global competitiveness are high and there are no signs of any sudden deterioration threatening in the future. But competitiveness is a constant challenge, and maybe the most dangerous threat to Sweden's position is complacency. While Swedish policy makers can be rightly proud of what has been achieved over the last decade, the report points to two areas that should be a concern looking forward:

Over the last few years, new policy efforts have focused on some of the remaining traditional weaknesses in Sweden's competitiveness profile, in particular parts of the education system and of the labor market. Here the jury is still out; while some improvements are visible, the overall impact so far falls short of the high ambitions. This is one of the fundamental challenges for Swedish policy makers that this report identifies: How can the impact of the policy measures taken over the last few years be improved?

A number of structural changes in the global economy, many of which have been visible for some time, will continue to slowly but fundamentally affect how competitiveness is translated into economic outcomes: Industry value chains and innovation processes are increasingly stretched across organizations and locations. The traded and non-traded sector display increasingly different dynamics in terms of productivity growth and job creation. This leads to a second set of fundamental challenges for Swedish policy makers: How does the economic policy approach need to be developed to meet the needs of a changing global economy?

In its final section, the report outlines three fundamental directions to address these internal and external challenges:

- Enhance the integration of individual policy measures to improve their effectiveness. Labor market reforms, for example, will have a higher impact if they combine demand and supply side measures. While increasing incentives for unemployed to search for a job are important, measures that upgrade their capabilities and enhance firms' demand for these skills can enable them to trigger a much stronger market reaction. Innovation policy, too, needs to be better integrated with demand-side policies and regional development efforts to reach its full effect.
- Develop an overall positioning of Sweden as a place to do business to identify policy areas most critical to succeed in global competition. Companies have seen their locational choices multiply and look for the specific advantages that a place can provide. Sweden's policy efforts to address weaknesses needs to be supplemented by a strategic focus on areas of strengths. This might also include more openness for cluster-specific strategies.
- Realign individual policies with the realities of changing structures in international business. Policies towards FDI and trade need to be better integrated to match the way companies look at them as complementary modes of internationalization. The needs of small companies as integrated parts of regional innovation systems and global value chains need to be better served. Efforts to upgrade productivity need to move beyond the traded sector and include local activities where most future job growth will occur.

1. Introduction

In the spring of 2012, the Swedish economy is, as many of its peers, facing a difficult and uncertain economic environment. The economic climate in Europe remains overall weak, with different countries on an increasingly different path. While the immediate threats to the Euro seem to have been averted for now, there are still serious concerns about the future of the common currency and the nature of European integration in its wake. The US economy has stabilized at a low level of economic growth but the ability of its political system to make the necessary choices continues to be in question. Even in the emerging economies, especially in China, there are growing concerns about the sustainability of current growth rates.

Apart from these short-term cyclical challenges, there are also longer term concerns. The relative weight of Europe in the global economy is gradually diminishing, with Asia the main new hub of economic activity. With the Swedish economy firmly interlinked with its European partners, this could affect growth prospects in a number of ways. The fragile growth outlook not only in Europe could easily trigger a new wave of protectionism. Sweden's open economy would pay a significant price under such a scenario. The growth of emerging economies with a stronger hand of government in many markets poses further challenges. A small country like Sweden with limited economic and political weight could find it hard to secure a level playing field for its companies.

While these challenges are real, the Swedish economy looks much better prepared to deal with them than many of its peers. Following its own financial crisis in the early 1990s, subsequent Swedish governments have made policy choices that reversed the country's previous economic decline. These policy choices enabled the swift reaction to the global financial crisis in 2008/2009, and Swedish economic policy is now repeatedly named as a role model for others (IMF, 2011; European Council, 2011; Schwab 2011; Ketels, 2011).¹ Problems in a number of policy areas are frequently

1. Public reflections of these views were on display at a session on "the Nordic way" at the WEF Summit in Davos in early 2011 (Nordic Council of Ministers, 2011) and in Anders Borg's selection as European Finance Minister of the Year by the Financial Times (Attkins/Whiffins, 2011) last November.

discussed but overall there is little question that the domestic fundamentals of the Swedish economy have been significantly improved. And these improvements are at the heart of the positive trend the economy has experienced over the last two decades (Bergh, 2011). The current slow-down is likely to be cyclical rather than a sign of a fundamental weakening of the Swedish economy.

Swedish policy makers can rightly be proud about what has been achieved in creating the competitive economy that Sweden is today. The objective of this report is to now look ahead and identify what new challenges Sweden has to address in order to retain and enhance its ability to achieve high standards of living in global competition. As a 'base report' for the Globalization Forum's work, the intention is to go wide rather than deep: we want to identify areas that are a priority for policy action but also further analysis, not develop specific recommendations for any individual policy field.

Sweden's overall competitiveness remains high – this report finds no evidence that would suggest otherwise. Robust macroeconomic policies, supported by a broad consensus in the public and the political system, have enabled the country to weather the storm of the global crisis. Solid microeconomic conditions, including a high openness to FDI, and a base of highly competitive multinational firms positioned Sweden as one of the key beneficiaries of globalization. Over the last few years, new policy efforts have focused on some of the remaining traditional weaknesses in Sweden's competitiveness profile, in particular parts of the education system and of the labor market. Here the jury is still out; while some improvements are visible, the overall impact so far falls short of the high ambitions. This is one of the fundamental challenges for Swedish policy makers that this report identifies: How can the impact of the policy measures taken over the last few years be improved?

This report identifies a number of structural trends in the global economy that have a profound impact on how Sweden's high competitiveness is being translated into prosperity. These trends have been visible for some time and will continue to slowly but fundamentally affect the context in which Swedish policy makers operate: Industry value chains and innovation processes are increasingly stretched across organizations and locations. New, often smaller companies play an increasing role and value creation does not all occur in one place. Traded or export-oriented activities on the one hand and local or non-traded activities on the other hand display increasingly different dynamics in terms of productivity growth and job creation. This leads to a second set of fundamental challenges for Swedish policy makers that this report identifies: How does the economic policy approach need to be developed to meet the needs of a changing global economy?

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Methodological framework

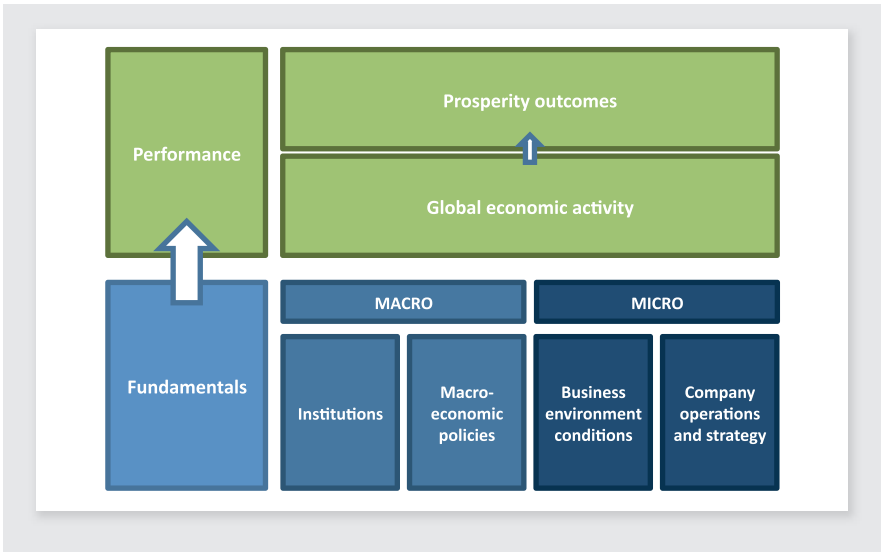
The methodological framework used in this report is similar to the Nordic Globalization Barometer and related analyses of country competitiveness (Ketels, 2011). At its core is a definition of competitiveness as "the expected level of output per working-age individual, given the overall quality of a country as a place to do business" (Delgado et al., 2012). This definition is focused on understanding the drivers of locational prosperity amenable to policy action. It includes both the productivity of the economic system to mobilize the available workforce and the productivity of individual employees in their jobs.

A diagnostic of competitiveness as done in this report derives insights from both dimensions of this definition: It looks at measures of economic performance as the revealed outcomes of competitiveness, and it looks at competitiveness fundamentals as the underlying drivers of these outcomes. The analysis of economic performance looks at the actual level of prosperity (and its logical components) reached, arguably the ultimate objective of economic policy. It also covers measures of global economic activity that give a sense of how underlying competitiveness translates into outcomes in the global marketplace than ultimately are the source of prosperity.

The scope of factors included in the analysis of competitiveness fundamentals is driven by the large literature on cross-country differences in prosperity and growth. Institutional quality (rule of law, provision of basic education and health care, political institutions) has been found to be important and often significantly driven by historical legacy (e.g., La Porta et al., 1998; Hall and Jones, 1999; Acemoglu et al., 2001). Macroeconomic policies are critical in the short run but tend to be largely endogenous to the institutional setting in a longer term perspective. Both institutions and

macroeconomic policies are largely set by central government decisions. Business environment conditions include a broad range of policies on factor input and market conditions that interact in dynamic ways to influence productivity. Company sophistication has traditionally been considered to be endogenous to the broader business environment but recent research has revealed significant performance differences across companies from otherwise relatively similar economies (e.g. Bloom/van Reenen, 2007). These microeconomic dimensions are driven by decisions made across a wide range of government agencies at all geographic levels as well as by many companies, universities, and other types of organizations.

FIGURE 1: The conceptual framework



The report aims to cover a large range of issues in a way that is accessible and concise. This requires clear trade-offs: the report is comprehensive in its coverage of policy areas but provides detail only where important to establish a specific argument.² It draws largely on existing data and analysis rather than significant primary research. It wants to provide overall orientation and identify critical issues, not answer detailed policy questions in a particular field.

2. For a broader collection of relevant data see , for example, Sveriges regering (2011)

2. Performance

a) Prosperity outcomes

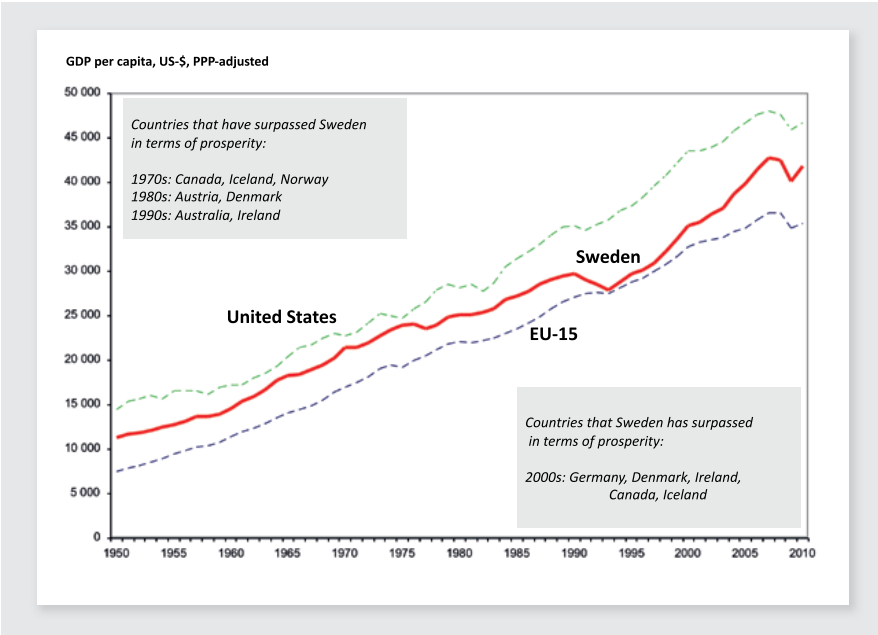
Prosperity outcomes are the ultimate test of competitiveness as a location's ability to support a high and rising standard of living for its economy. The specific patterns of prosperity performance, in particular the components driving income generation, are also an important diagnostic tool to understand the drivers of prosperity and the potential levers for improvement.

i) Standard of living

Sweden is one of the most prosperous economies in the world, ranking 8th on PPP adjusted GDP per capita in 2010. In the last 15 years, it has on this measure surpassed Japan (1998), Germany (1999), Belgium (2000), Denmark (2005), Canada (in 2007, then again in 2010), Ireland (2010), and Iceland (2010; Iceland had surpassed Swedish levels only in 2005). Countries ahead of Sweden include Norway, the Netherlands, Austria, Australia, the United States, and Switzerland. Historically, Sweden had ranked even higher during the 1960s and early 1980s, when countries like Austria, Australia, and the Netherlands were at or below Swedish levels.

Sweden is a country with a relatively high level of income equality, indicating that average GDP per capita is a meaningful indicator for the overall standard of living large parts of society experience. While still at a low level, Swedish income inequality has increased over the last decades at a rate even faster than in other countries (Björklund/Jäntti, 2011; OECD, 2011d). Swedish inequality measured by the Gini-Coefficient is now roughly at the level it was in the US in the 80s. Measured in other ways, like the ratio of the average income in the top to the bottom ten percent of the income distribution, Sweden still remains far below the inequality levels seen in the US even then (Becker et al, 2010).

FIGURE 2: Long-term trends in prosperity



Source: Groningen Growth and Development Center, The Conference Board, 2012.

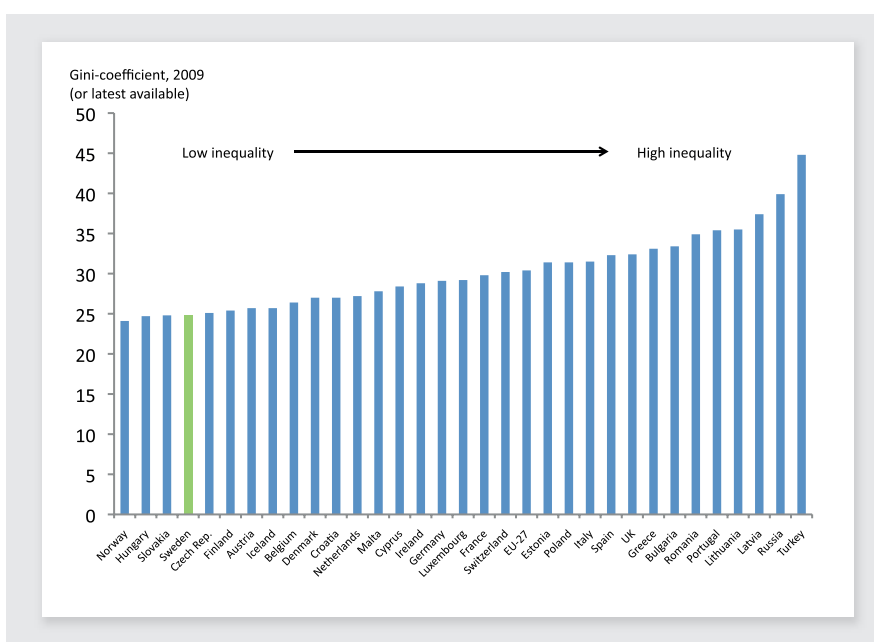
The common trend of increasing income inequality suggest that technological change, globalization, and to some degree also changes on financial markets (Bergh/Nilsson, 2010; Roine/Waldenstrom, 2011) have played an important role. National policies amplified the impact of these factors to different degrees. For Sweden, the low starting level of inequality might also be an important factor to explain the – according to some, but not all measures – faster increase in inequality in recent years.

Sweden also ranks well on a number of non-income related measures of the standard of living, like individual happiness, health, and the quality of the environment. The OECD Better Life Index ranks Sweden especially high on environmental quality, political governance, community involvement, life satisfaction, and the quality of health (OECD, 2012). The UNDP Human Development Index puts Sweden among the global top ten countries as well (UNDP, 2011). Sweden also ranks high on measures of gender equality, even though there remains a gender gap in areas like board membership.

Overall, Sweden registers, despite the impact of the global crisis over since 2008/2009, a healthy performance on the standard of living. It has outperformed

many of its peers but continues to lack behind the US and a number of other OECD countries.

FIGURE 3: Inequality across european countries



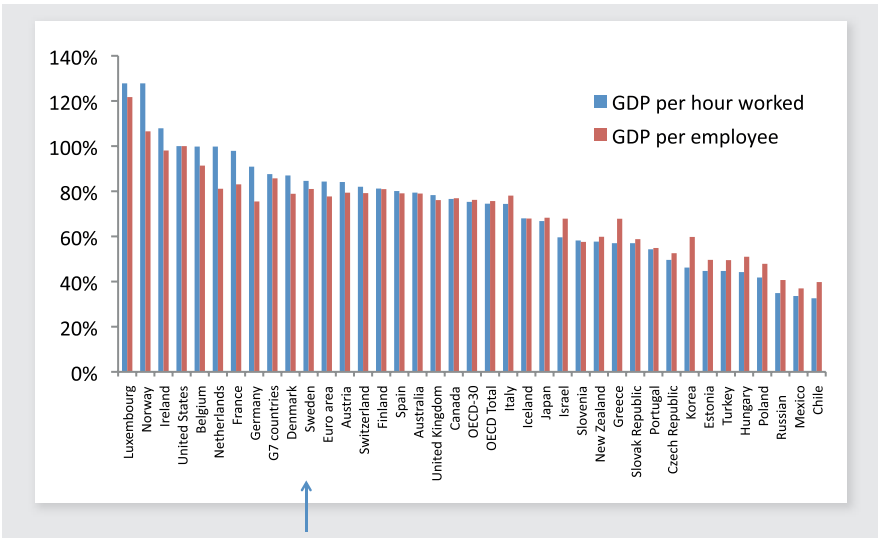
Source: Eurostat, UN (2011)

ii) Productivity

The Swedish economy registers high but not exceptional levels of labor productivity, measured by GDP per capita. In 2010, the level of productivity (GDP per hour worked) in Sweden was at 85% of the US and 93% of the German level (OECD, 2011c). The gap to the US is slightly smaller for GDP per employees; on this account Sweden is about 7% ahead of the German level.

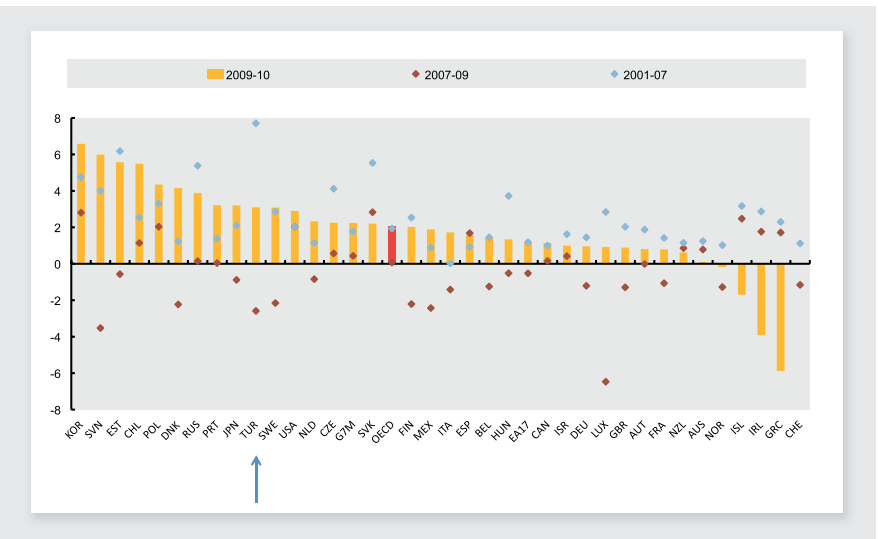
Sweden has registered strong labor productivity growth over the last decade, especially in the years prior to the crisis that started in 2008. The fall in labor productivity during the crisis was then more pronounced in Sweden than in most other OECD countries, partly because of differences in the labor market response. The slump was then followed by a recovery in labor productivity that was stronger than in countries that had seen productivity drop less during the crisis.

FIGURE 4: Labor productivity level – OECD countries 2010



Source: OECD (2012)

FIGURE 5: Labor productivity growth – OECD countries 2001-2010



Source: OECD (2012)

Productivity growth over the last decade has been particularly strong in manufacturing. The overall contribution of this broad sector to productivity growth has been higher than in most peer economies. Finland and Germany are among the few other economies at similar levels of economic development in which manufacturing also contributed more than 50% of total labor productivity growth (OECD, 2008). As in many other European countries but unlike the US, productivity growth in the (growing) services sector has been much more limited (Inklaar et al, 2007).

Much of the recent growth in labor productivity has been attributed to total factor productivity (TFP) growth. Given the statistical nature of TFP as a residual measure capturing all growth not explained by skill upgrading or capital deepening, a significant share of TFP growth might capture the investments in intangibles (R&D, design, branding) that are not captured in the traditional capital stock measures (Edquist, 2010; Edquist, 2011). Sweden is in this respect quite similar to the US, where business investments in tangibles have also been low over the last decade despite significant productivity growth.

There is no good data on the relative impact of entry and exit versus within company changes on overall productivity growth. Traditionally the churn rate (entry + exit of companies relative to stock of companies) has been slower in Sweden than in many other OECD countries, suggesting that churn has been a less important driver of overall productivity change.

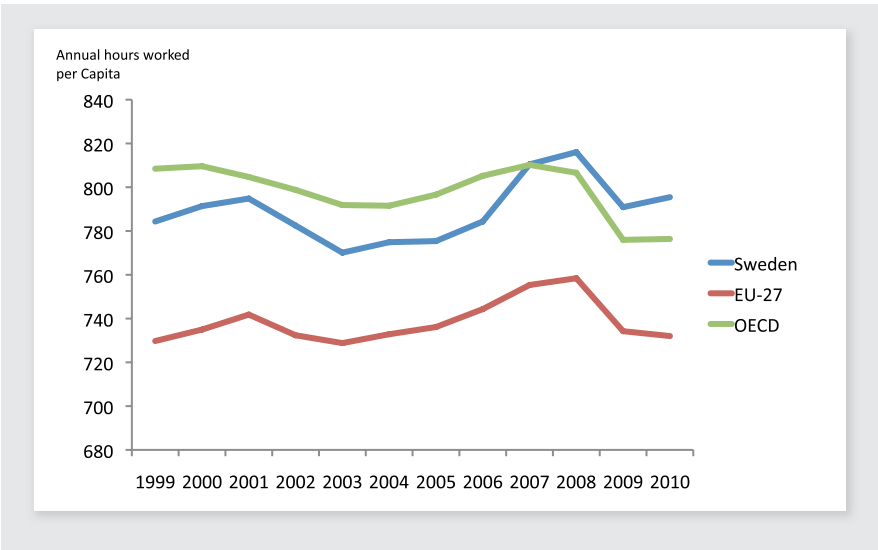
iii) Labor mobilization

The Swedish economy has achieved an overall high level of labor mobilization, measured in terms of employees as a ratio of the working age population. On the overall number of hours worked per capita, an aggregate measure capturing the impact of demographics, labor market conditions, and the nature of typical employment relations, Sweden has surpassed the OECD average and increased its advantage relative to the EU-27.

Unemployment rates have moved upwards during the recent crisis but continue to track well below the level of the EU average. The recent crisis also has had much less severe impact on the Swedish labor market than the downturn in the 1990s (Harbo Hansen, 2011). So far there are no signs that the crisis-driven increase in unemployment rates has shifted the structural unemployment rate upwards. The groups that suffered most, both compared to the overall Swedish labor market and relative to the EU average, are workers with temporary contracts and lower skills in the manufacturing sector (OECD, 2011).

Employment has grown marginally in the private sector while the public sector, responsible for all job creation in the 1970s and 1980s, has recently been shrinking at low rate (OECD, 2011). The vast majority of job creation over the last decade has occurred in companies with less than 50 employees. From a sectorial perspective, jobs have shifted from manufacturing to services, from the export oriented economy to local activities, and from larger to smaller companies.

FIGURE 6: Labor mobilization – hours worked per capita



Source: Conference Board (2012)

Labor market outcomes are in Sweden traditionally highly affected by age, with high employment for older workers and lower employment for younger workers entering the labor market. Recent data shows that Sweden has at 61% the highest employment rate in the age group 60-64 among all EU countries, while it has at close to 13% one of the worst unemployment ratios³ in the age group 15-24 (Eurostat, 2012). Younger workers also have a much higher share of temporary employment than the overall labor force (OECD, 2011). Gender is much less of a differentiating factor for employment rates in Sweden than elsewhere in Europe. Both employment and unemployment rates are similar across gender in Sweden, while females report much lower labor market activity levels in the EU average. Migrants are more than two times as likely to be unemployed than native Swedes (OECD, 2010). This puts Sweden in a group with the other Nordic countries, the Benelux, and Switzerland, while in other OECD countries the differences in labor market outcomes based on nationality are less pronounced.

For full time employees, working hours in Sweden are among the lowest in Europe (Eurofund, 2011). More than a quarter of Swedish employees work part time. This is higher than the EU average and similar to Denmark and Germany; only the

3. The unemployment ratio used for young people does not count students or young people otherwise not looking for a job. The broader measure of the unemployment rate is at close to 23%. See http://epp.eurostat.ec.europa.eu/statistics_explained/index.php/Unemployment_statistics#Unemployment_trends

Netherlands and Switzerland have much higher rates of part time employees. About 15% of Swedish employees have a contract of limited duration (fixed term), roughly in line with the EU average (Eurostat, 2012). Traditionally this type of contract had played a less important role in Sweden but it increased significantly over the last decade.

A consistent feature of the Swedish labor market has been the high share of the working age population receiving different forms of public income support. In 2002, more than 10% of the working age population received sickness or disability benefits; this share has dropped to roughly 8% in 2010 but remains higher than in most other OECD countries (OECD, 2011).

iv) Innovation

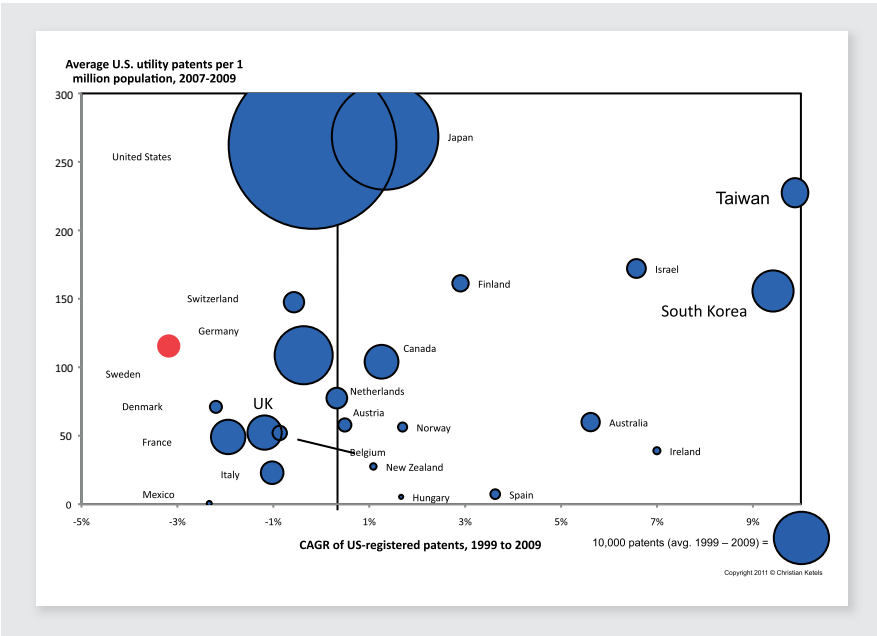
Sweden is consistently ranked among the most innovation-driven economies of the world (for such rankings see the European Innovation Union Scoreboard, the World Bank's Knowledge Economy Index, the Nordic Innovation Monitor, the INSEAD Global Innovation Index, and BCG's International Innovation Index). On many of the regularly used measures of innovation Sweden is firmly in the leading group of countries globally. This is, for example, the case for patenting intensity, R&D spending relative to GDP, the number of researchers in the labor force, the quality of scientific publications, and the income from licenses and patents. On the first two, Sweden is ahead even of leading peers (Denmark, Finland, Switzerland, US). On the last two, it is slightly behind (Pro Inno Europe, 2012a).

But there are also some signs that this leading position is challenged: On the most recent European Innovation Scoreboard, Sweden continues to rank second after Switzerland but has lost some ground relative to the average of European countries, including some other leading innovators like Finland and Germany (Pro Inno Europe, 2012b). Companies' spending on R&D has fallen as a share of GNP from 3% in 2000 to 2.1% in 2009. On patenting in the U.S., still the largest market for intellectual property, patent applications from Sweden have fall behind.

While Sweden has kept its leading position compared to its European peers, a number of non-European countries have rapidly improved its position on patenting as well as R&D inputs. Taiwan and South Korea have already reached levels of patenting intensity (and absolute levels of US patenting) ahead of Sweden. Countries like China remain far behind on a per-capita basis. But their large absolute size is increasingly felt; foreign companies invest into R&D facilities to meet local political pressure, align products and services with local market needs, but increasingly also to tap into a quickly growing pool of employees with advanced skills. While this has so far not come at the expense of existing R&D activities in Sweden, it is capturing much of the growth in R&D expenditures by Swedish multinationals (Ketels, 2010). At the same time, pressure on the effectiveness of R&D spending is leading many multinational companies to consolidate their global R&D activities in a smaller set of locations within the set of advanced OECD economies. In a few instances this can benefit Sweden; in others, most recently the decision by AstraZeneca to close

its R&D facilities in Södertälje and focus on other existing R&D sites in the UK and the US, it does not.⁴

FIGURE 7: Innovative output – selected OECD countries 1999 to 2009



Source: USPTO (2010), Groningen Growth and Development Centre, Total Economy Database (2010)

Country size and innovation performance rankings

Sweden is the largest economy among the Nordic countries, but is small compared to many of the Continental European, OECD, and emerging economies. For economic activities that are like many indicators of innovation performance highly concentrated geographically, this can lead to a distorted view in international rankings. While the Stockholm region as a center of innovative activity dominates the Swedish aggregate figures, the performance of leading German or US regions gets washed out in the aggregation across many regions with often lower levels of performance in these countries. Seven US states, for example, have higher R&D spending rates than Sweden (European Commission, 2012). The same is true for a number of European regions that are comparable to Sweden in size.

4. For an in-depth study of AstraZeneca’s activities in Sweden see Andersson et al (2008)

The discussion of Swedish innovation performance has in the past often focused on the so-called “Swedish paradoxon” (Edquist, 2010; Braunerhjelm et al, 2010), i.e. the view that high innovation inputs generate only limited economic outputs. The data provides a nuanced perspective on this analysis: The missing link is not firm activity; in fact, private sector R&D activity is one of the areas in which Sweden stands out. It is also not simply a lack of linkages between universities and companies; here Sweden ranks at least average if not better compared to its peers. Instead, it is the low propensity to turn academic and commercial R&D activities into other types of economic activity in Sweden that seems to be the challenge.

Entrepreneurship is a critical driver of economic growth and renewal, and often a key source of innovation in an economy. The OECD reports relatively low rates of business entry for Sweden (OECD, 2011b). Unfortunately Sweden has relatively poor data coverage in the Eurostat-OECD Entrepreneurship effort (OECD, 2008a). Other studies, like the Global Entrepreneurship Monitor, also register relatively low levels of entrepreneurship for Sweden. In their assessment the Swedish performance is, however, within the normal range of comparable advanced economies (Braunerhjelm et al, 2011). The levels of entry and new business growth in Sweden are ranked in the middle of the Nordic countries, trailing Denmark and, by a small margin, Finland (NCM, 2010).

There are indications that rates of Swedish entrepreneurship have increased over the last two decades (Braunerhjelm/Thulin, 2010). This growth comes, however, after a dramatic drop during the crisis of the early 1990s. Entrepreneurship activity had only by 2008 reached the levels registered before then.⁵ The recent crisis seems to have pushed entrepreneurship down to the low levels seen traditionally (Bornefalk, 2012).⁶

a) Global economic activity

Measures of Sweden’s integration into the global economy are a second major dimension of Swedish economic performance. Trade, FDI, Migration, and Knowledge are not ultimate policy objectives. But they represent key transmission channels from underlying competitiveness to wealth generation. Both the level and the profile of these measures provide valuable insights for identifying areas of Sweden’s competitiveness profile that are barriers to higher prosperity.

i) Trade

Sweden has fully participated in the increase of trade over the last decade. In nominal terms, the value of Swedish exports has doubled between 2000 and 2010, despite the

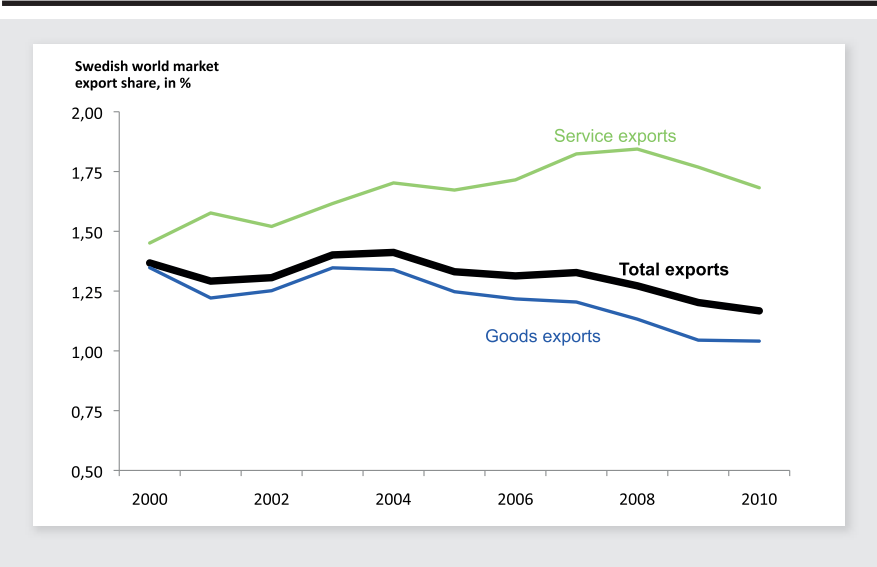
5. The current lack of high-growth medium-sized companies often noted in the debate could, in fact, be a longer-term result of the crisis in the 1990s, when new entry rates were particularly low.

6. <http://di.se/Artiklar/2012/3/26/262740/Debatt-Foretagandet-pa-lagstaniva/>

25% contraction in 2009 as a result of the global crisis (WTO, 2011). Relative to GDP, trade volumes have increased from 86% of GDP in 2000 to 94% in 2010 (Statistics Sweden, 2011). Exports and imports have over this period grown at roughly the same rate.

While the Swedish economy has participated in the growth of global trade, it has gradually lost export market share, especially since 2004. This trend was remarkably unaffected by the 2009 global trade collapse. There are a number of reasons for this trend, with China, Central Eastern Europe, and oil being the most important ones. China’s share of world exports has increased from 3.5% in 2000 to 9.2% in 2010; overall, the BRIC countries gained 8% in world export market share during this period. The impact of the Central Eastern European countries was smaller but they too increased their world export market share from 2.1% to 3.7% over the last decade. Fuels and mining products (of which fuel accounts for a stable 75% of exports) have gone from 13% of all world exports in 2000 to 20% in 2010. All of these factors reduced the relative role of Swedish exports in the global economy, a trend that most other advanced economies have also experienced.

FIGURE 8: Swedish world market export shares

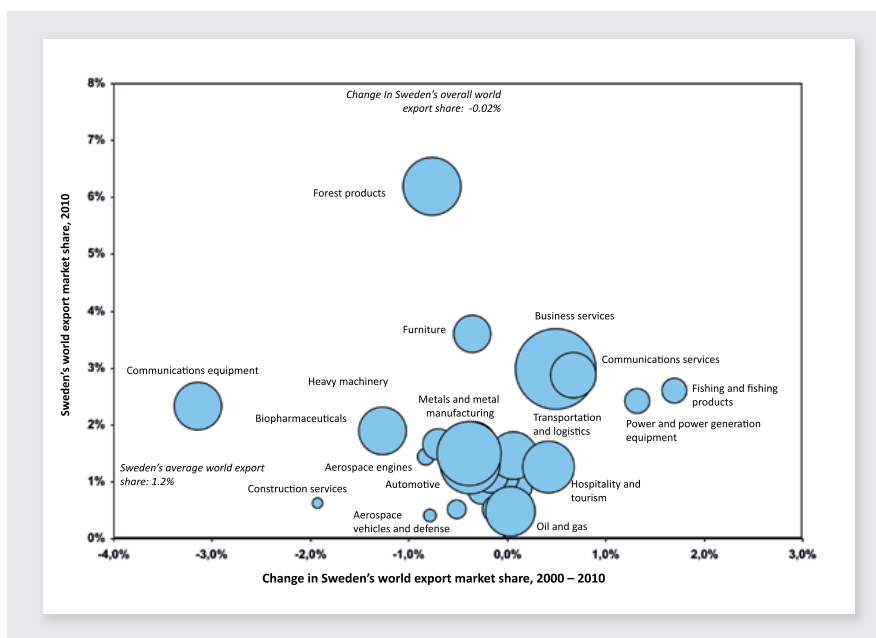


Source: WTO (2011)

A closer look at types of exports and export destinations provides more detailed insights into the dynamics of Swedish trade over the last decade. In terms of the composition of exports, the ‘servicification’ of exports is progressing faster in Sweden than for global trade overall (Eliasson et al, 2011; Kommerskollegium, 2010a): over the last decade, the share of services in total Swedish exports increased from 20%

to 29% (WTO, 2011). And this share does arguably underestimate the role of service exports for the Swedish economy, given that goods exports have a significantly higher share of imported inputs than service exports. On average around 30% of export value added is accounted for by important inputs. These inputs come largely (80%) from other advanced economies although the role of less advanced economies is growing. Taken this factor into account, the share of services in the value added of all Swedish exports has reached 36% (Kommerskollegium, 2010b).

FIGURE 9: Sweden – Export Portfolio by cluster, 2000-2010



Note: Bubble size is proportional to total export value in 2010

Source: Prof. Michael E. Porter, International Cluster Competitiveness Project, Institute for Strategy and Competitiveness, Harvard Business School; Richard Bryden, Project Director. Underlying data drawn from the UN Commodity Trade Statistics Database and the IMF BOP statistics.

Within goods exports, ten product categories (two-digit SITC level) account for about 60% of all Swedish goods exports, a share that has slightly decreased over the last decade. Among these ten product categories, Swedish exports have gained world market share only in pulp and paper products. In five out of the ten categories market share losses were significantly higher than for Swedish exports overall. Most dramatic was the loss of market share in pharmaceutical and medicinal products, which largely took place between 2000 and 2005. The market share decline in cars

and steel products took place at the same time, while the erosion of market share in telecom products was more continuous over time. Sweden's export product mix remains biased towards traditional industrial sectors; recent trends have further accentuated this profile.

In terms of the destination of exports, ten countries account for 72% of all Swedish exports. With the exception of China, which is now ranked 10th and pushed Italy out of the top ten in 2009, the countries on this list have not changed over the last decade. Among top export destinations, Germany and Norway share the lead. The UK and the US, two other traditionally large export markets, have become less dominant. Nordic neighbors account for roughly 25% of exports and EU members for around 60%. The BRIC countries have almost doubled their share of Swedish exports over the last decades; they now account for 8% of total exports.

Over the last decade, Sweden has lost market share in nine out of its ten leading export markets. Only in Denmark the Swedish market share is still at the 2000 level, albeit after higher levels over the last few years. In market share-percentages, Sweden lost most ground in Finland, the Netherlands, China, and Germany over the last decade. In China, Sweden's share of Chinese imports has been cut by half over the last decade.

China as a market for Swedish products

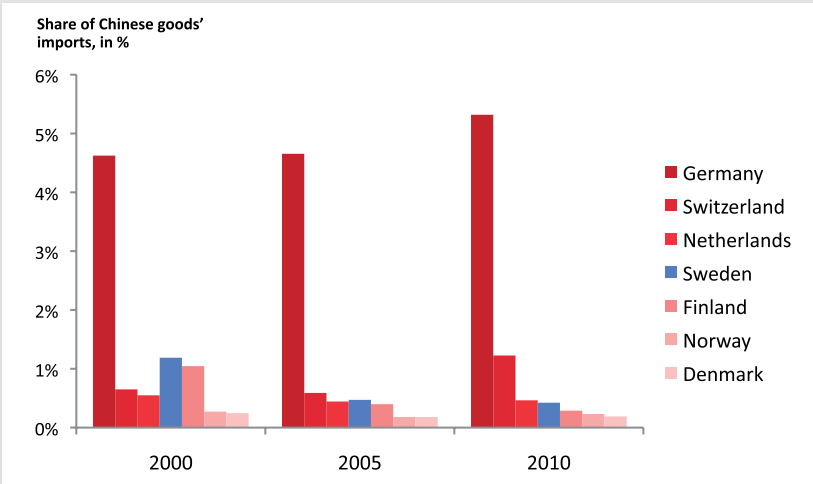
China is often seen as a crucial market for Swedish exporters, given the growing role of the country in the global economy. In nominal US-Dollar terms, Swedish goods exports to China have more than doubled between 2000 and 2010. In 2010, China purchased 3.5% of all Swedish goods exports, compared to 2.4% a decade earlier.⁷

During these ten years, Chinese total imports (again in nominal US-Dollars) have gone up more than six times. The market share of Swedish exporters in all Chinese imports has dropped from 1.2% to 0.4%. Most of the market share loss occurred during the first half of the decade. Other Nordic countries have seen their relative position shrink as well, while Germany but also Switzerland and the Netherlands have gained position.

The product mix of Swedish exports to China has changed significantly between 2000 and 2010. Telecommunication products accounted for close to 45% of Swedish goods exports to China in 2000. This share has dropped to 3% by 2010. Primary commodities, including iron ore and pulp & paper, saw their share in Swedish exports to China increase from 3% to 12%. In other product categories, flat-rolled steel (5% of Swedish goods export to China in 2010) and paper (6%) had strongly gained in importance in the first half of the decade but have since lost some of their relative gains. Pharmaceutical products (4%) gained mostly in the second half of the decade.

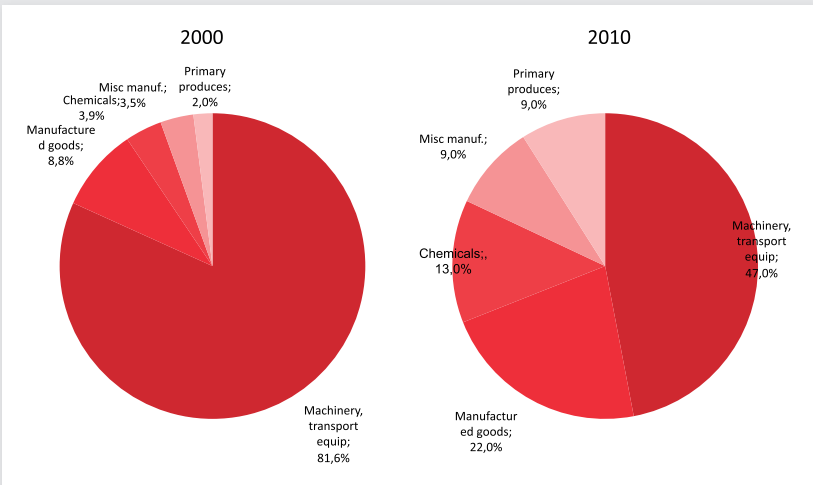
7. The UNCTAD data does not cover Swedish exports reaching China through other markets, for example, Hong Kong. This might understate Swedish exports but is not likely to systematically bias the comparison with other countries.

FIGURE 10 : Share of Chinese imports – selected European countries



Source: UNCTAD (2011), author's analysis.

FIGURE 11: Chinese imports from Sweden – share by product group



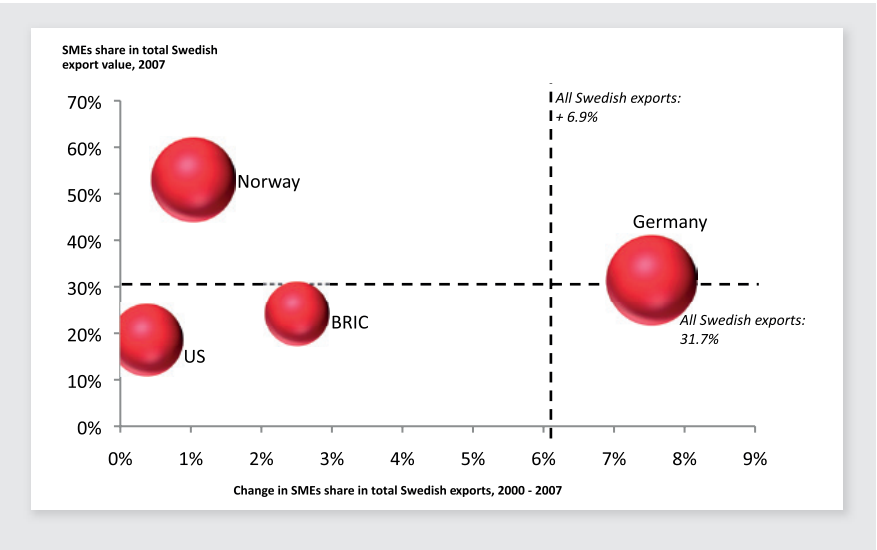
Source: UNCTAD (2011), author's analysis.

Overall, China still ranks far below leading European trading partners in terms of the absolute value of Swedish exports. China will continue to grow faster than these other markets, but given their absolute size and proximity, it is unlikely to replace them.

Sweden has lost market share overall, partly to direct competitors from Europe. And in at least some industries it will also have lost market share to new Chinese competitors. Some of this loss in exports might also be due to Swedish FDI into China that has replaced these trade flows. Exportrådet found sales by Swedish companies in China to be about 3-4 times as high as Swedish exports to China. At least part of the, compared to others, slower growth in Swedish exports to China might be explained by a build-up of production capacity in the Chinese market. Most Swedish companies in China report good profitability, especially when serving industrial markets (Embassy of Sweden, 2012).

An interesting recent trend in the export profile of the Swedish economy is the growing importance of smaller companies. Between 2000 and 2007, i.e. the year before the trade collapse in the wake of the global crisis, companies with less than 200 employees increased their share of Swedish exports by almost 7%. Smaller companies are especially active in the trade with neighbors, and have seen their export share grow most with other European countries.

FIGURE 12: Swedish exports by firm size – selected markets



Note: SMEs defined as <200 employees, bubble size proportional to total export value
Source: Statistics Sweden, KTH (2012), author's analysis

While less often the focus of public debate, imports are another important aspect of a country's integration into the global economy. Swedish import growth has matched export growth almost exactly since the mid-1990. Only in the last few years the trade surplus has shrunk somewhat as Swedish demand developed more dynamically than the demand in main export markets. The increasing share of imports in GDP reflects a growing use of imported inputs, especially in manufacturing, where imports accounted for 26.6% in 2005 (2000: 25%). Industrial machinery accounted for 10.4% of Swedish exports in 2011 followed by crude petroleum 7.8%. Electronics and telecommunication products, used both in final consumption and as production inputs, accounted for 15.7% of 2011 imports.

The empirical analyses suggest that increasing imports have had at best a modest impact on the relative demand for different skills in the Swedish labor market (Becker et al., 2010). This is in part a reflection of Swedish imports coming to a large degree from other advanced economies; Germany alone accounts for more than 18% of Swedish imports. China is ranked 9th, with a 3.9% share of Swedish imports – similar to Belgium (Statistics Sweden, 2012). Increasing imports from China have – for a larger sample of western economies including Sweden - been shown to lead to higher overall innovation activity within European firms and to more innovative firms gaining market share (Bloom et al., 2011).

ii) Foreign Direct Investment

Sweden has a long tradition as a source and destination of foreign direct investments. It has a significant number of multinationals, especially relative to the size of its economy, with extensive foreign operations. And it has been open to foreign investments, even into some of its largest companies in areas like automotive and pharmaceuticals.

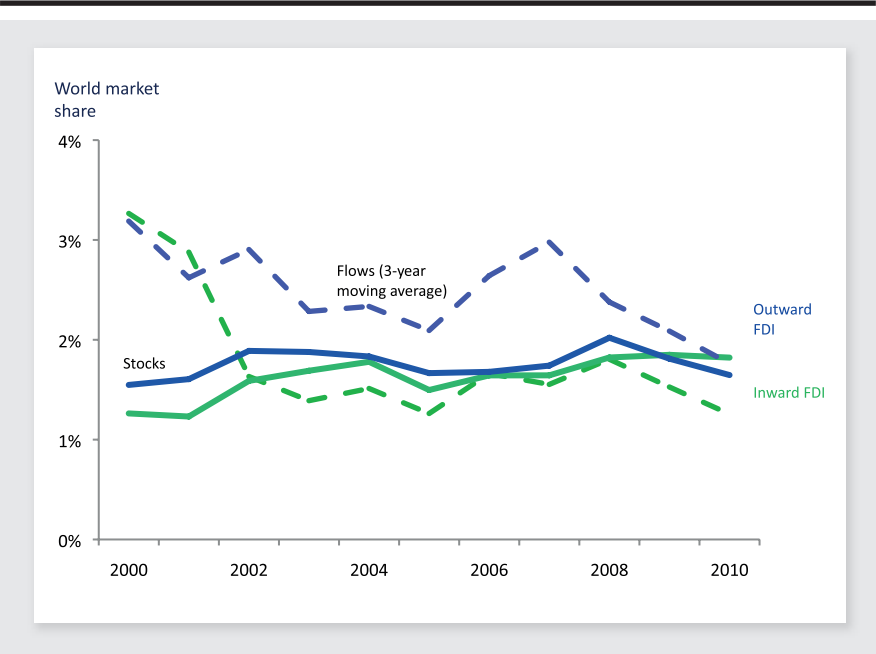
In 2010, the stock of FDI in Sweden was evaluated at roughly \$350bn, almost 3.5 times higher than in 2000 (UNCTAD, 2011).⁸ The value of Swedish FDI abroad reached at close to \$340bn a similar level but was up only 1.7 times over the same period. In- and outward flows tend to be highly volatile year to year. Over the last decade, Sweden registered annual inflows of on average \$17bn and outflows of on average \$26bn. The change in the value of the inward FDI increased by much more than the cumulative inflow of funds, indicating reinvested profits and increasing value of the assets held by foreigners in Sweden. For outward FDI, the value of the stock increased by less than the cumulative outflows, indicating conversely cumulative losses or a reduction of value in assets acquired by Swedish owners abroad (Statistics Sweden, 2011).

Relative to global FDI activity, Sweden's position both as a host and a source of FDI has stayed roughly stable over the last decade. Its FDI position has developed

8. The treatment of FDI in official statistics is complex. Many international statistics use current account data. This covers an investment paid with capital from abroad. But it fails to capture changes in market value, or the use of domestic capital markets by foreign companies to finance acquisitions.

somewhat more dynamically than the average EU or OECD economy, especially on inward FDI. In 2010, Sweden accounted for 5.1% of the EU’s inward FDI stock (2.7% of the OECD’s) compared to 4.0% (1.6%) in 2000. The BRIC countries, however, have increased their FDI activity even more. Their inward (outward) FDI stock in 2010 accounted for 13% (6%) of the OECD FDI stock, compared to 6% (1%) in 2000.

FIGURE 13: Sweden’s foreign direct investment position



Source: UNCTAD (2011), author’s analysis

In 2010, there were 13 627 foreign controlled enterprises with 590 304 employees in the Swedish economy (Tillväxtanalys, 2011a). They employed close to 600,000 employees or 22% of the total labor force. After tripling in the 1990s, the role of foreign-owned companies has been roughly stable since the early 2000s. OECD and EU countries dominate by far as foreign investors in Sweden. Foreign acquisitions of Swedish companies do not seem to have led to a reduction of R&D activities in Sweden (Bandik et al., 2010). While foreign firms have in Sweden traditionally focused on manufacturing activities, their investments in the service sector have grown in recent years (Tillväxtanalys, 2011c).

In 2009 (the last year for which data has been published), there were 1,476 Swedish controlled groups with affiliates abroad (Tillväxtanalys, 2011b). They employed 1.56 million, 70% of which outside of Sweden. The employment of Swedish multinationals in Sweden has steadily decreased from 700,000 in 1996 to 450,000 in 2009. Conversely, their employment abroad has risen from 600,000 in 1996 to 1,000,000 in 2001 and 1,100,000 in 2009. Nordic neighbors, Germany, the UK and the US dominate as the destinations for Swedish investment abroad. However, much of the recent employment growth in Swedish-owned industrial groups has occurred in lower wage countries. In the service sector, this trend is much weaker (Tillväxtanalys, 2011c). While Swedish companies have sharply increased their share of employment abroad, the relocation of headquarters to locations outside of Sweden visible in the early 1990s seems to have stopped (Henrekson/Öhrn, 2011).

The empirical analyses provide little indication that the job growth in Swedish-owned companies abroad has had a negative effect on Swedish employment. International studies suggest that expansion abroad is at least as likely to secure or upgrade jobs at home (Becker et al., 2010). Offshoring of production activities to other advanced countries (but not to emerging economies) is found to have a moderate negative effect on R&D activities in Sweden (Karpaty/Tingvall, 2011). This is consistent with interview evidence that especially development activities have to a significant degree already been moved towards larger markets (Ketels, 2010).

Comparing the dynamics of trade and FDI, it is remarkable how much FDI has increased in relative importance versus trade as a mode of globalization. Even though flow (trade) and stock (FDI) measures are not directly comparable, the differences in growth dynamics are remarkable.⁹

iii) People and ideas

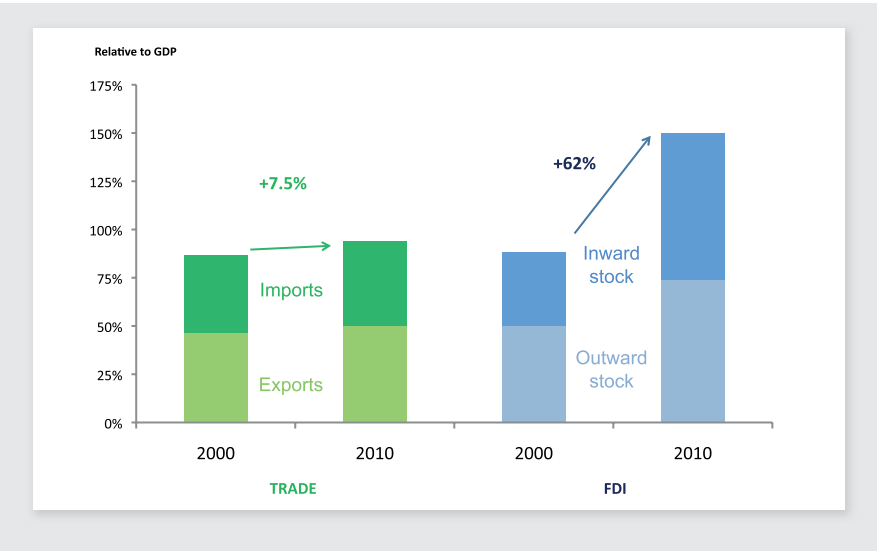
Sweden is the destination for around 80,000 migrants annually (2009), up from about half the number a decade ago. The number of asylum seekers was 25,000 in 2009 (32,000 in 2010). Around 40,000 Swedes leave the country annually, about twice as many as in 2000. At about 0.9% of the Swedish population, the gross inflow is higher than in Denmark, Finland, Germany, and Poland, but below Norway, Austria, Belgium, and the Netherlands.

The inflow of foreign workers accounted for 18% of all migration to Sweden in 2009, somewhat lower than in many other OECD countries (but the heterogeneity across countries is high, see OECD, 2011f). The inflow of skilled personnel is especially evident in the health care sector, while other sectors have so far benefited much less. The share of foreigners in the Swedish labor force (2.4% of the labor force in 2009

9. Relative price effects, i.e. differences in the inflation rates for the valuation of ownership stakes relative to prices of goods and services might play a role, too, but seem unlikely to explain all of the difference

was born outside of the EU; 2.7% in other EU countries) is somewhat lower than in the EU average, comparable to Denmark (with Denmark having a different mix of EU/non-EU foreigners) and higher than in Finland (Eurostat, 2012).

FIGURE 14: The Shifting Face of Globalization – The role of trade and FDI in the Swedish economy



Source: UNCTAD (2011), author’s analysis.

The share of immigrants among Swedish researchers is higher than in most other countries. At 25%, this rate is similar to the US with only Australia, Canada, and Ireland registering a higher share among OECD countries. Sweden is also an attractive destination for foreign students; about 25% of all new students starting their academic training have been born abroad. European nationalities dominate but Chinese students are the second largest group of foreigners after Germans. Foreign students that are not part of exchange programs are focused on technical areas of study; KTH is the Swedish university with the highest share of foreign students. The 2012 data will show how much this is going to change in response to the introduction of fees for students from non-EU countries. The share of foreign students that takes up work in Sweden after their studies is small (Regeringskansliet, 2011).

Swedish research institutions are highly integrated into international networks. They participate significantly in structures like the EUs Framework Programme (Olivera, 2011). Sweden also registers a solid to strong position in international

co-publishing and co-patenting, and receives solid inflows from license and patent income from abroad (Pro Inno Europe, 2012).

b) Observations on performance outcomes

Sweden, one of the most prosperous economies throughout the post-war period that then lost its dynamism, has since the crisis of the early 1990s regained its footing. Prosperity growth has been higher than in many peer countries. Sweden also ranks high on a range of other indicators that provide a broader view on the quality of life in Sweden. On one of these, income inequality, Sweden still registers much lower inequality than many peer countries but the increase in inequality in recent years has been much higher than elsewhere.

Sweden's prosperity growth is broad-based, and it is this combination that differentiates the country from many others. Productivity on the one hand and labor market performance on the other are both solid but neither of them is truly excellent. A significant number of countries perform better in one of these dimensions but very few combine strong performance in both. In terms of forward-looking indicators, Sweden's performance has been mixed: Sweden has lost some position in patenting rates but remains among the top ten countries globally in terms of patenting intensity. Sweden has, at least until recently, seen indicators of entrepreneurial activity improve, an area where the country has traditionally lagged many of its peers.

Sweden remains highly integrated into the global economy, with strong trade and investment activity relative to the size of its economy. Export market shares have been eroding, especially in the first half of the last decade but this seems largely a reflection of trade being substituted by foreign direct investment. The trade profile has remained quite traditional: while services have become more important, goods exports have shifted towards a larger role of natural-resource driven products. Among trading partners, neighbors continue to dominate. There has been some growth in the importance of countries like China, but Germany and Norway remain by far more important. Most exporters are large companies, much in line with other countries, but smaller companies have seen their role in trade increase.

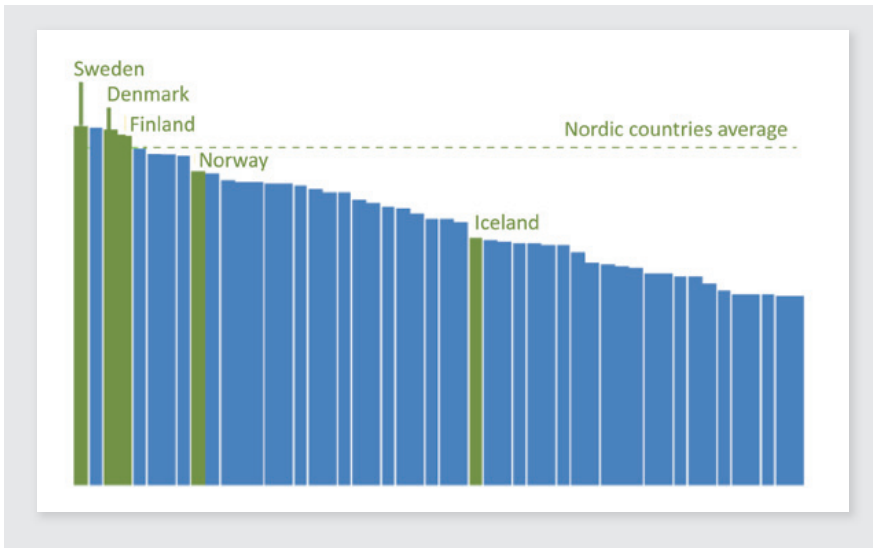
3. Drivers of global competitiveness

a) Overall assessments of competitiveness

The publication of country rankings on global competitiveness tends to find strong reflection in the media. These rankings differ in scope, i.e. the dimensions of competitiveness covered, the source of the data used, and the procedure to aggregate individual indicators into an overall index. The most well-known global rankings with a broad scope are the Global Competitiveness Report (GCR) (Schwab (ed.), 2011) and the World Competitiveness Yearbook (WCY) (IMD, 2011). Most others cover specific aspects of competitiveness (e.g., Doing Business covering administrative rules, Economic Freedom covering context for strategy and rivalry). Both the GCR and the WCY use a mix of survey data and statistical data from international agencies, with the GCR drawing on survey data for a larger share of its overall database. The GCR then aggregates indicators using a conceptual structure and weights set based on experts' reading of the literature. The WCY uses a much more rudimentary framework that mixes data on outcome and framework conditions to derive an overall average score. No formal analysis has been published that proves the statistical power of the overall GCR or WCY scores in explaining prosperity differences.¹⁰

10. Delgado et al., 2012 develops an aggregation scheme that generates overall scores from the data underlying the GCR that explain more than 80% of cross-country differences in GDP per capita.

FIGURE 15: Competitiveness scores of leading countries – 2011



Source: Unpublished data from The Global Competitiveness Report (2011), author's analysis.

Sweden ranks high in pretty much all international comparisons of country competitiveness. Sweden's ranks 3rd in the 2011-2012 Global Competitiveness Report (Schwab, 2011) and 4th in the 2011 World Competitiveness Yearbook. It ranks highest on the 2011 scores that have been shown to correlate strongly with cross-country prosperity differences (Delgado et al., 2012). Interestingly, Sweden ranks on all of these assessments higher on underlying fundamentals than on the actual income generated. This could be either a sign of a different choice in terms on income and non-income benefits or of imbalances in the country's competitiveness profile that reduce their overall benefit below what would be expected on average.

Conceptually, many economists criticize country rankings because they create the impression that international competition is a zero-sum affair: one country's gain in rank is by definition another country's loss. Economic reality is more complex: one country's progress creates growing market opportunities for others. Rising productivity in one country provides access to cheaper or better products for other countries, both as inputs and as consumption goods. While the competitor with improving productivity will capture shares in some markets, adjustments in relative prices will lead to market share losses in others. With perfectly flexible markets, one country's competitiveness gain is all countries benefit, at least potentially.

While there is significant disagreement about the value of overall competitiveness rankings, the comparison of individual indicators is an important element of any competitiveness diagnostic (Hausmann et al, 2008; Ketels, 2011b). The remainder of this chapter will provide an overview of Sweden's performance across

the different dimensions of competitiveness, following the conceptual framework outlined in the introduction.

b) Institutional quality

Institutional quality covers the rule of law, the quality of political institutions, and the provision of basic public goods, including education, health care, and public safety. Especially for countries at lower levels of economic development these are critical factors that often take significant time and effort to improve. But even among advanced economies there are significant differences in some of these dimensions.

Table 1: Social infrastructure and political institutions (SIPI); Sweden's ranking over time

SWEDEN'S RANKING OVER TIME	2001	2004	2007	2011
Social infrastructure and political institutions (SIPI)	8	6	4	2
Human development	10	10	9	12
Quality of primary education	22	18	17	16
Quality of healthcare services				18
Accessibility of healthcare services				7
Health expenditure	17	14	14	13
Life expectancy	5	6	8	8
Primary enrollment	10	9	38	31
Secondary enrollment	1	1	1	1
Political institutions	14	9	5	1
Effectiveness of law-making bodies		7	5	2
Public trust of politicians		9	4	4
(Low) Wastefulness of government spending	28	31	10	3
(Low) Favoritism in decisions of government officials	8	5	3	2
Government effectiveness in reducing poverty/ inequality		8	2	2
Transparency of government policymaking		4	6	6
Decentralization of economic policymaking		15	25	16
Freedom of the press			1	7
Voice and Accountability (WB)	3	5	8	4
Rule of law	5	9	3	4
Safety	11	13	11	5
Judicial independence	10	13	16	5
Efficiency of legal framework	17	10	9	4
Property rights		16	9	8
(Low) Diversion of public funds		11	6	4
(Low) Irregular payments by firms	4	3	7	5
(Low) Business costs of corruption	3			3
Ethical behavior of firms				8
Control of Corruption (WB)	4	18	6	4
Rule of Law (WB)	7	10	2	2

Source: Analysis based on WEF Global Executive Opinion Survey and other international statistics, see Delgado et al. 2012.

Sweden's position on all of these dimensions is strong. The country ranks 4th in the 2011 Corruption Perception Index (Transparency International, 2011), an aggregation of a large number of country-level studies. The narrow indicators reported in the GCR dataset confirm Sweden's strong position, especially in terms of political institutions and the rule of law.

c) Macroeconomic policy

Macroeconomic policy dominates much of the public debate on economic issues. The economic literature gives a more nuanced view of its role: Long-term weaknesses in macroeconomic policies are important for prosperity outcomes. But such policies tend to be endogenous in weak institutions. Short-term weaknesses in macroeconomic policies have a strong short term impact on economic activity. But this impact recedes relatively quickly as policies get back to their longer-term equilibrium.

Partly because of these differences between long- and short-term impact economists have found it hard to convincingly 'rank' the overall quality of countries' macroeconomic policies. A particular challenge is to track policies versus macroeconomic outcomes, which also reflect many external shocks and policies. Key indicators used in the macroeconomic policy assessment are the government surplus and deficit for fiscal policy and the inflation rate for monetary policy. Other dimensions, including the institutional structures guiding policy, are important as well.

i) Fiscal policy

Sweden's fiscal policy performance over the last few years has been exceptionally strong. A commitment to solidity has enabled Sweden to mobilize a huge increase in government expenditure as a result of automatic stabilizers as well as discretionary spending in response to the recent crisis without an explosion of government debt. Swedish fiscal policy is based on the 'fiscal policy framework', which sets a surplus target of 1% over an economic cycle. Local governments are facing a balanced budget requirement since 2000; temporary budget shortfalls need to be recovered within three years. In March 2011 the government aimed to provide further transparency on the policy process and its objectives through a communication regarding the design of the Swedish fiscal policy framework. Since 2007 the government is advised by the Fiscal Policy Council, an independent body of experts.

While the commitment to budget stability is not under dispute, arguments have been made about broadening the objective function set out in the fiscal policy framework. Some argue for including a more explicit target in terms of equilibrium employment levels (Calmfors, 2012) while others are concerned that the current policy does not capture the value of public investments with longer-term returns (Vredin et al, 2012).

At the European Council meeting on 30 January, Sweden agreed to join the Treaty on stability, coordination and governance in the Economic and Monetary Union

(fiscal compact) but without submitting itself to the non-compliance procedures of the agreement. The treaty will be signed at the European Council meeting in March and is scheduled to come into force on 1 January 2013 provided it has been ratified by at least 12 Member States.

ii) Monetary policy

Sweden's monetary policy performance is generally considered as strong (Goodhart/Roche, 2011). Inflation has been low; in fact, there has been some criticism that monetary policy has been too restrictive (Assarsson, 2011). Swedish monetary policy is under the control of the Swedish Central Bank, Riksbanken. Riksbanken pursues an inflation-target, specified as 2% or less annual change in the consumer price index (CPI). As a secondary objective Riksbanken supports the government's general economic policy, which has led to its strategy being characterized as flexible inflation targeting.

Some technical aspects of Swedish monetary policy have come under discussion. First, the CPI measure at the heart of the inflation policy target includes interest rates on mortgage payments. The direct effect that interest-rate changes by the central bank have on measured inflation has created some debate as to whether Riksbanken should adopt a target that excludes this effect (Goodhart/Roche, 2011). Second, there has been disagreement within Riksbanken's monetary policy committee about the extent to which real estate inflation and household indebtedness should be taken into account when setting monetary policy (Svensson, 2010).

Following a 2003 referendum against joining the Euro-Zone in 2003 the government has announced no current intentions to change the monetary policy framework. The flexible exchange rate regime has led to significant exchange rate swings over the last few years. The political question is whether Sweden's position outside of the Euro-zone is sustainable in the long term. This will to a large degree depend on whether exchange rate relations will return to stability or will continue to fluctuate as much as they have done since the start of the global crisis. The traditional view has been that high levels of real economic integration are difficult to sustain if exchange rates are volatile. More recently, countries like Switzerland had to experience that even sound monetary and fiscal policies are no insurance against widely overshooting exchange rates.

d) Business environment conditions

The assessment of business environment conditions captures dimensions of competitiveness that are outside of individual companies but with direct impact on their productivity. The diamond framework, introduced in Porter, 1990, provided a popular structure to organize the many different individual policies and factors that fall into this category.

A detailed assessment of all aspects of the Swedish business environment is beyond the scope of this report, given the sheer number and complexity of the

individual areas involved. The purpose of the following review is to provide a higher level assessment of performance, in particular whether an individual dimension of the business environment is likely to be an asset or burden for Sweden's position in the global economy. The review also aims to profile the major trends in policy action by area to give a sense of how public policy is likely to shape Sweden's position over time.

i) Factor input conditions

Physical infrastructure (Transportation, Energy, Communication)

Sweden's **transportation network** is generally viewed as adequate in international comparisons. In the Swedish public the perception is less positive, with frequent concerns about the quality of especially the rail service. Most indicators suggest that transportation infrastructure is a modest advantage for Sweden; good enough to sustain the country's strong overall position but not a key driver of its overall competitiveness.

The WEF Global Executive Opinion Survey ranks the quality of the overall transportation infrastructure 10th in the world. The World Bank's Logistical Performance Index, an assessment that also includes logistical services, ranks Sweden 3rd globally with strong positions in all dimensions covered (World Bank, 2010).

Table 2: Physical infrastructure; Sweden's ranking over time

SWEDEN'S RANKING OVER TIME	2001	2004	2007	2011
Logistical and energy infrastructure	11	12	9	10
Quality of air transport infrastructure	13	18	10	8
Quality of electricity supply	4	15	11	9
Quality of port infrastructure	6	12	9	10
Quality of domestic transport network: business			7	12
Quality of roads			14	14
Quality of railroad infrastructure	9	8	6	19
Communications infrastructure	1	1	1	1
Quality of telephone infrastructure	4	13	5	1
Internet access in schools	5	7	3	3
Internet users per 100 population	4	2	2	3
Personal computers per 100 population	3	2	4	4
Telephone lines per 100 population	6	6	5	7
Mobile telephone subscribers per 100 population	9	4	18	20

Source: Analysis based on WEF Global Executive Opinion Survey and other international statistics, see Delgado et al. 2012.

Swedish government spending on infrastructure is broadly in line with other advanced countries, measured on either a per capita or per GDP basis. The total annual infrastructure investment in 2009 account for close to EUR 3bn, with roughly 50% going to roads, 43% going to rail, and the rest to airports, seaports, and inland

waterways. Compared to peer countries, Sweden is spending a significantly higher share of its infrastructure budget on rail. Spending on maintenance is for both road and rail about half the respective spending on investment (ITF, 2011). Infrastructure spending, especially for railroads, was temporarily increased as part of the spending program during the global economic crisis. A number of large infrastructure projects are currently under way, including rail and road system upgrading in the Stockholm region. The government announced additional spending of SEK 5bn in 2012 and 2013 last fall.¹¹

Trafikverket is currently analyzing the capacity needs of the Swedish transport infrastructure system; the report is due by the end of March 2012.¹² An initial report focused on capacity needs in the railroad system over the coming decade identified significant pressure on the existing infrastructure (Trafikverket, 2011). Public criticism of service problems of Swedish railway operators have fueled a debate as to whether more infrastructure investments should be made, beyond the temporary funds that government made available in its response to the 2008/2009 crisis. It has been argued that since spending on new railway infrastructure is a long-term investment, it should not be treated as consumption within the fiscal policy framework. Whether such additional investments, if ways are found to finance them, would be economically beneficial is a matter of debate (Andersson, 2010).

The perception that the integrated planning of transport infrastructure across different levels of government as well as across different modes of transportation was inadequate was one of the reasons for the creation of Trafikverket in 2010. A law to change the planning process for transportation infrastructure is currently under review.

Sweden's **communication infrastructure** is ranked highly. The INSEAD/WEF Global Information Technology report (INSEAD/WEF, 2011) ranks Sweden third overall and first on Networked Readiness. The government announced a Broadband strategy in 2009.

Sweden's **energy infrastructure** is ranked to be at least at par with its advanced economy peers. While there are no significant short-term concerns, the longer-term outlook is less certain (IVA, 2009).

Swedish electricity prices for industrial users are relatively low compared with European peers, while retail prices are at the European average level (Europe's Energy Portal, 2012). Spot prices are set at Nordpool, the Nordic Electricity Exchange. Sweden already has one of the highest rates of renewable energy use in the EU, largely driven by significant use of hydro energy and biomass. Investments in wind energy have in the past been lower than in other EU countries but have started to increase. The availability of renewables makes Sweden one of the EU

11. For details see <http://www.trafikverket.se/femmiljarder>

12. For details see <http://www.trafikverket.se/Pressrum2/faktamaterial/Kapacitetsutredningen/>

countries least dependent on energy imports. The country is close to reaching its national target for renewable energy use set in the Europe 2020 strategy; Sweden's target of a 49% share of renewables in energy supply is one the highest in the EU.

Nuclear energy continues to play a significant role in electricity generation. The Swedish nuclear plants are relatively old, and there is a heated discussion about frequent shutdowns of capacity, also in periods of high demand. While the government has (re-)opened the door for new investments into nuclear power plants, private investors have so far not announced any such plans (Fridolfsson/Tangerås, 2011; Södergren et al, 2011). At the moment, there is no cross-party consensus on energy policy, a factor that is likely to affect the willingness of energy companies to make long-term investments.¹³

Education and skills

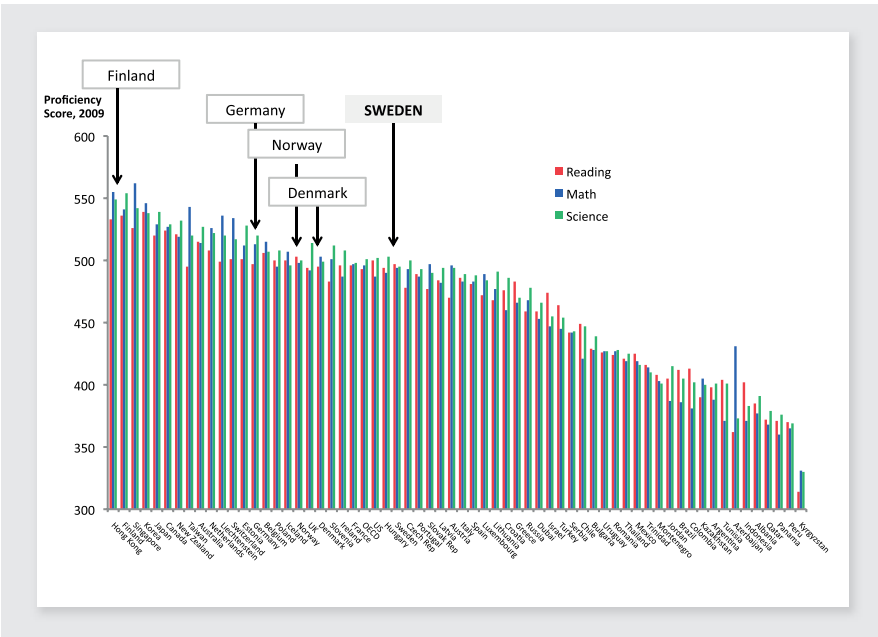
Sweden's highly educated workforce has traditionally been one of its key strengths. While still on par with its international peers, the Swedish education system has according to a number of indicators lost ground. Over time, this could threaten one of the key foundations of Swedish competitiveness. A whole range of reforms have been introduced, starting in the 1990s and then significantly accelerated over the last few years. The debate as to whether these reforms are sufficient or even well directed remains far from over.

The educational attainment of Swedish students has decreased relative to their global peers. In the latest round of PISA tests conducted by the OECD, the average performance of Swedish students deteriorated compared to previous rate.¹⁴ In addition, there has been a significant increase in the performance gap between high and low performers in Swedish schools (Skolverket, 2010). More than 10% of all students leave compulsory school with incomplete final grades. There is evidence that these differences are significantly associated with the ethnic background of students (OECD, 2010). The impact of socio-economic factors on performance seems to have been stable over time, despite growing socioeconomic 'sorting' of students from different backgrounds into different schools (Böhlmark/Holmlund, 2011). The percentage of non-certified teachers in Swedish public compulsory schools has increased considerably in recent years (OECD, 2010).

13. See the exchange of op-eds on this topic between the government and the opposition in Dagens Nyheter during January 2012.

14. The results from the TIMSS study, the other larger international assessment of educational attainment, comes to a similar conclusion

FIGURE 16: Learning outcomes across countries



Source: OECD, Pisa 2009 database

The opening of the education system for private operators in the early 1990 has been an important milestone. The level of choice Swedish students and their parents have had since then is significantly higher than in most other peer countries. However, the share of students in privately-operated schools, roughly 10% of primary school students and 20% of secondary school students, remains below the EU average. Whether or not these changes have been positive remains subject of a highly infected debate (see the discussion around the lack of clear conclusions on this point in Hartman et al, 2011).

The reforms of the last few years have focused on the quality of education. A new Education Act provided the legal basis for the reforms in K-12 education, and introduced clearer knowledge targets for students and a certification process for teachers. The creation of the Swedish Schools Inspectorate and of the Swedish National Agency for Higher Vocational Education put new institutions in charge of quality and funding for vocational training. A government-appointed Technology Delegation recently presented recommendations on how to raise the share of students choosing technology and science. In tertiary education, financial support for students has been increased and places in the regular system have been temporarily expanded. Admission criteria have been reformed to encourage direct transition from upper secondary to tertiary education. Whether these reforms will be effective in transforming the quality of

the Swedish education remains to be seen (Fredriksson/Vlachos, 2011). Their implementation of these reforms in the now decentralized education system with large autonomy for public and private schools as well as local governments has proven difficult.

Labor markets

The impact of Sweden's labor market structure on its overall competitiveness has been the subject of many discussions. The analysis of labor market outcomes earlier in this report suggests a relatively high level of actual flexibility. The traditional view on Swedish labor market institutions, especially the still relatively strong role of unions, provided a more skeptical perspective. The government has over the last few years taken a number of steps to increase the incentives to actively search for a job. Overall, the structure of the labor market institutions is maybe surprisingly not a key concern (or asset) for Swedish competitiveness. It is, however, a critical factor for the financial sustainability of the Swedish welfare system.

The recent crisis has resulted in a significant increase of business cycle-driven unemployment, but it is not clear whether structural unemployment has increased as well. Some see evidence of mismatch, i.e. a high number of vacancies despite unemployment and has identified inefficiencies in the labor offices as one of the key reasons (Svenskt Näringsliv, 2011). Others see instead cyclical factors as much more important, and argue for a significant increase in active labor market measures.¹⁵

Swedish labor market institutions are considered less flexible than those of most other OECD countries. This view based on an assessment of the legal context and the power of the unions has, however, been challenged by the relative flexible adjustment of the Swedish labor market in response to crises.¹⁶ There is also anecdotal evidence that closing down facilities is less costly in Sweden than in, for example, Germany. While there are different views on the flexibility of the overall labor market, there is much less debate about the dual nature of the Swedish labor market: the regulatory system differentiates much more between temporary and permanent employment than other economies (OECD, 2011a).¹⁷ The high unemployment rates among young and migrant workers indicate that this structure has created significant entry barriers. In terms of wage structures, Sweden continues to have high wage compression; minimum wages as share of median wage are the highest in the OECD (OECD, 2011).

15. See http://www.svd.se/opinion/brannpunkt/alliansens-arbetslinje-har-fel-byggstenar_6812401.svd

16. The measurement of labor market policy rigidity is an infected area of debate. The World Bank, for example, has stopped using the indicator for labor market flexibility it used to track as part of its Doing Business ranking and continues to work on a new measure; see <http://www.doingbusiness.org/data/exploretopics/employing-workers>.

17. A recent study on the Spanish labor market calculates that 20% of the country's slow-down in productivity growth is driven by the lower investments in employees under temporary contract (Dolado, et al. 2012).

Over the last few years the government has introduced a range of measures to lower the entry barriers into the labor market. The main tools have been changes to unemployment benefits, health insurance, taxation, and the active support of labor participation of migrants (OECD, 2011b). Contributions to the unemployment insurance have been raised while the benefit levels have been reduced. Similar changes have been introduced in the health insurance system. Income tax rates have been reduced for lower incomes. In 2009, employers' social security contributions were halved for employees younger than 26 years. A VAT reduction for restaurants was motivated with job creation for labor market entrants. The policy framework for labor migration was changed in late 2008, including an easing of citizenship rules.¹⁸

The impact analyses of these policy changes has so far come to a mixed result: The reforms have increased employment (but not long-term unemployment) and reduced wages (Bennmaker et al, 2011). The share of individuals on sick-leave or sick-related early retirement has fallen. The changes in both income taxes and health insurance are seen as well motivated but need to be integrated with other efforts to have full effect (Henrekson, 2010; Hägglund et al, 2011). The reduction of social security contributions for young workers has had no visible impact on their share in employment.¹⁹ Whether the reduction in VAT on restaurants is effective and creates the right jobs is at least questionable. The efforts to improve matching and ease entry for migrants are positive. And there is evidence that migrants that acquire Swedish nationality find it easier to get employed (Bevelander/Pendakur, 2010). But differences in labor market performance between migrants and domestic workers across locations seem overall more driven by differences in business environment conditions, not specific policies addressed a migrant workers (Fölster/ Jansson, 2011).

Capital markets

Sweden has strong and well developed financial markets. Stockholm is widely perceived to be the leading financial center in Northern Europe (Yeandle, 2011). In terms of size, Swedish banks are significantly smaller than their largest European peers.

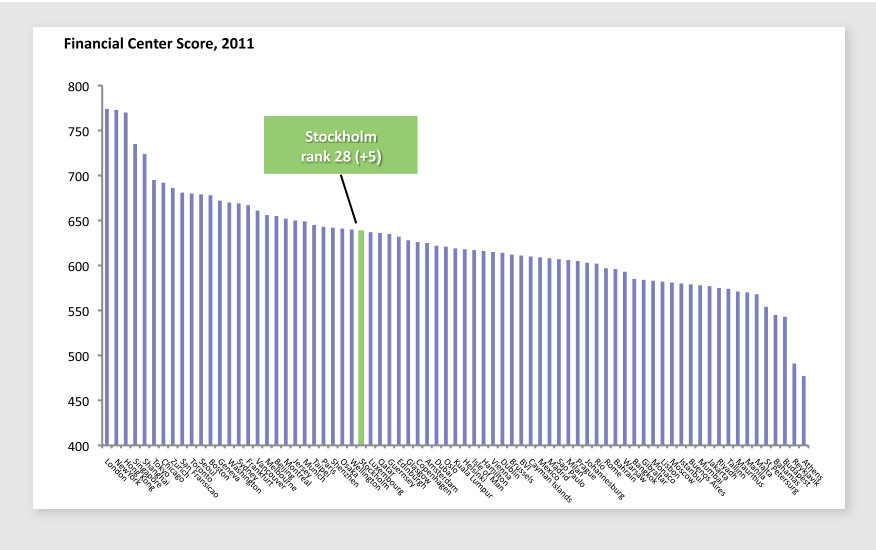
Deposits in the Swedish banking sector are high relative to GDP and the dependence of Swedish banks on wholesale financing high (IMF, 2011). Riksbanken argues that for these reasons Swedish banks need to be stronger capitalized than indicated by the Basel III standards (Sveriges Riksbank, 2011). All Swedish banks met the capital requirements in the recent stress tests of the European regulators. The equity market

18. These changes and some of the recent administrative adjustments in their implementation are hotly debated. Some unions see them as giving too much power to employers and see evidence of wide-spread abuse http://www.svd.se/opinion/brannpunkt/bara-mer-av-samma-tandloshet_6810157.svd; Svensk Näringsliv criticizes new rules to reduce any abuse as too bureaucratic http://www.svd.se/opinion/brannpunkt/migrationsverket-gar-for-langt_6795199.svd.

19. <http://www.dn.se/ekonomi/dyr-reform-har-skapat-fa-nya-jobb>

still dominated by majority owners and investment groups (Henrekson/Jakobsson, 2011). The reform of the pension system in the late 1990s created an important impetus, raising the role of large institutional investors in the Swedish market (Giannetti/Laeven, 2007). The private equity market is well established but traditionally more focused on restructuring than early ventures. The venture-focused market industry is, as elsewhere, highly cyclical.²⁰ It plays a meaningful but sometimes overestimated role in financing small and medium-sized companies (Söderblom, 2012).

FIGURE 17: Financial centers ranking



Source: Global Financial Center Ranking (2011), 10th edition, author's analysis.

Riksbanken and the Swedish government have in response to the recent banking crisis taken a number of regulatory steps. Banks had to participate in an insurance scheme to ensure that there would be funds to cover the costs of systemic crises. Riksbanken aimed to limit inflation in real estate prices through more stringent rules on the minimum capital of home buyers. The real estate market was initially buoyant when interest rates were slashed in response to the crisis. The debate has now shifted to whether banks lend too little and at too high interest rates, making monetary policy less effective and creating huge profits for a financial sector that was at the heart of the international economic turbulences.

20. http://www.svca.se/PageFiles/807/SVCA_Q3_2011.pdf.

Table 3: Capital market infrastructure; Sweden’s ranking over time

SWEDEN’s RANKING OVER TIME	2001	2004	2007	2011
Capital market infrastructure	11	12	5	3
Protection of minority shareholders’ interests		8	1	1
Ease of access to loans	1	6	10	3
Venture capital availability	4	14	7	3
Regulation of securities exchanges		11	1	5
Financial market sophistication	10	8	7	6
Financing through local equity market	16	15	1	11
Soundness of banks	15	11	4	12
Domestic credit to private sector	40	21	16	13
Getting Credit Legal rights index (WB)	48	48	41	46

Source: Analysis based on WEF Global Executive Opinion Survey and other international statistics, see Delgado et al. 2012.

The government has over the last few years launched a number of public venture capital funds, often with regional or industry focus. Their overall track-record is considered questionable (Svensson, 2011a, 2011b; McKinsey, 2011), much in line with the international evidence (Lerner, 2011).

Science and research infrastructure

Sweden’s science and research base is generally considered an important pillar of the country’s competitiveness. A long range of international assessments ranks Sweden’s innovative capacity among the leading countries in the world. But there are questions as to whether Sweden’s position is fundamentally driven by the strength of its research capacity, or more due to an unusually high presence of research-intensive multinationals and relative low costs of engineers and researchers. Domestically, firms’ R&D expenditures have stagnated for the last decade, making Sweden more similar to peer countries. Wage compression, which drives the relative low costs of more educated staff, might not be sustainable and sends the wrong signal to students making choices about their education. Internationally, other countries are moving ahead more aggressively and are becoming for different reasons more attractive for innovation-driven economic activity. While Sweden’s position is unlikely to erode in absolute terms, sustaining a globally leading position in science and research will require determined action.

Sweden registers strong patenting and scientific publication performance, based on a well-developed science and research infrastructure (see, for example, INSEAD, 2011). The quality of research is considered as good and there is a strong pool of well-educated employees for the science system. Karolinska Institutet and Uppsala University are regularly ranked among the leading 100 universities in the world (Times Higher Education, 2012; ARWU, 2011). Lund University, Stockholm University and KTH are ranked sometimes similarly, sometimes lower.

FIGURE 18: Innovation performance – Sweden’s rank among European countries

Enablers		Firm Activities		Outputs	
Human resources		Firm investments		Innovators	
New doctorate graduates per 1000 population aged 25-34	1	Business R&D expenditures (% of GDP)	1	SMEs introducing product or process innovations (% of SMEs)	9
Percentage population aged 30-34 having completed tertiary education	5	Non-R&D innovation expenditures (% of turnover)	18	SMEs introducing product or process innovations (% of SMEs)	16
Percentage youth aged 20-24 having attained at least upper secondary level education	9	Linkages & entrepreneurship			
Open, excellent and attractive research system		SMEs innovating in-house (% of SMEs)	8	Economic effects	
International scientific co-publications per million population	4	Innovative SMEs collaborating with others (% of SMEs)	6	Employment in knowledge-intensive activities (% of workforce)	5
Scientific publications among top 10% most cited publications worldwide	6	Public-private co-publications per million population	4	Medium-tech and high-tech exports (% of total exports)	12
Non-EU doctorate students as % of all doctorate students	8	Intellectual assets		Knowledge-intensive services exports (% of total service exports)	12
Finance and support		PCT patents applications per billion GDP	1	New-to-market and new-to-firm sales (% of turnover)	30
Public R&D expenditures (% of GDP)	3	PCT patent applications in societal challenges per billion GDP	1	Licence and patent revenues from abroad (% of GDP)	4
VC (% of GDP)	2	Community trademarks per billion GDP	9		
		Community designs per billion GDP	7		

Note: Coloring indicates relative strengths and weaknesses
Source: Innovation Union Scoreboard (2012), author's analysis.

Analyses of the quality of business-academia linkages done by Vinnova (Vinnova, 2011a) provide a more skeptical view than the WEF Global Executive Opinion Survey (see table below). This could reflect significant heterogeneity between well-established linkages between large companies (dominating the WEF sample) or research-intensive start-ups and leading research universities on the one hand, and more fragile linkages between small and medium-sized companies and the broader university sector on the other hand. While other countries, like Germany with its Fraunhofer Institutes, organize a significant share of its research-business collaboration through public research institutes, this instrument is only weakly developed in Sweden. Interestingly, the close-down of AstraZeneca’s R&D facilities in Södertälje has now triggered an initiative to launch a new public research institute in life sciences.²¹

In international comparison, Swedish public support for innovation in the business sector is limited (Vinnova, 2011b). Much of the funding is allocated to defense-related research. Overall, 4% of public support to companies is dedicated to innovation, compared to more than 17% in the EU average.

21. Pressmedelände Utbildningsdepartementet: Sweden Science for Life Laboratory ska bli världsledande forskningsinstitut, 3 April 2012.

Table 4: Innovation infrastructure, Sweden’s ranking over time

SWEDEN’S RANKING OVER TIME	2001	2004	2007	2011
Innovation infrastructure				
Quality of scientific research institutions	7	2	14	4
Availability of scientists and engineers	10	12	6	6
(Low) Brain drain		20	20	7
University-industry research collaboration	2	6	3	8
Utility patents per million population	5	7	8	8
Quality of management schools	8	12	9	11

Source: Analysis based on WEF Global Executive Opinion Survey and other international statistics, see Delgado et al. 2012.

Sweden’s innovation policy has over the last few years been based on the 2008 proposition “Ett lyft för forskning och innovation” (A boost to research and innovation). The document outlined an increase in the overall innovation budget (+EUR 550m), a shift of university funding towards a more performance-based model, enhanced funding for research in 24 strategic research efforts, a stronger focus on the application and commercial use of scientific research, and the modernization of public research institutes. The Swedish government is currently working on a new innovation strategy, with inputs provided by projects like IVA’s ambitious “Innovation for Growth” effort (IVA, 2011).

Administrative efficiency

The large relative size of the Swedish public sector has often been seen as a signal for high levels of bureaucracy and red tape. The data on rules and regulation and the actual burden on companies provided a significantly more positive impression. Rules and regulations are generally comparable or better than in peer countries. And the government has, especially over the last few years, opened a large share of the provision of government-funded services to private providers. The relative efficiency of the Swedish public sector has at least not become the burden for Swedish competitiveness it could have been.

In the World Bank’s Doing Business ranking, a review of actual rules and regulations affecting a number of standardized procedure, Sweden is ranked 14th globally in the last assessment, down five ranks compared to the previous year. The drop was a reflection of other countries reforming their regulatory environment more aggressively, not of an absolute deterioration in Sweden. Broader based national assessments indicate that in absolute terms the administrative burden is slowly falling (Regelrådet, 2011; NNR, 2011).The European Union plays an important role in affecting many of the rules and regulations implemented in Sweden. Sweden is surprisingly only average or worse in terms of transposing EU directives into national law (European Commission, 2011). The discussion about the EU’s role in affecting administrative efficiency seems less dominant than in some other EU countries.

Table 5: Doing Business in Sweden

DOING BUSINESS IN SWEDEN		
	Doing business 2012 rank	Change in rank vs. 2011
Getting electricity	8	-2
Trading across borders	8	-1
Registering poverty	19	-3
Resolving insolvency	19	-1
Dealing with construction permits	23	<i>No change</i>
Protecting investors	29	-1
Starting a business	46	-6
Getting a credit	48	-3
Paying taxes	50	-3
Enforcing contracts	54	-2

Source: World Bank (2012)

The Swedish government has repeatedly emphasized the importance of regulatory simplification.²² In 2010, the minimum share capital was reduced and the reporting rules for small companies simplified (Foretagarna, 2011). Government agencies like Tillväxtverket have action plans for simplification. A governmental committee was created in May 2011 to improve the quality and efficiency of public administration at local, regional and national level (Regeringen, 2011f).

Organizing for policy making

While administrative efficiency tends to look at the costs at which a given public service is delivered, competitiveness is also affected by the way the policy making process itself is organized. There is little systematic data comparing countries on this measure. One of the background reports produced for the Globalization Council (Möller/Erlandsson, 2009) discussed the impact of globalization on policy making capacity. The experience of the Globalization Council itself has been contrasted with similar efforts in other countries, especially Denmark.

A particular aspect of the political architecture is the relation between regions and the central government. Sweden has a centralized government system with relatively weak regional institutions. Two regions, Skåne and Västra Götaland, have been allowed to create stronger entities through the integration of smaller regions. The weaknesses of the current system have been analyzed in detail in a number of studies (OECD, 2006; OECD, 2010b).

22. <http://www.regeringen.se/sb/d/5720>

ii) Market conditions

International openness

The Swedish economy is highly open to international competition. This is not only a consequence of the legal situation with low tariff rates but also of actual behavior. Few countries would have reacted as favorably to the foreign take-over of large parts of its automotive and pharmaceutical industry, recently even involving often more skeptically seen investors from China. The limit to this openness is, however, reached when Swedish labor market regulations are getting challenged by foreign companies entering the Swedish market under their own labor market rules.

Table 6: Context for strategy and rivalry: Openness; Sweden’s ranking over time

SWEDEN’S RANKING OVER TIME	2001	2004	2007	2011
Context for strategy and rivalry: Openness				
Prevalence of trade barriers	12	1	2	4
Prevalence of foreign ownership		5	5	4
(Low) Tariff rate	5	3	5	6
Business impact of rules on FDI		19	5	10

Source: Analysis based on WEF Global Executive Opinion Survey and other international statistics, see Delgado et al. 2012.

Trade policy is set at the EU level; even at the implementation level there is relatively leeway for Swedish policy makers to make different choices. There are no trade barriers for companies located in other parts of the European Union, the vast majority of Sweden’s trading partners. Despite this openness, the actual integration of markets remains limited and companies continue to report barriers (Kommerskollegium, 2011). These barriers are largely related to national rules and practices that are not targeted especially at foreign companies but end up making entry less attractive for them.

Local rivalry, regulation, and competition policy

Sweden’s domestic markets are generally open to competition. The intensity of rivalry on domestic market is solid but profitability in areas like food retail remains significantly above the level in larger European countries. Partly this might be a result of the relatively limited market size, partly of legacy effects in terms of entrenched market structures.

Reforms over the last decade have had a positive effect (Erlandsen/Lundsgaard, 2007). Despite a significant number of privatizations in the previous parliamentary session, public ownership remains more prevalent than in many other OECD countries (Regeringskansliet, 2011b; Regeringskansliet, 2012b; OECD, 2011). There is currently no sufficient support in parliament for privatizations and the government’s more ambitious privatization plans are on hold.

The delivery of a range of public services has been opened up for private companies. Competition laws have been strengthened to provide a more equal playing field

between private and public (local) suppliers. The reforms have increased choice but there is no robust data about changes in performance yet (Hartmann et al, 2011). And the public debate indicates that the creation of effective market competition is not just a matter of privatization.

Table 7: Context for strategy and rivalry: Domestic rivalry; Sweden's ranking over time

SWEDEN'S RANKING OVER TIME	2001	2004	2007	2011
Context for strategy and rivalry: Domestic rivalry				
Effectiveness of antitrust policy	13	22	4	1
Low market disruption from state-owned enterprises				1
Intellectual property protection	12	3	10	8
Intensity of local competition	11	44	5	12
(Low) Extent of market dominance (by business groups)	18	20	12	14

Source: Analysis based on WEF Global Executive Opinion Survey and other international statistics, see Delgado et al. 2012.

Incentives, subsidies, and taxation

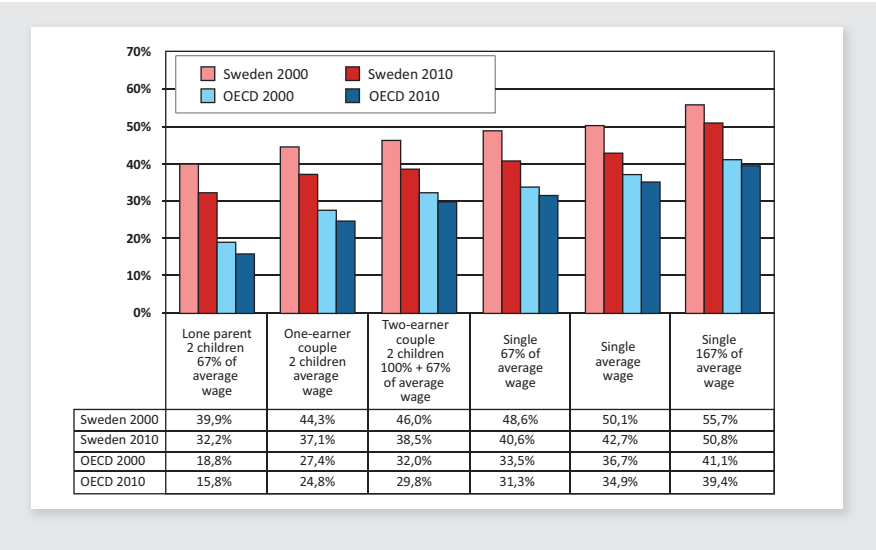
Sweden has one of the highest levels of taxation as a share of GDP in the world. This measure has dropped over the last few years but remains above the level in many peer countries.

There has been a significant reduction in income taxes since the change in government in 2006. Despite these changes, designed to reduce entry barriers into the labor market, the tax wedge, i.e. the gap between labor costs to the employer and net benefits to the employee, remains much higher than in the OECD average (OECD, 2011). Lower tax rates for foreign specialists were designed to limit the impact of these policies on the attractiveness of Sweden for foreign skills. The eligibility rules for these lower tax rates have been simplified. But these changes has also put focus on the differential treatment of Swedish and non-Swedish specialists with identical skills (Lindberg, 2011). The increase in inequality in recent years (see chapter 2.a.i) has led to calls to raise rather than reduce tax rates (Hållö, 2012).

Sweden has in the mid-1990s had rates of company taxation that were at 28% below the rates in many peer countries (EU average: 37.5%). The motivation for these differential treatments of labor and capital income has been the higher mobility of capital. Many other countries have over the last 15 years reduced their company taxes. Despite a reduction of Swedish tax rates to 26.3% in 2009, many peer countries have no lower company tax rates (EU: 25.9%, Euro-Zone: 23.5%). The government has launched a review of company taxation with the objective to reduce the tax burden and the differential treatment across financing structures (Sveriges regering, 2011b). Initial proposals focused on a more attractive treatment of risk

capital investments (Regeringskansliet, 2012a) have been controversial.²³ Also under discussion are the rules around the treatment of debt relations within groups that has been used to shift profits from companies in Sweden to related firms in low-tax locations abroad.

FIGURE 19: Tax Wedge in percent of labour costs for different wage levels and household types, 2000 and 2010



Source: OECD, 2011

The differences between income and capital taxation have created incentives to shift income from one to the other through the creation of pro-forma companies. The rules created to limit tax avoidance (3:12 rule) have in turn created significant complexity for small companies.

iii) Demand conditions

While Sweden is not a large (or quickly growing) market, it has traditionally been considered as a sophisticated with demand patterns that foreshadowed market trends elsewhere in the world. The WEF Global Executive Opinion Survey indicates that this view is still held among leading executives in Sweden. It is also frequently heard in government statements about the potential to play a leading

23. <http://di.se/Artiklar/2012/1/13/255798/Debatt-Bolagsskatt-inte-viktigast/>

role in areas of ‘green growth’, based on leading consumer demand and environmental regulation.

There are indications, however, that these advantages cannot be taken for granted. In telecommunication, a market in which Sweden has in the past been considered leading, consumer demand is now more advanced in Korea where broadband penetration and use is significantly higher. Estonia has made a stronger push on e-government solutions with an integrated overall solution that has no match in Sweden.

Table 8: Demand Conditions: Sweden’s ranking over time

SWEDEN’S RANKING OVER TIME	2001	2004	2007	2011
Demand conditions	3	15	3	2
Government success in ICT promotion	7	29	3	2
Stringency of environmental regulations	5	37	2	3
Laws relating to ICT	2	22	3	5
Buyer sophistication	5	15	4	5
Presence of demanding regulatory standards	4	12	3	6
Government procurement of advanced technology products	6	7	3	7

Source: Analysis based on WEF Global Executive Opinion Survey and other international statistics, see Delgado et al. 2012.

An important dimension of public policy focused on demand condition is the use of public procurement as a tool to drive innovation. Government statements of intent in this area have overall not been matched by action. A recent analysis of the potential to use government purchasing to drive innovation delivered a number of new recommendations (Regeringskansliet, 2010b) but so far no action has been taken (Melin et al, 2011). There are some regional efforts, see for example a collaboration between Skåne and Vinnova. Procurement practice continues to be driven by a concern of low cost and low risk; two criteria that innovative new offers usually do not excel in, at least not at market entry. Private sector leaders look at the opportunities to sell innovative products and services at least as much of not more than financial support for R&D activities (Wählberg, 2012).

iv) Clusters

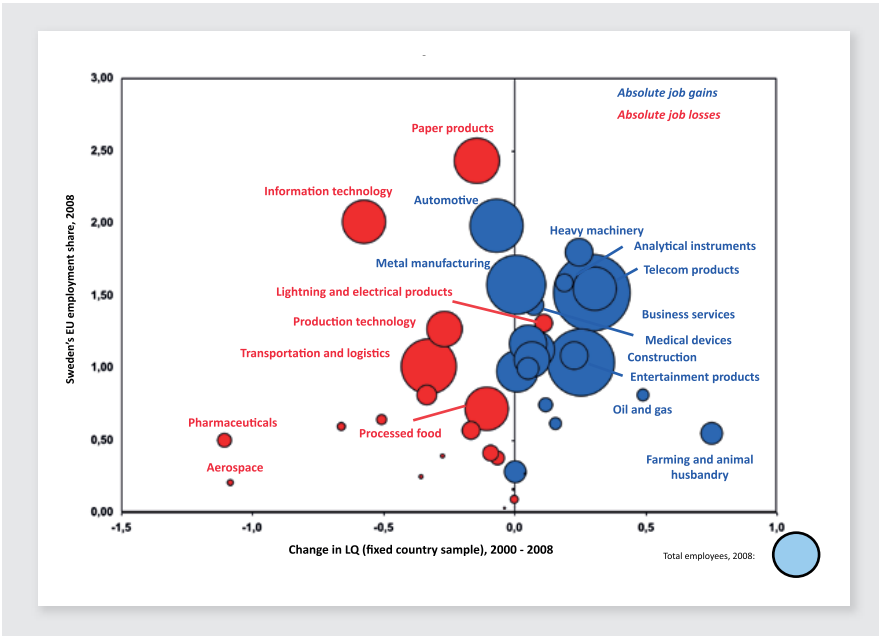
A final aspect of the business environment that has in recent years received more attention is the presence of clusters, i.e. geographic concentrations of economic activity in related industries. These clusters have been shown to be associated with higher levels of economic performance at the firm and regional level, reflecting the benefits of specialization that high density allows (Delgado et al, 2010).

Clusters emerge in industries that show significant signs of agglomeration in terms of their geographic employment patterns. For Sweden, these industries provide roughly 1.1m jobs, or about 45% of all jobs (excluding public sector employment; the Swedish data does also not cover financial services). This figure puts Sweden above the EU level of around 40%; the comparable US figure is roughly

33%. Importantly, the relative importance of the cluster sector in the Swedish job market has gradually fallen by about 0.25% per year over the last decade. Of the roughly 240,000 new jobs (net) created in the Swedish economy between 2000 and 2008, less than 30% were created in the cluster sector. This trend of a labor market increasingly dominated by local activities, especially local services, outside the cluster sector is not unique to Sweden.

Business services and construction were by 2008, the latest year for which comparable EU data is available, the largest Swedish cluster categories, accounting for about 25% of all jobs in the cluster sector. Paper products, information technology, and automotive were the cluster categories in which Sweden remained most specialized compared to European peers, despite some loss of position over time. The Swedish cluster sector has gained jobs between 2002 and the 2008 global crisis. Business services and construction added about 100,000 jobs in this period while the remainder of the cluster sector lost a net 18,000 jobs.

FIGURE 20: Employment by Cluster – Sweden 2000-2008



Source: European Cluster Observatory (2012), author's analysis.

The quality of Sweden's cluster portfolio, measured by the share of employment in strong clusters across regional economies, is similar to other European countries (Ketels, 2006). Within the country, the Stockholm region has the highest share of employment in strong clusters, with other regions across the country significantly

behind. Stockholm also benefits, as many other metropolitan regions, from a strong presence of clusters with generally high wage levels.

Table 9: Regional cluster portfolio

Regional cluster portfolio	Share of employment in the cluster sector in strong clusters*	European rank on this measure among 253 NUTS-2 regions
Stockholm	70%	8
Övre Norrland	61%	28
Småland med Öarna	55%	51
Östra Mellansverige	48%	90
Norra Mellansverige	43%	128
Mellersta Norrland	40%	153
Sydsverige	39%	159
Västsverige	30%	226

*Strong clusters are those ranked in the top quintile of European regions by LQ for the respective cluster category – Source: European Cluster Observatory, 2012

Sweden has run a number of cluster-oriented programs over the last few years but the enthusiasm for this type of efforts is considered as more limited at the national than at the regional level. The predecessor of Tillväxtverket launched a regional cluster program called Visanu in 2005 that ended in 2010. Tillväxtverket has developed a new cluster program that is currently under final discussion. Vinnova's Vinnväxt program will keep on financing a number of selected clusters until 2013. Vinnova has just decided to launch a new cluster-based program. At the regional level, Skåne and Värmland are examples of regions that have incorporated cluster efforts in their respective regional strategies.

Cluster policy has in Sweden always focused on financing the running of cluster organizations. Other countries, like Germany and France, have combined such support with larger scale financing of specific innovation activities within the selected clusters.

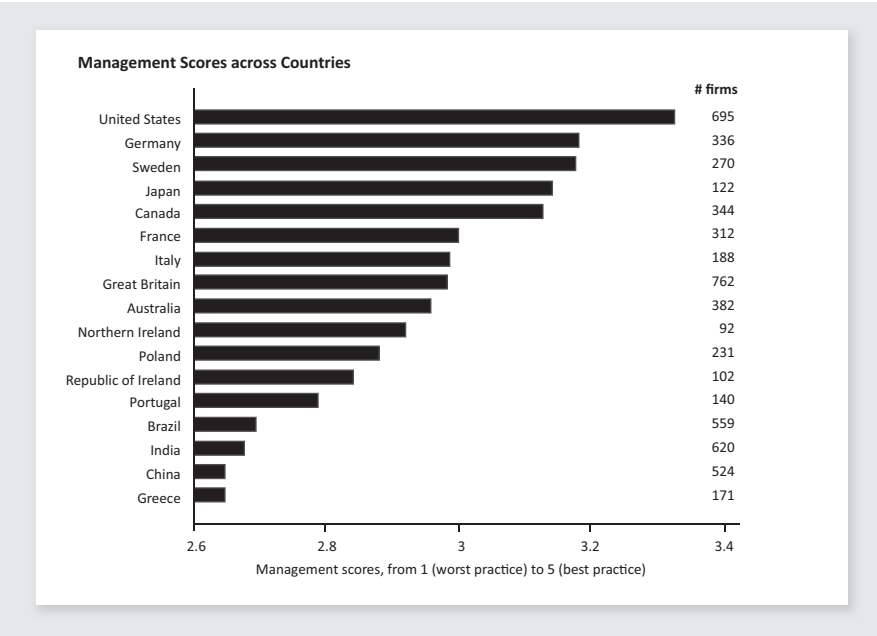
e) Company sophistication

The quality of Swedish management is often considered as high (Isaksson, 2008). Recent quantitative studies on the use of modern management practices have ranked Swedish companies very high (Bloom/Van Reenen et al, 2007, 2010).

The particular mix of companies in the Swedish economy might have some role in explaining this strong performance. Large companies are more dominant, and more internationalized in sales and employment than in Nordic peer countries (Braunerhjelm et al, 2010). While the role of SMEs with less than 250 employees is only marginally lower than in the EU average (European Commission, 2011b), Sweden has fewer “Mittelstand” companies in the size class between these SMEs and large multinationals. The high level of private sector R&D in Sweden is partly

a reflection of this size profile, but also of the particular mix of industries in the Swedish economy (Ketels, 2010).

FIGURE 21: Manangement Scores across countries



Source: Bloom/Van Reenen, 2010.

Long-term industrial owners have traditionally dominated but their role might have been diminished (Henrekson/Jakobsson, 2011). Government-owned pension funds play a significant role on the equity markets and do not have an active industrial ownership approach. The closure of AstraZeneca’s research facility in Södertälje has reignited concerns that the absence of an active ownership policy might

Table 10: Company sophistication and strategy; Sweden's ranking over time

SWEDEN's RANKING OVER TIME	2001	2004	2007	2011
Company Operations and Strategy	6	5	5	2
Strategy and operational effectiveness	5	5	3	3
Firm-level technology absorption	6	5	1	1
Extent of marketing	8	16	11	2
Degree of customer orientation	5	15	10	2
Value chain breadth	8	14	1	3
Production process sophistication	10	5	1	3
Capacity for innovation	6	2	3	4
Company spending on R&D	7	7	5	5
Nature of competitive advantage	9	8	4	12
Organizational practices	4	3	4	2
Reliance on professional management	7	11	1	1
Willingness to delegate authority	2	1	1	2
Extent of staff training	3	5	5	5
Extent of incentive compensation	19	13	37	15
Internationalization of firms	13	11	5	4
Breadth of international markets	5	9	2	1
Prevalence of foreign technology licensing	51	27	1	6
Extent of regional sales	14	21	4	7
Control of international distribution	11	8	15	14

Source: Analysis based on WEF Global Executive Opinion Survey and other international statistics, see Delgado et al. 2012.

f) Observations on competitiveness fundamentals

Sweden performs well in almost all dimensions of competitiveness. And especially since the mid-2000s there is a perception among business leaders that areas of previously lower performance have seen improvement.

Social infrastructure and political institutions and macroeconomic policy have for some time been clear relative assets for the Swedish economy, the latter especially since the financial crisis of the early 1990s. Company sophistication, too, has long been a relative advantage, but here Sweden's performance is matched or slightly topped by leading peers. Sweden's strong performance in this area is likely to be influenced by the important role that its large multinational companies have traditionally played in the economy. This dominance is, however, eroding, at least in terms of their contribution to Swedish employment. In terms of business environment quality, Sweden ranks well but there are clear nuances. Communication infrastructure, demand sophistication, and financial markets rank best, the innovation system, cluster presence, and administrative efficiency are ranked somewhat lower, and physical infrastructure, the context for strategy and market rivalry, and the educational

system follow not far behind. For none of them the performance is a disaster. The relatively low performance of the education system is the most serious individual concern. Sweden also continues to stick out in terms of its overall tax burden. It has lost ground in terms of business taxation, an area where it used to be relatively attractive.

Policy action over the last year has been significant and affected many dimensions of competitiveness. The education system has seen a range of reforms. The labor market has seen tax and social welfare reforms to enhance entry. The delivery of social services has been opened for private providers to enhance choice and increase efficiency. In almost all of these areas, there has been some success but it is still too early for a final assessment. Especially in the education system there is no evidence of a fundamental change of performance.

Policy action has been strongly focused on areas of weaknesses. There has been much less attention to areas of traditional strengths. Partly this is a reflection of a strong hesitation to take any action that might be perceived to prioritize some parts of the economy over others.

Given its overall level of competitiveness, Sweden should be able to register higher levels of prosperity than it has today. It is possible that the improvements in competitiveness achieved over the last few years have not been fully translated into economic outcomes. But it could also indicate that there are some structural reasons that keep Sweden from getting the full benefits of its competitiveness.

4. Concluding observations

Sweden's economic performance is strong; the data presented in this report comprehensively support this assessment. The last two decades have been a clear break from a past where high prosperity was increasingly being eroded. This strong performance is well explained by high competitiveness and the policy choices over the last two decades (Bergh, 2011).

While there is no dramatic threat to Sweden's prosperity, this report suggests that Swedish policy makers should focus their attention on two medium- to long-term challenges, alongside the many and often complex short-term issues raised by global economic shocks. One is the surprisingly muted impact of some recent policy reforms. While a time lag in their impact might play some role, the analyses available so far suggest that additional steps would be useful to enhance their effectiveness:

- Educational attainment has been modest compared to international peers (see figure 16). The education system has seen a large deal of reform activity in the last few years which will take time to work itself through the system. Other reforms implemented a while ago have not had the positive expected impact on educational outcomes.
- Labor market reforms have had an impact but worked largely through increasing labor supply (see page 45/46). While some success has been achieved, other frictions in the Swedish labor market remain. In particular, youth unemployment is stubbornly high, and the duality of a highly regulated labor market for long-term employees and a much less regulated labor market for short-term contracts remains in place.

The other is a set of fundamental structural changes in global business that have been present for some time, and will continue to shape the way the economy is

reorganizing. These changes are not unique to Sweden, but will have a profound impact on how Swedish competitiveness is translated into Swedish prosperity:

- Smaller companies become increasingly important for exports (see figure 12) and innovation. Many of Sweden's institutional structures, including the public policy toolkit, are traditionally oriented towards the needs of the country's strong base of multinational companies. Economic policy needs a set of tools that can serve the needs of this broader set of companies.
- Foreign markets are increasingly served through FDI (see table 5). The traditional translation process from competitiveness to exports to prosperity is losing traction. Economic policy needs to focus on internationalization, not just exports, and be explicit in targeting value creation in Sweden.
- The majority of net job creation occurs in sectors that serve local markets (see page 55/56). The traditional focus on export-led growth in a small open economy is becoming a limitation. Economic policy needs to also drive productivity growth and innovation in the local service economy.

These challenges are complex but can be addressed – there are no fundamental ideological or practical reasons for why a Swedish government should not be able to do so. But they will require changes and openness towards new ideas. Sweden has all right to be proud about what it has achieved, especially over the last two decades. But Sweden will fail its own future if it lets this pride turn into complacency. The following three sets of ideas outline directions that Swedish policy makers might want to consider:

a) Integrating individual policies into reform packages

The Swedish economic policy debate is characterized by a focus on individual policy actions. The impact of these actions does, however, often depend on a range of complementary actions in other policy fields. The lack of such policy integration is a prime candidate to explain the disappointing impact of some recent reforms.

Swedish policy makers should look more at the interactions across policy areas. For education policy, for example, higher choice only leads to better performance if both supply and demand can react. On the supply side, this is a question of incentives for providers of educational services. The current system seems to be overly focused on common standards, encouraging profit-oriented providers to focus on cost minimization rather than on providing best value. On the demand side, it is a question of returns to education. And here the internationally low and decreasing returns to education in

the Swedish labor market (Granqvist, 2011) are a significant concern.²⁴ Educational choices responding to these signals will create limited benefits to the Swedish economy.

For innovation policy, too, there is a need to focus on the overall innovation process and address multiple levers at the same time. Sweden can do much more to develop the demand side, i.e. creating markets for innovative products and services. Even in the field of technologies related to the broad field of 'green growth', an area on which government policy puts much emphasis, it is not obvious that this has happened. To be successful in this at the global level highly contested markets, prioritized investments in specific research fields are much more likely to be successful if they are combined with programs on related skill development, cluster mobilization, and the creation of market opportunities.

b) Positioning Sweden in the global economy

Sweden has many competitive advantages and as this report has documented, there is no significant erosion in these areas. Policy action has been focused on traditional weaknesses. While these policy changes have an effect, some of the specific strengths that ultimately draw economic activity to Sweden have become less differentiated:

- Sweden's skilled labor force available at, in comparison with leading European peers, competitive wages used to be an advantage. But the relatively disappointing performance of the education system and the current exchange rate situation threaten to erode this advantage.
- Sweden has traditionally provided advanced market demand that pushed innovation. But other economies are now providing more sophisticated markets, for example Korea in telecom usage.
- Sweden has traditionally had attractive tax rates for companies. But tax reforms in other countries have pushed Swedish company tax rates above the average rates in the EU and the OECD. Where more attractive rules exist, for example in the treatment of credit costs, they have unintended consequences that do not enhance prosperity.
- Sweden's innovative capacity has been one of its traditional strength, and continues to support high levels of R&D. But given the strong investments other countries have made in their innovation systems, these legacy effects only sustain the current R&D activity; they do not attract significant new investments.

24. See also the analysis by SACO that finds negative returns to education for some of their members http://www.svd.se/naringsliv/larare-forlorar-pa-utbildning_6865697.svd

Swedish policy makers should engage the business community and other partners, including the innovation system, in a broader discussion on what Sweden should be competing on in the global market place for companies, capital, and skills. Aligning expectations about where different entities in Sweden intend to go over coming years would help creating a better interaction between public and private sector choices. For public policy, it would be a way to identify which areas – whether weaknesses or strengths – are critical priorities in order to help Sweden succeed in the future.

Such a debate about strategic positioning might also include more openness for cluster-specific efforts. When companies evaluate locations, they look at the conditions relevant for their particular activities, including the presence of a relevant cluster. Clusters are a very relevant level at which to have a public-private dialogue about the competitive advantages of a location and the priorities for upgrading the cluster-specific business environment (Ketels, 2006).

c) Realigning economic policy tools to meet globalization

Globalization has led to many structural changes in the global economy. New markets have emerged, new competitors have arisen, and new patterns of value chains and company structures have evolved. As the data in this report has shown, Sweden has done well in this changing context. But the new environment has also triggered trends that render traditional Swedish public policy tools and structures less effective. The following discussion is focusing on three elements: the unbundling of value chains, the changing interplay of small and large companies in innovation and internationalization, and the differentiation in productivity and job growth dynamics between the local and the traded/export-oriented sector.

i) Unbundling of value chains

The reduction of trade barriers, both physical and policy-driven, has driven the unbundling of many value chains (Baldwin, 2006). Locations now compete for narrow sets of activities, not entire value chains. This increases the role of FDI relative to trade and challenges locations' ability to retain the value of its average competitiveness across the value chain. Where value chains are broken up, both trade volumes and foreign direct investment (FDI) grow. The reduction of trade costs pushes the balance towards FDI, although the dynamics are complex and depend not only on the change but also on the level of trade costs that remain (Baldwin/Venables, 2010). FDI is chosen when it is beneficial to keep activities within the same company, even when they are getting dispersed across locations. FDI is likely to grow in relative importance when the geographic and cultural distance to the market grows (Lankhuizen et al,

2009). The fast growth of Swedish FDI activity in relation to trade indicates that these dynamics are empirically important for the Swedish economy.²⁵

For Swedish policy makers, these observations have significant implications. First, policies to support the international presence of Swedish firms need to take a more integrated view of trade and foreign direct investment. In the past, exports have been viewed as beneficial, while FDI outflows were seen as a loss to the Swedish economy. A number of recent policy changes indicate that a new approach might be taking hold: Invest:Sweden has defined its role increasingly as attracting investment into Swedish companies with the explicit goal of enabling them to internationalize. The proposal to merge Exportrådet and Invest:Sweden, too, provides an opportunity for a more integrated perspective.²⁶

Second, policies need to be based on an analysis of current economic outcomes that take account of the changes in value chains. The analysis of the Swedish innovation paradox, i.e. the relatively low economic benefits generated from the significant innovation activity in Sweden, tends to ignore these dynamics. In the traditional analysis, this has been seen as evidence of insufficient linkages between academia and business. The unbundling of value chains suggests an alternative view: Swedish innovation is translated into strong economic activity, but this activity is increasingly not located in Sweden. If this view is a better reflection of reality, a new innovation strategy focused on improvements in academia-business linkages is at best an incomplete response to the innovation paradox. What is needed, is an innovation policy that does not take the high Swedish rankings on innovative capacity for granted and combines forceful action to further enhance the quality of Swedish science with systematic efforts to build broader innovation systems and clusters around them.

ii) Providing public policy support in new ways

The last few decades have seen a remarkable change in the structure of businesses, value chains, and innovation systems. Companies, especially large one, have narrowed their scope to focus on their so-called 'core competencies'. At the same time, they have increased their geographic scope serving more markets and spreading out their activities and supplier networks across many new locations. Innovation has become a more complex, 'open' process, connecting local hot-spots of innovative activity in which new ideas flow between networks of companies and research institutions. In the process, smaller companies have become more internationalized, more important for exports, and more important in the innovation process.

For Swedish policy makers, these observations have implications across a number of policy areas. In terms of export promotion, the needs of small and medium-sized

25. Hagman and Rune (2011) discuss how the growing role of sales by Swedish companies with production and sales occurring abroad is affecting different statistical aggregates.

26. Regeringskansliet (2011a) discusses more broadly the need to better integrate the government agencies charged with supporting the international presence of Swedish companies.

companies are structurally different from those of the large companies that traditionally dominate Swedish exports (Achtenhagen, 2011). In the innovation system, too, the well-established cooperation between large companies and universities as well as the focus on encouraging start-ups is less sufficient, if what is needed is an integrated view of regional innovation systems or regional innovation clusters.

iii) Productivity and job creation: the local/traded mix

Economic activities can be separated in two main categories (Porter, 2003): those where economic activity is concentrated in a limited number of locations and the companies competing in a given market come from different locations. And those where economic activity is essentially distributed in line with overall economic activity and where companies competing in a given market are all located in this location. These two sectors differ not only in their exposure to international competition but also in the economic performance: The first category, often called 'export-oriented' or 'traded', registers much higher productivity and productivity growth. In fact, its productivity growth is so high that its share in total employment is falling in many advanced economies. The second category, often called 'local', has lower wages and productivity but accounts for an increasing majority of the labor force. The data in this report shows that these dynamics are also visible in Sweden (see 3.d.iv).

For Swedish policy makers (and their peers in many other advanced OECD countries), these trends create significant challenges. First, the policy toolkit for company upgrading has traditionally been focused on the traded sector. This remains important but is increasingly insufficient. Almost all (net) job growth occurs in the local economy, so future prosperity depends critically on a location's ability to upgrade activities in these sectors as well. Aligning efforts to support innovation and productivity growth in local services will become one of the central challenges of the future.

Second, the increasing productivity differences between the traded and the local sectors put pressure on income equality. The traded sector has higher productivity and productivity growth, and can leverage this productivity across an increasing global market. The combination of these effects allows employees in the traded sectors to achieve higher wage growth, especially those individuals that have globally scarce capabilities. This might not be the only reason for the fast growth in Swedish income inequality but it is likely to be an important dimension. Constraining wage growth in the trade sector will only push these activities out of Sweden. Raising wages in the local sector would increase the costs level for consumers, firms and the public sector. Again, efforts to achieve high productivity growth in local sectors to support rising wage levels are of critical importance.

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Globaliseringsforum är Entreprenörskapsforums arena med fokus på globaliseringens effekter på entreprenörskap, mindre företag och innovationer. Ambitionen är att föra fram policyrelevant forskning till beslutsfattare inom såväl politiken som inom privat och offentlig sektor.

Rapporten *Sweden's Position in the Global Economy* ger en bred genomgång av samt analyserar de olika faktorer som ligger till grund för Sveriges konkurrenskraft. Hur väl positionerat är Sverige för att hantera framtida utmaningar, globala strukturförändringar och en tilltagande global konkurrens? Vilka områden bör beslutfattarna prioritera för att lägga grunden till ett fortsatt välbefinnande framöver? Rapporten mynnar ut i en rad förslag på olika policyförändringar som skulle stärka Sveriges konkurrenskraft.

Rapporten är författad av Christian Ketels, forskare vid Handelshögskolan i Stockholm och Harvard Business School.



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