OECD Economic Surveys
SLOVENIA

FEBRUARY 2011

OECD

OECD Economic Surveys: Slovenia 2011

Please cite this publication as:
OECD (2011), *OECD Economic Surveys: Slovenia 2011*, OECD Publishing.
http://dx.doi.org/10.1787/eco_surveys-svn-2011-en

ISBN 978-92-64-09247-1 (print)
ISBN 978-92-64-09228-0 (PDF)

Series: OECD Economic Surveys
ISSN 0376-6438 (print)
ISSN 1609-7513 (online)

OECD Economic Surveys: Slovenia
ISSN 1995-3585 (print)
ISSN 1999-0642 (online)

The statistical data for Israel are supplied by and under the responsibility of the relevant Israeli authorities. The use of such data by the OECD is without prejudice to the status of the Golan Heights, East Jerusalem and Israeli settlements in the West Bank under the terms of international law.

Photo credits: Cover © iStockphoto.com/Erik Zunec.

Corrigenda to OECD publications may be found on line at: *www.oecd.org/publishing/corrigenda*.

Table of contents

Boxes

Tables

Figures

This Survey is published on the responsibility of the Economic and Development Review Committee of the OECD, which is charged with the examination of the economic situation of member countries.

The economic situation and policies of Slovenia were reviewed by the Committee on 9 December 2010. The draft report was then revised in the light of the discussions and given final approval as the agreed report of the whole Committee on 21 December 2010.

The Secretariat's draft report was prepared for the Committee by Jeremy Lawson, Mehmet Eris and Rafal Kierzenkowski under the supervision of Pierre Beynet. Research assistance was provided by Desney Erb. The Survey also benefited from external consultancy work.

The previous Survey of Slovenia was issued in July 2009.

BASIC STATISTICS OF SLOVENIA, 2009

LAND

Area (1 000 km^2)	
Total (2005)	20.3
Agricultural	4.7

Major municipalities (thousand inhabitants)	
Ljubljana	277.2
Maribor	112.9
Kranj	54.4

PEOPLE

Population	
Thousands	2 037
Increase 2005-09 (annual rate, %)	0.5
Number of inhabitants per km^2	100

Total labour force (thousands)	1 042
Employment (% of total)	
Agriculture, forestry and fishing	8.6
Industry and construction	32.8
Services	58.5

PRODUCTION

Gross domestic product	
In billion EUR	35.4
Per head (thousand USD)	24.2

Gross fixed capital investment	
In % of GDP	23.9
Per head (thousand USD)	5.8

GOVERNMENT

Public consumption (% of GDP)	20.3
General government (% of GDP)	
Current expenditure	45.0
Current revenue	42.8
Gross debt, Maastricht definition	35.4

Composition of National Assembly (seats)	
Social Democrats	29
Slovenian Democratic Party	28
Zares – New Policy	9
Democratic Party of Retired Persons	7
Other parties	17
Next general election: 2012	

FOREIGN TRADE

Exports of goods and services (% of GDP)	58.1
Main commodity exports (% of total)	
Manufactured goods	32.8
Machinery and equipment	23.7
Road vehicles and transport equipment	16.5
Chemical products	16.4

Imports of goods and services (% of GDP)	56.8
Main commodity imports (% of total)	
Manufactured goods	29.4
Machinery and equipment	20.7
Road vehicles and transport equipment	11.3
Chemical products	13.5

CURRENCY

Monetary unit: euro	

Currency unit per USD, average of daily figures	
Year 2009	0.720
November 2010	0.734

Executive summary

Slovenia has been deeply affected by the global crisis, but is now recovering gradually along with the rest of the OECD area. As Slovenia is a small open economy within the euro area, it is crucial for it to rapidly rebalance its economy and restore competitiveness. The proposed pension reform is a first step in the right direction to improve fiscal sustainability and boost labour supply. However, a further comprehensive pension reform is needed. To get closer to the technology and efficiency frontiers, reforms of the education system and policies to promote innovation, labour market flexibility and a friendlier environment for foreign direct investment (FDI) would be helpful.

- **A sustainable consolidation of public finances is necessary to maintain investor confidence.** *The fiscal targets of the government's consolidation plan are appropriate, but all spending reductions planned through 2013 should be spelled out in full to foster market confidence, and additional measures should be considered if needed. The introduction of an expenditure rule and the establishment of a fiscal council are welcome, but the government should avoid inconsistency of macroeconomic forecasts by making the Institute of Macroeconomic Analysis and Development (IMAD) the only source of the macroeconomic assumptions used for the budget law, as was the case prior to summer 2010. As the proposed pension reform falls well short of expected financing needs by 2060, a further more comprehensive reform is needed to reduce the generosity of the pension system and move it to actuarial neutrality.*
- **More resources should be shifted to tertiary education and spending efficiency should be enhanced at below upper-secondary education levels.** *Slovenia is the only OECD country where spending per student at the tertiary level is less than that at lower levels of education. Further resources need to be directed to tertiary education where there is room for substantial improvement in outcomes, including higher completion rates and shorter study durations. This could be achieved by introducing universal tuition fees in tandem with loans with income-contingent repayment. Also, savings could be gained by enhancing spending efficiency in early childhood and basic education, which are plagued by high costs due to low pupil-teacher ratios, small class sizes and high numbers of non-teaching staff. Merging schools and extending catchment areas, while taking into account other socio-economic considerations, could bring significant efficiency gains.*
- **Productivity could be boosted by measures encouraging FDI.** *Greater reliance on foreign direct investment would improve efficiency and the industrial structure of the economy. Slovenia's international attractiveness could be enhanced by easing employment protection, reducing the level of the minimum wage relative to the median wage and gearing innovation policies towards a demand-driven framework. Public ownership should be made more efficient through better governance and higher exposure to competition. It could also be rationalised by accelerating privatisation and turning the state-owned investment funds into portfolio investors. This would promote FDI, deepen Slovenia's capital market and improve corporate governance. The authorities must ensure that the corporate governance of the remaining state-owned enterprises conforms to international standards of best practice, in which the recently created central ownership agency has to play a prominent role.*

Assessment and recommendations

Slovenia is gradually emerging from a deep recession

After steady convergence towards the European Union average in terms of GDP per capita, the Slovenian economy has been severely hit by the global crisis. Gross domestic product (GDP) fell by close to 8% in 2009, among the deepest declines in the OECD, but is poised to grow modestly in 2010 before growth picks up to 2-3% in 2011-12. The sharp drop in liquidity in the midst of the crisis required significant support to the financial system from the government and the European Central Bank. The financial health of households and firms has been weakened by reduced asset prices, incomes and the availability of credit. Although exports have rebounded strongly since mid-2009, domestic demand has been held back by the weak labour market and ongoing deleveraging by financial institutions and businesses. Needed fiscal consolidation will also constrain growth in the short term.

The banking sector should be further capitalised to reduce the risk of credit rationing

Since the beginning of the crisis credit risk has been growing, with a large increase in non-performing loans, and banks have been forced to increase the proportion of loans that are secured. Although the capital adequacy of the banking system was good overall, small domestic banks were less well capitalised. With business bankruptcies likely to increase further and falls in real estate prices expected to continue, concerns may arise as to whether the banking sector is sufficiently capitalised to withstand further shocks.

The Bank of Slovenia has issued new guidelines to ensure that banks have internal processes to assess and limit exposure to credit and market risks, and also called on Slovenian banks to further increase their capital buffers in early 2010. However, more needs to be done to ensure that the financial system is adequately capitalised, while taking into account the requirements of the Basel III accord. The publication of the EU-wide stress tests in July 2010 revealed that Slovenia's largest bank (NLB) was capitalised just enough to withstand a relatively lenient adverse economic and sovereign debt shock scenario. *The supervisory authorities should carry out stress tests for all Slovenian banks and disclose them appropriately. If needed, bad assets would have to be restructured and banks whose Tier 1 capital falls below safe thresholds would have to be recapitalised.*

Sustainable fiscal consolidation is required to foster confidence…

The fiscal position has deteriorated sharply, with the general government deficit reaching 5.7% of GDP in 2009. While spreads on 10-year government bonds over corresponding German rates at about 130 basis points are not among the highest in the euro area, they remain at a similar level to that prevailing in May 2010 at the height of significant tensions in some euro area sovereign bond markets. Consequently, it is important to foster investor confidence and ease banks' funding conditions in capital markets by pursuing consolidation efforts and ensuring the credibility of the overall strategy. Although the fiscal balance targets of the consolidation plan are appropriate, *all spending reductions planned through 2013 should be spelled out in full to reinforce market confidence*. Moreover, some of the measures taken to date are temporary and hence do not ensure a durable reduction in the structural deficit. Therefore, additional fiscal measures will have to be taken in 2011 and 2012 to head off the risk of sharp increases in long-term interest rates, insure against the risk of revenue slippages and achieve a permanent reduction in the deficit. A good start would be to *cancel – rather than postpone – the remaining steps of the public-sector wage increases,* which go beyond the compensation for past under-indexation of wages to inflation. This has led to significant increases in public sector wages since 2008. Moreover, there is room for raising taxes on immovable property; the ongoing reform of the related tax bases creates an opportunity in this respect. Increasing environmental taxes could also be an option, though they are already quite high. There are discussions over setting a cap on social security contributions, but in the current weak fiscal environment the government needs to consider how the loss in revenue will be offset.

… and the new fiscal framework should help

A rule-based fiscal policy is useful to foster investor confidence. The government has recently adopted a new fiscal rule capping expenditure increases at the rate of potential output, which should help the consolidation process. *The rule should be strictly implemented to establish its credibility and its effectiveness subsequently assessed. It might be improved by increasing transparency regarding the fiscal targets and the parameters underlying the convergence speed to these targets. In particular fiscal ceilings may need to be reconsidered to ensure a reduction in the structural deficit consistent with a medium-term objective which pre-funds a large share of contingent liabilities, notably those related to ageing*. Indeed, despite the significant draft reform, pension outlays are projected to increase by around 7% of GDP by 2060. Long-term objectives could be best achieved by *adopting multi-year ceilings (beyond the current two years) and excluding cyclically-sensitive expenditure (in particular unemployment benefits)*. To ensure effective implementation of the fiscal rule, *fiscal projections should be produced by an independent institution. Therefore, the government should assure the transparency and consistency of macroeconomic forecasts by making the Institute of Macroeconomic Analysis and Development (IMAD) the only source of the macroeconomic assumptions used for the budget law, as was the case prior to summer 2010*. The creation of a fiscal council is welcome, but the government should consider strengthening its administrative and analytical capacity notably to allow it to assess deviations from the rule.

The proposed pension reform is a step in the right direction…

Slovenia is faced with unsustainable public finances in the long term due to ageing costs, particularly if the pension system is not reformed. The government has prepared a draft of a new pension reform which passed Parliament in December 2010. The major changes proposed by the legislation are to: *i)* increase the statutory retirement age to 65 and the minimum pensionable age to 60 for both men and women; *ii)* introduce steeper penalties for retiring early (and bonuses for people who continue working after becoming eligible for full pension); *iii)* extend the pension reference period to the 27 best consecutive years of contributions; and *iv)* index pension benefits partially to inflation (and not only to wage growth). Some welcome additional measures aim to improve work incentives of older people by allowing individuals to combine pension benefits and work more flexibly and reducing employer social security contributions for older workers.

… but a more comprehensive reform is needed to address the issue of long-term fiscal sustainability

The proposed pension legislation brings many welcome changes, but its budgetary impact, while significant, falls well short of the projected long-term financing needs. One of the main reasons is that the replacement rate will be permanently fixed at around 60%, although it would have been progressively lowered to below that level without the reform. The weight of wage growth compared to inflation in the proposed benefit indexation formula is high and past earnings are still revalued solely on the basis of nominal wage growth. *The government should lower the replacement rate while encouraging the private pension system. One possibility would be to reduce the rate at which benefits accrue or revalue past earnings in the calculation of the pension reference salary in line with past inflation or some combination of past inflation and wage growth (such as the Swiss formula, which attaches equal weights to each), instead of wage growth only.* Additional reforms should be introduced to ensure that public finances are on a sustainable footing. *The minimum pensionable age should be further increased to better align it with the statutory retirement age. The penalty for early retirement should be raised to a level consistent with actuarial neutrality. Pension parameters, such as the minimum and full pensionable ages and contribution requirements, should be closely linked to gains in life expectancy. Consideration should be given to eventually transforming the current defined benefit scheme into a notional defined contribution scheme.* The Slovenian pension system continues to grant somewhat more favourable conditions to women than to men. *Differences in the contributory period requirements for men and women should be eliminated.*

Boosting competitiveness by rebalancing the economy is key to resuming convergence

The crisis has revealed important weaknesses in Slovenia's economy. Prior to the crisis, growth was highly dependent on credit and construction activity, and exports were too reliant on cyclically-sensitive goods, compared to other euro area and Central and Eastern European countries. This export specialisation has limited productivity gains in the traded goods sector and has increased Slovenia's vulnerability to global cyclical downturns. According to various estimates, Slovenia's potential growth rate is likely to be somewhat

reduced in the aftermath of the crisis. Hence, a major long-term challenge will be to boost trend productivity growth so that living standards continue to converge on the OECD's best performers. Structural reforms to boost productivity and competitiveness should concentrate on improving labour market flexibility, fostering innovation and higher education, and favouring foreign direct investment, notably by reducing the direct involvement of the state in the economy.

Improving labour market functioning is essential

Growth could be hampered by the inflexibility of labour market institutions in Slovenia. Despite recent reforms that reduce notice periods and the generosity of severance payments, and widen the eligibility criteria for temporary jobs through the so-called "mini-jobs" bill, employment protection of regular workers remains amongst the tightest in the OECD. *Employment protection should be loosened by further reducing the administrative burden on individual notice and dismissal, relaxing the criteria under which dismissals are legitimate and further reducing the generosity of severance payments.* The decision to increase the already generous minimum wage (close to 50% of the median wage in 2009) by 23% in early 2010, motivated by the willingness to catch up with the cost of living, and the recent rapid growth in public sector wages both threaten to weaken economic performance. To compensate for the steep increase in the minimum wage, *the government should index minimum wages only to inflation for a prolonged period, to reduce their level relative to the median wage over time.*

Enhancing innovation policies should help Slovenia to get closer to the efficiency frontier

Slovenia scores rather well in terms of innovation input indicators (research and development expenditure, the number of researchers, etc.). However, output indicators (*e.g.* high-growth innovative firms, high-technology exports and the number of patents) point to low and even declining efficiency of overall innovation efforts. One of the main factors constraining innovative efficiency relates to the organisation of government innovation policy, which is marked by administrative dispersion, a lack of coordination among stakeholders and a consequent "implementation deficit". *The government should reduce administrative dispersion and overlap among various stakeholders of innovation policy by improving information flows and transparency among ministries and associated agencies.*

New reform proposals (including the creation of a new umbrella Council for Innovation Policy run by the Ministry of the Economy and the Ministry of Higher Education, Science and Technology) go in the right direction, but are unlikely to be successful as long as regular, in-depth consultations among major stakeholders of innovation policy fail to respond to the needs of the business community. The authorities agree that entrepreneurial demand should be given a more decisive role in allocating public research funds, but this shift in public research and development policy is bound to meet with strong resistance from the public research community. Further measures are needed to reduce the "stand-alone sector approach" of innovation policy, which isolates it from other supply-side policies. For example, *the government should consider giving financial incentives, such as "research vouchers", to companies, which would then contract with public research centres for research services.*

School performance is good…

The Slovenian primary and secondary education systems perform well by international comparison, and Slovenia has one of the highest shares in the OECD of the population aged 25 to 64 to have completed at least upper secondary education. Scores in the Programme for International Student Assessment (PISA) are above the OECD average. At the same time, tertiary attainment rates are below the OECD average, even though the attainment rates of young workers are significantly higher than those of older workers. With current graduation rates still below the OECD average, the gap in tertiary attainment rates of the working age population *vis-à-vis* the OECD average is set to linger. Despite favourable employment prospects and high private returns to study, the share of science and engineering graduates is low by international comparison.

… but vocational programmes need to be made more attractive to pupils and more relevant to labour market conditions

The interest in short vocational programmes has been waning in Slovenia, creating a skill deficit. *In order to encourage pupils to go into vocationally-oriented programmes, the education system should facilitate a more flexible transition from vocational to academic tracks and consequently direct access to higher education*. Employers in Slovenia have little influence on school curricula. *Their involvement in vocational education needs to be further increased to equip vocational education graduates with the skills demanded by the labour market*.

Improving spending efficiency through reducing costs in early childhood and compulsory education is a challenge…

The share of children enrolled in early childhood education and care (ECEC) has been increasing steadily in Slovenia, helping children from disadvantaged backgrounds in particular. The government has been taking some measures to further expand ECEC. Nonetheless, the costs of ECEC are high by international comparison. *The authorities should improve spending efficiency in ECEC provision and boost supply by allowing pupil-teacher ratios to increase*. As the geographical distribution of ECEC facilities is not optimal, with excess demand in larger cities in contrast to smaller towns, the authorities should *reduce the geographical mismatch between available child-care places and demand*.

Relatively good outcomes at the primary and secondary levels are also achieved at a high cost. Slovenia spends considerably more on basic education on a per-pupil basis than other countries with similar income levels. Average class sizes in primary and lower secondary education are comparatively small. Also, Slovenian schools employ the highest number of professional support staff per pupil in the OECD. *The compulsory education system should be restructured to reduce operating costs by merging and closing schools that serve too few students, and extending catchment areas, while taking into account other socio-economic considerations. Surplus teaching and non-teaching staff should be rationalised by not replacing retiring staff in full. If this falls short, appropriate redundancy packages for surplus staff could be provided*.

... as is achieving better tertiary education outcomes

Completion rates in tertiary education are somewhat low in Slovenia as compared to the OECD average. Also, Slovenian students take almost seven years on average to complete their studies at the undergraduate level, which is among the longest in the OECD. The share of repeat students in full-time undergraduate programmes is very high, though slowly declining. To speed up the completion of tertiary studies, the government should *introduce universal tuition fees in tandem with loans with income-contingent repayment, which would also ensure wide and equitable access*. Tuition fees would make students more receptive to labour market signals and encourage them to complete their studies in a timely manner. Tuition fees would also allow higher education institutions to raise a greater share of their funds from private sources and if those institutions were given scope to set their fees, it would stimulate competition.

Resources devoted to higher education, as measured by spending per student, are low by international comparison and relative to other levels of education in Slovenia; it is the only OECD country where per-student spending at the tertiary level is less than that at lower levels of the education system. Rapidly changing technologies and international competitive pressures make it essential for Slovenia to boost tertiary education outcomes and provide adequate resources to the higher education system. *Public funding available per student at the tertiary education level should be increased, notably through enhanced spending efficiency at all levels of education.*

The higher education funding mechanisms in Slovenia should also be overhauled to enhance tertiary education outcomes. For instance, to give higher education institutions incentives to ensure timely completion of studies, the authorities should *take into account student progress when allocating funding to higher education institutions*. In addition, public funds are currently allocated to higher education institutions through a mechanism that has a fixed component representing the grandfathered element and a flexible part linking funding to their inputs and outputs. The fixed part has a relatively large weight. This arrangement favours large and historically well-established institutions, rather than efficiency considerations, and fails to maintain adequate levels of funding per student when the expansion of tertiary education is rapid. *The fixed element in the funding mechanism for higher education system should be phased out to better meet institutions' financing needs.*

The share of foreign students studying in Slovenia and Slovenian students studying abroad were among the lowest in the OECD in 2007. *Adequate financial support should be made available to students studying abroad. Study programmes that are more attractive to foreign students should be developed, and the authorities should relax restrictions on offering courses in non-Slovenian languages.*

Boosting foreign direct investment will help to raise efficiency

Aggregate productivity levels have converged rapidly on the euro area and OECD average since Slovenia began the transition to a market economy in the early 1990s, but productivity remains low in a number of industrial sectors with high public and low foreign ownership. Slovenia's high-technology manufacturing sector is underdeveloped compared

to some other Central and Eastern European countries (CEECs). Slovenia's stock of foreign direct investment (FDI) has grown more slowly than that of other CEECs over the past two decades, limiting the adoption of new technologies and ensuing productivity gains. Its FDI share exceeds that of other CEECs only in financial intermediation, with much lower shares across all other sectors of the economy, particularly in manufacturing and network industries, such as energy and telecommunications.

Slovenia has improved policies to encourage greater FDI by opening the privatisation of state-owned assets to strategic investors, improving incentive schemes aimed at attracting foreign investors and providing a competitive regime for corporate taxation, with tax relief for investment and depreciation. Although its regime of direct financial incentives for foreign investors has moved closer to best practice, the system appears too biased towards export industries, and there has been little empirical evaluation of the costs and benefits of the existing regime. *The authorities should review existing direct financial incentives and the performance of the special economic and customs zones to make sure that such support is cost effective and is not biased against investment in the non-traded goods and service sectors.*

Other aspects of the enabling environment for foreign investment also need to be improved. Employment protection legislation in Slovenia is amongst the most rigid in the OECD and both surveys of foreign investors and cross-country empirical research suggest that Slovenia's labour market institutions are inhibiting foreign investment. This is another argument to reduce employment protection for regular contracts. It is more difficult to acquire and develop land in Slovenia than in most other CEECs and capital markets are very shallow. *Procedures for accessing business premises and acquiring land and building permits should be streamlined. The depth and liquidity of capital markets should be increased through listing partially privatised state-owned enterprises on the stock market, improving competition for brokerage services and relaxing requirements for minimum pension fund returns.*

Productivity and FDI would be enhanced by rationalising public ownership and improving governance

Public ownership and control of enterprises operating in the market sector of the economy is widespread in Slovenia. Its score on the OECD's product market regulation indicator is worse than most of its CEEC peers and other OECD countries, largely because it performs poorly on the public ownership component of the indicator. Enterprises directly owned by the state are most commonly found in network industries, banking and insurance. In addition, the state indirectly holds at least a minority controlling interest in more than 50 companies through its ownership of KAD, the pension fund, and SOD, the restitution fund. Many of these firms operate in sectors of the economy, such as manufacturing, in which it is unusual amongst developed economies for the state to have a controlling interest. Five of the nine largest firms listed on the Slovenian stock exchange are effectively controlled by KAD and SOD.

As part of its accession to the OECD, Slovenia has started to transform the management of its public asset portfolio and improve corporate governance. It has recently created a central ownership Agency to manage the public asset portfolio on behalf of the state and define the ownership objectives for the state. *To carry out its ownership functions on behalf of*

the state properly, the Agency must be competent, well resourced and subject to high standards of accountability and transparency through an effective internal corporate governance regime. The authorities should also put in place a high-quality corporate governance regime for enterprises that remain state-owned and make sure that the rights of non-state minority shareholders are enhanced. The state should not be involved in the day-to-day management of state-owned enterprises, and boards should be composed of experts and professional board members who are independent of the government.

One of the most important tasks for the new Agency will be to develop a strategy for the future management of public assets. This will then enable it to establish a framework defining which assets should be retained in public hands, privatised or wound down. Accelerating the privatisation process would, if done correctly, significantly boost productivity in a number of key infrastructure sectors. It would also probably deepen Slovenia's capital market and help improve the corporate governance frameworks. *The agency should undertake regular, transparent, quantitative analysis of the costs and benefits of keeping individual assets in state hands. In parallel, the authorities should make the two state-owned investment funds more independent of government and reduce them to portfolio investors over time. They should also ensure that the privatisation process is well managed and supported by the public.*

Chapter 1

The macroeconomy in the aftermath of the crisis

Slovenia enjoyed strong economic growth before the crisis but faced one of the most pronounced recessions in the OECD in 2009. The crisis has revealed important weaknesses in Slovenia's pre-crisis economic performance, which was excessively dependent on credit and construction activity. To rebalance the economy, the authorities need to take decisive policy actions. On the macroeconomic side, they should ensure a durable reduction in the structural deficit to avoid any loss of investor confidence, and necessary measures should be taken to support the banking sector to alleviate the risks of credit rationing. On the structural side, the challenge is to restore competitiveness and raise potential growth so as to continue sustained convergence towards more advanced OECD economies. Despite a significant proposed pension reform, further comprehensive steps are of outmost necessity to improve long-term fiscal sustainability and boost the labour supply of older workers. Measures to improve the functioning of the labour market, notably to raise labour demand for older and less-qualified workers, are also needed. Particular attention should be paid to labour costs at the minimum wage level. To get closer to the technology frontier, Slovenia should improve its innovation framework (Chapter 1) and education policies (Chapter 2). Foreign direct investment and the governance of state-owned enterprises both need to be strengthened to stimulate economic dynamism and raise productivity (Chapter 3).

The crisis has taken a heavy toll on the economy

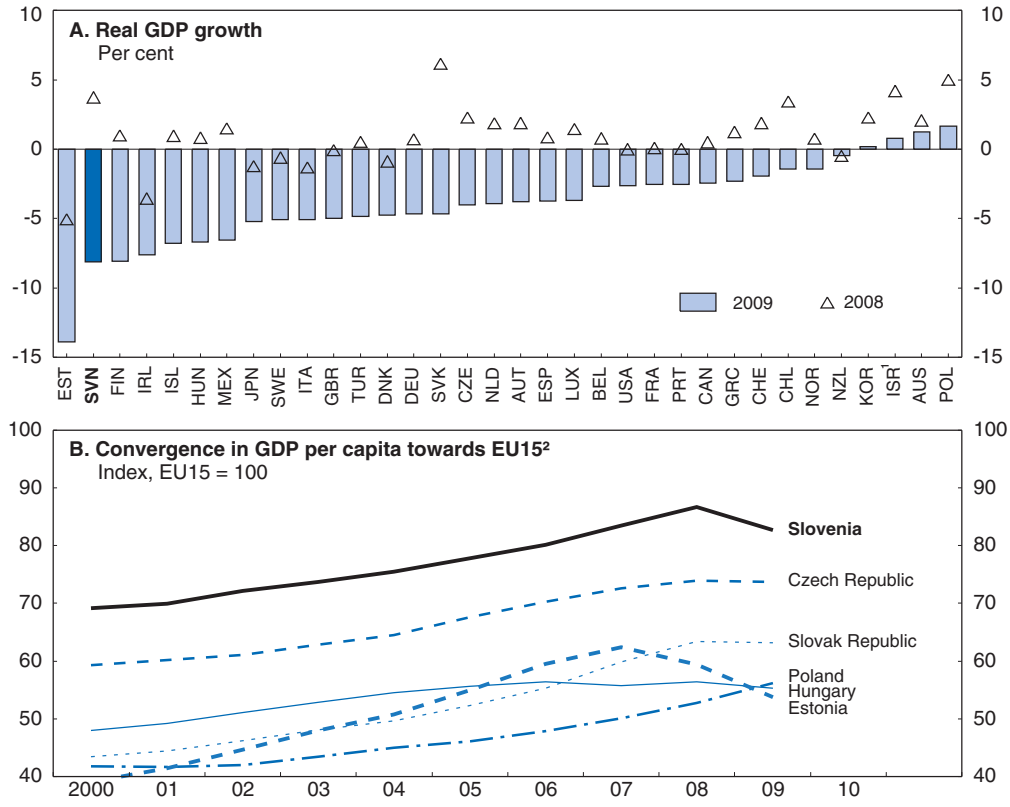
The economy is slowly recovering from an unprecedented crisis

The Slovenian economy was severely affected by the global financial crisis and associated economic downturn. GDP shrank by 8.1% in 2009, one of the deepest declines in the OECD in that year (Figure 1.1). Output contracted at an unprecedented pace in the last quarter of 2008 (around –12.5% annualised) and the first quarter of 2009 (close to –22% annualised). This is attributable to four main factors: *i)* a collapse in external demand in a context of a high degree of external openness that triggered a sharp decline in manufacturing; *ii)* an unfavourable structure of exports, with a relatively large share of cyclically-sensitive and low and medium-technology goods that were hit the hardest by the crisis; *iii)* a sharp fall in construction activity following a significantly more pronounced pre-crisis construction cycle than in the euro area and other Central and Eastern European countries (CEECs); and *iv)* restricted access to borrowing and external finance for the banking and non-financial sector. A profound deterioration in business and consumer confidence further compounded the recession (Figure 1.2).

Despite the marked decline in exports during the crisis (see below), Slovenia's current account deficit narrowed significantly as import volumes fell even more rapidly than exports and terms of trade improved markedly, thereby narrowing the trade deficit. The precipitous decline in imports was due to the very high import content of exports, rapid destocking and the weakness in domestic demand, including the end of the boom in the construction sector and a fall in investment and machinery and equipment. Since then, owing to more dynamic growth of its main economic partners (notably Germany), exports have driven Slovenia out of the recession and growth should strengthen progressively by 2012 (see Box 1.1 and Table 1.1).

The crisis curbed growing macroeconomic imbalances that had been progressively building up since 2006 (Figure 1.3). Insufficiently tight macro policy, including too low real interest rates, fuelled a credit boom, domestic demand and imports. As opposed to other southern euro area economies (notably Greece, Italy and Portugal) where declines in the current account balance were mainly driven by the fall in gross private savings (Jaumotte and Sodsriwiboon, 2010), the latter actually increased in Slovenia until 2006. However, similarly to Spain, unusually high investment rates significantly exceeded national savings, due both to businesses and the residential housing sector, resulting in a widening current account deficit (Figure 1.4). Real GDP growth had been outstripping potential output and the positive output gap is estimated to have reached 7.5% of GDP in 2008. Even though the real-time estimates of the output gap were indicating lower pressures on capacity, the current account deficit had been increasing significantly since mid-2006, reflecting high investment growth notably in the construction sector (Figure 1.2, Panel D).

Figure 1.1. **Slovenia recorded one of the deepest declines in GDP in the OECD in 2009**



1. The statistical data for Israel are supplied by and under the responsibility of the relevant Israeli authorities. The use of such data by the OECD is without prejudice to the status of the Golan Heights, East Jerusalem and Israeli settlements in the West Bank under the terms of international law.
2. Real GDP per capita in US dollars at constant prices and constant purchasing power parities.

Source: OECD (2010), *OECD National Accounts Statistics* and *OECD Economic Outlook: Statistics and Projections* (databases), December.

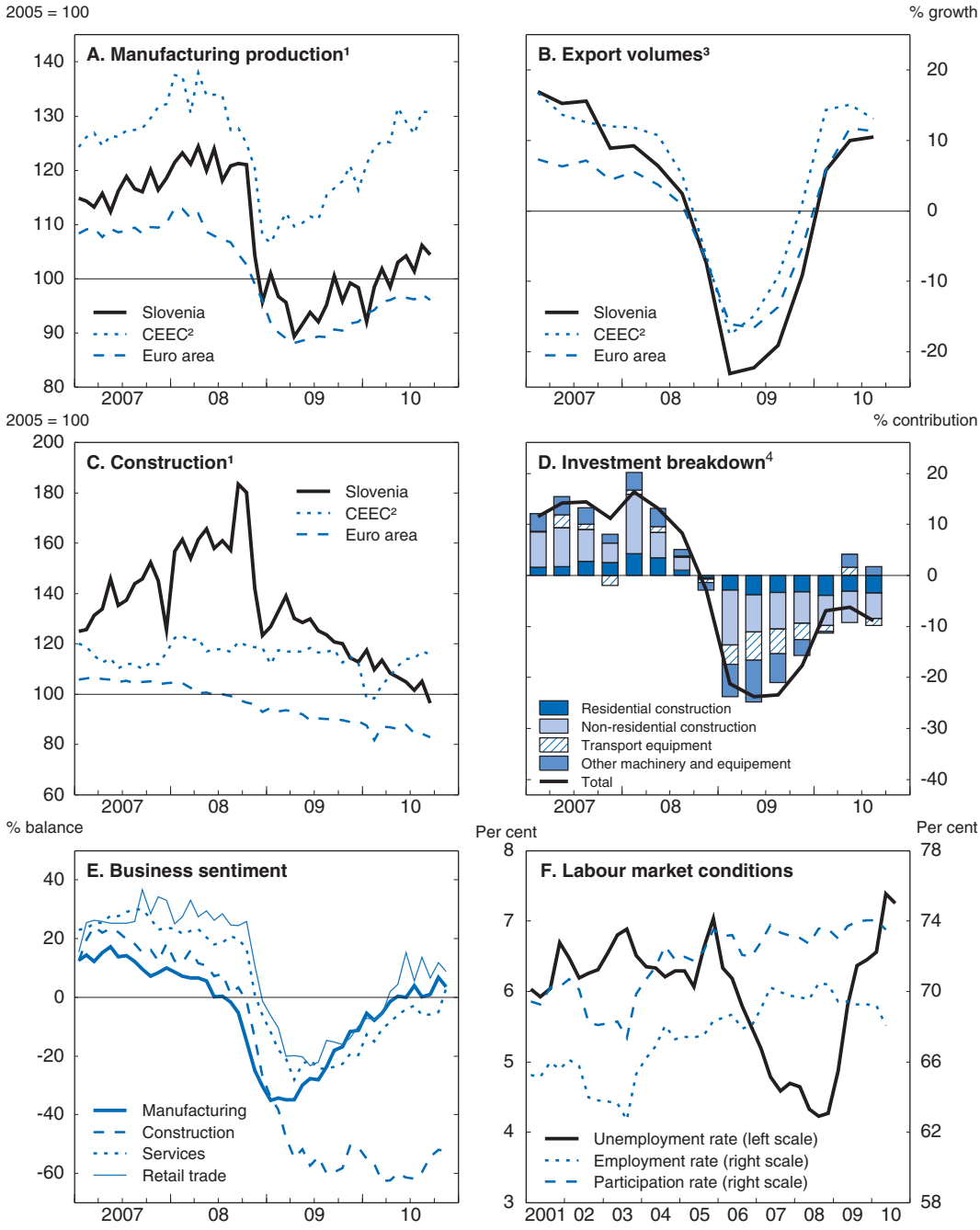
StatLink http://dx.doi.org/10.1787/888932369011

Export performance and competitiveness deteriorated during the crisis

Slovenia was hit harder through the collapse in global trade than most other OECD countries. In the last quarter of 2008 and the first quarter of 2009, volumes of exported goods and services fell by around 20%. Amongst the 33 OECD countries, only three – Finland, Japan and the Slovak Republic – experienced a larger decline in exports during the same period. As a consequence, Slovenia's export performance, which had increased during the first seven years of the decade, fell sharply during the crisis (Figure 1.5).

One likely explanation for the decline in Slovenia's export performance during the crisis is the country's export specialisation in cyclically-sensitive goods, such as automotive components, despite some cushion provided by medicinal equipment and pharmaceuticals, which continued to grow during the crisis. In a longer perspective of the 2000s, Slovenia's export performance has underperformed that of other CEECs

Figure 1.2. **Selected economic indicators**



1. Production indices, seasonally adjusted.
2. Unweighted average of data for the Central and Eastern European countries that are OECD members: Czech Republic, Hungary, Poland and Slovak Republic.
3. Year-on-year percentage change.
4. Contributions to year-on-year growth of gross fixed capital formation (volume). The line represents total investment growth.

Source: OECD (2010), *Main Economic Indicators*, *OECD National Accounts Statistics* and *OECD Economic Outlook: Statistics and Projections* (databases), December.

StatLink http://dx.doi.org/10.1787/888932369030

Box 1.1. **Recent trends and outlook**

The recovery has mainly been driven so far by rising exports. High-frequency indicators show a progressive improvement in business sentiment and in production, notably in manufacturing, but consumer confidence is weak, suggesting subdued final domestic demand growth (Figure 1.2). Financing conditions are still tight, construction output is depressed and lending to the business sector almost ceased growing. Yet, growth should rebalance gradually towards private domestic demand through 2011 and 2012 (Table 1.1). Although the pace of growth will be slow, activity should strengthen further in 2012 as private investment gathers momentum and wage increases support consumption. Labour market prospects are weak also due to a sizeable hike in the minimum wage in 2010 which is set to rise by 23% by 2012 at the latest and could hamper competitiveness. Considerable economic slack should ensure that price pressures remain moderate. Risks for the outlook are mainly to the downside. Softer global demand than projected could be compounded by weakened competitiveness if wage costs are not contained. Headwinds in the financial sector with an over-leveraged corporate sector and a fragile housing market constitute a risk as well. On the positive side, stronger-than-expected activity in the euro area would improve business and labour conditions.

Table 1.1. **Recent trends and outlook**

Percentage change, volume

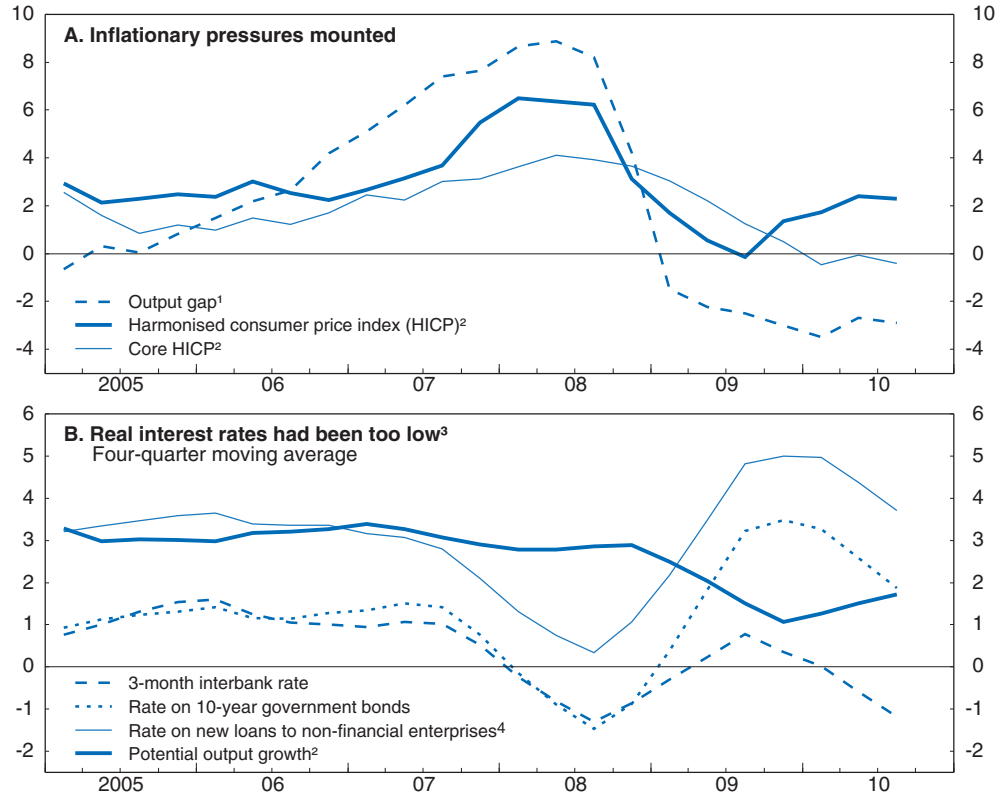
	Outcomes				Projections		
	Average 2000-06	2007	2008	2009	2010	2011	2012
Gross domestic product	4.1	6.9	3.7	–8.1	1.1	2.0	2.7
Private consumption	2.5	6.7	2.9	–0.8	–0.6	1.0	2.5
Government consumption	3.3	0.7	6.2	3.0	0.3	–0.8	–0.3
Gross fixed investment	4.4	12.8	8.5	–21.6	–5.3	4.2	6.6
Stockbuilding[1]	0.2	1.9	–0.8	–4.0	1.7	0.7	0.0
Total domestic demand	3.3	8.9	4.2	–9.8	0.6	2.4	2.8
Exports of goods and services	9.3	13.7	3.3	–17.7	8.7	6.4	6.6
Imports of goods and services	7.7	16.7	3.8	–19.7	7.6	6.6	6.6
Net exports[1]	0.7	–2.0	–0.4	2.0	0.7	–0.1	–0.1
Memorandum items							
Harmonised index of consumer prices	5.6	3.8	5.5	0.9	2.0	1.9	2.2
Unemployment rate (%)	6.4	4.8	4.4	5.9	7.2	7.6	7.4
Total employment	1.2	2.5	1.1	–1.5	–1.2	–1.2	0.3
Labour productivity	3.4	3.8	0.9	–6.4	3.4	2.9	2.4
Current account balance[2]	–1.4	–4.8	–6.7	–1.5	–2.8	–3.9	–4.5
General government financial balance[2]	–2.5	0.0	–1.8	–5.8	–5.7	–4.7	–3.9
Gross debt (Maastricht definition)[2]	27.2	23.4	22.5	35.4	38.0	39.8	40.8
Potential output	3.9	2.9	2.9	1.1	1.8	1.2	1.4

1. Contribution to GDP volume growth.
2. Per cent of GDP.

Source: OECD (2010), *OECD Economic Outlook*, No. 88, December.

Figure 1.3. **Imbalances had been growing before the crisis**

Per cent



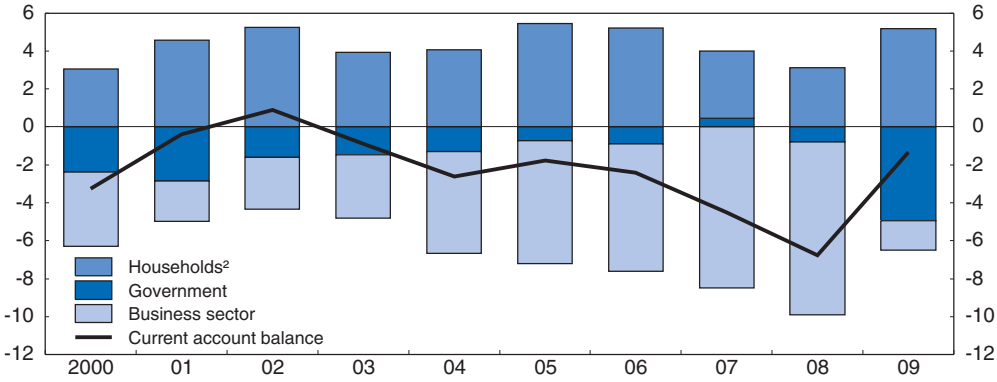
1. Gap between actual and potential gross domestic product (volume).
2. Year-on-year percentage change.
3. Nominal rates deflated by the HICP.
4. Loans to non-financial corporations up to a value of EUR 1 million, floating or up to 1 year maturity.

Source: OECD (2010), *OECD Economic Outlook: Statistics and Projections* (database), December and Bank of Slovenia (2010), *Monthly Bulletin*, Vol. 19, No. 11.

StatLink http://dx.doi.org/10.1787/888932369049

Figure 1.4. **Net saving by sector**[1]

National accounts basis, per cent of GDP

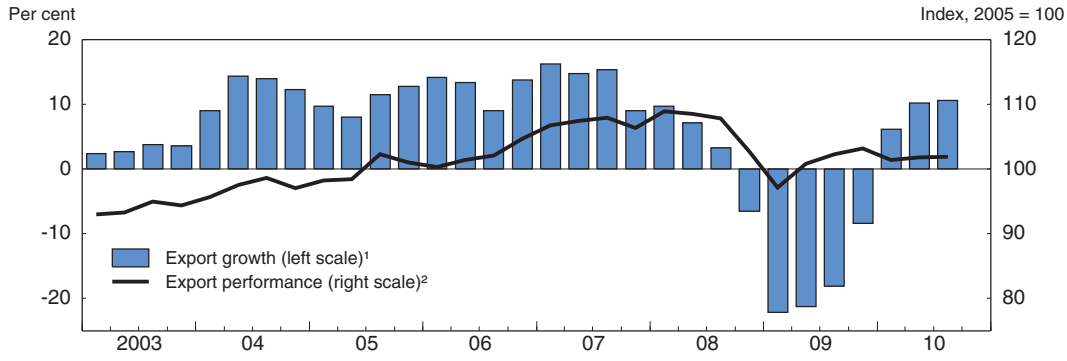


1. Calculated as gross saving less gross capital formation.
2. Includes non-profit institutions serving households.

Source: OECD (2010), *OECD National Accounts Statistics* (database), December.

StatLink http://dx.doi.org/10.1787/888932369068

Figure 1.5. **Export growth and performance**



1. Year-on-year percentage change, volume.
2. Export performance is the ratio between export volumes and export markets for total goods and services. The calculation of export markets is based on a weighted average of import volumes in each country's markets, with weights based on trade flows in 2005.

Source: OECD (2010), *OECD Economic Outlook: Statistics and Projections* (database), December.

StatLink http://dx.doi.org/10.1787/888932369087

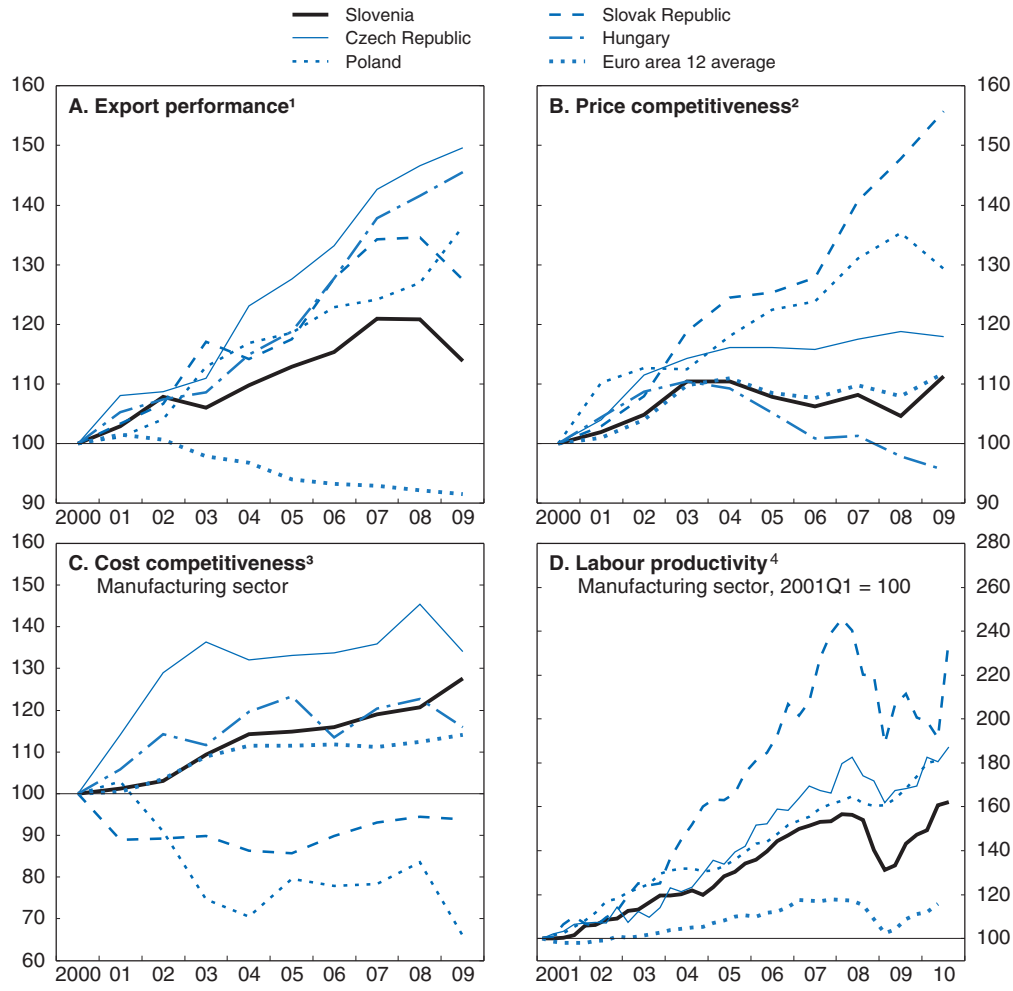
(Figure 1.6, Panel A). While relative prices of exported goods and services remained under control (Figure 1.6, Panel B), cost competitiveness developments in the manufacturing sector were much less favourable (Figure 1.6, Panel C), putting pressure on firm's profitability. In 2008, the ratio of value-added to labour costs in Slovenia's manufacturing sector was the lowest amongst CEECs (Chapter 3). Moreover, even though the pro-cyclical decline in productivity was the largest among regional peers during the crisis, productivity was also lagging behind prior to the crisis, indicating the existence of structural problems (Figure 1.6, Panel D). In fact, in the year before the global crisis took hold at the end of 2008, productivity growth had already come to a standstill. Evidence suggests that technological restructuring did not go far enough during the period of rapid growth before 2008 and that during the crisis most of the enterprise restructuring was passive as uncompetitive segments of the economy disappeared (IMAD, 2010a).

Balance sheets of corporations and households are still impaired

The global financial crisis significantly weakened the balance sheets of households, firms and financial institutions. Adjustment is ongoing and will be a significant factor constraining growth for some time. Because the demand for credit far outstripped growth in domestic deposits during the boom years, financial institutions in Slovenia were increasingly reliant on funding from international wholesale markets. This funding model worked well while the global financial system was stable, and cheap funding was widely available, but it fell apart following the collapse of Lehmann Brothers in late 2008, which virtually shut down the interbank and wholesale lending markets for a number of months. The sharp drop in the liquidity of the system forced a rapid balance sheet adjustment on banks, and necessitated a strong response from the Slovenian government and use of EU-wide liquidity support measures provided by the European Central Bank (ECB) (see OECD, 2009). In the wake of the crisis, banks have undergone significant deleveraging to improve their capital positions and shed some of the risk that had built up on their balance sheets. Large net payments to foreign creditors and depositors, together with the government interventions, have partially switched funding away from foreign sources. Although the

Figure 1.6. **Competitiveness indicators**

Index, 2000 = 100



1. Ratio between export volumes and export markets for total goods and services.
2. Relative price of exported goods and services.
3. Effective exchange rate based on relative unit labour costs.
4. Gross value added in constant prices per person employed, seasonally adjusted. The euro area average excludes Belgium, Ireland and Portugal.

Source: OECD (2010), *OECD Economic Outlook: Statistics and Projections* and *OECD National Accounts Statistics* (databases), December.

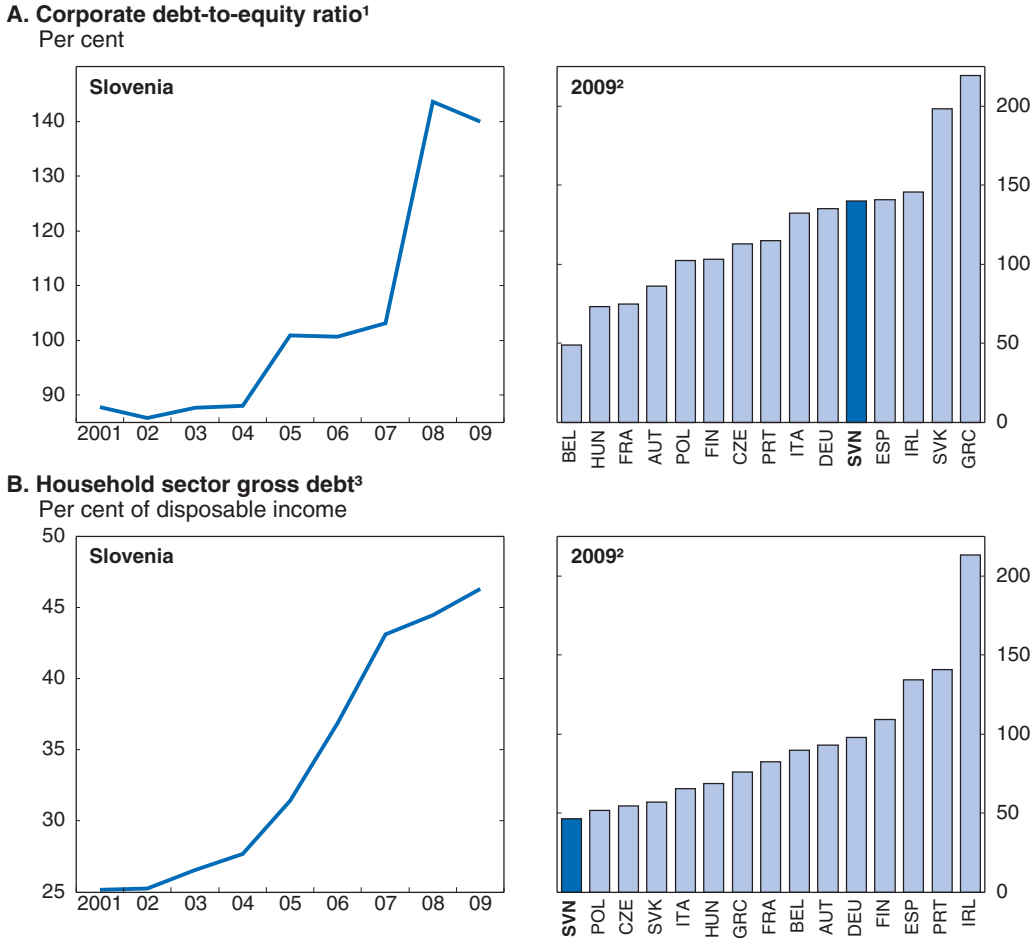
StatLink http://dx.doi.org/10.1787/888932369106

ratio of bank assets to GDP continued to grow through the crisis, the ratio of banks' market capitalisation to GDP is still well below its pre-crisis level.

The balance sheets of households and firms have been hit by twin shocks: the global crisis has reduced incomes and wealth while the deleveraging in the financial sector has curtailed the availability of credit. Given these conditions, lending activity was extremely weak in late 2009 and the first half of 2010. The non-financial corporate sector appears to have been the most adversely affected by the crisis. Net lending growth by non-financial enterprises vanished, shifting from year-on-year growth rates at nearly 40% at the peak in late 2007 and early 2008 to close to a zero growth over the year to mid-2010. The sharp fall in lending growth to companies can be attributed to a number of factors: fresh liquidity

injected by the government into the financial sector has been used to pay deposits and credit on behalf of banks, rather than increase lending; margins on loans to businesses increased during the crisis (though average lending rates have declined); the bursting of the construction bubble and decline in takeover activity reduced the demand for credit; and firms generally have sought to reduce their very high leverage. In 2009, the debt-to-equity ratio in the non-financial corporate sector was 147%, well above the euro area average of 105% (Figure 1.7, Panel A). And the proportion of corporate liabilities more than 30 days in arrears doubled in 2009 and increased again in the first half of 2010. Many corporations are heavily dependent on domestic banks, because the capital market is underdeveloped in Slovenia and most Slovenian corporations have little access to foreign capital markets. This debt overhang in the corporate sector will inhibit business investment for some time, especially in the construction sector where excess leverage is most serious.

Figure 1.7. **Household and corporate leverage**



1. Calculated as total liabilities less shares and other equity as a percentage of shares and other equity; non-consolidated data.
2. 2008 for the Czech Republic.
3. Total loans. The household sector includes non-profit institutions serving households.

Source: OECD (2010), *OECD National Accounts Statistics* and *OECD Economic Outlook: Statistics and Projections* (databases), December.

StatLink http://dx.doi.org/10.1787/888932369125

The effect of the crisis on household balance sheets has been more mixed than for the corporate sector. In 2008, household financial assets as a share of GDP fell by just under 10% as equity valuations were hit hard by the crisis. Household financial positions then rebounded in 2009, despite the large decline in GDP that year, so that the ratio of financial assets to GDP was left higher than its peak in 2007. This is in contrast to the euro area average, where the ratio of financial assets to GDP in 2009 was below its 2007 level. However, household non-financial assets have not fared so well. Real estate prices declined by almost 7% in 2009. Moreover, even though house prices have stabilised in 2010, estimates by the Bank of Slovenia suggest that they remain above fundamentals, so price adjustment might not be over.

In this environment, one might have expected households to have deleveraged. However, the opposite has happened. Although lending growth to households slowed significantly in 2009 to below 10% after steep increases of 25-30% between mid-2005 and mid-2008, the stock of household debt continued to increase and lending growth for residential housing purchases picked up to above 10% over the year to mid-2010. Thus, despite the fall in mortgage interest rates during the recession, the household debt servicing burden increased. The household debt-to-income ratio and the ratio of household debt to housing assets also increased. One possible explanation is that the low level of mortgage interest rates may have put a floor under lending growth while banks have been trying the rebalance the riskiness of their credit portfolio out of non-financial corporations. The latter explanation is all the more likely as household indebtedness in Slovenia remains well below the euro area average (Figure 1.7, Panel B). However, ongoing weakness in the real estate and labour markets are increasingly likely to weigh on the demand for credit over the coming year.

Restoring potential output is a challenge

Empirical analysis by the OECD suggests that financial crises lead to an average cumulated loss of potential output of 1.5-2.4% of GDP in the long term and of around 4% of GDP in the case of more severe downturns (Furceri and Mourougane, 2009). Preliminary OECD calculations and available potential output growth estimates for Slovenia point to a sizable slowdown, with a cumulated potential output loss in the long run even exceeding those previous OECD estimates for severe downturns (Table 1.2).[1] A complementary assessment of the consequences of the crisis on Slovenian potential output can be carried out by looking into the impact on individual components (capital, labour and total factor productivity) and related policy responses.

The main effect of the crisis on potential output is likely to have occurred through lower business investment. In fact, business investment has been shrinking markedly in Slovenia since the onset of the crisis as firms' expectations of future demand and the economic climate have worsened. This effect was compounded by tighter access to external funding and financing investment projects became difficult and expensive. There are some signs that the impact of financial difficulties in constraining investment may be starting to dissipate, though they still appear to play an important role (Figure 1.8). In addition, the crisis can affect the capital services of the economy by increasing the scrapping rate of capital. In Slovenia, the number of enterprises that have started bankruptcy procedures has been increasing drastically since the beginning of 2010. Some of these liquidating firms can scrap their capital prematurely, that is before it completes its expected lifespan, rather than reselling it in the secondary market.[2]

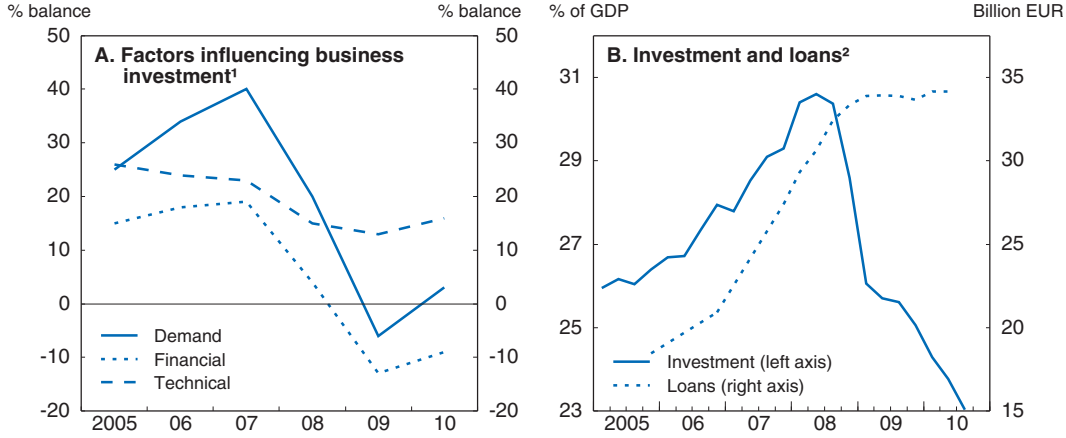
Table 1.2. **Estimates of potential growth and its components**

	Source	2000-04	2005-09	2010-14
Potential growth (annual % change)				
Trend growth using a Hodrick-Prescott filter	European Commission	3.8	2.9	2.5
	IMAD[1]	3.6	3.4	2.1
	OECD	3.8	2.7	1.8
Potential growth using a production function	European Commission	3.9	3.0	1.3
	IMAD	3.6	3.4	2.1
Contributions to growth (% points)				
Total labour input	European Commission	0.3	0.4	–0.1
	IMAD	0.3	0.3	0.1
Capital accumulation	European Commission	2.2	2.0	1.3
	IMAD	1.8	1.7	0.8
Total factor productivity	European Commission	1.4	0.6	0.1
	IMAD	1.4	1.3	1.2
Memorandum items				
Non-accelerating inflation rate of unemployment (NAIRU)	European Commission	6.4	5.8	6.6
	IMAD	6.5	6.1	6.3
	OECD	6.5	6.0	6.3
Trend participation rate	European Commission	69.8	71.5	72.8
	IMAD	70.6	71.4	72.5
	OECD	69.5	72.4	73.4
Working-age population growth	European Commission	0.3	0.2	–0.3
	IMAD	0.3	0.1	–0.1
	OECD	0.3	0.1	0.0

1. Kalman filter approach.

Source: IMAD, Institute of Macroeconomic Analysis and Development (Autumn Forecast), European Commission and OECD calculations.

Figure 1.8. **Investment has been declining markedly**



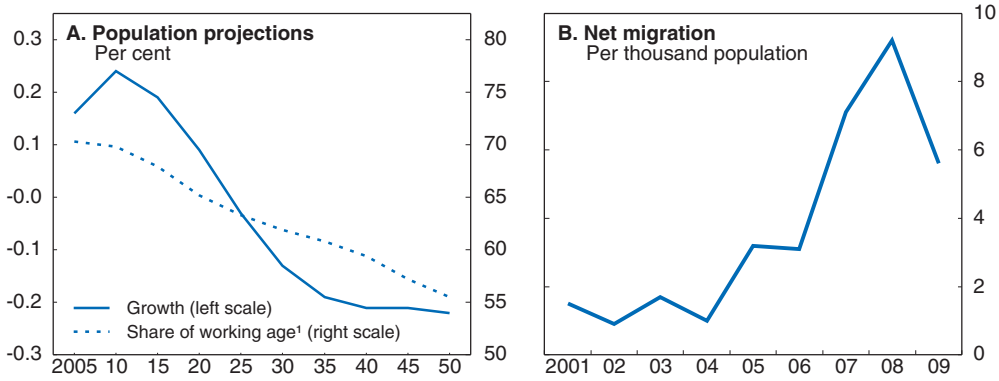
1. Business survey results covering the following areas: Demand – capacity utilisation rate and sales prospects; Finance – financial resources or expected profits; Technical – technological developments, technical conditions set by public authorities, and availability of labour and its attitude towards new technologies.
2. Total economy investment (volume). Loans of non-financial corporations, non-consolidated stock.

Source: Bank of Slovenia (2010), *Monthly Bulletin*, Vol. 19, No. 11; SORS (2010), "Business tendency", *SI-STAT data portal*, Statistical Office of the Republic of Slovenia, October; and OECD (2010), *OECD Economic Outlook: Statistics and Projections* (database), December.

StatLink http://dx.doi.org/10.1787/888932369144

The crisis is likely to have a durable impact on labour force participation and employment. To cushion this impact, the Slovenian government took several measures aiming at limiting the incidence of long-term unemployment, and ensuing human capital depreciation, and at allowing unemployed workers to upgrade their skills to increase their re-employment opportunities (IMAD, 2010b).[3] Nonetheless, the contribution of potential employment is projected to turn negative over the coming years. The longer availability of unemployment benefits with age (up to 24 months for workers over the age of 55) and special transitory provisions for older workers,[4] as part of the proposed pension reform, provide *de facto* pathways into early retirement and may lead to sizable outflows even in the short term. Moreover, the crisis has exacerbated already unfavourable demographic prospects through weaker net migration flows (Figure 1.9).[5] If reductions in work permits for foreign workers are permanently maintained, the impact through this channel will be long lasting.[6] The structural unemployment rate is also projected to increase further and peak at 6.6% in 2013 (from its lowest level of 5.9% in 2007)[7] on account of further employment losses and growing unemployment duration. Tight employment protection legislation for regular workers is associated with higher incidence of long-term unemployment, putting Slovenia in a more vulnerable position in terms of further increases in structural unemployment (Guichard and Rusticelli, 2010).

Figure 1.9. **Recent demographic developments and prospects**



1. Population aged 15-64 as a percentage of total population.

Source: United Nations (2010), "World Population Prospects: The 2008 Revision", *Population Database*, *http://esa.un.org/unpp* and SORS (2010), "Demography and social statistics", *SI-STAT data portal*, Statistical Office of the Republic of Slovenia, October.

StatLink http://dx.doi.org/10.1787/888932369163

Total factor productivity (TFP) made a sizable contribution to both actual and potential GDP growth in Slovenia before the crisis (OECD, 2009). This contribution is likely to moderate in the aftermath of the downturn, though the Slovenian government has taken various policy measures to mitigate the impact on TFP. These included: *i)* increasing the Slovene Enterprise Fund guarantees for start-ups and grants for young enterprises to support new businesses, which are more likely to introduce new technologies;[8] *ii)* scaling up public research and development (R&D) spending to offset the drop in business R&D expenditure; and *iii)* boosting the capital of the Slovenian Export and Development Bank to meet the financing needs of small and medium-sized enterprises (SMEs), for both working capital and investment. Nevertheless, it will take some time before the effectiveness of these measures can be fully assessed, particularly the increase in public R&D spending

(see below). Also, lower potential growth and major structural changes in the main trading partners are likely to fall on TFP, for instance through reduced foreign direct investment (FDI) inflows and trade.

Macro-policy is facing several challenges in the medium term

Increasing the capitalisation of the banking sector should lower the risk of credit rationing

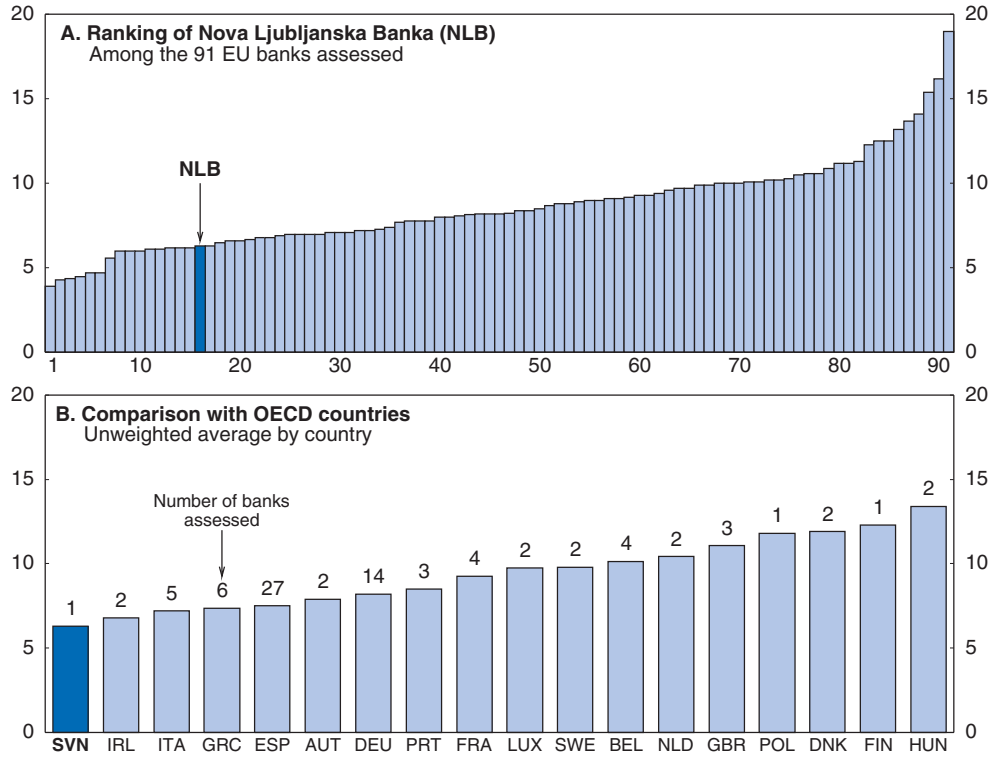
Although it appears that the Slovenian financial system weathered the crisis better than some other countries, with a low penetration of the complex financial products that were at the core of the global crisis, domestic credit risk remains high, disproportionately affecting the banking sector. In 2009, the quality of banks' investment portfolio declined with a 30% increase in non-performing loans, a 78% increase in impairment and provisioning costs, and banks were forced to increase the proportion of loans that are secured, especially to non-financial corporations. In the same year, return on equity in the banking sector declined to 3.8% and pre-tax profits halved. These negative trends continued in 2010. With bankruptcies of businesses likely to increase further, and falls in real estate prices potentially to continue, concerns about whether the banking system is sufficiently well capitalised to withstand any further shocks may rise.

The case for improving the capitalisation of Slovenian banks has strengthened in the wake of the results of the EU-wide stress test exercise undertaken by the Committee of European Banking Supervisors (CEBS) published in July 2010. Only one domestically-owned Slovenian bank was included in the exercise: Nova Ljubljanska Banka (NLB), the largest bank of the country and also with a third of its capital directly controlled by the state. However, six other foreign-owned banks operating in Slovenia were indirectly included in the exercise through their parent company's consolidated operations. The starting point for the exercise was NLB's current (at the beginning of 2010) Tier 1 capital ratio of 7.5%. Simulation of the assumed economic shock showed that this ratio would decrease to 7.4% in 2011. Under the additional adverse scenario including a sovereign shock (defined as a combination of an upward shift in the yield curve for all EU countries and country-specific increases in long-term government debt spreads), it was estimated that NLB's Tier 1 capital ratio would fall to 6.3%, closer to the "safety" threshold (set at 6% in this stress test exercise) than most other banks tested (Figure 1.10). Indeed, arguably, NLB is currently too close to the threshold, given the on-going solvency problems in the corporate sector and the potential vulnerability to a sovereign default or debt restructuring, while also more capital is needed when taking into account the requirements of the Basel III accord. In this context and given the ongoing solvency problems in the corporate sector the shareholders announced a recapitalisation of NLB of EUR 250 million in late November 2010 to help the bank meet an internal objective of a Tier 1 capital ratio at 9% in 2013.

As the CEBS exercise was not extended to many of the smaller European banks over which there is the greatest concern about capital adequacy, it would be useful for the Slovenian authorities not only to continue to carry out stress tests for a larger sample of banks, but also undertake such tests for the entire Slovenian banking sector. In the case of Slovenia, the adverse CEBS scenario was relatively lenient with growth set at 0.7% in 2010 and 0.6% in 2011. For both years, the growth assumption for Slovenia is higher than that of the euro area (respectively 0 and –0.4%), although Slovenia had one of the deepest recessions among OECD countries in 2009. It would therefore also be worth not only

Figure 1.10. **Capital adequacy in the EU banking sector**

Tier 1 ratio after the adverse scenario and sovereign shock, per cent[1]



1. Results of a stress test to assess the resilience of the EU banking system to possible adverse economic developments and to assess the ability of banks in the exercise to absorb possible shocks on credit and market risks. First, 91 banks calculated their estimated Tier 1 capital ratio under a benchmark scenario for 2010 and 2011, then the same calculations were performed under an adverse scenario and finally, within this adverse scenario, a shock on sovereign risk was considered.

Source: CEBS (2010), *2010 EU Wide Stress Testing*, Committee of European Banking Supervisors, *www.c-ebs.org/EuWideStressTesting.aspx*, accessed 23 September.

StatLink http://dx.doi.org/10.1787/888932369182

continuing to carry out stress tests with significantly more demanding scenarios and encompassing all banks, but also enhancing the credibility by publishing their results.

The government, in its *Exit Strategy 2010-13* document, briefly outlined two possible ways through which bad assets could be restructured, that is either through a "bad" bank, or a time-limited asset insurance. The danger with an insurance scheme is that it can appear to sweep balance sheet problems under the carpet without properly encouraging banks to restructure and get bad assets off their balance sheets. The government's thinking on this front therefore needs to be advanced further, with more details given as to how the options would work out in practice and which would be most appropriate in the Slovenian context. Banks requiring additional capital should first have the opportunity to obtain it from the market, followed by public recapitalisation if sufficient private funds are not forthcoming. For its part, the Bank of Slovenia recently issued Guidelines on Internal Capital Adequacy Assessment Process for Banks and Savings Banks (ICAAP guidelines) that are designed to ensure that banks have internal processes to assess and limit exposure to credit and market risks. The ICAAP guidelines are also expected to improve dialogue and the exchange of information between banks and the Bank of Slovenia. In early 2010, the

central bank also called on Slovenian banks to further increase their capital buffers. Finally, pressure to improve capital adequacy over time is also coming from Basel III.

Under Basel III, which will be phased in between 2013 and 2019, the minimum level of common equity after deductions (core Tier 1 capital) will rise to 4.5%, more than double existing requirements. The new minimum risk-weighted Tier 1 capital ratio will be set at 6% and the new minimum total capital ratio will be set at 8%. On top of this, banks will be required to hold an additional capital buffer of 2.5% if they want to pay dividends and discretionary bonuses. In practice, most banks will probably want to hold more capital to insure against shocks that reduce their capital below the buffer zone, and thereby prevent them from paying dividends and bonuses. National regulators are also expected to put in place a counter-cyclical buffer regime that will force banks to hold even more capital during periods where credit is growing rapidly. Finally, the Basel Committee has indicated that systemically important banks will also need to carry an extra capital buffer for "systemic importance", though its magnitude has yet to be announced. Although it is nearly nine years until the new capital requirements will be fully phased in, these changes are likely to force many Slovenian (and other European banks) to alter their capital structure and raise further capital.

Near-term public finance challenges are high

The fiscal position requires further permanent consolidation measures

Between 2003 and 2007, Slovenia achieved a net improvement in public finances by bringing the general government deficit from 2.7% of GDP to zero. Buoyant growth and resulting high tax elasticities contributed significantly to this outcome, as did some accounting measures (see last OECD *Survey*). As a consequence, the Slovenian budgetary position deteriorated rapidly during the crisis. The general government deficit rose sharply from 1.8% of GDP in 2008 to 5.8% of GDP in 2009 and the public debt increased significantly, to some extent because of capital and liquidity injections to support the financial sector. The automatic stabilisers were augmented by the catch-up policy in public sector wages, as well as various discretionary – and mainly temporary – measures to respond to the crisis.

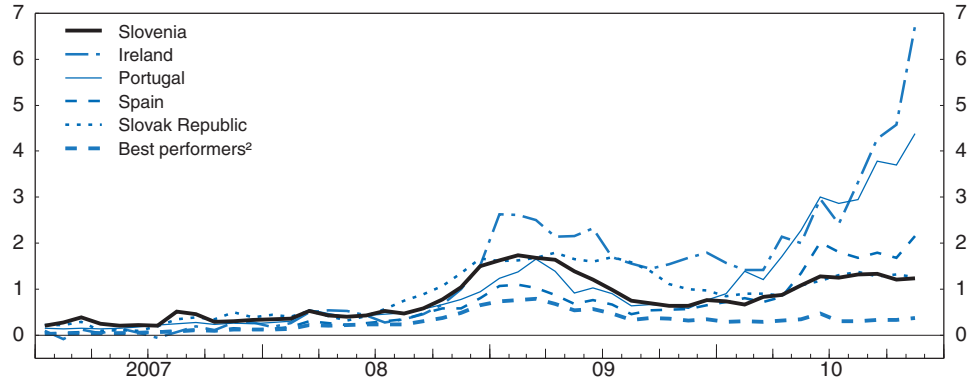
Ensuring fiscal consolidation in the near term and tackling the long-term sustainability of ageing-related expenditure are key challenges. To this end, the authorities designed a plan spelled out in two documents published in early 2010: the *2009 Update of the Stability Programme* and the government's roadmap *Slovenian Exit Strategy 2010-13*. The main objectives were to: *i)* withdraw discretionary fiscal stimulus measures by end-2010; *ii)* implement an expenditure-based fiscal consolidation to reduce the general government deficit to 1.6% of GDP and the structural deficit to 1% of GDP by 2013; and *iii)* further reform the pension and health systems to underpin the sustainability of public finances in the long term. Austerity measures adopted in the budget for 2010 mainly occurred on the spending side and were based on a further postponement of a previously planned expansion in the public sector's wage bill (0.75% of GDP), a less generous indexation of social benefits, especially pensions (0.2% of GDP), and a decrease in capital transfers (0.5% of GDP), partly offset by an increased reliance on EU funds. However, due to worse than planned budgetary developments in cash terms over the first five months of the year and to bring the central government deficit back in line with a target at close to 5% of GDP, the authorities adopted a supplementary budget for 2010 in mid-year, with additional expenditure containment measures. These were mainly further cuts in capital expenditure and transfers, to a smaller extent lower spending on goods and services, as well as reduced subsidies.

Given the deterioration of the fiscal outlook and the need to restore public finances, the medium-term consolidation strategy of the authorities should be implemented as planned. These measures should be spelt out in full and draft legislation prepared as soon as possible to strengthen the credibility of the consolidation process. However, some of the measures taken to date are temporary and hence do not ensure a sufficient reduction in the structural deficit. Reductions in the wage bill by 1.5 percentage points of GDP between 2009 and 2013 is likely to occur mainly through temporary measures (abrogation of regular performance bonuses and promotions between 2009 and December 2012, postponement of the two remaining steps of wage increases in the public sector, a limited indexation of wages to a fourth of expected inflation in 2011, and to any marginal increase in actual inflation above 2% in the previous year in 2012).

The authorities should introduce additional tightening measures to achieve a lasting reduction in the structural deficit and insure against the risk of revenue slippages. In doing so, they will head off the risk of sharp increases in long-term interest rates and reduce the likelihood of funding difficulties of banks on international markets. Indeed, even though long-term interest rate spreads are not particularly high, they are wider than for some other euro area countries (Figure 1.11). As discussed and recommended in the previous *Survey* (OECD, 2009), the government should abandon the remaining steps of public-sector wage increases, and hence make the wage restraint more permanent. In particular, the two remaining steps of wage increases, which go beyond the compensation for past under-indexation of wages to inflation (OECD, 2009), should be cancelled, instead of being postponed until the annual GDP growth exceeds 2.5%. Additional revenues could be made by broadening the tax base. One issue is that owners of limited liability companies may reduce their tax obligations by paying themselves in the form of profits (subject to a rate of 20%) rather than wages, which are subject to significantly higher social security contributions. The authorities should also assess in detail whether the fiscal cost of maintaining a reduced corporate income tax rate of 10% and other tax incentives in special economic and customs zones do not outweigh the benefits in terms of economic activity and employment.

Figure 1.11. **Long-term interest rate spreads**[1]

Percentage points



1. Long-term interest rate on 10-year government bonds relative to German rate.
2. Unweighted average of the lowest spreads in the OECD euro area countries (Austria, Finland, France and Netherlands).

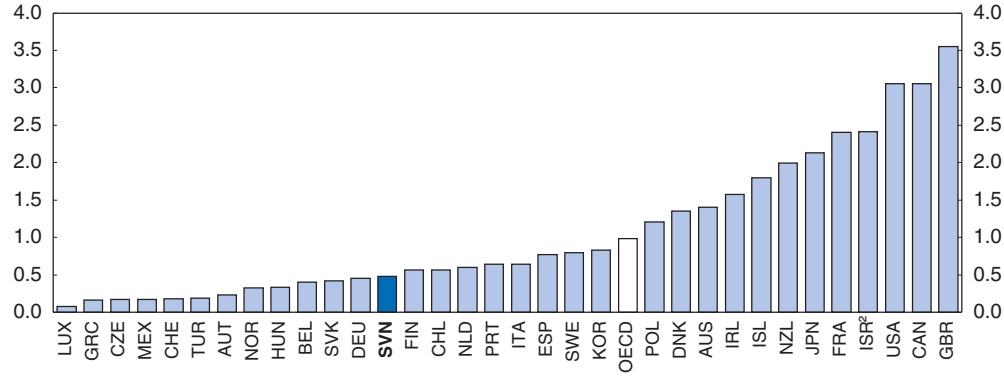
Source: OECD (2010), *OECD Economic Outlook: Statistics and Projections* (database), December.

StatLink http://dx.doi.org/10.1787/888932369201

Additional revenues could also be levied by further increasing taxes with the least distortive long-term growth implications on the environment, consumption and property (Johansson *et al.*, 2008), though the scope to do so depends on the tax base under consideration. Environmental taxes are relatively high in Slovenia as they already amounted to 3% of GDP *versus* 2.4% of GDP for the EU27 average in 2008. This burden was further increased with hikes in excise taxes in 2009 and 2010. Yet, the level of the implicit tax rate on energy consumption suggests that some room for manoeuvre may still exist as this rate was lower in Slovenia than in 11 out of 15 leading European Union countries in 2008, though it was higher than in the majority of the new EU countries. The case for increasing consumption taxes seems stronger, notably by hiking excise duties on alcohol and cigarettes (which are low compared with other EU countries) and simplifying value added tax (VAT) procedures (IMAD, 2010b). In the latter case, even though the effectiveness of VAT is relatively high in Slovenia (OECD, 2009) and progress has been made by accelerating the refund of VAT, the administrative burden is significant once a mandatory threshold for registration (a yearly value of supplies of EUR 25 000) is reached. This may prevent small businesses from expanding and registering their activity and can therefore have adverse effects on VAT receipts and revenues from the corporate income tax. Finally, taxes on immovable property represent a relatively untapped source of revenue as they are low in Slovenia compared to the OECD average (Figure 1.12). The authorities contemplate the possibility of overhauling the current system of property taxation by creating a single tax (instead of three), backed by a comprehensive system of real estate registry and a tax base more closely linked to market values for property. These developments are welcome, but setting the tax rate at a revenue-neutral level only, as envisaged by the authorities in the *2009 Update of the Stability Programme*, would represent a lost opportunity. Even if the value of the tax accrues to local authorities, the government should take advantage of the reform to reduce the value of transfers from the state budget to municipalities' budgets in return. If implemented, more recent plans to significantly increase taxes on immovable property would be a step in the right direction. Finally, given the need to consolidate public

Figure 1.12. **Recurrent taxes on immovable property**

Per cent of GDP, 2009[1]



1. 2008 for Australia, Greece, Mexico, Netherlands, Poland, Portugal and the OECD aggregate, which is an unweighted average.
2. The statistical data for Israel are supplied by and under the responsibility of the relevant Israeli authorities. The use of such data by the OECD is without prejudice to the status of the Golan Heights, East Jerusalem and Israeli settlements in the West Bank under the terms of international law.

Source: OECD (2010), *Revenue Statistics* (database), December.

StatLink http://dx.doi.org/10.1787/888932369220

finances, any plans over setting a cap on social security contributions to reduce the tax burden on labour and attract or retain highly skilled workers should be coupled with permanent and fully offsetting measures to not to undermine the fiscal position (OECD, 2009).

A strengthening of the fiscal framework is necessary

Even though the fiscal consolidation effort is foreseen by the authorities mainly on the spending side, expenditures have exceeded plans in recent years (European Commission, 2010). More rigorous execution of fiscal plans should be facilitated by the recent creation of an independent fiscal council, in accordance with OECD recommendations (OECD, 2009), and the introduction of performance-based budgeting. Yet, the nomination procedures of its members do not reflect sufficiently the independence requirements for such a body. The independence of the fiscal council would be enhanced in Slovenia if its members were appointed by Parliament, rather than the government as now. Also, the administrative capacity of the fiscal council should be strengthened, as this new institution appears significantly understaffed, all the more so as extensive duties and responsibilities have been assigned to it (Box 1.2). Finding a large number of highly-qualified national experts might be difficult in a small country such as Slovenia, and the council may have to rely on the administrative capacity of the Ministry of Finance. If so, care should be taken to preserve the independence and credibility of the new council.

Box 1.2. **The creation of an independent fiscal council in Slovenia**[*]

Extensive duties and responsibilities were attributed to the fiscal council set up in 2009 in order to provide an independent assessment of fiscal policy and the implementation of structural reforms in Slovenia. Its main tasks are:

- An *ex post* evaluation of the stability and sustainability of fiscal policy as set out by the annual budget memorandum and programme of stability, and compliance with the rules of the Stability and Growth Pact.
- An assessment of the adequacy of fiscal targets with the medium-term macrofiscal framework.
- An annual evaluation of the effectiveness of public spending, including European Union funds, on the basis of annual accounts.
- An assessment of the trends of individual categories of government revenue and expenditure in terms of their impact on the sustainability of public finances, based on annual accounts and adopted budgets for following years.
- An appraisal of consistency of fiscal policy with the long-term sustainability of public finances when considering population ageing.
- An assessment of the transparency of public finances and the quality of economic forecasts used in the process of budget preparation.
- An evaluation of the effectiveness of implementation of structural policies from the perspective of ensuring long-term sustainability of public finances, economic growth and employment.
- An appraisal of general government debt management and guarantee schemes from the point of view of sustainability and stability of public finances.

* Based on the Stability Programme 2009 Update.

The authorities should also assure the transparency and consistency of macroeconomic forecasts. The macroeconomic forecasts of the Institute of Macroeconomic Analysis and Development (IMAD) – an independent government office with a strong track record in assessing policy developments in Slovenia – serve as a basis for the preparation of the state budget. The credibility and independence of its projections could be strengthened by following more closely the model of the Netherlands where the *Centraal Planbureau* (CPB – Netherlands Bureau of Economic Policy Analysis) plays a prominent role in the conduct of fiscal policy by providing independent macroeconomic and budgetary forecasts and assessing the budgetary impacts of proposed fiscal policy measures (Bos, 2008). In any case, the government should reinforce the role of IMAD in the fiscal process by making it again the only source of the macroeconomic projections for the budget law, as it was prior to summer 2010. The new arrangement that allowed the government to base its projections on a combination of four different sources is less transparent and may undermine the credibility of the budget process.

The authorities took another important step by introducing a new expenditure rule, also a recommendation of the previous *Survey* and a very positive decision. The new rule links the nominal growth of general government expenditure to potential output growth. Expenditure growth can be even slower when there is a significant gap between current debt and deficit levels and respective objectives set by the government (see Box 1.3 for more details).[9] To establish the credibility of the new rule, the authorities should strictly implement it for a minimum period of time prior to proposing major revisions. Three main improvements could be contemplated in the near future:

- *First*, the key parameters of the rule should be made more transparent. In the current setting, the rule allows for a significant degree of discretion regarding the targeted levels of public debt and primary deficit, which can be amended after two years. This does not provide an indication about the desirable long-term target for public finances in Slovenia. The ceilings may need to be reconsidered with a view to ensuring at least consistency with a medium-term objective (MTO) of the Stability and Growth Pact, which pre-funds a large part of the future ageing costs and other contingent liabilities. Long-term objectives could also be best achieved by adopting multi-year ceilings (beyond two years at least) on government expenditure. However, automatic stabilisers should be allowed to operate on the spending side by excluding cyclically sensitive expenditure (in particular unemployment benefits) from the ceiling.
- *Second*, the level of the government to which the rule applies should be clarified. As stated in the current legislation, the rule applies to the general government. However, the rule seems to be interpreted in practice as applying to the central government only. Controlling general government expenditure is in theory more efficient than focussing at the central government only as it would prevent a loosening of the rule by shifting central government expenditures to lower levels of the government. However, it is frequently difficult to put in place a rule at the general government level, notably for constitutional reasons. In the latter case, Slovenia should limit the application of the rule on the central level, but define expenditure on an accrual basis instead of cash basis (to limit gimmickry accounting possibilities) and possibly complement it by additional rules at the local government level.
- *Third*, authorised deviations of the rule linked to economic circumstances should be made more transparent and independent from the central government than in the

current setting. Currently, parameters indicating the speed of transition to both objectives can be revised, which gives discretion to the rule. Nonetheless, it is important they are set in a transparent manner to enhance adherence to the rule. Besides, any deviations from the rule should be assessed by the fiscal council. The latter could allow for discretion and flexibility *vis-à-vis* the rule in extraordinary circumstances or in the case of measurement errors when assessing the structural balance (Koske and Pain, 2008). To smooth deviations from the targets, consideration could be given to setting up an adjustment account similar to the Swiss debt brake rule (OECD, 2007).

Box 1.3. **The introduction of an expenditure rule in Slovenia**[1]

At end-July 2009, the Slovenian government introduced a new fiscal rule with the objective of improving the control of general government expenditure by linking its growth to potential output growth. The rule establishes a ceiling on the general government nominal expenditure for each year and aims to achieve flexibility by setting an appropriate speed of adjustment to a target fiscal position. More precisely, it is defined by the following equations:

$$G_{t+1} = G_t(1 + g^*)$$

$$g^* = g^{trend} - \underbrace{u(b_t - b^*) - v(f_t - f^*)}_{\text{Corrective part of the rule}}$$

where:

- G_t and G_{t+1} are estimates of nominal general government expenditure respectively in the current and following year.
- g^* is the ceiling for the growth of nominal general government spending.
- g^{trend} is an average of nominal potential output growth over the past three years, the current year and the next three years.
- b_t and b^* are respectively the estimate for the current year and the target level of consolidated gross general government debt as a share of GDP.
- f_t and f^* are respectively the estimate for the current year and the target level of general government primary balance as a share of GDP.
- u and v are discretionary parameters (between 0 and 1) which indicate the speed of transition to the target levels of respectively the public debt and primary balance as a share of GDP.

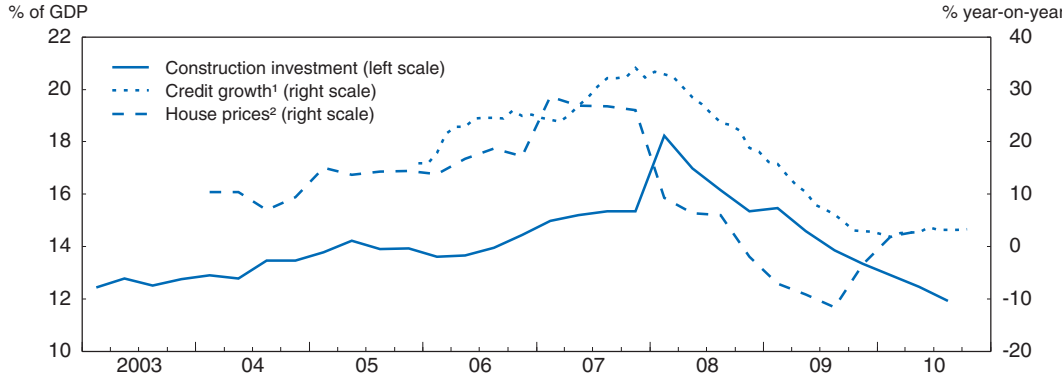
The objective of the rule is to control growth in expenditure to reach balanced public finances in the medium term independent of cyclical movements in budget revenues. The b^*, f^*, u and v parameters are determined for the next two years. They can be revised and, consequently, the upper limit for general government expenditure can be modified as well if fiscal consolidation is needed and/or to accommodate changes in potential output estimates. If the fiscal position is balanced or in surplus, the growth in expenditure is consistent with trend economic growth (the first part of the equation for g^*). If the fiscal position needs to be consolidated, the second, corrective part of the rule is activated, ensuring that expenditure growth is reduced in proportion to the difference between the current and target level of the primary balance and the current and target level of consolidated general government gross debt.

1. Based on the Budget Memorandum 2011-12.

Raising the productive capacity of the economy requires ongoing structural reform

Although much of the decline in potential output and increase in the non-accelerating inflation rate of unemployment (NAIRU) can be attributed to the economic impacts of the global financial crisis itself, the crisis has also revealed important weaknesses in the structure of Slovenia's economy. As mentioned previously, growth was particularly dependent on credit and construction activity prior to the crisis. Between 2003 and 2008 the share of construction investment in GDP increased from close to 13% to nearly 18% of GDP (Figure 1.13). Although growth in construction activity and credit was justified by the need to upgrade infrastructure and ongoing financial deepening, the boom inevitably ended in 2008 and construction activity, housing prices and business credit are still weak some two years after the recession began.

Figure 1.13. **Construction investment and credit growth**



1. Total loans from claims on non-financial institutions in the balance sheet of other monetary financial institutions.
2. Prices for second-hand dwellings.

Source: OECD (2010), *OECD Economic Outlook: Statistics and Projections* (database), December; Bank of Slovenia (2010), *Monthly Bulletin*, Vol. 19, No. 11 and Statistical Office of the Republic of Slovenia.

StatLink http://dx.doi.org/10.1787/888932369239

The Slovenian economy needs to be rebalanced towards new sources of growth, notably to regain competitiveness within the euro area. To that aim, the rest of this chapter examines policies to improve long-term fiscal sustainability while boosting labour supply and demand for older workers (pension reform) as well as reforms for better functioning labour market institutions. It will then discuss innovation policies to get closer to the innovation frontier. Chapter 2 outlines some reforms to education spending and institutions to boost human capital. Chapter 3 looks in depth at the factors inhibiting foreign investment in Slovenia and shows how rationalising public ownership and improving the governance of state-owned enterprises can give new impetus to productivity growth.

Reforming pensions is critical to ensuring long-run sustainability of public finances

There is a clear need for a comprehensive pension reform

Slovenia is faced with considerable demographic pressures and costs of ageing. The old-age dependency ratio, the ratio of people aged 65 and over to the population aged 15-64,

is projected to increase from 23% in 2008 to 62% in 2060. The working-age population (aged 15 to 64) is projected to drop by 32%, compared with 15% for the EU as a whole, by 2060 (European Commission, 2008). The share of public pension expenditure in GDP is currently around 11% of GDP, but is expected to reach around 20% of GDP by 2060, raising questions about the financial sustainability of the pension system (see the previous *Survey* for a detailed description of the current pension system).[10]

The expected steep increase in pension costs is explained by the generosity of the system. The effective retirement age in Slovenia is very low (close to 60 years on average for men and women in 2006). Both the minimum and full pensionable ages are low, at 58 for men and 57 for women (with at least 15 years of contributions). Moreover, if individuals have relatively long careers,[11] they are eligible for full retirement as early as 58 for men and 55 for women. Second, financial incentives to continue working once pension eligibility conditions are fulfilled are weak.[12] The permanent penalty (in addition to lost accrual rates of 1.5% per year) for retiring before the full pensionable age of 63 is reached is also low.[13]

The proposed pension reform is a step in the right direction...

The Slovenian government has prepared a draft of a comprehensive reform which is expected to come into force in early 2011.[14] It primarily aims at tightening conditions for pension eligibility, providing incentives for older workers to continue working, and aligning the treatment of men and women to some extent. This reform should help improve fiscal sustainability and boost labour supply. The main changes are the following:

- An increase in the full (*i.e.* without penalties) and minimum (with penalties) pensionable ages. The statutory retirement age will become 65 and the minimum pensionable age will be 60.[15] The gap between the retirement ages of men and women will progressively disappear. The retirement age for workers with longer careers also increases to 60 for men and 58 for women. At the same time, contributory requirements are extended correspondingly.
- A gradual extension of the period for the calculation of the pension base from the 18 best consecutive years to 30 years, of which three worst years are not taken into account.[16] Past earnings will still be revalued, as in the current system, based on wage growth. Overall, the extension will decrease the pension rating base, which is essentially the average of net monthly salaries over 27 years of insurance, by around 10% (Čok *et al.*, 2010).[17] However, the new legislation will fix the replacement rate at 60%, although it would have been progressively lowered to below that level without the reform.[18]
- A change in the indexation of pension benefits. In the current system, pension benefits are indexed to economy-wide nominal wage growth. A mixed approach that links pension benefits to wages and prices is proposed in the new legislation with a view to lowering the generosity of the indexation scheme, while still passing some of the improvements in living standards on to pensioners. The weights of nominal wage growth and inflation are to be 70% and 30%, respectively, as from 2016 (and temporarily 60% and 40% during 2012-15).
- Changes in the bonus/penalty system will be introduced to strengthen incentives for continued work. Individuals who are eligible for a pension, but continue to work full time will be able to claim 20% of the pension benefits they are entitled to, replacing the current bonus system. The permanent penalty for early retirement will also be 0.3% per

month before the age of 65, rather than declining penalty rates as the statutory retirement age approaches as in the current system.

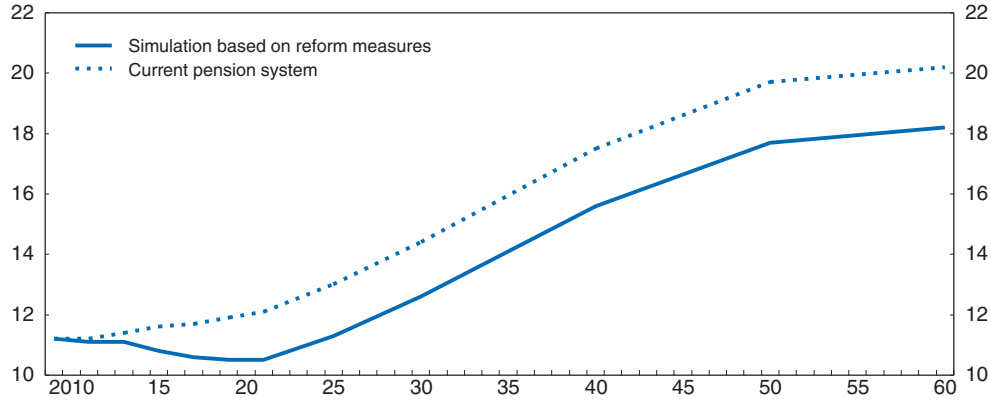
Finally, to allow for a more flexible implementation of partial retirement, further incentives are to be given to workers who continue to work beyond the pension eligibility age. The new legislation will extend the definition of partial retirement and allow different proportions of work and pension benefits so that pensioners are not limited in their working time arrangements.[19] The reform also introduces financial incentives for employers to improve the employability of older workers. Employers will pay 30% lower social security contributions for workers above the age of 60. Hiring workers with long careers will be even more attractive over the transitional period until 2017 when employers will pay only 50% of their social security contributions for these workers. This is a crucial element of the reform to support the demand of older workers as these find it difficult to stay employed in Slovenia (OECD, 2009).

... but falls short of ensuring long-term fiscal sustainability

Although the pension reform package is a step in the right direction, it is likely to provide only temporary relief and fall short of meeting the daunting long-term fiscal challenges. The original proposal adopted by the government would have lowered the share of public spending on pensions by 3 percentage points to 17% of GDP in 2060, which was significant but fell well short of what was needed. After recent changes to the government proposal introduced by the Parliament (*i.e.* a higher indexation of benefits to wages), the expected saving should be even lower and reach 2 percentage points (Figure 1.14). In view of the usual long transition periods before pension reforms kick in, the authorities should act early to address the remaining shortfall.

Figure 1.14. **Impact of the proposed pension reform on public expenditure**

Per cent of GDP



Source: M. Čok, J. Sambt and B. Majcen (2010), "Financial Implications of the Proposed Reforms", Report of the Faculty of Economics, University of Ljubljana.

StatLink http://dx.doi.org/10.1787/888932369258

Lowering the replacement rate (currently at 60%) would significantly improve the sustainability of the pension system. The government could lower the replacement rate by reducing the rate at which benefits accrue or by changing the way past earnings are revalued when calculating the pension rating base. In the latter case, instead of indexing to

wage growth, the formula should be based on past inflation or at least a combination of wage growth and inflation. The generosity of pension benefits should also be revised. The weight granted to inflation should be even bigger than that in the current proposal (*e.g.* 50% inflation and 50% wage growth as in the Swiss formula). In both cases, the respective weights of wage growth and inflation would need to depend on what is required for the financial sustainability of the system. Finally, in order to make up for ensuing cuts in public pension benefits, Slovenia should strengthen the role of the private pension system (*e.g.* employer-sponsored pension plans). The Slovenian non-mandatory private pension system (second pillar) is relatively recent and covers only about half of the population. Also, current contribution levels are not high enough to ensure adequate benefits. Therefore, the authorities should seek to expand the private pension system via appropriate incentives. Yet, for the most vulnerable groups who cannot access the latter, they would need to ensure sufficient safety nets.

Although, the proposed legislation will increase the penalty for early retirement to 0.3% per month, this may be too little to prevent workers from retiring early. In OECD countries with old-age pension systems that are close to actuarial neutrality,[20] permanent reductions in benefits are much higher. For example, in Japan and Iceland, the penalty rates are 6% and 7% per year, respectively. In addition, the flat accrual rate of 2% is also relatively low and reduces the potential benefits from working an additional year.[21] It would be beneficial to move the system towards (marginal) actuarial neutrality.

While the statutory retirement age will be raised to the age of 65 that is prevalent in most OECD countries, several countries already started to increase the statutory retirement age to 67 in line with gains in life expectancy. The authorities should consider indexing important parameters, such as the retirement age and required contributory periods, to automatically adjust to changing life expectancy, as discretionary adjustments tend to involve protracted discussions and long phase-in periods. Further pension reform should also align eligibility conditions for different genders better. Contributory periods will still differ and women will be granted more favourable conditions. Considering that women tend to live longer than men (life expectancy at 65 is around 3.5 years higher for women on average across OECD countries), there does not seem to be any actuarial grounds for this differential treatment. If the differential treatment of women is based on other considerations, such as childcare, it would be best to take such factors into account in the contributory period only.

As envisaged in the 2009 Green Paper on the modernisation of the Slovenian pension system, the government should establish a new notional defined contribution scheme as the main earnings-related pillar. This would modernise the system, facilitate a better link between pension contributions and benefits, and provide a mechanism to balance pension system finances. Finally, the authorities should also pay attention to other reforms that could enhance the sustainability of the pension system. Such measures could include creating favourable conditions to improve fertility rates and sustaining net positive migration flows. Strengthening the employability of older workers, notably through lifelong learning programmes, is also essential (Chapter 2).

Increasing labour market flexibility is one of the keys to improving competitiveness

Restoring and then improving competiveness requires more flexible labour market institutions in Slovenia. Although the risk of excessive unit labour cost growth appears more serious in the non-traded sectors of the economy than the traded sector (wage

growth in the public sector actually accelerated between mid-2008 and mid-2009 as the government implemented a new pay scheme), developments in the two sectors cannot be separated from each other. For example, excess wage growth in the non-traded sector can affect labour supply decisions, and can also spill over into wages and non-labour costs in the traded goods sector. Moreover, tight employment protection legislation and the lack of social consensus to ensure that wages grow in line with productivity can act as a significant disincentive to foreign enterprises increasing their direct investment (Chapter 3).

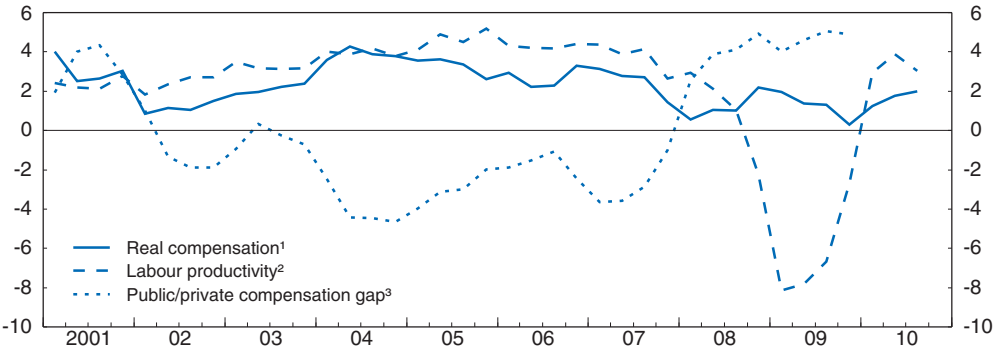
The 2009 *Survey* made several recommendations for increasing the flexibility of the labour market, including: reducing the administrative burden on individual notice and dismissal; relaxing the conditions under which individual dismissals are legitimate; reforming severance pay provisions; and not increasing (rather reducing) the ratio of the minimum wage to the median wage. Partial progress has been made in some of these areas. The government passed a "mini-jobs" bill that expands eligibility for more loosely regulated jobs to the elderly and the unemployed. It will also make student work less attractive to employers and students (Chapter 2). The government has also slightly reduced employment protection on regular contracts through small reductions in notice periods and severance payments. The authorities must build further on these reforms. Even after the changes to employment protection legislation (EPL), Slovenia's EPL indicator will remain well above the OECD average, especially for regular contracts. The government should follow through on the recommendations from the previous *Survey*.

More should also be done to slow the rate of wage growth in the public sector over time. As said previously, a useful first step would be to cancel the remaining steps of the public-sector wage increases, which go beyond the compensation for past under-indexation of wages to inflation (OECD, 2009). Private sector wages did grow more quickly than public sector wages between 2002 and 2007, while the economy was growing rapidly (Figure 1.15). However, rapid growth in public wages in 2008 and early 2009 meant that, by the end of the decade, public sector wages were 27% higher than private sector wages, exactly the same differential that existed at the beginning of the decade. If current plans for public sector wage increases go ahead, the differential will widen considerably over the next few years. Although some of the wage differential is due to the higher average skill level in the public sector, public sector employees also enjoy considerably better non-wage employment conditions than their private sector counterparts, including greater job-security. Raising public sector wages may amplify the negative consequences of earlier excess wage growth. Pay increases in the public sector are also difficult to justify in a tight fiscal environment.

An additional concern is the decision made in early 2010 to increase the minimum wage by 23% by 2012 at the latest, further compounded by the fact that the major part of the increase has already been implemented. When fully implemented, the increase in the minimum wage will raise significantly the ratio to average and median wages (Figure 1.16). The economic impact of the minimum wage decision has been studied by both IMAD and the Bank of Slovenia, though within different analytical frameworks (Brezigar-Masten *et al.*, 2010; IMAD, 2010c; Bank of Slovenia, 2010). According to IMAD, if the minimum wage increase is implemented immediately (in practice this occurred for more than 60% of wage earners in 2010) it will raise wage growth by around 2.1 percentage points, split evenly between the direct impact on employees who will receive the minimum wage and spillovers to other employees. While the number of employees receiving the minimum wage is likely to double to just over 40 000, IMAD's estimates suggest that employment

Figure 1.15. **Labour compensation and productivity growth**

Year-on-year percentage change



1. Compensation rate of total economy deflated by the harmonised consumer price index.
2. GDP in constant prices per person employed.
3. Difference between the percentage change of compensation in the government sector and in the private sector.

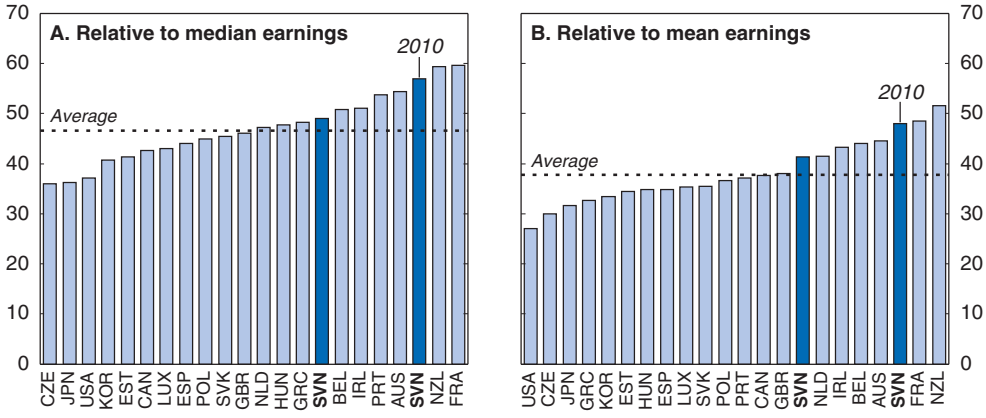
Source: OECD (2010), *OECD Economic Outlook: Statistics and Projections* (database), December.

StatLink http://dx.doi.org/10.1787/888932369277

would contract by around 5 000 in the short-term and by nearly 20 000 in the long-term. The Bank of Slovenia's analysis suggests that the employment impact of the minimum wage increase will be much smaller as higher wages raise consumption and feed back into higher labour demand. *Ex ante* it is difficult to know which of these estimates will prove more accurate. What is less contestable, though, is that the negative consequences of the decision will fall mostly on the young and unskilled (see the previous OECD *Survey*), whose employment is more sensitive to wage developments at the low end, and on firms operating in low value-added traded goods industries (such as textiles) that will not be in a position to pass on higher wage costs to prices. In any case, the substantial hike in the minimum wage led to a significant wage compression at the bottom of the distribution as the number of minimum wage earners as a share of all wage earners rose from 3% in 2009 to 6.8% (or 42 000 employees) in September 2010.

Figure 1.16. **Minimum wages**[1]

Per cent, 2009



1. Median earnings are for full-time employees and mean earnings for full-time workers. For Slovenia 2010 is an OECD estimate.

Source: OECD (2010), *Earnings Database*, November.

StatLink http://dx.doi.org/10.1787/888932369296

Overall, the decision to increase the minimum wage is hard to justify in the current weak labour market. The decision reveals how much more weight Slovenia's social consensus model places on equity considerations in wage determination than on efficiency. Indeed, the main argument raised to justify the hike in the minimum wage was to operate an adjustment with the cost of living. However, a high minimum wage goes against Slovenia's stated aim to move its labour market institutions in the direction of flexicurity. Now that Slovenia is a member of the euro area, the focus of the authorities and social partners will need to shift if Slovenia is to maintain its competiveness. Therefore, the focus of the authorities and social partners when setting the minimum wage should not only be based on equity objectives but also take into account macroeconomic circumstances and the likely impact of changes on the employment rates of low-skilled and inexperienced workers. To this end, further increases in the minimum wage should be indexed only to consumer price inflation (as stipulated by the Minimum Wage act adopted in 2010) and for a prolonged period. This would preserve the purchasing power of people paid the minimum wage while, at the same time, allow for a gradual widening of the gap between the minimum and median wages, improving employment prospects of young and low-skilled workers.

The growing need to raise innovative efficiency[22]

Policy makers in many countries have increasingly focused on innovation as a potential key driver of economic growth (OECD, 2010). On the input side (R&D expenditure in per cent of GDP and the number of researchers per million inhabitants), Slovenia allocates resources which are commensurate with its standard of living. Slovenia has even allocated more resources to R&D in terms of GDP than several other countries with a similar level of real GDP per capita (Czech Republic, Greece, New Zealand, Portugal and Spain). Among CEECs, no country has devoted larger funds to R&D efforts in terms of GDP. After rising slowly over time, R&D intensity (R&D expenditure in per cent of GDP) is only marginally lower than the EU27 average (1.7% of GDP as against 1.9% for the EU27 in 2008). Within this total, though, the business component has been gaining strength since 2005. At nearly 63% of total R&D spending in 2008, business R&D expenditure (concentrated in manufacturing) far exceeded the EU27 average of 55%. On the other hand, R&D business outlays in the service sector have been negligible, suggesting a weak drive to develop non-technological innovations.

On the output side, movements in innovative activity, proxied by the number of innovative, high-growth firms, high-technology exports, service exports and FDI flows, present a different picture. In all of these areas, Slovenia has underperformed relative to other OECD countries (Table 1.3 and Chapter 3). The bulk of business R&D spending is naturally undertaken by a few, large firms, 90% of which engaged in innovative activities in 2006-08. The number of high-technology firms per head of population in manufacturing and the service sector is correspondingly low, falling short of levels observed in the Czech Republic and Hungary. High-technology exports and service exports have remained low as a share of total exports (Bučar *et al.*, 2010). Inflows of FDI have also remained subdued relative to Slovenia's deep integration into foreign goods markets (high and rising foreign trade shares) and in comparison with those of other CEECs. The potential of receiving best-practice technology through inward FDI flows is thus largely unexploited. Inward FDI constitutes a potent force behind innovative momentum.[23] On the other hand, the number of triadic patents[24] and scientific publications (per million population) has increased between 2001 and 2008 in line with increased R&D inputs (Table 1.3).

Table 1.3. **Innovation indicators**

	Researchers (per thousand labour force)		Triadic patent applications[1] (per million population)		Scientific publications[2] (per million population)	
	2001[3]	2008	2001	2008	2001	2007
Slovenia	**4.6**	**6.8**	**3.2**	**9.3**	**427**	**633**
Austria	6.1	8.1	31.8	51.7	557	579
Czech Republic	2.9	5.7	1.4	2.2	251	354
Denmark	6.8	10.6	42.4	60.5	918	953
Germany	6.7	7.2	69.2	73.4	518	541
Hungary	3.6	4.4	3.1	4.9	235	244
Norway	8.5	10.0	20.1	25.1	712	855
Poland	3.2	3.6	0.3	0.6	147	187
Slovak Republic	3.6	4.7	0.4	0.7	172	180
Sweden	10.3	9.8	75.8	88.3	1 127	1 071

1. According to the residence of the inventors and by priority year (the year of the first international filing of a patent). Triadic patent families are defined as patents filed at the European Patent Office (EPO), the US Patent and Trademark Office (USPTO) and the Japanese Patent Office (JPO).
2. Science and engineering articles.
3. 2002 for Austria.

Source: OECD (2010), *Main Science and Technology Indicators* (database), October and National Science Board (2010), *Science and Engineering Indicators 2010*, National Science Foundation.

Comparative analysis by IMAD (IMAD, 2010d) provides strong evidence that Slovenian's innovation system is inefficient. Relative to R&D spending in 2001-06, Slovenia's innovation dividends in terms of patents and scientific publications per head of population were low compared to several other OECD countries' performance. Two other sources confirm the evidence of weak innovation efficiency. Data from the European Innovation Scoreboard (European Commission, 2009) show Slovenia's progress on the innovation output side in 2006-08 to be small compared to parallel increases in innovation inputs. Similarly, the Economist Intelligence Unit's ranking of the world's most innovative countries (EIU, 2009), points to a discrepancy between input and output levels of innovative activity for Slovenia, with a tendency to fall over time.[25]

The disappointing innovation outcomes are largely linked to three major constraints: *i)* barriers to firm creation and firm expansion; *ii)* a lack of entrepreneurial dynamism (a reflection of cultural values and lack of entrepreneurship education); and *iii)* a complex and opaque National Innovation System, which lacks policy coordination and suffers from combined "policy planning" and "policy implementation" deficits. Each of these constraints may, to some extent, reflect an echo effect from the past when, prior to the transition to the market economy in 1990, policy makers' mindset systematically shut out entrepreneurial considerations (EIU, 2009). Given the internal and external supply-side challenges, Slovenia needs to make the public R&D system and associated business support centres much more responsive to the R&D demands of the business community in both the manufacturing and the service sectors. This requires revamping the National Innovation System.

The first avenue is to ease barriers to firm creation and expansion

Business surveys conducted by the World Bank, the World Economic Forum (WEF) and the Global Entrepreneurship Monitor credit Slovenia with a high measure of "economic freedom". The World Bank's latest ranking of "Ease of Doing Business" shows almost no improvement in Slovenia's overall ranking, though impediments for registering property

were somewhat reduced and conditions to trade across borders significantly improved (World Bank, 2010a). The WEF's Global Competitiveness Report also records a loss in ranking, with Slovenia's position deteriorating to the 45th place among 133 countries (WEF, 2010).

At the same time, both surveys concur that Slovenia's "business freedom" hides a few, strongly restricted areas, each of which has a direct, negative effect on innovative activity. Prominent among these are, according to the WEF, restrictive rules for FDI, low rates of foreign ownership, low FDI flows, limited technology transfers and rigid employment rules. The degree of Slovenia's employment rigidity stands out as being among the most stringent of 133 countries covered by the WEF survey. In the same vein, the World Bank's survey also identifies employment rigidity, as well as administrative burdens in the area of construction permits and registry of proprietorship, as principal impediments to entrepreneurial activity.

Aware of these entrepreneurial hindrances, the government in 2010 adopted a programme to lighten the administrative burden in the domain of spatial planning and property registration (see Chapter 3, Box 3.2). The momentum to reduce barriers to firm creation and firm expansion should be stepped up.

The second avenue is to develop skills for innovation

Human capital has particular significance for innovation since people with skills create and use knowledge. Skills spur innovation through channels such as the generation of new knowledge, the adoption and adaptation of existing technologies as well as the readiness to learn. A significant part of cross-country differences in per capita income have thus been found to be attributable to differences in human capital (OECD, 2010).

Yet from the point of view of strengthening innovative activity, a few areas demand closer scrutiny. According to the Global Entrepreneurship Monitor, Slovenia suffers from a lack of managerial skills and weak early-stage entrepreneurial activity, leading some researchers to conclude that it is an entrepreneurially "sleepy" country (Bučar *et al*., 2010). While participation in tertiary education has increased strongly over the last ten years, tertiary educational outcomes have remained suboptimal (Chapter 2). Opportunities for receiving entrepreneurship education in schools, universities and research institutions are still sparse, notwithstanding the gradual phasing-in of entrepreneurship studies into the school system through pilot projects since 2008 (OECD, 2009). The process of introducing entrepreneurship education in schools, universities and research institutions should be accelerated. Voucher-based counselling for actual and would-be entrepreneurs provided by the Public Agency for Entrepreneurship and Foreign Investments (JAPTI) has yielded some positive results and should be expanded. Community Innovation Surveys reveal no rise in SMEs' propensity to innovate for technological and non-technological reasons in different releases over the last years, notwithstanding government efforts to spur SMEs' innovative momentum.

The third avenue is to raise the effectiveness of the National Innovation System

A country's innovation performance depends greatly upon the quality of its governance of science, technology and innovation. Empirical evidence for OECD countries suggests that economy-wide framework conditions, framework policies and specific science policies and institutions all influence the innovation process (Jaumotte and Pain, 2005). Policies raising the absorptive capacity of the economy, that is, the ability to

understand and exploit new knowledge, yield substantial benefits in terms of triggering new innovative activities as well as maximising benefits from the existing knowledge stock. Over the past few years, globalisation and regionalisation have re-shaped science, technology and innovation policies worldwide, with new public management principles being applied to the organisation and delivery of public services (OECD, 2010).

In the new world of speed-based competition, gaining access to international networks and establishing new linkages (collective process innovations) plays a vital role in sustaining business success. Enterprises are now smaller in size than 20 years ago, relying more and more on core competences. Contracting-out has typically spurred the quest for strategic alliances, partnerships and membership of various network kinds (Global Value Chains, GVC). In many countries, knowledge-based SMEs, supplying niche and technology based products, have entered global business networks on a rising scale. Collaboration has thus become a key to innovation (collective process innovation) (OECD, 2010).

As it stands, the organisational profile of Slovenia's innovation system is ill placed to deal with these new, globalisation-induced, competitive challenges. The current public research system is marked by ingrained, administrative dispersion, by rivalry among various stakeholders of innovation policy and by a consequent overlapping of innovation efforts and lack of inter-ministerial and inter-agency transparency. The system of business support services (business incubators, technology parks, platforms and centres, etc.) is largely out of touch with business demands for assistance tailored to specific phases of a firm's life cycle (pre-start-up phase; start-up phase; expansion phase and internationalisation phase) (Box 1.4). In parallel, the momentum of non-technological innovations in the service sector (design, branding, marketing) has been undercut by stringent access conditions for public funds. With no stable, intra-government accord on unifying innovation efforts in the name of key targets of innovation policy, policy coordination has remained an elusive item. There is no unified process governing project appraisal, project evaluation and research priority identification.

The institutional dispersion at the planning stage has undermined the delivery of government support services for business R&D and innovation activities. Frequent changes in policy measures and instruments have rendered the innovation framework unstable and unpredictable, eroding the credibility of new policy initiatives (Box 1.4). As the government recognised in 2008: "There is nowhere a systemic set of relevant interconnected measures brought together within a single comprehensive strategy" (Republic of Slovenia, 2008).

Aware of the innovation system's deficiencies, Slovenia has made several attempts to shift the emphasis of innovation policy measures away from freely-funded public R&D efforts (supply-driven innovation efforts) to targeted, business-inspired innovation activity (demand-driven R&D activity). Further initiative should be contemplated. Rather than funding research centres directly the government should consider giving financial incentives (*e.g.* "research vouchers") to companies to then hire research centres. Stronger innovative momentum in the business sector has been increasingly recognised as a key input into increased competitiveness.[26] This has meant lifting innovation policy out of its isolated position within supply-side policies (Bučar *et al*., 2010).

In line with this new approach, a Competitiveness Council was established in early 2008 to create, improve and streamline collaborative linkages among government agencies, knowledge institutions and the business community. However, the new Council

Box 1.4. **Main features of STI governance**

Two ministries (the Ministry of Higher Education, Science and Technology (MHEST) and the Ministry of the Economy along with two government offices (Office for Development and European Affairs and the Office for Local Self-management and Regional Development) share the main responsibility for innovation policy. The Ministry of Economy is mainly responsible for formulating policies in support of entrepreneurship. Alongside, the MHEST is responsible for formulating policies stimulating public research and development (R&D) activity.

Attached to each of the ministries are special agencies which execute most of the ministry's policy measures. The Ministry of the Economy directs the implementation of its entrepreneurship-related programmes through the Public Agency for Entrepreneurship and Foreign Investments (JAPTI), the Slovenian Technology Agency (TIA) and the Slovenian Enterprise Fund (SEF). On its part, the MHEST directs the implementation of most its R&D-related programmes through the Slovenian Research Agency (SRA), while the ministry's Directorate for Technology directly oversees R&D projects co-financed with EU structural funds.

Each of the agencies affiliated with the Ministry of the Economy is in charge of various business support services (support institutions). The Slovenian Technology Agency runs technology centres and technology platforms, providing assistance to young researchers from industry. In parallel, the Public Agency for Entrepreneurship and Foreign Investment runs technology parks, university incubators and "One-Stop Business Points" (VEM). It also promotes research mobility and the internationalisation of R&D efforts. The Slovenian Enterprise Fund seeks to improve small and medium-sized enterprises' (SMEs) access to finance via direct investment grants, credit guarantees, equity finance and co-financing of technology equipment for SMEs.

The SRA affiliated with the MHEST is responsible for carrying out basic and applied research projects, young researchers' programmes and improving the R&D infrastructure and international R&D co-operation. MHEST's Directorate for Technology runs the inter-governmental programme for stimulating SMEs' R&D activities.

(an inter-governmental, public-private body with nine ministers and six members from academic, research and business institutions) ceased its activities in mid-2009.[27]

New initiatives to enhance the efficiency of the National Innovation System have been announced in 2010, providing for the creation of yet another Council of Science, Technology and Innovation in 2011. Jointly run by the Ministry of the Economy and the Ministry of Higher Education, Science and Technology (MHEST), the new Council's mandate is to render the diffusion of public R&D funds more responsive to business needs. Concomitant changes in the funding mechanism of public R&D funds would imply a reduction in the spending autonomy of Slovenia's powerful research institutions as well as improved screening and evaluation procedures for research and innovation projects. In July 2010, the Ministry of Economy put out tenders for the establishment of new development centres to support the creation and expansion of firms (see Chapter 3, Box 3.2). Overall, Slovenia needs to pursue efforts to achieve a more simplified and streamlined business support system.

Box 1.5. **Recommendations to restore sound growth fundamentals**

Implement a credible budget consolidation and strengthen the fiscal framework

- All spending reductions and revenue increases planned through to 2013 should be spelled out in full.
- The remaining steps of the public-sector wage increases, which go beyond the compensation for past under-indexation of wages to inflation, should be cancelled.
- Increase taxes on immovable property after ensuring that their tax base is closely linked to market values.
- To establish the credibility of the new expenditure rule, allow for a minimum period of time prior to proposing major revision.
- Improve the characteristics of the rule by increasing transparency regarding the fiscal targets and the parameters underlying the speed of convergence to those targets. The expenditure ceilings should ensure a reduction in the structural deficit consistent with a medium-term objective which pre-funds a large part of contingent liabilities notably related to ageing.
- Adopt multi-year expenditure ceilings (beyond the current two years), while excluding cyclically sensitive expenditure (in particular unemployment benefits).
- The fiscal council should be better staffed to allow it to play its role fully and also assess deviations from the expenditure rule.
- Make IMAD macroeconomic projections the only source of the macroeconomic projections for the budget law.

Reform the pension system to improve the sustainability of public finances

- Differences in the contribution years for men and women should be eliminated, unless the differential treatment of different genders can be justified.
- Lower the replacement rate by changing the indexation formula used to define the rate at which benefits accrue or past earnings are revalued in the calculation of the pension reference salary. The new formula should index past earnings to inflation only, or some combination of past inflation and wage growth (such as the Swiss formula), instead of wage growth alone. The generosity of benefits should be also reduced by increasing the weight of inflation in the indexation formula.
- The minimum pensionable age should be further increased to better align it with the statutory retirement age. The penalty for early retirement should be raised to a level consistent with actuarial neutrality.
- Pension parameters such as the minimum and full pensionable age and contribution requirements should be closely linked to gains in life expectancy.
- Consideration should be given to transforming the current defined benefit scheme into a notional defined contribution scheme.

Improve labour market flexibility

- Loosen employment protection by further reducing the administrative burden on individual notice and dismissal, relaxing the burden under which dismissals are legitimate and further reducing the generosity of severance payments.
- Following the steep increase in the minimum wage, ensure that further increases are indexed to consumer price inflation for a prolonged period, so as to reduce the level of the minimum wage relative to the median wage over time.

Increase the stability of the banking sector

- Undertake rigorous, transparent stress tests on the entire Slovenian banking sector. Restructure bad assets and recapitalise banks whose Tier 1 capital falls below safe thresholds.

Box 1.5. **Recommendations to restore sound growth fundamentals** *(cont.)*

Revamp the National Innovation System to make it more responsive to business needs

- Upgrade collaborative links between major stakeholders of innovation policy (Ministry of Economy and Ministry of Higher Education Science and Technology) in pursuit of targets of innovation policies. Improve the process of research priority identification.
- Make the public R&D system more responsive to business needs, including projects for non-technological innovations in the service sector. For example, consider giving financial incentives, *e.g.* "research vouchers", to companies to hire the services of the public research centres.
- Standardise screening and evaluation procedures for research projects.
- Use programme budgeting to render the innovation framework more stable and predictable.

Notes

1. Moreover, World Bank projections indicate that potential growth will be one percentage point lower in 2011-15 as compared to the estimated potential growth rate for 2001-05 of 3.6% (World Bank, 2010b). IMAD projections depict a similar picture, with potential growth rates decreasing on average by 1.5 percentage points over 2009-15 *vis-à-vis* the potential growth rates estimated over 2001-07 of 3.7% (IMAD, 2010e).
2. On the other hand, firms that were able to weather the crisis and face difficulties in financing new investment may extend the effective life of existing capital, offsetting some of the effects of a premature capital scrapping induced by the crisis.
3. The Partial Subsidisation of Full-Time Work Act adopted in January 2009 provided subsidies to firms to keep employees attached to the labour market through short-time work. The Partial Reimbursement of Payment Compensation Act introduced in May 2009 provided partial compensation for temporarily laid off workers. Active labour market policies have also been scaled up in the aftermath of the crisis.
4. As part of the pension reform under discussion, older unemployed workers will be granted a special transitory provision allowing them to fulfil the conditions for retirement while claiming unemployment benefits, if they are within five years of eligibility for retirement under the current legislation.
5. The weaker net migration flows are mainly related to the contraction in the construction sector that has primarily employed immigrant workers.
6. Quotas for work permits are determined annually depending on the needs of employers and can be changed during the year if necessary. Considerations of social partners and labour market conditions are also taken into account in the process.
7. OECD calculations based on Gianella *et al.* (2008) and Guichard and Rusticelli (2010).
8. On the other hand, the currently shrinking construction sector (with low productivity) and reallocation of factors towards more productive sectors bodes well for future total factor productivity in Slovenia. However, extensive state involvement and subsidies to firms in which the state is a significant shareholder may hamper the restructuring of inefficient firms (Chapter 3 and IMAD, 2010b).
9. Public finances in Slovenia are also subject to rules for local authorities. For local governments there are limits on the level of debt and expenditure defined in terms of revenues collected in the previous year. As a general principle, the level of debt should not exceed 20% and expenditure on debt servicing (interest and capital servicing) cannot be higher than 5% of last year's revenues. Yet, the later threshold can rise to 8% for investments in education, housing, waste treatment, water supply and projects co-financed with EU funds. Moreover, for these types of expenditure the 20% cap on borrowing does not apply.
10. The Slovenian pension system has currently three pillars: a mandatory defined benefit scheme, a voluntary privately funded scheme and an individual private retirement savings one, with the latter two being defined contribution systems. The first pillar is the main scheme that is the object of most reform measures. It is highly redistributive as there is a ceiling on pension benefits (four

times the minimum pension) while social security contributions are not capped. The second pillar is gaining prominence with over half of the working-age population covered, but most participants make minimum contributions to this scheme. This makes it unlikely that relying more on voluntary schemes would offset a reduction in the replacement rate of the first pillar in the current situation (Majcen and Verbič, 2008).

11. Under the existing legislation 41 years for men and 38 for women are considered as long careers. The proposed legislation is to extend them to 43 years for men and 41 years for women.

12. Individuals that have completed 40 years (38 for women) of contributions earn accrual rates of 3% for the first additional year, 2.6% for the second, 2.2% for the third, 1.8% for the fourth and 1.2% for the fifth year beyond the age of 58 until the full pensionable age of 63 is reached. The bonus for deferring retirement beyond the full pensionable age is 0.3% per month in the first year and diminishes to 0.2% and 0.1% per month in the second and third years, respectively.

13. The penalty rate is 0.1% per month if the person retires a year earlier and goes up to 0.3% (with increments of 0.05 each year) if the person retires at age 58.

14. The proposed pension reform was adopted by Parliament on 14 December 2010, before getting vetoed by the State Council. Parliament reconfirmed the legislation on 23 December 2010. The future of the proposed pension reform, however, remains uncertain as there is substantial opposition by the social partners, who had already initiated a procedure to veto this law through a referendum.

15. With lower years of contributions for women compared to men: 38 instead of 40.

16. The contributing period is reduced by eight months for each child benefiting from family child care the first year after birth. Time spent during compulsory military service is included in contribution years.

17. The authors made the calculations based on the original proposal of the government, which intended to extend the number of years used in calculating the pension rating base to 34 years. This would not have had a negative impact for 30% of women and 10% of men who retired in 2009 as their pension rating bases did not reach the minimum threshold. A roughly similar impact could be expected with the extension to 30 years, as stipulated in the final legislation.

18. Valorisation coefficients are determined every year to equalise pension benefits for existing and new pensioners with the same number of years of contributions (a so-called horizontal equalisation). This process takes into account the growth of wages and pension benefits and has the effect of lowering the valorisation coefficient every year.

19. In the existing legislation, the only form of partial retirement that is allowed is on a half-time basis. In other words, pensioners can claim 50% of their pension benefits only if they are working half time (4 hours per day).

20. Actuarial neutrality is a marginal concept that requires that the present value of accrued pension benefits for working an additional year is the same as in the year before (meaning that benefits increase only by the additional entitlement earned in that year).

21. The accrual rate refers to the rate at which pension benefits accumulate for each year of pensionable service. It is expressed as a proportion of pensionable salary, which is in turn derived from the pension rating base. The pension rating base in Slovenia will be the average monthly salary over 34 years of contributions net of taxes and social security contributions. The accrual rate can have an impact on the actuarial neutrality of a pension system via its effect on the benefits for working an additional year at the margin.

22. Axel Mittelstädt contributed analysis and drafting to this section.

23. Empirical studies for Slovenia show a positive correlation between the degree of internationalisation and the number of innovative firms (Bučar *et al.*, 2010).

24. Triadic patents are patents filed at the European Patent Office (EPO), the United States Patent and Trademark Office (USPTO) and the Japan Patent Office (JPO), for the same invention and by the same applicant.

25. Innovation output is measured by the number of triadic patents granted.

26. The number of private researchers has risen strongly over the past few years, auguring better innovation outcomes.

27. The innovation policy targets set by the Competitiveness Council in 2008 were highly ambitious. They included raising the share of innovative firms to 40% in the firm population (from 27%

in 2002-04), raising the number of patent applications at the European Patent Office to at least 110 applications per million inhabitants in 2013-15 (from 54 in 2004), increasing the share of high-technology exports to 16% in 2013-15 (from 4.5% in 2006) and raising R&D spending to 3% of GDP by 2013 of which two thirds would be private expenditure.

Bibliography

Bank of Slovenia (2010), *Price Stability Report*, April.

Bos, F. (2008), "The Dutch Fiscal Framework: History, Current Practice and the Role of the Central Planning Bureau", *OECD Journal on Budgeting*, Vol. 8, No. 1, OECD Publishing, Paris.

Brezigar-Masten, A.B, S. Kovačič, U. Lušina and A.T. Selan (2010), "Estimation of the Impact of Minimum Wage Rise in Slovenia", *IMAD Working Paper Series*, Vol. XIX, No. 3, Institute of Macroeconomic Analysis and Development, Ljubljana.

Bučar, M., A. Jaklič and B. Udovič (2010), "National System of Innovation in Slovenia", *CIR Analyses*, No. 4, Center of International Relations, University of Ljubljana.

Čok, M., J. Sambt and B. Majcen (2010), "Financial Implications of the Proposed Reforms", Report of the Faculty of Economics, University of Ljubljana.

EIU (Economist Intelligence Unit) (2009), *A New Ranking of the World's Most Innovative Countries*, *The Economist*, London.

European Commission (2008), "The 2009 Ageing Report: Underlying Assumptions and Projection Methodologies for the EU-27 Member States (2007-2060)", *European Economy*, No. 7, Office for Official Publications of the European Communities, Luxembourg.

European Commission (2009), *European Innovation Scoreboard 2008: Comparative Analysis of Innovation Performance*, Office for Official Publications of the European Communities, Luxembourg.

European Commission (2010), *Slovenia: Macro Fiscal Assessment. An Analysis of the January 2010 Update of the Stability Programme*, April.

Furceri, D. and A. Mourougane (2009), "How do Institutions Affect Structural Unemployment in Times of Crises?", *OECD Economics Department Working Papers*, No. 730, OECD Publishing, Paris.

Gianella, C., I. Koske, E. Rusticelli and O. Chatal (2008), "What Drives the NAIRU? Evidence from a Panel of OECD Countries", *OECD Economics Department Working Papers*, No. 649, OECD Publishing, Paris.

Guichard, S. and E. Rusticelli (2010), "Assessing the Impact of the Financial Crisis on Structural Unemployment in OECD Countries", *OECD Economics Department Working Papers*, No. 767, OECD Publishing, Paris.

IMAD (2010a), *Development Report 2010*, Institute of Macroeconomic Analysis and Development, Ljubljana.

IMAD (2010b), *Economic Issues 2010*, August, Institute of Macroeconomic Analysis and Development, Ljubljana.

IMAD (2010c), *Slovenian Economic Mirror*, January, Institute of Macroeconomic Analysis and Development, Ljubljana.

IMAD (2010d), *Development Report 2010*, July, Institute of Macroeconomic Analysis and Development, Ljubljana.

IMAD (2010e), *Autumn Forecast of Economic Trends 2010*, Institute of Macroeconomic Analysis and Development, Lublijana.

Jaumotte, F. and N. Pain (2005), "Innovation in the Business Sector", *OECD Economics Department Working Papers*, No. 459, OECD Publishing, Paris.

Jaumotte, F and P. Sodsriwiboon (2010), "Current Account Imbalances in the Southern Euro Area", *IMF Working Papers*, No. 10/139, International Monetary Fund, Washington, DC.

Johansson, A., C. Heady, J. Arnold, B. Brys and L. Vartia (2008), "Tax and Economic Growth", *OECD Economics Department Working Papers* No. 620, OECD Publishing, Paris.

Koske, I and N. Pain (2008), "The Usefulness of Output Gaps for Policy Analysis", *OECD Economics Department Working Papers*, No. 621, OECD Publishing, Paris.

Majcen, B. and M. Verbič (2008), "The Slovenian Pension System in the Context of Upcoming Demographic Developments", in Holzmann, R., L. MacKellar and J. Repansek (eds.), *Pension Reform in South-Eastern Europe: Linking to Labor and Financial Market Reforms*, World Bank, Washington, DC.

OECD (2007), *OECD Economic Surveys: Switzerland*, OECD Publishing, Paris.

OECD (2009), *OECD Economic Surveys: Slovenia*, OECD Publishing, Paris.

OECD (2010), *The OECD Innovation Strategy: Getting a Head Start on Tomorrow*, OECD Publishing, Paris.

Republic of Slovenia (2008), *Reform Programme for Achieving the Lisbon Strategy Goals*, Ljubljana, October.

World Bank (2010a), *Doing Business 2011: Country Profile for Slovenia*, World Bank, Washington, DC.

World Bank (2010b), *EU10 Regular Economic Report*, World Bank, Washington, DC.

WEF (2010), *The Global Competitiveness Report 2010-11*, World Economic Forum, Geneva.

ANNEX 1.A1

Progress in structural reform

This annex reviews actions taken to follow policy recommendations made in the *2009 OECD Economic Survey of Slovenia*. Recommendations that are new in this Survey are shown in the box at the end of each chapter.

Recommendations in previous Survey	Actions taken and current assessment
PRODUCT MARKET COMPETITION	
Increase competition in financial services and selected network industries through reducing state control.	No action taken.
Improve the management and governance of companies in which the state holds a significant stake.	The Act on Corporate Governance of State Capital Investments regulating the governance of state's asset holdings was adopted in April 2010. It also established a central ownership agency responsible for managing such assets. The management of the Agency was appointed in October 2010.
Reinforce the independence of the Competition Protection Office.	Draft law to turn the Competition Protection Office into an independent agency is pending at the intra-governmental debate stage.
Improve public procurement procedures to rule out collusion.	The government adopted the decision to establish a Public Procurement Agency in October 2010.
EDUCATION	
Evaluate the impact of adult education programmes on labour market outcomes.	No action taken.
Make eligibility for student benefits on an annual minimum study progress.	No action taken.
Introduce tuition fees in tertiary education in tandem with loans with income-contingent repayments.	No action taken.
INNOVATION	
Strengthen entrepreneurship education in schools.	No action taken.
Expand the network of public/private business support centres to foster entrepreneurial dynamism.	No action taken.
Raise aggregate research and development (R&D) spending, increase its private component and strengthen the technology-oriented portion of public R&D.	No action taken.
Have independent institutions evaluate existing programmes supporting innovation.	No action taken.
Reduce administrative dispersion in business innovation support programmes.	A new Council of Science, Technology and Innovation will be created in 2011, with a view to streamlining collaborative linkages among government agencies, research institutions and businesses.
Improve the efficiency of multi-purpose centres to strengthen the link between the research community, the business sector and the government.	In July 2010, the Ministry of Economy tendered for new development centres that will support creation and expansion of new firms.
Widen the use of credit registry.	No action taken.

Recommendations in previous Survey	Actions taken and current assessment
LABOUR MARKETS	
Ease employment protection legislation for regular job contracts.	Slight reductions in severance payments and notice periods for individual dismissals are currently under discussion.
Phase out the preferential treatment of student work.	The Mini Jobs Act was adopted by Parliament in October 2010, extending temporary and administratively less burdensome contracts to unemployed and older workers in addition to students. Such work will also be subject to social security contributions.
Phase out short-work scheme once the crisis dissipates.	The scheme expired as firms were able to submit applications only until 31 March 2010.
Renew social agreements to ensure that real wage growth is not higher than productivity growth.	Notwithstanding the recent deferral of public sector wage catch-up and wage freeze, the wage-setting framework fails to align real wage and productivity growth on a consistent basis.
Swiftly set up active ageing strategy.	An overview of measures to promote active ageing has been adopted by the government in September 2010.
Avoid tightening the rules for immigrant workers.	The number of work permits granted to immigrant workers has declined.
Do not increase the ratio of the minimum wage to average and preferably further reduce it.	Conversely to the recommendation, the minimum was increased by 23% starting in 2010, significantly lifting the ratios of the minimum to average and median wages.
PENSION SYSTEM	
Increase the pensionable age and link further increases to gains in life expectancy.	The proposed draft legislation is to raise the minimum and statutory pensionable ages to 60 and 65, respectively, but they will still be modest by international comparison.
Lower the replacement rate by shifting the indexation of pensions from wages to prices or extending the contribution period to receive a full pension.	The draft legislation also proposes to index pension benefits to nominal wage growth (with a 60% weight until 2015 and 70% from 2016) and inflation (with a 40% weight until 2015 and 30% from 2016), but there is scope to further increase the weight of inflation, especially given major long-term fiscal challenges of Slovenia. Contributory period requirements are also to be raised.
Transform the current defined benefit scheme into a notional defined contribution scheme.	Although making a notional defined contribution scheme the main earnings-related pillar is mentioned as the second stage of the current reform proposal, no concrete steps have been taken yet.
Ensure that the penalties and bonuses for early/late retirement are actuarially neutral and abolish the upper limit on the number of additional working years beyond which bonuses are paid (currently three years).	The penalty rates for early retirement are steeper at 0.3% per month (before the age of 65) in the proposed pension legislation but they are still far from ensuring actuarial neutrality. Individuals who are eligible for full retirement, but continue to work full time will be able to claim 20% of the pension benefits they are entitled to. The bonuses, however, are only available up to 65 years of age.
Eliminate the possibilities to retire prior to the pensionable age through the disability and long-term sickness schemes. Reduce the unemployment benefit duration for long-term unemployed older workers to 12 months from 24 months.	No action taken.
Make the pension system more transparent.	The proposed legislation stipulates the abolition of horizontal equalisation of pension benefits through resetting the valorisation coefficient every year. This will be set at a fixed value that implies a replacement rate of 60%.
Strengthen the link between pension benefits and working careers by basing the benefits on full lifetime average earnings.	Under the proposed pension law, pension benefit calculations will be based on 27 years of insurance contributions rather than the 18 best consecutive years.
Allow combining work and pension benefits and eliminate tax disincentives.	The proposed law allows pensioners to combine work and pension benefits more flexibly rather than only on a half-time basis.
FISCAL SUSTAINABILITY	
Set a ceiling for multi-annual expenditure growth.	The Budget Memorandum adopted in June 2010 introduced a new expenditure rule that links general government expenditure to potential output growth and fiscal targets.
Better link spending performance to budgeting.	The June 2010 Budget Memorandum also introduced performance budgeting.
Improve the efficiency of social transfers through better targeting.	The Exercise of Rights to Public Funds Act was adopted in 2010, introducing a single entry point for granting some 23 means-tested benefits and subsidies.
Improve government spending efficiency.	No action taken.
Rely more on property and indirect taxes than labour taxation.	Draft legislation that stipulates a comprehensive and transparent system of property taxation is currently under discussion. The tax base is proposed to be the market value of the property and the tax rate will differ across municipalities.
Establish a fiscal council.	An independent fiscal council was set up in 2009.

Chapter 2

Improving educational outcomes

Overall, the education system fares well by international comparison. Slovenia has one of the highest shares of the population aged 25 to 64 to have completed at least upper secondary education, and ranks high in international educational achievement tests. Nevertheless, in some areas, reforms could significantly improve performance and equip the labour force with the skills most in demand in a rapidly changing economy. In particular, low student-teacher ratios, small class sizes, and a high share of non-teaching staff suggest that there is room for improving spending efficiency. Rationalising teaching and non-teaching staff would also free up valuable public resources that could be redirected towards underfunded aspects of the education system. Low enrolment rates in short vocational education programmes and in certain higher education fields, such as science and engineering, contribute to a skill deficit in some occupations, underlining the need to make such programmes more attractive. At the tertiary level, completion rates and spending per student are low by international standards, and students take too long to complete their studies. The combination of low student fees and access to generous financial support, coupled with the preferential treatment of student work until recently, creates "fake students"; it also provides genuine students with an incentive to remain in the tertiary education system too long. Introducing universal tuition fees along with loans with income-contingent repayment would help to address such issues.

Slovenia has a broad-based education system that has equipped its labour force with good skills (see Annex 2.A1 for the main features of the Slovenian education system). However, the system faces important challenges. Renewed pressures on public finances require a greater focus on efficient use of public money, especially in the primary and secondary schooling system, while growth in funding of the higher education system has not kept pace with the increasing importance of higher education to the economy. This is a liability as Slovenia moves closer to the world technology frontier and fostering innovation becomes more important than implementing existing technologies (Vandenbussche, *et al.*, 2006). In the aftermath of the global financial crisis, which has reduced potential growth and raised the equilibrium unemployment rate in Slovenia, a transformation of the skills of the labour force would help foster innovation (Chapter 1), attract greater foreign investment (Chapter 3), and give new impetus to Slovenia's convergence to euro area living standards. The first section of this chapter assesses the performance of the education system while the second section discusses policy options to improve both the performance and efficiency of the system.

Education outcomes

Educational performance at the primary and secondary school level is good, though less so for disadvantaged pupils

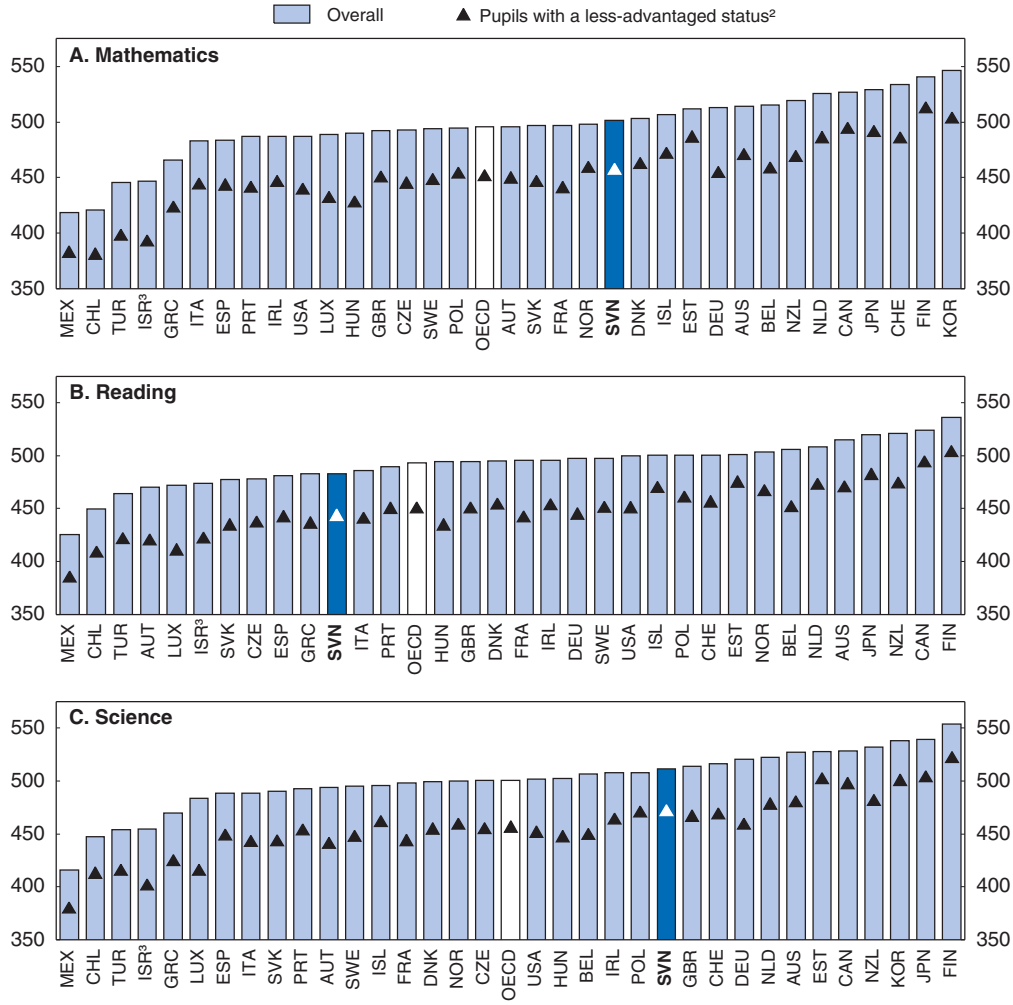
Slovenian pupils achieve relatively high scores in international achievement tests. Their average scores in all three key subject areas in the 2006 Programme for International Student Assessment (PISA) fare relatively well compared with other OECD countries (Figure 2.1). The Progress in International Reading Literacy Study (PIRLS) and the Trends in International Mathematics and Science Study (TIMSS)[1] confirm that Slovenian pupils compare favourably against their peers in the participating countries, with slightly higher achievement in science than in reading and mathematics. Trends in average science, mathematics and literacy scores of fourth and eighth-grade students have been rather favourable as well, with scores on TIMSS and PIRLS assessments, particularly in science and mathematics, improving substantially.

… but performance of pupils with an immigrant background is weaker

Although average achievement scores are relatively high in Slovenia, they remain strongly influenced by the socio-economic backgrounds of pupils, as in most other OECD countries. In particular, pupils with an immigrant background, who constitute around 10% of the pupils at the relevant age cohort, perform significantly worse than native students, even after accounting for the socio-economic status of the parents (OECD, 2007). While the difference between the average PISA scores of pupils with and without an immigrant background does not differ significantly from the OECD average (57 points in Slovenia *versus* the OECD average of 55 on the 2006 PISA science scale), the gap in the share of top

Figure 2.1. **Slovenian pupils compare well in PISA score comparisons across OECD countries**[1]

Mean scores, 2009



1. PISA: Programme for International Student Assessment.
2. Bottom quarter of the PISA index of economic, social and cultural status.
3. The statistical data for Israel are supplied by and under the responsibility of the relevant Israeli authorities. The use of such data by the OECD is without prejudice to the status of the Golan Heights, East Jerusalem and Israeli settlements in the West Bank under the terms of international law.

Source: OECD (2010), *PISA 2009 Results: What Students Know and Can Do – Student Performance in Reading, Mathematics and Science* and *PISA 2009 database*.

StatLink http://dx.doi.org/10.1787/888932369315

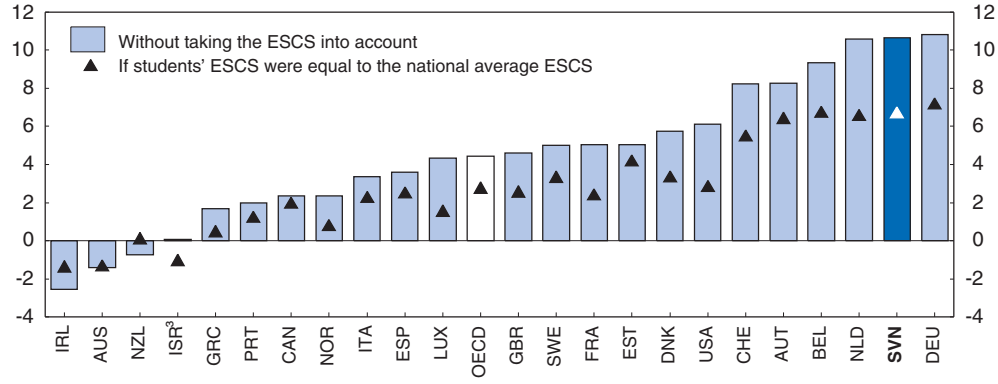
performers[2] between the two groups is large in Slovenia, being second only to Germany across the OECD (Figure 2.2). A similar picture emerges when the share of top and strong[3] (and not only the top) performers is considered (OECD, 2009a).

Higher education attainment rates are rising but are still below the OECD average

Tertiary attainment rates in Slovenia are below the OECD average, although the attainment rates of young workers are significantly higher than those of older workers

Figure 2.2. **The share of top performers with an immigrant background is low**[1]

Age 15, percentage difference of top performers in science between native students and students with an immigrant background[2]



1. Socio-economic background measured by the index for economic, socio and cultural status (ESCS).
2. Native students are those who were born in the country of assessment and have at least one parent who was also born in the country of assessment. Students with an immigrant background are those whose parents were born in a foreign country.
3. The statistical data for Israel are supplied by and under the responsibility of the relevant Israeli authorities. The use of such data by the OECD is without prejudice to the status of the Golan Heights, East Jerusalem and Israeli settlements in the West Bank under the terms of international law.

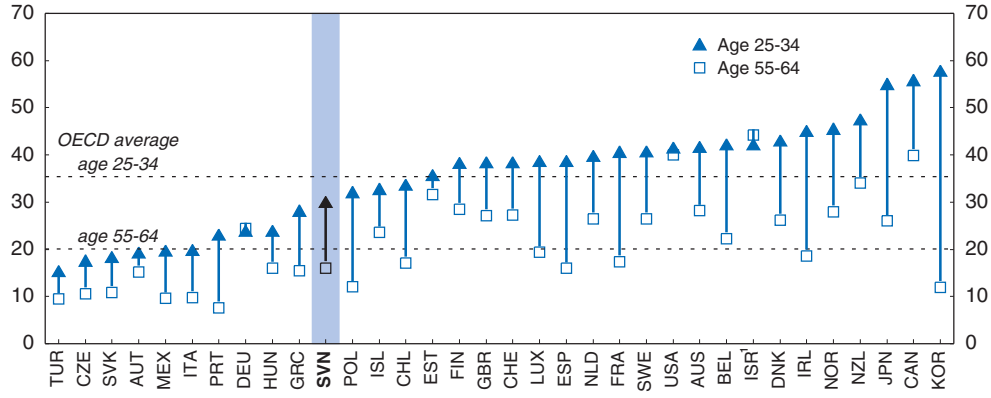
Source: OECD (2009), *Education at a Glance 2009* and OECD (2007), *PISA 2006: Science Competencies for Tomorrow's World*.

StatLink http://dx.doi.org/10.1787/888932369334

(Figure 2.3). The situation should eventually improve as overall entry rates into tertiary programmes are rather high in Slovenia, reflecting wide access to higher education. In 2007, 88% of the relevant age cohort was expected to attend a vocational or academic tertiary programme at some point in their lives, substantially exceeding the OECD average of 71%.

Figure 2.3. **The share of tertiary graduates is growing but fails to keep up with the OECD average**

Per cent, 2008



1. The statistical data for Israel are supplied by and under the responsibility of the relevant Israeli authorities. The use of such data by the OECD is without prejudice to the status of the Golan Heights, East Jerusalem and Israeli settlements in the West Bank under the terms of international law.

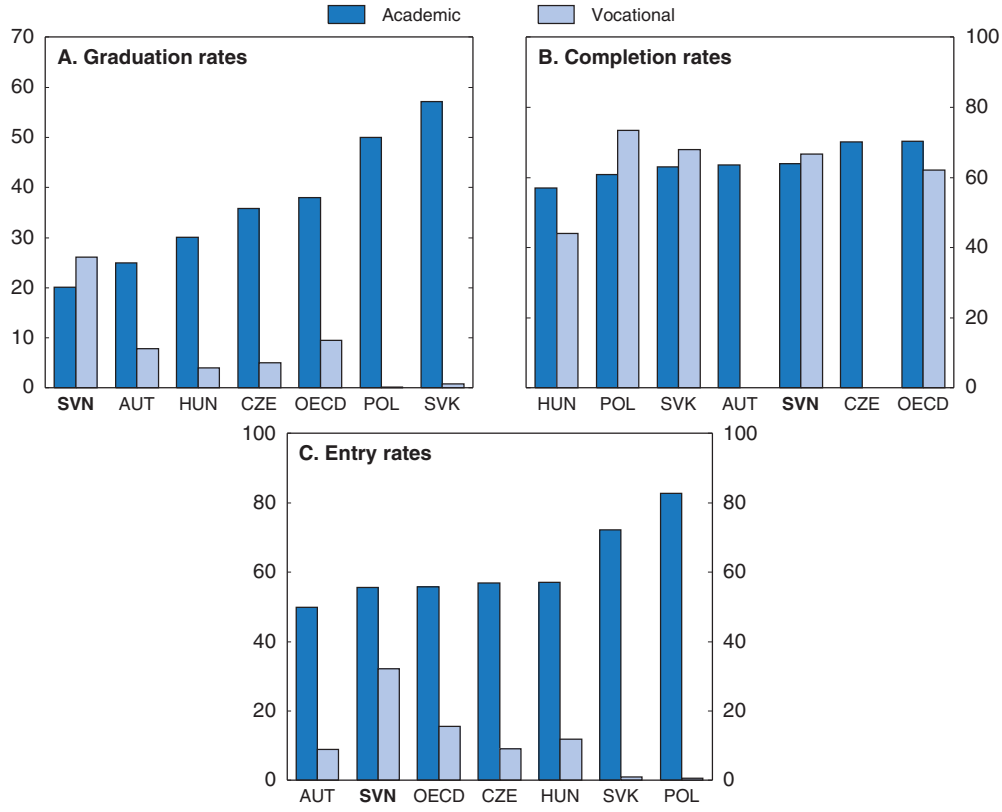
Source: OECD (2010), *Education at a Glance 2010*.

StatLink http://dx.doi.org/10.1787/888932369353

Nonetheless, with current graduation rates still being below the OECD average, the gap in tertiary attainment rates of the working-age population *vis-à-vis* the OECD average will remain for a while (see Figure 2.4, Panel A). Graduation rates that fail to match the high entry rates are primarily explained by low completion rates in academic tertiary programmes, as completion rates in vocational education programmes are around the OECD average (see Figure 2.4, Panel B).

Figure 2.4. **Access to tertiary education is wide but graduation rates are not correspondingly high**[1]

2008[2]



1. Graduation rates refer to the estimated percentage of an age cohort that will complete tertiary education, based on current patterns of graduation (the age cohorts of 25-26 for tertiary type-A and 23-26 for tertiary type-B programmes). Entry rates are the estimated percentage of an age cohort that will enter tertiary education for the first time (19-year-olds in Slovenia). Completion rates correspond to the proportion of new entrants who graduate with at least one degree at the level entered into. Completion rates are calculated as the ratio of the number of students who graduate from an initial degree to the number of new entrants into this degree *n* years before, with *n* being the number of years of full-time study required to complete the degree. See Tables A3.1, A2.3 and A4.1 in the source publication for information on the calculation methods and coverage.
2. Completion rates for 2005 for Hungary.

Source: OECD (2010), *Education at a Glance 2010*.

StatLink http://dx.doi.org/10.1787/888932369372

Slovenian tertiary education graduates enjoy high returns to their human capital investment. Using net annual wage premia derived from Mincerian wage equations, Ahčan *et al.* (2008) estimated that returns to a four-year undergraduate programme in Slovenia (average for men and women) were about 10½ per cent in 1994, 12% in 1999 and 12½ per cent in 2004. When gross hourly wages are used as the dependent variable, gross wage

premia were 86% in 2008 for tertiary education graduates over upper secondary graduates, with no statistically significant differences across genders (see Annex 2.A2). Nevertheless, given the excessively long study durations (6.9 years on average), internal rates of return to tertiary education are as low as 9.4%. When combined with the generous public subsidies they receive, students in Slovenia have had significant financial incentives to go into higher education.

Higher education has a strong vocational focus in Slovenia (tertiary-type B), where study programmes are generally shorter and focus on the development of practical, technical or occupational skills. Slovenia is the only OECD country where the share of vocational higher education graduates is higher than that of academic programmes (Figure 2.4, Panel A). The structure of the secondary education system largely explains this pattern. In 2008, while roughly 40% of upper secondary graduates came from general academic programmes, the rest were from technical and vocational ones (Table 2.1).[4]

Table 2.1. **The Slovenian education system has a vocational focus**[1]

Upper secondary education, end of school year 2008/09

	Enrolled		Graduates	
	Number	%	Number	%
Total	**83 300**	**100.0**	**21 003**	**100.0**
Programmes				
Lower vocational	1 017	1.2	370	1.8
Middle vocational	12 248	14.7	3 630	17.3
Technical and professional/vocational	34 956	42.0	8 344	39.7
Gymnasium	33 882	40.7	8 290	39.5
Courses				
Vocational	340	0.4	140	0.7
Matura	857	1.0	229	1.1

1. Data cover youth only.

Source: SORS (2010), "Upper Secondary Education for Youth and Adults, Slovenia, the End of the School Year 2008/2009 and the Beginning of the School Year 2009/2010", *First Release*, Statistical Office of the Republic of Slovenia, April.

Education is generally attuned to market needs but some mismatches are mounting

Employability at the vocational level is reasonably high but pupil interest is diminishing

While there has been little change in upper secondary graduation rates over the past few years, the structure of upper secondary enrolments has been shifting towards programmes that provide direct access to higher education at the expense of vocationally-oriented programmes. The share of pupils who enrolled in programmes that lead directly to tertiary education was around 84% in 2008, up from 82% in 2000 (IMAD, 2009a).

The change in the structure of upper secondary enrolments in Slovenia reflects diminishing interest in vocational upper secondary programmes (short, two-year, and middle, three-year, vocational programmes), creating a skill deficit in the labour market. In particular, the significant drop in the number of students enrolled in short vocational programmes causes shortages of certain occupations. This number dropped by over 50% (from about 2 000 students to about 1 000) between 2007 and 2009. Middle vocational programmes also saw large declines in enrolment from over 18 000 students in 2007 to

around 12 000 students in 2009. The expanding economy over the same period exacerbated the skill deficit even further. Shortages have been primarily in low-skilled manual jobs in the fields of construction, mining and public utilities, and are generally taken by immigrants (Svetlik, 2004).[5]

The picture regarding the employability of vocational and technical education of upper-secondary graduates in Slovenia is mixed. On the one hand, the unemployment rate of vocational and technical upper secondary education graduates has been rather low at 3.7% and compares favourably against the OECD average of 5.3% in 2008. On the other hand, their employment rate at 74.4% (in 2008) has not been high by international comparison and remains slightly below the OECD average of 75.4%. The gap *vis-à-vis* the EU19 average (74.6% in 2008) is smaller and had narrowed until the crisis broke out (OECD, 2010). The employment performance of vocational and technical upper secondary graduates is generally better than those in other Central and Eastern European countries (with the exception of the Czech Republic) that had broadly similar institutional arrangements and had undergone a transition process. Employment rates of vocational and technical upper-secondary graduates in former socialist countries have remained lower than those of the graduates of upper-secondary programmes that provide direct access to academic tertiary programmes as general skills tend to be more in demand, especially in economically turbulent times (Kézdi, 2006).

Mismatches seem to be on the rise at the tertiary level

There is a great variation in unemployment rates and employability of graduates from different fields. This is partly explained by the slow rate at which enrolment trends respond to changes in the relative demand for labour and leads to mismatches between the output of the higher education system and the needs of the labour market. It also naturally translates into a growing number of unemployed workers with tertiary qualifications (IMAD, 2010). A study finds that the lowest unemployment rates amongst graduates in 2008 were in the fields of health and welfare, engineering, manufacturing and construction, science, mathematics and computing (HEGESCO, 2009). Farčnik and Domadenik (2009) find that graduates in health, computing, engineering, manufacturing and construction fields have the highest likelihood of getting employed in the six months following their graduation.

Despite favourable employment prospects and high private returns to studies, the share of science and engineering graduates in Slovenia is low by international comparison. The number of science and technology graduates per 1 000 inhabitants aged 20-29 is significantly lower in Slovenia than the EU average (10.7 compared to 13.9, in 2008) and there are few signs of this gap closing (IMAD, 2010). Arts, humanities and social sciences graduates make up the majority of tertiary graduates. Although some incentives, such as greater availability of scholarships and grants for students going into these fields, have been introduced, the impact has been limited so far. Considering that a greater share of engineering and science graduates is associated not only with a greater innovative and technology absorption capacity of the economy but also with human capital spillovers and economy-wide productivity gains, boosting the number of graduates from these fields is a priority. The specialisation of Slovenian industry on low and medium-technology goods is partly a consequence of Slovenia's pattern of human capital investment.[6]

Reforms to improve educational performance

Spending on tertiary education should rise…

Resources devoted to higher education, as measured by per student spending, are low by international comparison and also compared to other levels of education in Slovenia (Figure 2.5). Indeed, Slovenia is the only OECD country where per-student spending at the tertiary level is less than that at lower levels of the education. On a per student basis and evaluated at purchasing power parities, Slovenia spent roughly USD 7 300 on tertiary education in 2007, excluding R&D related spending, as compared to USD 8 460 on pre-school, USD 7 980 on basic compulsory, and USD 7 270 on upper secondary education. The OECD average is USD 8 970 at the tertiary level (OECD, 2010). The ratio of students to teaching staff also reflects the stronger emphasis on non-tertiary education in Slovenia (Figure 2.6). Although total spending in higher education has slightly increased over the past few years, this increase was mainly attributable to the expansion of higher education, implying fewer resources on a per-student basis. For instance, the higher education system expanded markedly in the 1990s, with the number of students nearly tripling, but public spending on higher education as a share of GDP remained constant, resulting in a 20% annual decrease in real public expenditures per student over 1995-2000 (Mramor, 2001).

Owing to the importance of tertiary education to boost innovation and growth (Chapter 1), the authorities should consider directing more funds to tertiary education and, in particular, to more efficient higher education institutions. Given the need for fiscal consolidation, the government could achieve this by developing new sources of financing for tertiary education, notably in the form of universal tuition fees, which would also help to improve the efficiency of the higher education system. More generally, eliminating inefficiencies in higher education would boost available resources on a per-student basis.

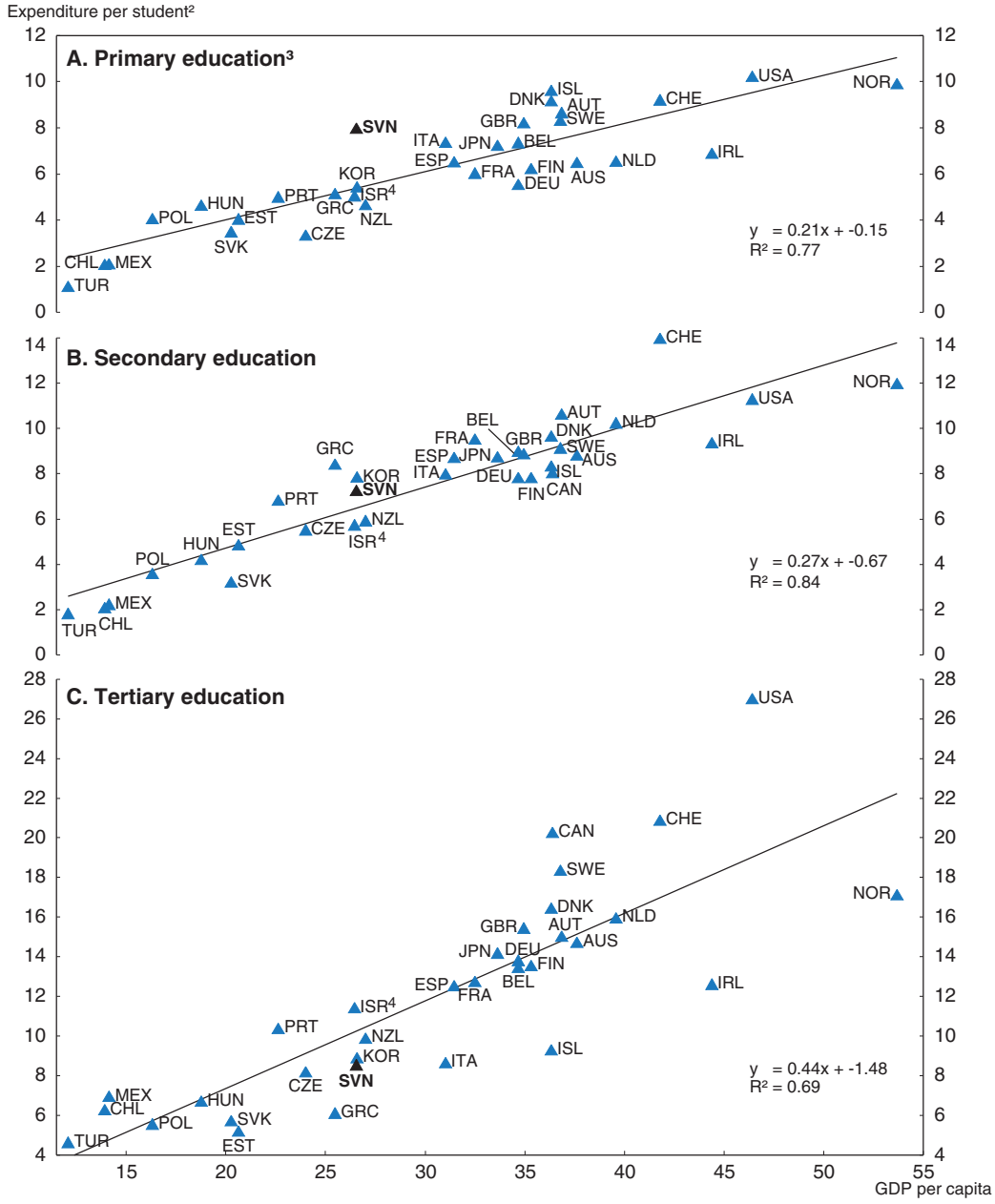
… and higher education funding mechanisms should be improved

Public higher education institutions (HEI) in Slovenia enjoy relatively high institutional autonomy, including with regards to entering partnerships with industry or other higher education institutions, staffing decisions, student selection, and quality assurance. Autonomy is also comparatively high for funding and financing, although there are some constraints in raising student fees. In 2004, Slovenia moved to lump-sum funding of higher education institutions for teaching-related activities, which covers around half of total funds (25% raised from tuition fees and the rest from third parties) and made them autonomous in allocating public and private funds internally.[7] The funding mechanism involves two main parts: a fixed part representing the grandfathered element of public funding; and a flexible part relating public funding to inputs and outputs of HEIs.[8] For 2009, the fixed part was set at 60% of the annual funds for study activities of the HEIs adjusted for inflation in 2008. The fixed part is included with a view to allowing HEIs to adjust to the new funding system and its share is being reduced gradually. The flexible part is determined as a function of the number of graduates and the total number of enrolled students who belong to six different tariff groups depending on the field of studies.[9]

While the funding mechanism adopted in Slovenia has the potential to lead to efficient outcomes in higher education, it needs to be fine-tuned and supported by additional measures to yield the desired objectives. In particular, the fixed element of public funding should be removed. It favours large, historically well-established institutions, rather than efficiency considerations, and may therefore perpetuate

Figure 2.5. **Slovenia appears to spend too much on basic education and too little on tertiary education**

In thousand US dollars, 2007[1]



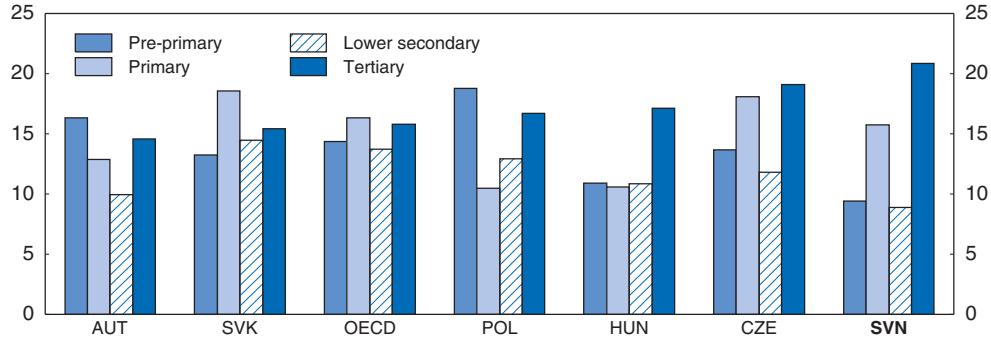
1. Expenditure and GDP per capita in equivalent US dollars converted using purchasing power parities. 2005 data for Greece, 2006 for Turkey.
2. Annual expenditure on educational institutions. Public institutions only for Canada (tertiary), Hungary, Italy, Poland, Portugal, Switzerland and Turkey. Secondary education also includes primary education for Canada. For tertiary education Estonia and Turkey exclude research and development activities.
3. In Slovenia there is no distinction between primary and lower secondary levels of education.
4. The statistical data for Israel are supplied by and under the responsibility of the relevant Israeli authorities. The use of such data by the OECD is without prejudice to the status of the Golan Heights, East Jerusalem and Israeli settlements in the West Bank under the terms of international law.

Source: OECD (2010), *Education at a Glance 2010*.

StatLink http://dx.doi.org/10.1787/888932369391

Figure 2.6. **Low pupil-teacher ratios prevail in the Slovenian education system below the upper secondary level**

By level of education, 2008[1]



1. Calculations based on full-time equivalents.

Source: OECD (2010), *Education at a Glance 2010*.

StatLink http://dx.doi.org/10.1787/888932369410

inefficient provision of higher education services. It also handicaps recently established institutions to challenge the incumbents. Finally, it takes funds away from the expansion of the flexible part, which will be increasingly needed as tertiary education expands further. It is difficult to achieve adequate funding per student when the expansion of tertiary education is rapid enough to outpace the large grandfathered element. Given that the higher education system in Slovenia appears to be already underfunded in terms of per-student expenditure, the grandfathered part of funding might exacerbate the situation.

Public funding based solely on enrolments might give institutions the incentive to favour quantity of enrolments over quality of courses. This could be particularly relevant if HEIs have no discretion in setting their fees and student mobility is not sufficiently high to boost competition among universities (see below). Giving HEIs the autonomy to set their own fees could help to eliminate distortions in demand due to fixed prices across HEIs. This could in turn help to improve efficiency and make the system more responsive to student and employer preferences through greater competition (Barr, 2004). While the current funding mechanism based on the number of graduates has the potential to lead to improvement in efficiency, for example through improved completion rates, it may give institutions the incentive to lower their standards. It might also lead to more emphasis on outputs that are easily attainable and measurable at the expense of relatively hard-to-measure activities, such as development of creativity and problem-solving skills (OECD, 2008).

Some steps have been taken to improve the quality assurance system.[10] The Senate for Evaluation became operational in 2008 to implement an external quality assurance system, including the creation of the National Agency for Quality in Higher Education (*Nacionalna agencija Republike Slovenije za kakovost v visokem šolstvu*) which took over accreditation and external evaluation responsibilities from the Council for Higher Education the following year.[11] This agency will be responsible for procedures and evaluation criteria and for carrying out the evaluations. The authorities should swiftly proceed to implement the quality assurance system to counteract potential adverse effects of relying on enrolments and the number of graduates to determine public funding.

Although public higher education institutions have full autonomy in recruiting their own staff, they are constrained by the Public Sector Act in determining salaries. This

constraint adversely affects the position of public HEIs to compete for hiring and retaining most talented staff. Considering that salaries are included in the lump-sum public funding and HEIs are autonomous in the allocation of those funds, HEIs should be given more freedom to determine the salaries of their academic staff. This would promote quality among academics, leading to improvements in the quality and efficiency of the higher education system (OECD, 2008).

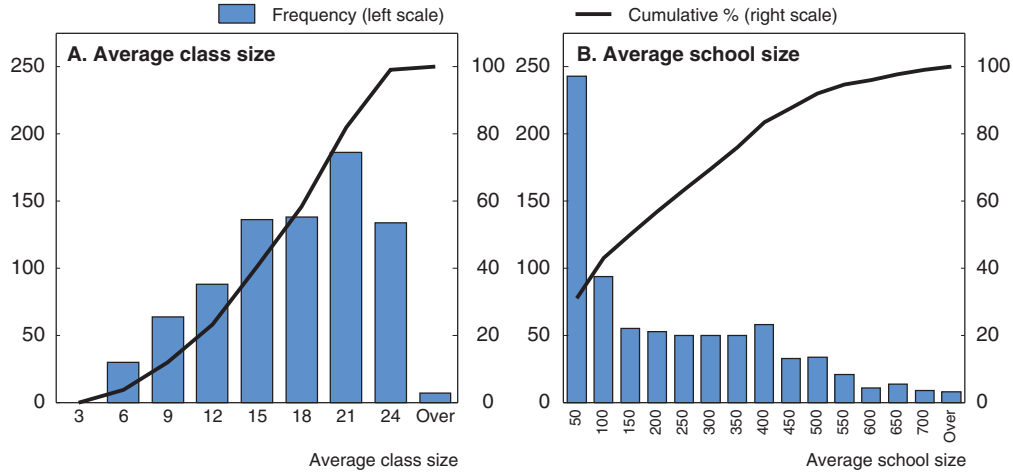
Spending efficiency in compulsory education could be improved

Slovenia has achieved relatively good performance at the primary and lower secondary levels, but at a relatively high cost: it spends considerably more on basic education on a per-pupil basis than other countries with similar income levels (Figure 2.5). However, the average PISA scores are not significantly different than those achieved in these countries.

Revise the geographical distribution

In the face of recent urbanisation trends and changing demographics, the geographical distribution of pupils in Slovenia has changed markedly (IMAD, 2009a). Data on average class size in compulsory education suggest that there is a huge disparity across schools and regions. Average class size ranges from 4.5 to 24.2 pupils, below the legal limit of 28, with around 40% of schools having less than 15 pupils in a class. School sizes also vary greatly and some 56% of schools have less than 200 pupils (Figure 2.7). The geographical distribution of schools, driven by socio-economic considerations to provide basic education to all children in the towns they reside in, accounts for the variation in school sizes. Local governments are responsible for basic public schools, either in the form of single institutions or as an organisational unit of other schools. Smaller branch units with as few as 30 students provide education from first to third or first to sixth grade students in geographically remote regions. In bigger cities, school sizes reach over 1 000 pupils.

Figure 2.7. **Schools and classes are mostly small at the basic education level**[1]



1. Compulsory education for pupils between 6 and 15 years old is offered in so-called basic schools and is organised as a single structure (without distinction between primary and lower secondary levels).

Source: Ministry of Education and Sport.

StatLink http://dx.doi.org/10.1787/888932369429

Increase class sizes…

Adjustments in the size and distribution of physical facilities, and teaching capacity of schools would improve efficiency. Currently, Slovenian schools must employ a large number of professional support staff, as a share of total staff, and retain them regardless of the size of the school, making the system very costly. Maintaining large numbers of teaching and support staff in schools where only few pupils are enrolled wastes valuable public resources. In this regard, restructuring compulsory education schools is necessary. Merging and closing some of the schools, and extending catchment areas would reduce operating costs substantially, as would rationalising the number of teaching and professional support staff, and introducing mechanisms to share these across schools when their workload is not sufficient to justify their full-time employment.[12]

The average class size in primary and lower secondary education appears too low. In primary education, the OECD average class size is three pupils more than Slovenia's 21.6. There is a similar sized gap for public lower-secondary schools, although class sizes in private schools are around the OECD average (OECD, 2010). With smaller class sizes than most other OECD countries, pupil-teacher ratios in Slovenia are unsurprisingly also lower than the OECD average, particularly in lower-secondary education (Figure 2.6).

Slovenia could increase average class sizes and pupil-teacher ratios without sacrificing either the quality or the quantity of the compulsory education. OECD evidence finds no systematic relationship between performance in international assessment tests, as measured by the results of the PISA study, and pupil-teacher ratios (Sutherland and Price, 2007).[13] Woessmann (2003) and West and Woessmann (2002) show only modest gains from reducing class sizes or increasing teaching staff. Other Central and Eastern European countries spend significantly less than Slovenia but are able to achieve largely comparable results in international tests. Improvements were recorded in TIMSS and PIRLS assessments over a period when spending levels were virtually unchanged.

… and reduce the number of professional support staff

The operating costs of Slovenian primary and lower-secondary institutions are high due also to the relatively large number of non-teaching professional staff who provide support services to pupils, such as guidance counsellors, librarians, doctors, nurses, psychiatrists, and psychologists. Slovenian schools employ 9.4 professional support staff on average per 1 000 pupils, substantially higher than the OECD average of five (OECD, 2009a). The authorities should displace the redundant teaching and professional support staff in schools to improve the cost efficiency of the basic education system. School mergers and closures and expansion of catchment areas would be the key ingredients of any policy initiatives in this area.

Rationalising the number of staff, on the other hand, could be done in a number of different ways. For instance, not replacing retiring staff in full until more appropriate pupil-teacher ratios and average class sizes are reached could be one option to follow but it would not yield immediate results, as currently over 80% of primary school teachers in Slovenia are below the age of 50 (OECD, 2010). Another option could be to allow voluntary departures with sufficiently generous redundancy packages, which might involve training opportunities and job search assistance as well as short-term income support. The main downside of this line of approach would be adverse selection problems, as relatively gifted staff, with better options elsewhere, could be the ones choosing to leave. A final option

could be to terminate the contracts of the redundant staff with adequate payout packages, accompanied by active labour market policies. One important issue in the implementation of this approach is the selection of the redundant staff. As Slovenia practices school-level rather than teacher-level evaluation, it is important to develop objective criteria to select lower performing staff.

In view of various socio-economic considerations that shape the design of the education system and the complexity of issues surrounding a relatively large scale restructuring, assembling a commission of experts would be very useful. Issues such as determining surplus staff, deciding how to extend catchment areas, the retraining or cross training needs of remaining staff, increasing the efficiency of the existing structure and assessing demographic trends require substantial amount of expertise.

Improve education support to vulnerable groups, notably immigrants

Enhancing childcare could improve the education outcomes of pupils from disadvantaged backgrounds…

Access to early childhood education and care (ECEC or childcare) is increasingly recognised as a means to enhance educational outcomes for all (Gaber and Marjanovič Umek [2009], in the Slovenian context). It also helps to improve the labour market participation of females and to boost fertility rates (Lohmann *et al*., 2009). In particular, pupils from disadvantaged backgrounds benefit from early childcare, which compensates for lower parental resources, thereby reducing the risk of late educational development (Hanushek and Woessmann, 2007). High quality ECEC improves educational outcomes and the behaviour of young children much more effectively than policy interventions that take place later (Magnuson and Waldfogel, 2005). Since, in Slovenia, children from an immigrant background often lack the motivation to become successful in their educational endeavours (OECD, 2007), encouraging the participation of pupils from such backgrounds in ECEC is essential.

Children from disadvantaged socio-economic backgrounds are more likely to be cared for at home by their mothers because the opportunity cost of staying at home is lower due to both lower potential earnings and a lower likelihood of finding employment (OECD, 2001). In addition, low-income parents often have to set aside a large proportion of their incomes if they want their children to attend ECEC. Although the inclusion of immigrant children in the education system two years prior to starting compulsory basic education is already recommended in Slovenia, the authorities should ensure greater participation of children from disadvantaged socio-economic backgrounds from an early age by providing means-tested subsidies for additional expenses, such as meals and out-of-school-hours care. Such subsidies could be paid for by rationalising ECEC as discussed below.

The authorities recognise the need to introduce mechanisms to better integrate children with an immigrant background in the education system. The 2007 Strategy on the inclusion of children with an immigrant background[14] notably encourages developing materials and techniques to teach Slovenian as a second language more efficiently and better informing parents about the school system, their rights and their duties. In view of the increasing net flow of immigrants and a relatively large population of immigrants currently residing in Slovenia, all the measures introduced by the Strategy should be maintained and adequately funded.

… provided that efforts to achieve efficiency gains are made

The authorities in Slovenia recognize the importance of ECEC and have made it more affordable through the 2008 amendment to the Pre-School Institutions Act.[15] The share of children enrolled in early childhood education has increased steadily, reaching 85% for children aged between three and five, and 50% for children under three years of age in the 2008-09 school year (IMAD, 2010), which is in line with the Barcelona objectives.

But the costs of providing ECEC services in Slovenia are rather high. In 2007, annual expenditure on pre-primary education per child (for children three years and older) was amongst the highest in the OECD, with only Iceland and the United States being higher. Spending on ECEC services relative to GDP per capita, on the other hand, was the highest in the OECD at 32% and substantially exceeded the OECD average of 18% (OECD, 2010).

Financial incentives for putting children into childcare is likely to raise the demand further, making necessary a rapid expansion of the supply and associated costs (IMAD, 2010). Some appropriate steps have been taken recently to boost the supply of child-care places but the authorities should also aim at creating additional such places in a cost efficient way. For example, the government could grant concessions where it is deemed possible and appropriate. More importantly, it could allow the child-teacher ratios to rise. Currently, the ratio is low by international comparison, which in large part explains the high costs of ECEC services. Greater reliance on teacher aides would also reduce the costs of ECEC services. Another measure to boost supply of ECEC places and streamline inputs is to rationalise supply and demand mismatches across Slovenia. There is scope to transfer excess capacity to locations that face particularly strong demand. In some cities and towns, notably in Ljubljana, demand seems to be already very strong. For instance, the number of children who could not be placed in a pre-school was high in Ljubljana in 2009, reaching 18% of the total enrolment in the city; almost half of the children who could not be admitted into a pre-school programme in Slovenia were in Ljubljana. However, there are no signs of excess demand in smaller towns and average class sizes also tend to be lower.

The rapid expansion of childcare places may raise concerns over the quality of ECEC. Considering the disparate financial conditions of municipalities due to the economic downturn and rising enrolments in kindergartens, many local governments lack the resources to provide high quality services. This in turn means that the standard of ECEC services varies considerably across geographic areas. The Ministry of Education and Sport is preparing an amendment to make financial remuneration to kindergarten staff a part of the national budget, shielding the provision of ECEC services from fluctuations in the financial health of local governments, simplifying kindergarten enrolment procedures, and regulating appropriate monitoring systems for the safety of playground equipment. The government should proceed with this amendment and introduce further quality assurance guidelines and mechanisms to conduct evaluations of the pre-school institutions, while ensuring that the body that conducts evaluations is properly resourced.

Boost the participation of vulnerable groups in adult education programmes

Adult education programmes can provide an important vehicle to meet labour market demands in a flexible and swift manner, helping to improve the adaptability of the economy, to reduce unemployment and to boost social inclusion. Higher participation in such programmes can help mitigate the adverse impacts of the crisis by increasing the employability, particularly of low-skilled workers who are relatively weakly attached to the

labour market. Moreover, skill shortages may arise during the transformation of transition economies into more advanced economies (Rutkowski, 2007). In such economies, adult education programmes can be heavily employed to upgrade the skills of adults who have limited possibilities to access formal education institutions.

Participation in adult education programmes is comparatively high in Slovenia, though it falls well short of the levels observed in Scandinavian countries. Adult participation in lifelong learning strongly depends on educational attainment and age. Despite a slight increase in recent years, the participation of older workers in adult programmes is modest, inhibiting their employment prospects (OECD, 2009b). Adults with low educational attainment (individuals whose highest attained degree is primary or below) show considerably less interest in adult learning activities; the difference between highly educated individuals and individuals with low educational attainment in adult education participation is the highest in the EU (IMAD, 2010). According to the Adult Education Survey (AES), the most frequently cited barriers to participation in adult learning in Slovenia are schedule conflicts with work (52.4%), high costs of adult education (45.9%) and family responsibilities (35.6%). Individuals with low educational attainment most frequently mentioned costs (63.2%), followed by conflicts with work schedules, and problems related to health or old age (41.3% and 34.2%, respectively) (Eurostat, 2007). More affordable adult education is necessary to boost participation in lifelong learning and to bridge the gap in participation tendencies between individuals with low and high educational attainment. Currently, adult education is financed by public and private funds, with equal contributions from the state, employers and participants. Local communities sometimes also co-finance non-formal programmes. Targeted subsidies should be put in place to reduce or eliminate the cost of adult education paid by individuals with low educational attainment levels.

Enhancing job matching by better equipping students in vocational education…

One of the major challenges for Slovenia is to transform the vocational and technical education (VET) systems that have played a major role in the education system. While vocational and technical education systems equip individuals with skills that give them direct access to the labour market, those skills can quickly become obsolete. Consequently, more general, advanced skills that allow individuals to adapt to the changing needs of industry and new technologies are now in greater demand in developed economies. Considering the pace of technological innovation, the value of narrow vocational qualifications has been disappearing fast. Therefore, while vocational skills are still crucial, it is important that workers have good general skills as well, helping them adapt easily to structural changes in the economy. Similar trends have been observed in other transition economies experiencing a shift in production from manufacturing to services. Workers with general skills and more education experienced better labour market outcomes, including shorter unemployment spells (Rutkowski, 2007).

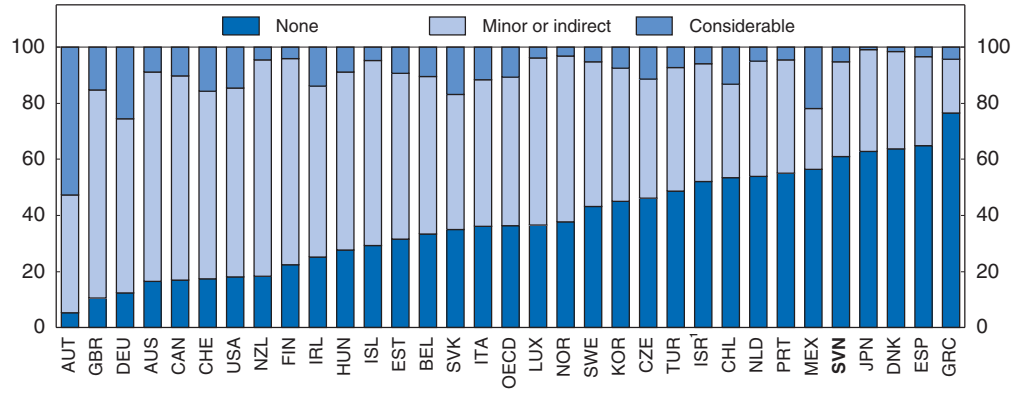
Slovenia appears caught in a dilemma. On the one hand it needs to make short vocational programmes more attractive to prospective students. On the other hand, the education system has to become more focused on providing students with easily transferrable general skills. However, both challenges can be tackled together. One of the reasons for diminishing interest in short vocational secondary education programmes is the lack of direct access to tertiary education for those graduating from these programmes. One way of addressing this issue is therefore to align the core elements of different upper

secondary tracks. This would allow more flexible transition from one track to another. Such a measure would more effectively allow capable pupils access to higher education. Although the 2006 reforms of vocational and technical education facilitated vertical and horizontal transition between study programmes and institutions, some vocational programmes, notably short ones, do not provide sufficient flexibility to those who would like to continue their studies at a higher level.

Another way would be greater involvement of the social partners, particularly employers, in the curricula of the programmes. In international comparison, the involvement of stakeholders in the VET system is limited, as is the current influence of business and industry on school curricula (Figure 2.8). The Slovenian education system has a combined school and work-based apprenticeship programmes, but only 1.6% of upper secondary education pupils participate in such programmes, although around 60% of them are enrolled in vocationally-oriented programmes. The 2002 reform of VET allowed 20% of the curriculum to be flexible, based on local needs and conditions. The authorities should introduce sufficient incentives to ensure greater involvement in the determination of curriculum and work-based study programmes. International evidence suggests that the employment performance of vocational upper secondary education graduates tends to be correspondingly favourable where participation in apprenticeship programmes is particularly high. Austria, the Czech Republic, Denmark, Germany and Switzerland are good examples in the prevalence and successful outcomes of greater employer involvement in VET (OECD, 2009a).

Figure 2.8. **Business and industry have little influence on school curricula**

Level of influence, percentage of students in reporting schools



1. The statistical data for Israel are supplied by and under the responsibility of the relevant Israeli authorities. The use of such data by the OECD is without prejudice to the status of the Golan Heights, East Jerusalem and Israeli settlements in the West Bank under the terms of international law.

Source: OECD (2007), *PISA 2006: Science Competencies for Tomorrow's World*.

StatLink http://dx.doi.org/10.1787/888932369448

Another issue that is likely to exacerbate the problem is the wage-setting framework in Slovenia. In this regard, the recent steep hike in the minimum wage may further dampen the supply of vocational education graduates from short and medium-length programmes, as workers with specific vocational skills enjoyed only a slight premium over their non-educated counterparts even before the hike. The steep increase in the minimum wage might have an adverse impact on human capital acquisition by further compressing wage bands and thereby returns to education (see Box 2.1).

Box 2.1. **Impact of minimum wage hikes on human capital acquisition**

Economic research typically focuses on the effects of the minimum wage on employment rather than human capital acquisition and schooling. Nevertheless, the impact of minimum wage increases on human capital and schooling tends to be much longer-lasting than the employment effects as they set back human capital formation and employment prospects even later in life.

There are several theoretical channels through which minimum wage hikes distort schooling decisions and human capital accumulation. *First*, a higher minimum wage might meet the reservation wages of some students and induce them to drop out.* *Second*, increases in the minimum wage often result in the compression of wage differentials rather than all wages growing by the same rate. This is particularly relevant for specialised low-skilled workers with earnings close to the minimum wage. An obvious consequence of wage compression is to greatly diminish incentives to specialise through formal schooling or other means to develop new skills. In this regard, the minimum wage hikes might hurt enrolment in short vocational and technical programmes that help low-skilled individuals specialise in certain occupations.

There is mounting empirical evidence that increases in the minimum wage have perverse effects on the participation of young adults in education, although it is still a somewhat contentious issue empirically. Using Current Population Survey data in the United States, Neumark and Wascher (2003) find significant adverse effects of minimum wages on the enrolment of 16-19 year olds, with an estimated elasticity of around –0.3. Chaplin *et al.* (2003) confirm these results, using an alternative dataset covering the entire population of public school students in the United States. They established that a USD 1 increase in the minimum wage lowers continuation rates by around one percentage point. Pacheco and Cruickshank (2007) find that minimum wage increases have a statistically and economically significant impact on enrolment in New Zealand: a 10% increase in minimum wage lowers the enrolment of 16-19 year olds by 1.5 percentage points.

* Although the composition of employment possibly changes in terms of new and old dropouts, as some new dropouts are likely to take jobs from the less-skilled and lower-educated teens who had already left school.

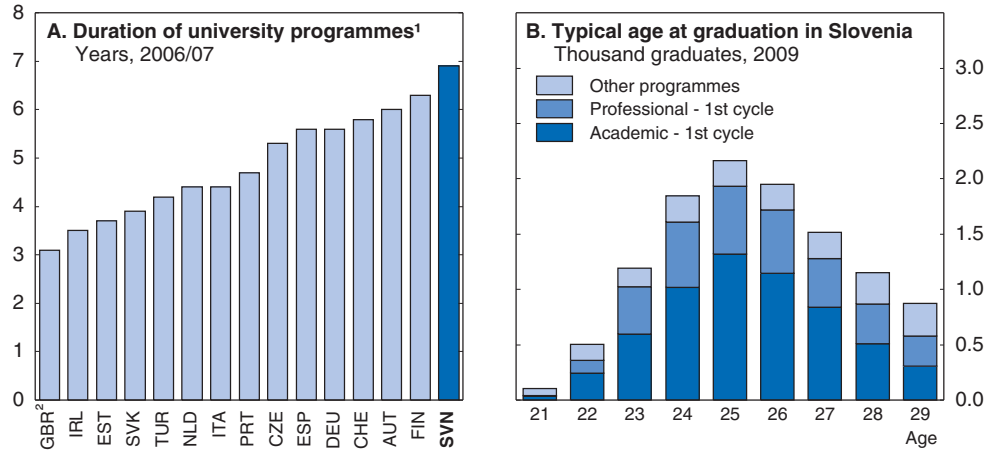
... and improving incentives in higher education

Tighten eligibility to in-study benefits beyond normal study length

As mentioned previously, completion rates are somewhat low at the tertiary level (except for vocational higher education) by international comparison (see Figure 2.4, Panel B). Only around 65% of those who enter a tertiary programme go on to graduate, while the OECD and EU19 averages are 69% and 71%, respectively. Besides, tertiary education students take almost seven years on average to complete their studies at the undergraduate level, among the longest in the OECD (Figure 2.9). The length of pre-Bologna degree programmes only partially accounts for the excessively long duration of studies. The repetition rates of students at the undergraduate level are very high, though declining slowly (IMAD, 2009b). This rate is the highest for the first year, reaching 13% in the 2009-10 academic year, but it drops to 9.4% and 4.3% in the second and third years, before going up to 6.3% in the fourth year.

Students enjoy generous subsidies and benefits, including subsidies for living expenses (meals, accommodation, transportation and cultural activities) and state scholarships (Figure 2.10). Student benefits went even further with the preferential

Figure 2.9. **Slovenian higher education students take too long to complete their studies**



1. The survey covers all students who are national or permanent residents enrolled at higher education institutions and studying at ISCED level 5A.
2. England and Wales only. The average duration in Scotland is 4.4 years.

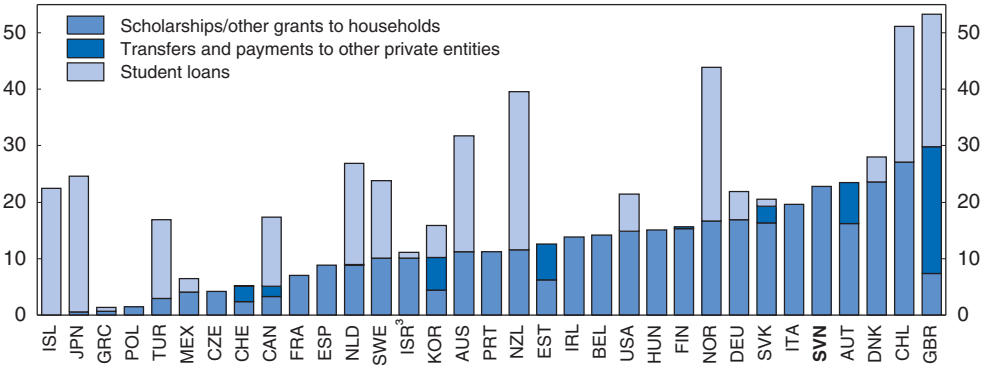
Source: Eurostudent (2008), *Social and Economic Conditions of Student Life in Europe, Final report, Eurostudent III 2005-2008* and SORS (2010), "Tertiary Education Graduates – General Overview", *SI-STAT data portal*, Statistical Office of the Republic of Slovenia, September.

StatLink http://dx.doi.org/10.1787/888932369467

treatment of student work until October 2010, when Parliament adopted a new bill that abolishes student work and introduces mini jobs.[16] Student work was an extremely flexible form of employment in terms of hiring and firing as opposed to regular employment, which is still heavily regulated in Slovenia. Employers also benefited from lower social contributions when they hired students, as students did not pay social security contributions (see Box 2.2 for more details).

Figure 2.10. **Public subsidies for tertiary education come exclusively in the form of scholarships and grants**[1]

In per cent of total public expenditure on education, 2007[2]



1. Public subsidies for education to households and other private entities.
2. 2006 for Turkey, 2005 for Greece.
3. The statistical data for Israel are supplied by and under the responsibility of the relevant Israeli authorities. The use of such data by the OECD is without prejudice to the status of the Golan Heights, East Jerusalem and Israeli settlements in the West Bank under the terms of international law.

Source: OECD (2010), *Education at a Glance 2010*.

StatLink http://dx.doi.org/10.1787/888932369486

Box 2.2. **Student work in Slovenia**

Student workers received preferential regulatory and tax treatment in Slovenia with the objective to prevent student poverty until the mini jobs legislation was introduced in 2010. Student workers enjoyed major benefits. *First*, student work was administratively very flexible. Employers did not have to go through the lengthy procedures to hire or fire student workers that were required for other workers. To qualify, students only needed a proof of student status (called a "student referral"). *Second*, neither students nor their employers had to contribute to the public pension fund or pay for social and health services, making student workers much cheaper than regular full-time employees. The main burden for employers was a special 14% concession fee, which was distributed to student employment agencies, the Student Organisation, and the public funds for scholarships and improvement of study facilities.

There were relatively few restrictions on student work, allowing both students and employers to use it extensively. There was no limit on the number of hours worked for students, though there was a limit on total monthly earnings, which was rather high (in excess of the median wage in the economy). More than one million student referrals were issued in 2008 and students performed 75 million hours of work (4.3% of total hours worked in the economy) (Šušteršič *et al.*, 2010).*

In addition to propping up student incomes, student work served the purpose of preparing students for the labour market and allowing them to gain experience in their prospective careers. Šušteršič *et al.* (2010) found that around one-third of student workers performed high-skilled jobs and they were more likely to perform demanding tasks if they were more advanced in their studies. There was also some correspondence between their field of study and the nature of work performed.

The attractiveness of student work gave students incentives to abuse the scheme and put young graduates competing with low-cost student workers at a disadvantage in the labour market (Šušteršič *et al.*, 2010). Many students chose to prolong their studies and continue working using the student status. In addition, many young people enrolled in higher education institutions only to obtain the student status and to be able to take advantage of the privileges of student work.

* Based on J. Šušteršič, B. Nastav and T. Kosi (2010), "Ekonomski vidiki študentskega dela" (Economic Aspects of Student Work), Faculty of Management Koper, University of Primorska.

Not surprisingly, the in-study benefits that are not tied to the progress of studies attract "fake students", who would not normally go into tertiary education in the absence of these benefits. The Student Organisation in Slovenia estimated that the share of "fake students" could be as high as one third. The apparent lack of conditionality between access to student benefits and progress of studies does not provide students, irrespective of whether a student is genuine or fake, with financial incentives for the rapid completion of their studies. The situation is exacerbated by lenient limits on the number of times repeat students can take the exam to continue their studies, making expelling an unsuccessful student very difficult and in turn helping individuals who exploit the system.[17]

Under the new legislation, the flexible contracts previously available only to students have been made available also to unemployed and older workers, and the number of hours someone can work will be capped at 60 hours a month.[18] Also, the holders of mini jobs are to pay social security contributions.[19] Conceivably, this is a step in the right direction, removing the incentives for "fake students" to go into higher education. On the other hand, the mini jobs legislation will likely lead to greater competition for temporary jobs which could only be

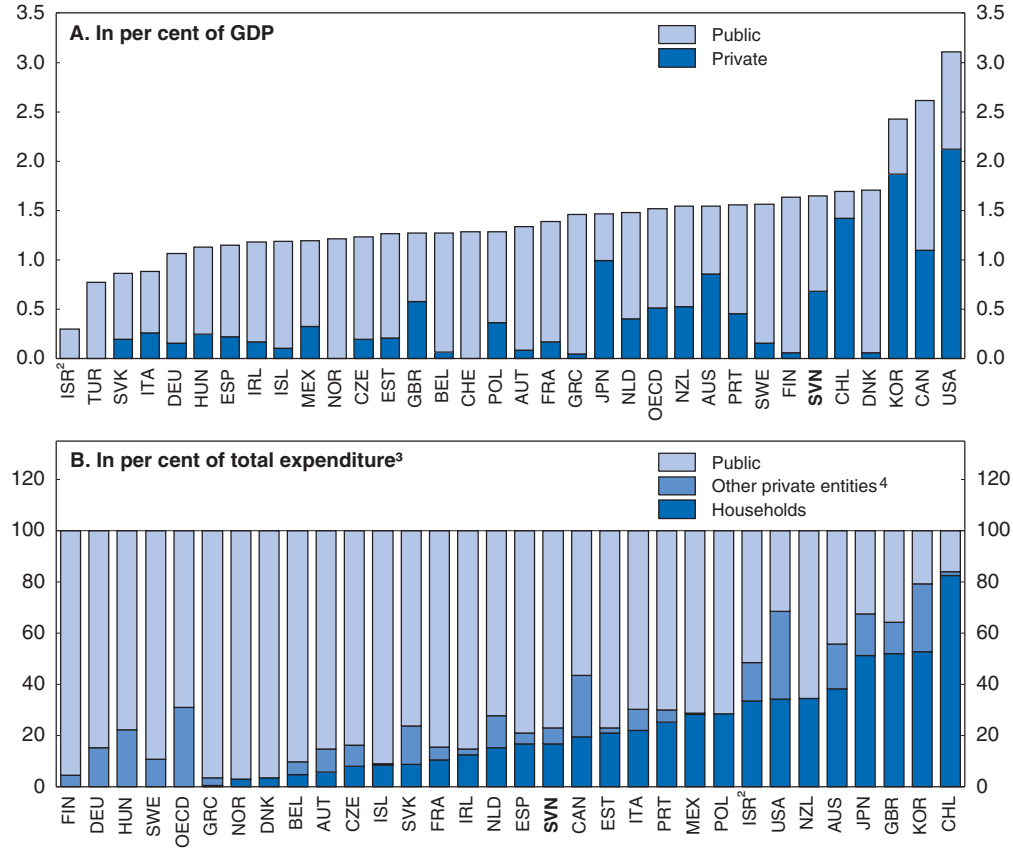
claimed by students in the past. Considering the prevalence of student work and the support student work provides to their incomes, in the absence of additional measures, there is a risk of greater student poverty. This requires appropriate funding options (see following section).

Reforming the student fee system could help students finish their studies faster and reduce labour mismatch

Although the abolition of the preferential treatment of student work reduces the financial incentives for students to maintain their student status longer, reforming the current tuition fee system with universal subsidies would likely have an even larger and more direct impact on study durations and completion rates. This would go along with several other benefits, such as greater availability of funds for HEIs from private sources and encouraging students to make better informed decisions regarding what to study. The low share of private resources allocated to higher education in Slovenia and relatively high private returns suggest that there is room for introducing cost-sharing in funding higher education without undermining access and equity (Figure 2.11). Increasing the share of

Figure 2.11. **Slovenia relies on public spending to fund tertiary education**

Expenditure on educational institutions, 2007[1]



1. 2005 data for Greece, 2006 for Canada and Hungary.
2. The statistical data for Israel are supplied by and under the responsibility of the relevant Israeli authorities. The use of such data by the OECD is without prejudice to the status of the Golan Heights, East Jerusalem and Israeli settlements in the West Bank under the terms of international law.
3. No data for private expenditure is available for Israel, Norway, Switzerland and Turkey.
4. Where no breakdown for household expenditure is available, this shows expenditure from all private sources.

Source: OECD (2010), *Education at a Glance 2010*.

StatLink http://dx.doi.org/10.1787/888932369505

private expenditure on tertiary education would clearly reduce the duration of studies beyond what is necessary (Brunello and Winter-Ebmer, 2003).

One implication of these large public subsidies, however, is regressive outcomes, since workers as a whole fund education for individuals whose future earnings are likely to be high. The extent of redistribution of public resources is not only from the poor to the individuals who are likely to earn high returns to their educational investment in the future, but also to individuals from a privileged background, who have sufficient parental resources to undertake tertiary education investments. Therefore, universal public subsidies to higher education redistribute away from the lifetime poor, further reinforcing rather than reducing inequalities (Barr, 2001). Another element of the current higher education funding arrangements that goes against the equity principle of the higher education system in Slovenia is the dual system of charging tuition fees. Part-time students and students in non-subsidised places at private HEIs pay substantial tuition fees ranging from EUR 2 000 to 10 000 a year, depending on the study programme while their full-time counterparts do not.[20] As students from less privileged backgrounds are more likely to have greater difficulties to finance their studies, this system is regressive.

Considering the challenges facing the Slovenian higher education system, including the need to raise funds from private sources, to reduce skill mismatches in the labour market, and for timely progression of tertiary studies, one policy option is to introduce universal tuition fees for full-time students along with income-contingent loans (ICL) with repayments linked to post-graduate income to ensure equity in access. These arrangements can reflect the true costs of study programmes and economy-wide externalities to give students further financial incentives to go into fields where social benefits of tertiary education exceeds private benefits (see Box 2.3). In the absence of tuition fees, the authorities generally have to rely exclusively on grants to align social and private benefits. In cases where grants do not provide sufficient incentives, subsidies to tuition fees could be a flexible alternative to introduce adequately large financial incentives. In addition to the benefit of making students repay the costs of their tertiary education, students would be more attuned to labour market signals. If tuition fees vary across institutions and fields of study with different curricula, costs and returns, students are more likely to go into the fields and institutions that will give them better chances of success in the labour market (Oliveira Martins *et al.*, 2007).

There are clearly important decisions to be made regarding the repayment parameters (see Box 2.4). These parameters include the income threshold above which borrowers make payments, how progressively repayment rates rise with income and what interest rates apply to debt. The determination of the parameters of a prospective ICL scheme obviously depends on country-specific factors and anticipated labour market outcomes and must be supported by micro simulation analysis. Nevertheless, there is evidence that ICLs would be workable in Slovenia. Vodopivec (2004) explores the financial performance of an ICL scheme based on a simulation study, benefiting from rich longitudinal data on all labour force participants in Slovenia. He finds that, with the target cost recovery rate of 20% and contribution rate of 2%, 55% of individuals would have repaid their entire debt within 20 years; 19% of individuals still would not have repaid any of their debt after 20 years. The "leakage" of the scheme due to uncollected debt would have been 13.5% of total lending. He also notes that implementation costs would be minimal, amounting to less than 0.5% of collected debt.

Box 2.3. **Social returns to tertiary education**

For governments considering subsidising higher education it is important to estimate the magnitude of social returns in excess of private returns to education. While private returns largely reflect wage and employability *premia* stemming from additional years of schooling for an individual, social returns focus on productivity gains at the aggregate level. In this respect, social and private returns differ markedly, if there is a purely "signalling" role of education and/or there are substantial human capital spillovers.

Individuals may benefit from high private returns to their educational investments, even if these investments do not augment their human capital. Spence (1973) shows that, if education is sufficiently costly for low-ability individuals, only high-ability individuals will invest in education, thereby signalling their higher productivity to potential employers.While the signalling role of education might help improve matching in the labour market and returns to education are positive from an individual's point of view, at the aggregate level, costs of education might outweigh these benefits, making social returns significantly lower than private returns.

In the presence of positive human capital externalities, these spillovers drive a wedge between social and private returns to education. As the full benefits of investment in human capital do not accrue to individuals who participate in education, socially suboptimal levels of investment can prevail. State subsidies for education could be utilised to reduce the gap between private and social returns, internalising some of the externalities.

Two different approaches are predominantly adopted to determine the size of social returns to education in the literature. The first one is a macro approach, drawing on the empirical growth literature. The role of human capital accumulation in explaining income differences across countries and over time is explored extensively (Mankiw *et al.*, 1992). The second approach involves including the average human capital stock in the region where the individual lives into the Mincerian wage equations along with other standard controls, based on the idea that human capital has the characteristics of a local public good in addition to the individual benefits. Accounting for average educational attainment in the area where the individual is located may provide some evidence regarding the quantitative importance of human capital externalities (Rauch, 1993; Ciccone and Peri, 2006).

The balance of overall evidence points to private returns to tertiary education significantly exceeding social returns. Psacharopoulos (2009) provides a compilation of some estimates of social and private returns to tertiary education for 33 EU member and candidate countries. Consistent with demanding data requirements for estimating social returns, there are more private than social return estimates. Private internal rates of return, which average 10.2%, exceed social returns by 2.3 percentage points. In three out of the 16 cases for which social return estimates are available, social returns are higher than private returns (by 2 percentage points in Germany and 0.3 percentage point in Ireland). Although there are no available social returns estimates for Slovenia, it is unlikely that they are anywhere near the levels that justify current funding arrangements.

If introducing universal tuition fees with ICLs does not prove possible,[21] the authorities could alternatively consider introducing stricter eligibility criteria for tuition waivers, notably in the form of waiving tuition fees only during a period that is considered the normal study duration. The new National Higher Education Master Plan 2011-20, which is expected to be adopted by Parliament in 2011, has proposals along these lines. It stipulates that students will have to pay tuition fees beyond the normal length of study

Box 2.4. **Loans with income-contingent repayments**

A critical issue in providing finances for higher education is the presence of credit constraints due to difficulties in borrowing against future human capital to invest in further education. Potential lenders would refrain from providing students with financial resources to invest in higher education in the absence of government intervention. This market failure is addressed by extending government-guaranteed bank loans to students so that potential lenders are protected against the risk of default. This approach, however, has some shortcomings. *First*, making such arrangements universally available would be prohibitively expensive as the default risk is assumed by the public sector. Rationing such loans on the basis of means-tested parental resources is a solution but it raises difficulties for students that do not have access to either these loans or the resources of their well-off families. *Second*, as the repayment of such loans does not take into account the future capacity of borrowers, some risk-averse students would be unwilling to undertake these loans, especially if defaulting is costly. *Third*, graduates facing high loan repayment obligations would be more likely to choose careers with high earnings rather than low-paying but socially productive ones.

Income-contingent loans (ICL) offer a potential solution to the shortcomings of government-guaranteed loans, while still dealing with capital market imperfections. The defining characteristic of ICL schemes is that the collection of debt is tied to the borrowers' future capacity to pay. Repayments are not required in periods of low income, ensuring that borrowers are able to meet their repayment obligations and to smooth their consumption across periods of high and low income. In other words, ICLs provide a mixture of consumption-smoothing benefits and insurance against the uncertain outcomes of risky educational investments.

There are several income-contingent financing instruments: risk-sharing, risk-pooling, graduate taxes and human capital contracts. As the name suggests, in risk-pooling ICLs, default risk is assumed by the cohort of borrowers *ex post*, while the public sector takes on the default risk in risk-sharing ICLs. Graduate taxes involve paying a certain fraction of future incomes for an agreed period of time regardless of the amount borrowed, making it a very progressive debt collection mechanism. Human capital contracts are private contracts in a form very similar to graduate taxes. These income-contingent financing instruments have theoretically distinctive features to reach different social and economic outcomes, but only ICLs with risk sharing have been implemented in practice. Most notable examples that have successfully implemented ICLs are Australia, which instituted the world's first broadly based income-contingent charging system for higher education in 1989, New Zealand, and the United Kingdom.*

Countries differ in their implementation of ICL schemes. While the Australian and UK systems cover only tuition fees, the New Zealand system is designed to cover both tuition fees and living expenses. The approach towards the interest rates charged for ICLs varies across countries, as well. New Zealand and the United Kingdom subsidise interest charges on loans, with New Zealand tying the extent of subsidies to the financial situation of borrowers. Australia, on the other hand, indexes debt to the consumer price index, effectively charging zero real interest rate. Higher Education Institutions (HEIs) in New Zealand and the United Kingdom are free to set their own tuition fees but they are capped to contain costs. In Australia, on the other hand, there is no price discretion for HEIs, but there are three bands of costs for different study programmes. In New Zealand and the United Kingdom, the proceeds go directly to HEIs, allowing resource allocation effects within the higher education system. In addition, the United Kingdom and New Zealand opt to offer means-tested grants to students from disadvantaged backgrounds along with the loan component with a view to improving their access, but there seems to be little direct evidence that these grants have been successful in boosting such students' participation in higher education.

Box 2.4. **Loans with income-contingent repayments** *(cont.)*

International experience suggests that a successful implementation of ICLs impinges on having a comprehensive tax system that could be used to efficiently track borrowers and their incomes, and collect loan repayments, making the scheme viable and reducing the operational costs of running it. Operating an ICL scheme outside the public sector is likely to be very costly, as uniquely identifying borrowers, and keeping track of their repayment obligations and their true future incomes would require substantial resources. The administration of ICLs through the tax system reveals a potential problem. If emigration is high, tracking borrowers would be rather difficult and sustainability of ICLs would be difficult due to defaults. Slovenia, with its relatively advanced tax system, is well placed to administer and operate an ICL.

* Some short-lived and restricted implementations of ICLs took place in the United States, as well.

programmes (4 in the first cycle, 2 in the second, 3 or 4 in the third, for Bologna-compliant programmes). In the second and third cycles, if students fail to complete their programmes, they have to return the costs of their studies. While these measures may shorten study durations, they will not be able to address the broader set of problems of the Slovenian higher education system. They may also deter students who are risk-averse and/or are from a disadvantaged background from participating in higher education in the first place, as they may face financing difficulties later in their studies.

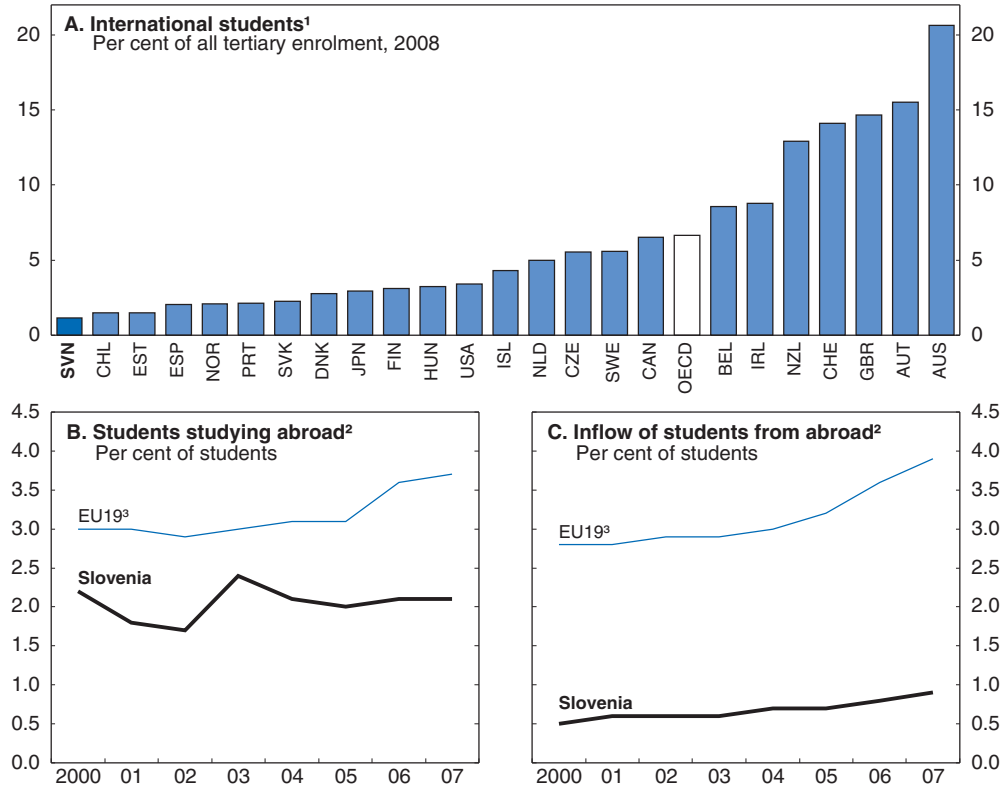
Bolster mobility in higher education

In Slovenia, the structure of enrolment in higher education by regions reflects a bias towards local institutions. The pattern of enrolments in the first grade of undergraduate professional and university education by regions reveals that most students attend higher education institutions in the regions of their residence. For instance, the greatest share of the students of the University of Ljubljana comes from the central region of Slovenia (*Osrednjeslovenska regija*), where Ljubljana is located. The same holds for the Universities of Maribor and Primorska. Overall, around 65% of students come from the same region as their higher education institutions.

To the extent that HEIs have a captive market, they are less likely to strive to create quality study programmes that meet the demands of the students and the labour market, as student mobility acts as a mechanism to stimulate quality and responsiveness of the education system. In the absence of differential tuition fees, the driving factor behind the low inter-regional student mobility is the economic conditions of students and their parents. State cash support represents less than 10% of the total income of students living away from home, whereas this share is over 60% in Sweden and exceeds 40% in Finland, the Netherlands and the United Kingdom (Eurostat, 2009).[22] In this respect, Slovenia should introduce more targeted scholarship and loan schemes for students studying away from their region of residence.[23]

International student mobility is also low in Slovenia (Figure 2.12). The share of foreign students in Slovenia (0.9% of total enrolment) and the proportion of Slovenian students studying abroad (2.1% of total enrolment) in 2007 were among the lowest in both the OECD and EU (IMAD, 2010). Even with the advent of the Bologna Process, which introduced measures to facilitate student mobility, there has been little change in the share of international students who choose Slovenian higher education institutions to continue their studies, or of Slovenian students who choose to study abroad.

Figure 2.12. **Internationalisation of Slovenian tertiary education is very low**



1. Defined on the basis of students' country of residence or the country where students received their prior education depending on data availability.
2. Based on data from Eurostat covering the European Union, the European Economic Area and EU candidate countries.
3. Unweighted average of EU member countries that are also members of the OECD, excluding Luxembourg.

Source: OECD (2010), *Education at a Glance 2010* and Eurostat (2010), "Education and Training", *Eurostat Database*, September.

StatLink http://dx.doi.org/10.1787/888932369524

One reason for the lack of outbound mobility is the generous subsidies higher education students receive in Slovenia and most of these subsidies are not portable. Although, there is some portability of financial support, it is unlikely to provide sufficient means to study abroad without additional private resources. For example, students studying abroad for a limited period, primarily through the ERASMUS programme, can continue to receive scholarships (merit-based, Zois, and means-tested, national scholarship) under the same conditions as the students remaining in Slovenia (for further details on the scholarships, see Box 3.4 of OECD, 2009b). If students go abroad to study in programmes that are not available in Slovenia or they can prove that studying abroad will substantially enhance their expertise and employability, they also can claim the national scholarships for the entire duration of studies. However, considering that the average amounts of Zois and national scholarships were EUR 225 and 175 a month in 2008, respectively, financial barriers still exist in the absence of access to loans or parental help. As students studying abroad do not take advantage of subsidies to cover living expenses such as public transportation and free healthcare, additional grants or loans should be introduced to make outbound student mobility less financially unappealing. These grants or loans should be specifically earmarked for outbound mobility of students.[24]

Box 2.5. **Recommendations on improving educational outcomes**

Ensuring the availability and quality of child-care places

- Improve spending efficiency in early childhood education and care provision and boost supply by allowing pupil-teacher ratios to increase.
- Reduce the geographical mismatch of child-care places.
- Introduce quality assurance guidelines and mechanisms to conduct evaluations of the pre-school institutions and ensure that the body that conducts the evaluations is properly resourced.

Improving spending efficiency in basic compulsory education

- Restructure the compulsory education system by merging and closing the schools that serve too few students, and extend catchment areas to reduce operating costs.
- Rationalise surplus teaching and non-teaching staff.

Making vocational secondary school education more attractive to students and relevant to labour-market conditions

- Better inform potential candidates for vocational and technical training about career opportunities.
- Further increase employer involvement in vocational education to better adapt curricula to labour-market requirements.
- Facilitate more flexible transition from vocational to academic tracks to make it easier for vocational students to access higher education.

Improving the funding and efficiency of the higher education system

- Introduce universal tuition fees, determined by higher education institutions, in tandem with loans with income-contingent repayment.
- Make adequate levels of public funding available to higher education institutions, particularly if raising funds from private sources through introducing fees is not possible.
- Tie in-study benefits, such as access to free health care, subsidies for living expenses and state scholarships, to adequate progress of studies.
- Take into account student progress when allocating funding to higher education institutions.
- Phase out the grandfathered element in the funding mechanism for higher education and give more weight to performance to better meet institutions' financing needs.
- Provide better information and financial incentives to ensure that students are encouraged to undertake study programmes with high social returns.

Bolstering student mobility

- Ensure adequate financial support is available to students seeking to study abroad.
- Ensure that official accreditation is available to programmes meeting quality standards.
- Develop study programmes that are more attractive to prospective foreign students and relax restrictions on offering courses in non-Slovenian languages.

Improving accessibility of adult education

- Put in place targeted subsidies to reduce adult education costs paid by individuals with low educational attainment levels, who are also most likely to benefit from these programmes.

The very low share of inbound international students could be caused by a number of different factors, including the lack of internationally outstanding institutions and accredited programmes, but the restriction on the language of the classes that can be offered is straightforward to link with the lacklustre performance. By law, HEIs that offer a course in a foreign language must offer the same course in Slovenian. This evidently discourages HEIs from offering courses and study programmes in international languages, given scarce teaching resources. The dominance of Slovenian as the language of most courses makes it a potentially appealing destination only for students from neighbouring former Yugoslav Republics, with which the language barrier is not a big issue and who benefit from regional cooperation initiatives in the higher education area. The authorities should abolish the requirement that HEIs offer any course in a non-Slovenian language must teach the same course in Slovenian in order not to overburden HEIs, as well as swiftly proceeding with Bologna reforms.

Overall, the Slovenian education system has performed relatively well to date but faces new challenges with the changing structure and needs of the labour market. *First*, there is scope for improving spending efficiency in compulsory education and early childhood education and care, which would free up some resources to be diverted to underfunded areas of the education system. *Second*, the vocational education system fails to meet labour market demands, creating a skill shortage in certain occupations. Higher education is primarily financed from public resources with limited private spending and available funding falls short of adequate levels, while study durations are excessively long. The Slovenian education system has the institutional features to meet these challenges by following the recommendations presented in Box 2.5.

Notes

1. The Progress in International Reading Literacy Study (PIRLS) collects reading comprehension achievement results for pupils in their fourth year of formal schooling for 40 countries. The Trends in International Mathematics and Science Study (TIMSS) gathers information on the mathematics and science achievement of fourth and eight grade pupils. For further information on TIMSS see *http://timss.bc.edu*.
2. Top performers refer to pupils proficient at levels 5 and 6 in the PISA 2006 science assessment, that is, pupils scoring higher than 633.33 points.
3. Strong performers refer to pupils proficient at level 4 of the PISA 2006 science assessment.
4. While Slovenia does not necessarily have to follow larger countries in having a large share of science and technology graduates and can specialise in more service-oriented sectors such as tourism, manufacturing still has a large share of GDP and being able absorb new technologies is essential.
5. Immigrant workers had been granted an increasing number of permits to meet the shortfall until the global financial crisis hit Slovenia.
6. Further analysis is required to firmly establish the direction of causality as to whether the structure of the economy determines this pattern of investment in human capital or the observed pattern of educational attainment leads to specialisation in certain industries.
7. The figure can be found in the report "Study on Progress in Higher Education Reform across Europe: Funding Reform" (available at: *http://ec.europa.eu/education/news/news2259_en.htm*), which was prepared by a CHEPS-led consortium for the European Commission.
8. Public funds are allocated to higher education institutions in two steps. In the first step, total annual available funds are determined. In the second step, allocations to individual institutions are decided. Public funds for study activities to educational institutions are increased in real terms by at least the growth in GDP but not less than 2.5% over the previous fiscal year.

9. The number of graduates refers to the graduates of full-time undergraduate study programmes at the HEI in the previous calendar year and the total number of students is defined as the number of full-time students in undergraduate study programmes in the current academic year. The total number of student excludes "absolvent" students who have completed the course work and are working on their finishing theses. The study field is one of the 22 fields defined in the ISCED classification of UNESCO.
10. Several higher education institutions underwent international accreditation on their own initiative in the past few years.
11. It is envisaged to become a member of the European Association for Quality Assurance in Higher Education (ENQA).
12. The current legislation allows government employees to be dismissed for restructuring reasons.
13. Krueger (2003) finds that class size is systematically related to achievement.
14. In 2009, guidelines for education of immigrant children in kindergartens and schools, which were based on the 2007 Strategy, were further improved.
15. The Act Amending the Pre-School Institutions Act provides that in cases where more than one child in a family attends kindergarten, the fee for the oldest child is one bracket lower than the fee assigned, and the fees for younger children are waived altogether.
16. It still remains a contentious issue and has been strongly opposed by students and social partners, who can repeal the legislation in a referendum.
17. HEIs have discretion regarding the number of times a student can take the exam that determines whether they can continue in the study programme but current limits are relatively lax. For instance, a repeat student can take the exam up to six times to stay in the study programme at the University of Ljubljana.
18. The minimum hourly wage will be EUR 3.5 and the maximum EUR 8.
19. The tax rate will be set at 29.5%, with 15.5% earmarked for social security contributions, 6% for a special scholarship fund, 2% for construction of student dormitories and the rest for administrative costs and activities by student and pensioners' organisations.
20. They pay small administrative fees covering registration and certification costs. The fees were around EUR 25 in the 2009/10 academic year.
21. High marginal personal income taxes are put forward as the reason behind the lack of tuition fees in Slovenia. Financing higher education this way is potentially associated with a considerable deadweight loss. High marginal taxes pose a significant barrier to entrepreneurship and inflows of high-skilled immigrants.
22. Direct non-cash support, such as subsidised accommodation, tuition fees and health insurance, is not taken into account and support to parents is also excluded.
23. There are some minor financial incentives for students studying outside of their home towns. For instance, the income threshold for the means-tested National scholarship is slightly higher for those studying away from home. Also, the merit-based Zois scholarship amounts are determined based on, among other factors, the distance between the city of studies and permanent residence. The adjustment, however, is somewhat minor.
24. *Ad Futura* scholarships are specifically targeted at the mobility of researchers and post-graduate students but their scope remains limited.

Bibliography

Ahčan, A., S. Polanec and M. Kozamernik (2008), "Donosnost terciarnega izobraževanja v Slvoeniji v obdobju 1994-2004" (Returns from Tertiary Education in Slovenia during 1994-2004), Faculty of Management Koper, University of Primorska.

Barr, N. (2001), *The Welfare State as Piggy Bank*, Oxford University Press.

Barr, N. (2004), "Higher Education Funding", *Oxford Review of Economic Policy*, Vol. 20, No. 2, Oxford University Press.

Brunello, G. and R. Winter-Ebmer (2003), "Why Do Students Expect to Stay Longer in College? Evidence from Europe", *Economics Letters*, Vol. 80, No. 2, Elsevier.

Chaplin, D.D., M.D. Turner and A.D. Pape (2003), "Minimum Wages and School Enrolment of Teenagers: A Look at the 1990s", *Economics of Education Review*, Vol. 22, No. 1, Elsevier.

Ciccone, A. and G. Peri (2006), "*Identifying Human-Capital Externalities: Theory with Applications*", *Review of Economic Studies*, Vol. 73, No. 2, Blackwell Publishing.

Eurostat (2007), "Adult Education Survey", Education and Training, *Eurostat Database*.

Eurostat (2009), *The Bologna Process in Higher Education in Europe – Key Indicators on the Social Dimension and Mobility*, Statistical Books, Office for Official Publications of the European Communities, Luxembourg.

Farčnik, D. and P. Domadenik (2009), "School to Work Transition: Evidence from a Matched Employer-Employee Dataset", paper presented at the European Economics and Finance Society conference, University of Warsaw, 4-7 June.

Gaber, S. and L. Marjanovič Umek (2009), "Študije (primerjalne) neenakosti" (A Study of Comparative Inequalities), Educational Research Institute, University of Ljubljana.

Hanushek, E.A. and L. Woessmann (2007), "The Role of School Improvement in Economic Development", *CESifo Working Papers*, No. 1911, CESifo Group, Munich.

HEGESCO (Higher Education as Generator of Strategic Competences) (2009), "Competencies and Early Labour Transition of Higher Education Graduates", Report on the Large Scale Graduate Survey, HEGESCO.

IMAD (Institute of Macroeconomic Analysis and Development) (2009a), *Social Overview 2009*, IMAD, Ljubljana.

IMAD (2009b), *Development Report 2009*, Institute of Macroeconomic Analysis and Development Ljubljana.

IMAD (2010), *Development Report 2010*, Institute of Macroeconomic Analysis and Development, Ljubljana.

Kézdi, G. (2006), "Not Only Transition. The Reasons for Declining Returns To Vocational Education", Center for Economic Research and Graduate Education of Charles University, and Academy of Sciences of the Czech Republic (CERGE-EI).

Krueger, A.B. (2003), "Economic Considerations and Class Size", *Economic Journal*, Vol. 113, No. 485, Royal Economic Society, Wiley-Blackwell.

Lohmann, H., F.H. Peter, T. Rostgaard and C.K. Spiess (2009), "Towards a Framework for Assessing Family Policies in the EU", *OECD Social, Employment and Migration Working Papers*, No. 88, OECD Publishing, Paris.

Magnuson, K.A., and J. Waldfogel (2005), "Early Childhood Care and Education: Effects on Ethnic and Racial Gaps in School Readiness", *The Future of Children*, Vol. 15, No. 1, Woodrow Wilson School of Public and International Affairs, Princeton University and Brookings Institution.

Mankiw, N.G., D. Romer and D.N. Weil (1992), "*A Contribution to the Empirics of Economic Growth*", *Quarterly Journal of Economics*, Vol. 107, No. 2, MIT Press, Cambridge, MA.

Mramor, D. (2001), "Funding Higher Education", in *Development of Higher Education in Slovenia*, Slovenian Academy of Sciences and Arts, Ljubljana.

Neumark, D. and W. Wascher (2003), "Minimum Wages and Skill Acquisition: Another Look at Schooling Effects", *Economics of Education Review*, Vol. 22, No. 1, Elsevier.

OECD (2001), *Starting Strong: Early Childhood Education and Care*, OECD Publishing, Paris.

OECD (2007), *PISA 2006: Science Competencies for Tomorrow's World*, Vol. 1, OECD Publishing, Paris.

OECD (2008), *Tertiary Education for the Knowledge Society*, *OECD Reviews of Tertiary Education*, OECD Publishing, Paris.

OECD (2009a), *Education at a Glance 2009*, OECD Publishing, Paris.

OECD (2009b), *OECD Economic Surveys: Slovenia*, OECD Publishing, Paris.

OECD (2010), *Education at a Glance 2010*, OECD Publishing, Paris.

Oliveira Martins, J., R. Boarini, H. Strauss, C. de la Maisonneuve and C. Saadi (2007), "The Policy Determinants of Investment in Tertiary Education", *OECD Economics Department Working Papers*, No. 576, OECD Publishing, Paris.

Pacheco, G.A. and A.A. Cruickshank (2007), "Minimum Wage Effects on Educational Enrolments in New Zealand", *Economics of Education Review*, Vol. 26, No. 5, Elsevier.

Psacharopoulos, G. (2009), "Returns to Investment in Higher Education: A European survey", contribution to the Higher Education Funding Reform Project CHEPS-led consortium for the European Commission.

Rauch, J.E. (1993), "*Productivity Gains from Geographic Concentration of Human Capital: Evidence from the Cities*", *Journal of Urban Economics*, Vol. 34, No. 3, Elsevier.

Rutkowski, J. (2007), "From the Shortage of Jobs to the Shortage of Skilled Labor", *IZA Discussion Papers*, No. 3202, Institute for the Study of Labour, Bonn.

Spence, A.M. (1973). "Job Market Signalling", *Quarterly Journal of Economics*, Vol. 87, No. 3, MIT Press, Cambridge, MA.

Sutherland, D. and R. Price (2007), "Linkages Between Performance and Institutions in the Primary and Secondary Education Sector", *OECD Economics Department Working Papers*, No. 558, OECD Publishing, Paris.

Svetlik, I. (2004), "Striving for Innovation in VET in Slovenia", *Berufs- und Wirtschaftspädagogik*, No. 7, Hamburg.

Vandenbussche, J., P. Aghion and C. Meghir (2006), "Growth, Distance to Frontier and Composition of Human Capital", *Journal of Economic Growth*, Vol. 11, No. 2, Springer.

Vodopivec, M. (2004), "A Simulation of an Income Contingent Tuition Scheme in a Transition Economy", *IZA Discussion Papers*, No. 1247, Institute for the Study of Labor, Bonn.

West, M.R. and L. Woessmann (2002), "Class-Size Effects in School Systems around the World: Evidence from Between-Grade Variation in TIMMS", *Kiel Working Papers*, No. 1099, Kiel Institute for World Economics.

Woessmann, L. (2003), "Schooling Resources, Educational Institutions and Student Performance: The International Evidence", *Oxford Bulletin of Economics and Statistics*, Vol. 65, No. 2, Blackwell Publishing.

ANNEX 2.A1

The education system in Slovenia

Slovenia developed its own comprehensive education system after gaining independence in 1992. Major reforms were undertaken to create a broad-based, inclusive and modern education system, including changes to the organisation and financing of education. For instance, the Higher Education Act was adopted in 1993 to provide the legislative basis for modernising tertiary education and some important amendments to the Act followed in 1999, 2004 and 2005.

Administrative control is shared by national and local authorities as well as schools. Since 2005, there have been two separate ministries responsible for the education system at different levels. The Ministry of Education and Sport is responsible for developing and implementing education policies, inspection procedures, and the allocation of funds related to pre-primary, basic compulsory and upper secondary institutions. The Ministry of Higher Education, Science and Technology, on the other hand, performs similar tasks for higher education and research. Post-secondary vocational education falls within the competence of the Ministry of Education and Sport.

Education in Slovenia starts with non-compulsory pre-school education. It is carried out predominantly by public kindergartens that accept pupils between the ages of one and six (the compulsory schooling age). Providing pre-school education is a responsibility of municipalities which establish, fund and staff pre-school institutions. Public pre-school institutions are financed jointly by local communities from parental contributions, the state budget for some specific purposes and private donations. Private pre-school institutions are also eligible for state funding if they are granted a concession.

Almost all pupils attend public schools at basic and upper secondary levels. Public schools are established and funded entirely by central and local governments.[1] Compulsory basic education lasts for nine years and is structured as three triads.[2] Teachers work together with kindergarten teachers in the first year of the first triad, with a single class teacher working with children during the rest of the triad. In the second triad, specialist subject teachers are gradually introduced. Classes are taught exclusively by specialised subject teachers in the third triad.[3] Since 2006, some subjects have been taught by two teachers and it is possible to group pupils within a class and to stream them into different subjects. Pupils that successfully complete basic compulsory education may continue their education in any general or vocational secondary school with some restrictions on the location of the school. Pupils that attend but fail to complete compulsory education successfully are given a certificate to allow them to enrol into short vocational education programmes.

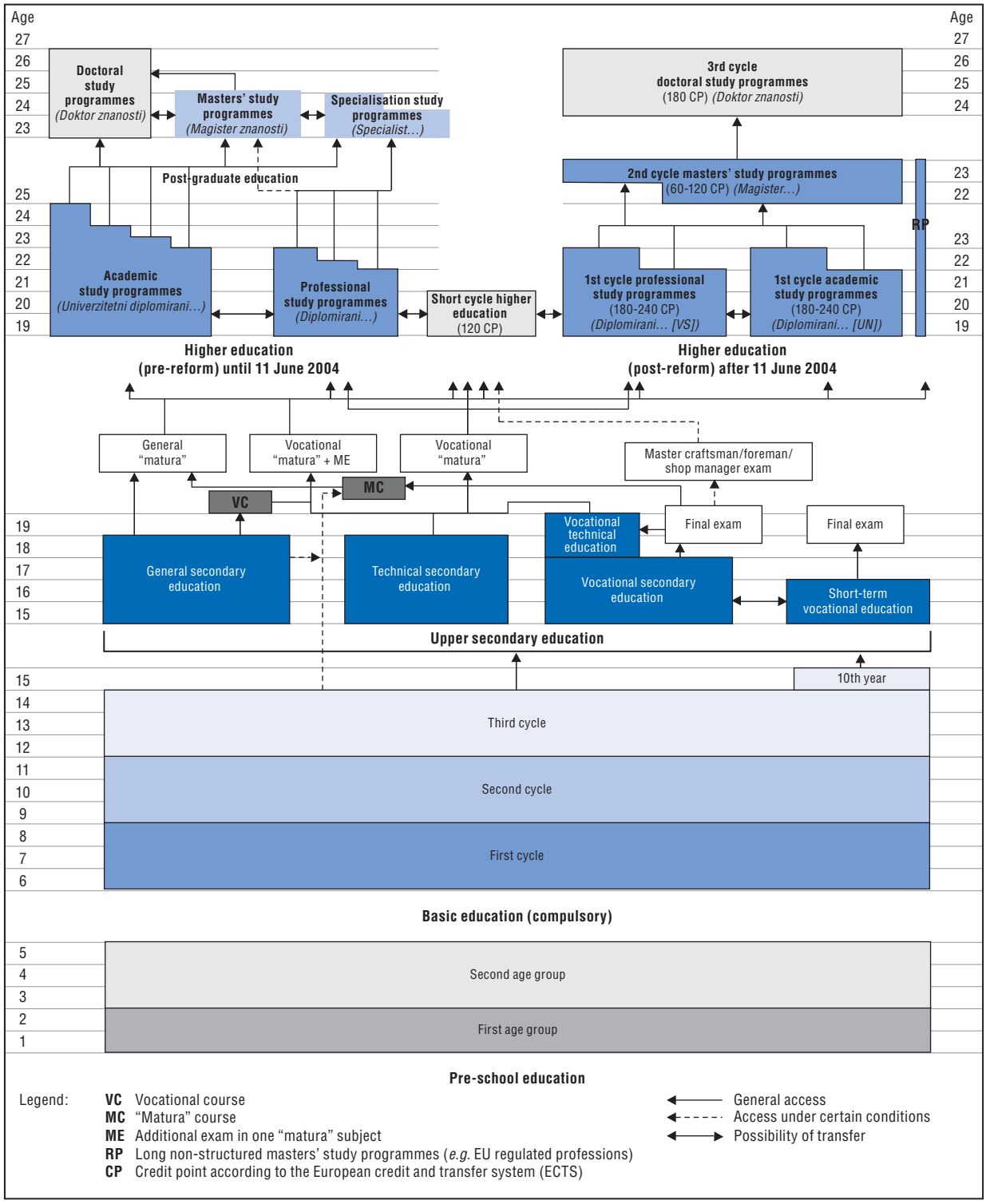
The upper-secondary education system features general as well as vocational and technical tracks, making it a rather diversified part of the education system in Slovenia. General upper secondary education is performed in gymnasia *(gimnazije)*, which are further divided into general gymnasia with no specific field of study and specialist gymnasia that concentrate on technical subjects, economics or art.[4] They are all four-year programmes that culminate in the General Matura examination, which is an externally assessed exam in five subjects, three of which are compulsory and two are elective, and is required for enrolment in post-secondary and higher education.

Vocational and technical upper secondary education covers a broad range of programmes. Pupils can enrol in: *i)* short vocational programmes (*poklicno izobraževanje*) that typically last two and a half years; *ii)* secondary vocational programmes (also classified under *poklicno izobraževanje*) that last three years in school or, in the dual system, in school and at the place of employment; and *iii)* secondary technical education programmes (*srednje tehniško in strokovno izobraževanje*) that last four years. Secondary technical qualifications can also be acquired through completing a two-year vocational-technical upper secondary programme (*srednje poklicno-tehniško izobraževanje)* after a three-year secondary vocational programme, or passing the master craftsman, foreman or shop manager exam at the Chamber of Craft or Chamber of Commerce. Technical and professional schools as well as vocational schools end with the Vocational Matura exam, which is a nationwide exam covering four subjects. There is also a possibility for general upper-secondary graduates to attend special one-year courses *(Poklicni tečaji*) organised to prepare them for taking the Vocational Matura, if they would like to earn a vocational qualification and enter the labour market. Conversely, vocational and technical upper-secondary graduates can attend one-year courses (*Maturitetni tečaj*) to take the Matura exam and become qualified to enrol in a higher education institution. Social partners play a role in planning, programming and implementation of vocational and technical upper secondary education programmes.

Tertiary education covers higher education and post-secondary vocational education (two-year vocationally-oriented study programmes) which was separated from higher education after the Higher Education Act was introduced in 1993. Tertiary education is provided both by public and private institutions that include universities, faculties, art academies and professional colleges.[5] Public higher education institutions follow a dual system in charging tuition fees. While full-time students with state-sponsored places do not pay any tuition fees, part-time students do. Upper secondary graduates that pass the Matura exam have access to higher education. Students can directly enrol in the study programme of their choice, if there are enough places. In case the number of applicants exceeds the number of places, higher education institutions have the autonomy to select students. Selection is generally based on upper-secondary grades, Matura scores and/or an aptitude test.

Higher education consists of three cycles. The first cycle includes undergraduate professional and academic programmes, and the second and third cycles involve master's and doctoral programmes, respectively. Before the 2004 amendment to the Higher Education Act, which introduced the Bologna Process[6] compliant study programmes (to better integrate the Slovenian higher education system with the European system), higher education programmes were binary in terms of their levels: undergraduate and post-graduate. All higher education institutions are to fully implement the Bologna compliant study programmes from the 2009/10 academic year.[7] Undergraduate higher education programmes are provided at universities as well as at other higher education institutions and last for three or four years (a maximum of six years in the pre-Bologna system

Figure 2.A1.1. **Structure of the education system**[1]



1. Italics indicate the diploma awarded.

Source: Ministry of Education.

academic programmes; three to four years in the new Bologna-compliant academic and professionally-oriented programmes) and lead to a *Diploma* degree. Graduate studies lead to a *Specializacija* (one to two years after earning an undergraduate degree in the Pre-Bologna system and does not exist in the new system), *Magisterij* (equivalent to the Master of Science degree in the pre-Bologna system and earned after one to two years in the new system) and *Doktorat* degrees (Doctor of Science).

Adult education in Slovenia covers a wide range of formal and non-formal education and training activities. There are three main ways for continuing education and training. *First*, for adults who failed to or did not complete their upper secondary education, it is possible to continue vocational and Matura preparation courses, allowing them to obtain upper secondary school certificates. They can also take the master craftsmen examination to obtain the title of Master, if they have completed vocational education in the past and have three or more years of work experience. The Master title allows the holder of title to continue studies at a higher vocational level. The same rules and regulations apply both to adults and youth. *Second*, the system of Certification of National Vocational Qualifications is developed to provide an option alongside the traditional vocational education and training (VET). Numerous stakeholders, including the Ministry of Labour, Family and Social Affairs, the Centre for Vocational Education and Training, the Adult Education Centre, the National Examination Centre, the Employment Office, and chambers and trade unions, take part in certifying vocational qualifications. These bodies are primarily financed from the state budget. *Third*, non-formal education and training that does not lead to a higher qualification is provided by adult education institutions that include in-company training centres, formal education institutions that provide supplementary courses and commercial schools that specialise in certain fields such as foreign languages.

Notes

1. In the school year 2008/09, there were 849 compulsory schools, of which only three were private. There were also six private and 136 public upper secondary education institutions.
2. The implementation of the new nine-year basic compulsory education began in the 1999/2000 school year and it has been adopted in all schools in the country since the 2003/04 school year.
3. In small schools, there is a possibility to form multi-grade classes to teach pupils of different ages together.
4. They also include the classical variant that features Latin in compulsory and Ancient Greek in optional subjects.
5. In the 2009/10 academic year, there were three public universities with 53 member institutions, two private universities with seven member institutions, and 26 single higher education institutions (of which 12 were eligible for state subsidies).
6. The Bologna Process is an initiative launched in 1999 with the Bologna declaration by ministers in charge of higher education from 29 European countries to create a European Higher Education Area in which students, graduates and higher education staff move relatively easily. Currently, 47 countries, which are also party to the *European Cultural Convention*, participate in the process. It stipulates: *i*) developing an overarching framework of qualifications for the European Higher Education Area, notably comparable degrees organised in a three-cycle structure and a common definition of learning outcomes in this three-cycle structure; *ii*) a common quality assurance system; *iii*) the recognition of foreign degrees and other higher education qualifications.
7. Students who are enrolled in pre-Bologna programmes prior to the 2009/10 academic year can continue their studies under the conditions prevailing at the time of their entry into the programme. They must, however, graduate by the 2015/16 academic year.

ANNEX 2.A2

Private returns to education in Slovenia

The optimality of educational investment depends on returns, similarly to other types of investment. Internal Rates of Return (IRR) to education are a standard measure in the literature of the profitability of undertaking additional years of schooling and are used to summarise financial incentives, both costs and benefits, associated with studying. IRR depend on several factors, including labour market outcomes, average and marginal tax rates, the share of students' time worked, study duration, tuition fees and social benefits received over the life span.

There are a number of approaches for estimating IRR (see, for instance, Heckman *et al*. [2006] for a review) and they have become more and more sophisticated, with recent estimates relying on frameworks that account for different kinds of lifetime economic benefits and costs of schooling (Boarini and Strauss, 2007; de la Fuente and Jimeno, 2005). The most common methods are the discount method and the Mincerian approach. The discount method is an application of cost-benefit analysis to the decision making process regarding further educational investment. In the discount method, the optimality of the investment is assessed at the margin and the resulting rates of returns are compared with that of alternative investments. For instance, Blöndal *et al*. (2002) used the discount method to compute private and social rates of return for ten OECD countries in 1999-2000. While the discount method has the advantage of summarising various benefits and costs associated with further education, it often relies on more broad-brush average earnings across educational groups, failing to control for other relevant individual characteristics.

The Mincerian approach which is adopted in this study relies on the estimation of earning equations using individual-level data (Mincer, 1974). In its simplest form, the log of gross earnings is regressed on educational attainment, linear (and quadratic) terms capturing labour market experience, tenure and other relevant individual characteristics. The coefficient of educational attainment is interpreted as the percentage wage differential due to an additional educational investment. The major advantage of this approach lies in its simplicity. However, it fails to account for the costs of education, taxes and social benefits that workers pay/receive over their life span.

Clearly, the rates of returns estimated by the two approaches differ insofar as the costs of education, taxes and social benefits are substantial. Different underlying assumptions on the age-earnings profile also lead to differences between the two. In order to have the wage premium estimated through Mincerian approach to be equal to an IRR, the assumption that experience-earnings profiles are parallel across schooling levels is required (Heckman *et al*., 2006).

Data

The Mincerian approach by its nature requires cross-sectional data on educational attainment, wages and other individual characteristics. European Union Statistics on Income and Living Conditions (EU-SILC) provides internationally comparable, cross-sectional and longitudinal data on labour, education and health information at the individual and household level in the European Union. More specifically, they cover employment, unemployment, job search and history, income, education and training, health, migration, life satisfaction and social relations at the individual level. In EU-SILC the highest educational attainment is recorded along a simplified version of the ISCED-97 classification, which distinguishes six levels of education.[1] It, however, does not contain any information on distinctions within levels of education in terms of programme orientation (general or academic *versus* vocational or technical courses), making it unsuitable for estimating returns to different types of tertiary programmes. Given the relative prominence of vocational and technical courses in Slovenia, the data availability issue prevents us from looking into deeper issues. Moreover, in order to focus on returns to tertiary education, the existing classification was further reduced to three levels of highest educational attainment: below upper secondary, upper secondary and tertiary graduates.

Specification

The econometric specification follows Strauss and de la Maisonneuve (2007) as far as possible to ensure comparability with the larger set of estimates that they provide. In particular, the following equation is estimated using OLS (indices for individuals are suppressed for expositional simplicity):

$$\log(hrw) = \alpha_0 + \alpha_1 * edu1 + \alpha_2 * edu3 + \alpha_3 * edu1 * female + \alpha_4 * edu3 * female + \beta_1 * exper + \beta_2 * exper * \text{female} + \beta_3 * married + \beta_4 * part\_time + \beta_6 * healthy + \beta_7 * indefinite + \varepsilon$$

where:

female	dummy for female workers
hrw	gross hourly wages
edu1, *edu3*	dummies for less-than-upper-secondary and tertiary educational attainment, respectively
exper	number of years of experience in the labour market
married	dummy for married individuals
part_time	dummy for part-time worker
healthy	dummy for persons with serious health issues
indefinite	dummy for persons with a permanent contract

This specification misses some of the characteristics that are controlled for in Strauss and de la Maisonneuve (2007). Most notably, job tenure, the over or under-qualification dummy, and the number of workers in the individual's production unit and the dummy for public sector jobs are excluded due to data availability issues. As an additional control, a dummy variable for individuals with serious health issues is included in the empirical specification. Overall, the estimated wage *premia* are likely to be higher than those that would have obtained with the full set of controls as additional job and individual characteristics tend to decrease the coefficient of interest in the regression equation.

The estimation strategy we adopted here fails to account for possible endogeneity and selection bias issues. Educational attainment is correlated with unobserved intrinsic abilities that are also determinants of earnings, leading to biased wage *premia* estimates. The approach adopted here overlooks possible selection bias issues as only employed individuals are included in the sample. Strauss and de la Maisonneuve (2007) show both these problems have only limited impact on the estimates.

Results

The estimation of Mincerian wage equations reveals that the hourly gross wage premium on completed tertiary education in Slovenia reached 95% in 2005 and 86% in 2008, which were rather high by international comparison (Table 2.A2.1).[2] In view of long study durations, these large *premia* do not translate into correspondingly high per annum wage *premia* of tertiary education. Using the average duration of tertiary studies in Slovenia, which was 6.9 years in 2007, per annum wage *premia* were 10.2% in 2005 and 9.4% in 2008.

Table 2.A2.1. **Results of the Mincerian wage regressions**[1]

	2005			2008		
edu1	–0.286	**	(0.0407)	–0.271	**	(0.0326)
edu3	0.676	**	(0.0495)	0.617	**	(0.0341)
female	–0.212	**	(0.0516)	–0.193	**	(0.0421)
edu1*female	–0.0723		(0.0523)	–0.0319		(0.0436)
edu3*female	–0.0519		(0.0670)	–0.0458		(0.0424)
experience	0.0113	**	(0.00162)	0.00939	**	(0.00126)
female*experience	0.00824	**	(0.00234)	0.0048	**	(0.00170)
married	0.00446		(0.0222)	0.0466	*	(0.0182)
indefinite	0.449	**	(0.0394)	0.424	**	(0.0369)
healthy	0.175	**	(0.0360)	0.165	**	(0.0236)
part_time	–0.0949		(0.0824)	–0.261	**	(0.0579)
constant	0.986	**	(0.0916)	1.367	**	(0.0756)
Observations	3 409			3 814		
R-squared	0.260			0.349		

1. The dependent variable is the log of hourly gross wages. Robust standard errors are shown in parentheses. The asterisks indicate p-values as follows: **< 0.01, *< 0.05.

Notes

1. They include: less than primary education, primary education, lower secondary education, upper secondary education, post-secondary non-tertiary education, first stage of tertiary education and second stage of tertiary education (corresponding to ISCED levels 5 and 6).
2. Through a simple algebraic manipulation, it can be shown that the wage premium for tertiary graduates is exactly equal to $e^{\alpha_1+\alpha_4*female}-1$.

Bibliography

Blöndal, S., S. Field and N. Girouard (2002), "Investment in Human Capital through Upper-Secondary and Tertiary Education", *OECD Economics Studies*, Vol. 34, No. 1, OECD Publishing, Paris.

Boarini, R. and H. Strauss (2007), "The Private Internal Rates of Return to Tertiary Education: New Estimates for 21 OECD Countries", *OECD Economics Department Working Papers*, No. 591, OECD Publishing, Paris.

Fuente, A. de la and J.F. Jimeno (2005), "The Private and Fiscal Returns to Schooling and the Effect of Public Policies on Private Incentives to Invest in Education: A General Framework and Some Results for the EU", *CESifo Working Paper*, No. 1392, CESifo Group, Munich.

Heckman, J.J., L.J. Lochnerand P.E. Todd (2006), "*Earnings Functions, Rates of Return and Treatment Effects: The Mincer Equation and Beyond*", *Handbook of the Economics of Education*, Elsevier.

Mincer, J.A. (1974), *Schooling, Experience and Earnings*, Human Behaviour and Social Institutions, No. 2, National Bureau of Economic Research, New York.

Strauss, H. and C. de la Maisonneuve (2007), "The Wage Premium on Tertiary Education: New Estimates for 21 OECD Countries Countries", *OECD Economics Department Working Papers*, No. 589, OECD Publishing, Paris.

Chapter 3

Foreign investment, governance and economic performance

Slovenia's productivity levels have converged rapidly towards the euro area and OECD averages since it began the transition to a market economy in the early 1990s. However, a gap of 30% in aggregate productivity remains vis-à-vis *the upper half of OECD countries and productivity is low in a number of industrial sectors with high public ownership or low foreign ownership. The somewhat skewed pattern of asset ownership in the country is related to past government policies that either directly or indirectly favoured domestic public and private investors. For example, Slovenia's initial privatisation programme favoured existing internal stakeholders, there was limited privatisation of public utilities and the two state-owned investment funds were allowed to acquire blocking shares in many of the country's largest private firms. Foreign investment has also been deterred by labour market institutions that have raised the relative unit cost of employing workers compared to some other transition economies. As part of accession to the OECD, the Slovenian government agreed to improve the transparency with which the state's asset holdings are managed by creating a new central ownership agency. The new agency will manage all the state's direct and indirect asset holdings, outline a plan for disposing of any assets for which it considers public ownership to no longer be necessary and put in place an effective corporate governance regime for managing the assets that remain in public hands. To ensure that government ownership policies contribute to encouraging greater involvement of foreign investors, more competitive domestic markets and more enterprise restructuring, the new central agency will need to be fully independent of government, grasp the opportunity to rationalise the state's asset holdings through greater privatisation and significantly improve the governance of state-owned enterprises. Greater foreign investment would also be facilitated by making the tax system simpler and more neutral, reducing the administrative and regulatory burden on foreign investors and easing employment protection legislation.*

Over the past two decades Slovenia has made a successful transition from a planned to a market based economy. A unique aspect of Slovenia's transition is the method by which the privatisation of previously socially-owned assets took place. Unlike most other transition economies where the state initially dominated the economy's ownership structure, Slovenia, as part of the former Yugoslavia, had a quasi-market system based on partially independent enterprise level management. The privatisation process built on this existing structure by giving a prominent role to managers, workers and pensioners within a widely dispersed ownership structure. The state also maintained a central role in the economy through its direct ownership and control of enterprises in network industries and the financial sector, as well as indirect influence over "strategic" enterprises across all sectors of the economy through the state-owned pension and restitution funds.

Slovenia's gradualist approach to privatisation and broader economic reforms had the benefit of limiting the initial shock to employment and enterprise structures and helping to maintain social stability. Consequently, there has been relatively little backlash against the reform process compared to some other transition economies and Slovenia has achieved strong and stable growth for most of the transition period. Today, Slovenia remains the most prosperous of all the Central and Eastern European transition economies. However, the gradualist approach to reform has bequeathed weaknesses in the business environment that have become even more apparent in the aftermath of the global financial crisis. Dispersed ownership has made it more difficult to restructure large inefficient enterprises. The state's ownership share is one of the highest in the OECD and it indirectly controls many of the country's largest listed companies. Moreover, the state also has not always been an effective shareholder. These features have inhibited productivity growth and foreign investment in the sectors the state most heavily influences.

Previous chapters have outlined some of the reforms that are necessary to improve Slovenia's competitiveness within the euro area, the sustainability of public finances, the stability of the financial system, the functioning of the labour market and the performance of the higher education system. This chapter complements this analysis by probing the nexus between the state's ownership policies, corporate governance, foreign investment and productivity. It begins by documenting sectoral productivity trends over the past decade, identifying those sectors where there may be the most room to lift performance. It then outlines the key policy sensitive factors inhibiting faster productivity growth in these sectors. The chapter argues that greater foreign direct investment (FDI) is an important channel through which the government's ownership policies and the corporate governance framework have affected economic performance in Slovenia and identifies some priorities for reform that build on existing government plans.

There is scope to significantly raise labour productivity across all sectors of the economy

In the decade leading up to the global financial crisis, Slovenian living standards converged rapidly towards the euro area average and reached a level of around 70% of the upper half of OECD countries in 2009. GDP per capita grew at an average annual rate of 4.2% between 1998 and 2008, more than twice the euro area average and, amongst OECD European countries, exceeded only by Poland and the Slovak Republic. At a sectoral level, there was considerable variation in labour productivity performance over the same period (Table 3.1). While value added in the business sector also grew at just over 4% per annum, labour productivity growth in the medium and high-technology manufacturing sector grew at twice this rate, leading to a 3 percentage point increase in that sector's share of value added. In contrast, labour productivity growth in the rapidly growing construction sector was only around 1.5% per annum and growth in agriculture was also weak. Value added per worker in 2008 was highest in the capital intensive utilities and telecommunications sectors and lowest in agriculture. Between 1998 and 2008 the level of productivity in the manufacturing sector shifted from below the business sector average to above the business sector average, largely due to the rapid productivity growth in high-technology manufactures. Within the manufacturing sector, labour productivity growth was highest in the textiles, office and computing machinery, and chemicals industries, with the latter two sectors also having by far the highest levels of productivity.

Table 3.1. **Value added and productivity by sector**[1]

	Value added per worker (% growth)[2]	Share in total value added[3] (%)		Share in total output[3] (%)		Value added per worker (EUR)	
	1998-2008	1998	2008	2000	2008	1998	2008
Business sector[4]	3.8	74	79	82	85	16 476	23 974
Agriculture	2.4	4	2	3	2	4 866	6 166
Manufacturing	6.0	27	29	39	38	14 322	25 606
High and medium-high technology manufactures	6.9	10	13	15	17	16 432	32 093
Low technology manufactures	4.8	11	8	14	10	12 467	19 886
Construction	1.6	7	8	10	12	16 322	19 103
Utilities	4.0	3	3	3	3	33 687	49 708
Post and telecommunications	3.8	2	3	2	2	32 106	46 705
Transport and storage	3.1	5	5	6	6	17 416	23 731
Wholesale and retail trade	3.6	13	13	10	11	15 422	21 929

1. Using value added and gross output in constant prices, and total employment.
2. Annual rate.
3. Excluding real estate activities.
4. Non-agriculture business sector services excluding real estate activities.

Source: OECD (2010), *STAN Database for Structural Analysis*, December.

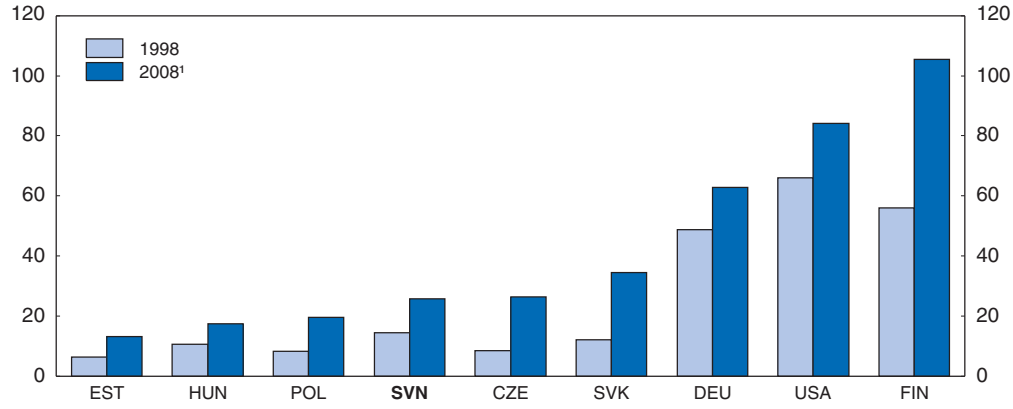
As an economy matures, productivity gains from efficiency improvements within a sector should make a relatively larger contribution to overall productivity growth than efficiency improvements from the reallocation of labour across sectors (OECD, 2009a). Analysis from the 2009 *Survey* showed that between 1997 and 2007 "within" sector efficiency improvements did indeed account for the most of Slovenia's productivity growth, though the relative contribution was smaller than in most other transition economies. This smaller contribution can be partly explained by the more gradual pace of

privatisation and other reforms to the business environment in Slovenia. These issues are taken up in more depth later in the chapter.

Another way of gauging the scope for improving productivity growth in Slovenia is to compare its sectoral productivity growth and levels with other transition economies, as well as other more mature economies within the euro area. Productivity growth in the manufacturing sector was above the euro area average between 1998 and 2008, but below the rates achieved in the Czech and Slovak Republics (Figure 3.1). This pattern holds for both for low-technology manufacturing industries and medium and high technology manufacturing industries. Despite rapid productivity growth over that decade, the level of manufacturing productivity in 2008 was still only around one third of the euro area average, suggesting considerable room for further catch-up growth. The higher growth rates achieved by the Czech and Slovak Republics over the decade meant that by 2008, their level of productivity in the medium and high technology manufacturing industries had overtaken that of Slovenia, while the medium and high technology industries' share of economy-wide value added in 2008 was well below both the euro area average and the shares achieved by the Czech and Slovak Republics (Figure 3.2). Overall, there appears to be considerable scope for Slovenia to increase both the size and efficiency of its higher skill manufacturing sectors.

Figure 3.1. **Productivity levels in manufacturing**

Value added per worker in constant prices, thousand EUR



1. 2007 for the United States.

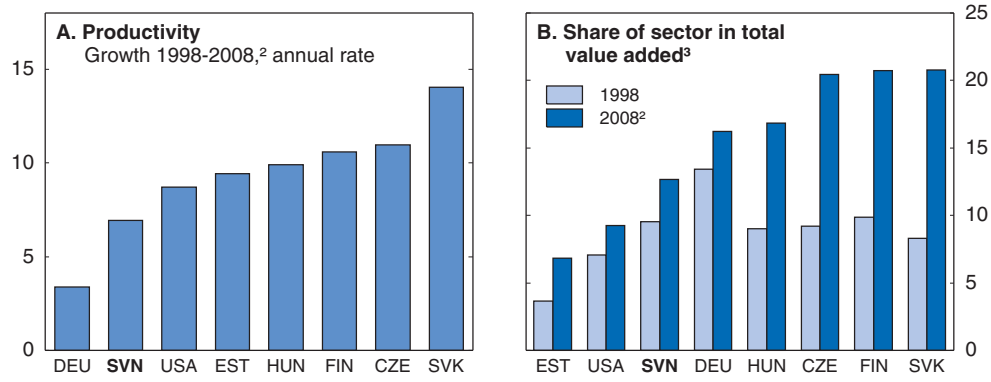
Source: OECD (2010), *STAN Database for Structural Analysis*, December.

StatLink http://dx.doi.org/10.1787/888932369543

A similar pattern emerges from comparative productivity trends in other components of the business sector. In the *energy sector*, productivity growth between 1998 and 2008 was above the euro average and that of the Slovak Republic, but below that achieved in the Czech Republic (Figure 3.3). In 2008, the level of productivity in the *energy* sector was above that of the Slovak Republic, similar to the Czech Republic and well below that of the euro area and the United States. In the *telecommunications* sector, productivity growth has not been very impressive. Between 1998 and 2008 Slovenia managed growth rates below all the key comparison groups and by the end of 2008 there was still a very large productivity gap with the euro area and the United States.[1] In *retail trade* and *construction*, although there is a notable productivity gap between Slovenia and the euro area, the gap is somewhat smaller than in the energy and telecommunications sectors.

Figure 3.2. **Productivity in high-technology sectors**[1]

Per cent



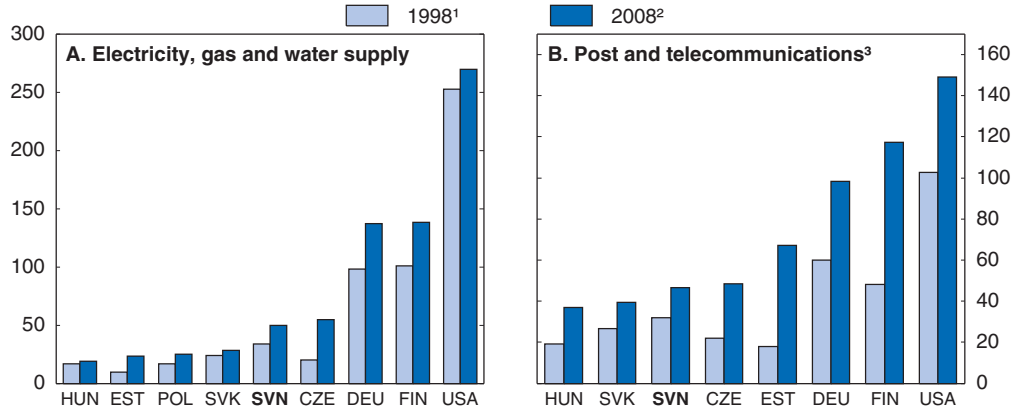
1. Value added in constant prices divided by total employment. Includes medium-high technology manufactures. No data is available for Poland.
2. 2007 instead of 2008 for Hungary and the United States.
3. Excluding real estate activities.

Source: OECD (2010), *STAN Database for Structural Analysis*, December.

StatLink http://dx.doi.org/10.1787/888932369562

Figure 3.3. **Productivity levels in utilities and telecommunications**

Value added per worker in constant prices, thousand EUR



1. 2000 for Hungary in Panel B.
2. 2007 instead of 2008 for Hungary in Panel B and for the United States in both panels.
3. No data available for Poland for this sector.

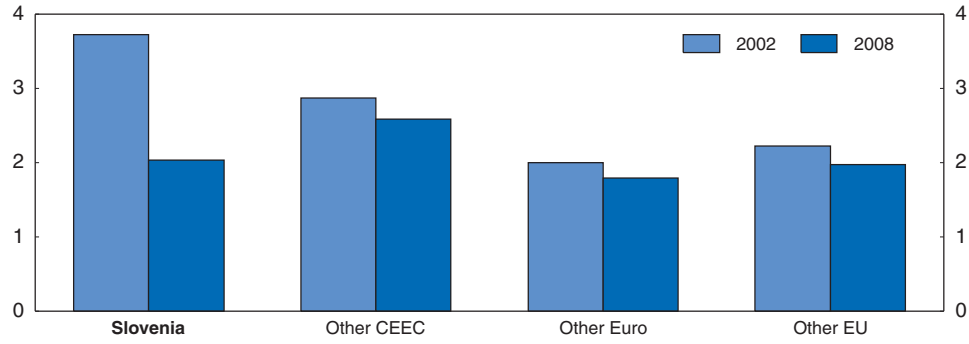
Source: OECD (2010), *STAN Database for Structural Analysis*, December.

StatLink http://dx.doi.org/10.1787/888932369581

Efficiency in Slovenia's *banking sector* appears low compared to other OECD European countries. Although simple indicators of cost efficiency, such as the ratio of operational expenses to total assets, improved significantly relative to other European countries during the 2000s (Figure 3.4), more sophisticated, multivariate methods for estimating efficiency suggest that there is still significant scope for improvement (Box 3.1). In particular, while there is evidence across a range of empirical approaches that the relative cost efficiency of Slovenian banks improved over the course of the decade, if anything, profit efficiency appears to have declined. Overall, the two large state-owned banks – Nova Ljubljanska Banka (NLB) and Nova Kreditna Banka Maribor (NKBM) – appear to be among the least efficient banks in the country, particularly on a profit basis.

Figure 3.4. **Comparative cost efficiency in the Slovenian banking sector**

Operational costs in per cent of total assets



StatLink http://dx.doi.org/10.1787/888932369600

Box 3.1. **Analytical measures of banking sector efficiency***

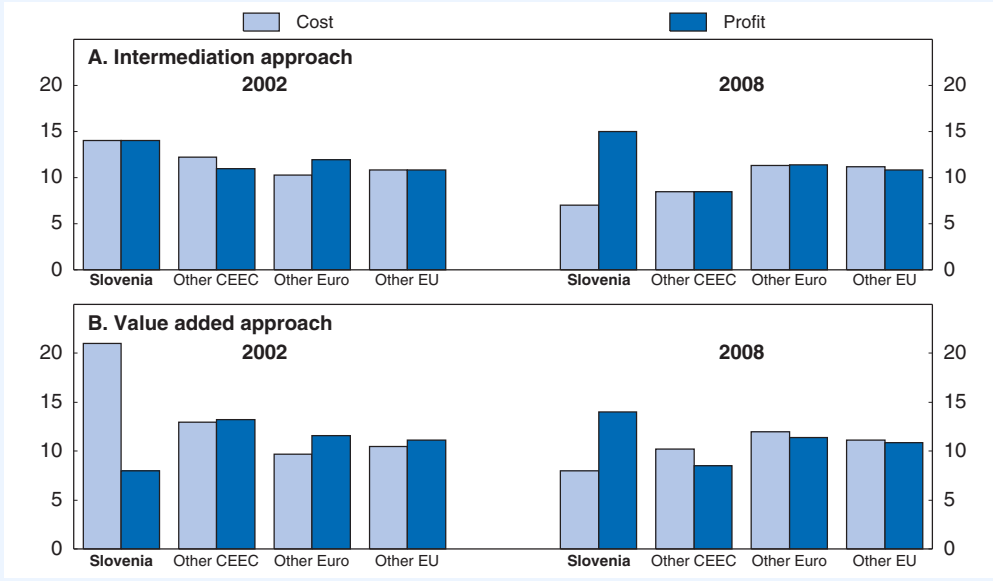
In the literature, there are two main statistical methods used to estimate the relative efficiency of banks – Data Envelope Analysis (DEA), and Stochastic Frontier Analysis (SFA). Both attempt to identify the efficiency frontier for a given sample of firms in the presence of multiple inputs and outputs (see Annex 3.A1 for methodological details). Individual banks are then assigned an efficiency score that measures their distance from the efficiency frontier. These techniques can be used to measure both the cost frontier – the minimum expenditure required to produce a given bundle of outputs, given the price of its inputs and the technology used – and the profit frontier – the maximum profit that can be generated given the price of inputs and outputs and the technology used. Under both methods, banks' measured efficiency can be sensitive to whether efficiency is measured on a profit or cost basis, the precise combination of inputs and outputs used, whether the technology is assumed to be constant or variable returns to scale and whether efficiency is assessed using the DEA or SFA method. Consequently, the relative efficiency of Slovenian banks is examined as each of these assumptions is varied.

According to these estimates, in 2008 Slovenian banks appeared to be relatively inefficient compared to those in other European countries. Across the full range of sensitivity checks, Slovenia's average efficiency ranking is 17th out of 21 countries (see Table 3.A1.4 in Annex 3.A1). Considering the DEA analysis in more detail, Slovenian's low relative efficiency is fairly insensitive to whether bank efficiency is measured using the intermediation approach – banks mediate between savers and borrowers – or the value added approach – banks produce deposits and loans from labour and capital (see Figure 3.A1.1 in Annex 3.A1). Slovenian banks also appear to be relatively cost and profit inefficient, though there is some weak evidence of a relative improvement in cost efficiency between 2002 and 2008. However, the average ranking of Slovenia's banks is more sensitive to different assumptions using the stochastic frontier analysis. In particular, there is evidence that the relative cost efficiency of Slovenian banks increased significantly between 2002 and 2008, while relative profit efficiency appeared to decline over the same period (Figure 3.5).

Box 3.1. **Analytical measures of banking sector efficiency**[*] *(cont.)*

Figure 3.5. **Stochastic frontier analysis**

Ranking among 21 countries



StatLink http://dx.doi.org/10.1787/888932369619

Given the size and critical intermediation role played by Slovenia's two state-owned banks – Nova Ljubljanska Banka (NLB) and Nova Kreditna Banka Maribor (NKBM) – it is also important to evaluate the relative efficiency of the two institutions. The SFA method suggests that, in 2008, NLB was among the more cost efficient banks in Slovenia but one of the least profit efficient. NKBM on the other hand was relatively inefficient on both a cost and profit basis.

Nevertheless, these results have to be interpreted with caution. Although Slovenia's relatively low efficiency ranking is fairly robust across our different methodological assumptions, the results for other countries often vary considerably across assumptions that are equally plausible. Also, efficiency can evolve over time. Previous studies, based on a sample period ending in the early 2000s, found that Slovenia was among the top performers in terms of cost efficiency (see a literature review of Banerjee, 2010). The analysis presented here makes use of data before the full effects of the financial crisis were evident. This matters because these methodological approaches are unable to determine which banks recorded high profit efficiency because of excess risk taking rather than genuinely efficient practices. Therefore, the conclusions could be further affected when 2009 and 2010 data become available thus allowing to better capture the impact of the financial crisis on implied efficiency. This suggests the need to continuously monitor banking sector efficiency in Slovenia.

[*] Dimitri Bellas provided research and drafting for this box.

What is holding back labour productivity growth in Slovenia?

In an accounting sense, countries can raise overall labour productivity through a combination of accumulating more physical and human capital (capital deepening), and using their existing endowments of labour, human capital and physical capital more

efficiently (total factor productivity). More fundamentally, capital deepening and total factor productivity growth are influenced by a range of policy-sensitive institutional factors. Education and training systems influence the accumulation of human capital and the capacity to innovate new technologies and processes. Tax systems influence incentives to innovate and invest in new capital. Financial systems influence the efficiency with which savings are transformed into productive capital. Labour market institutions influence the efficiency with which firms organise themselves. Trade policies and openness influence the incentives and ability of local firms and workers to absorb efficient processes from outside the country. Governments' sectoral policies and attitudes to overall business regulation shape the competitive environment that firms operate in and their incentives to restructure and innovate. And legal and political systems affect the willingness of entrepreneurs to take risks and invest, as well as the trust that underpins all market transactions.

Former socialist countries, such as Slovenia, have faced the additional challenge of having to create the political, legal and economic institutions that underpin trade and growth in a market economy almost from scratch. Most found, at the beginning of the transition process, that their levels of technological development were far below the OECD technological frontier. This meant that productivity growth was initially focused on catching up to other OECD countries through replicating best-practice processes rather than on innovations to push the frontier further out. This is important because the policies and institutions that encourage productivity growth depend on countries' stages of development (Acemoglu *et al.*, 2006; Berglof, 2006). For example, reforms to enhance competition through greater firm entry and openness to trade and foreign investment are more productivity enhancing for domestic incumbent firms and industries close enough to the frontier to adapt and innovate in the face of increased competition. Labour market and education institutions should focus on long-term investment in specific skills that are a long way from the frontier, whereas flexibility becomes relatively more important close to the frontier.

Given the once dominant role of the state in the economy, changes to the ownership status and structure of firms can have a particularly large impact on productivity performance in transition economies. Increased foreign ownership stakes through direct investment can enhance productivity growth in transition economies both directly, as foreign-owned firms bring new technology and management capabilities, and indirectly, through spillover effects on locally owned firms (Alfaro *et al.*, 2006; Bijsterbosch and Kolasa, 2009; Borensztein *et al.*, 1995; Hanousek *et al.*, 2010). Productivity growth has also tended to be higher in privatised firms than state-owned firms in transition economies as private firms have had greater incentives and flexibility to restructure, absorb new technologies and innovate (Bijsterbosch and Kolasa, 2009). The concentration of ownership within firms also matters. Evidence from a panel of Polish firms suggests that a high concentration of ownership is beneficial for productivity growth in low-technology sectors and firms a long way from the technology frontier. In contrast, in higher technology sectors and firms closer to the frontier, dispersed ownership is more conducive to managerial innovation (Hanousek *et al.*, 2010). This is because dispersed ownership appears to encourage managers to seek and be more receptive to new ideas.

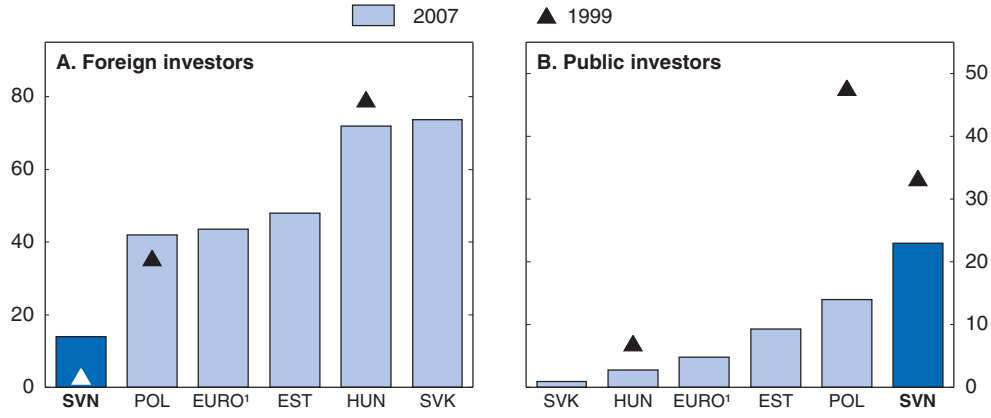
Although there is a dearth of Slovenia-specific empirical studies on the factors constraining firm and sectoral level productivity growth, the evidence that does exist supports the importance of unit labour costs, human capital, innovation, technological development, and ownership structures (Damijan *et al.*, 2008). For example, high unit labour costs, inadequate science and engineering graduation rates and underdeveloped

innovation policies help to explain why Slovenia lags behind its Central and Eastern European country (CEEC) peers in the development of a high-technology manufacturing sector. The share of high-technology exports in total exports in 2008 was only around 5% in Slovenia, and more than 50% below the shares in the Czech and Slovak Republics. Although research and development (R&D) spending and innovation activity has picked up a bit in recent years, there is still a large gap to other OECD countries and there are insufficient links between R&D institutions and the business sector. The efficiency of the higher education sector also lags a long way behind best practice (see Chapter 2).

Slovenia has a somewhat unique pattern of firm ownership. Not only is the stock of foreign direct investment relative to GDP much lower than in most other transition economies, but the State's ownership share is much higher (Figure 3.6). These two phenomena are closely related. In other transition economies, widespread privatisation of former state-owned enterprises in the telecommunications, energy and transport sectors was an important driver of increased foreign investment. In Slovenia, the government has, for a variety of reasons, retained large direct ownership stakes in these sectors. Another unique aspect of Slovenia's enterprise ownership structure is the prominent role of the state-owned pension (KAD) and restitution (SOD) funds. The two funds have large controlling stakes in a number of large "strategic" enterprises across the business sector, which may have in turn partially inhibited the ability and incentive of foreign firms to acquire shares in these firms. The large direct and indirect asset holdings of the state make corporate governance a critical issue in Slovenia. Productivity growth in state-owned and controlled firms has been held back by the absence of high quality practices and institutions to effectively manage the state's ownership stakes and ensure that the state acts as a "good" shareholder. As part of its accession to the OECD, Slovenia has begun to reform the way the state's portfolio of assets is managed, with a view to rationalising its ownership stakes in the longer term. While the impact of high public ownership and governance policies on foreign investment and a broader restructuring in many sectors of the economy are investigated in the rest of the chapter, business environment issues were analysed in depth in the previous *Survey* (Box 3.2).

Figure 3.6. **Share ownership structure**

Per cent of total



1. The euro area is an unweighted average of the latest data (2006 for Ireland and Italy) and excludes Luxembourg. No data is available for public investors for Finland and Ireland.

Source: FESE (2008), *Share Ownership Survey 2007*, Federation of European Securities Exchanges.

StatLink http://dx.doi.org/10.1787/888932369638

Box 3.2. **Progress on reforms to the business environment recommended in the 2009 Survey**

The 2009 Slovenia *Survey* made a number of suggestions as to how the Slovenian government could improve the business environment through increasing competition, reducing barriers to entrepreneurship, and increasing the efficiency and effectiveness of innovation policies. Key recommendations included:

- Reducing state control in financial services and selected network industries through privatisation.
- Improving the management and governance of state companies.
- Improving public procurement practices to rule out collusion among tenders.
- Transforming the Competition Protection Office into an independent agency with budgetary autonomy.
- Easing employment rules and facilitating property registration.
- Widening the use of the credit registry to lower credit transaction costs.
- Increasing aggregate research and development (R&D) spending and in particular its private component.
- Having independent institutions benchmark innovation against international best practice.
- Reducing administrative dispersion by merging business innovation support programmes.
- Improving the efficiency of multi-purpose centres linking the research community, the business sector and the government.

The government has made progress in a number of these areas. Although there has been little privatisation activity in the past year, the government has taken concrete action to establish a new central ownership agency to manage the state's public asset portfolio and improve the corporate governance of state-owned enterprises. These reforms are examined in depth later in the chapter. As part of the programme of structural adjustments within the government's exit strategy, the government is in the process of establishing a new Public Procurement Agency to prepare new best-practice regulations, manage major public procurement projects and provide advice to contracting authorities and the government. Meanwhile, reforms to establish the Competition Protection Office as an independent agency with separate staffing and budget rules are underway. The government has also adopted a programme to reduce administrative burdens in the area of property registration and spatial planning. The key element of this programme is the development an integrated electronic database of spatial data, real estate registrations, public infrastructure projects and administrative acts related to construction and planning. Work on the database should be completed by the end of 2013. There are also plans to simplify the procedures for obtaining building permits through streamlining environmental impact statements. Some tentative steps have been taken to boost innovation and R&D. In particular, a new Research and Innovation Strategy is currently being prepared. In addition, in July 2010, the Ministry of Economy put out a tender for the establishment of new Development Centres for Businesses to support the creation and development of new businesses.

Boosting foreign direct investment will help to raise efficiency

Foreign Direct Investment (FDI) is traditionally defined as the acquisition of at least 10% of the voting power (or equivalent) in a productive enterprise in a foreign country. Most often, firms engaging in FDI seek a controlling interest in the enterprise they establish or acquire. Reasons for firms to undertake FDI include:

- Breaking up the production chain to access lower unit labour costs for parts of the production process (vertical FDI). In transition economies, this type of FDI has been most common in manufacturing industries such as electronics and motor vehicle production.
- Improving market access in the presence of trade barriers and other frictions (horizontal FDI). In transition economies, this type of FDI has been most common in the telecommunications and utilities sectors as foreign firms have acquired former state owned enterprises (SOEs).
- Using a host country as a platform for exports to neighbouring countries (export platform FDI).

FDI can take place through either "greenfield" investments – building a new plant or establishing a new enterprise in a foreign country (usually associated with vertical FDI) – or cross-border acquisitions of existing enterprises. Within a country, these types of FDI can coexist, though "greenfield" investment may be more likely when there are large differences in factor costs between the home and host country. This also implies that as transition countries develop and their factor prices converge on those of the wealthier OECD countries, the share of "greenfield" investment is likely to fall (Nocke and Yeaple, 2004). The literature on foreign investment in Slovenia suggests that factor cost advantages have been the dominant reason for FDI in Slovenia, though access to regional markets has also been an important motivation (OECD, 2002). The evidence also suggests that investors' focus is on the level of labour costs relative to the quality of labour, and investment tends to takes place within multinational firms' overall internationalisation strategy.

There are a number of channels through which FDI can be expected to boost the host countries' productivity performance. For firms receiving FDI efficiency gains can come from technology transfers through supply chains, better management practices that enable firms to be reorganised and investors to react faster to changing economic circumstances, better integration with foreign markets, and more human capital formation (OECD, 2002). These channels help to explain why FDI tends to yield greater improvements in productivity than Foreign Portfolio Investment (FPI), which brings with it far less change in organisational structure and management. Efficiency gains may also accrue to firms in the same sector if new technologies spill over from recipient firms and FDI helps to boost competition within the sector, raising incentives to innovate and pushing inefficient firms out of the sector.

The balance of empirical evidence suggests that FDI has boosted productivity in transition economies. The shift in Central and Eastern European countries from unskilled labour intensive exports to more capital intensive exports was assisted by large inflows of FDI through greater integration with European production networks. And most former public utilities experienced significant increases in efficiency after they were acquired by foreign firms as corporate governance improved, excess labour was shed and firms were better able to exploit economies of scale (OECD, 2002). The productivity benefits of FDI appear to have been largest in those countries with the greatest capacity to absorb new technologies either through higher levels of human capital or better legal, regulatory and political institutions (Bijsterbosch and Kolasa, 2009). Overall, there is more evidence for FDI boosting productivity through the direct

effect on enterprises started up or acquired than through indirect positive spillover effects (Bijsterbosch and Kolasa, 2009; Damijan *et al.*, 2008; Hanousek *et al.*, 2010).

Evidence from Slovenia suggests that foreign owned companies perform better than domestically owned ones. Simoneti *et al.* (2002) analysed the growth of a large panel of non-financial firms during the mid-1990s and found that foreign owned enterprises experienced more rapid asset, sales, exports, value added and employment growth than domestic enterprises, even when controlling for the better growth potential for firms taken over by foreign enterprises. Although less than 5% of Slovenian firms had FDI in 2009, they accounted for 17.7% of total corporate assets, 15.2% of employees, 22.7% of operating profits and 38.6% of merchandise exports (Bank of Slovenia, 2010). In 1999, foreign owned manufacturing enterprises (FIEs) exported as much as 68.2% of their overall sales, with the motor vehicle and machinery and equipment industries achieving ratios above 75%.

FDI growth has been weak compared to other transition economies

The stock of inward foreign direct investment in Slovenia has grown significantly since Slovenia began the transition process. In 1994, the stock of inward FDI was just over EUR 1 billion and this had grown to almost EUR 11 billion in 2008, before declining to EUR 10.5 billion by the end of 2009 (Table 3.2). The majority of the stock of FDI has always been in the form of equity and reinvested earnings. Although the stock of FDI has grown each year since 1994, the pace of growth has fluctuated greatly over time, with both 2002 and 2007 being years of very rapid growth.

Table 3.2. **Inward foreign direct investment**

Million EUR

	Position (end-year stock)			Inflow[1]		
	Total		Equity and reinvested earnings	Total	From abroad	Reinvested earnings
	Value	% growth				
1994	1 081	. .	788	. .	. .	–10
1995	1 376	27	939	. .	. .	–20
1996	1 612	17	1 028	. .	. .	–4
1997	2 000	24	1 413	. .	. .	26
1998	2 370	18	1 720	248	207	41
1999	2 675	13	1 905	322	298	24
2000	3 110	16	2 117	435	382	53
2001	2 940	–5	2 489	310	374	–64
2002	3 948	34	3 466	970	836	134
2003	5 047	28	4 439	938	742	196
2004	5 580	11	4 874	562	286	276
2005	6 134	10	5 607	661	410	251
2006	6 822	11	6 283	504	307	196
2007	9 765	43	6 776	1 165	1 082	84
2008	11 236	15	7 473	. .	. .	18
2009	10 500	–7	7 439	. .	. .	38

1. Total inflows are taken from a different source to the data in the rest of the table and are calculated as the sum of equity and other capital plus reinvested earnings. Inflows from abroad are calculated as the difference between total inflows and reinvested earnings.

Source: Bank of Slovenia and OECD Directorate for Financial and Enterprise Affairs.

Since 1994, sectoral FDI shares have changed significantly (Tables 3.3 and 3.4). In 1994 the largest share of the FDI stock was in the manufacturing sector, and in particular: wood, pulp, paper, printing and publishing; electrical equipment; and transport equipment. Large

shares were also recorded in the electricity and gas, wholesale and retail trade, and financial intermediation sectors. By 2009, manufacturing's share of FDI had fallen to 17.3%, and electricity and gas' share to less than 3%. By contrast, financial intermediation's share had increased to 45.2%. Notably, since 1994 the EU has come to dominate FDI. The large increase in the Austrian share is largely due to acquisitions in the banking sector.

Table 3.3. **Foreign direct investment in Slovenia in selected activities**

End-year stock

	1994		2000		2009		Change in % share 1994-2009
	Million EUR	%	Million EUR	%	Million EUR	%	
Total	**1 081**	**100.0**	**3 110**	**100.0**	**10 500**	**100.0**	. .
Manufacturing[1]	451	41.7	1 265	40.7	1 817	17.3	–24.4
Electricity, gas, steam, air conditioning supply	242	22.4	19	0.6	262	2.5	–19.9
Water supply, sewerage and waste management	0	0.0	6	0.2	40	0.4	+0.4
Construction	2	0.1	5	0.2	105	1.0	+0.9
Wholesale and retail trade; repair of motor vehicles	161	14.9	471	15.2	1 653	15.7	+0.9
Transportation and storage	15	1.4	39	1.3	120	1.1	–0.2
Accommodation and food service activities	7	0.6	19	0.6	28	0.3	–0.4
Information and communication[2]	3	0.2	52	1.7	243	2.3	+2.1
Financial and insurance activities	123	11.4	947	30.5	4 745	45.2	+33.8
Real estate activities	2	0.1	32	1.0	264	2.5	+2.4
Professional, scientific and technical activities	27	2.5	165	5.3	218	2.1	–0.4
Administrative, support and other service activities	11	1.0	8	0.3	45	0.4	–0.6
Other[3]	50	4.6	90	2.9	1 006	9.6	+4.9

1. Excluding tobacco, fuel products and pharmaceuticals.
2. Excluding programming and broadcasting activities.
3. For the major part this covers activities having less than three companies with foreign direct investment in equity in certain years. It also includes real estate owned by non-residents from 2008.

Source: Bank of Slovenia (2010), *Direct Investment 2009*.

Table 3.4. **Foreign direct investment in Slovenia by investing countries**

End-year stock

	1994		2000		2009		Change in % share 1994-2009
	Million EUR	%	Million EUR	%	Million EUR	%	
Total	**1 080.8**	**100.0**	**3 109.8**	**100.0**	**10 500.2**	**100.0**	. .
OECD	734.5	68.0	2 982.1	95.9	9 680.8	92.2	+24.2
European Union	670.5	62.0	2 732.6	87.9	8 737.0	83.2	+21.2
Austria	242.0	22.4	1 384.1	44.5	5 153.7	49.1	+26.7
Switzerland	51.3	4.7	129.6	4.2	958.4	9.1	+4.4
France	125.7	11.6	320.5	10.3	684.8	6.5	–5.1
Italy	111.1	10.3	193.9	6.2	586.1	5.6	–4.7
Germany	160.0	14.8	372.3	12.0	572.9	5.5	–9.3
Netherlands	9.0	0.8	96.4	3.1	551.9	5.3	+4.4
Belgium	4.0	0.4	7.6	0.2	337.1	3.2	+2.8
Croatia	334.1	30.9	54.6	1.8	325.4	3.1	–27.8
Luxembourg	0.2	0.0	35.2	1.1	239.2	2.3	+2.3
Other[1]	43.4	4.0	515.6	16.6	1 090.7	10.4	+6.4
of which:							
Czech Republic	0.1	0.0	112.8	3.6	77.6	0.7	+0.7
Hungary	–0.1	0.0	7.3	0.2	50.8	0.5	+0.5

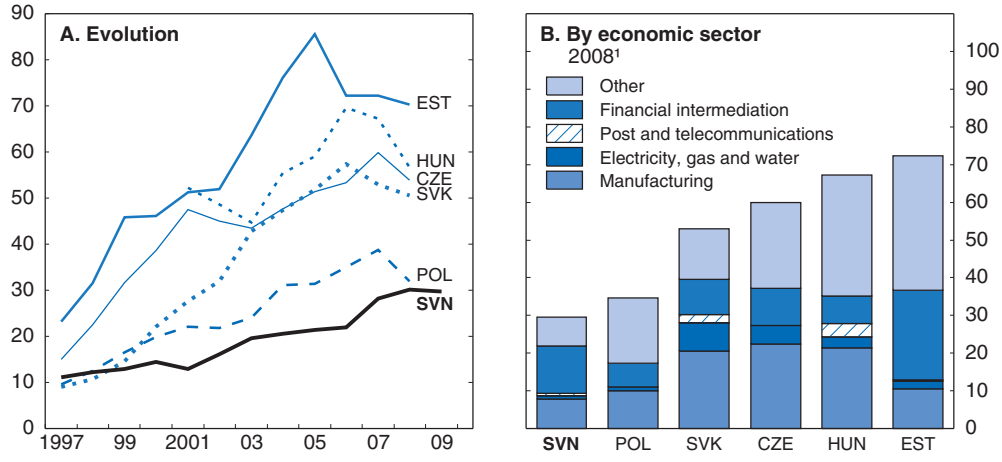
1. Data in 2009 includes real estate owned by non-residents.

Source: Bank of Slovenia (2010), *Direct Investment 2009*.

From a cross-country perspective, in the mid 1990s the stock of FDI as a ratio to GDP was similar to that of the other CEEC countries, at around 10% (Figure 3.7). However, over the next decade Slovenia's FDI stock grew much more slowly than the other CEEC countries, in part because mass privatisations in the network industries that were common across the region did not take place in Slovenia. Comparing Slovenia' sectoral FDI composition, financial intermediation is the only sector in which Slovenia's FDI share exceeds that of other CEEC countries. Slovenia's FDI share is much lower across all other sectors of the economy, particularly manufacturing and network industries such as energy and telecommunications.

Figure 3.7. **Foreign direct investment position**

Per cent of GDP



1. 2007 for Czech Republic, Estonia, Hungary and Slovak Republic.

Source: Eurostat (2010), "Economy and Finance", *Eurostat Database*, December and Bank of Slovenia (2010), *Direct Investment 2009*.

StatLink http://dx.doi.org/10.1787/888932369657

Slovenia has improved policies that directly encourage FDI

On the face of it, Slovenia provides an encouraging environment for FDI. The 2001 Foreign Exchange Act granted freedom to both inward and outward FDI, there are now no restrictions on the legal status of foreign residents, and branches of foreign enterprises are considered as residents. However, in other respects the policy environment has not always been conducive to attracting foreign investors. For example, decisions made by governments at the beginning of the transition process helped to keep FDI low, even if that was not the intent. Although governments recognised that FDI could be an important bridge to developing an open, export-led economy within an integrated Europe, they never developed a consistent policy framework to bring it about. At the macro level, the monetary authorities resisted strong capital inflows to reduce upward pressures on the currency. Meanwhile, the privatisation process explicitly favoured internal buy-outs and was left incomplete, with the state directly and indirectly retaining large ownership shares in firms across the economy. Early in the decade, the government decided to be more active in encouraging greater FDI flows through:

- Opening the privatisation of state-owned assets to strategic and institutional investors.
- Adapting existing economic incentive schemes so that they are accessible to new foreign investors and comparable to those in competing countries.

- Providing a competitive regime of corporate taxation, tax relief for investment, depreciation allowances and loss carry-forward provisions.
- Establishing a state-owned company to manage industrial estates and assign state-owned companies with spatial potential the task of providing a competitive supply of land to domestic and foreign investors.
- Setting up an institution responsible for attracting FDI with a clear legal mandate, supervisory body, sufficient staff, and budgetary funding.

In 2001, the government set up the Slovenian Public Agency for Entrepreneurship and Foreign Investments (JAPTI), partially in response to criticisms that Slovenia was too passive about attracting FDI. JAPTI's mandate is to improve the attractiveness of Slovenia as a destination for FDI by providing a range of services to foreign enterprises considering new direct investment in Slovenia.[2]

There are now also a range of non-refundable financial incentives available to firms considering direct investment in Slovenia. Since 2000, the Inward Investment Cost-Sharing Grant Scheme has been in place to co-fund new direct investments in Slovenia that create jobs. The amount of co-financing available and the job-creation threshold for qualifying for the scheme depend on the characteristics of the firm and the nature of the investment project. For example, investment by new foreign investors, small firms, and projects in R&D, traded goods sectors and depressed regions receive more favourable treatment under the Scheme than other investment projects. Costs of non-commercial property, plant and equipment, employment creation, feasibility studies and advisory services (for small and medium-sized enterprises only) are all eligible for co-financing. Financial incentives are also available to firms for the purpose of hiring and retraining new staff who have been unemployed, new graduates or researchers taking up new positions in the company.

In addition to these direct financial incentives for FDI, Slovenia has put in place Free Economic Zones (FEZs) and Free Customs Zones (FCZs) in the port of Koper and the city of Maribor, recently extended to the end of 2013. Within FCZs, enterprises are not subject to either customs duties or other trade policy measures, until goods are released outside the zone. Eligible firms gain access to a range of benefits, including:

- Value added tax exemption for imports of equipment, production materials and services necessary for export production and other permitted activities.
- A reduction in the corporate tax rate from 20% in 2010 to 10%.
- A tax allowance of 50% for investments in tangible assets within the free custom zone.
- A reduction in the taxable base of 50% of the salaries of apprentices and the formerly long-term unemployed.

In January 2010, the government adopted fiscal measures designed to encourage businesses to locate and expand in the Pomurje Region, which was severely affected by the crisis. In October 2010, the government prepared a new draft law on Balanced Regional Development which extends the support instruments to three other regions. The measures put in place in the Pomurje Region until 2015 include:

- Grants for business environment improvement and capital investments.
- Tax incentives and refunds of social and health insurance contributions paid by employers.
- Possibility to reduce pre-tax profits by 70% of the capital expenditure for investment.

- Priority treatment of investment projects when bidding for financing from the National Development Fund and the EU Cohesion Fund.
- Provision of various forms of institutional support.

Companies registered in Slovenia are also eligible for facilities for export promotion and protection provided by the Slovenian Export Corporation, including financial services related to export insurance, financing and guarantee issuing. The Slovenian Export Corporation insures export credits against commercial as well as non-commercial risks and provides insurance against non-commercial risks in the case of Slovenian outward FDI. Financial support for special projects is available on a case-by-case basis.

But the enabling environment for FDI needs to be strengthened

Policies to directly encourage FDI are just one component of an overall strategy to attract foreign investment. Foreign investors are usually motivated by three principal factors: the expected profitability of individual projects; the ease with which subsidiary operations can be integrated with global strategies; and the overall quality of the enabling environment that affects the risks and expected payoff to firms considering direct foreign investment. Because countries cannot influence local market size and geography it is essential that they focus on improving the quality of the enabling environment. Key ingredients of a good enabling environment are (Blonigen, 2005; OECD, 2002):

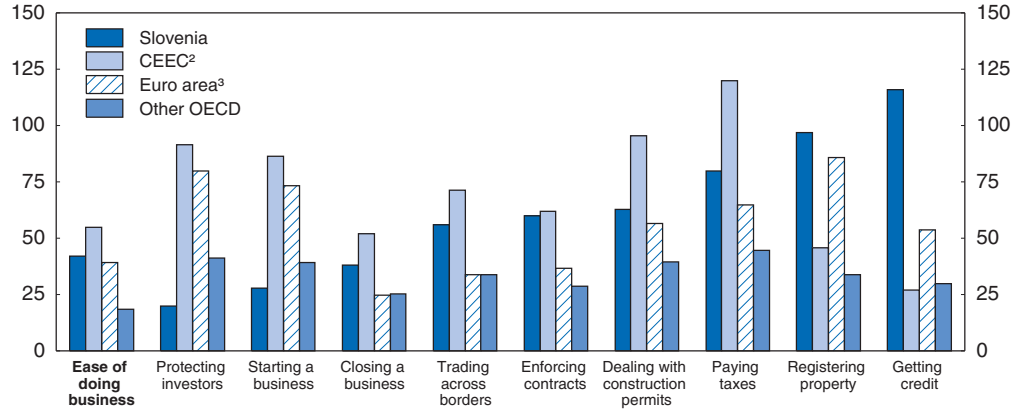
- Integration with foreign markets and openness to trade and investment.
- Sound macroeconomic policies and institutions to encourage strong growth while minimising volatility, maintain fiscal discipline and contain inflationary pressures.
- Transparent and efficient legal and political institutions to keep the business environment stable, reduce information costs and reduce resources devoted to rent seeking and corruption.
- An efficient and internationally competitive corporate tax regime.
- Flexible labour market institutions that encourage labour market participation, ensure that wages grow in line with productivity and keep hiring and firing costs low.
- High quality education institutions that ensure a supply of appropriately skilled workers.
- Deep and well functioning capital and intermediation markets.
- Low levels of red-tape to minimise the costs of setting up and doing business.
- Competition policy and sectoral regulatory and supervisory bodies that ensure there is a level playing field for foreign and domestic investors.
- Corporate governance policies that encourage sound management and accountability in private and state owned enterprises.
- Ownership policies that encourage the participation of private and foreign investors when anticipated efficiency gains from privatisation are large.

A survey of 140 foreign-owned firms undertaken by JAPTI (2009) found that the Slovenian business environment had features that both attracted and deterred foreign investment. On the positive side, a relatively stable political and macroeconomic environment, a geo-strategic position giving good access to European markets, a regulatory climate that is largely harmonised with the rest of the EU, efficient service provision and high-quality infrastructure have all encouraged foreign investors to locate in Slovenia. On the negative side, disincentives to doing business in Slovenia include: high taxes and

labour costs; difficulties dismissing employees or reorganising them within firms; a lack of properly qualified labour; inefficient judicial procedures, bankruptcy regulation and competition protection; difficulty acquiring land, business premises and construction permits; and the small size of the Slovenian market (Figure 3.8). In addition, privatisation at the beginning of the transition process favoured internal buy-outs and restructuring in privatised companies was slow and discouraged search for strategic foreign partners. Unfinished privatisation has also held back FDI in sectors such as energy, water, telecommunications, transport and banking. Similar constraints on FDI were identified in the OECD's *Investment Review of Slovenia* (OECD, 2002). Although there have been some improvements since then in terms of making it easier to establish firms, improving competition oversight, reducing corporate and personal tax rates, improving the functioning of tax administration and reducing foreign trade restrictions, overall progress on improving the enabling environment has been slow.

Figure 3.8. **World Bank *Doing Business 2011* rankings**

Rank among 183 countries[1]



1. Economies are ranked on their ease of doing business, with first place being the easiest. The higher the bar, the more difficult the business conditions. Zone aggregates are unweighted averages of rankings.
2. Central and Eastern European countries that are also OECD members: Czech Republic, Hungary, Poland and Slovak Republic.
3. Euro area countries prior to enlargement in 2007.

Source: World Bank and International Finance Corporation (2010), *Doing Business 2011: Making a Difference for Entrepreneurs*.

StatLink http://dx.doi.org/10.1787/888932369676

The corporate tax regime does not appear to be a barrier to FDI

As corporate income taxes lower investment by reducing the net return on investment projects (OECD, 2007), FDI will, all else equal, be lower in countries with higher effective corporate tax rates. As already noted, however, a host of other framework conditions affect FDI and low taxes cannot substitute for weak framework conditions. Although it may be optimal for a small capital importing country facing a perfectly elastic supply of foreign capital to waive host country income tax on inbound FDI (with this tax fully shifted on to labour), if economic profit cannot be fully taxed, then some host country taxation by small capital importing countries can be efficient (Gordon and MacKie-Mason, 1994; OECD, 2007). Also, because host country framework conditions and market characteristics depend on past and current public spending on public goods it is important to collect tax on economic profit to finance spending on those public goods that attract FDI.

The effects of taxes on FDI can vary also substantially by type of taxes, measurement of FDI activity, and tax treatment in the host and parent countries. For example, multinationals usually face taxes in both the host and home countries, with countries having different ways of addressing this double taxation issue, which further complicates the expected effects of taxes on FDI (Gordon and Hines, 2002). In addition, when agglomeration economies are present, business concentration is reinforced, creating incentives to invest in large markets and export to small markets and introducing inertia in location decisions that can potentially be taxed without distorting investment. For these reasons, although most studies find a negative relationship between tax and FDI, estimates have a very wide range and depend on host country conditions and policies (Cummins and Hubbard, 1994; Desai *et al*., 2005; Djankov *et al*., 2008; OECD, 2007). There is some evidence that investment in physical capital is more tax sensitive than other components of FDI and that tax elasticities are larger for small open economies within the EU (Desai *et al.,* 2005; OECD, 2007). Consequently, the international evidence indicates that small open economies rely less on personal and corporate income taxes, and more on expenditure and trade taxes (Desai *et al*., 2005). There is little evidence that dividend exemption and credits, or direct financial incentives such as investment co-financing have much impact on FDI (Blomstrom and Kokko, 2003).

Overall, tax does not appear to be a major constraint on foreign investment in Slovenia. Indicators of the efficiency of the Slovenian tax system are mixed compared with other CEEC and OECD countries. On the positive side, labour taxes and contributions are considerably lower than in the other CEEC economies.[3] Although the administrative burden of the tax system is also lower, there is still a gap with more advanced OECD countries (Table 3.5). Comparing corporate tax regimes is complicated by the variety of alternative methods for calculating effective corporate tax rates and the fact that effective tax rates can differ according to the type of investment project and the way projects are financed. For example, according to the World Bank's *Doing Business* Survey, both the statutory and effective corporate tax rates are higher in Slovenia than the other CEEC economies, and around the average for all OECD economies. But, according to a recent project for the European Commission that uses an alternative methodology, Slovenia's effective corporate tax rate in 2009 was comparable to the other CEEC economies and lower than the euro area average (Table 3.6). Like most other OECD countries, the Slovenian corporate tax system favours debt financed projects over projects financed through retained earnings and equity. The system also appears to favour investment in machinery over other types of investments.

There are a few areas where reforms would be beneficial. Further reductions in the administrative burden of the tax system would be desirable through reducing the number of tax payments that need to be made and ensuring that the time that firms have to set aside to meet their tax requirements is reduced. Maintaining tax certainty and transparency is also important. Although the relative statutory and effective corporate tax rates in Slovenia are no longer particularly low, there appears to be little benefit in reducing the corporate tax burden much further in the current fiscal environment. This is reinforced by the fact that burden of very low corporate tax rates in some CEEC countries falls on labour, which in turn adversely affects labour supply incentives. However, if the trend to lower corporate taxation continues, Slovenia will also come under pressure to match other countries. In the meantime, given these competitive pressures the government should resist pressures to raise the corporate tax burden. Any increase in taxes to support further

Table 3.5. **Paying taxes**

2011

	Slovenia	Czech Republic	Hungary	Poland	Slovak Republic	Euro area[1, 2]	Other OECD[1]
Payments (number per year)[3]	**22**	12	14	29	31	12	12
Time (hours per year)[4]	**260**	557	277	325	257	182	185
Total tax rate (% commercial profit)[5]	**35.4**	48.8	53.3	42.3	48.7	47.9	38.7
Profit tax	**14.8**	7.4	16.7	17.7	7.0	14.7	19.3
Labour tax and contributions	**18.2**	38.4	34.4	22.1	39.6	30.7	15.9
Other taxes	**2.4**	3.0	2.2	2.5	2.1	2.5	3.4

1. Unweighted averages.
2. Euro area countries prior to enlargement in 2007.
3. Total number of taxes and contributions paid, the method of payment, the frequency of payment and the number of agencies involved.
4. Time taken to prepare, file and pay (or withhold) three major types of taxes and contributions: the corporate income tax, value added or sales tax and labour taxes, including payroll taxes and social contributions.
5. Sum of all the different taxes and mandatory contributions payable by the business after accounting for deductions and exemptions.

Source: World Bank and International Finance Corporation (2010), *Doing Business 2011* (database).

Table 3.6. **Effective average corporate tax rates**[1]

Per cent

		Slovenia	CEEC[2]	Euro area[3]	Other EU	USA
Total	1998	**20.9**	28.6	31.5	27.7	. .
	2009	**19.1**	17.8	25.2	18.8	37.4
Retained Earnings	1998	**24.0**	32.8	35.9	31.0	. .
	2009	**21.7**	20.2	28.3	20.9	42.1
New Equity	1998	**24.0**	31.8	35.0	32.1	. .
	2009	**21.7**	20.2	28.3	21.7	42.1
Debt	1998	**15.3**	21.2	23.6	21.3	. .
	2009	**14.4**	13.4	19.5	14.5	28.6
Industrial Buildings	1998	**18.8**	28.7	31.6	28.6	. .
	2009	**18.5**	19.0	26.1	20.0	38.0
Intangibles	1998	**20.3**	28.7	29.7	25.8	. .
	2009	**19.6**	16.2	23.4	17.2	40.1
Machinery	1998	**19.3**	26.8	29.8	25.7	. .
	2009	**17.5**	16.9	24.0	17.3	36.9
Financial Assets	1998	**24.4**	30.6	34.7	29.7	. .
	2009	**20.5**	19.0	27.7	20.2	37.9
Inventories	1998	**22.0**	28.3	31.5	28.7	. .
	2009	**19.5**	18.0	24.8	19.1	34.1
Memorandum item						
Statutory corporate tax rate[4]	1998	**. .**	31.6	37.8	. .	39.4
	2009	**21.0**	19.5	27.1	. .	39.1

1. Zone aggregates are unweighted averages.
2. Central and Eastern European countries that are also OECD members: Czech Republic, Hungary, Poland and Slovak Republic.
3. Euro area countries prior to enlargement in 2007.
4. Basic combined central and sub-central rate. Nominal rate for Slovenia.

Source: Devereux, M.P. *et al.* (2010), "Effective Tax Levels Using the Devereux/Griffith Methodology", Project for the EU Commission, TAXUD/2008/CC/099, *Intermediate Report*, Centre for European Economic Research (ZEW) and OECD (2010), *OECD Tax Database*, *www.oecd.org/ctp/taxdatabase*, July.

fiscal consolidation should be on less mobile factors of production and environmental taxes. In the longer run, consideration should also be given to reducing the large gap between corporate and marginal personal income tax rates, which creates incentives for business owners to avoid taxes by retaining earnings within their firm, and later selling shares in the firm, so that the earnings are taxed at capital gains rates rather than at personal rates. More could also be done to preserve the neutrality of the corporate tax system by reducing the bias against debt financing.[4]

The direct financial incentives available to foreign firms investing in Slovenia were benchmarked on policies put in place elsewhere in Europe and have helped to address concerns that the government's attitude to foreign investment was too passive. Economic and customs zones are also commonplace elsewhere in the region. Nevertheless, co-financing of investment projects and the special zones have an opportunity cost that make it necessary for the government to ensure that the costs of these policies are outweighed by their benefits. To date there has been little empirical analysis of the size of the welfare gains from these policies in Slovenia. However, the broader literature has found only weak evidence that direct financial incentives raise FDI, in part because they are often politically targeted. Welfare gains seem to be dependent on the existence of positive horizontal spillovers and are hence conditional on local firms having the ability and motivation to invest in absorbing foreign technologies and skills. This makes it vital to support learning and investment in local firms as well. In this light, the Slovenian government should undertake a review of current financial incentives, including a rigorous evaluation of their costs and benefits and how the net benefits can be increased. The government should also reconsider whether it is useful to offer larger subsidies to investment in export industries given the substantial productivity gaps that also exist in non-traded goods sectors. The performance of the special economic and customs zones should also be reviewed. One particular concern is the lack of activity in the Maribor customs zone. In the late 2000s, there were only a few firms operating within the zone, in contrast with the Koper customs zone. Although the government has pledged to keep the Maribor zone in place until at least 2011, they should quickly establish the reasons for the zone's poor performance and either put in place measures to improve the zone's performance or close it down.

Better labour market and education institutions would attract more foreign investors

Flexible and efficient labour market and educational institutions are a critical part of the enabling environment for FDI. Firms seeking to break up their supply chains through vertical FDI or increase their market access by acquiring inefficient domestic firms are less likely to target countries where it is difficult and costly to hire, fire and reorganise the workforce, where labour costs are too high, or where there is an insufficient supply of appropriately skilled workers. Investors weighing the merits of relocating or restructuring their businesses in another country need to be confident of achieving similar levels of productivity to production at home, but with lower labour costs. What matters to investment decisions is not so much the absolute cost of labour in different countries, but the cost of labour relative to its productivity. This implies that Slovenia, which has higher living standards and wages than other CEEC countries, can still be an attractive destination for FDI seeking factor advantage if labour productivity levels are sufficiently high to offset higher absolute labour costs, or if labour market institutions deliver superior flexibility to firms.

Unfortunately, survey and empirical evidence suggests that Slovenia's labour market and higher education institutions are a critical weakness in Slovenia's FDI environment. According to the World Bank's 2010 *Doing Business* Survey, Slovenia's "Employing Workers" ranking was the lowest of any OECD country, and lower than for any other indicator of the business environment considered in the Survey (World Bank, 2009). Slovenia's low ranking is consistent with its very high score on the OECD's Employment Protection Legislation (EPL) indicator, which reflects the high costs and difficulties associated with dismissing and altering the employment conditions of workers on regular contracts. In addition, while existing foreign investors in Slovenia appear to have achieved lower unit labour costs in their foreign subsidiaries than at home, overall unit labour costs in the manufacturing industry are high compared to other European countries (Table 3.7). For example, value added per employee is only a little lower in the Slovak Republic than in Slovenia, yet labour costs per employee are around 40% lower. This probably helps to explain why FDI flows into the Slovakian manufacturing sector, as well as overall sectoral growth have been so much higher than to Slovenia over the past decade. Slovenia's primary and secondary education system functions well, with students consistently ranked highly according to the Programme for International Student Assessment (PISA) tests. However, the higher education sector is inefficient, offers weak incentives for students to quickly complete their studies and acquire good qualifications in technical fields such as science and engineering, and doesn't do enough to encourage innovative partnerships with businesses (Chapter 2).

Table 3.7. **Value added and labour costs per employee**[1]

Manufacturing sector, 2009

	Value added per employee (EUR)	Labour costs per employee (EUR)	Ratio of value added to labour costs
Slovenia	**29 769**	**20 561**	**1.45**
Austria	76 020	45 645	1.67
Czech Republic	23 936	12 612	1.90
Estonia	15 467	11 124	1.39
Germany	57 071	44 987	1.27
Hungary	20 345	10 033	2.03
Poland	17 561	7 875	2.23
Slovak Republic	25 737	13 134	1.96
EU15	59 491	41 217	1.44

1. Gross value added at basic prices and compensation of employees.

Source: Eurostat (2010), "Economy and Finance", *Eurostat Database*, December.

Progress on improving the flexibility of the Slovenian labour market and ensuring that labour costs grow in line with productivity has been slow.[5] Some reductions to employment restrictions through the "mini-jobs" bill and other reforms have taken place. However, the reforms mainly increase flexibility in service sector industries where temporary work contracts are common, such as retail trade, hospitality and tourism, rather than sectors such as manufacturing and utilities, which are most in need of greater foreign investment. Moreover, too often wage setting appears divorced from economic considerations. Public sector wage growth has been rapid in recent years, which in turn has encouraged too many high-skilled workers into the public sector and put upward pressure on private sector wage growth. The recent decision by the government to raise the minimum wage by 23% will put further upward pressure on wages and undermine competiveness (see Chapter 1).

Establishing a business has become easier but it is still too difficult to acquire and develop land

Other dimensions of the business environment that influence foreign investment are the administrative procedures that investors must complete before they can start their operations in a country. These include company registration, as well as the acquisition of land, business activity permits and building permits. In recent years there has been important progress in making it easier to establish businesses. The new e-VEM system of online company registration has reduced the time and cost of establishing limited liability companies and has helped to significantly improve Slovenia's ranking in the "Starting a Business" category of the World Bank's *Doing Business* Survey relative to other CEEC countries. A unified system of measuring administrative costs has been established, which has made it easier to undertake impact assessments of new regulations. And a Programme for the Reduction of Administrative Barriers is facilitating the simplification of administrative procedures and reducing the reporting burden for companies. However, despite this progress in reducing red tape, the foreign investors still face too many barriers to acquiring and developing land. According to the 2011 World Bank *Doing Business* Survey, Slovenia was ranked 97th out of 183 countries for the ease of registering property (Figure 3.8, above; World Bank [2010]). Supply constraints also reduce the availability of land and push up prices, though this problem has partially diminished as a result of the financial crisis. In line with efforts in other areas of administrative regulation, the government should take steps to significantly reduce the cost and complexity of land acquisition and development.

Productivity and FDI would be enhanced by rationalising public ownership and improving governance

Public ownership and control of enterprises operating in the market sector of the economy is widespread in Slovenia. State-owned enterprises (SOE) are classified according to whether they are directly (partially or wholly) owned by the state, owned indirectly through either the pension (KAD) or restitution fund (SOD), or a combination of the two. KAD manages Slovenia's civil servant pension schemes and also offers compulsory and supplementary pension schemes to the private sector. SOD was constituted to provide restitution to the previous owners of privatised firms and is expected to be wound down by 2016. The state had a direct share of more than 10% in 50 enterprises as of mid-2010 (Table 3.8). Of these, 19 were fully owned and controlled by the state, 15 majority controlled and in 16 the state had a minority controlling interest. Directly owned SOEs are most commonly found in network industries (energy, ports, telecommunications, post and rail), banking (including a majority stake in the two largest domestic banks) and insurance. Many of the firms in which the state indirectly holds a minority controlling interest operate in sectors of the economy, such as manufacturing, in which it is unusual amongst developed economies for the state to have a controlling interest. Five of the nine largest firms listed on the Slovenian stock exchange are effectively controlled by KAD and SOD (LJSE, 2009): Petrol – the largest supplier of oil and other energy products to the Slovenian market; KRKA – the country's largest pharmaceutical manufacturer; Zavarovalnica Triglav – an insurance company; SAVA – a holding company with interests in rubber manufacturing, tourism and real estate; and Gorenje – a manufacturer of domestic appliances. Of the other four largest listed firms, two – Telecom Slovenia and Nova Kreditna Banka Maribor – are directly controlled by the state, while ABANKA, another bank, is effectively controlled by other firms controlled by KAD and SOD.

Table 3.8. **State-owned enterprises**[1]

Mid-2010

	Direct shareholding	Indirect shareholding[2]	
	Number of firms	Number of firms	Value (million EUR)[3]
Total	**50**	**96**	**5 965**
of which: Listed companies	0	17	305
Degree of state ownership			
Fully owned (100%)	19	20	2 193
Majority control (50 < 100%)	15	25	2 084
Minority control (10 < 50%)	16	51	1 666
Breakdown by investment type[4]			
Strategic	5	9	2 548
Marketable	5	43	614
Non-marketable	31	35	2 609
Other	9	9	194
Breakdown by sector			
Mining and manufacturing	6	24	755
Energy	21	21	2 308
Financial services	4	8	1 457
Transport	6	9	396
Telecommunication	2	2	724
Tourism and trade	0	12	213
Other	11	20	112

1. Shareholdings of over 10%, excluding enterprises in liquidation or bankruptcy.
2. Republic of Slovenia, KAD (Kapitalska družba), SOD (Slovenska odškodninska družba) and PDP (Posebna družba za podjetniško svetovanje).
3. Estimated value using the book value of assets where a proper valuation is not possible.
4. Preliminary classification, marketable investments include PDP holdings.

Source: OECD calculations based on data provided by national authorities.

The ownership authority for directly owned SOEs resided within the line ministry with the responsibility for the industry in which the SOE operates until the establishment of the Agency for the Governance of Capital Investments, which is to exercise shareholder rights based on the *Corporate Governance of State Capital Investments Act*. Directly owned SOEs were classified by their legal forms, either as fully owned Public Enterprises under the *Public Utilities Act* or as limited liability companies under the *Companies' Act*. In the latter, most common case, the role of the competent ministry was set out in the *Public Finance Act* and included the supervision of operations and financing and the exercising of shareholder rights. SOEs over which the government had a "decisive influence" on management require the consent of the Minister for Finance, with the ministry coordinating the requests and the government's ownership interests. The Ministry of Finance also had responsibility for overseeing KAD and SOD.

The high share of direct and indirect state ownership in the economy is largely the product of decisions taken at the beginning of Slovenia's transition from a planned to a market economy (Domadenik and Prašnikar, 2004; OECD, 2002). Each citizen was granted an ownership certificate, according to his or her age, that could be exchanged for either shares in the company they were employed in, shares in the 100 or so companies that were offered to the public, or shares in authorised investment funds. Employee control of companies was favoured by the business culture that existed in the former Yugoslavia and this bias in favour of employee control was then retained by giving the managers and employees of firms considerable control over the way that privatisation took place

(Domadenik and Prašnikar, 2004; OECD, 2002). The Ownership Transformation Act (OTA) provided for the free transfer of a combined 40% of ordinary shares to KAD (10%), SOD (10%) and the Development Fund (20%). The Development Fund was then authorised to auction these shares to investment funds, which paid for them with ownership certificates bought from citizens. Under the OTA it was possible for firms to distribute up to another 20% of shares to employees, also in exchange for ownership certificates. Firms then had the option of undertaking an internal buyout of shares, limited to 40% of the firm's social capital, or selling shares commercially.

A virtue of the Slovenian privatisation process is that by progressing slowly and in a manner compatible with the existing business culture, political support for privatisation, and transition more generally, was easier to maintain (Domadenik and Prašnikar, 2004). This in turn enhanced political and economic stability. However, these benefits came with costs. High and widely dispersed internal ownership and ineffective external ownership in many companies provided management with insufficient incentives to restructure enterprises (OECD, 2002; OECD, 2011). Following the first phase of privatisation, internal owners were on average left with 44% of total ownership within privatised firms and even larger shares in internally privatised firms. Internal owners were concerned with keeping their jobs, rather than with maximising firms' profitability, and external owners had insufficient power and incentives to change and monitor management practices. For example, Privatisation Investment Funds (PIFs), which received 20% of the shares in newly privatised firms, have been unable to achieve their intended role of offsetting the influence of insiders and helping to ensure proper monitoring of management performance (OECD, 2011). Given these problems, the success of the privatisation process was dependent on ownership becoming more consolidated over time as transitional owners exited firms and the share of strategic investors increased. Although ownership concentration has increased over the past decade, this secondary privatisation process has been slow and uneven and strategic foreign investors have had difficulty acquiring controlling shares in companies and internal owners have retained considerable influence in many firms.

Another problem is that foreign investors were more or less excluded from the first phase of privatisation (Domadenik and Prašnikar, 2004; OECD, 2002). Overall, strategic investors acquired ownership stakes of less than 3% in privatised firms, and even this low share went largely to domestic investors. Low foreign participation in the privatisation process, which was unique amongst transition economies, flowed naturally from the emphasis on internal buyouts and allocating most of the external shares to state and quasi-state funds. This meant that privatised firms were unable to benefit from the superior technologies and management skills of foreign investors. Empirical studies have generally found that post-privatisation ownership consolidation did little to improve efficiency or financial performance during the 1990s, with survey evidence suggesting this was in part due to insufficient involvement of strategic foreign investors (OECD, 2002). Although FDI has increased notably since the first phase of privatisation was completed, the FDI share remains low by CEEC standards.

Instead of private domestic and foreign investors playing their optimal role as strategic investors, this role has instead been filled by the two large state-owned funds – KAD and SOD (OECD, 2002; OECD, 2011). This has allowed the state to influence large sections of Slovenia's market sector. Both funds were allocated 10% of the shares of firms in the first phase of the privatisation process. When the two funds were first set up, the intention was that they primarily be portfolio investors in privatised firms. However, in

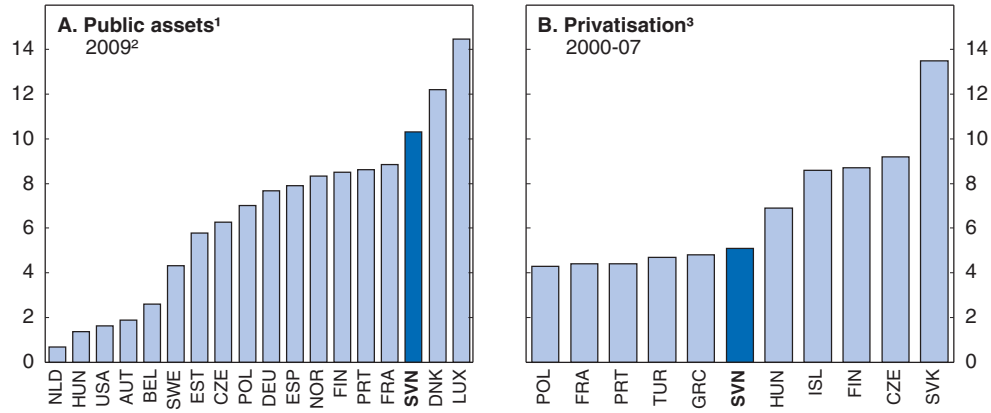
practice the funds, and in particular KAD, have concentrated their ownership holdings in large, strategically important firms (OECD, 2011). For example, KAD reduced its asset portfolio from over 1 200 firms at the completion of the first phase of privatisation, to around 80 firms in 2009. Ownership of the two funds has made it possible for successive governments to influence the boards and management of privatised firms, control ownership changes and prevent foreign firms from gaining control over domestic firms and sectors deemed strategic by the government (OECD, 2011). There are concerns that board appointments have often been politicised and some transactions in state assets appear to have taken place below market prices (OECD, 2009b; OECD, 2011). Although, legally, the two funds are independent of government and have their own supervisory boards, in practice the actions of the companies appear to be coordinated, with governments viewing the funds' holdings as part of an overall government portfolio (OECD, 2011). The government's true stake in and control over companies is also opaque. Companies in which the government and the two state funds hold controlling positions also invest in other listed and non-listed companies. It is therefore difficult to get an accurate picture of the extent of government ownership and control from public sources. Although the Ministry of Finance is supposed to keep a record of the government's equity holdings, it does not collect comprehensive data on its beneficial ownership through the state owned funds and subsidiaries (OECD, 2011). This significantly reduces the transparency of the business environment for potential foreign investors.

The lack of transparency and accountability is also reflected in the legal, judicial and regulatory systems. For example, the rights of minority shareholders are protected by rules such as the requirement of a qualified majority for large changes to the capital structure and constitution of companies, and the right to ask for independent auditors to examine matters such as the financial accounts. In practice, however, the rights of minority shareholder are constrained by high thresholds for voting shares and the courts are inexperienced in dealing with commercial litigation. Consequently, market participants often consider the process of enforcing contracts and seeking redress both costly and too time consuming (OECD, 2011). The Securities Market Agency has also lacked the operational and financial independence to effectively regulate the market for corporate control. This has in turn sometimes led to questionable takeover practices, including acquiring firms holding shares in another company name (this is commonly known as share parking) (OECD, 2011).

SOEs remain dominant in the electricity, telecommunications, banking, rail, port and postal sectors. State ownership is not confined to market segments over which single firms have a natural monopoly (such as fixed-line telecommunications networks) but extends to market segments where SOEs compete against private companies. The flip side of the dominance of SOEs is that privatisation activity has been much lower than other transition economies (Figure 3.9). Between 2000 and 2007, the proceeds from privatisation in Slovenia amounted to just under 5% of GDP. This compares to 7% in Hungary (which also had a much larger privatisation programme during the 1990s), 9% in the Czech Republic and almost 14% in the Slovak Republic. Many SOEs in Slovenia have low productivity and profitability, in particular in the banking sector (Box 3.1) and utilities industries where the state sector dominates. Extensive state ownership has also held back the development of an effective corporate governance regime. These weaknesses all hold back economic performance in a country where SOEs represent a sixth of all value added in the economy.

Figure 3.9. **Public ownership and privatisation in Slovenia compared to other OECD countries**

Per cent of GDP



1. As represented by "other equity" from the consolidated financial accounts of the general government sector. This covers financial equity assets and excludes quoted and unquoted shares in companies and mutual fund shares.
2. 2007 for Luxembourg.
3. In per cent of 2006 GDP. For most of the countries shown (the top-10 OECD countries) the data include "indirect privatisation", *i.e.* the disposal of incorporated assets by wholly or partly state-owned enterprises.

Source: OECD (2010), *OECD National Accounts Statistics* (database), December and OECD (2009), "Privatisation in the 21st Century: Recent Experiences of OECD Countries", OECD Working Group on Privatisation and Corporate Governance of State Owned Assets.

StatLink http://dx.doi.org/10.1787/888932369695

The government has launched important reforms to improve the management of public assets

The Slovenian government has recognised the weaknesses in the management of state-owned assets and the corporate governance framework, and launched a comprehensive reform programme as part of its accession to the OECD. In May 2009 the government formally adopted an Action Plan for Corporate Governance Reform in Slovenia. Key elements of the Plan included:

- A review of the legislative provisions protecting minority shareholder rights.
- An increase in the capacity of the judicial and regulatory authorities to monitor and enforce compliance with corporate laws.
- The establishment of a separate central ownership agency to coordinate all government ownership actions.
- An intention to better define the relationship between the government, KAD and SOD, and to restructure the funds as independent portfolio investors.

Subsequently, legislation establishing the new central ownership agency was passed in May 2010 and the agency was established in September 2010. Under the new law, the Agency for the Governance of Capital Investments of the Republic of Slovenia will:

- Control all the direct holdings of government.
- Exercise all of the ownership rights pertaining to all direct and indirect shareholdings, including board nominations.
- Gather centralised information on government holdings.

- Measure and report performance.
- Develop and enforce a code of corporate governance that will apply to SOEs.

The Agency will operate independently of existing ministries, and will have a supervisory and management board with members appointed by a qualified majority of Parliament on the recommendation of the government. By the end of 2010 the Agency was required to adopt a code of corporate governance for SOEs, and define and allocate public financial assets into sub-groups (marketable, non-marketable, strategic, public interest) that will help to determine which assets should remain in public hands.

An act governing the restructuring of KAD and SOD and their relationship to the government was adopted in September 2010. As stipulated by the Act, KAD is in the process of being split into a pension fund manager and an insurance company, with the Agency then exercising the shareholding rights. Although the funds will not be able to acquire shares with voting rights representing more than 5% of all voting rights, controlling shares of the funds are to remain on the funds' balance sheets, with the central agency responsible for managing the strategic holdings on behalf of the funds.[6] This may make it more difficult for the government to reduce its overall strategic holdings; the central agency will manage the assets on behalf of the state, but the KAD and SOD claimants will remain the beneficial owners.

The government has also initiated reforms to other aspects of the corporate governance framework. To contribute to improved governance of SOEs the government has announced that an independent expert group will be asked to develop a list of "approved" directors from which government nominees will be drawn. For larger companies, the group will make specific non-binding recommendations to the relevant minister, with the process of nomination coordinated by the central ownership agency. A new process for making appointments to the boards of KAD and SOD will be determined at the same time as the relationship between the government and the funds is clarified. To improve the transparency of takeover activity, the government has taken measures to reduce share parking and the Securities Market Agency has been given the power to withhold voting rights in the event of breaches of the legislation.

To improve shareholder rights the government has announced that all proposals to be heard at companies' annual general meetings must be received by all shareholders in advance. Also, the appointment of proxies will be streamlined and the Code of Corporate Governance for SOEs should be finalised in early 2011; this is expected to improve the treatment of non-state shareholders in SOEs and protect minority shareholders in particular. The government has also proposed a survey to examine the performance of the Companies Act, to be completed by 2012. The survey will focus on how to better enforce the rights of minority shareholders, creditors and other stakeholders and improving commercial litigation procedures. Another aspect of the government's overhaul of corporate governance is a review of the regulatory and supervisory framework for financial institutions to determine if it makes sense to amalgamate the separate functional regulators into a single "super-regulator". Although there are likely to be benefits from a more harmonised approach to financial market regulation and supervision, amalgamation is probably not a near-term priority.

The key to achieving the efficiency gains will be in how reforms are implemented

The steps taken in 2009 and 2010 to reform the governance of the state's capital investment portfolio will help to improve the quality and transparency of Slovenia's business environment. The government should be congratulated on starting down this reform path in a difficult economic and political environment. However, the magnitude of the efficiency gains from these reforms will ultimately depend on how they are implemented.

The central ownership agency must be strong, well resourced and accountable

Central ownership agencies have been commonplace in European countries with large public asset portfolios. In the past decade, Austria, Belgium, Finland, France, Hungary, Portugal and Spain have all had central agencies in place, though some have been discontinued as privatisation programmes have come to an end (OECD, 2009b). To carry out its ownership functions on behalf of the state properly, such an agency must be competent, well resourced and subject to high standards of accountability and transparency through an effective internal corporate governance regime. To ensure independence, the appointment process for the Agency's board and management must be transparent and based on merit. Leaders of the Agency cannot be seen to be linked with vested interests within the country. The process for appointing staff should also be based on merit. The Agency should also look into recruiting experts on managing public assets and privatisation from outside the country, as this would help make up for the shortfall in domestic expertise and reinforce independence. An effective internal corporate governance regime is important to ensure that the Agency is well run, bolster public confidence, and set an example of what the Agency will expect from other SOEs. The success of the new Agency will also depend on the support of political actors and institutions. If it is seen to fall short of expectations in any of these areas, its ability to ensure better quality of management and allocation of public capital assets will be compromised. It should be clear by the end of 2010 whether the Agency has been constituted according to the appropriate principles.

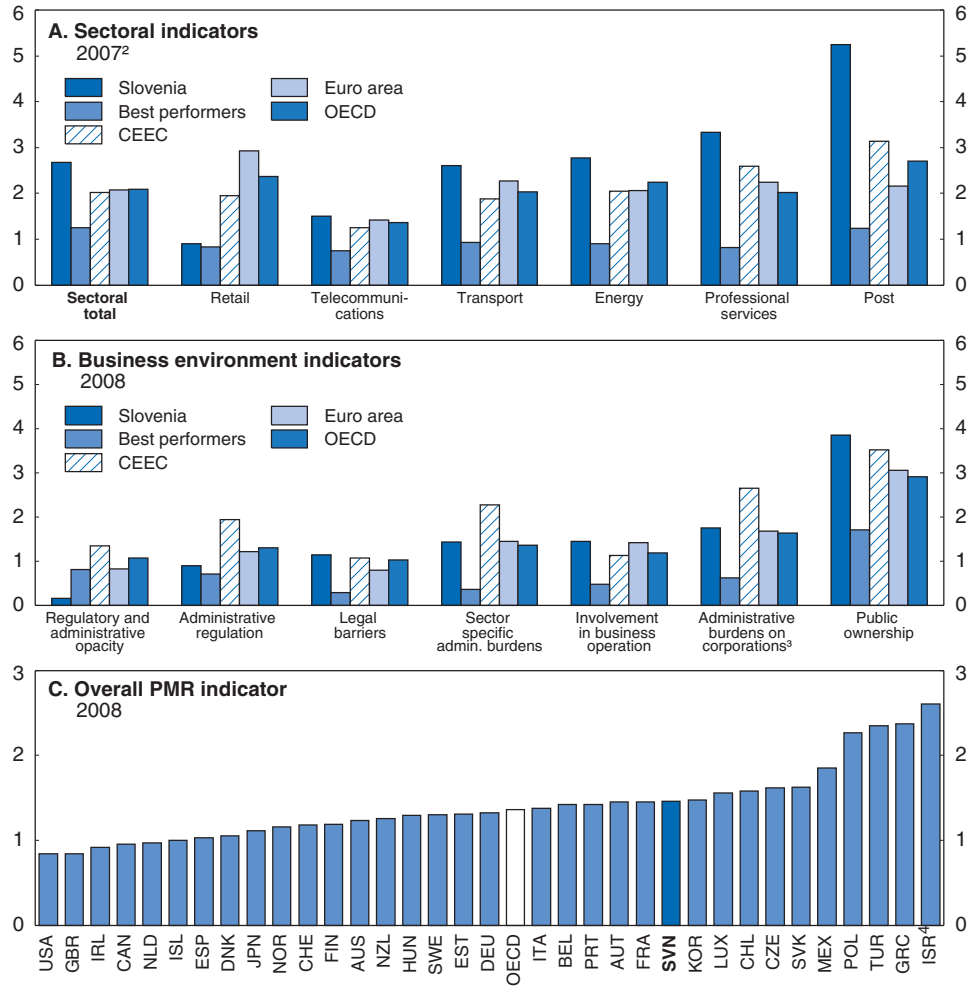
The criteria for retaining public assets must be rigorous and transparent

Perhaps the most important task for the new Agency will be to develop a strategy for the future management of public assets that, in particular, defines the ownership objectives of government. This will then enable it to allocate existing public assets into categories that will help determine which assets should be retained in public hands and which should be privatised or wound down. It is critical that the Agency provides a framework of what should be considered a strategic asset and provide a rigorous rationale for why such assets should be owned by the state. Currently there is a widespread perception that "strategic" is a catch-all term for any asset that the government wants to keep out of private hands, or companies that the government wants to retain the freedom to influence for political ends. Instead, the central Agency must outline what the public interest in holding a given asset is, and why those interests could not be fulfilled if the asset were in private hands.[7]

Accelerating the privatisation process, if done in the right way, would significantly boost productivity in a number of key infrastructure sectors. Slovenia's score on the OECD's product market regulation (PMR) indicator is worse than most of its peers in CEEC and other OECD countries, largely because Slovenia performs poorly on the public

Figure 3.10. **Product market regulation**

Scale of indicators 0-6, from least to most restrictive[1]



1. All aggregates are unweighted averages. Best performers are the five countries with the lowest scores (excluding those scoring under 0.2). CEEC covers Central and East European countries that are also OECD members: Czech Republic, Hungary, Poland and Slovak Republic. The euro area includes member countries prior to enlargement in 2007.
2. 2008 for professional services and retail.
3. And sole proprietor start-ups.
4. The statistical data for Israel are supplied by and under the responsibility of the relevant Israeli authorities. The use of such data by the OECD is without prejudice to the status of the Golan Heights, East Jerusalem and Israeli settlements in the West Bank under the terms of international law.

Source: OECD (2009), *International Regulation Database*, *www.oecd.org/eco/pmr*, September.

StatLink http://dx.doi.org/10.1787/888932369714

ownership component of the indicator (Figure 3.10). Reviews of the enormous literature on privatisation in transition and other economies have generally found that privatisation has boosted efficiency and profitability in privatised firms, and that reforms to liberalise markets in network industries have been more effective when coupled with privatisation (Djankov and Murrell, 2002; Shirley and Walsh, 2000). Private firms tend to undertake much more internal restructuring and are able to take on more financial risk than public enterprises. The method of privatisation also matters; enterprise

restructuring and efficiency gains are greater when firms are privatised to outsiders than when they are privatised to insiders, and the presence of private investment funds and foreigners yields much larger gains than diffuse individual ownership (Djankov and Murrell, 2002; Shirley and Walsh, 2000). Although privatisation is generally associated with a lowering of employment, the impact is often attenuated by the boost in sales associated with better overall performance (Djankov and Murrell, 2002; Shirley and Walsh, 2000). Short-term benefits of privatisation may be smaller for well-run SOEs that are already corporatised, though full and successful corporatisation of SOEs is often not feasible (OECD, 2009b). For example, incentivising SOE management and employees can be very difficult. The theoretical literature is more ambiguous about the economic benefits of privatisation in markets subject to natural monopolies. SOEs may be able to correct market failures in monopolistic markets and governments may have more difficulty preventing natural monopolies from exploiting their market power (Djankov and Murrell, 2002; Shirley and Walsh, 2000). However, empirical studies have found that private firms often have advantages in these markets as well due to their greater efficiency and the fact that governments have proven better regulators and supervisors of privatised monopolies than state-owned monopolies (Djankov and Murrell, 2002; Shirley and Walsh, 2000). This is consistent with the argument that government ownership politicises resource allocation.

Other benefits are also likely to flow from rationalising the role of the state in the Slovenian economy. A legacy of extensive public sector ownership and dominant state-owned strategic investors is that Slovenia's legal and regulatory architecture of governance and the cultural norms of operating private capital markets are not well developed (OECD, 2011). Countries that have launched major privatisation programmes tend to have deeper and more liquid equity markets and privatisation is usually a spur to improving corporate governance, securities market regulation and information disclosure rules (OECD, 2009b). In turn, improved corporate governance facilitates a business environment that is more competitive and more conducive to FDI, and that improves management incentives for efficiency enhancing enterprise restructuring.

It is important to avoid pre-judging the allocation of existing public assets until the new Agency begins setting out its framework for decisions and plans for individual assets later in 2010. However, as a rule of thumb there should be a bias against owning assets that are in direct competition with private assets or in markets where there is potential for significant competition. In competitive markets, public ownership can give the impression that the playing field is not even, which can deter private investment. In time, both KAD and SOD should be reduced to portfolio investors. There also needs to be regular rigorous, quantitative cost-benefit analyses of the merits of retaining the state's existing equity stake for all SOEs, as has been put in place in transition countries such as the Czech Republic and Hungary. In key infrastructure sectors, and especially natural monopolies, there should at least be an attempt to examine whether universal service obligations could be written into private contracts and effectively enforced. Given the size of the potential privatisations in Slovenia, sequencing will be very important. The Agency will need to draft a list of assets that would benefit most from privatisation and identify those assets for which the process is most feasible.

Although a detailed discussion of the privatisation process is beyond the scope of this chapter, the experience of other OECD offers a pathway for maximising the benefits of

reform (OECD, 2009b). In most cases considerable preparation will need to take place before privatisation. For example, structural separation in sectors such as telecommunications should occur before privatisation to ensure that governments are not left trying to regulate unstable market structures and deal with purchase decisions that would not have been made under different market structures. Pre-privatisation restructuring is often unproductive because new investors are usually better placed to undertake necessary managerial changes. However, governments can be in a good position to restructure the firm's employment and capital structure prior to privatisation. To get the best value for taxpayers, governments should undertake pre-privatisation valuations and make sure that share offerings are not underpriced and not targeted at particular investor groups for political reasons. Bidding for shares should be competitive and if the government does want to target preferred investors there should be a pre-qualification followed by competitive bidding and minority shareholders should be given full information about large investors' obligations (such as community service obligations). Governments should not retain "golden shares" (giving them veto power over certain control changes) or insert other control restrictions into the corporate charters of privatised firms. Privatisation should be subject to independent oversight and high levels of transparency and accountability should be ensured, with regular disclosure to Parliament. It is critical that legal and regulatory frameworks, including effective anti-trust enforcement and corporate governance, are put in place and that regulators are well resourced so that there is a level playing field in markets where SOEs compete.

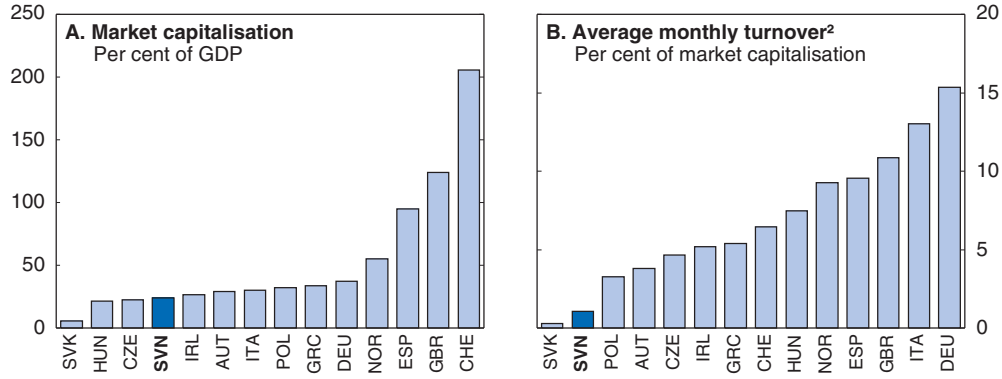
For assets that remain in public hands, governments must become more effective owners by enhancing their ability to make objective and commercial decisions as a shareholder and having a coherent and transparent policy towards SOEs (OECD, 2004 and 2005). The government ownership Agency should closely follow the OECD's SOE Corporate Governance Guidelines when it sets out its own corporate governance framework for Slovenian SOEs. Most importantly, the state should not be involved in the day to day management of SOEs and boards should be composed of experts who can exercise independent and objective judgement. Rules should be relaxed to allow more professional board members and board members should not be political appointees. Privatised companies also need a state of the art board nomination process, with mechanisms to ensure that minority shareholders gain board representation.

Accelerating privatisation would deepen capital markets and enhance spillover benefits from FDI

Slovenia is characterised by a shallow and relatively illiquid capital market. In December 2009, total equity capitalisation was EUR 8.5 billion, representing just 24% of GDP, while average monthly turnover was less than 1% of total market capitalisation (Figure 3.11). Both ratios are low in comparison to other EU countries. The corporate bond market is also underdeveloped, with the stock of corporate debt a tiny fraction of the stock of business credit outstanding. Deepening capital markets can yield a range of economic benefits. For example, empirical evidence suggests that financially developed countries grow more rapidly and benefit from a larger impact on economic growth from increases in the share of FDI or the relative productivity of foreign owned enterprises (Goldberg, 2004). One reason for this effect is that deeper capital markets can enhance the gains from FDI spillovers to smaller, local firms. Equity finance helps to diversify firms' funding away from banks, is more compatible with investments in venture capital and start-ups with low

initial cash flows and helps to channel savings into domestic investments. These benefits are vital for local firms trying to compete with foreign owned firms that often have access to a range of low-cost finance options in their home and other markets.

Figure 3.11. **Share market capitalisation and turnover**
2009[1]



1. December 2009 for market capitalisation.
2. Value of equity trading in the year to December 2009.

Source: FESE (2010), *FESE Statistics Database*, Federation of European Securities Exchanges.

StatLink http://dx.doi.org/10.1787/888932369733

Improving the depth and liquidity of capital markets in Slovenia will be difficult. Financial intermediaries have established a dominant position in the funding market and an "equity" culture is not something that can emerge overnight. The original privatisation process led to a large proportion of listed shares being held by either small public shareholders or the two large state investment funds, both of which trade their shares infrequently. Moreover, the majority of the big SOEs are not currently listed on the stock exchange. Nevertheless, a number of reforms would help to boost financial development. Relaxation of rules that require minimum returns for pension funds would increase investment flexibility (OECD, 2011). Encouraging greater competition in brokerage services would increase access to brokers and reduce the current high fees, which would in turn facilitate more participation in the market by retail investors. Listing companies in which the state has a large share would facilitate market oversight, improve the transparency of trading of the non-state owned share and increase the range of available investable securities (OECD, 2011). For example, only one of Slovenia's large financial institutions is listed. Accelerating the privatisation process would also enhance the depth and liquidity of the equity market, especially if done through an Initial Public Offering (IPO) rather than a private sale.

Box 3.3. **Recommendations on foreign investment and governance**

Enhancing Slovenia's attractiveness as a destination for foreign direct investment

- Lower the administrative burden of the tax system through reductions in the regularity of tax payments and the complexity of tax compliance.
- Maintain the low effective corporate tax burden and work toward greater European corporate tax coordination.
- Ensure that the tax system does not unduly discriminate between different sources of investment financing.
- Review existing direct financial incentives and the performance of the special economic and customs zones to make sure that such support is cost effective and is not biased against investment in non-traded goods and services sectors.
- Reduce the tightness of employment protection legislation for the regular contracts that are prevalent in the infrastructure and manufacturing sectors.
- Streamline processes for accessing business premises, land and building permits.
- Increase the depth and liquidity of capital markets through listing state-owned enterprises on the share market, improving competition for brokerage services and relaxing minimum thresholds for pension fund returns.

Maximising the economic dividends from the creation of the Agency for managing the public asset portfolio on behalf of the state

- Provide a framework to define what should be considered a strategic asset.
- Undertake regular, transparent, quantitative analysis of the costs and benefits of keeping individual assets in state hands. Most importantly:
  - There should be a bias against holding controlling interests in firms operating in competitive markets.
  - The two state-owned investment funds, KAD and SOD, must be made more independent of the government and should be reduced to portfolio investors over time.
- Ensure that the privatisations resulting from its assessments are well managed and are supported by the public. This will be most likely if:
  - Privatisations are sequenced so that the least efficient enterprises and those most easily digested by the markets are privatised first.
  - Structural separation takes place before privatisation to avoid regulation of unstable market structures.
  - Privatisations achieve good value for taxpayers. This can be aided by undertaking pre-privatisation valuations, ensuring that share offerings are not underpriced or targeted at particular investor groups for political reasons, bidding for shares is competitive and transparent.
  - Privatisation is subject to independent oversight and high levels of transparency and accountability.
  - Legal and regulatory frameworks are put in place to ensure a level playing field in the markets where former SOEs compete.
- Put in place a high quality corporate governance regime for enterprises that remain state-owned and make sure the rights of non-state minority shareholders are enhanced. The state should not be involved in the day-to-day management of SOEs and boards should be composed of experts and professional board members who are independent of the government.

Notes

1. Although an efficiency gap between western European countries and the United States in network industries is to be expected, given Slovenia's inferior level of economic development, the gaps are almost certainly larger than if investment in these industries were more open to western firms and the regulatory environment were more effective.
2. These include: information on legislation, taxes and incentives; information on industrial sites and local suppliers; links with industry and local authorities; and organisation of fact-finding emissions, business and investment conferences and trade shows.
3. Social security contribution rates in Slovenia, at 16.1% for employers and 22.1% for employees, are not low by international comparison. To the extent that employees shift higher social security contributions on to employers in the form of higher wages, the costs of labour taxes and contributions would be borne by employers. The *Doing Business* indicator, measured as a share of total labour taxes and contributions paid by employers in gross profits, by itself fails to capture the full burden of labour taxes and contributions. Higher labour taxes and contributions paid by employees would manifest themselves as lower profit margins, if they are shifted on to employers.
4. Although it is not uncommon in OECD countries for the tax system to be biased in favour of debt financing, this feature of many tax systems can encourage some firms to be more leveraged than they can safely absorb, with potential ramifications for financial stability.
5. Under the Balassa-Samuelson effect, if productivity growth in the traded-goods sector is more rapid than productivity in the non-traded goods sector, wages will grow more quickly in the non-traded goods sector than productivity. However, there is only weak evidence that the Balassa-Samuelson effect holds in Slovenia.
6. Also, the Agency will exercise the voting rights of the funds in the companies in which the total accounting value of KAD or SOD investments exceeds EUR 20 million. KAD and SOD will not have any power to dispose capital investments in strategic holdings and can dispose capital investments that exceed EUR 20 million only with the approval of their boards.
7. Under EU competition legislation the rationale for holding many public assets disappears because it is illegal for governments to provide support for state-owned enterprises that distorts competition.

Bibliography

Acemoglu, D., P. Aghion and F. Zilibotti (2006), "Growth, Development and Appropriate Versus Inappropriate Institutions", *EBRD-Japan Research Programme Papers*, European Bank for Reconstruction and Development, London.

Alfaro, L., A. Chanda, S. Kalemli-Ozcan and S. Sayek (2006), "How Does Foreign Direct Investment Promote Economic Growth? Exploring the Effects of Financial Markets on Linkages", *NBER Working Papers*, No. 12522, National Bureau of Economic Research, Cambridge, MA.

Banerjee, B. (2010), "Banking Sector Efficiency in New EU Member States: Survey of Cross-country Evidence", paper prepared during a visit to the Research and Analysis Department of the Bank of Slovenia, June.

Bank of Slovenia (2010), *Direct Investment 2009*, Bank of Slovenia, Ljubljana.

Berglof, E. (2006), "Institutions, Markets and Economic Performance: What Drives Growth in the Transition Countries? Summary Paper", *EBRD-Japan Research Programme Papers*, European Bank for Reconstruction and Development, London.

Bijsterbosch, M. and M. Kolasa (2009), "FDI and Productivity Convergence in Central and Eastern Europe: An Industry-Level Investigation", *Working Paper Series*, No. 992, European Central Bank, Frankfurt am Main.

Blomstrom, M. and A. Kokko (2003), "The Economics of Foreign Direct Investment Incentives", *NBER Working Papers*, No. 9489, National Bureau of Economic Research, Cambridge, MA.

Blonigen, B.A. (2005), "A Review of the Empirical Literature on FDI determinants", *NBER Working Papers*, No. 11299, National Bureau of Economic Research, Cambridge, MA.

Borensztein, E., J. De Gregorio and J.-W. Lee (1995), "How Does Foreign Direct Investment Affect Economic Growth?", *NBER Working Papers*, No. 5057, National Bureau of Economic Research, Cambridge, MA.

Cummins, J.G. and R.G. Hubbard (1994), "The Tax Sensitivity of Foreign Direct Investment: Evidence from Firm-Level Panel Data", *NBER Working Papers*, No. 4703, National Bureau of Economic Research, Cambridge, MA.

Damijan, J.P., M. Rojec, B. Majcen and M. Knell (2008), "Impact of Firm Heterogeneity on Direct and Spillover Effects of FDI: Micro Evidence from Ten Transition Countries", *LICOS Discussion Papers*, No. 21808, Centre for Institutions and Economic Performance, Katholieke Universiteit Leuven.

Desai, M.A., C.F. Foley and J.R. Hines Jr. (2005), "Foreign Direct Investment and Domestic Economic Activity", *NBER Working Papers*, No. 11717, National Bureau of Economic Research, Cambridge, MA.

Djankov, S., T. Ganser, C. McLiesh, R. Ramalho and A. Shleifer (2008), "The Effect of Corporate Taxes on Investment and Entrepreneurship", *NBER Working Papers*, No. 13756, National Bureau of Economic Research, Cambridge, MA.

Djankov, S. and P. Murrell (2002), "Enterprise Restructuring in Transition: A Quantitative Survey", *Journal of Economic Literature*, Vol. 40, No. 3, American Economic Association.

Domadenik, P. and J. Prašnikar (2004), "Enterprise Restructuring in the First Decade of Independence" in Mrak, M. *et al*. (eds.), *Slovenia: From Yugoslavia to European Union*, World Bank, Washington, DC.

Goldberg, L. (2004), "Financial Sector FDI and Host countries: New and Old Lessons", *NBER Working Papers*, No. 10441, National Bureau of Economic Research, Cambridge, MA.

Gordon, R.H. and J.R. Hines Jr. (2002), "International Taxation", *NBER Working Papers*, No. 8854, National Bureau of Economic Research, Cambridge, MA.

Gordon, R.H. and J.K. MacKie-Mason (1994), "Why is there Corporate Taxation in a Small Open Economy? The Role of Transfer Pricing and Income Shifting", *NBER Working Papers*, No. 4690, National Bureau of Economic Research, Cambridge, MA.

Hanousek, J., E. Kocenda and M. Maurel (2010), "Direct and Indirect Effects of FDI in Emerging European Markets: A Survey and Meta-Analysis", *Working Papers*, No. 976, William Davidson Institute, University of Michigan, Ann Arbor, MI.

JAPTI (2009), "Slovenia's Business Environment As Seen By Companies in Foreign Ownership", Public Agency of the Republic of Slovenia for Entrepreneurship and Foreign Investments, Ljubljana.

LJSE (2009), "Annual Statistical Report 2009", Ljubljana Stock Exchange.

Nocke, V. and S. Yeaple (2004), "An Assignment Theory of Foreign Direct Investment", *NBER Working Papers*, No. 11003, National Bureau of Economic Research, Cambridge, MA.

OECD (2002), *OECD Investment Policy Reviews: Slovenia 2002*, OECD Publishing, Paris.

OECD (2004), *OECD Guidelines on Corporate Governance of State-Owned Enterprises*, OECD Publishing, Paris.

OECD (2005), *Corporate Governance of State-Owned Enterprises: A Survey of OECD Countries*, OECD Publishing, Paris.

OECD (2007), "Tax Effects on Foreign Direct Investment: Recent Evidence and Policy Analysis", *OECD Tax Policy Studies*, No. 17, OECD Publishing, Paris.

OECD (2009a), *OECD Economic Surveys: Slovenia*, OECD Publishing, Paris.

OECD (2009b), "Privatisation in the 21st Century: Recent Experiences of OECD Countries", Corporate Affairs Division, Directorate for Financial and Enterprise Affairs, OECD, Paris.

OECD (2011), *Corporate Governance in Slovenia*, Corporate Governance, OECD Publishing, Paris, forthcoming.

Simoneti, M., M. Rojec and M. Rems (2002), "Ownership Structure and Post-Privatisation Performance and Restructuring of the Slovenian Non-Financial Corporate Sector", *Journal of East-West Business*, Vol. 7, No. 2, Routledge.

Shirley, M. and P. Walsh (2000), "Public Versus Private Ownership: The Current State of the Debate", *World Bank Policy Research Working Paper*, No. 2420, World Bank, Washington, DC.

World Bank (2009), *Doing Business 2010: Reforming Through Difficult Times*, World Bank and International Finance Corporation, Washington, DC.

World Bank (2010), *Doing Business 2011: Making a Difference for Entrepreneurs*, World Bank and International Finance Corporation, Washington, DC.

ANNEX 3.A1

Methodological Appendix[1]

Data Envelope Analysis (DEA)

DEA is a mathematical linear programming technique developed by Charnes *et al.* (1978). For a given set of firms the technique allows the analyst to define an efficiency frontier from those firms which use comparatively less inputs and more outputs under a constant returns to scale production function. However, because banks often face non-constant returns to scale, Banker *et al.* (1984) included an additional convexity constraint that helps to ensure that only similarly sized firms are compared.

Denoting x as the input variables and y as the output variables, the two models are then:

Constant returns to scale

$$\min_{\theta,\lambda} \theta_i$$
$$s.t. \quad \sum_{r=1}^{N} y_{mr}^{t} \lambda_r^t \geq y_{mi}^{t}$$
$$\sum_{r=1}^{N} x_{kr}^{t} \lambda_r^t \leq \theta_i x_{kr}^{t}$$
$$\lambda_r^t \geq 0$$

Variable returns to scale

$$\min_{\theta,\lambda} \theta_i$$
$$s.t. \quad \sum_{r=1}^{N} y_{mr}^{t} \lambda_r^t \geq y_{mi}^{t}$$
$$\sum_{r=1}^{N} x_{kr}^{t} \lambda_r^t \leq \theta_i x_{kr}^{t}$$
$$\lambda_r^t \geq 0$$
$$\sum_{r=1}^{N} \lambda_r^t = 1$$

At any time t, there are N firms that use a vector of inputs (x_1, x_2, …, x_k) to produce a vector of outputs (y_1, y_2, …, y_m). $\theta_i \leq 1$ is the scalar efficiency score for the i-th firm. If $\theta_i < 1$, the firm is inefficient and needs a $1 - \theta_i$ reduction in the input levels to reach the efficiency frontier $\theta_i = 1$.

Stochastic Frontier Analysis (SFA)

SFA is a regression technique introduced by Aigner *et al.* (1977), which postulates that the error term in an estimated production function ε_i is made up of two independent components, $\varepsilon_i = v_i + u_i$. $v_i \sim N(0, \sigma_v^2)$ is a two-sided error term representing the usual statistical noise and u_i is a one-sided (positive or negative) term representing technical inefficiency measuring the estimated shortfall of profit or excess costs for a particular firm.

In our case, the estimated equation is:

$\ln C_i / P_i = c(y_i, w_i, z_i) + v_i + u_i$

C_i and P_i representing total costs and total net profit of firm i respectively, y_i being the vector of outputs, w_i the vector of input prices and z_i the vector of environmental variables.

The estimation of both cost and functions require a specification of the functional form. We choose the translog functional form, which is widely used in the literature.[2] The model then becomes:

$$\ln C_i / P_i = \ln \alpha + \sum_j \beta_{y_j} \ln y_i + \sum_l \beta_{w_l} \ln y_l + \frac{1}{2}\sum_j \sum_r \beta_{y_j y_r} \ln y_j \ln y_r + \frac{1}{2}\sum_l \sum_m \beta_{w_l w_m} \ln w_l \ln w_m + \sum_j \sum_l \beta_{y_j w_l} \ln y_j \ln w_l + \sum_k \beta_{z_k} z_k + v_i + u_i$$

If the estimates of the error terms ε_i are easily obtained, both estimates $\hat{v}_i$ and $\hat{u}_i$ must be separated. In the half-normal case, assuming $u_i \geq 0$, *i.e.* $u_i \sim N^+(0, \sigma_v^2)$, Jondrow *et al.* (1982) show that an estimation of u_i can be given by:

$$E(u_i \mid \varepsilon_i) = \frac{\sigma_u \sigma_v}{\sigma} \cdot \left[\frac{f\left(\frac{\varepsilon_i \lambda}{\sigma}\right)}{1 - F\left(\frac{\varepsilon_i \lambda}{\sigma}\right)} - \left(\frac{\varepsilon_i \lambda}{\sigma}\right) \right]$$

Where $\lambda = \sigma_u / \sigma_v$, $\sigma^2 = \sigma_u^2 + \sigma_v^2$ and f and F represent the standard normal density and the cumulative distribution function. The efficiency score is then obtained as follows:

$eff_i = \exp(-\hat{u}_i)$

Modeling banks' production function and data

There are several ways to model banks' production function, depending on how the economic function of banks is defined. The most commonly used approaches are the intermediation approach and the value added approach. The first approach views financial institutions as being mainly mediators of funds between savers and investors, whereas the second approach focuses on how they use labour and capital to produce deposits, loans and other assets. We use both approaches in our study (Table 3.A1.1).

Table 3.A1.1. **Variables used**

	Value added approach	Intermediation approach
Outputs	Total deposits	Total loans
	Total assets	Total securities
	. .	Other earning assets
Inputs	Price of labour[1]	Price of labour[1]
	Price of fixed assets[2]	Price of fixed assets[2]
	. .	Price of borrowed funds[3]

1. Personnel expenses/total assets.
2. (Total operating expenses – personnel expenses)/total fixed assets.
3. Total interest expenses/total deposits.

We use individual data from Bankscope for the years 2002 and 2008. Bankscope is a widely used database containing detailed information about banks all around the globe. Under the SFA method, environmental variables are added to all specifications to control for individual bank and country characteristics, and the structure of banking industry (Table 3.A1.2).

Table 3.A1.2. **Environmental variables**

Variable type	Variable	Variable description
Individual characteristics	Market share	Market share as measured by total assets
	Net interest margin	Net interest income over total assets
Structure of banking industry	Intermediation ratio	Ratio of total banking sector loans to total deposits of the banking sector
	Hirschman-Herfindahl index	Index of market concentration, measured by the sum of the square market share of each firm on a national level
Country level characteristics	Number of banks	. .
	Population density	. .
	GDP per capita	. .
	EU post accession	Dummy variable indicating EU post accession (2004)

GDP and population density are extracted from the OECD Economics Department Analytical Database. We chose to download data from Bankscope directly in euros, whereas macro GDP is in national currency. We then convert the data using the IMF yearly average exchange rates.

Bank selection process

The original sample contains over 100 000 observations (16 218 banks are listed over the 2002-08 period). We proceed as follows for the data treatment:

- We exclude non-European countries.
- In some cases, two observations can contain redundant information, one being the consolidated statement, the other one the unconsolidated statement. Therefore, when both are available, we keep the unconsolidated statement, otherwise we keep the consolidated data.
- We eliminate central banks and dissolved banks.
- We eliminate incoherent observations (for example an observation where the loans to assets ratio is superior to 1) and observations with missing data.

Our sample finally contains the number of banks listed in Table 3.A1.3.

Table 3.A1.3. **Number of banks**

	2002	2008
Intermediation approach	2 278	3 515
Value added approach	2 459	3 746

Results of analysis

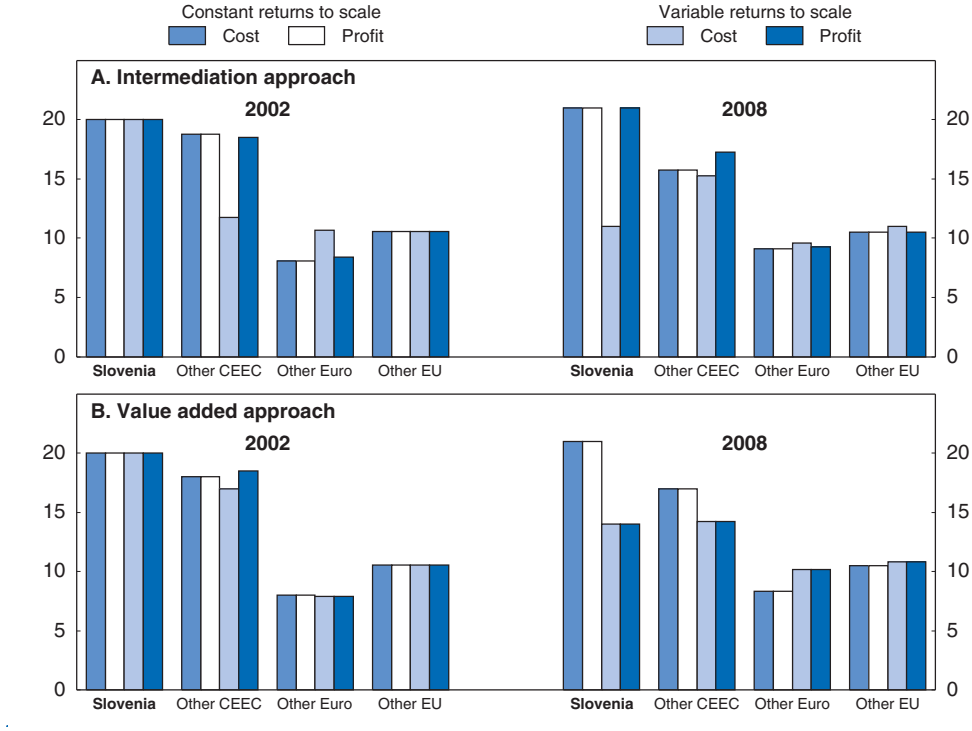
Table 3.A1.4. **Slovenia efficiency rankings**

	Returns to scale	Cost efficiency frontier[1]		Profit efficiency frontier[2]	
		2002	2008	2002	2008
Stochastic frontier analysis					
Intermediation approach	Constant	20	20	21	21
	Variable	20	20	11	21
Value added approach 1	Constant	20	20	21	21
	Variable	20	20	14	14
Value added approach 2	Constant	20	20	20	20
	Variable	20	14	20	21
Data envelope analysis					
Intermediation approach	. .	14	7	14	15
Value added approach 1	. .	21	8	8	14
Value added approach 2	. .	19	14	5	15

1. The minimum expenditure required to produce a given bundle of outputs, given the price of its inputs and the technology used.
2. The maximum profit that can be generated given the price of inputs and outputs and the technology used.

Figure 3.A1.1. **Data envelope analysis**

Ranking among 21 countries



StatLink http://dx.doi.org/10.1787/888932369752

Notes

1. Dimitri Bellas provided research and drafting for this annex.
2. An alternative would be to use Fourier's functional form, which increases the number of parameters. However, as Berger and Mester (1997) show, the results in terms of banking efficiency are very similar.

Bibliography

Aigner, D., C.A. Knox Lovell and P. Schmidt (1977), "Formulation and Estimation of Stochastic Frontier Production Function Models", *Journal of Econometrics*, Vol. 6, No. 1, Elsevier.

Banker, R.D., A. Charnes and W.W. Cooper (1984), "Some Models for Estimating Technical and Scale Inefficiencies in Data Envelopment Analysis", *Management Science*, Vol. 30, No. 9, Institute for Operations Research and the Management Sciences, Hanover, MD.

Berger, A.N. and L.J. Mester (1997), "Inside the Black Box: What Explains Differences in the Efficiencies of Financial Institutions?", *Journal of Banking and Finance*, Vol. 21, No. 7, Elsevier.

Charnes, A., W.W. Cooper and E. Rhodes (1978), "Measuring the Efficiency of Decision Making Units", *European Journal of Operational Research*, Vol. 2, No. 6, Elsevier.

Jondrow, J., C.A. Knox Lovell, I.S. Materov and P. Schmidt (1982), "On the Estimation of Technical Inefficiency in the Stochastic Frontier Production Function Model", *Journal of Econometrics*, Vol. 19, No. 2-3, Elsevier.

Glossary

Basel III	Banking supervision accords under development
CEBS	Committee of European Banking Supervisors
CEEC	Central and Eastern European counties
DEA	Data envelope analysis
ECEC	Early childhood education and care
EPL	Employment protection legislation
EU	European Union
EU15	EU member countries before enlargement in May 2004
EU19	EU member countries that are also members of the OECD
EU27	EU member countries as from 2007
EUR	Euro
FDI	Foreign direct investment
GDP	Gross domestic product
HEI	Higher education institutions
ICL	Income contingent loan
IMAD	Institute of Macroeconomic Analysis and Development
IRR	Internal rates of return
ISCED	International standard classification of education
JAPTI	*Javna agencija Republike Slovenije za podjetništvo in tuje investicije* (Agency of the Republic of Slovenia for Entrepreneurship and Foreign Investments)
KAD	*Kapitalska družba* (Pension fund)
MHEST	Ministry of Higher Education, Science and Technology
NKBM	Nova Kreditna Banka Maribor
NLB	Nova Ljubljanska Banka
PIRLS	Progress in International Reading Literacy Study
PISA	Programme for International Student Assessment
R&D	Research and development
SFA	Stochastic frontier analysis
SME	Small and medium-sized enterprises
SOD	*Slovenska odškodninska družba* (Restitution fund)
SOE	State-owned enterprise
TFP	Total factor productivity
TIMSS	Trends in International Mathematics and Science Study
USD	United States dollar
VAT	Value added tax
VET	Vocational education and training
WEF	World Economic Forum

ORGANISATION FOR ECONOMIC CO-OPERATION AND DEVELOPMENT

The OECD is a unique forum where governments work together to address the economic, social and environmental challenges of globalisation. The OECD is also at the forefront of efforts to understand and to help governments respond to new developments and concerns, such as corporate governance, the information economy and the challenges of an ageing population. The Organisation provides a setting where governments can compare policy experiences, seek answers to common problems, identify good practice and work to co-ordinate domestic and international policies.

The OECD member countries are: Australia, Austria, Belgium, Canada, Chile, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Israel, Italy, Japan, Korea, Luxembourg, Mexico, the Netherlands, New Zealand, Norway, Poland, Portugal, the Slovak Republic, Slovenia, Spain, Sweden, Switzerland, Turkey, the United Kingdom and the United States. The European Commission takes part in the work of the OECD.

OECD Publishing disseminates widely the results of the Organisation's statistics gathering and research on economic, social and environmental issues, as well as the conventions, guidelines and standards agreed by its members.

OECD PUBLISHING, 2, rue André-Pascal, 75775 PARIS CEDEX 16
(10 2011 02 1 P) ISBN 978-92-64-09247-1 – No. 57821 2010

OECD Economic Surveys

SLOVENIA

SPECIAL FEATURE: PRODUCTIVITY AND GOVERNANCE

Most recent editions

Australia, November 2010
Austria, July 2009
Belgium, July 2009
Brazil, July 2009
Canada, September 2010
Chile, January 2010
China, February 2010
Czech Republic, April 2010
Denmark, November 2009
Estonia, April 2009
Euro area, December 2010
European Union, September 2009
Federal Republic of Yugoslavia, January 2003
Finland, April 2010
France, April 2009
Germany, March 2010
Greece, July 2009
Hungary, February 2010
Iceland, September 2009
India, October 2007
Indonesia, November 2010
Ireland, November 2009
Israel, January 2010
Italy, June 2009
Japan, September 2009
Korea, June 2010
Luxembourg, May 2010
Mexico, July 2009
Netherlands, June 2010
New Zealand, April 2009
Norway, March 2010
Poland, April 2010
Portugal, September 2010
Romania, October 2002
Russian Federation, July 2009
Slovak Republic, November 2010
Slovenia, February 2011
South Africa, July 2010
Spain, December 2010
Sweden, January 2011
Switzerland, December 2009
Turkey, September 2010
Ukraine, September 2007
United Kingdom, June 2009
United States, September 2010

Please cite this publication as:

OECD (2011), *OECD Economic Surveys: Slovenia 2011*, OECD Publishing.
http://dx.doi.org/10.1787/eco_surveys-slo-2011-en

Volume 2011/2
February 2011

OECDpublishing
www.oecd.org/publishing

ISSN 0376-6438
2011 SUBSCRIPTION (18 ISSUES)
ISSN 1995-3585
SUBSCRIPTION BY COUNTRY

ISBN 978-92-64-09247-1
10 2011 02 1 P