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WHAT CAN WE LEARN FROM ECONOMIC REFORMS IN GREECE AND SWEDEN?

EDITED BY
MARIA CHOUPRES
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Anders Forslund is Professor in Economics at Uppsala University and deputy Director General at the Institute for Evaluation of Labour Market and Education Policy in Uppsala. Forslund's main area of research is labour economics in general and unemployment and policies to combat unemployment in particular. His research has been published in international scientific journals and looks at the issues using both micro- and macroeconomic models and data.

Christos Genakos is Assistant Professor (Lecturer) in the Economics Department of the Athens University of Economics and Business. He received his Ph.D. in economics from the London Business School. After the completion of his doctorate he worked as Lec-

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Magnus Henrekson is President of the Research Institute of Industrial Economics (IFN). Before that he was Jacob Wallenberg Professor of Economics at the Stockholm School of Economics. His research is empirically oriented. He completed his doctoral dissertation in 1990 at the University of Gothenburg. The dissertation dealt with empirical determinants of public sector growth. Since the end of the 1990s his main field is the economics of entrepreneurship, where he has mostly examined the institutional determinants of the business climate. Throughout the 1990s he conducted several projects aimed at explaining cross-country growth differences, and more specifically he also tried to explain Sweden's slow growth relative to other countries from the late 1960s until the mid 1990s.

Evangelia Vourvachaki is at the Real Economy Division in the Economic Research Department of the Bank of Greece, and an Assistant Professor at CERGE, Charles University and a Researcher at the Economics Institute of the Academy of Sciences of the Czech Republic (on leave since May 2012). She has a Ph.D. in Economics (2008) from the London School of Economics. She has previously gained research experience at the Centre for Economic Performance and worked as an intern at the European Bank for Reconstruction and Development. Her research interests lie in the area of macroeconomics, with a special focus on multi-sector economic growth and growth accounting, and the impact of structural reforms on firm-level and sector-level productivity.

Preface

The volume What can we learn from Economic Reforms in Greece and Sweden? comes in the midst of the worst financial and economic crises for decades. In countries hit by deep economic crises, like Greece, the population is facing tough decisions in order to make their country competitive and prosperous again. Nevertheless, it is often through crises that countries can reconsider their economic policy and institutional structure and become stronger in terms of economic development. Sweden for example, experienced a severe economic crisis in the 1990s that resulted in a number of product and labor market reforms. Just a few years after the crisis, the Swedish economy was prospering with booming productivity growth.

The central purpose of this book is to investigate and compare labor and product market reforms in Greece and Sweden, since the early 1990s in order to see what these two countries from Southern and Northern Europe – both relatively small though very different in terms of culture and institutional set-

tings – can learn from each other. The results suggest that Sweden has undertaken a number of important product market reforms to increase its economic competitiveness. In addition, there has been a dual development in the Swedish labor market, with strict protection for permanent contracts and less strict protection for fixed-term contracts and temp agencies. Greece is currently following this lead, making its labor market more flexible and starting the process of deregulating a number of product markets. This is, as the authors conclude, a development in the right direction. Taking a long-term perspective, Greek policy makers must also start developing strategy to improve incentives for innovation and thus, attract more investment in research and development. Moreover, there are also areas where the Greek market is more liberalized than the Swedish, such as the rental housing market. Furthermore, the need for reform remains strong due to the ever more globalizing world. During the last decades globalization has led to tremendous opportunities for diffusion of new technology, international expansion of firms and collaboration among people. However, it has also resulted in increased international competition, something that has created problems for some European countries. If these countries can restructure and implement efficient institutions for well-functioning markets

they will be able to realize the positive opportunities of globalization in the long-term.

Liberal Solutions for the European Economy is one of the focus areas of the European Liberal Forum. I am very pleased to see our members Forum för reformer och entreprenörskap/Forum for Reforms, Entrepreneurship and Sustainability (FORES) from Sweden and Φόρουμ για την Ελλάδα/Forum for Greece making such a strong contribution to this focus. Bringing together liberal partners from across Europe, with the know-how and enthusiasm together to issue a publication which is relevant for Sweden and Greece, but also for other European countries and for decision-makers at the European level, this has been a model project of the European Liberal Forum. It does not claim to give all the solutions, but encourages all stakeholders – including ourselves – to think in creative ways to deal with the crisis and offer clear liberal policies to create growth, jobs and hope in Europe.

Wishing you a stimulating and insightful read,

Felicita Medved,
President of European Liberal Forum
Ljubljana, Slovenia, October 2013

Chapter 1

Introduction

Maria Choupres
Harald Edquist

There is a time when every nation encounters difficulties and must make changes to plan for its future. Such moments typically occur in periods of economic recession and crisis. Society must be able to regroup and innovate in the face of change. (SOU 1993)

In the early 1990s the Swedish economy experienced a severe economic and financial crisis resulting in a substantial GDP decrease. The crisis was characterized by falling real income, soaring unemployment and exploding public deficits (Jonung et al. 2009). While the crisis was not a complete surprise for many economists, what did come as a surprise was that a few years after the crisis, the Swedish economy was prospering with booming productivity growth.

Currently, the Greek economy is experiencing an economic depression. Unemployment is higher than 25 percent, GDP and wages are falling and the public debt is over 150 percent of GDP. The Greek citizens have faced and will face tough decisions in order to reorganize their economic system, just like the Swedes did in the 1990s.

Greece and Sweden are both small countries, but very different in terms of culture and institutional settings. Sweden has very low levels of corruption, while the opposite is true for Greece (Economist 2012). According to Baumol (1993), »good institutions« are necessary for economic reforms to have any effect on

productivity and economic growth. Baumol (2002) also argues that history has shown that institutions of the capitalist system have been most successful in generating high productivity growth over long time periods.[1] Thus, well functioning markets are necessary to remain competitive in a world that is becoming ever more globalized.

There are a number of reasons why economic crises evolve in different countries. As such, there are also many different solutions and methods to return to a stabilized growth path. However, no economy will become prosperous again unless it becomes competitive and has well functioning markets. This volume investigates the reforms undertaken by Greece and Sweden since the early 1990s in the labor and product markets. The purpose is to investigate what Greece can learn from Sweden in order to strengthen its labor and product markets and become more competitive. However, the purpose is also to see what Sweden can learn from the reforms undertaken by Greece. History shows that there is always a risk that if an economically successful country does not undertake the necessary measures to remain competitive, it may experience economic difficulties.

1 Capitalism is based on a free market, open competition, profit motive and private ownership of the means of production. However, many countries have different ways of organizing its economic system around the foundations of capitalism. The differences primarily concern to what extent the state is involved in economic activities. The second welfare theorem suggests that some intervention has a legitimate place in policy.

In chapter 1, Evangelia Vourvachaki describes the labor market reforms undertaken in Greece. She concludes that the Greek labor market was characterized by a number of structural deficiencies for quite a long time. However, major reforms were carried out in 2010–2012, including a decentralized wage setting system, lower employment protection for »insiders«, flexibility, lower non-wage labor costs and lower unemployment benefits. It is too early to draw any conclusions about the effects of these reforms; based on economic theory and empirical research, there is hope that these reforms will increase labor market efficiency and restore employment, along with economic recovery. Moreover, more actions are necessary to safeguard the recent reforms and increase security.

In chapter 2, Anders Forslund discusses labor market reforms in Sweden, along with the possible effects on labor supply or equilibrium unemployment. He finds that the Swedish labor market is characterized by high participation and employment rates among women and older persons. The evidence clearly suggests that the design of pensions systems, rules of early retirement, taxes, and childcare and parental leave systems are important explanations. Moreover, Swedish employment protection legislation is characterized by a large difference between strict protection for permanent contracts and less strict rules for fixed-

term contracts and temp agencies. Swedish employment protection is not likely to have any major impact on total employment, although it is likely to have an effect on unemployment duration and labor market entry for new entrants.

In chapter 3, Christos Genakos examines the competitiveness of product market reforms in Greece and their evolution. He finds that the Greek economy is one of the most heavily regulated among OECD-countries. There are a plethora of rules and regulations, lack of necessary institutions to verify whether restrictions are necessary and ineffective implementation of existing regulations. A large reform programme is currently being implemented with the aim to reform and privatize public enterprises, liberalize product and service markets and strengthen independent regulatory bodies. However, in a long-term perspective, the strategy must be centered on a coherent National Competition and Competitiveness Policy plan.

In chapter 4, Harald Edquist and Magnus Henrekson investigate product market reforms and incentives to innovate in Sweden. Since the early 1990s a number of major product market reforms have been implemented in Sweden, i.e. taxi services, domestic aviation, postal services, telecommunication services, electricity market, railways, pharmacies and vehicle inspection. An important characteristic of

most of these reforms is that even after deregulation a state-owned company has retained a market leading position. The next logical step in the area of Swedish product market reform is to develop an exit strategy for state-owned companies operating in competitive markets. Moreover, Sweden has been successful in terms of innovation. However, there are a number of measures that could be taken in order to further strengthen the incentives to innovate in Sweden. These include increased government support of venture capital and loans in early-stage funding, increased R&D resources for SMEs, increased support for firms to invest in vocational training, lower taxes on stock options to employees and shared property rights between universities and faculty inventors.

In chapter 5, Maria Choupres and Harald Edquist summarize the important findings of the volume and provide policy recommendations on how Greece and Sweden can strengthen their labor and product markets and increase incentives to innovate.

Chapter 2

Labor market reforms in Greece

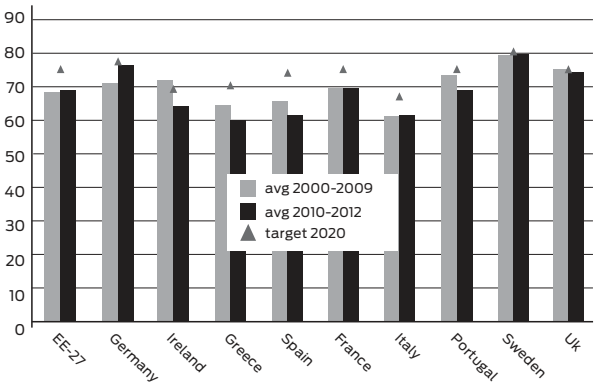
Evangelia Vourvachaki

Stylized features of the Greek labour market before 2010

Before 2010, the Greek labour market featured a number of structural weaknesses, which are summarized by the presence of high and persistent unemployment. In particular, unemployment in Greece during 2000-2009 was on average 9.5%; it constantly remained above the Euro Area (EA) average of 8.6% and the OECD average of 6.7%. This was the case in spite of the fact that Greece had an above EA average growth rate (3.6% against 2%) during this period. Moreover, unemployment was particularly prevalent among youth and women. In 2008, two out of ten people aged 15-24, and one out of ten prime age women (25-54 age group) were unemployed. Such rates sharply contrast with the unemployment rate for older and prime aged male workers (below 5%). Also, high aggregate unemployment translated into long spells of unemployment at the individual level: 51% of those unemployed in Greece remained in the unemployment pool for more than a year, compared to 44% in the EA and 30% in OECD.

The low reallocation of labour across different economic activities in Greece further intensifies the problem of high and persistent unemployment (see Martin and Scarpetta, 2011).

Figure 1. Employment rate for population in the age category 20-64



Source: OECD (2013).

The low employability of the Greek labour force is also depicted in its historically low employment rate compared to the EU experience: In 2009, Greece's employment rate was 65.8%, well below the Lisbon 2020 target of 70% for the 20-64 age group. In fact, while the low employment rate is common across the EU economies of the South, the Nordic countries have already comfortably exceeded the 70% threshold (see Figure 1). Ultimately, the poor labour market outcomes and prospects of particular groups of members of the working age population discourage them from participating in the labour market –this is the case for Greek youth and women.

Despite EU-driven policy initiatives and the challenges posed by the vigorous economic growth in Greece during the 2000s, the adoption of flexible forms of employment was limited. This was especially the case for part-time or intermittent employment. In 2008, the share of part-time employment in aggregate employment was 5.5% in Greece, compared to a European average share exceeding 15% and a share of 23.6% in Sweden. Greece fared relatively better in terms of the incidence of temporary employment (e.g. employees with fixed-term contracts) when compared to other developed countries (11.5% in Greece, 12% in OECD), even though it lagged behind the Nordic countries (e.g. 16% in Sweden). The limited presence of flexible forms of employment does not meet the inherent needs of the major economic sectors in Greece, like tourism and agriculture, where activity is highly seasonal and volatile.

Another main feature of the Greek labour market is the high degree of informality. Informal economic activity is used primarily in order to evade taxes and avoid non-wage costs related to social security contributions. To some extent, informal activities involve the self-employed or those working in family-owned business. In the case of dependent employment, informal jobs take place either in the formal sector (e.g. unregistered seasonal workers of a hotel or an

agricultural unit), or in the informal sector (e.g. unregistered cleaning or elderly care services).[1] Informal jobs are often held by vulnerable members of the working age population – long-term unemployed, unskilled blue-collar workers and immigrants (legal or not). Overall, while the incidence of undeclared jobs remains unmeasured, it is highly suggestive that first, tax evasion in Greece is estimated up to 30% of the Greek GDP, and second, the Labour Inspectorate during inspections in targeted sectors and activities, finds that more than one in three employees work in undeclared jobs. Thus, there is an important body of the working age population that by default does not share the rights of formal workers.

The persistence of the poor labour market outcomes in Greece point to the absence of market-based corrective mechanisms. Namely, there is a lack of a wage setting system that adjusts labour input costs to correct for any sources of inefficiency. Indeed, there is micro-level evidence suggesting that even though the frequency of wage changes in Greece is broadly in line with other EA countries, there is nominal and real rigidity downwards (see European Central Bank, 2009). Historically, there is a weak response

1 It could also be the case that only part of the employment is kept unregistered, e.g. someone works full time but is registered and pays taxes and social security contributions as a part-time employee. The analysis of informality in the main text leaves aside the case of illegal activities in the informal sector, like crime, drugs and illegal trade.

of the private or public sector wages to productivity developments. As an example, nominal wages grew stronger in Greece compared to the Euro area before 2008, particularly during the 2000s. Even though part of this was due to a catch-up effect and the stronger productivity growth, unit labour costs grew above the Euro area average having a direct negative impact on the competitiveness of the Greek economy (e.g. see OECD, 2011).

Section 2 of this Chapter reviews the legal framework before 2010 and its deviations from best practices. Section 3 provides the main elements of the reforms activity after 2010. Section 4 critically discusses the reforms of the 2010-2012 period and Section 5 reviews the implementation progress through the first half of 2013. Section 6 contains the conclusions.

The legislative framework of the Greek labour market before 2010 and the institutional gap from best practices

This section presents selected features of the legal system of the Greek labour market, and how they shaped the market until the late 2000s. For each different aspect of the institutional framework there is a short presentation of its recent history of legislative changes.

Wage setting

Before 2010, the wage setting process in the Greek private sector was fragmented and multi-layered, in part due to the fact that bargaining was taking place at the national, sectoral and occupational (local or national) level.[2] Collective agreements settled both wage (basic and additional benefits related to tenure, education, marital status etc.) and non-wage issues (job specific tasks and conditions, working time arrangements etc.).

The intermediate-level agreements had high coverage (65%, see Table 1), despite the relatively low union density (24% in Greece against 67% in Sweden[3]), due to the following: First, firms with less than 50 employees

2 In 2008, there was one national level collective agreement, and approximately 100 sectoral, 90 occupational and 150 firm-level agreements.
3 ICTWSS data for 2008. It is worth noting that union density was substantially higher for the public sector employees: 63.8% vs. 19.4% for private sector employees.

Table 1. Selected features of the wage setting system in 2009

Country	Coordination.	Coordination type	Level of negotiations	Union density	Coverage	Government Intervention
Germany	4	2	3	18.9	62.0	2
Greece	2	1	4	24.0*	65.0	3
Spain	3	3	3	15.8	82.5	3
Portugal	3	3	3	20.1	90.0	4
Sweden	4	2	3	69.7	91.0	2
UK	1	1	1	27.3	32.7	1.5

*2008 value. Coordination is an index between 1 and 5, increasing in the degree of co-ordination of bargaining. Coordination type is an index between 1 and 5, where 1 corresponds to uncoordinated bargaining. Level is an index between 1 and 5, where 1 corresponds to company-level bargaining being dominant. See codebook of the database for analytical definitions of variables.

Source: ICTWSS database, ed. 40.

(most firms in Greece fall into this category[4]) were not allowed to sign firm-level agreements. Second, there was a mandatory extension of the collective agreements to those not involved in the negotiations (»no opt-out option«). Specifically, when the emplers' party signing a collective agreement employed the majority (>50%) of the workforce of a sector or occupation, then collective agreements became mandatory for the whole sector or occupation with no opt-out option.

The intermediate-level agreements had high coverage (65%, see Table 1), despite the relatively low union

4 This concerns 99.7% of all firms in 2002.

density (24% in Greece against 67% in Sweden[5]), due to the following: First, firms with less than 50 employees (most firms in Greece fall into this category[6]) were not allowed to sign firm-level agreements. Second, there was a mandatory extension of the collective agreements to those not involved in the negotiations (»no opt-out option«). Specifically, when the employers' party signing a collective agreement employed the majority (>50%) of the workforce of a sector or occupation, then collective agreements became mandatory for the whole sector or occupation with no opt-out option.

In addition, any lower-level collective agreements (sectoral, local or firm) were subject to the »favorability principle«, i.e. they could only revise higher-level collective agreements in a more favorable way for the employees. In this context, the wage of the National General Collective Agreement (NGCA) functioned as the wage floor.

Negotiations between the social partners in the late 2000s were conducted within the framework provided by Law 1876/1990, which has been in use since 1992. Employer's and employee's representatives were required to start negotiations, and if they could not reach an agreement they had the option to

5 ICTWSS data for 2008. It is worth noting that union density was substantially higher for the public sector employees: 63.8% vs. 19.4% for private sector employees.
6 This concerns 99.7% of all firms in 2002.

jointly recourse to mediation services provided by the Organization for Mediation and Arbitration (OMED). If both parties agreed to the mediators' proposal, then that proposal would become the new binding collective agreement. Either party in the negotiations could independently recourse directly to arbitration, i.e. by-passing the mediation stage as long as the other party had refused the recourse to mediation in the first place. In regards to opting for arbitration, parties could jointly agree to recourse to arbitration at any stage of the negotiating procedure. It was, however, an exclusive right of the workers' party to recourse to arbitration, if they had agreed to the mediators' proposal while employers' party had rejected it.[7]

Formally, the government was not involved in the wage setting process beyond providing the legal framework and ensuring its enforcement. In practice, there was room for government involvement (see Table 1). This is partly due to the fact that wages in the public sector and public sector enterprises have been an important reference point for private sector's wage negotiations. This is also due to the non-negligible size of the Greek public sector (up to 20% of employment). Indeed, there is evidence suggesting that public wages in Greece were a leading indicator for private sector

7 The only exception to the latter exclusive right of labour unions was the case of firm-level and public enterprises collective agreements, where either party could recourse to arbitration if the counterparty turned down mediator's proposal.

wages (see European Central Bank, 2009). This could further induce the misalignment of wage developments from the business sector's productivity developments.

Despite pitfalls, Law 1876/1990 was a major innovation in the wage setting system. Before the 1990s, negotiations of collective agreements were governed by the provisions of Law 3239/1955. According to the latter, in the event of failed negotiations parties had to recourse to arbitration. As a result, with the credible threat arbitration hanging in the balance, bargaining between the social partners was discouraged and second-round negotiations were effectively absent. There was a strategic »overuse« of the arbitration threat, particularly by the party with weak bargaining power, since it couldn't independently claim more favorable conditions. Furthermore, the non-transparent system of arbitration gave way to a government intervention into wage setting. This is evident from the fact that arbitration decisions largely reflected the »income policy« of the governing party.

Therefore, in light of the problems that plagued the (pre-1992) wage setting system, the provisions of Law 1879/1990 safeguarded, in spirit, the collective agreement system. However, in practice, they did not meet expectations related to the promotion of negotiations between social partners, given that recourse to arbitration continued to be a common practice in collec-

tive agreements negotiations. Still, it is worth noting that the overall rate of recourse to arbitration fell to a substantially lower level than it was before 1992 and the downward transition continued thereafter –albeit at a slow rate (see Ioannou, 2011).

Collective bargaining institutions are an important determinant of wage structure and wage dynamics and affect the response of wages to shocks. Based on the findings of a European-wide firm-level survey, the European Central Bank (2009) concluded that »wages change less often when collective bargaining coverage is high and employment protection is strong«. While the frequency of wage adjustment and extent of inflation indexation in Greece was in line with the European average, evidence suggests that downward nominal wage rigidity was dominant.[8] In principle, such a constraint binds on economic outcomes only when there is need for downward price adjustment. As an illustration, the 2008 NGCA provisioned for a 3% (nominal) wage increase in 2008 and a 5.5% one in 2009, despite the decline in Greek productivity and activity and the negative international outlook due to the financial crisis. As already noted, these provisions were binding for any other collective agreement.

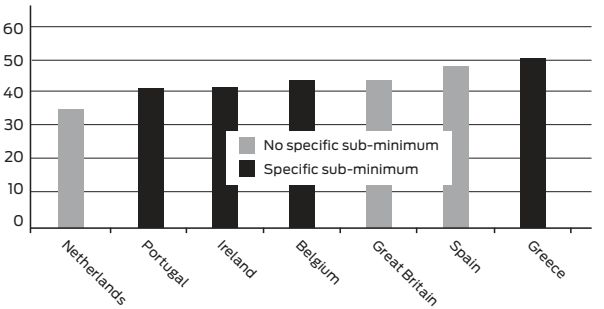
Furthermore, given the way that wages were nego-

8 According to the European Central Bank (2009), downward nominal rigidity is higher in countries with high firing costs and firms with a large share of workers holding open-ended contracts.

tiated, collective agreements were not necessarily the best response to regional, sectoral or firm-specific needs. For example, a typical small hotel unit on a remote island in Greece would have to adopt the collective agreement agreed to on the national, or at best, regional level. This implies that in the event of a negative demand or productivity shock the firm would incur high adjustment costs, due to its lack of ability to negotiate lower wages. In addition, when such a hotel unit bought services from the market, e.g. financial or legal services, it incurred costs that were set by the corresponding professions' collective agreements without the ability to negotiate. Therefore, negative shocks deeply affected small firms. Large negative shocks increased the chances that small firms would cease operating due to job losses.

Another distortion related to the wage setting system was that the negotiating parties did not take into account the specific needs of vulnerable groups of the working age population, such as the young, women, immigrants, and long-term unemployed. Arguably, this may be due to the low representation of these groups in unions in addition to the fact that unions often try to maximize the average »surplus« of their members. This is particularly the case in sub-national level negotiations that usually do not internalize general economic conditions, like unemployment or acti-

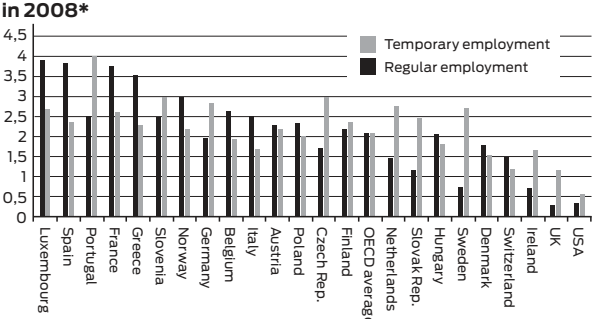
Figure 2. Minimum wage* for young people (15-18 years)



* As a percentage of median wage

Source: OECD (2013).

Figure 3. OECD Employment protection legislation in 2008*



*Countries are ranked according to overall OECD EPL index. The index goes from 0 (least strict regulation) to 6 (most strict regulation of employment protection).

Source: OECD (2013).

vity rates. An example is the absence of sub-minima wage for youth, even though it is a well-known mechanism that facilitates youth's entry to employment. In fact, entry minimum wage rate for first-entrants in the Greek labour market was relatively high compared to other OECD countries (see Figure 2).

Costs of dismissals and employment protection

Employment protection legislation (EPL) concerns two factors, the cost of dismissals and the strictness of temporary employment regulation.

The overall strictness of EPL in Greece, as measured by the corresponding OECD indicator, was broadly on par with the average practice across European countries (see Figure 3). In particular, regular employment firing costs in Greece did not stand out as particularly high when compared with other European countries. According to the World Bank's »Doing Business Indicators« for 2009, the redundancy costs for someone working continuously for the same employer for 20 years was capped at 24 months of salary with no obligation for prior notice. In France, the maximum severance costs amounted also to 24 months of salary in addition to the requirement of a 9-month notice period.[9]

9 In Germany the respective severance payment was 43 months' worth of salary and a requirement of 26 months of prior notice.

Figure 4a. Severance pay (months of salary) in 2008

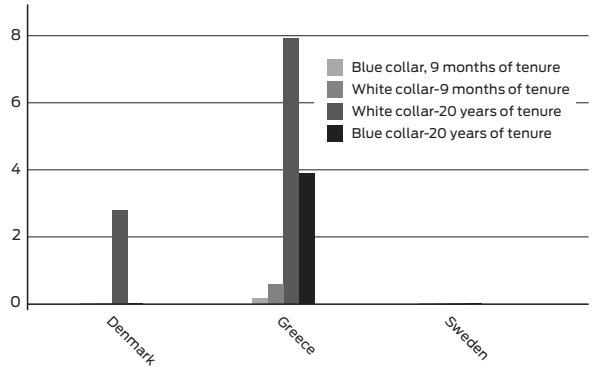
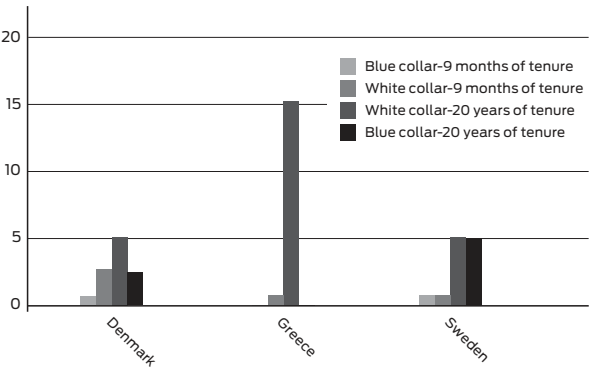


Figure 4b. Notice period (months) in 2008



Source: OECD, Employment Outlook 2008.

Nevertheless, the aggregate picture hides an important asymmetry in the degree of protection of both blue-collar and white-collar workers (see Figure 4). The strictness of employment protection stems from a heightened degree of protection of Greek white-collar workers. The bias increased with years of experience. For example, a blue-collar worker would receive no notice period, irrespective of tenure, while a white-collar worker with 9 months of tenure was eligible for 1 month prior notice that would increase to 16 months for 20 years of tenure. A similar asymmetry was also embedded in the severance payments. This sharply contrasts with Sweden, where there is no distinction for the notice period and severance payment requirements between blue-collar and white-collar workers.

Concerning collective dismissals, Greece adopted the EU standards, albeit with certain restrictions. Specifically, the threshold of dismissals per month above which lay-offs were characterized as collective and different procedures applied, was 4 employees for firms with 20-200 employees and 2% for firms with more than 200 employees. This meant that there were substantial firing costs for larger units, while the law did not protect employees of smaller firms. Otherwise, the cap of 30 employees per month was directly stemming from the EU regulations.

Regarding regulations protecting public sector employment, there are a number of legal barriers when firing public sector employees, which partly stems from the Greek Constitution. In addition, these employees also benefited from the lack of any credible »liquidation threat«. [10]

Regarding temporary employment regulations, fixed-term contracts could be signed by submitting a report listing the »objective reasons« why such a contract was necessary. The report then required the approval of the Labour Inspectorate. There was an upper limit of three such contracts within a two-year period (or cumulative duration of 24 months); after that point, fixed-term contracts automatically converted into indefinite-term contracts. The costs of early termination of temporary employment (by the employer) were substantial compared to costs associated with the termination of short-tenure regular employment. In addition, Temporary Work Agencies (TWA) were subject to a number of restrictions including the maximum permitted length of contracts and renewals, requirements for reporting, and their activities' scope. As such, TWA had limited presence in Greece. Despite the shortfalls of the regulatory framework surrounding temporary employment, it is worth noting that the transposition of EU Directive

10 Also, labour unions were particularly strong in public sector enterprises.

EC 99/70/1999, which was implemented by Presidential Decrees 180/2004 and 81/2003, resulted in considerable improvements and alleviated earlier discrimination against temporary employment.

Part-time and intermittent employment

The legal framework before 2010 allowed, but did not encourage, more flexible forms of employment. In particular, part-time employment was an unattractive option for both employers and employees; there were substantial costs related to overtime compensation for part-time jobs, as well as a 7.5% premium paid to employees working less than four hours daily. Also, part-time jobs were not well paid and had a low transition rate to regular employment. For employees close to retirement age, part-time employment was not an option because pensions were calculated based on the average salary of the five years prior to retirement.

The strictness of the regulatory framework and the costs involved in using more flexible forms of employment did not encourage the development of such forms of employment in the Greek labour market (see Section 1), despite the high hiring and firing costs of regular employment in the formal sector.

Working time arrangements

Labour input flexibility is also achieved at the intensive margin of its use, i.e. hours worked per employee. The extent to which firms use this margin of adjustment largely depends on the legal framework that specifies the conditions and costs of this adjustment.

The corresponding framework was provided by Law 3385/2005, which outlined a 25% premium over the normal hourly rate for overwork, i.e. work for the first 5 hours exceeding the 40 hours (conventional work week). Compensation of overwork was up to managerial discretion. Overtime, i.e. work above 45 hours on a weekly basis, had a 50% premium over the normal hourly rate for less than 120 hours overtime, and a premium 75% for more than 120 hours overtime per year. Firms had to give prior notice to and receive approval from the Labour Inspectorate. In the absence of prior notice and approval, a 100% premium applied. Moreover, supplementary sector-specific legal provisions shaped working hours across different units of economic activity. For retail firms, the law provisioned a minimum rest period of 12 hours, and the organization of the working week on a five-day basis. The working hours of retail units were linked to the opening hours of the retail shops, which made it difficult for shops to cover their needs (e.g. organizing their inventory) outside set working hours.

Another margin of flexibility is achieved through »averaging working time« arrangements. This allows that additional work hours be compensated with a period of reduced work hours, keeping the rate of compensation constant at the level corresponding to the conventional work time. Under Law 3385/2005, average working time was calculated on a yearly basis, while any adjustments of the working time (above or below the average of 40 hours per week) could not exceed four months in total. Averaging working time arrangements were also available to seasonal business and employees with contracts of duration smaller than a year. These provisions were settled through free sector-level or firm-level agreements between employers and workers representatives. The mediation and arbitration services by OMED were available as well, and any agreements were subject to the approval of the local Working Time Arrangements Committee.

Legal clauses regarding working time arrangements have been revised often during the past 25 years in an effort to encourage the use of this margin of flexibility. Important highlights include Laws 1892/1990, 2639/1998, and 2874/2000, and Presidential Decree 88/99, which transposes the European Directive (EC/93/104) on working time. Prior to 2000, »overwork« was defined as the first 8 hours above the conventional work time of 40 hours per week. Legal

overtime was compensated with a premium of 25% for the first 60 hours of overtime in a year, 50% for overtime between 61 and 120 hours, and 75% for over 120 hours of overtime in a year. However, an upper limit of 15 hours of overtime on a six-month basis was set for industry by Ministerial decision; above this limit, overtime was deemed illegal and compensated with a 100% premium. Averaging working time was introduced by Law 2639/1998 and made such arrangements conditional on the agreement of employers and employees. To encourage hiring and flexible forms of employment, Law 2874/2000 increased the cost of overtime for regular employment: overwork was limited to three hours on a weekly basis, and the overtime premium increased to 50% for the first 120 hours (the 75% premium for more than 120 hours remained unchanged). As such, the provisions of Law 3385/2005 were complementary to those of Law 2874/2000 helping to reduce overtime costs.

However, there were a number of shortfalls in the legal framework. Firms could not underutilize their labour in instances of negative shocks. Also, the overtime provisions alone were not enough to address the lack of labour flexibility at the intensive or extensive margin. Not surprisingly, flexible working time arrangements never gained popularity with Greek firms (see Ioannou and Papadimitriou, 2013). Sam-

pethai (2000) highlights that despite the significant costs involved in the use of overtime and shifts of the regular workforce, these practices were extensively exercised by Greek industrial units to meet their production needs. As a result of the inefficient working time regulations and the limited development of flexible forms of employment, firms would recourse to adjustments in headcounts. Using the extensive margin to adjust labour input in the event of shocks is a standard practice across European countries sharing similar institutional features (see European Central Bank, 2009).[11]

Regulatory costs

Firms had to abide by a number of reporting requirements, related to hiring, dismissal prior notice, regular work schedules, prior notice for leaves and overtime, hiring with fixed-term contracts, hygiene, bookkeeping etc. Reports were submitted to different public agencies and services, often repeating the same information and without any option of completing such procedures electronically.

11 Spain stands out across European countries in that its regulations of temporary employment gave way for all adjustment to take place in that segment (e.g. see Bentolila et al., 2012).

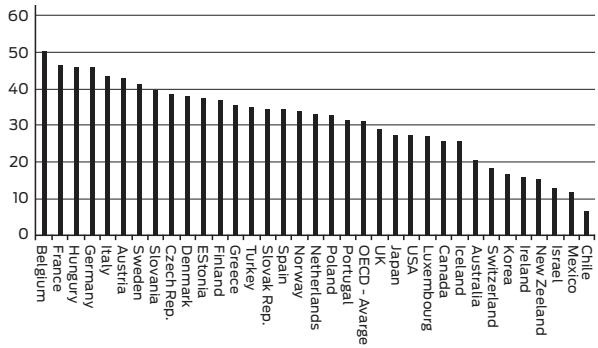
Non-wage labour costs

The average (Greek) labour tax wedge was broadly in line with the European average for single-person households, but well above for households with children. In 2009, a (Greek) single-earner household with average earnings and two children averaged 41%, while the tax wedge in Europe was on average 30%, and 25% in the OECD. Moreover, the tax wedge was relatively higher for low levels of income, e.g. low-skilled and inexperienced workers (see Figure 5). This potentially creates a burden on those groups given that non-wage costs reduce incentives to employ in the formal sector and incentives to participate in the labour market. The fragmented social security system and corresponding contributions also reduced incentives for labour mobility.

»Closed« professions

A number of professions in Greece were highly regulated. Indeed, according to the OECD Product Market Regulation (PMR) Indicator for Professional Services, Greece featured among the countries with a larg number of barriers to competition (see Figure 6; same holds for the aggregate economy PMR). The legal framework that governed their activities featured high barriers of entry and conduct, such as the approval from public services in order to operate, geographical constraints

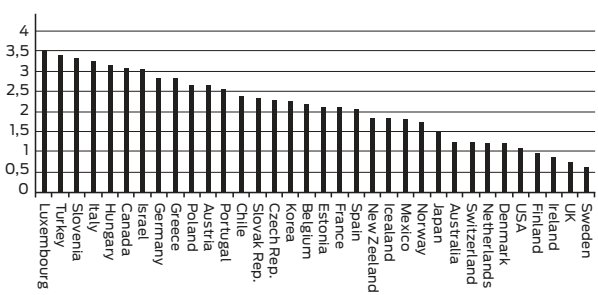
Figure 5. Average tax wedge on the unskilled in 2009*



* Unskilled worker is a low-earner receiving 67% of the average wage. Tax wedge includes employers' mandatory social security contributions for a single worker with no children.

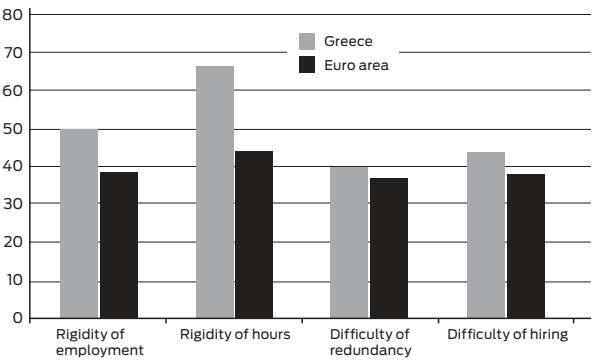
Source: OECD.

Figure 6. OECD Product market regulation index for professional services in 2008



Source: OECD.

Figure 7. Labour market rigidities in 2009*



*Index scale of 0 to 100 from least to most restrictive.

Source: World Bank Doing Business 2010 indicators.

of receiving a license, regulated fees, exclusiveness in services provision, constraints in the scope of business, restrictions on advertising etc. Such regulatory constraints led to economic rents and the oversupply of such professions (e.g. lawyers and engineers). The result was an uneven match between supplied labour skills and the demand for them; limited reallocation of workers in the economy; high costs for the end users of regulated professional services; and few incentives for improving quality.

To conclude, the weaknesses of the legal framework of the Greek labour market before 2010 was depicted in various structural indicators, aside from those of

the OECD (see above). The World Bank's »Doing Business« indicators that concern the cost of employing workers highlight that working timing arrangements were particularly rigid in Greece compared to those in the Euro area (see Figure 7). Also, according to the »Global Competitiveness Report 2009-2010«, the restrictive labour regulations were ranked second amongthe problematic factors of doing business in Greece.[12]

In particular, the World Economic Forum's survey of Greek firms showed that the lack of labour market efficiency was largely driven by inefficient wage determination. Hence, both objective and subjective indicators underscore the need for reform.

The reform of the labour market legislative framework after 2010

The reform of the labour market became imperative in 2010; the accumulated loss of competitiveness in the Greek economy due to its high unit labour costs required correcting. The Greek labour market needed mechanisms to better align wages with productivity and to facilitate efficient use of labour resources. Such

12 The 1999 EU ad hoc labour market survey also highlighted that the most important factor behind worker headcount reductions among industrial firms in Greece was the restrictiveness of the working time regulations (see Sampethai 2000).

as those that fostered the activation of the working age population and improved its employability prospects. Also needed were mechanisms that facilitated the reallocation of labour to jobs of higher value added within-firms, and across firms and economic sectors.
Labour market reforms were triggered by the first Memorandum of Understanding that was signed between the Greek government and Troika (ECB, European Commission and IMF), and continued with the progress of the »Economic Adjustment Programme«. The labour market institutions were first reformed on the basis of Laws 3846, 3863 and 3899 in 2010. Later laws (Laws 3986 and 4024 in 2011, Laws 4046, 4052 and 4093 in 2012) revised some of the provisions of the 2010 set of laws and added new reforming actions. The labour market legal framework is vastly revised by 2013. The main elements of these labour market reforms are detailed below.

Decentralized wage setting system and statutory minimum wages

The purpose of a more decentralized wage setting process is to reach collective agreements that internalize firm-level and job-specific productivity and demand shocks. Decentralization is achieved through the introduction of the »special firm-level collective agreement« (SFLCA) that is signed directly between

employers and employees, and overrules any higher level agreements. Importantly, a SFLCA can be signed irrespective of firm size and the way the employees' representation is organized. Specifically, the latest legal provisions make a SFLCA valid as long as it is signed by at least 3/5 of the employees.

In an attempt to encourage timely wage negotiations, any collective agreement cannot have duration longer than three years. Moreover, to avoid abuse of the new system, the minimum duration for any agreement is set at one year. To speed up wage negotiations, the after-effect[13] period of collective agreements is reduced from six to three months. After the passage of the after-effect period and in the absence of a newly signed agreement, only the former agreement's provisions for basic salary and benefits regarding maturity, education, children and hazardous work remain valid. The floor for wage provisions of private sector agreements is the minimum wage, which is currently set by the 2010-2012 NGCA. For the period of the Economic Adjustment Program (which lasts until 1st January 2017), the gross minimum wage is set at 586 euros, down by 22% compared to the 2011 level. For those below 25 years of age, regardless of whether they are first-time entrants in the labour market or not, a

13 The time for which collective agreements provisions are valid after the impeachment or termination of a collective agreement.

»sub-minimum wage« was introduced and set at 510 euros (a 32% reduction over the 2011 NCGA minimum wage). Moreover, maturity benefits and wage increases are frozen until unemployment falls below 10%. The NGCA provisions are mandatory only for firms signing the NGCA.

As of the 1st of April 2013, the wage set by NGCA is separate and distinct from the statutory minimum wage that sets the absolute wage floor. In effect since July 2013, the minimum wage is set by the government after consultation with its social partners and experts, taking into account the general conditions and growth outlook of Greek economy, as well as contemporary developments in unemployment and employment rates, labour costs and income. The committee responsible for coordinating and supervising the process consists of three members, one from OMED and two representatives each from the Ministry of Finance and Ministry of Labour and Social Affairs. The outcome of these consultations is a proposal forwarded for approval to Parliament. Final approval is required no later than the beginning of June of any calendar year.

Apart from taking part in the statutory minimum wage setting, OMED preserves its role as a mediator for basic pay disputes. To reduce the scope for abuse of the arbitration option and safeguard the mediation

stage, both employers and employees may recourse to arbitration upon disagreement with the counterparty in negotiations regarding the mediator's proposal. The 2010 law also increased the transparency and independency of OMED with provisions ensuring the probity of its members.

In addition to the reform of the private employment wage setting system, the government also made significant changes in public sector wages. Significant reductions of the public sector wages and benefits have taken place, amounting to a cumulative decrease in (nominal) average earnings of -12% for the period 2010-2012. The remuneration system was simplified and revised to foster meritocracy and transparency. Moreover, remuneration was made more homogeneous across different segments of the public sector.

Lower employment protection for »insiders«

The new legal framework alleviates the strictness of EPL for regular employment and corrects earlier asymmetries between blue-collar and white-collar workers. Namely, the probation period is extended from 2 months to one year; the cap in the severance payment for dismissals without prior notice is reduced from 24 to 12 months' worth of salaries; the maximum period of notice is reduced to four months and sever-

ance payments have been substantially reduced; and, the new laws are more lenient on how severance payments are settled, thereby reducing further the cost of dismissals. Specifically, a firm in distress can negotiate to pay any severance payments exceeding two months' salary in installments and the number of months' worth of salary paid upfront is substantially reduced (from 6 to 2 months).

The collective dismissals thresholds have also been aligned to a greater extent with the average European practices. Collective dismissals procedures now apply in cases where more than six workers in firms with 20-150 workers are dismissed within a month, and more than 5% (or 30 workers) for firms of 150 workers or more.

Also, earlier provisions that potentially increased the costs for dismissals and reduced incentives for labour turnover following mergers and acquisitions have been abolished. These provisions concerned the obligation of the former employer to participate in the costs of the unemployment benefits of the dismissed employees.

The protection of the public sector employees (inclusive public sector enterprises) has been alleviated by provisions calling for a »labour reserve« and the explicit removal of »permanency clauses«.

Flexibility

A number of reforming actions encourage greater flexibility in labour input use. Newly introduced legal provisions allow for more flexible forms of employment, especially for intermittent and part-time employment. They also address the needs of firms in distress, allowing them to reach agreements with their employees for intermittent work on a temporary basis not exceeding nine months. Intermittent work arrangements are a way to reduce firms' labour input adjustment costs and encourage labour hoarding during economic downturns. Earlier provisions that increased the cost of part-time employment were abolished.

Moreover, the reforms revise the regulatory framework by reducing the strictness of temporary employment regulation. Workers hired through TWA may now sign agreements that have a maximum cumulative duration of three years. Fixed-term contracts signed with the same employer are now also for three years maximum. Without any restrictions or requirements, fixed-term contracts are signed in the first instance and renewed three times within three years before they are automatically converted into indefinite contracts.

Working time arrangements for regular employment have also been revised. The new provisions delink the opening hours from the working hours of

retail shops, define the work week on a six-day basis, reduce the minimum rest period to 11 hours, abolish the compulsory three-hour break during lunch-time (»siesta«), and small retail units (<250 sq.m) are allowed to be open on Sunday.[14] Furthermore, flexible working time arrangements are possible for all units and jobs on the basis of firm-level or sector-level agreements between employees and employers [15]; this facilitates the use of work time averaging by small firms. Where the 40 hour conventional workweek applies, working time continues to be averaged on a 12-month basis and working time adjustment has been extended to 6 months (within the reference period of 12 months). Annual leave arrangements are also settled on a more flexible basis.

In addition, the cost of overwork and overtime has been reduced. The overwork premium was reduced from 25% to 20%, while the overtime premium for less than 120 hours per year was reduced from 50% to 40%. For over 120 hours overtime the premium was reduced from 75% to 60%.

Finally, the reporting requirements and prior approval by the Labour Inspectorate for work time, leaves, and overtime have been loosened.

14 The latter provision was approved by the Parliament in July 2013.
15 Under the condition that the working time arrangements are agreed to by 25% of the employees for firm units with more than 20 employees and 15% of the employees for firms with less than 20 employees.

Lower non-wage labour costs

The new regulations aim to rationalize the non-wage labour costs and bring them in line with the European average. Since November 2012, employers' social security contributions were reduced by 1.1%, while contributions to state housing agencies have been abolished. Within the context of the Economic Adjustment Program, the government must reduce social security contributions by a total of 5 percentage points to ensure the fiscal neutrality of the measure.

Unemployment benefits

Unemployment benefits have been reduced by 22% in accordance to the reduction of the statutory minimum wage (Christmas-Easter benefits have also been reduced). A number of changes were introduced to the unemployment benefit system, including stricter eligibility criteria and a cap on the duration of the benefits. The new criteria closely examine employment history, limiting the access of the seasonally unemployed to the unemployment benefit system. In addition, earlier age limits for receiving long-term unemployment benefits were removed and the self-employed became eligible for unemployment benefits as of April 2013.

Further policy initiatives

The reform of the Greek labour market will continue according to the government's pending actions under the Economic Adjustment Program. Highlights of policy initiatives in the pipeline include:

First, there is ongoing reform activity related to the liberalization of closed professions and regulated markets (e.g. electricity, transport, trade). Implementation will improve the employability prospects of the workforce and facilitate the reallocation of workers. [16]

Second, there are pending Action Plans to address undeclared labour and unemployment (particularly for long-term and youth unemployment). While a number of Active Labour Market Programs are in use, their efficacy could be improved. Targeted policy interventions –notably educational reform- are expected to enhance both the labour market matching and working age population activation, as well as encourage firm-level and lifelong training.

Finally, a coherent »Labour Code« encompassing all regulations related to employment relations is due by the end of 2013.[17] This is an important step in reduc-

16 The legal mainframe for horizontally removing barriers to entry and business conduct, for a wide range of professions is provided by Law 3919/2011. Law 3919/2011 scrutinizes regulations concerning notaries, lawyers and legal companies, engineers and architects, and accountants. While there has been progress, full enforcement of Law 3919/2011 and the general product market reform program have suffered from significant delays.

17 Historically, the different legal matters surrounding labour relations were settled through numerous laws (general or sector-specific), ministerial decisions and presidential decrees creating a complex and unclear legal framework. Circulars often intensified the uncertainty related to law enforcement.

ing regulatory uncertainty and strengthening transparency. Complementary to this is the conclusion of the revision and upgrade of the Labour Inspectorate's services.

Discussion of the recent labour market reforms: are we headed in the right direction?

The three pillars of the Greek labour market reforms after 2010 are the following: First, the decentralization of the wage setting system, second, the reduction of the strictness of employment protection, and third, the increase of labour flexibility.

Regarding the first pillar, the literature provides evidence that there is a non-linear relationship between labour market efficiency –as captured by unemployment- and the degree of wage setting centralization. Unemployment tends to be higher when wage negotiations take place at the intermediate-level. This is because such a system neither sufficiently caters to firm-specific shocks, nor aggregate economic conditions (e.g. see Arpaia and Mourre, 2005). In this respect, the combination of a decentralized level of bargaining and centralized minimum wage setting is conducive to a more efficient system of wage determination.

Moreover, Boeri (2012) using cross-country evidence shows that the determination of minimum wage by the government is more likely to lead to lower wage floors and timely responses to labour market and general economic developments. He further shows that a lower minimum wage has a lower impact on the efficiency of market allocations. In addition, the various international indices suggest that the statutory sub-minima wages for youth foster their employability (e.g. see Neumark and Wascher, 2004). Such provisions improved upon the early 2010 provisions relating to lower wage costs that hampered first-entrants (below 25 years of age) in the labour market. However, minimum wages may be associated with a wage distribution compression that distorts relative employment across working age population groups.

Turning to the second pillar of reforms, the reduction of the strictness of employment protection is depicted by the 2013 update of the OECD EPL Index (see OECD 2011 and Figure 8). In terms of the regular employment EPL index, the post-2010 reforms closed almost half of the institutional gap between Greece and the United Kingdom, which is the European country with the most liberal legislation for regular employment. According to the results of a number of empirical studies (see Boeri, 2011, for a review), looser employment protection positively impacts flows of

employment and is conducive to shorter durations of unemployment, thereby lowering structural unemployment. Moreover, there is evidence (see OECD, 2004) suggesting that looser EPL accommodates the transition from unemployment to employment for youth and women. It is important to note that the impact of the reforms on employment, job reallocation and productivity is a more controversial issue in light of the mixed theoretical and empirical results. The main risk involved in the rapid development of flexibility is the polarization of the labour market (see Bentolila et al, 2012).

All three pillars of the reforms, in addition to the decentralization of collective agreements are expected to help firms respond to negative shocks with lower employment costs. This is because they provide the option to actively agree with workers on the features of the labour input supplied (form of employment and working time) and cost. A recent example of reforms that created a flexible framework of collective agreements concerning wages and hours worked has been applied in Germany (Hartz reform). The timely use of this margin of adjustment allowed Germany to face the 2008 financial crisis with few job losses compared to other European economies (see Burda and Hunt, 2011). It is further worth noting that the employment gains from the reform materialized

most strongly as the German economy became more robust and the new regulations better accommodated the strong labour demand.

Concerns about recent reforms have been raised in the report of the High Level Mission of the International Labour Office (ILO, 2011) and the INE-GSEE (2013) annual report. The reports point out that in the event of exceptionally high unemployment, workers' bargaining power dramatically falls. This potentially puts at stake the institution of collective agreements, which may lead (in an extreme case) in a situation where employment relations are contracted on an individual basis. In such a case workers' rights are not necessarily secured. This is also the case when unsecured employment thrives, which is a further concern raised in the event of severe economic conditions. To safeguard the success of the recent labour market reforms a number of policy initiatives could help offset any negative effects of the reforms, especially in the short-run. Such initiatives could include a) the active safeguarding of negotiations between social partners (e.g. upgrading the mediation services of OMED), b) enforcement of labour market supervision (e.g. stricter penalties, empower the Labour Inspectorate), c) improvement of the judicial system efficiency, d) adoption of policies that foster workers' feeling of security (e.g. better social care). Also useful

would be the development of matching mechanisms (e.g. upgrade Manpower Employment Organization services, reform educational system). The successful conclusion and potential extension of policy actions in the pipeline, like the product markets' liberalization[18] and active labour market programs are also important for the delivery of the desired labour market and aggregate outcomes.

Implementation progress

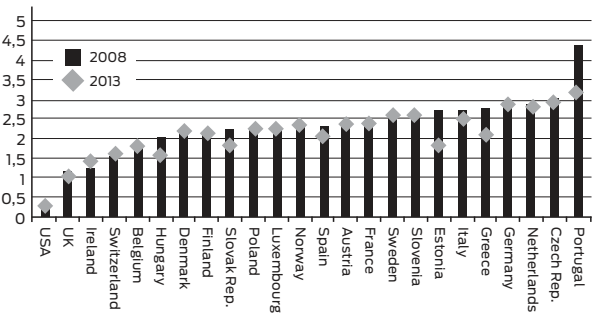
Sizable and radical reforms like the 2010-2012 ones in Greece may take time to implement. This is because, reforms have, by design, a transition period (e.g. this was the case with collective agreements' validity), market participants may lack full information about the options provided by new laws, or there is an ongoing »trial-and-error« legislative process.

An illustrative example of a reform that was not effective on the first legislative attempt is the revision of the wage setting process. Firm-level agreements for firms with fewer than 50 employees were already cognizant of Law 3899/2010, which stated that a SFCA had to be signed between the employer and the firm-level

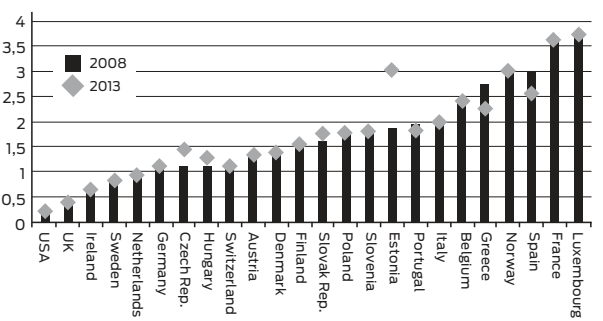
18 Cacciatore et al. (2012) find that the combination of product and labour market reforms reduces any negative short-run effects of the latter and can lead to substantial benefits in the long-run welfare. Reforms similar in nature and magnitude to the ones that took place in Greece have the potential to increase long-run GDP up to 10% (see e.g. Bouis and Duval, 2011, for a review).

Figure 8. Progress of reforms: OECD Employment Protection Legislation Index

a. Strictness of dismissals regulations



b. Strictness of temporary employment regulations



Source: OECD (2013).

Note: The index goes from 0 (least strict regulation) to 6 (most strict regulation of employment protection).

labour union. If a union didn't exist, the agreement needed to be between the employer and the sectoral labour union. The SFCA was then required to be submitted to the Labour Inspectorate with a report justifying the SFCA. The Labour Inspectorate was in turn supposed to provide its opinion within 20 days. In practice, Law 3899/2010 failed to be implemented because: a) there were no unions in small and micro firms and the procedures to create new ones were unclear and troublesome, b) the Labour Inspectorate was not prepared to bear the burden of reviewing the applications and c) the regulatory and bargaining costs were high. Law 4024/2011 addressed the main weaknesses of the first law thus, paving the way for the implementation of decentralized wage setting. Specifically, Law 4024/2011 removed the requirement of a firm-level labour union replacing it with »worker representatives« that reported to the Labour Inspectorate.

According to the study of Ioannou and Papadimitriou (2013), 238 firm-level collective agreements were signed in 2010, 179 in 2011 and 976 in 2012. Notably, 73% of the firm-level collective agreements signed in 2012 were signed by worker representatives, rather than firm-level labour unions. This trend is highly suggestive that the reform has succeeded in its implementation solely on the basis of Law 4024/2012. The shift towards firm-level agreements continues in 2013;

more than 300 new agreements signed in the first six months (Labour Inspectorate newsletters).

Furthermore, while 190 intermediate-level collective agreements were signed in 2008, this number was reduced to 29 in 2012 (see Ioannou and Papadimitriou, 2013). It is also noteworthy that there has been a dramatic fall in the use of OMED's mediation and arbitration services. In all cases, the recourse to arbitration was unilaterally pursued by employers. The new landscape of collective negotiations is expected to stabilize during 2013, as Law 4046/2012 provisions that collective agreements signed a year before February 2012 will expire in 2013. After the three-month after-effect period it will remain to be seen whether, and with what provisions, sectoral and occupation collective agreements will be renewed.[19]

Also noteworthy is that on average, the collective agreements signed during 2011-2012 regardless of level, called for wage and benefit cuts. This is particularly the case for firm-level agreements that tended to adopt the minimum wages of the NGCA. Interestingly, the collective agreements signed during 2012, whether at firm- or intermediate-levels, kept working time arrangements unchanged. In 2012, 2.2% of the firm-level agreements included provisions for flexible

19 Some cases of first-round negotiations at the sectoral-level indicate that collective agreements can survive over firm-level ones only if they involve wage moderation (e.g. collective agreement in trade).

Table 2. Flexible forms of employment*

	2009	2010	2011	2012
Number of contracts converted from full-time to flexible time	16,977	26,253	58,962	84,490
Percentage of flexible time contracts in new hires	20.9%	33.1%	39.6%	45.1%

* Part-time or intermittent employment.
Source: Labour Inspectorate (2013).

working time arrangements and 5.8% took advantage of the leeway for a six-day workweek. The small percentage of flexible working time arrangements suggests that either firms did not face such an obstacle, or that further policy interventions are needed.

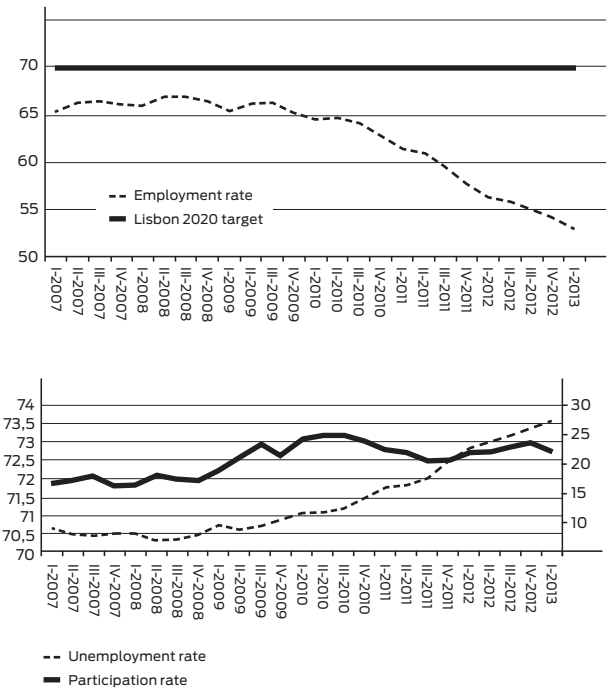
Regarding the development of flexible forms of employment, the Labour Inspectorate (2013) reported a significant increase in the number of part-time and intermittent time employment for new hires. In 2012, the flexible forms of employment are in effect for 45% of all hires versus 21% in 2009. Also, almost 170 thousands full-time employment contracts have been converted into flexible time ones during the period 2010-2012 (see Table 2). The use of flexible forms of employment continues albeit with strong signals that most of the adjustment is complete (Labour Inspectorate newsletters).

Restoring labour market efficiency

Following the sharp downward correction of the minimum wage in February 2012, labour costs in Greece fell driven by the downward adjustment of both wages and salaries and non-wage costs. Average gross earnings (in nominal terms) for the total economy have cumulatively fallen 12.9% during the period 2010-2012 (see Bank of Greece, 2013b). This decline is driven by compensation decreases in both the private and public sectors (which include public sector enterprises). The reduction of wages was particularly sharp in 2012, following the provisions for reduction of the minimum wages in the NGCA. The reduction of wage costs is expected to continue over the following two years. This expectation is consistent with the wages agreed upon for new hires or renewed contracts during the first quarter of 2013. As a result of the downward adjustment of labour costs in both nominal and real terms, the Greek economy is regaining competitiveness. According to the Bank of Greece (2013b) approximately 80% of the loss of wage cost competitiveness that took place during the 2000s had been restored by the end of 2012.

Figure 9 presents the employment and unemployment rate dynamics along with the participation

Figure 9. Employment, unemployment and participation of 20-64 working age population, 2007-2013 Q1



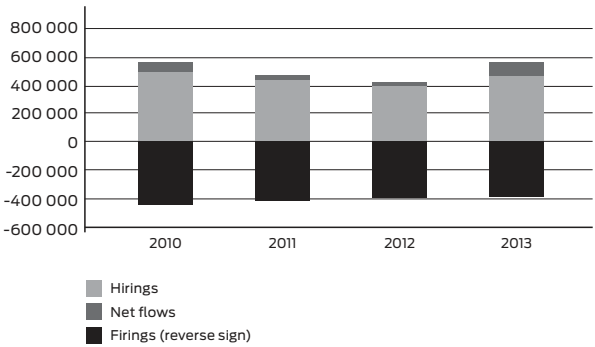
Source: Eurostat.

of the labour force for the 20-64 age group. Since 2010, the employment rate has been drifting away from the Lisbon 2020 goal. As a result of the deep recession, unemployment increased sharply – from an average of 9% in 2009 to 24% in 2010, and 27% in the first quarter of 2013. Structural unemployment has also significantly increased over the 2010-2012 period: NAIRU unemployment is estimated at 17.5% for 2012 and forecasted at 20% for 2013-2014 (ECB, AMECO data) posing a major concern for hysteresis. The labour force participation rate is close to its 2009 level after having recovered its losses during 2010-2011 (due mostly to early retirements). Aggregate employment in the first quarter of 2013 shows signs of bottoming out in terms of the year-on-year rate of reduction.

A review of flows data show that during the first six months of 2013 there was a significant increase in the net flows in (dependent) employment for the first time in the last three years (see Figure 10). Importantly, the share of permanent employment contracts for new hires has increased compared to the first quarter of 2012. Albeit a noisy signal, the flows data potentially herald a turnaround of employment prospects. [20]

20 This is consistent with businesses and households having less negative expectations regarding employment prospects. See Economic Sentiment Indicators released by IOBE and available by the European Commission.

Figure 10. Cumulative flows during January-June in 2010–2013



Source: OAED and Ministry of Labour and Social Affairs ("ERGANI" Information System)

In spite of some positive signals, it is too early to draw firm conclusions regarding the causal effect of the post-2010 labour market reforms in Greece. This is made more challenging due to the ongoing recession. Nevertheless, it is worth pointing out that the direction and timing of these positive signals are consistent with the fact that the main reforming actions were concluded and implemented during 2012 (see e.g. Alpha Bank, 2013).

Conclusions

In the late 2000s, the legal framework of the Greek labour market was not aligned with practices conducive to labour market efficiency. The reform of the labour market that took place after 2010 vastly revised the wage setting system, employment protection legislation, and regulations regarding flexible forms of employment. The recent policy interventions are in line with best practices and conducive to restoring employment and its allocation across activities under favorable economic conditions –particularly when the economy returns to growth after the present deep recession. Further policy initiatives to restore trust between social partners and provide security along with the achieved flexibility would further foster and safeguard the recent reforms.

Finally, it is encouraging that market participants acknowledge the positive institutional developments. In the 2012 and 2013 survey rounds of the Global Competitiveness Report, labour market imperfections had significantly subsided as an obstacle to entrepreneurship when compared to the 2009 round. [21]

21 A number of other Greek firm surveys confirm that firms deem labour market reforms positively (e.g. National Bank of Greece's July 2013 Survey of Greek SMEs. See http://www.nbg.gr/wps/portal/en/the-group/Press-Office/E-spot/Reports/content/Reports/smes-2012-h1-en).

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Chapter 3

Labor market reforms in Sweden

Anders Forslund

Introduction

In Sweden, as in many other European countries, public spending on both transfers to households (largely different kinds of social insurance) and on the provision of many welfare-related services is significant as a share of GDP. In all likelihood, demand for these activities will not decrease; on the contrary, evidence suggests that the demand for welfare related goods and services is income elastic. Combined with demographic projections that the fraction of the population will decrease in what has traditionally been considered »working age«, this development is a structural challenge to public finances in all welfare states.

At the same time, a number of European countries, especially but not exclusively in southern Europe, face severe public debt and budget deficit problems. Deficits can be reduced by cutting spending or by increasing revenues. Revenues can be increased either by raising taxes or by creating larger tax bases. While short-run fiscal consolidation may well include higher taxes, increasing tax rates will eventually not be feasible. Hence, for a number of reasons it may be both necessary and desirable to pursue policies aimed at larger tax bases in the long run.

Labour income typically is a major tax base simply because labour income is a large share of national

income. Labour income will grow if employment, hours per employed or wage rates grow. Wage growth, however, is both hard to influence and to a first approximation contributes as much to government spending as to government revenues. Employment, on the other hand, both hours worked per person and the number of employed persons, will contribute to increased revenues without increasing spending (indeed, a larger number of persons employed will typically decrease public spending on unemployment insurance and social assistance).

Hence, one way to ease the financial pressure on the public sector is to introduce labour market reforms aiming at higher employment. By definition, the number of employed (henceforth referred to as employment) is given by labour supply and unemployment, meaning that employment will be determined by factors influencing labour supply and factors influencing unemployment.

In this chapter I will discuss Swedish labour market reforms with possible effects on labour supply or equilibrium unemployment. A number of such reforms have been undertaken since the late 1980s. The impetus to some of these reforms probably was the crisis in the Swedish economy in the early 1990s, whereas others probably were undertaken for more structural reasons.

Labour supply and equilibrium unemployment will be influenced by a number of politically designed institutions, such as taxes, unemployment insurance, sickness insurance, early retirement, pensions, childcare, paid parental leave, active labour market policies, labour law as well as by wage-setting institutions. In the following sections I will present these institutions and give a brief overview of institutional reforms in these areas. I will also give a selective survey of empirical results on effects of reforms. First, however, I will present some stylised facts about some main aggregates in the Swedish labour market.

Employment, labour force participation and unemployment in Sweden

A convenient way to characterise Swedish labour market outcomes is to compare these to outcomes in other EU countries to identify dimensions where Sweden stands out.[1] Doing so, it is easy to identify a number of facts. First, Swedish female labour supply is significantly higher than in other EU countries.[2] In 2012, the average EU female participation rate was 65.6 %,

1 Unless otherwise indicated, statistical information has been collected from Eurostat's labour force survey data.
2 In fact, only Iceland among the countries in the Eurostat data base has a higher female participation rate than Sweden.

whereas the corresponding Swedish number was 77.9 %. Second, labour force participation among the older was much higher than in any other EU country in 2012 (the EU average was 35.2 % as compared to 67.9 % among Swedish 60-64 year-olds). This does not primarily reflect high female participation rates; Sweden had the highest participation rates both among old males and old females. It is also noteworthy that the participation rate in this age group increased by about 14 percentage points between 1997 and 2012. Third, whereas inactivity is slightly below average among young Swedes, youth unemployment is relatively high and the employment rate is around the EU average at ages below 25. Furthermore, as pointed out by the OECD[3], the median age for starting higher education in Sweden is high.[4] In addition, the average duration of tertiary education is long. Combined, these two facts indicate that there is a margin to increase high-skilled labour supply. Fourth, Sweden has received large flows of non-EU immigrants, and these fare significantly worse than native Swedes or other EU citizens in the Swedish labour market in terms of unemployment, employment and inactivity. However, immigrants from outside the EU fare worse than natives in most

3 See for example the 2008 OECD Economic Survey of Sweden (OECD 2008).
4 This does not primarily seem to reflect »life-long learning«; a relatively large share of young persons enter tertiary education after a gap between secondary and tertiary education (Holmlund et al., 2008).

EU countries. Nevertheless, it seems that immigrants actually do relatively worse in Sweden than in other EU countries, along some dimensions. Having said this, one should note that it is not entirely clear what the benchmark should be. A more thorough analysis would have to take both the share of political refugees among immigrants and the immigrants' labour market relevant characteristics into account.

Swedish institutions, institutional reforms and employment

This section provides a brief institutional description as well as an account of reforms. Before going into the description of individual institutions, a general remark is warranted. Most Swedish income support systems have benefits that are conditional on a previous work history. In unemployment insurance, income related benefits are conditional on a sufficiently long work history; sickness benefits depend on previous income as do benefits during parental leave. Hence, the total effects of these systems on labour supply will entail both an »entitlement« effect and an effect on benefits conditional on entitlement.

Unemployment insurance

The Swedish unemployment insurance (UI) has a special construction: the rules for UI are determined by law and the UI system is predominantly tax financed. At the same time the insurance is run by around 30 independent organisations, UI funds, most of which have close ties to trade unions. Membership, which is necessary for income related unemployment benefits, is voluntary. Until recently, membership was close to 90 % of the labour force, but membership declined rapidly after recent reforms which led to substantially higher membership fees.

In order to qualify for income-related benefits, an unemployed worker must have been a member of a UI fund for at least 12 months (membership condition) and in addition meet a work condition stipulating some minimum amount of work prior to the unemployment spell. Furthermore, the unemployed must be job ready, actively looking for a job and prepared to accept a suitable job offer. Job search behaviour is monitored by case workers at the public employment service (PES) and violations of the rules may lead to sanctions.

Unemployed who are not members of a UI fund, but meet the same work and job search conditions, are entitled to a fixed daily benefit, which is substantially lower than the maximum income-related benefit.

Benefit eligibility lasts for 300 benefit days (420 calendar days; benefits are paid five days a week). The replacement rate is 80 % during the first 200 benefit days and then 70 % until day 300 of the unemployment spell. After this period, the unemployed receives 65 % of previous income conditional on entering an activation programme. The system is, however, much less generous for most unemployed, because there is a maximum daily benefit which is at a fairly low level.[5] On the other hand, a number of supplementary insurance programmes have been established through collective agreements between trade unions and employers' organisations. The information on the exact contents of these agreements is scattered, and hence the knowledge about the exact conditions for unemployed persons is hard to collect. Coverage has, however, increased over time and a majority of the employed are covered by some supplementary insurance.

In UI, a number changes were introduced in 2007. First, the maximum replacement rate was lowered from 80 % to 70 % after 200 insured days in an unemployment spell.[6] Second, the maximum daily benefit was lowered by approximately 7 % during the 100 first days – previously, the maximum amount was higher

5 The system is similar to Danish UI in this respect.
6 200 insured days correspond to 280 days in calendar time; the daily benefit is paid out five days a week.

during the 100 first days.[7] Third, the regulations for the coordination between UI and labour market programmes were changed. Earlier, the clock in UI stopped ticking if an unemployed entered a labour market programme during an ongoing insured unemployment spell. Under the new rules, days spent in programmes are counted in the same way as days with UI benefits. This means that an insured unemployment spell can last at most for 300 insured days (420 calendar days). Finally, the funding of the UI system was changed in a way that increased membership fees substantially and also introduced a small degree of experience rating.[8] All these reforms can be expected to affect flows from unemployment to work at a given wage rate, but also wage setting.

Expected effects of reforms in the UI system

There is as yet no (ex post) evaluation of the recent reforms in Swedish UI.[9] To get an idea about the magnitude of the expected effects, I use parameters estimated for other purposes and use these together with some simple theory. Three types of evidence can

7 The maximum amount was lowered from 730 SEK (approximately 70 Euros) to 680 SEK a day.
8 In the present system there is a rather weak connection between the membership fee in a UI fund and the unemployment rate for the fund's members.
9 However, the reform effects have been simulated in a number of papers (Aaberge & Flood, 2008; Ericson et al, 2009; Sacklén, 2009).

be used: micro studies of previous reforms in the UI system, macro studies of Swedish wage setting and macro studies of unemployment/wage setting for panels of OECD countries. Estimates from the first type of studies can be used to estimate effects on equilibrium unemployment at given wages. Results from the macro studies should give general equilibrium effects. As lower UI benefits never will raise wages according to any standard theoretical model, the micro studies will a priori give a lower bound for the total effects.

Micro studies

There are a number of studies of the effects of previous reforms in Swedish UI on the flow from unemployment to employment. The study with the most credible identification strategy is Carling et al. (2001). This study identified the effects of lowering the replacement rate from 80 % to 75 % in January 1996, by comparing a treatment group with a control group that was not affected by the reform because their benefits were restricted by the maximum daily benefit rather than by the replacement rate.

Carling et al. (2001) estimated the elasticity of the hazard from unemployment to employment with respect to the UI benefit at around 1.6. How large an effect on unemployment does this imply?

Assuming a flow equilibrium in the labour market

where flows to and from unemployment are of equal size, it can be shown that the effect on equilibrium unemployment is proportional to the elasticity of the hazard from unemployment to employment with respect to the UI benefit and that the factor of proportionality equals the ratio of employment to the labour force.

Given an employment to labour force ratio at slightly above 0.9, the results reported above imply that the elasticity of equilibrium unemployment with respect to UI benefits should approximately equal 1.5.

It is, however, not entirely evident how large the decrease in UI benefits due to the reforms is for an »average« or »typical« unemployed. The reforms entail a lower maximum daily benefit during the first 100 days, a lower replacement rate after 200 days and a shorter effective benefit period. These changes affect different subsamples of unemployed differently, and it is not obvious that it is meaningful to summarise all these changes into one single index number. Given some information on the pool of unemployed, it would seem reasonable that the reforms have lowered the benefits by something between 5 % and 10 %. Given such an interval, the reforms can be expected to have lowered equilibrium unemployment by between 0.5 and 1 percentage point. However, yet another complication is that a larger fraction of the labour force

(and the unemployed) are covered by supplementary unemployment insurance through collective agreements than was the case for the sample in Carling et al. (2001). This could mean that the effect through search behaviour given by that study overestimates the effect in the present system somewhat.

Studies on Swedish macro data

A number of studies of Swedish wage setting have incorporated measures of the generosity of UI. Most of these have not found any significant effects.[10] An exception is Forslund et al. (2008), who estimated a model with a wage-setting equation and a labour demand equation. This model can be used to compute the elasticity of unemployment with respect to unemployment benefits. This computed elasticity approximately equals 3, so the general equilibrium effects found using this model are about twice as large as the effects derived from the micro estimates.[11]

Studies on panels of countries

There is a large literature, initiated by Layard et al. (1991), using panel data on different sub-samples of OECD countries to estimate effects of different

10 Perhaps due to the fact that it is hard to capture all relevant dimensions of UI generosity in one single measure.
11 This elasticity may seem high, but it is nevertheless lower than the estimated elasticity > > in Fredriksson & Söderström (2008), who used regional panel data to estimate unemployment effects of UI.

policies and institutions on employment/unemployment.[12] Two fairly recent studies using this method are Nickell et al. (2005) and Bassanini & Duval (2006). Both studies include estimates of the effect of UI benefits on unemployment.

The estimates in Nickell et al. (2005) imply an elasticity of unemployment with respect to UI equal to 1.9 evaluated at 5 % unemployment. Bassanini & Duval (2006) estimated that lowering the replacement rate by 10 percentage points would give a decrease in unemployment amounting to approximately one percentage point. In both cases the effects are smaller than those found by Forslund et al. (2008), but still non-trivial.

Income taxes

Income taxation has undergone many reforms during the last four or so decades. A major reform was implemented in 1971, when separate tax schedules for couples and singles were replaced by a national tax schedule common to all individuals regardless of marital status. As income taxes were substantially progressive, this reform effectively implied lower marginal tax rates for married women. In the early 1980s, the national income tax was highly progressive with many tax brackets and high marginal tax rates also for

12 Cahuc & Zylberberg (2004) surveys this literature.

»normal« incomes. A tax reform implemented during 1983–85 mainly reduced marginal income tax rates for average and high income earners and reduced the number of tax brackets. In 1991, a major tax reform was implemented, resulting in a much simpler system with two tax brackets; a zero state income tax for taxable incomes below a threshold and 20 per cent for higher incomes. In addition, a proportional income tax is levied by the municipalities. On average this tax rate is slightly above 30 %.[13]

Although the tax system has undergone frequent changes since 1991, much of the basic structure of the system remained fairly intact until recent reforms. In 1995, however, an additional tax bracket was introduced, meaning that the top rate for the state income tax since then has been 25 per cent.

Most empirical studies of the effects of taxes on labour supply suggest that the effects are modest on the intensive margin.[14] Hence, although high marginal income tax rates among medium and high-income earners have been a permanent feature of the Swedish income tax system, estimated effects on the supply of hours are modest.[15]

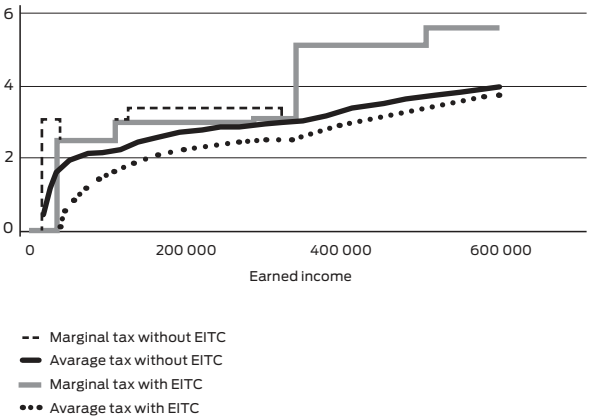
13 This is not completely true after the recent reforms; tax rates for low incomes are now equalised across municipalities by the EITC reform.
14 Empirical studies of taxation and labour supply are surveyed in Aronsson & Walker (1997; 2009).
15 However, available evidence suggests that effects on the tax base rather than on hours worked are somewhat larger, see Table 2 in Ericsson & Flood (2011).

From the perspective of labour force participation, the marginal effect for non-participants is the interesting margin. The major reform in this respect, disregarding recent reforms, is the 1971 move to individual taxation for spouses. Selin (2009) found that employment among married women would have been 10 percentage points lower in 1975 if the 1969 income tax system still had been in place in 1975. Hence, it is likely that this reform has contributed to the high Swedish female labour force participation.

Recent reforms in income taxation

The main element in a recent series of Swedish tax reforms can be characterised as an earned income tax credit (EITC) undertaken to stimulate labour supply and employment. It is clear from Figure 1, where income tax rates before and after the sequence of reforms are plotted, that the main thrust of the reforms has been to lower tax rates for low and medium income earners. As the tax credit is not phased out, the effect for high income earners is a lower average income tax rate at unchanged marginal tax rates. The design implies that the share of a wage increase that is taxed away after a transition from non-work to work has been lowered the most at low incomes. At the monthly wage rate of a low-income earner in health care (SEK 19 000) taxes are lowered by 5.8 %, whereas at the

Figure 1. Income tax rates before and after tax reforms



Source: Edmark et al. (2012)

wage rate of a doctor (SEK 50 000) taxes are lowered by 3.0 % as a result of the reforms.

The expected effect of the reforms is an increased labour supply, at least at the extensive margin. Notice, however, that the EITC is counteracted by increased membership fees in UI, which fall exclusively on employed UI fund members. This increase is just below 3 % at SEK 100 000 annual income and just below 2 % at annual income SEK 150 000. This implies that the net effect at low incomes is in the order of 4 %.

Effects of the EITC

Given the design of the Swedish EITC, we should primarily expect an impact on the extensive margin, and incentives should be strongest at low incomes. How large an effect should we expect? In contrast to the large number of studies of the intensive margin of labour supply, the labour supply decision on the extensive margin has not generated much empirical research. Flood et al. (2003) found positive labour supply effects for single mothers of a reform where taxes, social assistance and childcare fees were lowered. Andrén (2003) simulated non-trivial effects for the same group of lower taxes and lower social assistance. Edmark et al. (2012) failed to derive any stable estimates of the reform effects. Laun (2012), however, found that extra tax credits and payroll tax cuts applied to persons aged 65 and above contributed to higher employment in the target group. So, all in all, knowledge about the magnitude of the effects derived from direct studies of the reforms is limited.

The reforms have also been evaluated using micro simulation methods. A typical example is provided by simulations performed by the Ministry of Finance (Sacklén, 2009). According to these simulations the tax reforms increased hours worked by 2.3 %, 77 % of which reflected increased employment. The effect for

low-income earners was much larger, 15.0 %, 82.4 % of which reflected increased employment.

Another possibility is to use estimated effects of UI reforms. The argument is that in both cases, what is affected is the relative payoff of work compared to non-work. However, the tax reforms affect both unemployed job seekers and persons not in the labour force. For the former group, the analysis is completely analogous to the analysis of the UI reform. Given that the tax reduction, including the effects of increased UI membership fees is around 4 %, the elasticity estimated by Carling et al. (2001) implies that unemployment should decrease by approximately 6 % or just below half a percentage point.

For persons outside the labour force, the incentives to go to work are affected in a similar way. However, it is not obvious that the estimated effects on hazards to employment can be applied directly to this group; if anything, the effects should be smaller because persons previously outside the labour force on average probably have a lower job-finding rate.

Another way to derive estimates of the reform effect is to use estimates of the participation elasticity from other countries. Krueger & Meyer (2002) survey studies of how the participation decision is affected by different social security programmes and conclude that the elasticity is significantly larger than the usually

very low estimated elasticities of tax changes on hours worked. The best »guess« of the participation elasticity in Krueger & Meyer (2002) is that it approximately equals one. If this number is correct, the reform effect would equal approximately 4 %.

The above conclusion is based on constant wages. Studies of wage setting on aggregate Swedish data suggest that tax changes affect consumption real wages – if the tax wedge between product real wages and consumption real wages decreases, consumption real wages tend to increase proportionately. These results are, however, not necessarily directly applicable to the EITC. The studies pertain to aggregate wage setting, and it is not obvious that the mechanisms are the same for those most affected by the reforms – unemployed and new entrants into the labour market. These are probably to a smaller extent unionised and can be described as »outsiders« in the labour market, so it is not completely clear how relevant earlier studies are for this labour market segment.

Kolm & Tonin (2008) analyse equilibrium effects of an EITC in a theoretical search model and find that wages under reasonable assumptions will fall. Results in Bennmarker et al. (2013) suggest that wages actually fell as a result of the EITC and lower replacement in UI.

Other reforms in taxation

Tax wedges distort decisions and have efficiency consequences. To what degree decisions are distorted depends on a number of factors, the influences of which can be summarised in supply and demand elasticities. As a general rule, higher elasticities mean larger distortions. Hence, for efficiency reasons the Sandmo rule of thumb is that taxes should be inversely proportional to elasticities. However, if the relevant elasticities are large, we would also generally expect that lower taxes would give rise to significantly larger production and employment. Recently, tax rates for household services and restaurant services have been lowered. In addition, payroll taxes for young persons have been cut substantially to promote youth employment.

Lower taxes for household services

A recent reform in the tax system is a tax reduction for certain household services. Household services bought in the market and produced at home should be close substitutes, so the demand elasticity should be high. It is harder to hold a strong view on the supply elasticity. It is not unlikely that there would be a supply of services in the black market that could turn »white«. For the services to which the deductions apply, the household receives 50 % of the labour cost

as a direct reduction of income tax. This reform should first and foremost be expected to decrease the size of black-market work, but there should also be some efficiency gain to the extent that households substitute the purchase of those services for (more inefficient) household production. This reform is as yet not evaluated and the employment consequences are hard to assess.

Lower VAT for restaurants

Restaurant meals are close substitutes for home-produced meals, so the demand elasticity should be high. It is not equally clear what one should think about the supply elasticity, which should largely reflect the supply elasticity of labour to restaurants. The Swedish reform is as yet not evaluated, but experiences from Finland suggest that the effects will be limited (Häkkinen Skans & Kosonen, 2011).

Lower payroll taxes for young persons

The Swedish statutory payroll tax is 32.4 % of the annual wage sum. In an attempt to lower labour costs for young persons, the present government has lowered the payroll tax rate to 15.7 % for young persons (below age 26). The stated objective is to create higher youth employment and lower youth unemployment. Earlier experiences with broadly targeted changes

in payroll taxes indicate limited employment effects (see for example Bennmarker et al., 2008); although there is no evaluation of the reform yet, it is not a bold prediction that the net employment effects will prove to be limited and that most young persons would also have been hired at the previous higher payroll tax rate. Hence, in all likelihood the net loss of tax revenues per job created will be substantial.

Sickness insurance and early retirement

Sickness insurance

The Swedish sickness insurance has been reformed on many occasions during the last two decades. In 1991, sickness benefits were reduced for the first time since the mid-1950s. Prior to this reform, the replacement rate was 90 % of previous earnings from day one of a sickness spell. In 1991, a waiting day was introduced and the replacement rate was cut from 90 to 75 percent. Currently, there is a one day waiting period. Days 2 through 14 are paid by the employer at 80 percent of the worker's salary (up to a certain level). The national health insurance system picks up the cost of the sickness benefits from day 15 and on. The replacement rate is 80 % of the pre-illness salary (up to a ceiling). Employees are required to get a doctor's certificate after 7 days. Depending on the type of illness (and, therefore, inability to work) the sick leave may be part

time, in which case the benefit is adjusted accordingly. In addition to the national health insurance, there is, as is the case in the UI system, also supplemental insurance through collective agreements.

Sickness absence used to be high in Sweden.[16] From a book-keeping perspective this was »explained« by a very high long-term sickness absence rate. The most likely explanation for the previous high Swedish long-term sickness absence is the fact that sickness benefits in Sweden had an indefinitely long duration (OECD, 2009). A number of recent studies, using different reforms to identify effects, have shown that there is a clear relationship between the generosity of sickness insurance and sickness absence.[17]

Early retirement

The main pathway to early retirement in Sweden has historically been disability insurance. From 1970, a disability pension could be given for labour market reasons, in combination with work capacity losses, for those at least 63 years old. From 1972, individuals at least 63 years old with exhausted unemployment benefits were eligible for a disability pension for labour market reasons only. The eligibility age was lowered

16 See, for example, the figures presented in OECD (2009).
17 See Hesselius (2008) for a short survey and a description of the reforms in the system. See also OECD (2009) for a description of the reforms.

to 60 years in 1974. This early-retirement option was removed in 1991.

In 2003, periodical reviews of work capacity and time-limited sickness compensation were introduced. The current compensation level in disability retirement[18] is either income related (up to a ceiling) or flat-rate for individuals with low or no income.

The main source of the inflow to disability pension in recent years is long-term sickness absence. Inflow rates have been high during recent years, and the disability benefit recipiency rate is high. What is especially troublesome is that the fraction of young recipients has been growing rapidly.[19]

A number of recent reforms in sickness insurance and disability pensions, undertaken by the government that entered office in 2006, are designed to address the large inflows and stocks in long-term sickness and early retirement.[20]

The main reform, in place from July 2008, is a rehabilitation chain in the sickness insurance system. The rehabilitation chain consists of time-restricted assessments of the individual's work ability and right to benefits. During the first 90 days of an insured sickness

18 The scheme was renamed in January, 2003. For persons at least 30 years old the new name is »sickness compensation« (sjukersättning) and for younger persons the new name is »activity compensation« (Sic!) (aktivitetsersättning).
19 This is an international phenomenon, see OECD (2009).
20 See Hägglund & Skogman Thoursie (2010) for a survey of the reforms and expected effects.

spell, working capacity is in principle assessed against the existing job. Between days 91 and 180, the absentee is also expected to try to find another job with the employer. Alternatively, the absentee can take a leave of absence for at most 6 months to try a job with another employer. From day 181, working capacity and the right to benefits are evaluated against the whole labour market. If the individual is assessed as having remaining working capacity, he or she is expected to go back to work with his or her employer.[21] The rehabilitation chain was evaluated by Hägglund (2010), who found that the reform had contributed to increased returns to work.

A complementary reform was the introduction of a rehabilitation guarantee. This guarantee involves rehabilitation either in the form of Cognitive Behavioural Therapy (CBT) or Multi-Modal Rehabilitation (MMR). Results in Hägglund et al. (2012) indicate that CBT contributed to lower sickness absence.

Pensions

Pension systems will affect labour-supply decisions in many complex ways. These effects are often analysed in terms of the implications of the pension system for pension wealth.[22] Reforms affecting pension wealth

21 The different steps in the rehabilitation chain were already in use prior to the reforms. The novelty is the time limits. The time limits are relevant only for the employed.
22 Pension wealth is the expected present value of net payments from the pension system.

may be seen as reforms of the general generosity of a given pension system. Under the reasonable assumption that leisure is a normal good, a more generous pension system will decrease labour supply. Another key feature of pension systems is how pension wealth is affected by another year of work. The higher the effects of extra work on pension wealth, the stronger the incentives to go on working instead of entering retirement. Another dimension of pension systems that affects the retirement age is the statutory retirement age. There is a strong clustering of retirement around the statutory retirement age that cannot be understood unless this parameter of the pension system is taken into account.

The Swedish pension system was reformed in the 1990s. Both the new and the old systems are fundamentally defined contribution systems with pensions based on rules rather than on contributions.[23] Under the old system, pensions were based on an individual's 15 best years, whereas pensions under the new system are based on the whole earnings history of an individual. An additional year of work may have a stronger impact on pensions in the new system for this reason. The old system was more generous, so the effect on pension wealth of the reform can be expected to have

23 There is a small part of the new system that is based on contributions.

stimulated labour supply. Finally, in the reformed system employment protection rules apply up to age 67 rather than 65 as was the case in the old system. Despite a lack of evaluations of the Swedish pension reform, we see that the average retirement age among men started to increase shortly after the reform was announced after a long period of a falling average male retirement age. In 1995 (one year after the reform was announced) the average retirement age among men was 62 years. By 2006 it had increased to 63.4 years (see The Swedish Fiscal Policy Council, 2009).[24]

Interactions between different income support systems

When reforming income support systems, it is important to recognise that changes in one system will generally induce flows to or from other sources of income support. In the Swedish context, Larsson (2006) and Hall & Hartman (2009) showed that unemployed workers who could receive sickness benefits that were higher than their unemployment benefits tended to report sick. The general lesson from this is that reform efforts in one system can be expected to create flows of claimants between different income support systems. The general idea, naturally, is that flows will go

24 As is the case in many cases in the Swedish set-up, the analysis of the pension system is complicated even further by the presence of collectively agreed pensions with conditions that differ across bargaining areas.

to systems which are relatively more beneficial to the claimants. This points to the importance of coordinating the systems when they are reformed.

Childcare

Access to some kind of childcare is necessary for households who want to combine children and professional careers for both parents. Given traditional gender patterns of household work and market work, access to public childcare most likely has had an impact on female labour supply.

Beginning in the mid 1960s, Swedish childcare was rapidly extended, and in the late 1990s, the coverage for children between 0 and 5 years of age was around 80 %. This expansion largely took place in the form of heavily subsidised public day care provided by the municipalities. Although there is a lack of empirical evidence of the effects of the provision of childcare on female labour supply, it seems highly likely that public provision of day care is an important part of the explanation of the high Swedish female labour supply.[25] A related reform, likely to have reinforced the effects of publicly provided childcare, was the introduction in 1974 of paid parental leave.

25 There is one study (Lundin et al, 2007) estimating the effects of lowering the prices of child care. The estimated effects in this study suggest that there is no effect. However, the reform that is studied is mainly one of lower prices in a system that already has a high coverage.

Active labour market policies

Sweden has pioneered the use of active labour market policies (ALMPs); the foundations of modern ALMPs were laid in the late 1950s, when a National Labour Market Board was set up to administer the Public Employment Service (PES) and labour market programmes. Sweden also stands out as one of the EU countries devoting most resources to ALMPs.[26]

One explicit objective of ALMPs is to improve matching in the labour market. To the extent that this is actually achieved, ALMPs will contribute to a higher employment rate and possibly higher labour force participation. Indeed, some evidence suggests that Swedish ALMPs actually contributed to higher labour force participation in the 1990s (Calmfors et al., 2004) despite bleak effects on transitions from unemployment to work. Evidence also suggests that some programmes, targeted at long-term unemployed, may contribute significantly to employment in the target group. However, numerous studies on cross-sections and panels of countries as well as evaluations of Swedish ALMPs in the 1990s, have found that the contribution of ALMPs to employment and labour force participation are at best modest.[27] Hence, ALMPs do not seem to be a major way to increase labour force participation.

26 This is clear from the data presented at OECD's web site
27 Much of this research is surveyed in Calmfors et al. (2004). See also the survey by Kluve (2006).

Employment protection legislation

Swedish employment protection legislation (EPL) is characterised by a large difference between rather strict protection for permanent contracts and rules for fixed-term contracts and temp agencies, which give employers possibilities to act rather freely. In fact, according to the OECD classification of EPL, Sweden is the country where this difference is largest.

Swedish EPL dates back to 1974, and the main changes to the rules since then apply to fixed-term contracts and temp agencies, where the system presently is very liberal.

The situation is complex regarding permanent contracts. First, it is very hard (and often expensive) to fire anyone for »personal reasons«. Second, the employer can freely downsize employment – shortage of work is always a just cause for downsizing and it is exclusively up to the employer to decide whether or not there is a shortage of work. Third, when downsizing, the default principle is last in - first out (LIFO). However, the social partners can (and often do) agree otherwise through collective agreements.

Swedish employment protection has an effect on unemployment duration and labour market entry for new entrants such as school leavers and newly arrived immigrants, although it is not likely to have any major impact on total (un)employment. The crux of the leg-

islation is that it creates a wedge between temporary and permanent contracts and that it, hence, will give rise to artificial differences in treatment of otherwise similar employees. Although there is no research documenting the existence of a dual labour market in Sweden, we would expect that the wedge between temporary and permanent contracts does contribute to excessive mobility among labour market entrants between different jobs on temporary contracts.

One should, however, also keep in mind that LIFO-type rules, although certainly not optimal, are one way to remedy some of the externality that is created by the firing of older employees with low reemployment probabilities.

Wage-setting institutions

Since 1983, wages in Sweden are set in collective bargaining at the industry level. Contract duration varies between one and three years. A typical sequence of bargaining involves a number of steps. First, there is a public discussion on the target level of wage growth. The point of departure is that wages should be consistent with the inflation target of the central bank and international competitiveness. These discussions are followed by industry negotiations with bargains typically first struck in manufacturing; then other sectors are assumed to follow. The Swedish National

Mediation Office, created in 2000, plays an important role in this process. Another important institutional change with bearing on this process was the Industrial Agreement; agreed upon in 1997 between a number of unions and employers' organisations at the industry level, the most important feature of which, was a set of procedural agreements for bargaining at the industry level.

However, since the early 1990s, large groups such as private white-collar workers and central government employees have signed collective agreements that don't include terms on wages; in these sectors, wages are typically set in individual bargaining at the workplace under peace obligation. In sectors with central agreements on wages, local bargaining under peace obligation determines wages at the workplaces.

Despite wage bargaining taking place to a large extent at the industry level, there are no clear indications that wage agreements actually have produced outcomes that have strongly contributed to high unemployment and low employment. One possible reason for this is the leading role assumed by manufacturing, which has led to a system of pattern bargaining. Minimum wages in Sweden are determined through collective agreements and not by a statutory minimum wage imposed through legislation. This is yet another example of the importance of collective agreements

in the Swedish labour market. Swedish minimum wages are differentiated by bargaining area and tend to be high in an international comparison (Skedinger, 2006a). This probably reflects the fact that legislated minimum wages must be sufficiently low to be viable, including in low-productivity jobs and sectors, whereas bargained minimum wages will reflect the conditions in the relevant bargaining area. While little is known about the impacts of Swedish minimum wages, the available evidence suggests a moderate negative employment impact in some service sectors (Skedinger 2006b, 2011).

Concluding comments

Swedish labour market institutions that impact labour supply or employment have been reformed, sometimes rather radically. The available evidence regarding the effects of these reforms is incomplete. Certain evidence suggests that some of the reforms have brought about change, and in some instances have had major impact; in other cases, the evidence suggests a more limited impact on labour supply or employment.

In an international comparison, Sweden stands out as a country with high participation and employment rates among women and older workers. Although the evidence is not conclusive, the evidence clearly sug-

gests that the design of pensions systems, rules for early retirement and taxes result in high activity rates among the elderly. For the high activity rates among women, reforms in taxation, childcare and parental leave systems are likely to be important explanations.

Some evidence also suggests that income taxation more generally affects job search behaviour and, hence, employment. However, for other taxes, such as payroll taxes and indirect taxes, the available evidence suggests that the impact is minimal.

The design of the unemployment insurance matters for (un)employment and active labour market policies (ALMPs) may have some limited effect too, but in the latter case the evidence provides a warning against too strong beliefs in ALMPs as a universal remedy for labour market problems.

Recent reforms in the sickness insurance system are likely to have reduced sickness absence, but the evidence is as yet rather limited.

In conclusion, my reading of the Swedish evidence is that reforms directly affecting the incentives to be an active job seeker are most likely to have a significant structural impact on (un)employment.

Chapter 4

Product market reforms in Greece: Learning From the Past to Move Forward

Christos Genakos

Introduction

Greece is at a critical juncture of its recent history: the economic policies of the last three decades have brought it close to bankruptcy, but bankruptcy can be avoided and growth can resume if important economic reforms are made and rigorously implemented. The focus of this paper will be on the product markets in Greece and how to restore their competitiveness.

The competiveness of an economy depends on the productivity of its firms and workers. When productivity is high, jobs pay well and incomes are high. Moreover, the economy can attract investment by foreign firms, which creates more jobs and further raises incomes. The main determinant of competitiveness is the set of rules that govern the operation of markets. These rules should promote competition, investment and entrepreneurship. Rules that are well-designed and vigorously enforced can make a country competitive and prosperous.

Greece's low competitiveness is not due to a lack of rules. Indeed, the Greek economy is one of the most heavily regulated in the OECD. As I will demonstrate in the next section the Greek product (i.e., goods and services) market is the most heavily regulated in OECD. Heavy regulation is generally associated with greater inefficiency and poor economic outcomes

(see, for example, Nicoletti, Scarpetta and Boylaud, 1999; Blanchard, 2004). Many of the regulations create serious obstacles for competition, investment and entrepreneurship, and should be abolished. Deregulations that promote competition have a positive impact on productivity through a more efficient use of resources (Nickell, 1996; Blanchflower and Machin, 1996; Bloom, Genakos, Sadun and Van Reenen, 2012), by making entry of new firms easier (Van Wijnbergen and Venables, 1993; Bloom, Draka and Van Reenen, 2012) and by incentivising firms to innovate (Blundell, Griffith and Van Reenen, 1999; Aghion, Bloom, Blundell, Griffith and Howitt, 2005). At the same time, the few regulations that promote the good operation of markets are not enforced vigorously enough.

However, precisely because the Greek economy is heavily and inefficiently regulated, there are large benefits to reap from regulatory reform. According to the OECD (Scarpetta and Tressel, 2002) a comprehensive regulatory reform alone can raise the competitiveness of the Greek economy and ultimately the incomes of Greek citizens, by more than 15%.

This paper is organised as follows. Section 2 provides a brief summary of the Greek market competitiveness and its evolution over time through the lenses of various internationally comparable indicators that cover a wide spectrum of activities. Section 3 investi-

gates both the sources of inefficiency, but also the three key areas for product market reforms. Section 4 looks at the successes and failures of reform history in two very important markets: energy and telecommunications. The next section makes the case for a National Competition and Competitiveness Policy plan and the final section concludes.

Greece B.C. (Before the Crisis that is...)

For at least three decades leading up to the wake of the economic crisis in 2009, Greece has been steadily losing its competitiveness vis-à-vis other EU or OECD countries. In this section I offer a brief review of various indicators that try to quantify different aspects of the quality of the regulatory and business environment. To this end, I am using data from three independent international organizations: the World Economic Forum, the World Bank and the OECD.

The World Economic Forum is an independent world organisation that publishes the Global Competitiveness Report (on a yearly basis) for over 30 years. Since 2005, the World Economic Forum has based its competitiveness analysis on the Global Competitiveness Index (GCI), as developed by Xavier Sala-i-Martin and Elsa V. Artadi; this is a comprehensive tool that

measures the microeconomic and macroeconomic foundations of national competitiveness. According to the GCI, competitiveness is defined as the set of institutions, policies, and factors that determine the level of productivity of a country. The level of productivity not only sets the level of prosperity but also determines the rates of return obtained by investments in an economy, which in turn are the fundamental drivers of its growth. In other words, a more competitive economy is one that is likely to sustain growth. The GCI is based on a weighted average of many different components that are grouped into 12 pillars (see Schwab and Sala-i-Martin 2012-2013).

Based on these criteria, Table 1 shows the evolution of Greece's overall competitiveness ranking since 2006. As you can see from Table 1 the competitiveness of the Greek economy has been steadily declining at a faster rate than other southern European countries, such as Portugal or Italy, and in sharp contrast to other EU counties, such as Sweden, Germany or Belgium.

A similar pattern holds for the institutions ranking in general. The decline in ranking for Greece with respect to this index more than doubles between 2007 and 2012. As analysed in detail also in Papaioannou (2011), a key missing element of the fiscal adjustment and reform program in Greece is the re-engineering of the anachronistic, slow, and unfair legal system.

Table 1. Global Competitiveness Index Ranking

Country	2006	2007	2008	2009	2010	2011	2012
Greece	61	65	67	71	83	90	96
Portugal	43	40	43	43	46	45	49
Germany	7	5	7	7	5	6	6
Belgium	24	20	19	18	19	15	17
Denmark	3	3	3	5	9	8	12
Slovenia	40	39	42	37	45	57	56
Turkey	58	53	63	61	61	59	43
China	35	34	30	29	27	26	29
Italy	47	46	49	48	48	43	42
Sweden	9	4	4	4	2	3	4

Source: World Economic Forum, Global Competitiveness Index.

Table 2. Institutions Rankings

Country	2007	2008	2009	2010	2011	2012
Greece	49	58	70	84	96	111
Portugal	27	35	44	48	51	46
Germany	7	14	16	13	19	16
Belgium	23	21	24	29	27	27
Denmark	2	3	3	5	5	14
Slovenia	44	49	46	50	55	58
Turkey	55	80	96	88	80	64
China	77	56	48	49	48	50
Italy	71	84	97	92	88	97
Sweden	6	4	2	2	2	6

Source: World Economic Forum, Global Competitiveness Index.

He convincingly argues, drawing from a large body of research in economics, that improving the institutional environment protecting investors and streamlining the judicial process are necessary conditions for restoring competiveness and growth.

A similar picture arises when looking at the rankings focusing on goods market efficiencies (Table 3), the intensity of local competition (Table 4) or innovation (Table 5). Not only has Greece been seriously lagging behind other EU countries, but its position has also been slipping in each and every indicator, clearly demonstrating that the economy has not been on the right path.

The second set of indicators comes from the World Bank. The first is from the »Doing Business« report that presents quantitative indicators on business regulations and the protection of property rights that can be compared across 185 economies. These regulations affect eleven areas of the life of a business: starting a business, dealing with construction permits, getting electricity, registering property, getting credit, protecting investors, paying taxes, trading across borders, enforcing contracts, resolving insolvency and employing workers. Based on the 2011 report, Greece was ranked 109th among 183 countries, down from the 80th position in 2006. According to the report, among the most problematic factors for doing business was

Table 3. Goods Market Efficiency Rankings

Country	2007	2008	2009	2010	2011	2012
Greece	60	64	75	94	107	108
Portugal	41	45	51	52	62	61
Germany	14	15	18	21	26	21
Belgium	21	12	13	16	14	15
Denmark	3	4	7	13	16	19
Slovenia	39	50	38	39	48	49
Turkey	43	55	56	59	47	38
China	58	51	42	43	45	59
Italy	55	62	65	68	59	65
Sweden	7	7	4	5	7	12

Source: World Economic Forum, Global Competitiveness Index.

Table 4. Intensity of Local Competition Rankings

Country	2006	2007	2008	2009	2010	2011	2012
Greece	57	65	52	68	77	82	95
Portugal	42	44	41	46	45	56	62
Germany	1	1	1	1	2	9	8
Belgium	6	7	6	7	4	2	4
Denmark	20	26	25	11	23	46	29
Slovenia	45	43	60	56	43	51	41
Turkey	32	31	42	32	15	13	16
China	34	39	27	13	19	22	37
Italy	64	78	104	103	84	58	67
Sweden	14	5	14	20	5	10	22

Source: World Economic Forum, Global Competitiveness Index.

the inefficient government bureaucracy, access to finance, policy instability, tax regulations and corruption.

The second indicator from the World Bank is the Worldwide Governance Indicators (WGI) that reports aggregate and individual governance indicators for 215 economies over the period 1996–2011, for six dimensions of governance: voice and accountability, political stability and absence of violence, government effectiveness, regulatory quality, rule of law, and control of corruption. Complementary to the »Doing Business« report these governance indicators again highlight the overall poor regulatory framework in Greece and its decline over time (Table 6), as well as the high and increasing ranking in corruption (Table 7) and low and declining government effectiveness (Table 8).

Last, but not least, every five years the OECD publishes the Product Market Regulation (PMR) indicator that again tries to quantify various barriers to entrepreneurship and to trade and investment, as well as the amount of state control in the economy. For a summary of the areas under investigation (and their respective weights) see the OECD Product Market Regulation Database.

The picture that emerges from this index is no different from the previous evidence. Heavy product mar-

Table 5. Innovation ranking

Country	2006	2007	2008	2009	2010	2011	2012
Greece	47	63	63	65	79	88	87
Portugal	32	33	35	33	32	32	31
Germany	5	7	8	7	8	7	7
Belgium	16	16	14	14	15	15	11
Denmark	10	10	10	10	10	10	12
Slovenia	34	30	33	29	34	40	32
Turkey	51	53	66	69	67	69	55
China	46	38	28	26	26	29	33
Italy	43	47	53	50	50	43	36
Sweden	6	6	5	5	5	2	4

Source: World Economic Forum, Global Competitiveness Index.

Table 6. Regulatory Quality Rankings

Country	1996	1998	2000	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Greece	55	55	42	40	42	47	49	55	47	49	54	56	65
Portugal	22	28	37	28	27	31	27	39	36	38	43	53	56
Germany	19	25	18	16	18	19	18	14	13	17	14	14	16
Belgium	28	32	27	27	26	25	28	24	19	20	27	30	29
Denmark	6	7	9	7	5	6	4	4	2	4	1	1	1
Slovenia	33	31	51	48	48	46	56	56	56	51	50	54	58
Turkey	72	61	68	82	86	88	81	82	79	84	82	83	74
China	95	119	123	129	110	113	102	106	102	101	113	116	116
Italy	47	49	41	43	39	41	47	48	46	44	47	50	53
Sweden	21	26	20	11	12	10	17	17	12	9	9	8	6

Source: World Bank, Worldwide Governance Indicators.

Table 7. Control of Corruption Rankings

Country	1996	1998	2000	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Greece	64	33	42	58	58	60	69	65	74	81	86	94	94
Portugal	19	28	31	31	33	33	37	41	43	41	39	40	37
Germany	12	11	15	14	14	15	14	16	17	16	17	15	16
Belgium	29	29	18	19	20	21	21	32	30	28	20	21	17
Denmark	1	2	2	2	2	2	3	2	1	1	1	1	1
Slovenia	28	30	39	43	39	35	43	38	40	43	40	46	45
Turkey	100	126	102	132	97	102	90	86	84	82	83	87	83
China	102	104	95	129	110	135	142	130	139	134	135	143	148
Italy	62	58	44	53	51	66	81	68	79	77	87	90	91
Sweden	3	3	3	5	6	6	7	5	5	6	3	3	3

Source: World Bank, Worldwide Governance Indicators.

Table 8. Government Effectiveness Rankings

Country	1996	1998	2000	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Greece	43	44	48	47	48	47	57	56	57	56	65	67	71
Portugal	31	32	35	28	32	33	36	48	46	39	32	40	46
Germany	14	11	13	17	22	21	20	17	14	19	17	18	18
Belgium	15	15	17	8	9	13	14	15	17	26	16	15	14
Denmark	8	4	6	2	2	1	2	1	2	2	1	3	2
Slovenia	39	42	44	38	34	39	47	42	42	32	33	41	44
Turkey	80	102	82	78	77	83	83	83	75	76	75	73	74
China	98	88	89	86	82	84	97	86	78	83	85	85	84
Italy	42	40	41	46	43	52	63	67	77	71	68	69	72
Sweden	6	8	7	3	4	4	7	9	5	5	4	4	4

Source: World Bank, Worldwide Governance Indicators.

Table 9. Product Market Regulation Rankings

Country	1998 (30 Countries)	2003 (30 Countries)	2008 (40 Countries)
Greece	25	29	34
Portugal	16	17	20
Germany	12	16	17
Belgium	14	15	21
Denmark	5	3	7
Slovenia	-	-	22
Turkey	27	28	32
China	-	-	40
Italy	24	22	19
Sweden	11	13	15

Source: OECD, Product Market Regulation Database

Table 10. State Control Rankings

Country	1998	2003	2008
Greece	28	29	37
Portugal	25	23	29
Germany	18	11	16
Belgium	19	18	26
Denmark	8	4	5
Slovenia	-	-	28
Turkey	29	30	36
China	-	-	40
Italy	27	27	22
Sweden	11	21	23

Source: OECD, Product Market Regulation Database

Table 11. Barriers to Entrepreneurship Rankings

Country	1998	2003	2008
Greece	21	28	31
Portugal	12	12	11
Germany	16	20	18
Belgium	17	22	22
Denmark	6	9	8
Slovenia	-	-	5
Turkey	27	29	37
China	-	-	40
Italy	23	13	4
Sweden	11	2	3

Source: OECD, Product Market Regulation Database

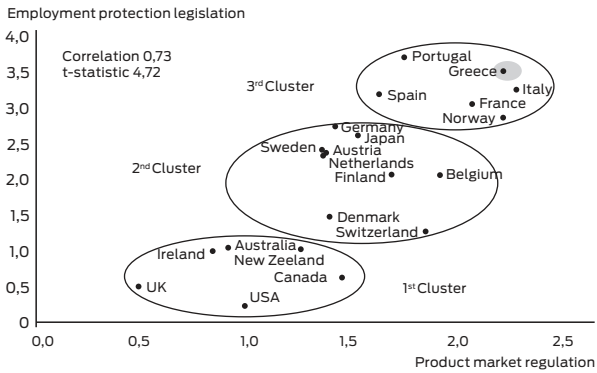
ket regulation (Table 9), high state control (Table 10) and large barriers to entrepreneurship (Table 11) that become stricter and more inefficient over time.

Therefore, the overall picture that emerges from each of the indicators above regarding the state of the Greek economy before the crisis is very clear: high barriers to entry, heavy state control, inefficient regulatory framework, lack of the rule of law, all of which naturally lead to less competition and high markups in various product markets. Add to this the very rigid Greek labour regulation that was also in place before the crisis (Figure 1) and one can begin to understand the truly disastrous combination that led to the decline of Greece's competitiveness over these years.

The heart of the problem

The crucial element missing from Greek product markets is the lack of effective competition. The four main reasons behind this phenomenon, as shown earlier, are: (i) excessive market regulation and very high regulatory burden, (ii) ineffective competition law enforcement, (iii) »closed« professions and lack of competition culture, and (iv) endemic corruption. Thus, product market reforms in Greece have a very clear, albeit very difficult, target.

Figure 1. The combination of rigid labour and product market regulation



Source: Nicoletti (OECD), Scarpetta (WB)

The product market reforms that have been implemented (and are also under way) have three main targets:

1. Reforming or privatising public enterprises,
2. Liberalising product and service markets,
3. Reforming independent regulatory bodies, such as the Hellenic Competition Commission and other independent industry regulators.

The aim of these reforms is to improve allocative and productive efficiency. Allocative efficiency will be improved by reducing the state's role as a producer and by making the entry and exit of firms easier; this will allow a faster re-allocation of output from the inefficient to the more efficient firms. Moreover, by reducing unnecessary bureaucratic (e.g. making exports or licencing easier) or other costs (e.g. third party levies) the government can also help firms achieve the desired productive efficiency through economies of scale or scope or through changing the incentives for managers and workers. Improvements in these two dimensions will also impact dynamic efficiency, as it will improve the firms' incentive to engage in innovative activity and to create new products and new markets.

In this section, I will briefly review the history of efforts in each of these areas; my aim is to summarize some of the past lessons and offer suggestions for the future.

Reforming or privatising public enterprises

Starting in 1990, the Greek government started implementing a large-scale privatisation programme in recognition of the fact that the state had a large presence in various product markets which distorted competition to the detriment of consumers. Table 12

presents a selective list of the major privatisations that took place between 1992 and 2009 and the method of reform that was followed in each case. As indicated below, the state was involved in everything from beer and cement to textiles, paper and banking services, among others. The need for privatisations during the nineties resulted from the realisation that in most of these markets there was no need for government intervention and that the state was, in fact, an inefficient producer that was distorting healthy competition.

However, the decision to privatise led to a series of difficult issues: how should the government privatise (auction, stock market offering, negotiation or book building)? Should it sell its assets to foreigners or should it prefer domestic businessmen? Should it sell the entire asset or a fraction of it? Should it sell all of its assets at once or sequentially? As you can see from Table 12 various combinations of these methods have been used in the past. Given that Greece is currently trying to implement a new large-scale privatisation programme, it is important to try to summarise past experiences, both Greek and international, on how the privatisations should proceed (see, Megginson and Netter, 2001, Estrin et al., 2009).

There are three key lessons worth highlighting. First, independent of the privatisation method that is

Table 12. Reforming public enterprises

Company	Date	Type of reform
AGET - Heracles Cement	1992	Privatisation
Fix (beer)	1993	Privatisation
Neorion Shipyards	1994	Privatisation
Peraïki - Patraïki (textiles)	1994	Privatisation
Cassandra Goldmines	1994	Privatisation
Chalkis Cement Company	1995	Privatisation
Hellenic Shipyards	1995	Privatisation
Skalistiris Mining	1995	Privatisation
Hellenic Telecommunications Organisation (OTE)	1996	Sale of stock
Chalipis Metal Works	1996	Privatisation
Hellenic Telecommunications Organisation (OTE)	1997	Sale of stock
Eleusis Shipyards	1997	Privatisation
Duty Free Shops (KAE)	1998	Trade sale
MEL (paper)	1998	Privatisation
Athens stock market	1998	Initial Public Offering
Hellenic Telecommunications Organisation (OTE)	1998	Sale of stock
Hellenic Petroleum	1998	Sale of stock
Hellenic Telecommunications Organisation (OTE)	1998	Sale of stock
Bank of Macedonia-Thrace	1998	Privatisation
General Bank	1998	Privatisation
Hellenic Petroleum Corp (ELPE)	1998	First sale of stock
Bank of Crete	1998	Privatisation
Bank of Central Greece	1998	Privatisation
Hellenic Telecommunications Organisation (OTE)	1998	Third sale of stock
Athens Stock Exchange (XAA)	1998	Sale of stock
Ionian Bank	1999	Privatisation
Olympic Catering	1999	First sale of stock
OTE	1999	Fourth sale of stock

Duty Free Shops (KAE)	1999	Partial privatisation
Olympic Catering	1999	Second sale of stock
Hellenic Petroleum	1999	Second sale of stock
Hellenic Bank for Industrial Development (ETVA)	1999	Sale of stock
Athens Water and Sewerage Corp. (EYDAP)	1999	Sale of stock
Public Natural Gas Co. (DEPA)	1999	Partial privatisation
Commercial Bank of Greece	2000	Strategic alliance
Athens Stock Exchange (XAA)	2000	Sale of stock
COSMOTE	2000	Sale of stock
Agricultural Bank of Greece (ATE)	2000	Sale of stock
Hellenic Vehicle Industry (ELVO)	2000	Partial privatisation
Hellenic Post (ELTA)	2001	Strategic alliance
AEDIK (Corinth Canal Co.)	2001	Concession contract
OPAP (football lotteries)	2001	Sale of stock
Thessaloniki Port Authority (OLTh)	2001	Sale of stock
OTE	2001	Strategic alliance
International Fair of Thessaloniki	2001	Partial privatisation
Thessaloniki Water and Sewerage Corp. (EYATh)	2001	Sale of stock
Public Power Corporation	2001	Sale of stock
Pireas Port Authority (OLP)	2001	Sale of stock
ETVA	2001	Privatisation
Public Power Corporation (DEH)	2002	Initial Public Offering
Public Power Corporation (DEH)	2002	Secondary Offering
Hellenic Industrial Bank	2002	Trade sale
Football Prognostics Organisation (OPAP)	2002	Secondary Offering
Hellenic Telecommunications Organisation (OTE)	2002	Accelerated Bookbuilding
Skaramaga Shipyards	2002	Trade sale
Commercial Bank	2002	Trade sale
Attica Beaches – Marinas (Subsidiary of Hellenic Tourist Properties S.A)	2002	Long term operation contacts

Olympic Catering	2002	Trade sale
AGNO	2003	Trade sale
Duty Free Shops (KAE)	2003	Trade sale
Hellenic Petroleum	2003	Trade sale
Hellenic Casino (Mont Parnes S.A)	2003	Trade sale
Hellenic Industrial Bank	2003	
Football Prognostics Organisation (OPAP)	2003	Additional Offering
Hellenic Stock Exchanges S.A.	2003	Trade sale
Piraeus Port Autoritry	2003	Initial Public Offering
National Bank of Greece	2003	Trade sale to institutional investors
Public Power Corporation (DEH)	2003	Additional Offering
Postal Savings Bank	2003	Recapitalisation
General Bank	2003	Trade sale
Hellenic Petroleum	2004	Trade sale
National Bank of Greece	2004	Accelerated Bookbuilding
Hellenic Telecommunications Organisation (OTE)	2005	Sale of stock
Football Prognostics Organisation (OPAP)	2005	Sale of stock
Agricultural Bank	2006	Privatisation
Postal Savings Bank	2006	Sale of stock
Emporiki Bank	2006	Privatisation
Hellenic Telecommunications Organisation (OTE)	2007	Sale of stock
Postal Savings Bank	2007	Sale of stock
Hellenic Telecommunications Organisation (OTE)	2008	Sale of stock
Hellenic Telecommunications Organisation (OTE)	2009	Sale of stock
Olympic Airlines	2009	Privatisation

Source: OECD, Product Market Regulation Database

chosen, the procedure itself must be very transparent. In other words, there should be nothing private about privatisations. Having a transparent procedure with clear rules and restrictions not only increases both the government's credibility to potential investors but also builds trust among the electorate that the state is making the most of its assets. The second lesson is that the government must think very carefully about the design of post-sale market structure. To give a fictitious example, it would not make sense to go from a state to a private monopoly; such a situation would not increase the allocative or productive efficiency. For post-sale markets to work, the government must make sure that the markets remain competitive while encouraging future entry and providing incentives for innovation. Post-sale market structure is particularly challenging for markets with the characteristics of natural monopolies, such as many network industries like water, electricity, railways, telecommunications etc. The third crucial lesson is to ensure the good governance of the new firms, particularly when still partly owned by the state. The critical element is to ensure that the privatisation will truly work to the benefit of consumers and that the new entity will be free of any political influences. The rule of law must apply equally to all firms in the market.

Liberilasing product and service markets

Making product and service markets more competitive has traditionally been the most difficult, although most important, element of product market reforms in Greece. Conveying the depth and breadth of the various rules and regulations applied to various product markets, as well as the large degree of market fragmentation is difficult; however, I will provide a brief overview of the situation using various case studies to illustrate what was occurring before the crisis, and the various efforts that have been made since. The list will be by no means exhaustive, just indicative.

Case Study 1: Trucks

The road freight transport sector, which accounts for 98% of transportation of goods by land, had until recently one of the strictest regulatory frameworks in the OECD. The government granted licenses to haulage operators (license for vehicle for public use) and set minimum tariffs. No new licenses have been issued since the early 1970s which meant that the only way to enter the sector was to purchase an existing license at a significant cost in the secondary market, with prices varying between EUR 30 000 and EUR 300 000. The restrictiveness of the legal framework for road freight resulted in high rents for incumbents, inhibited competition, constrained the development of outsourcing

of trucking services and resulted in higher prices for almost all consumer goods. A new law in 2010, and subsequent important amendments, liberalised the road freight transport; it also resulted in major strikes by existing licence holders that brought the country to a halt. Few new licenses have been issued due to the ensuing deep recession and large demand reduction; despite the new laws the market is adjusting very slowly.

Case Study 2: Infant Formula

Infant formula (for up to 6 month old babies) was restricted for sale only in pharmacies; it was considered »unsafe« for it to be sold in supermarkets and other retail channels. As a result of the restricted distribution, Greek consumers were paying one of the highest prices for infant formula in EU. In January 2011, a joint Ministerial decision by the Ministries of Health and Development allowed the sale of formula in super markets. Prices fell by approximately 20% following the liberalisation. However, in July 2012 the association of pharmacies won a temporary injunction by the State Council for infant formula to be sold exclusively in pharmacies again. The main argument in favour of the restriction was again, »protection of public health«. Prices quickly went up. In October 2012, following a Ministry of Development decision infant for-

mula once more could be sold in super markets, as well other retail channels.

Case Study 3: »Fresh« pasteurised milk

The Greek regulation identifies two types of pasteurisation procedures. The first is pasteurisation at lower temperatures, where the shelf life is defined at maximum of five days and only products that abide to this rule can use the word »fresh« on their packaging. The second is »high pasteurised« milk, which is processed at higher temperatures; the maximum shelf life is at the discretion of the manufacturer and the word »fresh« cannot be used on the product's packaging. Greece is the only EU country that regulates the shelf life of milk in this way; EU regulation leaves the shelf life duration at the discretion of the manufacturer provided that all relevant regulations regarding the safety of the product are abided. Due to the limited shelf life, importing »fresh« milk from other EU countries is impossible. This protective environment means that there is limited competitive pressure at all stages of milk production and as a result, Greek consumers are paying one of the highest retail prices for »fresh« pasteurized milk across the EU (34% higher prices on average). Also, consumers on (most) islands and remote mountainous villages do not have access to »fresh« milk and small producers in northern Greece

cannot reach the large urban areas. Moreover, the five-day restriction creates an inefficient and costly system of collecting and returning expired products from retailers, which amounts to 5% of the final retail price of »fresh« pasteurised milk.

Case Study 4: Bread and Bake off

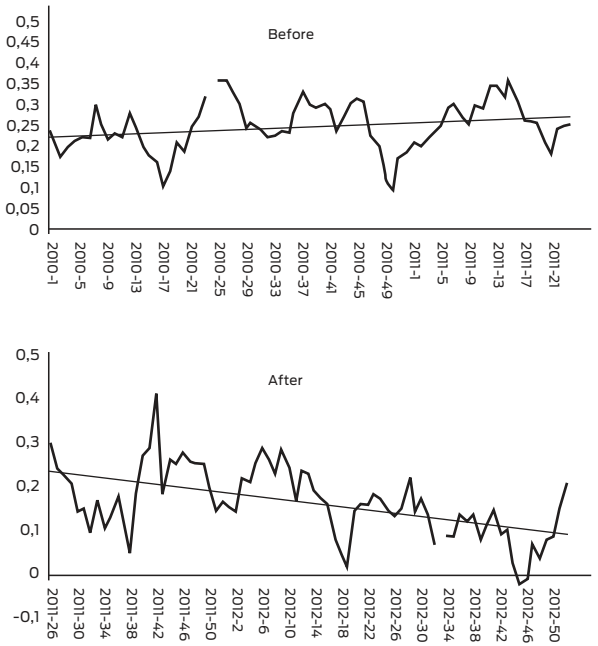
Until 1992, the price of a loaf of bread was regulated by the state. Afterwards, the government lifted all geographic restrictions regarding the establishment of a new bakery and allowed the sale of bread and bread products from other retail channels (non-bakeries, such as super markets). However, licencing requirements to establish a bake off installation (a small oven to bake ready-made bread rolls) inside a super market were very restrictive. Essentially, the bureaucratic procedure to install a small oven was equivalent to an industrial installation. As a result, most super markets cannot sell bread and despite the »liberalisation«, supply is practically restricted only to bakeries. In 2004, the EU court condemned Greece for the very restrictive regulation of the bake off. Subsequent changes in 2007 and 2010 made the law less restrictive, but the requirements still do not allow every super market to offer bake off services (minimum space and separation requirements etc.). The current law (2013) has eased the restrictions, setting the same sanitary

standards for every retail shop that wants to bake and sell bread.

Case Study 5: Fixed Margins on Fruits and Vegetables

The 2009 market law (following earlier versions that date back to 1946) set margin caps (i.e. maximum margins) for fruits and vegetables both at the wholesale and retail levels. Prior to the law, the following was occurring: a potato producer sells his potatoes for 0.43 euro per kilo. The product reaches the central market at a price of 0.55 euro per kilo (0.43 plus the cost of transportation, loading/unloading, packaging). Then the wholesalers could add up to 8% margin. Hence, the retailer would buy at 0.59 euro per kilo (=0.55+(0.08×0.55)) and would add to that the transportation cost, 11% VAT and the maximum allowed markup, which was 25% (or 23% if fleet market). Therefore, the final price that the consumer would pay could reach up to 0.81 euro/kg, almost double the price paid to the producer. The objective of the 2009 law was to protect consumers by not allowing wholesalers and retailers to set very high margins. However, setting a cap on margins could also act as a focal point for market participants (see, for example, Knittel and Stango, 2003). In other words, instead of retailers and wholesalers attempting to compete below the level

Figure 2. The evolution of prices in fruits and vegetables (2010-2012)



Source: E-prices, Ministry of Development.

of the margin cap imposed by the government, they could use this cap as a focal point of coordination and all charge the maximum allowed. The result of such action could result in an increase in final prices, despite the fact that the aim of the law was the exact opposite. Interestingly enough a small number of fruits and vegetables were excluded from this regulation (pears, apples, oranges, tangerines, lemons). In June 2011 this law was abolished. As shown in Figure 4, there is a clear drop in prices following the change in the regulation. Competition seems to have become more rigorous and effective.[1]

Case Study 6: Stevedores and Lawyers

A variety of restrictions also applied to services. The government regulates various aspects of many professions, such as setting the number of licenses, geographical restrictions, or compulsory minimum fees etc. It is instructive to see how such regulations pertaining to two professional activities at opposite ends of the educational spectrum function. In Greece stevedores are commonly used for land and port operations (loading and unloading truck or boats). Their fees were fixed by law (hence no price competition), and the Stevedore

1 These results are also confirmed by comparing the evolution of prices between the products that were regulated to the ones that were not, using a difference-in-difference framework (see, Genakos, Koutroumpis and Pagliero, 2013). According to these estimates prices of fruits and vegetables that previously had a fixed margin fell 8-10% faster than the control group.

Work Regulatory Committee acted as licensing authority, which meant that the incentives to allow more workers into their profession were severely distorted. Instances of companies paying fees to the Committee, despite not using their services, have not been unheard of.

Lawyers on the other hand also had a variety of restrictions. First, there were geographic restrictions of practising law within Greece. If a lawyer was registered with the Bar association in Athens, he/she could not appear in court in Thessaloniki or elsewhere in Greece. Second, there were mandatory minimum payments and fixed payment scales for legal services. Third, there was also mandatory involvement of a lawyer for real estate transactions and a mandatory payment scale according to the value of the estate. All these restrictions meant legal services weren't competitive and were unnecessary high in cost.

Case Study 7: Advertising fee

Greece is the only OECD country that imposes a very high tax on advertising: 20% for all advertisements in the press and 21.5% for TV and radio. While from an economic perspective this regulation acts as a tax on advertising, the term »advertising fee« is more appropriate since the revenues are used to fund to the health benefits and the pension fund of the employ-

ees in media (newspapers, magazines, TV and radio stations), and are a substitute for the employers' contributions. The history of this law is particularly interesting. Before the creation of the National Health System, different groups of professionals had taken the initiative to create their own insurance and pension funds. It was the result of such an initiative that the Pension Fund of Personnel of Athens and Thessaloniki Newspapers was created. However, given that newspaper editors refused to pay their employer contributions to finance their personnel fund, both parties lobbied the government to impose an advertising fee (5%) and a smaller one (2%) on the sales of newspapers in the early 1940's. The advertising fee was later adjusted to 20% in 1967, before taking its current form in 1995 of 20% for the press and 21.5% for the TV and radio. Media owners, in other words, are the only employers in Greece that do not pay any social security contributions for their employees.

Imposing such a high fee means that the marginal cost of advertising is very high. As a consequence advertising expenditure will be low, hurting both consumers (less information, less competition) and firms, since it acts as a tax on their business inputs and distorts their optimal input mix. In addition, increasing the cost of advertising hurts the advertising as a business activity. Lower advertising expenditure

means reduced revenue and fewer jobs for the firms in the advertising business. Especially if the cost of tax collection falls to the advertising agencies, as it is the case in Greece, the considerable resources that they have to devote leads to higher operating costs, which means that small advertising agencies cannot profitably survive, leading to higher concentration in this market. Finally, the higher cost of advertising means extra cost to the producers of goods and services that will be, partly or as a whole, incorporated into the final consumer prices. Just abolishing this fee is estimated to lower final prices by 1-2%.

As demonstrated in this section, the various competition and regulation indices clearly show that the Greek economy is heavily and inefficiently regulated. These cases in the above subsection highlight that there are large benefits to reap from serious and in depth regulatory reform.

Reforming regulatory bodies and corruption

One of the main pillars of effective competition, and where the government has a clear role to play, is the reforming of the independent regulatory bodies. The Hellenic Competition Commission (HCC) can play a critical role in policing effective competition and protecting consumers and businesses from unfair

practices. Some important provisions were adopted in 2012 to enhance the effectiveness of the HCC. These amendments were designed to make the institution more independent, by uncoupling the appointment of its members from the elections cycle and limiting the power of Ministries to demand information. Better harmonisation with the competition rules and practices of the European Union has also been instituted. More importantly, this reform has established a mechanism whereby the HCC can define its priorities for serving the public interest by focusing on cases that are considered to have the greatest impact on competitive behaviour. Formerly, this institution had little discretion in the handling of complaints, which was done chronologically, and it spent too much time analysing insignificant merger cases. Thanks to the reform, the HCC now has the legal capacity to set criteria for determining its working priorities.

However, there are still important areas where significant improvements can be made. First, the independence from any political interference needs further strengthening. The President and members of the board of the HCC should be selected by a multiparty parliamentary committee and any political interference with a particular firm or market investigations must cease. Second, a specialised competition appeals tribunal (that exists in many other EU countries),

should be established so that appeals of decisions made by the HCC can be re-examined also on substantial and not only on procedural, issues. Third, the HCC should install a Chief Economist, as it is the only competition authority in Europe without one. More generally, HCC needs a better balance between lawyers and economists, so that more emphasis can be put on examining cases on an effects-based, rather than a per-se, standard. Fourth, the HCC should be equally strict with public sector organizations, prohibiting practices or proposing amendments to bar public agencies from operating as suppliers, thus distorting competition.

Finally, as mentioned in Section 2, corruption is one of the key problems of doing business in Greece: conflicting laws, limited law enforcement, and a slow judicial process, all fuel corruption. Obscure legislation allows bureaucrats, administrators, and judges to accept illegal payments. The inability of politicians to produce a homogeneous legislation that does not change with the political cycle also spurs corruption. Corruption is a major problem in Greece: in 2009, Transparency International ranked Greece as the most corrupt of the 27 countries of the European Union, together with Bulgaria and Romania. Corruption is deeply engrained in the Greek economy and cannot be easily eradicated.

The institutional framework that governs the relationship between individuals and firms and the

state should be simplified and made more transparent. Complicated bureaucratic hurdles provide fertile ground for corruption, as individuals and firms have an incentive to bribe to get around the hurdles. The interaction between individuals and firms on one hand, and the state on the other should become anonymous to a more significant extent. Simplifying procedures and using online and postal transactions are important steps in that direction. More emphasis must be put on preparation (for example, what are the necessary steps for a firm to get a license) and checks (for example, random checks of whether existing companies comply with the regulation) and less on processing papers from the public administration. Also, penalties for corruption should be made much tougher. Corrupt public servants should be punished by the withholding of their pension as well as by imprisonment. In addition, performance-based incentives should be introduced. This would stymie those public servants that hold up work processes until they are bribed. Well-designed performance based incentives will induce public servants to work harder, and in turn, will reduce the need for bribes.

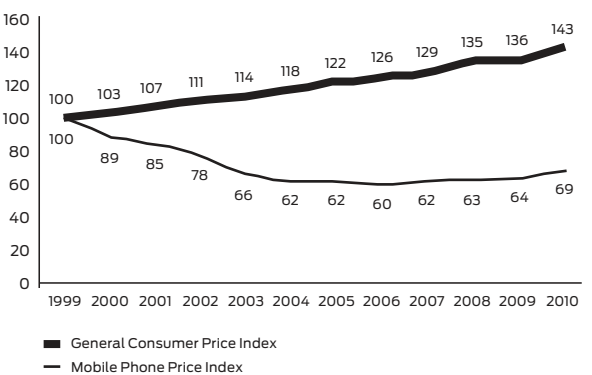
Table 13. Reforming the incumbent state monopoly telecommunications provider (OTE)

Date	Event	Comments
Nov 1992	First privatisation attempt announced	The Conservative Government introduced the 'Strategic Investor Initiative'. This involved the sale of up to 49% of OTE shares as follows: • 35% shares plus management responsibilities for a decade to an experienced foreign strategic investor. • 7% shares floated in international stock markets. • 7% shares floated in the Athens Stock Exchange. The motives: • Shock therapy' as remedy for OTE's increased managerial and organisational inefficiencies. • Exclusive financing of OTE's modernisation programme by foreign investors without the Commission's support. • Privatisation revenues expected to alleviate State budget deficit and induce international interest in the domestic stock market. Completion by September 1993.
Sept 1993	Privatisation negotiations stop	The Conservative Government lost its marginal majority of one vote when an MP decided to withdraw his support. The affiliated press related the event with an earlier Government decision to halt procurement negotiations with local suppliers so that the strategic investor could take the decision. The country was led to premature elections and the Socialists returned to power.
Nov 1994	Second attempt to privatise	The Minister of National Economy found no interest from international investors and the attempt was cancelled.
Jan 1996	New Socialist Prime Minister	As soon as the new Prime Minister was elected he gave immediate priority to State restructuring, including OTE privatisation.
April 1996	OTE's initial public offering (IPO) took place	The primary offer involved the issue of 31.6 million shares representing 7.5% of the company's share capital. State's share in the company was reduced to 92%.
June 1997	2nd Public offering	The Government sold 12.6% through private placement to institutional investors in Greece and abroad and through public subscription in Greece only. The company was also listed in the London Stock Exchange.
April 1998	Block Trade	The Government sold another 3.3% of its stake through block trading to institutional investors.

November 1998	3rd Public offering and entry into	Another 10% of state-owned shares were offered through public subscription on the NYS and private placement, reducing the State's participation in OTE to 65%. At the same time, OTE became the first Greek company to be listed on the NYS.
July 1999	4th public offering	Another 14% of state-owned shares were offered through public subscription and private placement reducing the State's participation to 51%.
2002	Sale of stock	The Greek State sells 10.7% of OTE share capital to institutional investors.
2008	Sale of stock	Deutsche Telekom signs a shareholder agreement with the Greek government, via which, as of 5 November, each has a 25% stake plus one share in OTE share capital.
2011	Sale of stock	Deutsche Telekom's stake in OTE has risen to 40% while that of the Greek State amounts to 10%. International institutional shareholders: 29.5% Greek institutional shareholders: 10.7% Other shareholders: 9.8%

Source: OTE website and various other sources.

Figure 3. The evolution of general and mobile consumer price indices



Source: OTE website and various other sources.

Two instructive case studies: Telecoms vs. Energy

This section provides a comparison of the history of regulatory reform and its effects in two of the most important sectors of any modern economy: telecommunications and energy.

The rapid evolution of technologies has shaken up the telecommunications sector, including regulatory regimes based on older technologies and market theories during the last two decades. Strong competition policies and efficiency-promoting regulatory regimes work well in dynamic and global markets, and are crucial to the performance and future development of the industry. The central regulatory task is to enable the development of competition in local markets, while protecting other public interests such as reliability, universal service and consumer interests. Entry must be actively promoted in markets where formerly regulated monopolists existed. Greece's market liberalisation started several years after most EU countries fully opened their markets and established new regulatory frameworks. This late start could have provided Greece with the unique opportunity to learn from the international experience and best practices. Unfortunately, this opportunity was squandered: the process of privatising the incumbent state monopoly, Hellenic

Telecommunication Organisation (OTE), and subsequent deregulation of the market was long and painful. Table 13 summarizes some of the key turning points in this reform process.

Yet, despite the delays, liberalisation did occur and it brought significant benefits to consumers. The gradual dismantling of the OTE monopoly, the introduction of competition, and the establishment of the Hellenic Telecommunication and Post commission (EETT) as an independent regulatory authority have brought significant changes to the operation and performance of the market. New firms entered the fixed line market, and new markets (mobiles) were also established. Competition in the market seems to be vigorous, as Figure 5 shows. Still, challenges exist: broadband penetration has been slow, as has high-speed broadband take-up; however, the telecommunications sector, overall, is one of the most active and competitive sectors of the Greek economy.

The state of the energy sector is in direct contrast to that of the telecommunications sector. The electricity sector in Greece is comprised almost completely of a single state-owned corporation, Public Power Corporation (PPC). PPC is vertically integrated in all aspects, from lignite mining to selling power, and only trivial amounts of power are supplied by others or imported. PPC holds 87% of the wholesale market and the bulk of

the retail market. PPC also owns 49% of the Hellenic Transmission System Operator and has ownership of the transmission and distribution networks. PPC has exclusive rights to exploit and use the low-cost lignite mines, which allows it to be profitable, despite relative low prices. With a price setting that does not fully reflect the cost of the electricity supply, these factors discourage entry in the electricity market and retail competition is non-existent. Average industrial prices of electricity in Greece are low, and household prices are about average, compared with other European countries. But these price comparisons do not reflect PPC's relative efficiency: input prices are distorted and the company has non-commercial public service obligations, such as supplying some consumers below cost. Moreover, personnel costs are high and PPC has used financial resources that might have been put to better use elsewhere, and has charged higher prices to those parts of the economy that are typically responsible for job creation. A major challenge to restructuring and liberalising PPC is the company's underfunded pension liability.

The Greek gas sector, too, is monopolised by a vertically integrated state-owned company (DEPA). At the moment, DEPA's fully-owned, but legally unbundled, subsidiary Transmission System Operator (DESFA), owns the gas transmission network and is

responsible for the network's operation, maintenance, management and development. The shortcomings in the energy sector, together with the economic crisis, sparked serious liquidity problems for PPC and DEPA in 2012. The number of unpaid power bills rose sharply, partly as a result of the inclusion in these bills of a real estate tax that the PPC was asked by the government to collect. The financial problem was further aggravated by the cumulative deficit in the management of generous subsidies under the Renewable Energy Scheme, especially for photovoltaic installations. Reforms in the energy sector have been moving slowly, despite the efforts made since the launch of the adjustment programme to respond to the demands of the Third EU Energy Package.

In July 2013, an ambitious plan was adopted for unbundling the ownership of the transmission operator (ADMIE) from PPC before the end of 2013. This plan includes the creation and privatisation of a new, vertically integrated power utility through the divestiture of 30% of PPC's production and distribution capacity. This new company, which should be operational in 2015, would have a generating mix similar to that of PPC, with hydroelectric as well as gas- and lignite-fired plants, and with access to lignite resources. The sale of an additional 17% of PPC shares is also planned for the first half of 2016. At the same

time, the privatisations of the gas company (DEPA) and the transmission operator (DEFSA) have started. The many reforms recently adopted or announced are ambitious and move the market in the right direction. The PPC should boost competition and efficiency in the power sector. The PPC has significant margins for productivity gains or cost reductions, estimated at 10% to 15% (McKinsey, 2012). The planned privatisations in the gas sector should encourage greater investment, although these changes should be accompanied by measures to enhance competition. Steps to encourage the emergence of a competitor to DEPA as gas supplier would be desirable. The Trans-Adriatic Pipeline (TAP), bringing gas from Azerbaijan to and across Greece, which provides an opportunity to boost competition in the supply area.

The evolution of reform in these two industries (energy and telecommunications) is quite instructive. Reform is a long and painful path because of the short term adjustments that need to be made and of the necessity to change »how things were done«. These changes have met (and will meet) significant resistance from both state employees and incumbents. However, these reforms are necessary not only for the viability of the existing firms in a globalised environment, but also for the benefit of consumers.

After the rain: towards a National Competition and Competitiveness Policy

The most fundamental structural problems facing the Greek economy at the product market level that would spur high and sustainable growth can be summarised as follows: (i) plethora of rules and regulations or overregulation, (ii) low quality of regulation due to the absence of the necessary institutions and mechanisms which could ensure that the restrictions are necessary, proportional to the problem and that the solution will be evaluated, and (iii) ineffective implementation of existing regulation.

These factors have halted the growth of entrepreneurship and innovation, reduced the intensity of competition, and prevented direct foreign and domestic investment. To tackle these issues Greece should design a National Competition and Competitiveness Policy plan (see also Katsoulakos et al. 2011). Such a plan would include Competition Policy as a subcomponent, i.e. competition law that condemns anticompetitive practices and prevents firms from abusing their dominant position or from forming cartels. However, it would also move beyond strict competition policy, in order to create and foster conditions for effective competition in the product markets.

A National Competition and Competitiveness Policy plan should include and rely on the following key components. First, a modern and effective legislative and institutional framework in the markets where regulation is necessary and important, such as network industries (telecommunications, energy, water, railways etc.). As analysed in the previous section, some of these markets have natural monopoly characteristics that render government intervention necessary. Specialised and independent regulators should be in charge of these areas with the appropriate checks and balances in place.

Second, a serious effort must be made to abolish existing laws and regulations that distort and hinder competition, and to significantly simplify the existing regulatory framework. In addition, the government must create the necessary strategies and institutions that will evaluate both the regulatory burden and the cost to businesses of proposed new regulations, with the aim to increase the contestability of markets (by making entry and exit easy) and fight corruption.

Third, perhaps less obvious but equally important, is to advocate and spread the culture of competition (competition advocacy). Analysing the short and long term benefits of competition for the consumer and social welfare is important not just for product markets but also for the revival of the Greek economy and society.

Conclusions

There is no doubt that to a casual, but objective, reader the deep economic crisis that started in Greece in 2009 was a long time coming. Virtually every international index of competitiveness indicated that the economy was suffering along many dimensions: high barriers to entry, heavy state control, inefficient regulatory framework, corruption and lack of effective competition. An article in Newsweek[2] described Greece as a country that is »unique in its disfunctionality« and as »the most wasteful and corrupt Western nation«. Similarly, a Vanity Fair[3] article notes that Greeks »behave as a collection of atomized particles, each of which has grown accustomed to pursuing its own interest at the expense of the common good.«

However, in the midst of the most serious fiscal crisis that Greece has ever gone through, a very serious effort has started »to change these facts« and this has »started with the abolition of some of the strict regulations in various sectors of the economy that are for the first time being freed up to competition«. OECD named Greece as a »champion in terms of reforms« for 2012.[4] A large reform programme is currently under way with a clear aim to reform and privatize public

2 Newsweek, »How Europe's New Goals Will Pay Off«, 24/12/2010.
3 Vanity Fair, »Beware of Greeks Bearing Bonds«, 1/10/2010.
4 Kathimerini, »OECD praises reforms in Greece«, 15/2/2013.

enterprises, liberalise product and service markets and strengthen independent regulatory bodies. These reforms are critical for the short and medium term recovery of the economy. At the same time, the long-term strategy must be centered around a coherent National Competition and Competitiveness Policy plan that will create the conditions for sustainable and innovative growth.

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Chapter 5

Product market reforms and incentives to innovate in Sweden

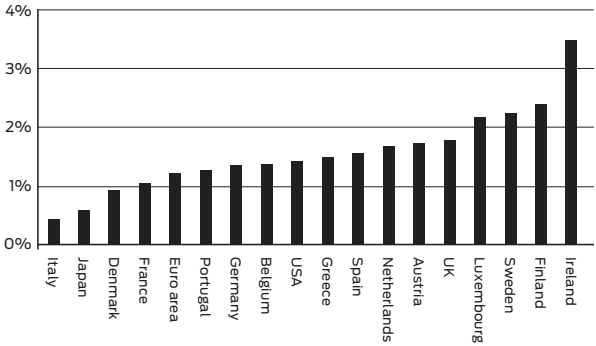
Harald Edquist
Magnus Henrekson

Introduction

Since the mid-1990s the Swedish economy has developed rapidly both relative to previous decades and relative to most OECD countries. Figure 1 shows annual GDP growth per capita 1995–2011 for EU-15, Japan and the US. According to Figure 1 Sweden had the third highest GDP per capita growth rate at 2.2 percent per year. Finland and Ireland were the only two economies that grew more rapidly. Moreover, compared to the average for the Eurozone countries, economic growth per capita was almost twice as high during the investigated period. Harmonized unemployment was 8.2 percent in February 2013 compared to 12 percent on average for the Eurozone (OECD 2013a). Moreover, the employment rate for persons aged 15–64 was among the highest in the EU at 73.8 percent in the fourth quarter 2012 compared to 63.6 for the Eurozone countries (OECD 2013a).

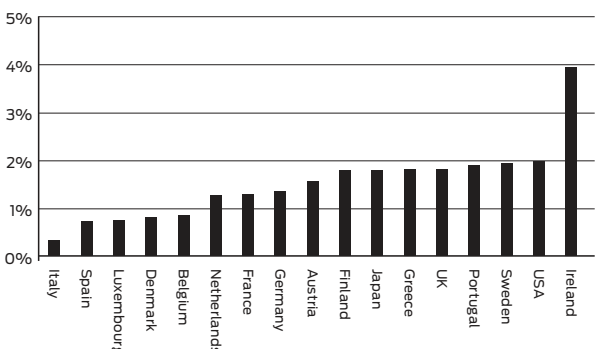
Figure 2 shows that Sweden also performed well in terms of labor productivity growth in 1995–2011. Thus, the Swedish economy has been successful in increasing its productivity in a medium-term perspective. Moreover, productivity has been particularly strong in manufacturing with an annual labor productivity growth rate of 5.8 percent compared to 1.5 percent in business services (Statistics Sweden 2012b).

Figure 1. Annual GDP per capita growth in EU-15, Japan and the US in 1995–2011



Source: OECD (2013b).
Note: The Euro-area includes all 17 Euro-member countries.

Figure 2. Annual labor productivity growth in EU-15, Japan and the US in 1995–2011



Source: OECD (2013b).
Note: Labor productivity is defined as GDP per hour worked.

There is a plethora of different explanations for the strong economic performance in Sweden since 1995. Some examples are investment in research and development (R&D), information and communication technology (ICT) and other intangibles, and deregulation and market reforms (Bergh 2013; Calmfors 2012; Edquist 2011; Edquist and Henrekson 2006).

The strong economic performance in Sweden during the last two decades makes it difficult to imagine that Sweden experienced a severe economic crisis in the early 1990s. Every country has its own institutional setting and there is no general formula to create economic growth and prosperity. Nevertheless, it can be of great value to investigate and compare policy areas, which are believed to have been important for the Swedish economic success.

The purpose of this chapter is to investigate two policy areas that have been important for the economic development in Sweden during the last two decades, namely product market reforms and strengthened incentives to innovate. This chapter provides a short description of the policy changes that have taken place within these areas since the early 1990s and also suggests additional improvements needed to sustain a continued successful economic development.

Short theoretical and empirical background

Definition of product market reforms

There are a number of ways to define product market reforms. It is therefore important to be specific with how we define product market reforms. According to Pelkmans et al. (2008 p. 5) »product market reforms are changes in 'market institutions' with a view to have goods and services markets function better«. Pelkmans et al. (2008) argue that product market reforms could be defined either in a narrow or a wide view. According to the narrow view, product market reforms are concerned with market integration, competition policy at the national and EU level, national regulation of product markets and the degree of openness to the global economy. The wide view also includes the business environment with respect to fewer barriers to entry, entrepreneurship and the longer-run impact of R&D and innovation.

This chapter will be based on the wide view to define and analyze product market reforms. First, the more narrow view will be used to describe the product market reforms related to competition and regulations that have been carried out in Sweden. Second, the wider definition will be used to investigate the incentives to innovate in the Swedish economy.

Pelkmans et al. (2008) also argue that product market reforms should not be examined in isolation from other reforms, notably labor and capital market reforms. We find this line of argument relevant, but since another chapter in this volume specifically analyzes Swedish labor market reforms we exclude them from our analysis. Nor do we analyze service sector reforms in the public sector; social services such as schooling, care of elderly and health care are still to a large extent provided by the public sector.

Impact and measurement of product market reforms

Theoretically there are at least three channels through which product market reforms may impact economic performance (Nicodème and Sauner-Leroy 2004): The reallocation of resources (allocative efficiency), improvement in the utilization of factors of production by firms (productive efficiency) and strengthened incentives for firms to innovate (dynamic efficiency).

Allocative efficiency tends to increase when the number of competitors increase, which induces firms to set prices closer to marginal costs. Thus, markups decrease and the allocation of inputs and goods become more efficient. More product market competition also raises allocative efficiency by driving less productive firms to exit.

Productive efficiency is raised when new improved methods or technology is used within the firm, including organizational changes. Increased inter-firm competition forces firms to operate more efficiently.

Increased dynamic efficiency results from reforms raising the degree of competition when firms are incentivized to make and adopt product and process innovations, and thus speed up the move towards the technology frontier. Successful innovation is normally discerned in the data through its impact on total factor productivity.

From an empirical perspective, the availability of micro data has improved the empirical research on drivers of productivity. These empirical findings are summarized in Syverson (2011), who divides the factors influencing the firm's productivity growth into internal effects directly influenced by the firm and external effects not directly influenced by the firm.

According to Syverson (2011) examples of internal influences on productivity growth are managerial practice, the quality of labor and capital, information and communication technology and R&D, learning by doing, product innovation and firm structure decisions. Examples of external drivers explaining differences in productivity growth are spillovers, degree of competition, deregulation and proper regulation, and flexible input markets.

Syverson (2011) presents empirical evidence, based on a number of different sources, indicating that internal as well as external factors are important in explaining productivity differences among firms. The role of competition, deregulation and proper regulation are of special interest in this chapter. According to Syverson competition drives productivity through two key mechanisms. First, competition induces an increase in the market share of the more efficient producers. Thus, the market share of relatively inefficient firms shrinks, and may even force these firms to exit altogether.

Second, competition induces firms to make costly productivity-enhancing investments, investments they would have refrained from doing otherwise. Syverson (2004) shows that markets with denser activity in the construction industry have higher lower-bound productivity levels, higher average productivity and less productivity dispersion. Moreover, Foster et al. (2006) find that productivity growth in the US retail industry is driven primarily by the exit of less efficient stores and their replacement by more efficient national chain stores. Studies in a similar vein abound. Syverson (2011) also points to case studies showing that poorly regulated markets can create dysfunctional incentives that reduce productivity. The US sugar industry is a notorious example. In short,

numerous case studies and broader sector analyses strongly suggest that increased competition as well as deregulation or proper regulation have positive effects on productivity growth.

OECD product market regulation indicators

Previous sections have defined product market reforms. Moreover, theoretical and empirical research suggests that the effects of product market reforms such as increased competition and deregulation have had an important impact on productivity growth. But how should one measure how far a country has proceeded in terms of implementing product market reforms?

A serious attempt initiated by the OECD to try to measure the extent of product market reforms is the development of the Product Market Regulation indicators. Since the late 1990s the OECD has constructed a system of indicators to measure ongoing development in product market regulations across OECD-countries (Wölfl et al. 2009). The basic idea of the indicators is to turn qualitative data on laws and regulations into quantitative indicators. These indicators are also characterized by a bottom-up approach, which makes it possible to trace a specific indicator score back to individual policies.

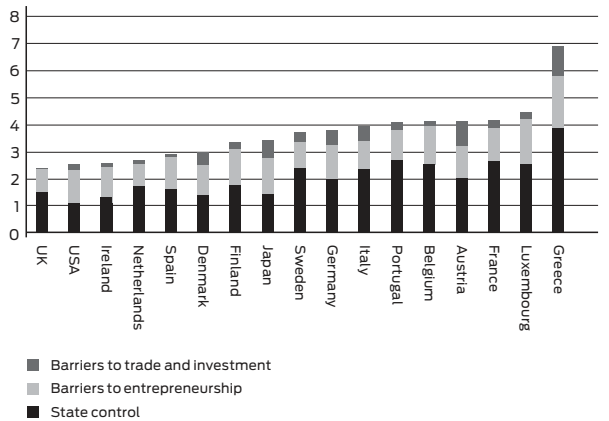
The whole system consists of 18 different low-level indicators.[1] Each indicator represents the stringency of regulatory policy on a scale from 0 to 6, where a 6 is the most restrictive towards competition. The different indicators are aggregated into the following three different categories: state control, barriers to entrepreneurship and barriers to trade and investment.[2]

Figure 3 shows the result for these three PMR-categories for EU-15, Japan and the US. According to figure 3 the UK is the most deregulated and Greece the most regulated economy, considering the aggregated impact of all three categories. Sweden is intermediate among the investigated countries.

One characteristic of the Swedish economy is that the category »state control« is still high compared to many other countries. Thus, the government has considerable influence on firm's decisions through public ownership, price controls or other forms of regulation. Indicator values are particularly high for the low-level category »direct control over business enterprise«, but very low for the low-level indicator »price control«. Moreover, the PMR-indicators show that Sweden is highly deregulated in terms of »barri-

1 The 18 low level indicators are: Scope of public enterprises, government involvement in network sectors, direct control over business enterprises, price controls, use of command and control regulation, licenses and permits system, communication and simplification of rules and procedures, administrative burdens for corporations, administrative burdens for sole proprietors, sector-specific administrative burdens, legal barriers and antitrust.
2 Equal weights are used for each of the low level indicators that together form a new sub-category.

Figure 3. OECD product market regulation (PMR) indicators for three different categories in EU-15, Japan and the US in 2008



Source: Wölfl et al. (2009).
Note: Countries are ranked on a scale from 0 to 6 for each of the three different PMR-categories.

ers to entrepreneurship«, which emanates from low administrative burdens and barriers to entry for firms. Finally, Sweden like most other countries assessed by the OECD, has very low barriers to trade and investment.

Wölfl et al. (2009) also find that there has been a substantial liberalization of product markets in most countries when comparing PMR statistics from earlier years. The average aggregated PMR score has moved from around 2.2 index points in 1998 to 1.3 index points in 2008. For Sweden it is primarily the category »barriers to entrepreneurship« that has improved the most. In particular, between 1998 and 2008 there were considerable improvements in licenses and permits systems, communication and simplification of rules and procedures, legal barriers, antitrust exemptions, and barriers in network sectors and services.

Product market reforms in Sweden since the early 1990s

This section deals with product market reforms from the more narrow perspective defined in section 2.1. This implies that product markets are viewed with respect to market integration, competition policy and openness to the world economy. Based on this defini-

tion a number of product market reforms have been implemented in Sweden since the early 1990s.

Throughout most of the 20th century many product markets in Sweden were public monopolies. Thus, new firms had no or very limited opportunities to enter these markets and the influence by consumers was also limited (SOU 2005:4). In the early 1990s many of these public monopolies were deregulated. Examples of markets that were opened up for competition in the 1990s include: taxi, electricity, telecommunications, railways and domestic air travel. The overall purpose of these reforms was to increase the degree of competition, notably by opening up markets for more entrants (Lundgren et al. 2007; Nicoletti and Scarpetta 2003). Another important enhancement of increased competition was the new Competition Act implemented in 1993. Its three cornerstones are: prohibition of restrictive agreements, prohibition of abuse of dominance and control of concentrations (OECD 2007). This also implied that EU competition law was implemented in Sweden.

The purpose of this section is to briefly describe the most important market reforms that have taken place in Sweden since the early 1990s. We do not discuss market reforms in the public sector. The public sector can be defined as »all institutional units which are other non-market producers whose output is

intended for individual and collective consumption, and mainly financed by compulsory payments made by units belonging to other sectors and/or all institutional units principally engaged in the redistribution of national income and wealth« (ESA 1995, 2§68). According to this definition, publicly owned companies are not considered to belong to the public sector. However, reforms in, for example, education and health care that have introduced contestability in the provision of tax-financed services will not be discussed.

Taxi services

The taxi market in Sweden was fully liberalized in 1990. Price setting and entry then became free, and the requirement of being connected to a booking center was abolished. To be able to conduct taxi operations a special transport license issued by the county board was required. The requirement for taxis to belong to a dispatch service was abandoned and geographically restricting operating areas and strictly regulated operating hours were abolished (OECD 2008). Moreover, regulations on meter and price information were introduced.

Following liberalization, the supply of taxis increased, resulting in shorter waiting periods for customers, particularly in metropolitan areas (Stats-

kontoret 2005). However, prices also increased more than the consumer price index throughout the 1990s (Löfvenberg and von Sivers 2009). OECD (2008) points out that the total effect of deregulation on prices is difficult to estimate since there are no statistics on prices for government paid rides. These account for more than half of total revenue in the taxi market. Moreover, prices before and after the deregulation are not adjusted for the quality improvements emanating from shorter waiting times.

Domestic aviation

The market for domestic aviation was liberalized in 1992. Price regulations were abandoned. Permits from the government to start flying a new route were granted to any Swedish airline company fulfilling the requirements of technological knowledge and economic stability. Appeal to regional policies could, however, be used to motivate exceptions from the principle of free competition. The new rules were initially only applied to Swedish airlines, but were extended to international airlines in 1997.

Initially, it was difficult for entrants to secure attractive takeoff and landing slots. Scandinavian Airlines (SAS), jointly controlled by the Swedish, Norwegian and Danish governments, continued to have a dominant market position. However, its position gradually

weakened; its market share fell from 96 percent before 1992 to 47 percent in 2008 (Transportstyrelsen 2009). Moreover, the average ticket price for a domestic flight in Sweden fell by 7 percent in real terms from 2000 to 2008 (Transportstyrelsen 2009).

Postal services

In 1993 the formal postal service monopoly for addressed letters and packages of a maximum of two kilograms was abolished. However, the Postal Services Act still ensured that comprehensive postal services to everyone would still exist. A price ceiling was also introduced on individual items up to 500 grams (SOU 2005:4). The state-owned company Posten AB was formed to ensure that the Postal Services Act was sustained.

Ten years after the reform the market share of the state-owned company Posten AB still exceeded 90 percent. According to Statskontoret (2012) it has been difficult to analyze the effects of liberalization. One problem is that prices offered to large customers are negotiated and not public. Another problem is that new technology has changed how the distribution of mail is organized. Thus, it is difficult to determine whether and to what extent increased productivity is due to market liberalization or technological change, respectively. Nevertheless, Falkenhall and Kolmodin

(2005) find that productivity, measured as delivered items of addressed mail per full-time employee, increased by 32 percent in 1994–2000.

Telecommunication services

In 1993 the Telecommunication Act and the Radio Communication Act opened up the telecommunications market for competition. Market entry regulations and licensing conditions for dominant operators were introduced (Statskontoret 2005). Moreover, the National Swedish Telecommunications Administration was transformed into Telia AB, which was initially 100 percent state-owned.

In 2000, Telia AB, was introduced on the stock market. Every Swede was guaranteed to buy at least 200 shares. However, the state retained majority control of the company. After the merger of Telia with the Finnish telecommunications company Sonera, the Swedish government still (May 2013) has an ownership share of 37 percent and ascertains *de facto* control of the company.

In 1993 most phone calls were made over the fixed copper network. After the deregulation Telia continued to own this network, thus having a monopoly of fixed-link subscriptions (Statskontoret 2005). However, technological development has profoundly eroded the effects of this monopoly. Mobile commu-

nications and fixed linked internet access have made it possible for other companies to enter the market and compete despite Telia's competitive advantage of owning the copper network. In new multi-household houses copper wiring is no longer installed.

Since the deregulation in 1993 the telecommunications market has undergone rapid technological development. A plethora of innovations has made it possible for consumers to use several different means in order to communicate (Hultkrantz 2002). Thus, in legal terms the word electronic communications services is used rather than telecommunications services. Technological development in collaboration with market forces have spurred new innovations, made entry by many different actors possible and have resulted in sharply reduced prices of electronic communication. Moreover, productivity growth has been very strong in telecommunications since the mid-1990s (Erlandsen and Lundsgaard 2007). However, it is not possible to separate the productivity effects of liberalization from technological improvements.

Electricity market

The deregulation of the electricity market was implemented in 1996. Both the production and trading of electricity were opened up for competition, while distribution remained a legal monopoly (SOU 2005:4).

It was emphasized that the network should be completely separated from production and trade. Initially, it was necessary for everyone who wanted to switch electricity providers to invest in costly equipment that could measure electricity consumption per hour. This requirement was abandoned in 1999 to make it possible for everyone to change electricity providers, if desired. In 2012, approximately 450 000 households changed electricity providers, which amounts to roughly 8 percent of all households (Statistics Sweden 2013b).

Electricity production is heavily concentrated; three firms account for nearly 90 percent of total output. Thus, it has been difficult for small producers to expand and challenge the leading incumbents (Statskontoret 2005). However, competition has been favored by the expansion of the electricity market to also include neighboring countries. No producer has a market share exceeding 20 percent at the Nordic level (Fridolfsson and Tangerås 2009). The price of electricity is determined on the joint Nordic power exchange, Nord Pool. The electricity price is to a large extent affected by the supply of water in reservoirs, which makes it difficult to compare price trends over time. In the first years after the reform electricity prices fell in the Nordic countries (Bergman 2002).

Fridolfsson and Tangerås (2009) evaluate the

Nordic electricity market in terms of deviations from short-term competitive pricing. They find no evidence of a systematic abuse of market power. However, there is some evidence that electricity producers from time to time are able to take advantage of capacity constraints and obtain regional market power. Moreover, they argue that market power may materialize in other ways, notably underinvestment in new capacity, exploitation of buyer power and low capacity utilization in nuclear energy plants (Fridolfsson and Tangerås 2011).

The largest electricity producer, Vattenfall, is still a government-owned company. Moreover, among all state-owned enterprises, Vattenfall has provided the largest dividend payouts to the government. This gives rise to a conflict between two competing government interests: a high return on government assets and a well-functioning competitive electricity market (Statskontoret 2005)

Railways

The deregulation of the railway industry has been carried out in different stages. In 1996 market entry for goods traffic was made free in principle, while free entry into passenger traffic was not introduced until 2010. The railway tracks have remained under government control.

In 1988 the infrastructure was separated from operations. Today, the Swedish Transport Administration is responsible for the construction and maintenance of the state-owned railroads. The state-owned company SJ continued to be responsible for railway services (Nilsson 2002). However, it was possible for private firms to compete in procurement of regional train services. Thus, in 1989 BK Tåg won a four-year contract and could conduct train services on a small scale. In the 1990s several private firms won contracts for non-commercial services (Nilsson 2002). However, SJ continued to have monopoly on the commercial railway services. Thus, competitors could only enter the market through procurement (Statskontoret 2012). In 2010 the market was deregulated and free entry was allowed. However, the effects of the deregulation have not yet been thoroughly evaluated.

In 1996 there was a complete deregulation of freight services in Sweden. In 2001 SJ was split into three separate firms: SJ for passenger services, Green Cargo for freight transport and Swedcarrier for real estate assets. In 2010 there were 15 different companies competing in the freight market (Vierth 2012). However, the market is still dominated by the state-owned company Green Cargo, with a market share exceeding 60 percent (Alexandersson and Hultén 2008).

Pharmacies

The Swedish pharmacy market was deregulated in 2009 when the state retail monopoly for pharmaceuticals was abolished. The scope for organizing provisions of pharmaceuticals to hospitals was extended, and the pharmacy retail industry was liberalized.

The state-owned company Apoteket AB was split up horizontally by letting four new entrants buy 465 pharmacies (Statskontoret 2012). Moreover, 150 pharmacies were sold to independent entrepreneurs. The remaining pharmacies (approximately 300) are still operated by the state-owned Apoteket AB.

According to Statskontoret (2012) the pharmacy deregulation is still difficult to evaluate properly because of data constraints and difficulties in isolating the effects of deregulation from the effects of other changes in the market.

Vehicle inspection

Compulsory vehicle inspections were introduced in Sweden in the early 1960s. In 2010 the inspections were deregulated. Firms accredited by the Swedish Board for Accreditation and Conformity Assessment are allowed to conduct car inspections. The state owned company AB Svensk Bilprovning is in the process of selling-off parts of its inspection facilities. It is too early in the process to evaluate the reform (Statskontoret 2012).

What can we learn from economic reforms in the Swedish product markets?

One important goal of the numerous product market reforms carried out in Sweden since the early 1990s was to create a more competitive environment in the various markets, which in turn was expected to result in positive productivity effects and more rapid economic growth.

An important conclusion is that it is often difficult to evaluate the exact impact of a specific product market reform. One reason is that it takes time from when the reform is implemented until it actually has any effects on competition, prices and efficiency. Other factors such as exogenous technological change can be driving productivity in a specific market. Thus, it is difficult to isolate the effects from a specific product market reform.

Another important conclusion to be aware of when evaluating the effects from product market reforms is that product market reforms in one sector can have large effects on productivity growth in other sectors. For example, if telecommunications have a good coverage and prices are competitive more people will use their mobile phones and mobile internet services; this is likely to positively impact on the performance of telecommunications-intensive industries. Hence, a country with many well-functioning markets has a

larger potential for obtaining high productivity growth not only in specific industries, but also in the economy as a whole, as a result of spillover effects.

The Swedish reform process since the early 1990s also shows that every market experiencing deregulation has specific characteristics. For example, to provide electricity to households and firms, access to a network is necessary. By contrast, no binding constraint of a similar nature is faced by a person considering starting a taxi service. Hence, there is no blueprint for deregulation that can be applied across product markets. In order to reap the full benefits from deregulation of a specific product market, thorough knowledge of the relevant idiosyncratic factors is required and this knowledge needs to be used astutely in order for the reform to be successful.

A specific aspect of the Swedish product market reforms is that in all cases except deregulation of the taxi market, the reform process has involved the formation or restructuring of a company wholly or partly owned by the government. This is also indicated by the OECD product market regulation indicators where the category "state control" is still high for Sweden (figure 3).

A characteristic of most of the product market reforms carried out in Sweden since the early 1990s is that a state-owned company has retained a market

leading position even after deregulation. The likely explanation for this state of affairs varies. In the case of Vattenfall, the government may want to make sure that strategic energy resources remain under government control. In postal services, railway transportation and telecommunications the government wants to secure that people living in remote and sparsely populated areas also have access to key services at affordable prices. A third explanation could be to make sure that the new deregulated market becomes well-functioning when it is opened up for new entry, in order to avoid the risk of having a private company that becomes too predominant.

The trend in Swedish product market reforms has been to keep at least one state-owned company in a leading position in the respective industries; the state actor has been expected to improve its performance while allowing for, and facilitating, the entry of new actors. This appears to be a successful strategy in the short run. However, as the different product markets evolve and mature, and where there is fierce competition, the rationale for retaining large state-owned companies as industry leaders gradually evaporates. Thus, the next logical step in the area of Swedish product market reform is to develop an exit strategy for state-owned companies operating in competitive markets. One example, where the Swedish state has

gradually decreased its stake is the telecommunications company Telia. There is no reason for the government to continue to be involved as a controlling owner of companies in well-functioning markets.

Incentives to innovate in Sweden

The previous section investigated product market reforms defined narrowly and primarily examined market integration, competition policy and national regulation. This section will focus on the wide view of product market reforms, highlighting the reforms that Sweden has undertaken to promote incentives for entrepreneurship, R&D and innovation.

Entrepreneurship and innovation

In the last few decades it has become evident that entrepreneurship and innovation have grown increasingly important for explaining economic growth in industrialized countries (Baumol 2010). According to OECD (2005, p. 46): »An innovation is the implementation of a new or significantly improved product (good or service), or process, a new marketing method, or a new organizational method in business practices, workplace organization or external relations«. The two most common indicators of innovation are R&D

spending and patents. It is important to be aware that spending on R&D is an input measure and does not measure technological change.

Entrepreneurship can be defined in many different ways. One of the first economists who emphasized the importance of entrepreneurship for economic development was Joseph Schumpeter (Schumpeter 1934). According to Schumpeter the entrepreneur's role is to produce innovations by combining inputs in a novel manner to create value for the consumer. Moreover, an important characteristic for most definitions of entrepreneurship is that the entrepreneur is seen as someone accomplishing change and promoting development (e.g., Parker 2009). Henrekson and Stenkula (2010) also note that the entrepreneur is not the only agent important for economic progress. Entrepreneurs are also dependent on complementary agents such as skilled labor, industrialists, venture capitalists and secondary markets.

In the economic debate about innovation, the system of innovation approach is often used as a framework to try to understand the role of innovation and entrepreneurship in economic development. According to Metcalfe (1995, p. 462–463) a system of innovations is »that set of distinct institutions which jointly and individually contribute to the development and diffusion of new technologies and which provides

the framework within which governments form and implement policies to influence the innovation process. As such it is a system of interconnected institutions to create, store and transfer the knowledge, skills and artifacts which define new technologies.« Braunerhjelm et al. (2012) argue that the system of innovation approach often has too narrow a focus on new technologies, while failing to emphasize incentives to innovate. Fagerberg et al. (2010) also argue in favor of a broader perspective on innovation. Thus, this chapter will primarily deal with an incentives perspective on innovation within a few broad policy areas.

The development of innovation and entrepreneurship in Sweden

Sweden has been able to maintain a strong industrial base with a broad range of products and activities. During the last decades Swedish firms have also been able to integrate sophisticated service components into their products. In fact, all employment growth net since the mid-1990s consists of business services (Edquist 2010).

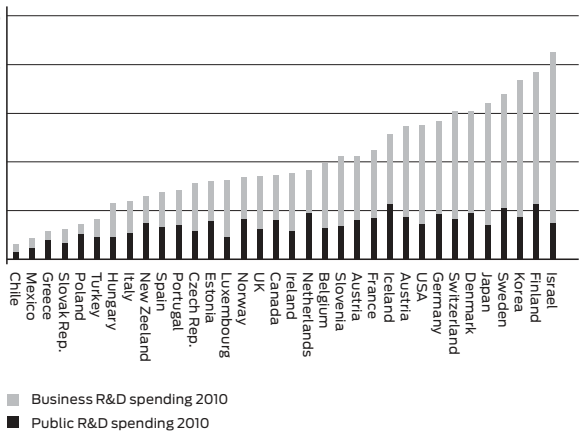
Swedish firms have substantially invested in intangible assets (Edquist 2011). Intangible investment can be defined as expenditures by businesses intended to increase output in the future that do not take the form of traditional physical capital (Corrado et al. 2005).

According to Corrado et al. (2005) these investments include software, R&D, mineral exploration, copyright and license cost, development cost in the financial industry, design, brand equity, vocational training and organizational structure. van Ark et al. (2009) find that intangible investments account for a large share of GDP in many countries. In Sweden, intangible investment was almost 10 percent of GDP based on growth accounting calculations and accounted for nearly 30 percent of labor productivity growth in the business sector in 1995–2006 (Edquist 2011).

An important intangible asset is R&D. Figure 4 shows R&D spending by government and the business sector within the OECD. According to Figure 4 total spending on R&D in Sweden was 3.4 percent of GDP in 2010. Thus, R&D spending as a share of GDP was only higher in three other countries, namely Israel, South Korea and Finland. Business spending on R&D accounted for almost 70 percent of total spending. It is evident that Swedish firms have invested considerably in R&D, although the share of R&D investments by firms has decreased since the early 2000s (OECD 2012).[3] Moreover, a few large Swedish companies account for the lion's share of R&D investments. According to Statistics Sweden (2012a), the ten larg-

3 It may be noted that in the 1990s Sweden had the highest R&D spending as a share of GDP of all countries.

Figure 4. R&D expenditures in OECD countries 2010



Source: OECD (2012).

est firms investing in R&D in Sweden accounted for 55 percent of total R&D investments in the business sector in 2011.

Sweden's economic development and innovation system has been based on a long-term co-operation between the state and industry. Public procurement has been a major driver of innovation and economic growth (OECD 2013c). According to OECD (2013c) Sweden has a highly favorable environment for opera-

ting a business. There is good access to bank lending, and venture capital is supplied through a combination of business angel activity and public support.

The proportion of high-growth firms (in employment), so-called gazelles, was among the highest in the Swedish service sector compared to other OECD-countries, but only about average in manufacturing in 2008 (OECD 2013c).[4] Moreover, a survey by Henrekson and Johansson (2010) concludes that gazelles are outstanding job creators. All studies surveyed find gazelles to generate a large share of all net jobs. There is no evidence that gazelles are overrepresented in high-tech industries, but there is some indication of them being overrepresented in services. In Sweden, small and medium-sized enterprises have reasonably good access to bank loans, although somewhat less so for high growth firms compared to many other countries (OECD 2013c).

Measuring innovation output is complicated. Different indicators only partially cover the impact of innovation. Many indicators have been collected for other purposes and may therefore be influenced by factors that have very little to do with innovation. The impact of different innovations also differs widely. Nevertheless, the OECD has developed a number of

4 High growth firms are defined as firms with average annual growth in employees exceeding 20 percent over a three-year period.

indicators. Some examples are royalty and license fees, patents and trademark applications, and academic publications and citations.

According to the OECD (2013c) Sweden performed very well in terms of innovation output. Sweden is among the world leaders in terms of scientific publications and patents per capita, although scientific performance is somewhat less impressive when citations are taken into account. In terms of patent applications per million inhabitants, Sweden is among the leading EU-countries. Sweden also performs well in terms of trademarks applications. Moreover, ICT has become increasingly important for innovation. Broadband penetration among Swedish households is 82.6 percent compared to the OECD average of 62.8 percent (OECD 2013c). Standard mobile broadband subscriptions are also significantly higher than in most other OECD countries.

As pointed out by the OECD (2013c) innovation is seldom an end in itself, but rather a means towards other goals such as increased productivity, market shares, revenue, profits or aggregate growth. Thus, aggregate indicators can therefore only be used to analyze the impact on an innovation system in a partial sense. However, keeping this caveat in mind, these indicators are still one important aspect to consider in the evaluation of a national innovation *system*.

Swedish innovation policy

According to the OECD (2013c), innovation activity requires a medium- or long-term horizon and a stable and favorable institutional environment. So far, Sweden appears to have been successful both in terms of innovation input and output. R&D and other intangible investment spending is high, and the same is true for scientific publications and patent applications per capita. Broad aggregate indicators such as productivity growth and economic growth have also been high since the mid-1990s. What are the characteristics of Swedish innovation policy, and what can be improved?

The purpose of this section is not to provide a complete description and analysis of Swedish innovation policy. Instead the focus will be on a few key areas which are deemed especially important for the incentives to innovate: the role of public policy actors, the higher educational system, research support, commercialization of research, publicly financed venture capital and loans, public procurement and tax incentives for innovation and entrepreneurship.

The role of public policy actors in Sweden

A number of different public actors at all levels of government are involved with the purpose of creating propitious conditions for innovations in the Swedish economy. The Ministry of Enterprise, Energy and

Communication is responsible for innovation policy including enabling organizations, while the Ministry of Education and Research is responsible for schools, universities and research policy.

VINNOVA – the Swedish Governmental Agency for Innovation Systems – is Sweden's innovation agency. Its mission is to promote sustainable economic growth by improving the conditions for innovation and funding needs-driven research. Another important agency for promoting innovation is the Swedish Agency for Economic and Regional Growth (Tillväxtverket). It is primarily involved in fostering entrepreneurship and promoting regional strategies to support innovations. Included in the Swedish state support system for innovations are also a number of government-funded research foundations such as the Swedish Research Council, the Swedish Foundation for Strategic Research, the Knowledge Foundation (KK-Stiftelsen) and the Foundation for Strategic Environmental Research.

All these foundations and government agencies form a network with the aim of providing opportunities for researchers and innovators to develop their ideas. However, there are few, if any, high-quality quantitative evaluations of these programs and organizations. In contrast to the US, Swedish evaluations tend to be focused on qualitative aspects (OECD

2013c). Even though examples exist where government action has been instrumental for innovation, such as the deployment of the GSM infrastructure in the 1990s, it is not evident that more resources to governmental agencies and foundations directly translate into more innovation output and economic growth.

Higher educational system

Most of the publicly funded R&D takes place in 40 university and university colleges in Sweden. Five of these universities – Karolinska Institutet, Uppsala University, Lund University, Stockholm University and the University of Gothenburg – receive almost 60 percent of total public R&D funding (OECD 2013c). Nevertheless, there has been a regionalization trend in Sweden since the mid-1970s. New universities and university colleges have been established and there is a university branch or a college in most larger and medium-sized cities. The number of students participating in university education increased from approximately 216 000 in 1993 to 342 000 in 2011, i.e. by approximately 60 percent in two decades (Statistics Sweden 2013a). Moreover, there are specific research foundations like the Knowledge Foundation that are primarily focused on financing research in new universities and university colleges.

The age of graduation in tertiary education in Sweden is among the highest in the OECD. The average

graduation age is 29 years compared to 24 in the UK (Uusitalo 2011). Swedish students enter university-level education later than the youth in other comparable countries and the average duration of university education is about five years, which is higher than the OECD-average.

In terms of academic output, Sweden performs well; the indicator showing scientific articles per 1 000 persons puts Sweden in second place after Switzerland. Moreover, a similar result is found for citations relative to population. Nevertheless, the annual growth in scientific publications has recently declined relative to the EU average. According to OECD (2013c) the average annual growth rate in scientific publications was 3.5 percent in Sweden compared to 5.1 for the EU. Karlsson and Persson (2012) find that in comparison to Denmark, Finland, the Netherlands, Switzerland and the UK, the mean citation rate and the production of highly cited papers have declined.

Finally, it is worth noting that the higher educational system in Sweden is highly dependent on the performance of the educational system at lower levels. There are clearly indications of problematic developments in earlier stages of the Swedish educational system. International surveys such as PISA and TIMSS indicate that educational results in Swedish schools have declined since the mid-1990s, notably in

mathematics and the natural sciences (OECD 2013c). Moreover, there seems to be inflationary problems with the grading system, which is used as the primary selection mechanism for higher education. According to Vlachos (2010) the share of pupils with the maximum grade point average increased from 0.1 percent in 1997 to 3.5 percent in 2008, while the performance of Swedish pupils deteriorated in international tests.

Research support

Every four years the Swedish parliament decides on a bill on how to allocate and structure public research and innovation spending. In the Research and Innovation Bill 2013–16; the distribution of funding based on quality criteria and peer review was sharply increased (OECD 2013c). The bill specifically emphasized attracting top young researchers to Sweden.

Unlike many other countries, Sweden does not offer much direct public support to stimulate R&D in the business sector. Instead, support to R&D is based on funding from foundations and funding agencies, which are often partners in consortia. It is an interesting paradox that despite the near absence of direct R&D-subsidies, business R&D investment in Sweden is among the highest in the OECD.

Commercialization of research

In addition to teaching and research, Swedish universities are expected to encourage and facilitate commercialization of their research. To diffuse and commercialize knowledge is the »third mission« of universities, as mandated by the law governing public universities.[5] Many universities have established technology transfer offices, incubators and science parks. Swedish incubators provide dedicated business support services to start-up and early stage firms. There are approximately 800 companies in these incubators employing 3 500 persons (OECD 2013c). Moreover, 4 000 companies are connected to a science park, trying to stimulate the flow of technology among university research departments and firms. Thus, entrepreneurship is an important goal of the Swedish academic sector (OECD 2013c).

Sweden also supports a system of »professor privilege« which implies that persons employed at universities, technical colleges and other academic institutions have the property right to the inventions that they make during their employment (Färnstrand Damsgaard and Thursby 2013). The professor privilege strengthens the incentives for individual researchers

5 Effective from 1998, this is spelled out explicitly in the regulation of the universities. The universities are exhorted to be open to influences from the outside world, disseminate information about their teaching and research activities outside academia, and to facilitate society's access to relevant information about research results.

to try to commercialize their inventions. Moreover, the inventor often has the best knowledge about the commercial potential of their products. However, giving all property rights to the inventor does not automatically create the best incentives for commercialization. According to Goldfarb and Henrekson (2003) there is a risk that the organization of the university environment creates disincentives for academic inventors. Hence, they argue that the system would work better if property rights were shared between universities and inventors; in the US, the Bayh-Dole Act awards universities the property rights to research financed by federal grants. However, the US system differs in many other dimensions as well, most notably that the universities themselves are highly competitive vying for talented students, faculty and research grants; in Sweden and most other European countries, they are tax-financed government bodies.

Publicly funded venture capital and loans

In Sweden the state is involved in facilitating financing for enterprise through venture capital and loans. The rationale behind this involvement is that venture capital markets seldom are efficient over the entire business cycle in small countries. Moreover, large private venture capital firms seldom provide early stage seed funding (Svensson 2011).

The principal government organizations involved in providing venture capital to firms are: Almi and the Swedish Industrial Development Fund (Industrifonden). Until 2012 the Innovation Bridge (Innovationsbron) was an independent state-owned limited company. In 2013 it was merged with Almi. It provides seed financing for the commercialization of ideas from universities and businesses that are based on new and advanced technologies. Firms are assisted through different channels such as seed funding, soft loans, equity investments and incubators. Almi is a public non-profit company that offers a combination of advice, business development and supplementary financing (OECD 2013c). The Industrial Development Fund is an independent foundation formed by the Swedish government. The Fund either invests in equity or provides loans. All investments are made on a commercial basis in cooperation with entrepreneurs and other investors.

Svensson (2011) evaluates the public support for early stage firms in the form of venture capital and loans. Public support is primarily needed at early stages and for R&D-intensive projects. However, Svensson (2011) finds that too large a share of the public support is used at later stages when many firms already have a positive cash flow and would be able to obtain financing in the regular market. Svensson (2011) claims that the Innovation Bridge (now part of

Almi) is the only government organization that fulfills the role of providing financing in cases that cannot be handled by the private market. He further argues that public funding should be based on matching funds from the business sector to the greatest extent possible, and public funding should be redirected towards earlier stage development.

Public Procurement

Demand-oriented policies have recently received increased attention. These polices are driven by the belief that, if appropriately designed, governments can shape innovation directly or indirectly. Public technology procurement occurs when a public agent places an order for a product or system that does not yet exist, requiring technological innovation for the order to be met (Edquist and Hommen 2000).

By being a lead user the government can also influence the diffusion of innovation. Moreover, demand directly created by government outlays can be a way to give small firms access to capital. Promotion of such outlays could also be attractive in a context of fiscal constraints.

Historically, public procurement has been important for the development of some of Sweden's largest companies. One example is the public procurement of AXE switches and the development of the GSM stan-

dard that helped Ericsson to thrive. Another is public procurement in electricity transmission, which benefited ASEA/ABB.

The OECD finds that Sweden, unlike the US, does not have a program that integrates SMEs into R&D procurement. The US has a small business innovation research (SBIR) program, which implies that a specified percentage of federal R&D funds are reserved for small businesses. SBIR funds the critical startup and development phases and it encourages the commercialization of the technology, product or service.

Tax incentives for innovation and entrepreneurship: owners and financiers

Tax policy affects returns on innovation and hence the incentive to innovate (OECD 2013c; Rosen 2005). The tax system is therefore a key public policy tool in setting the level of rewards for innovative entrepreneurship. The extent and design of the tax system affects the net return on entrepreneurship, both directly and indirectly. It determines a potential entrepreneur's risk/reward profile and consequently his/her incentives for undertaking entrepreneurial activities. Extensive research has analyzed theoretical and empirical effects of the tax system; its effects are, however, often complex and sometimes counter-intuitive.[6]

6 See Henrekson and Stenkula (2010) and Sanandaji (2011) for a more detailed discussion of

An absolute increase of taxation of entrepreneurs lowers the (expected) after tax reward. It also makes expansion financed by retained earnings more difficult and negatively affects the liquidity position of an entrepreneur. A lower after tax return or higher expansion costs discourages entrepreneurial activities and impedes new start-ups and the expansion of firms.

Taxation also alters the relative return of different activities if it favors one form of employment over another. As a result, a higher tax rate may encourage income shifting and thus positively influence (some form of) entrepreneurship in the economy.

It may be easier for self-employed to underreport income by avoiding registration of cash sales to overstate costs by recording private expenses as business costs, or to frequently use more informal agreements that are hard for the tax authority to verify or disclose.[7] When a business expands beyond a certain level, it becomes more difficult to exploit such tax avoidance opportunities.

Given that entrepreneurial incomes are more variable than salaried income, the average tax will be higher for entrepreneurs in a progressive tax system. A highly progressive tax system with imperfect loss offset therefore deters entrepreneurial business entry,

the effects of taxes on entrepreneurship.
7 Engström and Holmlund (2009) estimate the Swedish self-employed underreport their income by 30 per cent.

and high marginal tax on entrepreneurial income (for high incomes) penalizes gazelles, or high-growth entrepreneurial ventures (Gentry and Hubbard 2000).

In sum, theory argues for both a positive and a negative relationship between taxation and entrepreneurship. The positive effects seem mainly to encourage unproductive (or destructive) entrepreneurship and non-entrepreneurial self-employment.

In order to calculate the total effect of taxation, one must consider corporate taxation's specific rules for depreciation and valuation and the taxation of interest income, dividends, capital gains, and wealth. The effective total tax rates also depend on ownership category.[8] In many developed countries, business ownership positions held directly by individuals and families have been taxed much more heavily than other ownership categories. The wave of tax reforms that swept the OECD in the 1980s leveled many of these differences (Jorgenson and Landau 1993). Those that still persist, however, spur an endogenous response in the ownership structure of the business sector towards the tax-favored owner categories (Rydqvist et al. 2011). If individual stock holdings are disfavored relative to institutional holdings and institutions are less willing

8 These kinds of highly complicated estimates have been made for a number of countries using the methodology developed by King and Fullerton (1984).

to invest in small and new entrepreneurial projects, entrepreneurial activity could be hampered.

Most of the economic return from successful high-impact entrepreneurial firms comes as steeply increased stock market value rather than as dividends or large interest payments to the owners. As a result, the taxation of capital gains on stock holdings greatly affects the incentives for potential high-impact entrepreneurs, and high corporate and capital gains taxation may also discourage the venture capital industry (Da Rin et al. 2006). Successful entrepreneurs are also highly sensitive to wealth, property, and inheritance taxes.[9] Certain assets are exempted from taxation in many countries, such as corporate wealth or pension savings, and the imputed value used as the basis for assessments is often based on arbitrary calculation rules. These rules may spur (like corporate wealth exemption) or discourage (like pension savings exemption) investments in entrepreneurial activities.

Until 1991 the Swedish tax system severely penalized new, small and less capital-intensive firms, while large firms and institutional ownership (pension funds, insurance companies etc.) were favored. For a long time there was large difference depending on the type of owner and the source of finance. Debt financing was most favored, while financing through newly

9 See Rosen (2005) for an overview.

issued equity was taxed most heavily. Households/individuals were taxed far more heavily than other owner categories; from the mid 1960s until 1991, the real rate of taxation for a household owning a successful firm continuously exceeded 100 percent (Davis and Henrekson 1997).

The 1991 tax reform and some subsequent minor reforms leveled the playing field considerably for different combinations of owners and sources of finance. The abolition of the wealth tax on unlisted stock in 1992, and then for all assets in 2008, has strengthened this tendency even further.

The Swedish small business tax rules are complicated. The main reason for this is that the policy makers want to prevent that income from labor, which is normally subject to higher tax rates, is converted into capital income which is taxed at lower rates. For closely held firms there are particular restrictions on the payment of dividends, the so-called 3:12 rules. These rules were introduced in 1991 to prevent owners of profitable small businesses from saving on taxes by paying themselves dividends taxed at 30 per cent rather than wages taxed at the marginal tax rate for labor income. The scope for dividend payments was therefore restricted to a relatively small percentage of the equity capital paid by owners. The 3:12 rules also raised the capital gains tax on small businesses.

However, since 2006 a number of measures have been implemented that enable entrepreneurs' to have a larger share of their income taxed as capital income. In addition, the tax rate on such income was also lowered from 30 to 20 per cent (Edmark and Gordon 2013).

The main conclusion regarding the incentive effects of the tax system on innovative entrepreneurship is that the tax system is far more encouraging for individuals to start, develop and be controlling owners of firms compared to the situation in the 1970 and 1980s. But as we will see in the next subsection, the tax system is still very unfavorable for firms that would like to reward the entrepreneurial effort of their employees by granting them stock options, i.e. future ownership stakes in the firm at attractive rates when this is tied to continued employment in the firm.

Tax incentives for innovation and entrepreneurship: employees

A large part of the entrepreneurial function in a firm is carried out by employees who do not have any ownership stake in their firm; they will be remunerated through wage income, and the income they receive will be taxed according to the labor income tax schedule. Throughout the postwar period income taxes have been very high in Sweden, with marginal taxes reach-

ing a high of 85 percent in the late 1970s.

One potentially useful instrument to stimulate employees to behave more entrepreneurially and to supply more entrepreneurial effort is stock options. In particular, stock options can be used to encourage and reward individuals who supply key competencies to a firm. In ideal circumstances, this would provide incentives that closely mimic direct ownership (Gilson and Schizer 2003). This is most important for entrepreneurs in certain industries where options serve as an effective response to agency problems.

The efficiency of stock options greatly depends on the tax code. If gains on stock options are taxed as wage income, some of the incentive effect is lost. This becomes particularly true if the gains are subject to (uncapped) social security contributions and if the marginal tax rate on wage income is high.

The situation changes dramatically if an employee with stock options can defer the tax liability until the stocks are eventually sold. The effectiveness is reinforced further if the employee suffers no tax consequences upon the granting or the exercise of the option and if the employee is taxed at a low capital gains rate when the acquired stock is sold. The US changed the tax code in the early 1980s along these lines, paving the way for a wave of entrepreneurial ventures in Silicon Valley and elsewhere (Lerner 2009; Bengtsson et al. 2013).

In Sweden, by contrast, the use of stock options to encourage entrepreneurial behavior among employees is highly penalized by the tax system; gains on options are taxed as wage income when the stock options are tied to employment in the firm. Thus, they are subjected both to mandatory social security (31.4 percent) and the marginal tax rate. Since the marginal tax rate is roughly 57 percent (even for moderate annual incomes) this entails a total tax rate of almost 67 percent. The firm that issues the stock options does not pay the social security tax until the stock options are exercised, and hence the firm cannot calculate the cost of its stock option plan. As a result, the Swedish tax code effectively renders impossible the use of stock options tied to employment. This is also a major impediment for the development of a venture capital industry like that of Silicon Valley. Instead, Swedish private equity firms are heavily concentrated in the buyout market, where it is far easier to construct tax-efficient remuneration contracts (SVCA 2012; Lerner and Tåg 2013).

How can incentives to innovate in Sweden be improved?

Although Sweden has been successful in terms of innovation input and output, our analysis shows that there are additional improvements in innovation

policy that can be made in order to strengthen incentives for innovation, entrepreneurship and economic growth.

Our analysis shows that there is an important network of government agencies with the aim of providing opportunities for researchers and innovators to develop their ideas. Nevertheless, it does not appear obvious that more government resources directly translate into more innovation output and economic growth. In terms of aggregate R&D spending relative to GDP, Sweden already belongs to the top five countries in the world. These resources could be used more efficiently; redirecting government support to early stage funding in the form of seed capital and loans would be beneficial.

Despite the lack of direct R&D subsidies, business R&D investments in Sweden are among the highest in the OECD. As such, there is no need for general R&D subsidies in Sweden. However, our analysis shows that a few large Swedish companies account for the lion's share of private sector R&D. Moreover, high-growth firms, often called gazelles, generate a large share of all net jobs in Sweden and many other OECD countries.[10] Thus, government policy should encourage R&D investments in SMEs to a greater extent. One way of doing so could be through public procurement.

10 See Heyman et al. (2013) for a new detailed study on job creation in Sweden.

Swedish policy makers could look to the United States, where the Small Business Innovation Research (SBIR) program requires that a specified percentage of federal R&D funds is channeled to small businesses.

During the last two decades the higher educational system in Sweden has expanded considerably. The number of students enrolled in university education has increased by approximately 60 percent since the early 1990s. However, Swedish students enter university late (average age at graduation is close to 30) and the average duration is about five years. Whether it is wise that many students remain within the system for such a long time should be evaluated. The average length of many Swedish university programs could be shortened, allowing government resources to be used to encourage firms to invest in vocational training for employees. Since firms are likely to have better information than the government about the competencies they need, firm-driven vocational training would provide better employer–employee matching in the labor market.

Sweden has a long tradition of supporting a system of »professor privilege« that gives the property rights of inventions to persons employed at the university, even if their research is funded by government grants. While this system provides strong incentives to innovate, it may not provide the best incentives for commercialization; sharing property rights between

universities and faculty inventors could create better incentives for commercialization. However, it would also require new ways of organizing research and commercialization within universities. Moreover, state-owned universities should not be majority owners of companies based on a new innovation.

Tax policy affects the returns on innovation and thus, the incentives to innovate. Research shows that a large part of the entrepreneurial function in a firm is carried out by employees who do not have any ownership stake in their company. One way to stimulate employees to behave more entrepreneurially and increase their entrepreneurial effort is stock options. However, unlike many other countries, the use of stock options to encourage entrepreneurial behavior is penalized by the tax system in Sweden. Thus, we deem that lowering taxes on options to employees in firms would increase the incentives for innovation.

Conclusions

The Swedish economy has developed strongly since the mid-1990s, both relative to previous decades and relative to most OECD countries. One characteristic of Swedish economic development is the rapid labor and total factor productivity growth. Labor productivity growth has been particularly strong in manufactur-

ing, with an annual growth rate of 6 percent. Considering the performance of the Swedish economy in recent years, it may be difficult to grasp that in the early 1990s Sweden experienced a severe economic crisis with negative economic growth for three years in a row, a loss of 13 percent of all jobs, a budget deficit peaking at 15 percent of GDP in 1993 and a short-term interest rate as high as 500 percent.

This chapter has investigated two different policy areas that are believed to have been important for the economic development in Sweden during the last two decades, namely product market reforms and strengthened incentives to innovate. Product market reforms are defined as »changes in 'market institutions' with a view to have goods and services markets function better« (Pelkmans et al. 2008).

The first part of this chapter investigated product market reforms concerned with market integration, competition policy, national regulation of product markets and the degree of openness to the global economy. The second part had a wider view on product market reforms and examined strengthened incentives to innovate and thus primarily focused on the business environment, entrepreneurship and the impact of R&D on innovation and growth.

Since the early 1990s a number of major product market reforms have been implemented in Sweden. We

discuss reforms in the following markets: taxi services, domestic aviation, postal services, telecommunication services, electricity market, railways, pharmacies and vehicle inspection. A key finding is that it takes time from when measures are implemented until sizable effects on competition, prices and productivity materialize. Hence, it is often difficult to evaluate the exact impact of a specific product market reform. Moreover, product market reform in one sector or industry can have large spillover effects on productivity growth in other sectors.

An important characteristic of most of the product market reforms in Sweden in the early 1990s is that even after deregulation a state-owned company retained a market-leading position. Thus, there is a clear tendency that Swedish product market reforms have been carried out with the intention of having a state-owned company in a leading position, but putting pressure on them to improve by allowing for new entries to the market.

It is difficult to provide any sharp tests showing exactly how important product market reforms were for economic development in Sweden since the early 1990s. Nevertheless, a strong case can be made that many of these reforms have been one crucial factor behind the strong growth in Sweden since the mid-1990s. We believe there are still product markets that are overly regulated and would benefit from being

liberalized. One example is the Swedish rental housing market, which is still heavily regulated. However, exactly how this liberalization would be carried out is beyond the scope of this chapter. Moreover, in our judgment, the next logical step in the area of Swedish product market reform is the development of an exit strategy for state-owned companies operating in competitive markets. There is no reason for the government to continue to be involved as a controlling owner of companies in well-functioning markets.

Since the early 1990s Sweden has been successful in terms of innovation. Both Swedish firms and the government have invested substantially in R&D and other intangibles and Sweden belongs to the top five countries in terms of R&D investment per capita. Furthermore, innovation output in terms of scientific publications, citations and patent applications per capita is very high. However, the growth rate of scientific publications has declined relative to the EU average. R&D investment is also highly dominated by a small number of large multinational corporations. In 2011, the ten largest firms accounted for 55 percent of total R&D investments in the business sector.

Finally, we argue that there are a number of measures that could be taken in order to further strengthen the incentives to innovate. These include increased government support in terms of venture capital and

loans in early-stage funding, increased R&D resources for SMEs, increased support for firms to invest in vocational training, lower taxes on stock options to employees and shared property rights between universities and faculty inventors.

Chapter 6

Conclusions and policy recommendations

Maria Choupres
Harald Edquist

This volume has investigated the labor and product market reforms in Greece and Sweden since the early 1990s. It shows that both countries have undertaken several reforms in these areas. The Greek economy is currently under heavy financial distress. Nevertheless, it is necessary for Greek policy makers to start thinking about how Greece can become a competitive economy in a medium and long-term perspective. This volume shows that there are important lessons to be learned by Greece on how Sweden managed its economic crisis in the early 1990s. However, it also shows that there are important insights for Sweden based on Greek experiences. This chapter briefly compares labor and product market reforms in the two countries and provides policy recommendations based on the analysis.

A comparison of labor market reforms in Greece and Sweden

Both Greece and Sweden have carried out a number of labor market reforms since the early 1990s. An important difference is that the Greek labor market reforms to a large extent have been carried out during a very short time period, i.e. after 2010, as a response to the economic crisis the country is mired in. The Swedish labor market reforms have been continuously implemented over a longer time period. However, a few

reforms were implemented as a direct response to the crisis in the early 1990s, such as the reformation of the Swedish pension system.

In both the old and the new Swedish pension system, pensions are based on rules rather than contributions. Under the old system, pensions were based on the income of an individual's 15 best years. By comparison, before 2010, the pension level in Greece was based on the average salary during the last 5 years before retirement. In the new Swedish system pensions are based on the whole earnings history of an individual, and employment protection rules apply up to age 67 instead of 65. It is probable that the new pension system is one of the explanations for higher labor force participation among older people in Sweden. As a matter of fact, Sweden had the highest participation rate among older persons in the EU in 2012. After 2010, the Greek pension system changed and is currently also based on lifetime earnings. However, it is too early to evaluate the effects on labor force participation.

Unlike Greece, Sweden has carried out a number of reforms that have enhanced and increased the incentives for women to work. Some examples are separate tax schedules, lower taxes for household services and subsidized childcare. This might be one reason to why the female participation rate is much higher in Sweden

compared to Greece and the EU average.[1] Unemployment is particularly high among women in Greece.

The Swedish employment protection legislation is characterized by a large difference between strict protection for permanent contracts and less strict protection for fixed-term contracts and temp agencies. Regarding permanent contracts, it is very difficult to fire anyone for »personal reasons«, but the employer can always downsize employment due to shortage of work. When downsizing, the principle used is last in–first out (LIFO) unless something else is agreed upon in collective agreements.

Before 2010, there were large differences in employment protection for permanent contracts between blue-collar and white-collar workers in Greece. Moreover, there were a number of legal barriers protecting public sector employees from being fired. Fixed-term contracts were more regulated than in Sweden, and temp agencies were subject to a number of restrictions. Part-time employment was a non-attractive option for both employers and employees. Thus, the Greek employment protection legislation was stricter compared to Sweden's, for fixed-term contracts and temp agencies.

1 Sweden has a long tradition of active labor market policies (ALMPs). One of the objectives is to improve matching in the labor market and thus increase the employment rate and labor force participation. However, numerous studies show that the contribution of ALMPs to employment and labor force participation are at best modest.

After 2010, Greek employment protection has been liberalized. For example, the asymmetries between blue-color and white-color workers have been abolished, the probation period has been extended and the maximum period of notice has been reduced. Moreover, the special rules for public sector employees have also undergone changes. A number of measures have also been taken to introduce more flexible forms of employment. It has become more attractive to work part-time and regulations for fixed-term contracts and temp agencies have been alleviated. Finally, it has become less expensive for employers to pay employees for overtime.

It is of great interest also to compare the wage-setting system between the two countries. Wages in Sweden are set in collective bargaining, which begin with a target level discussion, followed by industry negotiations. The wages set in manufacturing serve as a reference point for other sectors in the economy. Since the early 1990s, collective agreements for large groups, such as white-collar workers and central government employees, do not include an agreement on wages. Instead wages are set in individual bargaining. It is also worth noting that minimum wages are determined through collective agreements and not by the state.

Before 2010 wages in the Greek economy were set in collective agreements. Bargaining was taking place

at the national, sectoral and occupational level. However, lower-level collective agreements could only revise agreements at more aggregate levels if they were more favorable for the employees. Public sector and public enterprises were important reference points in the private sector wage negotiations.

After 2010, reforms were introduced to decentralize the wage setting negotiations. This was achieved through the introduction of a »special firm-level collective agreement« that is signed directly between employers and employees and that overrules any higher-level agreements. The agreement can be signed irrespective of firm size and the way the employees' representation is organized. In addition, there have been reductions in public sector wages and the remuneration system has been simplified.

The employment protection rules and wage setting systems in Sweden and Greece might be a reason for the high youth unemployment in both countries (OECD 2012). Employment protection makes it more difficult for outsiders to enter the labor market, while the wage setting systems make it unprofitable to hire young people without experience.

A comparison of product market reforms in Greece and Sweden

Sweden has received high rankings in comparisons of innovation and competitiveness, while the Greek rankings have deteriorated during the last decade. In terms of product market regulations, Sweden ranks average among the EU-15. However, compared to many other EU-countries, the category »state control« is still high, due to considerable influence by the Swedish government on firms' decisions through public ownership, price controls and other forms of regulation. In comparison, Greece was by far the most regulated economy in EU-15 in 2008 (Wölfl et al. 2008).

Since the early 1990s, a number of product market reforms have been carried out in Sweden. These include taxi services, domestic aviation, postal services, telecommunication services, the electricity market, railways, pharmacies and vehicle inspection. One important conclusion is that every market being deregulated has specific characteristics. For example, to provide electricity to households, firms require access to a network. However, a person starting a taxi service faces no binding constraint of a similar nature. Thus, there is no blueprint for deregulation that can be applied across product markets.

Greece also implemented a large-scale privatization program in the 1990s affecting firms in diverse industries, ranging from beer, textiles, cement, paper and banking services. An important lesson from this process is that the procedure itself must be transparent. Moreover, the government must be careful when designing the post-sale market structure. A third important lesson is that it is important to ensure good governance of new firms that are still partly owned by the state.

One common lesson from the deregulation processes in Greece and Sweden is that it takes time from when the reforms are implemented until they actually have effects on competition, prices and efficiency. Another is that reforms can appear unsuccessful in the short run, but turn out to be successful over the long run.

One important difference between the two countries is that the Swedish deregulation processes appear to have been more focused on a few specific markets, while the Greek processes involved selling off state-owned firms in a wide range of areas. The Swedish strategy to concentrate on a few markets at a time seems to have been more successful. One reason could be that every market that is being deregulated has its own characteristics and there is no blueprint for deregulation across different product markets.

Another important lesson from the Swedish deregulation processes in the 1990s is that in all cases except the deregulation of the taxi market, the reform processes involved the formation or restructuring of a company wholly or partly-owned by the state. Initially, this might have been a good strategy to make sure that the new deregulated markets are functioning well and that no single private company become the dominant actor. However, as the different product markets evolve and mature to the point where there is fierce competition, the rationale for retaining large state-owned companies as industry leaders gradually evaporates.

One example where the Greek deregulation process has gone one step further than in Sweden is in telecommunication services. While the Greek deregulation process started later compared to most other EU-countries, by 2011 the state controlled only 10 percent of the Hellenic Telecommunication Organization (OTE). In contrast, the Swedish government still has an ownership share of 37 percent of Telia, which ascertains de facto control of the company. The deregulation processes in both countries have been successful. However, the Greek example clearly shows that there is no necessity for the state to remain involved as a controlling owner of companies in well-developed and functioning markets.

Incentives to innovate

As Greece remains in a serious fiscal crisis, it might be too early to focus on a coherent strategy for incentives for innovation. Sweden spent more than 5 times as much on R&D, as a share of GDP, compared to Greece (OECD 2012). However, as structural reforms are being implemented to restore the competiveness of the Greek economy, competition through product and process market innovations will be more important.

Since the early 1990s, Sweden has been successful in terms of innovation. Nevertheless, there appear to be weaknesses in the incentives for innovation in the Swedish economy. For example, the growth rate of scientific publications has declined relative to the EU-average. Moreover, R&D investment in Sweden is very dependent on a few large multinationals. In this volume it is argued that important measures are needed in order to further strengthen the incentives to innovate in Sweden. These include increased government support in terms of venture capital in early stage funding, increased R&D resources for SMEs, increased support for firms to invest in vocational training, lower taxes on stock options to employees and shared property rights between universities and faculty inventors.

Policy recommendations

The contributions in this volume show that there are both similarities and differences in terms of product and labor market reforms in Greece and Sweden. Sweden seems to have been more focused on product market reforms compared to labor market reforms, in order to increase the economic competiveness in the early 1990s. A number of product market reforms were carried out in Sweden, while no drastic changes were made in terms of employment protection legislation. However, the Swedish competiveness in the 1990s was partly restored by the depreciation of the Swedish currency, which is not an option for Greece if it is to remain in the Eurozone.

As long as Greece remains within the Eurozone, it will be necessary to make the labor market more flexible in terms of wage setting and employment protection legislation. Thus, Greece should continue with the reforms undertaken so far in the labor market. The Swedish case suggests that it is possible to have a divided labor market with strict protection for permanent contracts and less strict for fixed-term contracts and temp agencies. In our opinion, it is a good idea for Greece to make the labor market for fixed-term contracts and temp agencies fully flexible. Moreover, it must be the private competitive sector that is the

reference point in wage setting and not the other way around.

In terms of product market reforms, Greece must deregulate a number of its markets to improve productivity and competitiveness in the long run. Telecommunication is a good example, where Greek deregulation has been successful. The Swedish case suggests that these deregulation processes should not be carried out in all sectors at the same time, as there are no standard guidelines for deregulation that can be applied across product markets. If Greece follows this strategy it is likely that there will be spillover effects for the economy as a whole, due to well-functioning markets. Moreover, Sweden has not had an exit strategy for state-owned companies operating in competitive markets. It is not obvious that it is a good idea for the Greek state to remain the owner of dominant companies initially, as in Sweden. The institutional settings might be too different between the two countries. Nevertheless, it could be of value for Greek policy makers to study the experiences of the Swedish deregulations in order to find their own path for deregulation of similar markets. Moreover, in the long run, there is no reason for the Greek and Swedish governments to continue to be involved as controlling owners of companies in well-functioning markets.

Finally, taking a long-term perspective, Greece should develop a strategy on how to improve incentives for innovation in order to attract more investment in R&D. This strategy should include government involvement in R&D and education, commercialization of research and appropriate taxation of entrepreneurs. Moreover, Sweden should continue to deregulate markets that are overly regulated. One example is the Swedish rental housing market, which is much more regulated in Sweden than in Greece.

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