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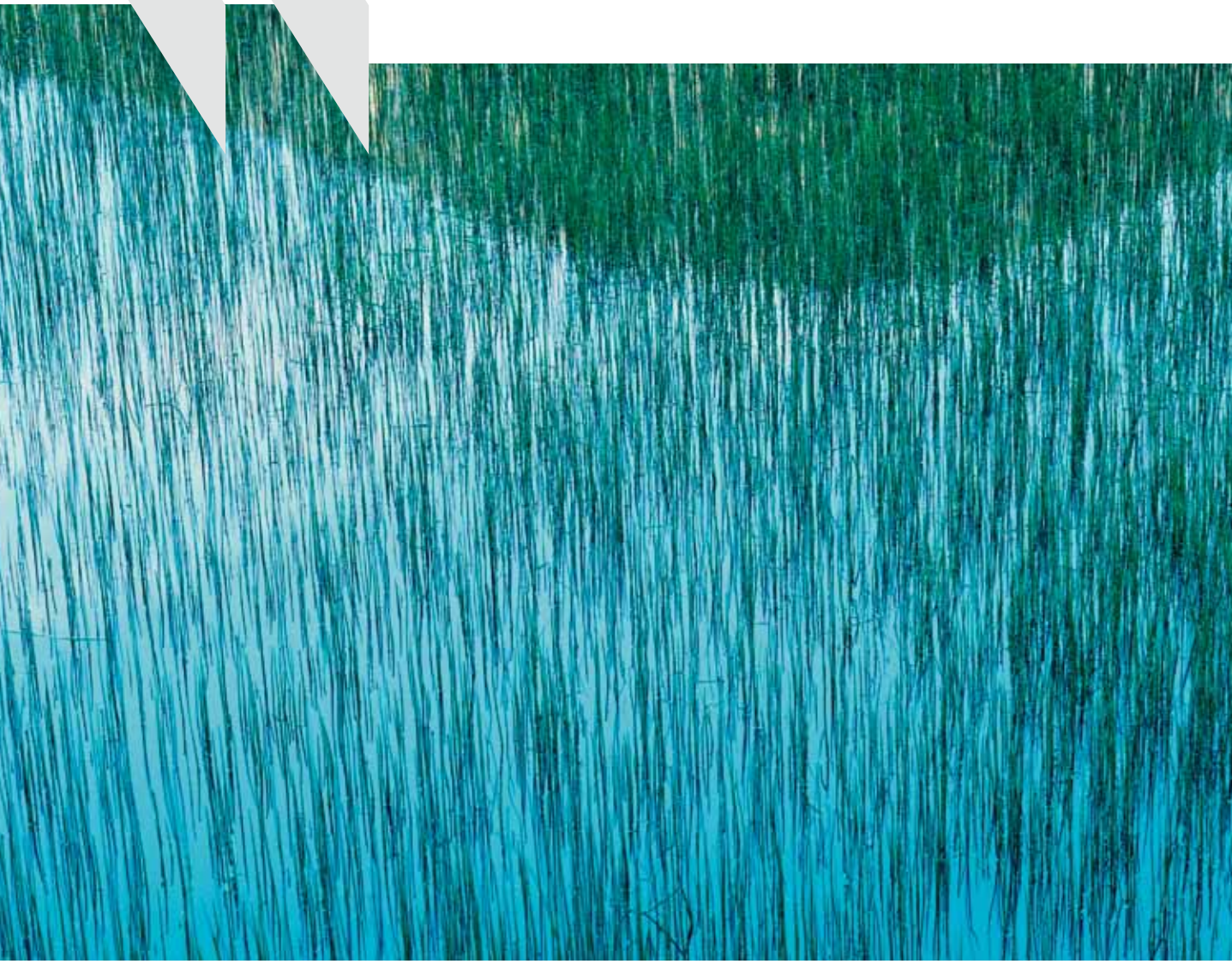
SLOVAK REPUBLIC



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The economic situation and policies of the Slovak Republic were reviewed by the Committee on 08 December 2008. 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 2008.

The Secretariat's draft report was prepared for the Committee by Felix Hüfner and Isabell Koske under the supervision of Andreas Wörgötter. Research assistance was provided by Béatrice Guerard.

The previous Survey *of the Slovak Republic was issued in April 2007.*

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BASIC STATISTICS OF THE SLOVAK REPUBLIC (2007)

THE LAND

Area (km^2)	49 034	Inhabitants in major cities (end-2004)	
Agricultural area (km^2)	24 330	Bratislava	425 155
		Kosice	235 006
		Presov	163 743
		Nitra	163 764

THE PEOPLE

Population (thousands)	5 398	Life expectancy at birth: Males	70.5
Inhabitants per km^2	110	Females	78.1
Average annual population growth (1997-2007, %)	0.0	Registered unemployment rate (% of the labour force)	8.4
Infant mortality (per thousand live-births)	6.14	LFS unemployment rate (% of the labour force)	11.0
		Employment (thousands, *Labour Force Survey*)	2 357

PRODUCTION

Gross domestic product		Gross fixed capital formation	
In billion SKK	1 852	In % of GDP	25.7
Per head (in $, PPP exchange rate)	20 199	Per head (in $, PPP exchange rate)	5 195

THE GOVERNMENT

Per cent of GDP		Composition of the National Council of the Slovak Republic (June 2006)	Number of seats
General government revenue	34.7	Christian Democrat movement (KDH)	14
General government expenditure	36.9	Hungarian Coalition Party (SMK)	20
Gross public debt (Maastricht definition)	29.4	Movement for a Democratic Slovakia (HZDS)	15
		Slovak Democratic and Christian Union (SOKU)	31
		SMER	50
		Slovak National movement	69
		Total	150

FOREIGN TRADE

Exports of goods and services, % of GDP	86.4	Imports of goods and services, % of GDP	86.8
Main exports of goods (% of total, 2006):		Main imports of goods (% of total, 2006):	
Machinery and transport equipment	48.7	Machinery and transport equipment	38.8
Manufactured goods	23.6	Manufactured goods	17.2
Miscellaneous manufactured articles	9.4	Mineral fuels, lubricants and related materials	13.6
Others	18.3	Others	30.4

THE CURRENCY

Monetary unit: Slovak koruna; euro from January 2009

Slovak koruna per $ (period average):		Slovak koruna per € (period average):	
Year 2007	24.7	Year 2007	33.8
September 2008	21.1	August 2008	30.3

Executive summary

Adoption of the euro on 1 January 2009 marks a significant achievement for the Slovak Republic. This hard won result will bring many benefits but will also pose challenges. Decisive policy action will be needed in a number of areas to maintain high growth in the coming years. Special care will be needed to mitigate the effects of asynchronous shocks, and to deal with the effects of the longer-term process of catching up, including structural changes to the economy, rapid financial development and a persistent positive inflation differential with the euro area. These factors have, in some other countries, resulted in boom-bust cycles. In particular, flexibility in labour and product markets needs to be raised, the fiscal policy framework needs to be improved and housing policies need to be reformed. This Survey *makes the following recommendations in these areas:*

Wage and product market flexibility are essential to better absorb shocks

- *Wage flexibility and a business-friendly regulatory environment would allow the economy to absorb shocks. Current efforts aim at strengthening collective wage bargaining at the sectoral level and legal extension in those sectors where unionisation is low. Legal extension of collective bargaining agreements should be abolished or, alternatively, the conditions for exoneration should be eased. Product market flexibility needs to be improved further, in particular in service sectors. To strengthen competition in the liberal professions, entry conditions should be eased, although high standards of professional qualification need to be ensured. Points of single contact that exist already for small enterprises should be swiftly extended to entrepreneurs also of the liberal professions. In addition, efforts to improve the e-government strategy and strengthen its implementation are welcome.*

Raising fiscal flexibility and ensuring long-run sustainability will aid macroeconomic stabilisation

- *Fiscal policy will be the remaining macroeconomic stabilisation tool. As the current fiscal rule has a pro-cyclical bias, it should be improved to foster the working of the automatic stabilisers. A mechanism clawing back debt overruns should be considered to ensure long-term fiscal sustainability. Another important issue is to strengthen the long-term financial position of the pension system while acknowledging the short-term costs of pension reform. Frequent ad-hoc changes to pension legislation reduce transparency and potentially undermine the financial viability of the system. The authorities should avoid such changes and, in particular, refrain from measures that tend to undermine the sustainability of the defined benefit pillar. Parametric changes to the defined benefit pillar should be considered to ensure its long-term solvency.*

A better functioning housing market would increase labour mobility

- *Housing in the Slovak Republic is predominantly owner-occupied and the small rental market does not function well, hampering regional labour mobility. To improve the functioning of the housing market and increase the neutrality of capital taxation, the bias of real estate taxation in favour of owner occupied housing should be reduced. Furthermore, housing support should be made more efficient by increasing the role of housing allowances and making public housing provision more targeted.*

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Assessment and recommendations

Economic performance has been impressive …

The Slovak Republic enjoyed several years of very strong growth and has made significant progress in catching-up to the income levels of the more advanced economies. In 2006 and 2007, GDP growth was the highest among OECD countries and the unemployment rate fell substantially. Nevertheless, notwithstanding the stellar economic performance at the national level, the benefits of higher growth remain fairly concentrated in those geographical areas where FDI inflows have been strongest, leaving large regional economic dispersions. Mirroring the progress in catch up, the exchange rate has appreciated by around 20% since 2006. Growth has been underpinned by significant structural reforms. The introduction of a flat tax raised the attractiveness of the Slovak Republic as a business location for domestic and foreign investors and, together with welfare reforms, has raised work incentives. On the fiscal side, the pension reform reduced the future fiscal costs of ageing, while raising the short-term deficit of the defined benefit system. However, recent measures will contribute to increasing future fiscal costs.

Following the successful efforts in meeting the Maastricht criteria, the Slovak Republic adopted the euro at the start of 2009. This marks a major achievement and will be beneficial for the country going forward, not least in light of the current global financial crisis. At the same time, structural reform and a strong fiscal policy framework will be needed to fully reap these benefits. This *Survey* addresses the following main challenges associated with maintaining high trend growth while being a member of the euro area:

- Increasing the flexibility of labour and product markets in order to improve the potential of the economy to adjust to shocks and facilitate structural change.
- Ensuring the working of the automatic fiscal stabilisers and the sustainability of public finances in the face of ageing pressures.
- Reducing distortions in the housing market in order to improve regional mobility and contain risks to financial stability.

… but the global headwinds will slow growth in 2009

The economy is set to enter a rougher period. Growth is projected to slow down significantly although given high potential growth the economy will be significantly stronger than elsewhere in Europe. The euro will partially shelter the economy against disturbances from the currency markets. As a small open economy with strong trade links, the Slovak Republic cannot escape the adverse effects of the global economic downturn.

Both inflows of foreign direct investment and exports will suffer as global demand falls, in particular in Western Europe and the neighbouring Central and Eastern European countries. The economy's specialisation in car manufacturing, which has contributed to its past high growth, is a downside risk in the current circumstances. There are already signs that the automobile industry will be particularly badly hit by the global slowdown. In addition, the credit crisis will affect the economy directly as the foreign-owned banks are likely to tighten their lending standards given the downturn in the global credit cycle. These developments may end the upswing in house prices, which have almost doubled since 2005.

The main policy challenge is to sustain high trend growth…

Looking beyond this cyclical downturn, sustaining the high trend growth rates of past years is the main policy challenge. Although the gap in GDP *per capita* relative to the pre-2004-accession EU countries is still around 40%, strong growth has reduced it by about 16 percentage points since 1999, more than in many other Central and Eastern European economies. This strong performance is mainly due to substantial growth in labour productivity, notably in manufacturing, also helped by significant FDI inflows. In contrast, labour utilisation has not contributed to the catch up since 1999. This reflects a smaller increase in participation rates compared to other countries which more than offset the fall in unemployment and the more favourable demographic development in the Slovak Republic. In addition, the relative number of hours worked per employee declined somewhat.

A key to sustaining rapid catch up will be measures to foster further increases in productivity, notably in service sectors and network industries as well as in public administration. Regarding labour utilisation, the priorities are to raise participation, in particular of women and older workers, and to reduce further the large share of long-term unemployment. Overall, these challenges require more flexibility of both product and labour markets, which should also strengthen the potential of the economy to adjust to shocks. In addition, improving education outcomes is a key determinant of long-term growth prospects, as argued in the previous *Survey*.

… while adjusting to life in the euro area

With euro adoption the economic environment will change substantially. On the one hand, the absence of exchange rate risk lowers transaction costs, leading to more trade integration, and enhances access to the large and liquid euro area financial markets, which will foster financial development. On the other hand, the Slovak Republic will face the same constraints as other members in a monetary union, namely the absence of an independent monetary policy and the lack of exchange rate adjustment. This situation poses macroeconomic policy challenges in the event of asymmetric shocks, such as the global downturn in the automobile industry affecting in particular Slovak car production, or asymmetric economic responses to common shocks.

Being a catch-up country adds to the challenge of euro area membership, above all because income differentials are larger for the Slovak Republic than for any other country that has

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adopted the euro. Further changes in the economic structure from the industrial sector to services will occur in the course of the convergence process. In addition, experience from other catch-up countries that entered the euro area suggests that financial deepening evolves rapidly, raising risks of asset cycles. Closer financial integration with the euro financial markets will contribute to this, as more cross-border competition in financial services will broaden the supply and likely lower the level of retail interest rates for borrowers. Easier financial conditions are also likely to be induced by a decline in risk premia embedded in real interest rates as exchange rate uncertainty is removed. Furthermore, euro area membership may reduce liquidity premia and possibly also sovereign risk premia.

Equilibrium inflation will likely be higher than in the euro area as convergence proceeds. The appreciation of the real exchange rate, which had previously mainly occurred through nominal appreciation, will now show up in higher inflation as the Slovak price level converges towards that of the euro area. In part this is due to the Balassa-Samuelson effect, which reflects differences in productivity growth between the traded and the non-traded sectors. The nominal convergence process is likely to continue for several years to come and therefore real interest rates will tend to be lower in the Slovak Republic than the euro area.

Experience from other countries suggests that this catch-up process of rapid increases in income, strong financial development, and relatively higher transitional inflation can lead to overconsumption and overinvestment. This may be due to speculative capital inflows as the real exchange rate appreciates or as households seek to consume presumed future income gains via an increasingly sophisticated financial sector. Policies should strive to ensure, to the degree possible, that the transition takes place smoothly. The best contribution that structural reforms can make in such an environment is to ensure flexibility in product and labour markets. In more flexible markets, prices and wages adjust more quickly to shocks and thus minimise the real output losses. In addition, a strong fiscal policy framework is essential in order to allow for an appropriate cyclical variation of the policy stance.

Wage flexibility needs to be maintained

Wage flexibility across regions and sectors enhances the economy's ability to adjust to cyclical shocks and promotes smooth adaptation to changes in economic structures. In 2007, the Slovak government abolished the consent of the employer as a condition for legal extension of wage settlements to firms which do not participate in collective wage bargaining. Although firms can apply for exoneration under certain conditions and the number of extensions has been low, this measure may hinder sufficient wage flexibility and may be damaging to employment. *Legal extension should therefore be abolished. Alternatively, the conditions for exoneration should be eased and the authorities should make generous use of their powers to grant exoneration.* Another way to safeguard wage flexibility is to ensure that the minimum wage is not set too high relative to the median wage. Although minimum wages in the Slovak Republic – which are set by agreement among the social partners – are still low by international standards and a high share of employees has earnings below the average wage, they have tended to increase relative to median wages. *Further increases in the minimum wage should be implemented only insofar as they do not have negative impacts on employment opportunities. Moreover, decisions on the minimum wage level*

should take into account advice from an independent expert commission, as happens in several other OECD countries.

Productivity growth in services needs to be raised

The level of labour productivity is well below the euro area average in most service sectors, suggesting a large catch-up potential, but productivity growth has been rather limited or even negative in recent years. Despite notable progress in making the regulatory framework more competition-friendly, further action is needed in this area to raise growth and facilitate adjustment to shocks. The government has acknowledged the need for further reforms and has made improving the regulatory framework and the entrepreneurial environment a priority in its *Modernisation Programme Slovakia 21*. To strengthen competition in the liberal professions, *entry conditions should be eased and conduct regulation should be liberalised, but required standards of professional qualification should be maintained. In addition, the government should extend the points of single contact that exist for other small enterprises also to entrepreneurs of the liberal professions*. Furthermore, a wider use of ICT could lead to important productivity gains. *Removing obstacles to the spread of e-business and swiftly implementing e-government services would have high returns*. Such moves would also have important spill-over effects on other sectors by improving the quality and cost effectiveness of public services.

The fiscal policy framework should be made more effective

Government finances have improved markedly over the past years, with the debt-to-GDP ratio falling by almost half since 2000, not the least because of consolidation efforts to meet the Maastricht criteria for euro area entry. However, the current fiscal framework does not allow for sufficient cyclical flexibility. Notably, current rules require expenditures to be cut when revenues fall short of the original budget plan, potentially exacerbating a cyclical downturn. In addition, cyclical revenue windfalls tend to provoke additional structural expenditure. Thus, more needs to be done to avoid discretionary adjustments and ensure the full working of the automatic stabilizers.

Euro area entry calls for more flexibility to deal with cyclical shocks that cannot be dealt with by the common euro area monetary policy, whilst at the same time ensuring continued consolidation efforts to reach the medium-term objective of a small structural deficit and fostering long-term fiscal sustainability in the face of population ageing. Given these challenges, *a deficit rule consistent with the Stability and Growth Pact could be embedded into the constitution* to demonstrate that the government is firmly committed to fiscal consolidation. *The deficit rule should be complemented by multi-year expenditure ceilings, reinforced by a strong reporting system and ex post assessments to increase transparency and the political costs of exceeding the ceilings*. OECD experience shows that this considerably enhances the effectiveness of the fiscal framework in achieving and maintaining fiscal sustainability. *Cyclical expenditure items such as unemployment benefits could be excluded from the ceilings to ensure that the automatic stabilizers can work fully. As output gaps in a rapidly growing catch-up economy can be estimated only with considerable error, the authorities should consider introducing an adjustment mechanism to claw back accumulated deviations from the rule that arise from inevitable projection errors.*

The pension system should be kept on the right track

The size and age structure of the Slovak population will change considerably over the next decades due to low fertility rates and continuous increases in life expectancy, leading to substantial pressures to raise public spending on pensions. Past reforms of the pension system that combined parametric changes to the pay-as-you-go, defined benefit (DB) scheme (the so-called first pillar) with the introduction of a fully-funded defined contribution (DC) scheme (the second pillar) have led to significant improvements in the long-term balance of the DB pillar, while at the same time considerably reducing the redistributive elements of the system. This reform has had larger short-term costs for the general government budget than originally expected. Recently, a number of modifications were introduced to the pension system, which will increase future pension costs somewhat. Those currently in the system have been given two opportunities to shift between the pillars, while for new labour market entrants participation in the DC pillar was changed from compulsory to voluntary. The result is likely to be movement out of the DC pillar and into the DB one. These measures, along with an increase in the ceilings for pension contributions, have led to a rise in revenues of the DB pillar.

Frequent ad-hoc changes to pension legislation reduce transparency and potentially undermine the financial viability of the system. *The authorities should avoid such changes and, in particular, refrain from measures that tend to undermine the sustainability of the DB pillar*. In this regard, several of the recent measures should be reconsidered. *The government should consider making participation in the DC pillar mandatory for new labour market entrants or, at the very least, participation should be made the default option, allowing participants to opt out of the DC pillar. For current workers, no switching between pillars should be allowed. To further strengthen the DB pillar, consideration will need to be given to measures such as raising the retirement age in line with gains in life expectancy and reducing unsustainable components of the pension formula while strengthening solidarity. The increased pension contributions to the DB pillar from recently introduced modifications of the pension system should be used to reduce government debt.*

Low real interest rates and a small stock market make it difficult for pension funds to achieve returns that are sufficient for the value of pension savings to rise in line with real wages. Nonetheless, simulations suggest that the returns that can be achieved over the longer term on the capital market should be higher than those provided by the Slovak DB pillar assuming constant contribution rates and declining replacement rates to reflect the impact of ageing. Whilst ensuring sufficient investor protection, it is essential that pension fund regulation does not adversely affect returns by being unduly restrictive. As such, the elimination of the requirement to invest at least 30% of the capital into entities domiciled in the Slovak Republic is welcome. Currently, pension fund management companies are judged against the average of the rates of return achieved by all pension funds of a certain type, which complicates investment decisions due to low transparency and risks this benchmark, which is meant to be a minimum, becoming a low target return. *The authorities should therefore shift the responsibility for setting the benchmark to the pension fund level, and require funds to regularly publish information about their performance against an absolute benchmark*.

Developments in mortgage borrowing need careful monitoring

Many challenges related to euro area entry, such as the need for flexibility and the effects of easier financial conditions, manifest themselves in the Slovak housing market. House prices have risen substantially in recent years, driven by higher household incomes, lower real interest rates (partly in anticipation of euro area entry) and a slow supply response in the construction sector. In line with this development, mortgage borrowing has increased rapidly and banks have been easing lending standards. Even though rapid credit growth is a natural consequence of financial deepening, the authorities should monitor developments closely to limit risks to the financial system, in particular the risk of an unsustainable bubble. *Given this background the Slovak authorities should not hesitate to tighten regulation, such as lowering loan to value ratios, if there are indications of overheating in the housing market*. That said, it is clear that their scope for action is limited by the possibility that the essentially foreign owned banking system could escape Slovakian supervision by switching from a subsidiary to a branch structure. *For this reason, the Slovak supervisors should enhance cooperation with foreign supervisors*.

Make the housing market more flexible

The housing market is crucial in improving the adjustment potential of the economy through the labour market. The current market structure is characterized by a dominance of owner-occupation and a small share of rental housing, almost all of which is publicly provided. This structure significantly hampers the geographic mobility of labour, which is amongst the lowest in the OECD and one factor behind the persistently high rate of long-term unemployment. A more flexible housing market – notably the deeper development of a private rental segment – will be essential to better cope with the structural change that the economy will go through as well as to lower the wide dispersion of unemployment rates across the country.

The rental market should be strengthened

One factor behind the lack of a private rental market is the right-to-buy legislation, which allows tenants in the municipal housing flats built before 1998 to purchase their home under very favourable conditions. *This legislation should be phased out or, at least, sales prices should be raised to market values*. A further factor hindering the expansion of a private rental market is the fiscal treatment of housing, which is heavily skewed towards supporting owner-occupation. The real estate tax rate, which is set by municipalities, is very low and based on out-of-date housing values. This favours investment in owner-occupied housing over other assets and is pro-cyclical in that the effective tax rate falls as house prices rise. *The real estate tax rate should be raised to neutral levels and should be based on a measure of actual market values for real estate*.

Investment in owner-occupied housing is also supported through various schemes providing mortgage loan interest subsidies, premia for deposits in home savings bank accounts and the granting of loans at favourable interest rates through the *State Fund for*

Housing Development. Even though these subsidies have been reduced in recent years, *the government should continue to cut subsidies for owner-occupied housing*.

Housing support should be more flexible

State housing support for low-income households is currently mainly provided through the public rental housing sector at regulated low rents (where rents are less than a third of private ones). Although access to public housing is means-tested, income controls are weak and many households often remain in their flats after they have surpassed the eligibility criteria. This lowers labour mobility and leads to an inefficient allocation of the housing stock as it crowds out private rentals. In contrast, housing allowances are quite small as eligibility is very strict (only recipients of social assistance receive them) and benefits are low. As recipients lose eligibility when they take up work, the current scheme implies serious work disincentives.

To better target housing support and make it more effective, *the government should consider raising public housing rents closer to market levels; at least, tenants who no longer fulfil the eligibility criteria should pay market rents*. More generally, public housing should be made more targeted and housing allowances should be expanded in order to raise labour mobility. *Housing allowances should be available to those who work (but who are poor) and the allowance should reflect local housing costs* in order to encourage movement to rapidly growing (and high cost) areas of the country.

A further impediment for private rentals is the excessive tenant protection for rental contracts of indefinite duration, which locks in tenants enjoying such protection. For these contracts, the landlord must provide the tenant with alternative accommodation if the lease is terminated. *The current tenant protection regulation should be phased out*.

A stronger housing supply response could be encouraged

The flexibility of the housing market would be further increased if the supply of new dwellings were to be more responsive to demand, thereby also helping to dampen housing cycles. During the current upswing of house prices, construction has reacted only with long lags (which in itself contributed to the rise in prices) and the new dwellings that have been constructed mainly serve the upper end of the housing market. *Addressing inefficiencies in the land planning process and monitoring whether the construction sector is sufficiently competitive would be useful initiatives in trying to increase the housing stock*.

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Chapter 1

Key challenges

The Slovak economy has enjoyed a stellar performance in recent years, growing significantly faster than other OECD economies. However, the economy is now facing a major slowdown reflecting the headwinds from the global economy. While past growth has contributed to further catching-up to the income levels of the more advanced economies, the gap relative to the European Union (EU) countries prior to the 2004 accession remains large, reflecting both lower productivity levels and lower labour utilisation. Going forward, adapting the economy to life within the euro area is the key challenge. Being a catch-up country with a significantly lower price level relative to the euro area is adding to the challenge, as the Slovak economy will have to deal with financial deepening, low real interest rates and changes in its economic structure. Flexible labour and product markets as well as a suitable fiscal policy framework are essential ingredients to cope with these challenges as they will facilitate the adjustment to shocks in the absence of the previous possibilities of changes in the exchange rate or monetary policy settings. In addition, these ingredients are also the best contribution of policy to sustaining high economic growth.

The Slovak Republic has enjoyed very strong economic performance in recent years (Figure 1.1). Growth has been the highest among OECD economies since 2006, with a record level of 10.4% in 2007, and the unemployment rate has come down by more than 8 percentage points since 2004. The budget has been consolidated, inflation has fallen and interest rates have converged close to the levels prevailing in the euro area. Overall, policies to fulfil the Maastricht criteria have been successful and the entry to the euro area at the start of 2009 is a major achievement (Box 1.1). Euro area membership will further deepen the integration with the more advanced European economies. Trade is likely to benefit from lower transaction costs and the lack of exchange rate risk and financial market integration can be expected to foster financial development to the benefit of both consumers and companies. However, economic policy will have to live without the instruments of independent monetary policy and nominal exchange rate adjustment. While these tools were already constrained during the Slovak koruna's membership in the Exchange Rate Mechanism (ERM) II, the nominal exchange rate has nevertheless appreciated by around 20% since 2006.[1]

Past structural reforms have contributed to the favourable growth outcome. The fundamental tax reform implemented in 2004, which equalized tax rates for the personal income tax, the corporate tax and the value added tax at a flat rate of 19% and eliminated many exemptions, made the tax system simpler and more transparent with clearly positive effects on the economy (OECD, 2005). The tax burden declined for many workers, raising work incentives, and the decrease in the effective tax burden for companies strengthened incentives for entrepreneurial activity. Work incentives were also substantially increased with the revamp of the benefit system in 2004 through a reduction in benefit payments for recipients of social assistance (OECD, 2007a). Finally, the introduction of a fully-funded (defined contribution) second pillar in the pension system in 2005 contributed significantly to improving fiscal sustainability in the face of ageing, while raising the short-term deficit of the first pillar defined benefit system.

Since the timing of these large structural changes around 2005, reform momentum has waned somewhat. This is unfortunate, as membership in the euro area provides a further and urgent need for continuing with structural reforms. Increased overall flexibility of the economy is essential in order to continue to prosper under the new environment with a reduced role for economic policymaking at the national level. This adjustment has to proceed quickly, especially given the coincidence of entry to the euro area with a major downturn in the world economy. Other potential future euro accession countries will closely watch the Slovak Republic's experience.[2]

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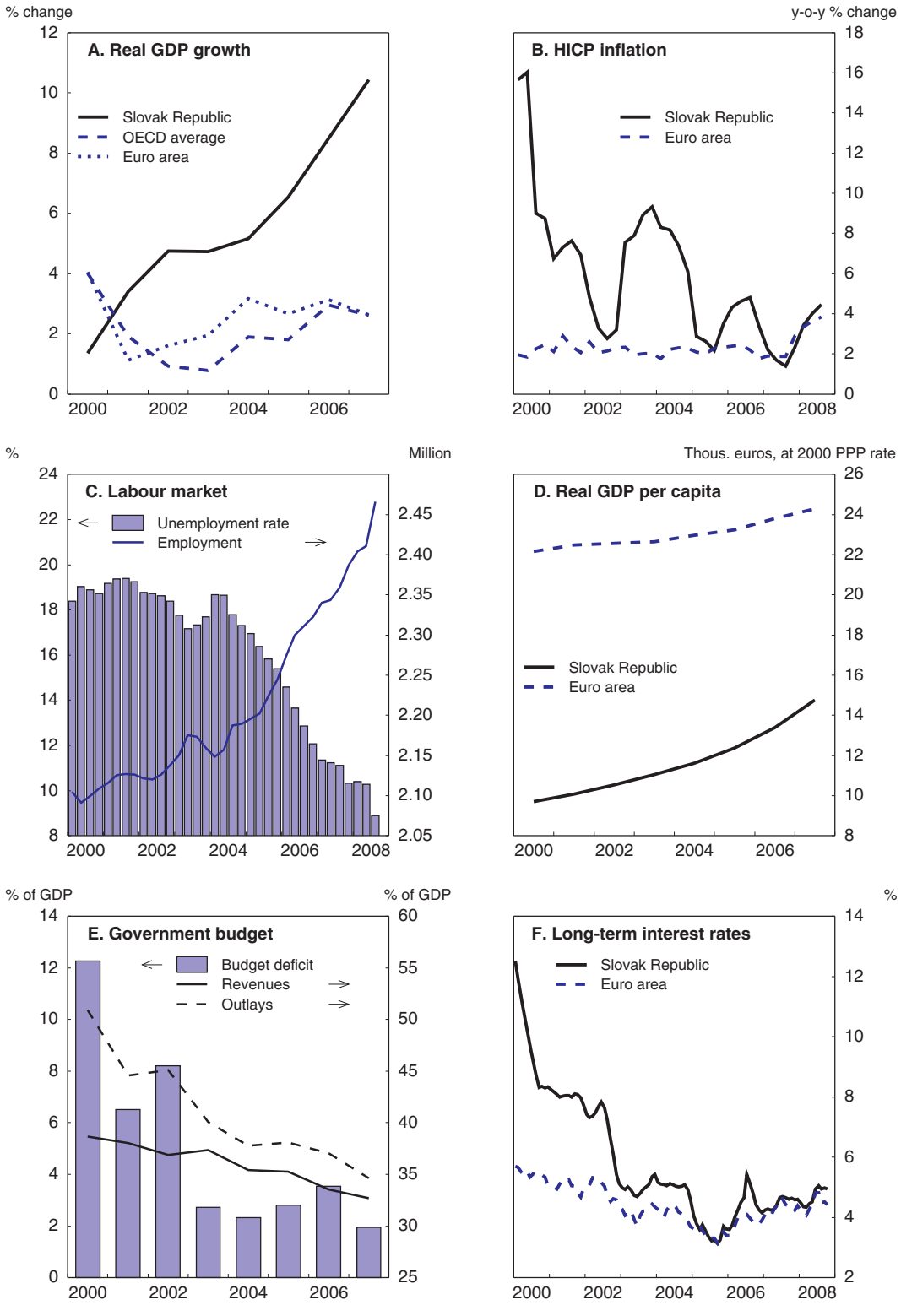
Figure 1.1. **Key macroeconomic indicators**



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Source: OECD, *Economic Outlook Database.*

Box 1.1. **The immediate effects of euro adoption on inflation and interest rates**

The immediate effects of the euro changeover in January 2009 in the Slovak Republic on prices and interest rates are analysed in Hüfner and Koske (2008). Their empirical analysis draws in particular on the experience of the first-wave euro area countries.

For the immediate effects on prices their findings suggest that the cash changeover is most likely associated with a moderate increase in consumer prices, estimated at around 0.3%. This estimate is broadly in line with the extent of price increases that other euro area countries faced when they introduced the euro in January 2002 (for the first 12 euro area countries). The typical Slovak household faces around € 17 of additional consumption expenditures per year as a result. The purchasing power losses associated with this price increase are not evenly distributed across the population. Higher income households and families with children are seen to be harder hit than others. Across countries, a higher degree of product market competition was found to lower the extent of euro changeover-related price hikes. Experience in other countries also suggests that the euro cash changeover may be accompanied by an increase in inflation perceptions over and above the actual increase in prices. This may be due to the fact that citizens focus more on the prices of frequently purchased items, such as restaurant meals, which tend to increase more than for example rents. However, the cash changeover effect on prices was perceived to be temporary as inflation expectations remained solidly anchored.

Even though the exchange rate *vis-à-vis* the euro area will be irrevocably fixed, past appreciations of the koruna are still likely to pass-through leading to some downward pressure on consumer prices. The cumulative effect is estimated to amount to around 1.5% from mid-2008 up to mid-2009.

On capital markets, euro membership was priced in to a large extent already before 2009. Short-term interest rates had converged close to the euro area levels during 2007. Long-term interest rates also reflected the prospect of euro adoption already in 2007. The spread in 10-year Slovak government bonds relative to the German benchmark bond was standing at levels that were comparable with other euro area member countries of similar perceived credit risk, such as Greece. The differential in 10-year interest rate swap rates between Slovakia and Germany – a measure for the expected exchange rate change – had fallen to around zero. Thus, while in the wholesale market interest rates have converged already quite significantly, the adjustment potential remains much larger for retail interest rates. Both deposit rates and loan conditions for households and non-financial companies show marked differences with the euro area average. These can be expected to diminish over time, although probably only over the medium run (Box 4.1).

The economy faces a significant slowdown

Given the worldwide slowdown in growth, economic policy will face serious headwinds in 2009. Being integrated in international trade and exposed to developments in the western European economies – notably through car manufacturing – the Slovak Republic will not be able to avoid the adverse effects from the global downturn. At the same time, entry to the euro area may prove particularly beneficial in the current circumstances, partially sheltering the economy against disturbances from the currency markets (Box 1.2). While production in the Slovak Republic might be less affected than in other countries, due to its relative cost advantage, it will not be possible to shield the economy completely. Weaker demand from the main trading partners will limit export growth and correspondingly also foreign direct

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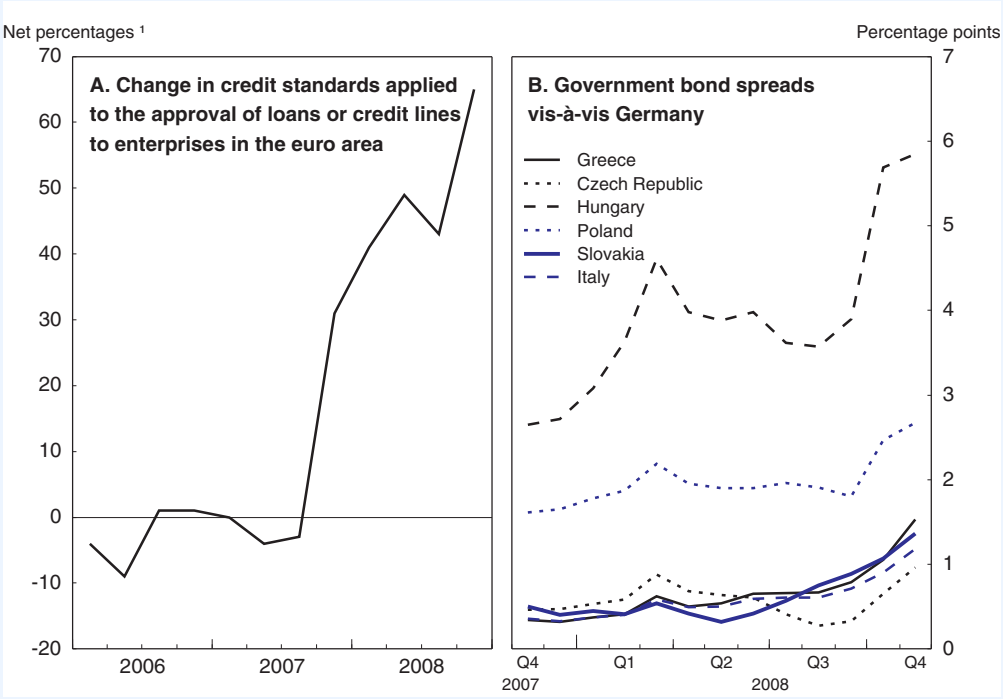
Box 1.2. **The effects of the global financial crisis**

The global financial crisis will impact the Slovak economy mainly through two channels: the deterioration in global trade will adversely impact export growth and the financial conditions, both in terms of interest rates as well as in terms of credit standards, are set to worsen markedly.

As a small open economy the Slovak Republic will be hit by the financial crisis and the ensuing slowdown in global economic activity via a fall in the demand for exports. With exports to other OECD countries accounting for about 90% of total exports the expected decline in output in these countries in 2009 will considerably restrain economic growth in the Slovak Republic. This effect is likely to be exacerbated by a loss in competitiveness *vis-à-vis* other emerging European countries whose exchange rates *vis-à-vis* the euro have depreciated in recent months. Moreover, FDI flows into the Slovak Republic, which had been sizable in recent years, may also decrease given the slowdown in global investment.

Although the Slovak financial sector has so far been spared the severe problems experienced by several other OECD countries, it has not remained completely unaffected by the global financial crisis. According to the bank lending survey conducted by the Slovak National Bank, the foreign banks operating in the Slovak Republic have tightened their lending standards considerably during the first half of 2008. This is in line with the tightening observed in the euro area since mid-2007 (Figure 1.2, panel A). Increasingly, the tightening of credit standards does not only affect large companies but also small and medium-sized enterprises. The most important factor behind the recent tightening was a

Figure 1.2. **The effects of the financial crisis**



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1. In panel A, the net percentages refer to the difference between the sum of the percentages for "tightened considerably" and "tightened somewhat" and the sum of the percentages for "eased somewhat" and "eased considerably".

Source: ECB, Bank Lending Survey.

Box 1.2. **The effects of the global financial crisis** *(cont.)*

worsening of expectations about the future macroeconomic development. Rising difficulties or rising costs in obtaining refinancing further added fuel.

While new loans to households for house purchases still grew at a fast pace in the second quarter of 2008 amidst rising property prices, they declined in the third quarter (by 14% *vis-à-vis* the second quarter). The number of defaulted house purchase loans has risen steadily during the past months, but their value still represents less than 2½ per cent of the outstanding value of loans. Whilst in the first half of 2009, most banks kept their credit standards unchanged and some even partially eased their standards for granting loans for real estate purchases, this might have changed in recent months as prices started to level off.

Slovak government bond spreads relative to German benchmark bonds have increased markedly since the crisis intensified in mid-2008, though their rise has been in line with those of other euro area member countries of similar perceived country risk (Figure 1.2, panel B).* This reflects not least the vanishing of exchange rate risk due to the irrevocable fixing of the koruna exchange rate *vis-à-vis* the euro in mid-2008. In this sense, the global financial crisis highlights exchange rate stability as one of the benefits of euro area membership, particular at a time when the exchange rates of several other emerging European economies are coming under pressure.

* The general rise in euro area government bond spreads in the autumn of 2008 reflects a repricing of euro area countries' sovereign risk as well as an increase in the liquidity premium, reflecting market participants' preference for the relatively more liquid German government bonds during the financial turmoil (ECB Monthly Bulletin, November 2008).

Table 1.1. **The short-term outlook**

	2005	2006	2007	2008	2009	2010
	Current prices SKK billion	Percentage changes, volume (2000 prices)				
Private consumption	851.7	5.6	7.1	6.2	3.8	5.1
Government consumption	272.8	10.1	0.7	5.5	3.5	2.5
Gross fixed capital formation	394.3	8.4	7.9	6.7	3.8	6.6
Final domestic demand	1 518.8	7.1	6.1	6.2	3.8	5.0
Stockbuilding[1]	34.6	–0.5	–0.1	0.4	–0.1	0.0
Total domestic demand	1 553.4	6.5	5.9	6.5	3.6	4.9
Exports of goods and services	1 132.8	21.0	16.0	6.6	1.6	7.8
Imports of goods and services	1 201.0	17.7	10.4	8.3	1.6	7.0
Net exports[1]	- 68.1	1.7	4.3	–1.5	0.0	0.7
GDP at market prices	1 485.3	8.5	10.4	7.3	4.0	5.6
GDP deflator	_	2.9	1.1	4.9	3.5	2.6
Memorandum items						
Consumer price index	_	4.5	2.8	4.4	2.8	2.8
Private consumption deflator	_	4.9	2.6	4.0	2.7	2.8
Unemployment rate	_	13.3	11.0	9.7	9.4	9.0
General government financial balance[2]	_	–3.5	–2.0	–2.1	–2.0	–1.5
Current account balance[2]	_	–7.1	–5.3	–5.0	–4.1	–2.2

Note: National accounts are based on official chain-linked data. This introduces a discrepancy in the identity between real demand components and GDP. For further details see *OECD Economic Outlook Sources and Methods* (*www.oecd.org/eco/sources-and-methods*).

1. Contributions to changes in real GDP (percentage of real GDP in previous year), actual amount in the first column.
2. As a percentage of GDP.

Source: OECD, *Economic Outlook 84 Database*.

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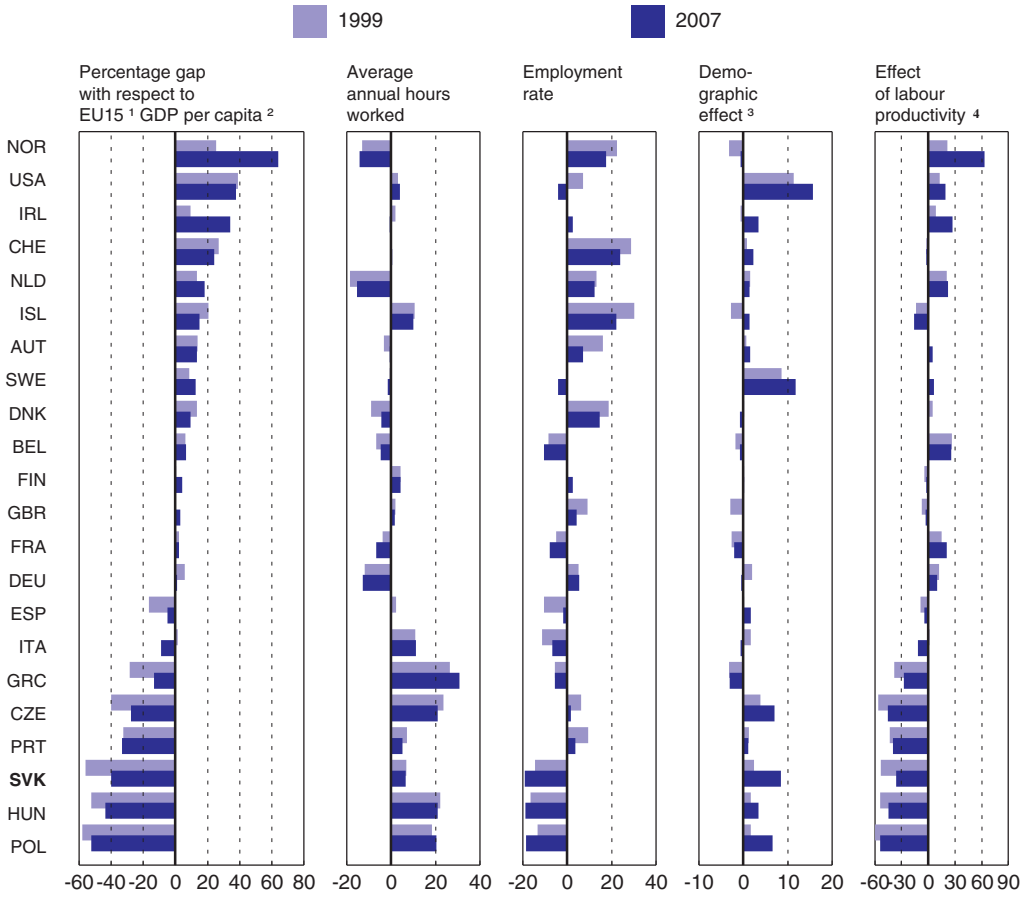
investment (FDI) inflows. In addition, tighter lending conditions may impinge on household borrowing, putting the housing boom on hold. In contrast to many other countries, however, the absence of an extended earlier construction boom limits the downside risks to construction investment. Also, consumers have not borrowed against their higher housing wealth, which should limit the adverse effects from lower house prices. Overall, growth may slow down from its 2008 rate of above 7% to around 4% in 2009. Growth is projected to return towards its trend rate of around 6% during 2010 (Table 1.1). Unemployment is expected to continue falling, albeit at a much slower pace than in the past. Overall, however, the risks to the projection of an only temporary slowing of the economy and continued growth at potential rates afterwards are clearly to the downside.

Income levels have continued to converge…

Significant progress has been made in converging to the more advanced European economies over the last several years (Figure 1.3). The percentage gap in GDP *per capita*

Figure 1.3. **Progress in convergence**



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1. 15 members of the European Union prior to the 2004 enlargement.
2. Based on current purchasing power parities and current prices.
3. The share of working age population in total population.
4. Labour productivity is measured as GDP per hour worked.

Source: OECD, *Economic Outlook, Productivity and National Accounts Databases*.

relative to pre-2004-accession EU countries (henceforth EU15 countries) declined from 56% in 1999 to 40% in 2007, a more significant convergence than in the other central European transition countries. This development reflects improvements in labour productivity levels – with hourly labour productivity growing by 4.8% on average since 1999. Significant FDI inflows from western European countries have contributed to this growth, as they have allowed the Slovak Republic to benefit from the production and organisation techniques of more advanced countries. At the same time, they have also led to a high specialization in certain sectors, notably car manufacturing and flat-screen production.

In contrast, labour utilisation has not contributed to the catch-up progress since 1999. This reflects a smaller increase in labour force participation compared to the EU15 which more than offset the fall in unemployment and the more favourable demographic development in the Slovak Republic (the share of working age population in total population continued to rise relative to the EU15 average). In addition, the relative number of hours worked per person employed declined somewhat.

... but significant differences remain

The considerable progress in convergence notwithstanding, remaining income differences relative to the more advanced countries remain substantial. There is still a gap of 6½ percentage points with respect to the poorest euro area country (Portugal). Of the main EU accession countries, Poland and Hungary lag further behind in GDP *per capita* (52% and 43%, respectively, of the EU15 level compared with the Slovak Republic's 40%) while the gap of the Czech Republic amounted to 27½ per cent of the EU15 level in 2007.

In order to sustain long-term growth and further reduce income differences, both labour productivity and labour input need to rise. Regarding labour *productivity*, differences with the EU15 are largest in those market sectors that are sheltered from trade, notably energy (electricity, gas and water), distribution (retail and wholesale trade), transport, hotels and restaurants as well as real estate and renting. At the same time, productivity in the financial sector is relatively high, benefitting from the technological input brought into the country through foreign bank owners. In order to raise labour *input*, further efforts need to concentrate on raising employment rates through a continued reduction in unemployment and higher participation, notably of older workers and women. Both annual average hours worked as well as the share of the working age population in total population are above the EU15 average.

To address these issues, further structural reforms are necessary. In general, these reforms should aim at making the economy more flexible, both on product markets to raise competition and on labour markets to reduce unemployment. Entry to the euro area increases the urgency of such measures.

Challenges of euro area entry...

Entry to the euro area will bring many benefits, including the elimination of exchange rate risk, a reduction in transaction costs associated with trading goods and services, access to the large euro capital markets and a stability oriented monetary policy. However, being a member of the large and diverse euro area also poses challenges notably that monetary conditions will not always conform to the national requirements (OECD, 2004). In this regard, the Slovak Republic will face the same well-known constraints on policy-making as other euro area countries. As nominal exchange rate adjustments are no longer

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possible and monetary policy is delegated to the European Central Bank (ECB), the economy will have to be flexible enough to adjust to circumstances where monetary policy will not be sufficiently suited to the national circumstances.

Studies on the synchronisation of the Slovak business cycle with the euro area cycle yield mixed results, possibly due to the short time period available (NBS, 2006). There are a number of reasons why the Slovak business cycle might deviate from the euro area one. *First*, the Slovak economy may be hit by an idiosyncratic shock, such as an industry-specific downturn in the automobile sector to which the economy is highly exposed (Box 1.3). *Second*, the Slovak economy may react differently to a common euro area shock, such as an oil price shock, than the other euro area countries, as the energy intensity of the Slovak economy is still almost twice the OECD Europe average.[3] *Third*, even in case of a symmetric shock with similar consequences across economies, the transmission of monetary policy in reaction to the shock may differ in the Slovak Republic.[4] For example, the lower rate of indebtedness of the Slovak economy may mean that the interest rate channel is less effective. Alternatively, for the existing mortgage borrowers the interest rate channel might even work faster than in the euro area due to the high share of variable rate mortgages outstanding.[5] Changes in the value of the euro may also have particular consequences for the Slovak economy. The share of extra-euro area imports in total imports is higher than most other euro area countries, and the Slovak exports are relatively concentrated in the Czech Republic, the Russian Federation, Poland and Hungary (Hüfner and Koske, 2008). Thus, exchange rate changes of the euro against the currencies of these countries will have a larger impact on Slovak consumer prices than on those in other member countries.

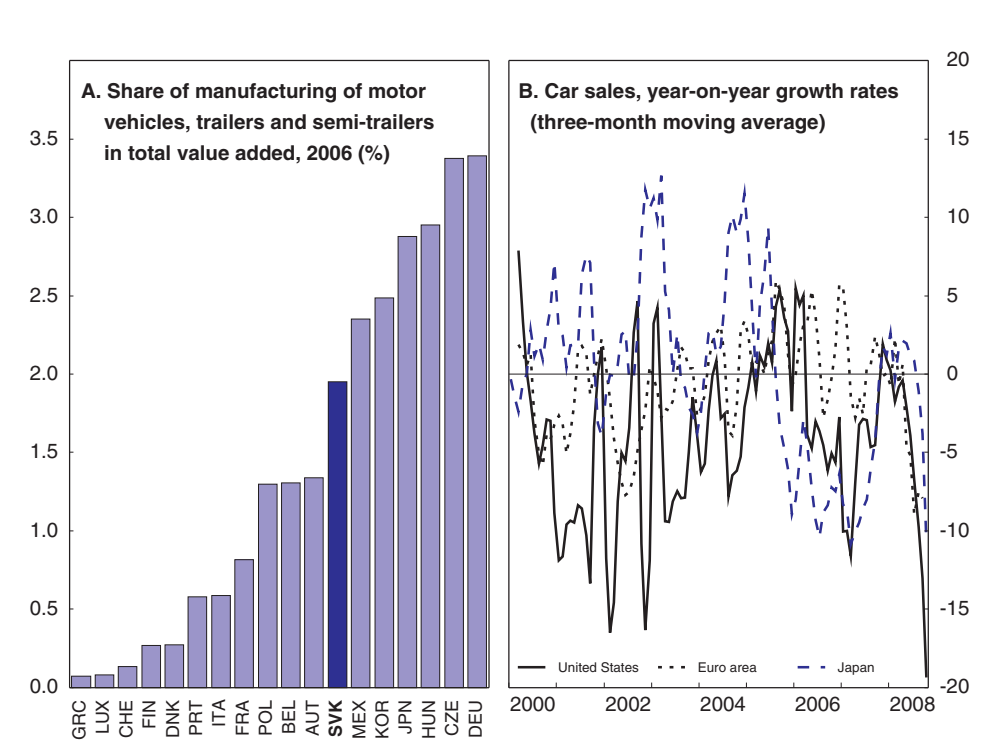
Box 1.3. **The Slovak car manufacturing industry**

The global automobile industry has entered a major downturn in 2008 with car sales in the United States, the euro area and in Japan falling rapidly (Figure 1.4, panel B). This downturn is affecting in particular countries in which car production is concentrated such as the Slovak economy, given its pronounced specialization in this sector. Automobile production had a share of around 2% in total value added in 2006 (Figure 1.4, panel A); among euro area countries, only Germany exhibited a larger contribution. As a share of total employment, the automobile sector accounts for 1½ per cent in the Slovak Republic (which also is the second-largest in the euro area) and this share has doubled since the year 2000.

The Slovak automotive industry was built upon the heritage of the former supply chain for Škoda and the sector today is dominated by three carmakers: Volkswagen (in Bratislava since the mid-1990s), Kia Motors (Žilina) and PSA Peugeot Citroën (Trnava), with the latter two having arrived only recently in 2006. These investments account for a large share of the stock of FDI in the Slovak economy.* According to the European Automobile Manufacturers' Association, motor vehicle production reached 570 000 in 2007, almost twice as much as in 2006. The rapid growth in car production (of which around 90% are exported) brings the Slovak Republic on track to become the world's largest per capita manufacturer of cars within the next years. The automobile industry has also led to the establishment of numerous supplier firms, most of which are also foreign-owned. As the three largest car producers alone account for about one-fifth of total exports by Slovakia, the global downturn in demand for automobiles will significantly affect the Slovak economy.

Box 1.3. **The Slovak car manufacturing industry** *(cont.)*

Figure 1.4. **Car manufacturing in the Slovak Republic and international car sales**



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Source: OECD, *National accounts Database* and Datastream.

* By 2007, around half of the stock of FDI was located in the manufacturing sector and investments in the financial sector accounted for around a fifth. Germany, Austria and the Netherlands are the main originator countries and two-thirds of the FDI stock is located in the Bratislava region.

Eventually, of course, more financial integration and tighter trade linkages with the euro area will contribute to making economic structures and national business cycles more similar (Frankel and Rose, 1998). However, this will take time, not least because the income differences between the Slovak Republic and the euro area are much larger than for other member countries.

... in particular for a catching-up country

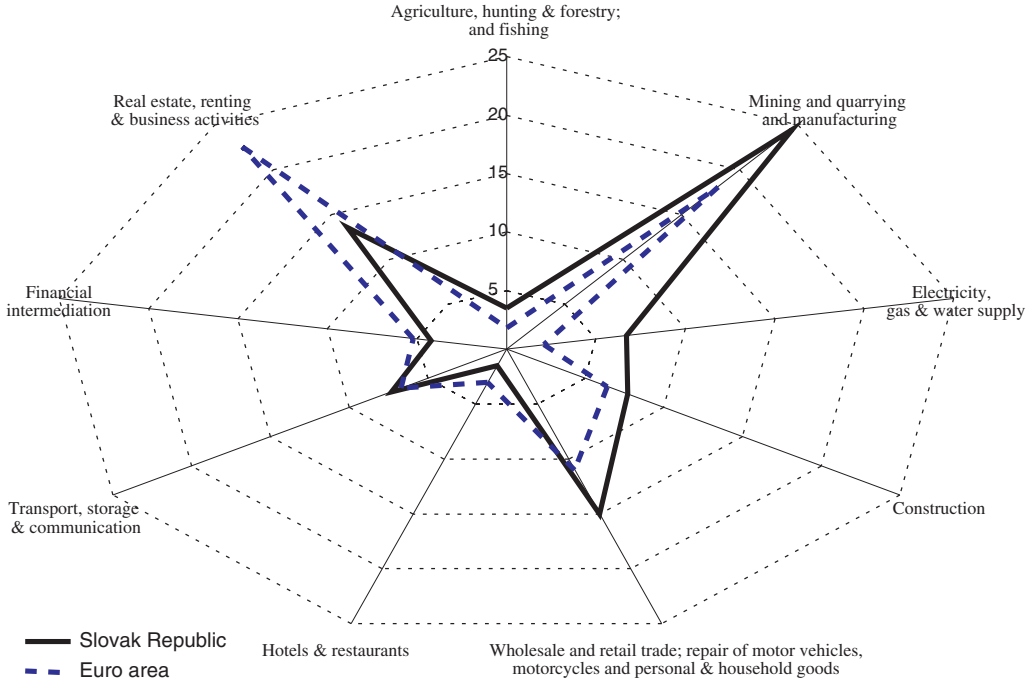
As a catch-up country within the monetary union, the Slovak Republic faces particular challenges as its economy and state of development are quite different from the existing member countries. In fact, judging by GDP *per capita*, the Slovak Republic is the poorest country that ever joined the euro area. In the past, smaller euro area countries (such as Ireland or Portugal) that entered the monetary union with a lower than average income level went through substantial structural changes as well as extended boom-bust cycles. In particular, their experience suggests three challenges for the Slovak Republic: changes in the economic structure, financial deepening and a low real interest rate level.

Structural changes will take place

Deeper integration with the euro area will eventually lead to structural changes. Notwithstanding significant changes in the past, economic structures remain different between the Slovak Republic and the euro area (Figure 1.5). While the contribution to total gross value added by the agriculture, energy and manufacturing sectors is much higher in the Slovak economy compared with the euro area, the share of real estate, renting, research and development and business activities (which includes the liberal professions) is much smaller. This has two implications. *First*, the potential for idiosyncratic shocks is larger, as mentioned above. *Second* and more long-term, however, deeper integration with the euro area will gradually lead to a more similar sector composition. In particular, there is likely to be a further shift from industry to service sectors. This significant structural change will require particularly flexible labour markets, notably mobility of employees across sectors, and also poses challenges for education as the economy is moving into more knowledge-intensive sectors.

Figure 1.5. **Gross value added by activity, 2006**

In per cent of total



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Source: Eurostat.

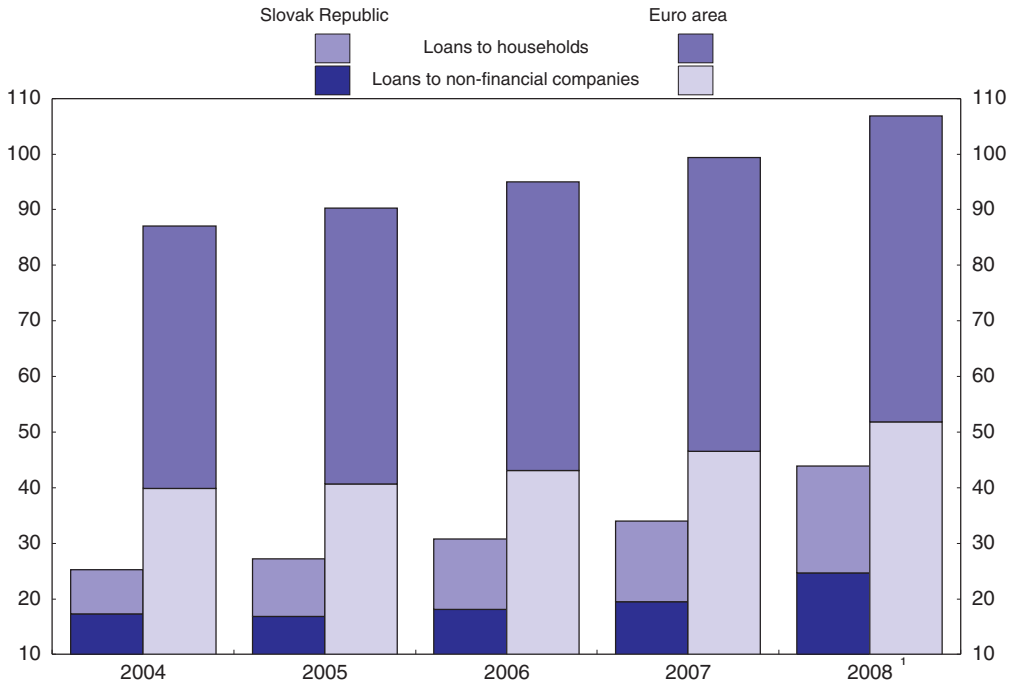
Financial development will lead to a rise in indebtedness …

In economies that are catching up to higher income levels, credit typically rises faster than GDP (IMF, 2004).[6] In the Slovak Republic, loans to the private sector as a share of GDP have doubled since the beginning of 2004, driven primarily by strong growth in loans to households. However, at around 45% the ratio is still far below that prevailing in the euro area, where private sector credit accounts for slightly more than total GDP, suggesting

that credit will continue to rise strongly in coming years (Figure 1.6). Such financial deepening is a positive development as it allows borrowing against future income, thereby smoothing consumption. However, experience shows that adjustment to higher debt levels does not always follow a smooth path. For example, credit may grow excessively as, for example, an asset price boom not backed by fundamentals leads to financial accelerator effects which are reversed when asset prices return to their fundamental levels. Several countries with a lower-than-average income level that joined the euro area in 1999, such as Ireland or Portugal, experienced such boom-bust cycles. While most recent studies suggest that the credit-to-GDP ratio in the Slovak Republic was close to levels that would be consistent with fundamentals up to 2005 (based on the experience of more advanced countries), such estimates are surrounded by considerable uncertainty.[7] Dealing with rapid credit growth thus remains a major future challenge, in particular as regards developments in house prices which are driving mortgage borrowing (Chapter 4). Given that experience with credit cycles is fairly limited in transition countries, identifying an overshooting of credit growth will be all the more difficult.

Figure 1.6. **Outstanding loans to the private sector**

As a share of GDP



StatLink http://dx.doi.org/10.1787/528020270301

1. 2008 data includes data up to August.

Source: ECB.

... helped by low real interest rates

Financial development will be supported by low real interest rates during the foreseeable future. Three aspects play a role here: *First*, euro area membership reduces risk premia. As the exchange rate is irrevocably fixed, the exchange rate risk premium, which during 2006 still amounted to around 1 percentage point, has vanished (Hüfner and Koske,

2008). In addition, the funding possibilities in the larger euro capital markets help to lower liquidity premia. Finally, the sovereign risk premium might be lower once in the euro area, for example if capital markets do not believe in the non-bail-out clause of the Maastricht Treaty.[8]

Second, experience from existing euro area members suggests that increased financial integration will lower retail interest rates (Hüfner and Koske, 2008). Retail interest rates in the Slovak Republic are still significantly higher than comparable euro area interest rates, in particular for consumer credit and mortgage loans with a long duration. Interest rates are more similar for non-financial companies. Increased competition within the euro capital market and more intense cross-border provision of financial services should lead to a gradual convergence of Slovak retail interest rates to the lower euro area level, further reducing the real interest rate level (Baltzer *et al.*, 2008).

Third, real interest rates in the Slovak Republic are lower than in the euro area as the catch up to a higher price level goes along with a higher equilibrium inflation rate during the convergence process (Chapter 2). The most prominent, but not the only, explanation for this phenomenon is the Balassa-Samuelson effect which focuses on differences in productivity growth between the traded and the non-traded sector. To the extent that nominal interest rates between the Slovak Republic and the euro area converge, higher inflation means a lower real interest rate in the Slovak Republic. This real interest rate differential already existed prior to euro area entry and is likely to persist at least over most of the next decade (Box 1.4). As the higher inflation rate, the lower real interest rate and the resulting higher investment represent an equilibrium phenomenon, they do not require a policy response as they do not lead to cyclical fluctuations. However, deviations from this productivity-driven real appreciation path may occur. For example, the expectation of continued real appreciation may set in motion speculative capital inflows from international capital markets, leading to investments in less productive assets.[9] Similarly, domestic individuals may adapt their inflation expectations to past increases,

Box 1.4. **Real interest rate differential and the Balassa-Samuelson effect**

The Balassa-Samuelson effect (as well as other factors driving the catch up) shows up in a higher equilibrium inflation rate and thus in a trend appreciation of the real exchange rate. This lowers real interest rates below the comparison country. In formal terms this can be shown as follows:

The real exchange rate is defined as (lower case letters denote logs)

(1) $\Delta q^e_{t+1} = \Delta s^e_{t+1} + \Delta p^{*e}_{t+1} - \Delta p^e_{t+1}$,

where e is the expectation one period ahead, q denotes the real exchange rate, s the nominal exchange rate (in domestic currency per foreign currency) and p and p^* the domestic and foreign price level, respectively. Assuming that uncovered interest parity (UIP), including a risk premium δ, holds

(2) $i_t - i^*_t = \Delta s^e_{t+1} + \delta_t$

and defining the domestic (and equivalently the foreign) *ex ante* real interest rate as

(3) $r_t = i_t - \Delta p^e_{t+1}$

yields

(4) $r_t - r^*_t = \Delta q^e_{t+1} + \delta_t$.

Box 1.4. **Real interest rate differential and the Balassa-Samuelson effect** *(cont.)*

The Balassa-Samuelson-driven real exchange rate appreciation and risk premia thus drive a wedge between the domestic and the foreign real interest rates, so that the international Fisher effect does not hold in this case. While risk premia are reduced by euro area entry, the wedge induced by the appreciating real exchange rate is independent from entry to the euro area as membership means that the appreciation of the real exchange rate shows up only in higher inflation (while before the nominal exchange rate was absorbing part of the appreciation pressure). The simple example in Table 1.2 demonstrates this, arbitrarily assuming an underlying appreciation of the real exchange rate due to the Balassa-Samuelson effect of 1.5% (splitting into 1% higher inflation and 0.5% nominal exchange rate appreciation before euro area entry), full exchange rate pass-through and constant risk premia of 1%.

Table 1.2. **Real interest rates before and after euro area entry**

	Euro area	Slovak Republic pre-entry	Slovak Republic post-entry
Nominal interest rate	4%	4.5%	5%
Expected inflation t+1	2%	3%	3.5%
Real interest rate	2%	1.5%	1.5%
Risk premia	–	1%	1%
Change in real exchange rate		1.5%	1.5%
Change in nominal exchange rate		0.5%	–

If it is assumed that risk premia are cut in half through euro area membership (with the remaining premia reflecting sovereign risk and possibly some liquidity premia), real interest rates would drop from 1.5% before entry to 1% thereafter.

overestimating the equilibrium adjustment and thereby lowering (*ex ante*) real interest rates. Such deviations of real interest rates from their equilibrium path may show up in excessive asset price rises, which are an example of misguided investment. Once investors' expectations revert or if fiscal policy counters overheating developments, the process is set into reverse and the bust follows the previous boom.

The size of the Balassa-Samuelson effect is unlikely to be affected by euro area entry itself, in contrast to the decline in risk premia and the lowering of retail interest rates. Thus, the risk of a boom-bust cycle emerging on this account is not immediately increased by euro area membership. However, it is important to stress that, once in the euro area, fewer policy tools will be available to counter any boom-bust cycle. The underlying problem of having low real interest rates – even if they do not decline much further – thus becomes more pressing.

… require structural reforms to make the economy more flexible

The best approach to circumvent potential problems during this period of enormous change for the economy is to allow for as much flexibility on labour and product markets as possible. In flexible markets, prices adjust quickly to disequilibria, restoring market equilibrium after a shock has hit the economy. The more flexibly wages and prices react, the lower the loss of output and employment will be. Entry to the euro area increases the

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returns from such flexibility. Of course, more flexible markets also contribute directly to speeding up the convergence to higher GDP *per capita* levels by enhancing labour utilisation and productivity. In this sense, entry to the euro area only adds to the urgency of implementing structural reforms.

The government is aware of this need and intends to embark on structural reforms as indicated in its *Modernisation Programme Slovakia 21* (Box 1.5). This initiative is both related to efforts to adjust policy to membership in the euro area, but also takes note of longer term challenges, such as reducing the dependence on foreign inflows of basic industrial technologies in specific sectors.

Box 1.5. **The Modernisation Programme Slovakia 21**

Under the leadership of the Ministry of Finance, the Slovak government has set up the Modernisation Programme Slovakia 21 (*Slovensko 21 Program*) in May 2008 which includes a number of measures to improve public policy. The programme is aimed at providing an outline of specific measures, divided into short-term and medium-term measures in all areas. The short-term measures are intended to be implemented by the end of 2008 (and form the starting point for the new National Reform Programme). The four areas covered by the programme are:

Modernizing the institutional background to support science, research and innovation

- Short-term initiatives include the co-financing of international research projects to support top-ranking scientists and research teams; raising the importance of scientific results for the funding of universities to achieve a higher standard of science and research at universities and to improve the quality of education; and modifying the National Scholarship Programme to encourage more international cooperation between graduates, teachers and scientists.
- Medium-term initiatives include improving public support for basic and applied research; supporting the information transfer between academia and the business sector; improving the scholarship system for PhD students; and establishing regional innovative centres to support innovation across the Slovak Republic.

Improving the accessibility to high-quality education for everyone

- Short-term initiatives include support for kindergarten upbringing and education, scholarships for a secondary education abroad and measures to improve student achievement in those areas where PISA scores lag other OECD countries (for example by re-defining the curriculum of grammar and secondary schools). Furthermore, measures to increase the quality of university education are elaborated, such as modernising the accreditation and financing system and to ease the access of foreign students to Slovak universities.
- Medium-term initiatives include for example increasing the non-financial support to grammar schools to raise the standard secondary education in all regions of the Slovak Republic; promoting ICT at schools to improve efficiency and quality; providing loans for university education abroad; and raising the support to schools of higher education.

Increasing the supply of labour, in particular activating those at the margin of the labour market

- In the short term, a transfer to low-income workers in the form of a negative income tax (Employee Bonus) will be implemented to counter long-term unemployment. In addition, it is envisaged to increase housing allowances.

Box 1.5. **The Modernisation Programme Slovakia 21** *(cont.)*

- Medium-term measures include plans to better interconnect education content with the needs of the labour market, developing a national system of flexicurity, inclusion of the long-term unemployed into the labour market, modernising social services and reforming housing support in order to enhance labour mobility.

Improving the entrepreneurial environment, better regulation and higher transparency

- Short-term measures include ensuring that EU funds are spent effectively, defining an evaluation methodology for PPP projects, reducing expenses for pharmaceutical products and simplifying the legislative process.
- Medium-term measures include making public procurement more efficient, evaluating the impact of legislative measures, reducing the administrative burden, developing e-government services and establishing points of single contact for entrepreneurs.

Addressing past recommendations in labour market and education policies…

The policy challenges arising from the need to raise the flexibility of the economy and thereby help to underpin growth include raising employment rates, improving the efficiency of the education system, strengthening product market competition and reforming housing policies. In addition, maintaining room for fiscal flexibility by keeping ageing costs in check is of importance because fiscal policy is the only macroeconomic stabilisation tool left. Many of these structural issues, in particular labour markets and education, were covered in previous *Surveys* and they also correspond to the policy priorities identified in the OECD's *Going for Growth* (OECD, 2009). This section provides an update on policy actions in these areas since the last *Survey* was published and highlights remaining weaknesses.

Raising the adjustment potential of the labour market

The Slovak Republic significantly lags many other OECD countries when it comes to bringing people into work. Long-term unemployment as a share of total unemployment is the highest in the OECD and the overall employment rate was 61% in 2007, compared with 67% in the OECD and in the EU15 countries (Figure 1.7). This mostly reflects the very low share of older workers having a job – employment rates for the age group 55-64 years are 18 percentage points below the OECD average – as well as a lower share of women having a job. In order to tackle this problem, the still existing large incentives to retire early as well as the fiscal disincentives for female labour force participation need to be reduced (Table 1.3; OECD, 2007b). Enlarging the labour force available would also help in the adjustment to shocks once in the euro area, as the economy would not be running into supply constraints as quickly as before.

Overall flexibility of the labour market is crucial in order for the labour market to sufficiently adjust to shocks. Currently, persistently high unemployment in the eastern parts of the country coincides with labour shortages in some sectors in the western part, pointing to a lack of flexibility.[10] Regarding the wage setting process, flexibility will be improved by the introduction of an in-work benefit (*Employment Bonus*) which is granted from 2009 onwards to employees on regular work contracts with salaries close to the minimum wage.[11] While the measure goes in the right direction by raising incentives to accept a lower paid job, the size of the benefit is too small to have an important effect on

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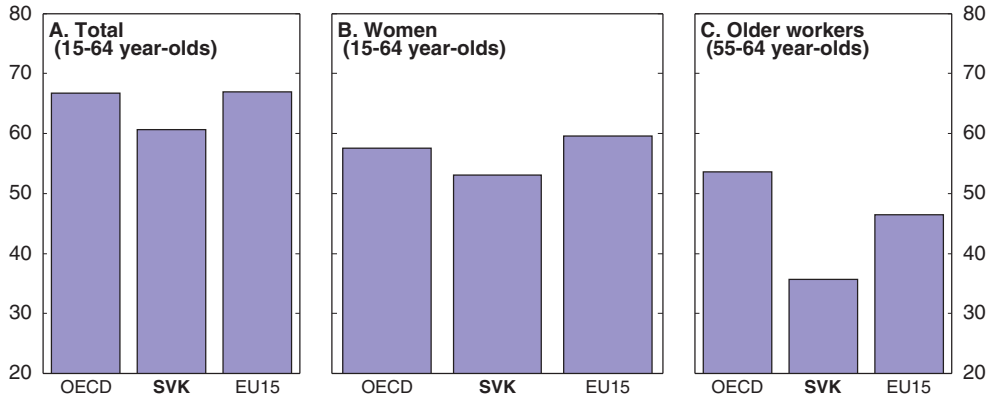
Figure 1.7. **Employment rates, 2007**

As % of population in the respective age group



StatLink http://dx.doi.org/10.1787/528043471603

Source: OECD, *Labour Force Statistics Database*.

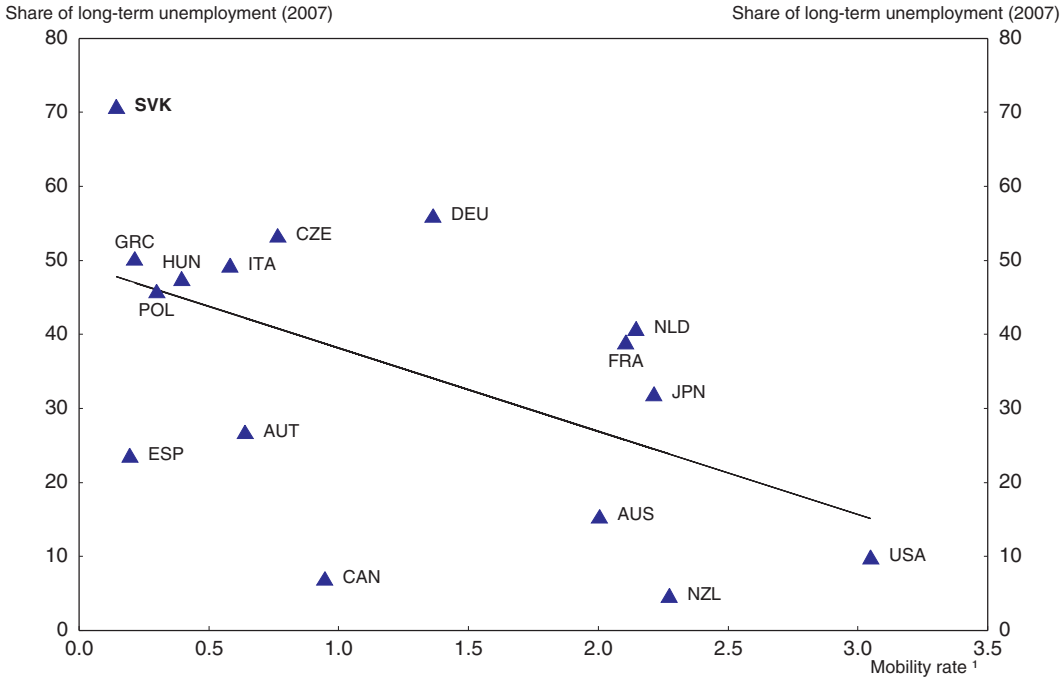
Table 1.3. **Progress in structural reform: Labour market**

Recommendations from previous *Surveys*	Action taken since the April 2007 *Survey*
Labour market	
In order to lower barriers to employment of low-skill workers, consider the introduction of an in-work benefit and a widening of the assessment base for mandatory health insurance to a comprehensive measure of household income.	The government has decided on the introduction of an in-work benefit (Employment Bonus) from 2009 onwards.
Reduce the risk of poverty traps in the reformed pension system: Make mandatory pensions subject to personal income tax and use the resulting revenues to raise 1st pillar pensions. Lower the rate at which social assistance payments to pensioners are withdrawn as pension income rises and review the old-age social assistance supplement. Phase out the requirement that 30% of financial investments in the second-pillar pension scheme be directed to domestic assets.	The requirement for pension funds to invest 30% of financial investments in domestic assets is phased out in 2009.
Ensure that minimum wages do not harm employment prospects of low skilled workers. Avoid significant increases relative to average wages and let decisions on the minimum wage level be taken exclusively by the government. Determine whether a higher age threshold is required for the lower minimum wage rate applying to young workers. Abandon the practice of setting several minimum wages for jobs with different characteristics.	A new Act on Minimum Wages in 2007 states that the social partners shall take into account the economic and social situation in the Slovak Republic in the two preceding calendar years when setting minimum wages.
Improve activation of the long-term unemployed: Expand training measures for the unemployed, while targeting subsidised job creation more narrowly. Link the introduction of new active labour market programmes (ALMPs) consistently to evaluation of their impact. Require all social assistance recipients as well as jointly assessed adult dependents not in full-time education who are capable of taking up a job to register as unemployed and be subject to job search and job acceptance requirements. Strengthen the capacity of public employment services (PES) to provide effective job-search assistance and monitoring needs.	The competency of PES was extended in an amendment to the Act on Employment Services, aimed at accelerating the turnover of jobseekers.
Ensure wages adjust to disequilibria in the labour market: Authorities should make liberal use of their powers to accept requests for exoneration from legal extension. No substantial additional employment costs should be imposed through reform of employment protection legislation.	No change in legislation regarding legal extension.
Remove barriers to higher participation of older workers: Index the statutory retirement age to gains in life expectancy once the increase in retirement age for women to 62 has been phased in by 2015. Raise the pension discounts for retirement before the statutory retirement age as well as supplements for retirement after the statutory retirement age to levels implied by actuarial neutrality. Shorten the duration of parental leave benefit entitlement, with the benefit for the remaining period up to three years being paid in the form of subsidies for childcare.	No action.
Remove barriers to higher participation of women: Reduce the tax wedge on second earners in two-earner households by lowering the marital income allowance. Consider introducing a surcharge on health insurance for non-working spouses.	No action.

employment. Also, in order for the in-work benefit to have a positive effect, it remains essential that minimum wages are set at a level that does not harm employment. Also, legal extension of collective wage agreements could hamper the adjustment mechanism of the labour market to shocks. Making sure that wages are allowed to adjust to local conditions would also contribute to dampen inflation in the non-traded sector, as argued in Chapter 2.

Flexibility also relates to the mobility of the workforce. Ensuring that employment protection legislation is flexible enough to give employees enough incentives to move across sectors is one way to support the future change in economic structures. Raising geographical labour mobility across regions is one of the key motivations for an extensive reform of housing policy, which is addressed below and in Chapter 4. In fact, labour mobility is among the lowest in the OECD and cross-country evidence shows that countries with a more mobile labour force tend to have a lower share of long-term unemployed (Figure 1.8).

Figure 1.8. **Long-term unemployment and labour mobility**



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1. Proportion of the population aged 15-64 who changed region of residence in the last year. For Australia, Italy and Japan data is for the total number of persons who changed region of residence. Data is for 2003 for all countries.

Source: OECD, *Employment Outlook*, 2005 and OECD, *Labour Force Statistics Database*.

Improving education outcomes

Further improving education outcomes is an important challenge in order to catch up to higher income levels. Better education outcomes would raise productivity and employment prospects. In particular, better education is needed to help the Slovak economy deal with the changes in sectoral structures mentioned above. In this regard, putting the economy on a broader footing and moving away from the specialisation of

providing cheap labour input for FDI-driven manufacturing would be to the longer-term benefit. The key challenges in the education area, as outlined in an in-depth chapter in the 2007 *Survey*, are to improve student achievement, *inter alia* by reducing the impact of socio-economic background on outcomes, raising tertiary attainment and making vocational secondary school education more pertinent to labour market requirements (Table 1.4). On a positive note, tertiary graduation rates have increased to 35% in 2006, closing some of the gap to the OECD average of 37%. However, little progress has been made in policy reforms to the school system; this is unfortunate given the importance of education. Going forward, the *Modernisation Programme Slovakia 21* (Box 1.5) indicates that the government intends to address some of these concerns in the future. The envisaged short-term measures in the programme include raising the participation in kindergarten for children from socially disadvantaged groups and increasing the quality of education to raise student achievement and to improve the accessibility of university. In the longer term it is intended to improve teacher quality through the introduction of a performance-related career system and to introduce more flexibility in university management.

Table 1.4. **Progress in structural reform: Education**

Recommendations from previous *Surveys*	Action taken since the April 2007 *Survey*
Education	
Improve student achievement and reduce the impact of socio-economic background by helping Roma children to integrate into the education mainstream, by reducing the stratification in the education system and by improving teacher quality.	Several projects to support Roma children were introduced, among them scholarships and language trainings. The function of teacher assistants was introduced to facilitate communication between teachers and Roma children in the classroom and to support them in accomplishing the educational activities as well as mediation between schools and Roma families.
Make vocational secondary school education more pertinent to labour market requirements: Increase employer involvement in vocational secondary school curricula development to adapt such education better to labour-market requirements. Develop an apprenticeship system for the practical training component of vocational secondary school programmes.	A new vocational education and training (VET) Act is in the phase of final preparation which will introduce more cooperation with employers, central state administration authorities, territorial self-government authorities and other subjects at adjusting existing educational and study fields to labour market demands.
Make tertiary education more attractive to technical secondary school graduates: Develop short (2-3 years) occupationally oriented programmes. Reconsider the policy of not introducing tertiary fees for full-time students. Make loans with income-contingent repayments available.	No action.
Increase participation in continuing vocational education and training (CVET)/ lifelong learning (LLL): Ensure that official accreditation is available to programmes meeting certain minimum quality standards. Priority should be given to putting in place arrangements for the accreditation of non-formal and informal learning within the national and European qualifications frameworks. Make employees' costs of participation in CVET/LLL tax deductible.	No action.

... while focussing on the new challenges associated with euro area entry

Improving product market competition in the non-tradable sector

Further efforts to raise the flexibility of product markets are also of crucial importance for life in the euro area. The scope for reducing barriers to competition remains large, ranging over several sectors such as network industries and liberal professions (Table 1.5). More competition is beneficial to help the economy to adjust to changes in economic structures and shocks. Also, raising productivity in the service sector can help to dampen the risk that wage growth in the non-traded sectors contributes to higher inflation rates. As the productivity differential between the traded and the non-traded sector is substantially larger in the Slovak Republic than in the average euro area country, the risk that wage spillovers from the traded to the non-traded sectors have an inflationary impact is non-

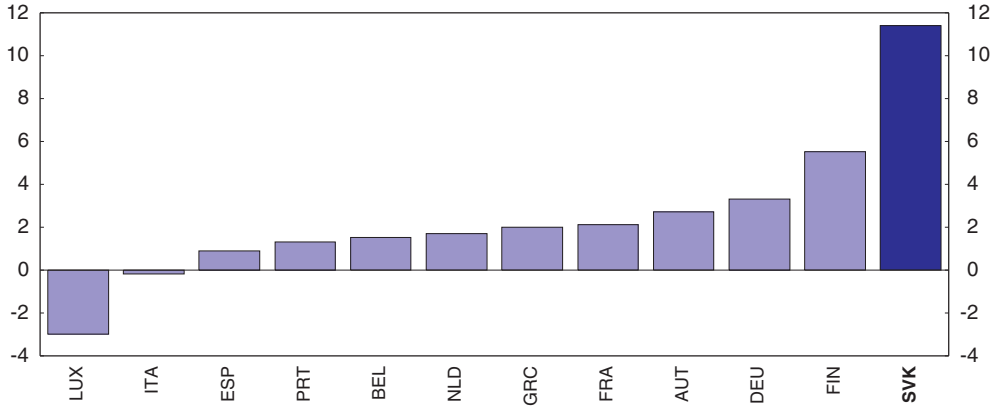
Table 1.5. **Progress in structural reform: Product markets**

Recommendations from previous *Surveys*	Action taken since the April 2007 *Survey*
Product Markets	
Resume the privatisation process. Privatise the remaining government shares in the telecommunications incumbent. Pursue further entry of private capital in companies active in electricity generation and trade as well as in gas trade.	No action.
Strengthen competition in energy markets. Strengthen market integration with neighbouring countries. Consider measures to make the domestic market structure more conducive to competition. Fully exploit room to lower network access prices. Take more steps to prevent non-price discrimination in network access. Streamline procedures for the construction of new power plants.	Legal unbundling of the electricity distribution network of the three biggest distribution companies was implemented in July 2007. The regulatory framework in the gas and electricity sectors was changed in 2007, laying down non-discriminatory rules for competition and giving network access possibilities to all market entrants. Fees of systemic services for charging end users in the electricity sector have been decreased. Further decrease of fees for network services is foreseen for 2009.
Strengthen competition in the telecommunications sector. Reduce delays in the introduction of remedies to foster competition in fixed line telecommunications services. Strengthen the independence of the telecommunications regulator.	No action.
Make the disbursement of subsidies to the railways industry more conducive to competition. Avoid discretion in the allocation of subsidies to the railways industry. Instead of disbursing subsides to the incumbent railway transport service operator, they should be used to lower network access prices or be made contestable through the public tendering of public service obligations.	No action.
Remove barriers to competition in the public sector: Raise the share of public procurement contracts for which a contract notice is published and benchmark procurement costs internationally. Strengthen management capacity and accountability of the judicial sector, strengthen contract enforcement and improve competition in public procurement. Reduce costs of obtaining permits for businesses as well as administrative costs of paying social security contributions.	Amendment of the Act on Public Procurement No. 25/2006, implemented in July 2008, may improve public procurement.
Remove barriers to competition in the regulation of liberal professions. Abolish compulsory chamber membership and decrease their powers to take decisions concerning the regulation of activities of professional enterprises. Abolish entry requirements with regard to experience for setting up a business and ease restrictions on the legal form of business.	No action.

negligible (Figure 1.9). Chapter 2 analyses the nominal catch-up process, the effects it will have on inflation differentials with the euro area and proposes reforms that would enhance productivity in the non-tradable sectors.

Figure 1.9. **Productivity growth differentials between traded and non-traded sectors**

2000-06, per cent per annum



StatLink http://dx.doi.org/10.1787/528110085011

Source: OECD calculations based on Eurostat data.

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Adjusting the fiscal policy framework and ensuring sustainability

Fiscal policy will henceforth take the brunt of countercyclical policy following entry to the euro area. The key challenge is to continue the consolidation process in order to reach the government target of a balanced budget by 2011 and conform to the *Stability and Growth Pact*. However, it is also very important to ensure that the framework adequately allows the automatic stabilisers to smooth the business cycle. In this regard, the current rules contain some pro-cyclical elements that could have particularly adverse effects during an economic downturn, as they might restrict the full working of the automatic stabilizers. Chapter 3 discusses the main issues in this area and proposes changes to the existing framework. In addition to letting the cycle passively affect the budget, discretionary countercyclical policy might be required during the catch-up process if signs of overheating occur.

A second fiscal challenge is to ensure longer-term sustainability in view of ageing. This is important in order to prevent future increases in the tax burden on labour and rising borrowing costs due to an increasing debt level. The government made a big step in this regard by enacting a pension reform in 2005, which introduced a fully-funded defined-contribution (DC) second pension pillar (replacing one half of the pay-as-you-go (PAYG) defined-benefit (DB) first pillar). This has brought down the expected additional budget expenditures needed to finance the shortfall in the DB pillar significantly, while raising the short-term deficit of the DB system. Recently, however, a number of modifications were introduced, which will increase future pension costs somewhat. Most notably, the two pillars of the pension system have been re-opened twice and participation in the DC pillar was changed from mandatory to optional for new labour market entrants. To the extent that people choose the DB pillar over the DC pillar, this represents a step backwards in terms of sustainability. Chapter 3 outlines reforms in the pension system that would help to improve the financial situation of the pension system.

Bringing housing policies closer to best-practice

The Slovak housing market has been characterised by rapidly rising house prices until recently, a lack of construction and the virtual absence of a formal private rental market as the share of owner-occupied housing is close to 90%. The current situation is hampering long-run growth through disincentives to labour mobility. As raising employment rates is a key challenge for the future, a more flexible housing market is urgently needed. But the most immediate challenge is to avoid the fate of some other euro area countries that underwent prolonged housing cycles. Fast rising mortgage borrowing and easier lending standards by banks are warning signs in this regard.

Raising the flexibility of the housing market entails foremost addressing the lack of a private rental sector. Focussing on the various aspects in the system that prevent the natural development of such a sector is the right approach. There is a myriad of different aspects that play a role. A tax system that is heavily skewed towards supporting owner-occupation, a reliance on a public housing sector at regulated low rents (where rental prices are less than a third of comparable private rentals), a housing allowance system that is only of marginal importance, and still extensive tenant protection. Further contributing to raising the flexibility of the housing market would be ensuring that supply of new dwellings is responsive to demand, thereby also helping to dampen housing cycles. During the current upswing of house prices, construction has reacted only with long lags, which in

itself has contributed to the rise in prices, notwithstanding a widespread perception of housing shortages. Chapter 4 lays out how best to approach reforms in this area.

Notes

1. After the Slovak koruna joined the ERM II in November 2005, the central parity was changed twice: on 16 March 2007 it was revalued by 8.5% and on 29 May 2008 it was revalued again by 17.6%.
2. The euro changeover in the Slovak Republic and its likely effects on inflation and interest rates was the topic of an informal EDRC seminar on 9 July 2008 where several earlier euro area entrants as well as potential future accession countries discussed the lessons that can be learned from previous accession rounds. The seminar documents and presentations are available at *www.oecd.org/document/56/0,3343,en_33873108_33873781_41028984_1_1_1_1,00.html*.
3. Energy intensity in 2003 stood at 0.28 tonnes of oil equivalents per $1 000 of GDP (at PPP, 2000 prices), compared with ratios of around 0.15 for Germany, Austria and Spain. Projections by the International Energy Agency foresee that the gap in energy intensity will only close slowly over the coming years (IEA, 2006).
4. Empirical studies generally find that the exchange rate channel is more, and the interest rate channel less important in the transmission of monetary impulses in Central and Eastern European countries relative to the euro area. Coricelli *et al.* (2006) provide an overview of differences in monetary transmission in CEE countries. They find that the interest rate channel gained in importance with the development of the financial sector, while the asset price channel remains of limited importance.
5. Estimating the speed of monetary policy transmission, OECD (2006) find that transmission of interest rate shocks to the real economy works faster in Denmark than in the main euro area countries, reflecting the large share of variable rate mortgages held by Danish households, and the high ratio of mortgages per GDP.
6. Explanations for this observation include: providing financial services involves fixed costs that decline as the economy develops; and, with a higher GDP, more investment projects are undertaken which makes it easier to diversify risks through financial markets. Regarding the question of causality, recent studies tend to support the view that financial sector development accelerates economic growth rather than the other way around (IMF, 2004).
7. Égert *et al.* (2006) determine the equilibrium level of credit-to-GDP ratios of transition countries using estimation results obtained from a panel of small open OECD countries. They find that by 2004 most of the ratios in transition countries were below their equilibrium level. Using a similar set-up, Cottarelli *et al.* (2005) find that by 2002 the ratio of private credit to GDP was only half of what an estimate based on fundamentals would have suggested.
8. Some studies find evidence that the introduction of EMU has led to a structural break in the relationship between fiscal policy and government bond spreads (Heppke-Falk and Hüfner, 2004; Bernoth *et al.*, 2004).
9. Schnabl (2008) presents such a theory of overinvestment in the context of the CEE countries. The main deviation from the original Balassa-Samuelson framework is that investment is not assumed to be homogeneous, but rather that speculative investment leads to a deterioration of profitability of investment over time.
10. While the overall unemployment rate in 2007 amounted to 11%, it ranged from 4.3% in the Bratislava region to around 20% in the Banská Bystrica region.
11. The Employment Bonus is granted as a tax credit which is paid out as a transfer in case the employee's earnings drop below the tax allowance amount (see National Reform Programme of the Slovak Republic for 2008-10). It is only available to persons with income from dependent employment over a period of at least 6 months. The highest tax credit amounts to SKK 2 508 (€ 83) per year and will be granted to employees who earn up to the minimum wage if they work for 12 months (raising their disposable income by 2.8%). The tax credit can be claimed at the end of a tax period when filing tax returns (thus the first payments will be made in 2010).

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Chapter 2

Raising flexibility during the catch-up phase

As in other catch-up countries inflation is likely to stay high going forward due to nominal convergence. To better cope with the risk of a too rapid pick up of wages during the convergence process on the one hand and to raise the adjustment potential of the economy to macroeconomic shocks on the other, labour and product market flexibility is essential. Three main areas for improvement are discussed in this chapter. First, wage flexibility should be safeguarded by avoiding significant increases in minimum wages and by abolishing legal extension of collective wage settlements. Second, competition needs to be strengthened, especially in the liberal professions where entry and conduct regulation should be eased. In addition, the points of single contact that already exist for small enterprises should be extended to entrepreneurs of the liberal professions. Third, a wider use of information and communication technology (ICT) could lead to important productivity gains. Removing obstacles to the spread of e-business and a swift implementation of e-government are imperative.

The Slovak economy has made considerable progress during the past decade in closing the GDP *per capita* gap with the more advanced OECD economies. The catch up in living standards has proceeded particularly rapidly since EU entry in 2004, with the economy growing at an average rate of 7½ per cent per year between 2004 and 2007. The high growth was supported by wide-ranging structural reforms and associated strong inflows of foreign direct investment. Nonetheless, living standards still remain well below the euro area average. As the GDP *per capita* level is catching up with the levels seen in the more advanced economies, the price level is catching up as well, resulting in inflation that will remain relatively high over the foreseeable future. As outlined in Chapter 1, the resulting positive inflation differential *vis-à-vis* the euro area average is one factor that risks triggering a boom-bust cycle.

Raising the overall flexibility of the economy is essential to counteract the emergence of such a boom-bust cycle. Firstly, flexible labour and product markets are needed to deal with cyclical shocks. This is all the more important given the loss of an independent monetary policy that could serve as a shock absorber. Secondly, by boosting productivity growth greater product market flexibility should help coping with the risk of a too rapid pick up of wages during the convergence process. Although notable progress has been made over the past years in making labour and product markets more flexible, there still remains considerable room for improvement, especially since some of the earlier achievements have been eroded by recent legislative changes.

Nominal convergence before and after euro area entry

Prices and wages are well below the euro area average...

Countries with lower GDP *per capita* levels tend to be characterised by lower absolute price levels. The EU member countries of Central and Eastern Europe, which have a GDP *per capita* level well below the euro area average, also have a lower price level than the average euro area country (Figure 2.1, panel A). In the case of the Slovak Republic, both the GDP *per capita* level and the price level stood at around 60% of the euro area average in 2007. At the time that Greece, Portugal, Slovenia and Spain adopted the euro, their GDP *per capita* and price levels were closer to the euro area average; hence the Slovak Republic is the country with the largest catch-up potential for income growth and nominal convergence requirement for the price level that has ever joined the euro area.

Whilst the level of both goods and services prices are lower in catching-up economies, the price differential tends to be more pronounced for services (Figure 2.1, panel B) as they tend to be more sheltered from competition and depend more on local income. A more detailed product break-down shows that the comparative price level of the Slovak Republic is particularly low for public services such as education, health and the supply of housing, water, electricity and gas, which often cost less than half of the average euro area price (Figure 2.2). The prices of goods on the other hand, are generally closer to the euro area average; for clothing and footwear, Slovak households pay only slightly less than their

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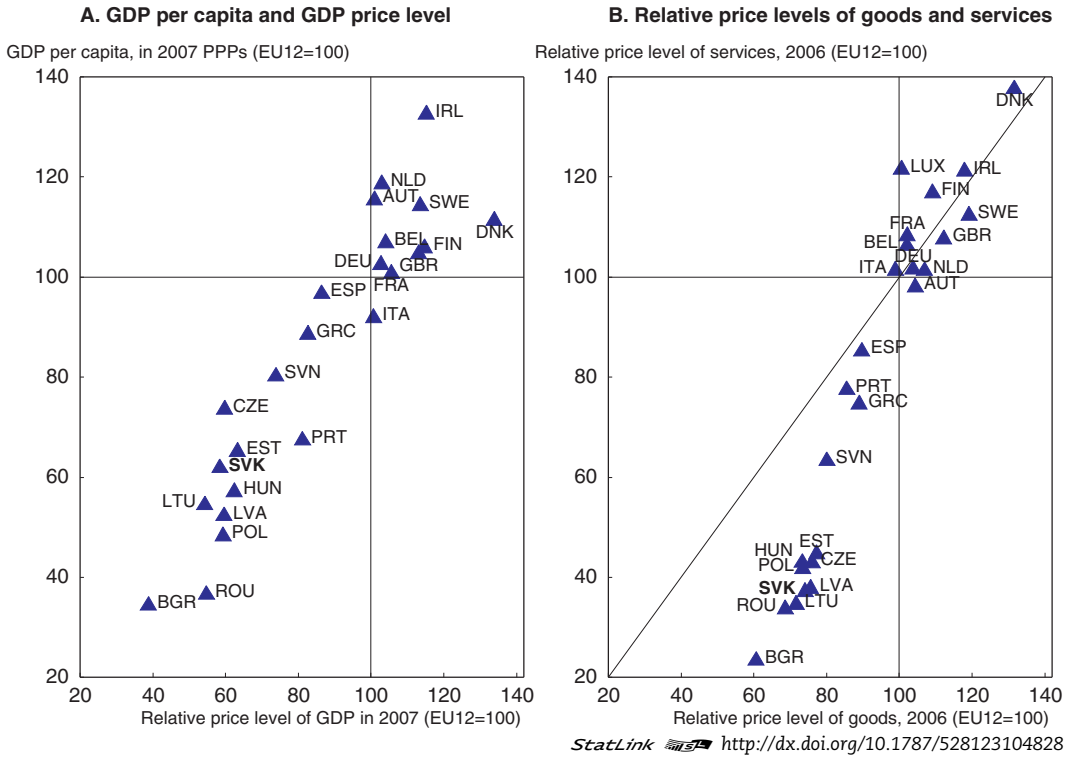
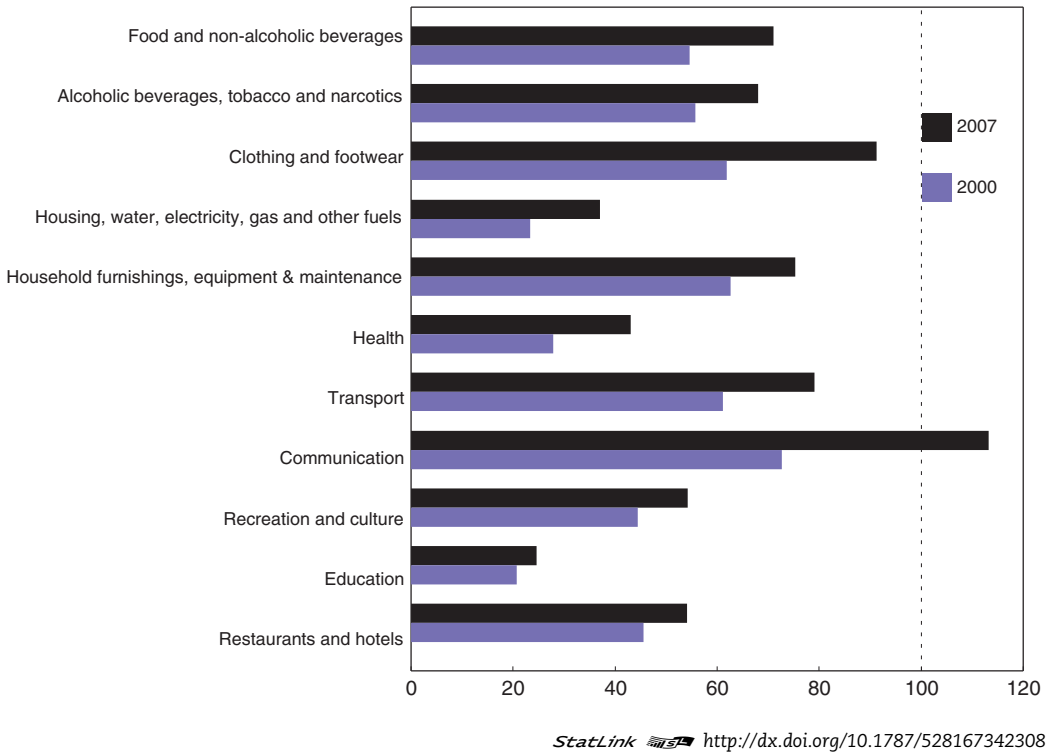
Figure 2.1. **Real and nominal convergence**



Source: Eurostat.

Figure 2.2. **Comparative price level – product breakdown**

EU12 = 100



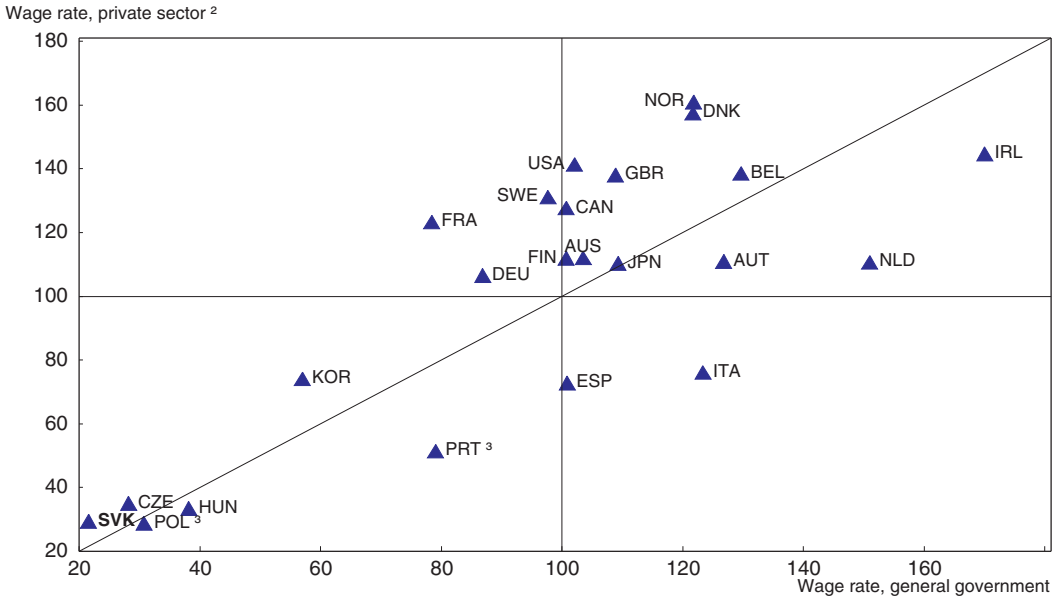
Source: Eurostat.

euro area counterparts and in the communications sector, the price level even exceeds the average price level in the euro area. A comparison of relative price levels between 2000 and 2007 reveals rapid nominal convergence in the run-up to the euro entry phase.

The lower price level in the Slovak Republic is matched by a lower wage level (Figure 2.3). When measured at current exchange rates, the wage level in the Slovak Republic is one of the lowest in the OECD. At one-fifth of the euro area average, wages are particularly low in the public sector relative to the public sector in the euro area.[1]

Figure 2.3. **Relative wage rates, 2006**

EU11[1] = 100, current exchange rates



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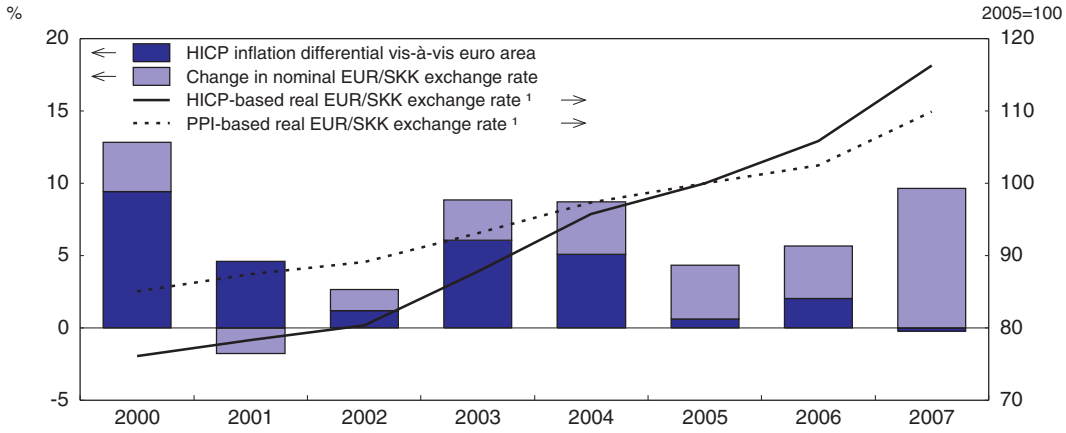
1. Austria, Belgium, Finland, France, Germany, Ireland, Italy, Luxembourg, Netherlands, Portugal and Spain.
2. The wage rate in the private sector is defined as the ratio of wages and salaries (sometimes including social security contributions paid by the government) to the dependent employment in the private sector.
3. The wage rate in the private sector is a forecast figure.

Source: OECD, *Economic Outlook Database*.

... but are catching up

As GDP *per capita* and productivity levels in the Slovak Republic catch up with the levels seen in other euro area countries, the prices of goods and services will catch up as well.[2] In the past, this catch up in prices occurred through a combination of nominal exchange rate appreciation and higher inflation (Figure 2.4). Between July 2000 and July 2008, when the conversion rate *vis-à-vis* the euro was fixed, the nominal exchange rate of the Slovak koruna appreciated by almost 40% against the euro, implying an average appreciation of around 4¼ per cent per year over that period. The appreciation was particularly strong in recent years with the central parity of the Exchange Rate Mechanism II being revalued twice, once by 8½ per cent in March 2007 and once by 18% in May 2008. The inflation differential *vis-à-vis* the euro area added another 2½ percentage points to the annual real appreciation of the koruna when measured based on consumer

Figure 2.4. **The koruna real exchange rate**



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1. An increase (decrease) indicates an appreciation (depreciation).

Source: OECD, *Economic Outlook Database* and *Main Economic Indicators Database*, IMF International Financial Statistics.

prices and ¼ of a percentage point when measured based on producer prices. As the adoption of the euro in January 2009 rules out any further nominal appreciation against the euro, catch up in prices will henceforth be entirely reflected in an inflation rate that exceeds the average inflation rate in the euro area. This catch-up inflation is an equilibrium phenomenon which mirrors mainly the catch up in productivity levels in the open sectors.

The most widely used explanation for the way nominal convergence takes place is the Balassa-Samuelson hypothesis. The hypothesis relies on labour mobility between the traded and non-traded goods sectors and hence equalised wage growth despite different productivity growth in the two sectors (Box 2.1). As the Balassa-Samuelson effect is reflected in rising prices of non-tradable goods it cannot fully account for the observed real appreciation. Although the real exchange rate based on consumer prices appreciated by more than the one based on producer prices,[3] the latter also appreciated markedly,

Box 2.1. **The Balassa-Samuelson effect**

The Balassa-Samuelson hypothesis was put forward by Balassa (1964) and Samuelson (1964) to explain differences in price levels and inflation rates between catching-up economies and advanced economies. The price level effect rests upon the idea that catching-up economies such as the Slovak Republic are characterised by productivity levels in the open sectors that are lower than those in the advanced economies, whilst productivity differences in the sheltered sectors are negligible. If tradable prices are given by purchasing power parity (PPP), lower productivity levels in the open sectors imply lower wages in these sectors. If labour is fully mobile or wage setting is solidaristic, wages will equalise across sectors so that the sheltered sectors are also characterised by wages that are lower than those in the advanced economies. With productivity levels in the sheltered sectors similar to those in the advanced economies and the nominal exchange rate determined by purchasing power parity in the open sectors, non-tradable goods and services should cost less in the Slovak Republic than in advanced economies, implying a lower overall price level.

Box 2.1. **The Balassa-Samuelson effect** *(cont.)*

In its dynamic form, the hypothesis postulates that productivity will improve faster in the open sectors than in the sheltered sectors. Rising productivity in the open sectors allows wages to increase without raising the prices of the tradable goods and services produced. Rising wages in the open sectors (in line with productivity developments) will spill over to the sheltered sectors, pushing up wages and thereby the prices of non-tradable goods.[1] Thus, if the productivity growth differential between the open and the sheltered sectors in the Slovak Republic exceeds that of the euro area, the real exchange rate will appreciate *vis-à-vis* the euro, either through some combination of nominal appreciation and higher inflation (if the exchange rate is flexible) or through a higher overall inflation rate (if the nominal exchange rate is fixed). On average over the period 2000 to 2006, productivity growth differentials have indeed been larger for the Slovak Republic, with productivity growth in the open sectors exceeding that in the sheltered sectors by 11% compared with only 3% in the euro area.[2]

Empirical studies estimate that the Balassa-Samuelson effect in the Slovak Republic amounts to around 1.5% per year (Table 2.1). At first, this figure seems surprisingly low given the strong productivity growth in the open sectors, particularly in automobile manufacturing and electronics, where large inflows of foreign direct investment contributed to a marked increase in productivity growth in recent years. However, the transmission of this primary impulse seems to have been damped by a number of factors (Vladová, 2007; Égert and Podpiera, 2008). First, wage growth in the open sectors did not reach the growth rate of labour productivity; particularly in recent years (Figure 2.5, panel A). Second, although average wages in the sheltered sectors increased at a similar rate to average wages in the open sectors, labour productivity growth in the sheltered sectors compensated for a certain part of the wage growth so that producers were not forced to pass on the entire wage growth to prices. Finally, although the share of market services (only those non-tradables for which prices are market-determined and not administered should ultimately matter for the Balassa-Samuelson effect) has risen markedly in the Slovak Republic, it still accounts for only one quarter of the Harmonised Index of Consumer Prices (HICP) (Figure 2.5, panel B). So even if a given productivity growth differential between the open and sheltered sectors would translate one-to-one into higher prices of non-tradable goods and services, the overall HICP would still rise by only one quarter of the productivity growth differential.

Table 2.1. **Selected estimates of the Balassa-Samuelson effect in the Slovak Republic**

Study	Dependent variable	Sample period	Estimated size of BS effect (in % p.a.)
Vladová (2007)	Inflation differential *vis-à-vis* euro area	1997-2006	1.2
Égert (2007)	Domestic inflation	1995-2005	0.4-2.1
NBS (2006)	Inflation differential *vis-à-vis* euro area	1996-2005	1.0-1.8
Mihaljek and Klau (2008)	Inflation differential *vis-à-vis* euro area	1999-2008	2.0
Kovács (2004)	Domestic inflation	1995-2001	1.0-2.0
Lojschová (2003)	Inflation differential *vis-à-vis* euro area	1995-2002	0.4-2.5
Égert *et al.* (2003)	Inflation differential *vis-à-vis* Germany	1995-2000	1.4-1.6
Égert (2002)	Inflation differential *vis-à-vis* Germany	1996-2001	0.02-0.9

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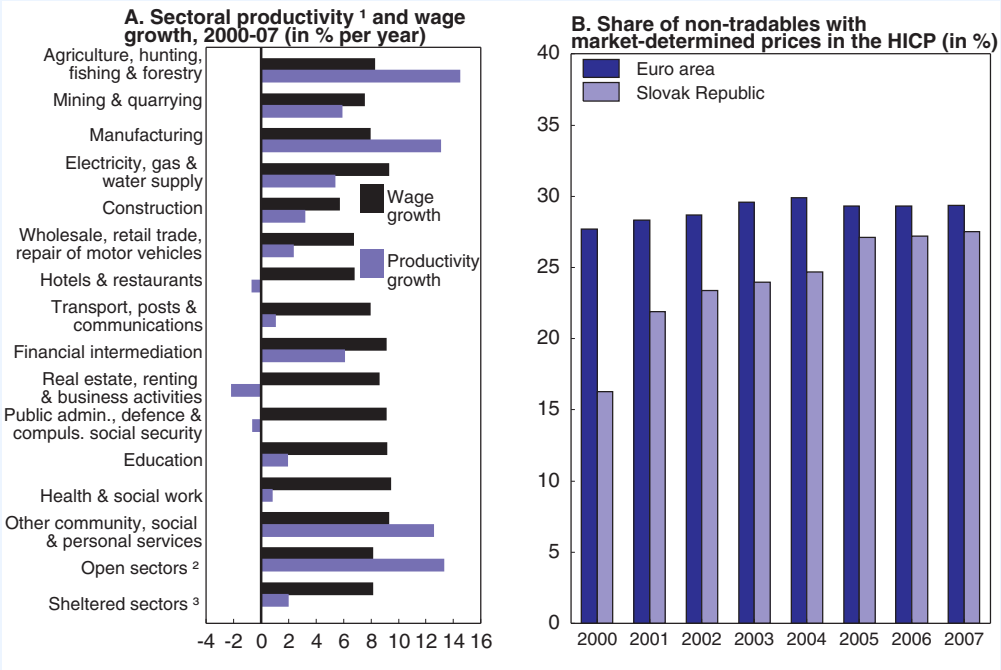
Box 2.1. **The Balassa-Samuelson effect** *(cont.)*

Figure 2.5. **The Balassa-Samuelson effect in practice**



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1. Labour productivity is defined as gross value added (in constant 2000 prices) per employment.
2. The open sectors include agriculture, hunting, fishing, and forestry, mining and quarrying, and manufacturing.
3. The remaining sectors not classified as open sectors are classified as sheltered.

Source: Eurostat, Statistical Office of the Slovak Republic, *OECD National Accounts Database* and OECD calculations.

1. MacDonald and Ricci (2002) and Benigno and Thoenissen (2003) argue that productivity improvements in the tradable sector might also have a negative effect on the price of home-produced tradables via an increase in product variety (which leads to a decline in mark-ups due to higher competition), thereby attenuating the Balassa-Samuelson effect.
2. Productivity is defined as gross value added (in constant 2000 prices) per employment. Agriculture, hunting, fishing and forestry, mining and quarrying, and manufacturing are classified as open sectors; all remaining sectors are classified as sheltered.

revealing deviations from purchasing power parity. Empirical studies that have tried to estimate the size of annual real appreciation attributable to the Balassa-Samuelson effect generally conclude that the effect is relatively small, contributing not more than 1.5 percentage points per year to the real appreciation of the Slovak koruna (Box 2.1). This falls far short of the actual real appreciation observed over the past years.

Another factor that appears to have contributed to the strong real appreciation of the Slovak koruna is the quality bias, which occurs when statistical agencies fail to adequately reflect improvements in product quality, thereby falsely attributing the quality-related part of the price increase to inflation (Hanousek and Filer, 2001; Mikulcová and Stavrev, 2001). Filtering out quality effects is difficult in practice, especially in catching-up economies where quality improvements happen more rapidly than in advanced economies. The quality bias occurs both on the consumer side, with households switching to higher quality

goods and services as their disposable income increases, and on the producer side with foreign competition and direct investment inflows causing a shift in the product mix towards high quality products.[4] Whilst in the past, the upward-adjustment of regulated prices towards cost-recovery levels and the rising share of non-tradable goods and services in private consumption also contributed noticeably to the real exchange rate appreciation, the importance of both factors has declined in recent years.[5]

Nominal convergence will continue for several years…

Although nominal convergence is ultimately a price level effect, it is a lengthy process and may thus affect inflation for a substantial period of time.[6] Estimating a simple convergence model (see Box 2.2) suggests that the GDP *per capita* level of the

Box 2.2. **Real and nominal convergence**

Although remarkable progress has been made in terms of catching up to the advanced economies, both the GDP *per capita* level and the price level of the Slovak Republic are still well below the euro area average. The catch-up process is thus likely to continue for several years to come. To assess the likely time horizon of this process, an unconditional convergence model is estimated for a panel of eight countries[1] from Central and Eastern Europe over the period 1995 to 2007 that relates the change in real GDP *per capita* (measured in 2000 purchasing power parities) to the relative real GDP *per capita* level (measured *vis-à-vis* the euro area) of the previous period:

$$\Delta \ln GDPCAP_t = \alpha + \beta \ln(GDPCAP_{t-1} / GDPCAP_{EU12,t-1})$$

The steady-state growth rate of real GDP *per capita* (that is, the value of the constant α) is assumed to be equal to 1.7% for all eight countries, which is the average real GDP *per capita* growth rate observed over the period 1995 to 2007 in the euro area.[2] The estimates suggest that the eight countries from Central and Eastern Europe did indeed converge towards the euro area in terms of their GDP *per capita* level over the period 1995 to 2007 with the slope coefficient β being significantly negative.[3] The convergence speed is estimated at 4.6% per year, meaning that the remaining GDP *per capita* gap between the Central and Eastern European countries and the euro area is reduced by 4.6% every year. If the Slovak Republic continues to converge at that rate going forward, its GDP *per capita* level can be expected to reach 70% of the euro area average by around 2015 (see Figure 2.6, panel A).[4]

As GDP *per capita* in the Slovak Republic converges towards the euro area average, the price level should follow suit. To gauge the likely impact of the catch-up process on prices, a simple equation is estimated relating the relative price level of an economy to its relative GDP *per capita* level measured in purchasing power parities (both in logarithms).[5] The equation is estimated for a panel of 24 EU countries over the period 1995 to 2007.[6] The estimation yields an elasticity of 0.88 meaning that an increase in GDP *per capita* (in purchasing power parity units) relative to the EU12 average by 1% is associated with an increase in the relative price level by 0.88%. This is in line with the results of Čihák and Holub (2005) who obtain elasticities between 0.7 and 0.9 for a panel of European OECD and EU accession countries. Applying this elasticity to the GDP *per capita* projection obtained from the convergence model implies that the GDP price level of the Slovak Republic will reach 70% of the euro area average by 2015.[7] Assuming that the inflation rate of the euro area will be equal to 1.8% up to 2015 (which is equal to the average inflation rate over the period 1995 to 2007), this means a theoretical inflation differential of more than 2½ per cent during the next years which will gradually decline to around 2% in 2015 (Figure 2.6, panel B).

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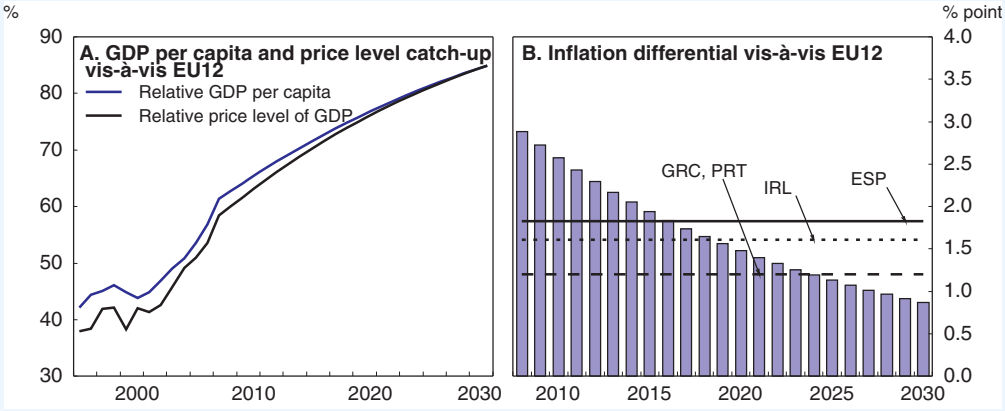
Box 2.2. **Real and nominal convergence** *(cont.)*

Figure 2.6. **Simulation of the convergence process**



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1. The horizontal lines show the average inflation differentials *vis-à-vis* the euro area average for Spain, Portugal, Ireland and Greece since their entry into the euro area (1999 for Spain, Portugal and Ireland, 2001 for Greece).

Source: OECD calculations based on Eurostat data.

1. The sample comprises the Slovak Republic, the Czech Republic, Hungary, Poland, Slovenia, Estonia, Latvia and Lithuania.
2. This assumption implies that both the level and the growth rates of Slovak GDP *per capita* will converge towards the euro area average. The assumption is made for reasons of simplicity and should be taken with care as GDP *per capita* growth rates are very heterogeneous even within the euro area.
3. The residuals of the estimated relationship are stationary at the 1% significance level, indicating that the GDP *per capita* levels of the Central and Eastern European countries are co-integrated with the GDP capita level of the euro area.
4. In the simulation it is assumed that GDP *per capita* in the euro area will grow at a rate of 1.7% per year.
5. Estimating a convergence equation for the relative price level is complicated by the fact that changes in the relative price level do not necessarily match inflation differentials (Égert, 2007). Reasons include the incomplete exchange rate pass-through (if the pass-through is weak, exchange rate changes have little influence on inflation but move up or down the relative price level) and differences in data collection and construction. In the simulation it is assumed that changes in the relative price level exactly match inflation differentials, which is justified as the pass-through does not matter as exchange rate changes *vis-à-vis* the euro are ruled out after euro area entry, whilst the other factors are assumed to be zero.
6. The sample includes all EU15 countries except Luxembourg, the Slovak Republic, the Czech Republic, Hungary, Poland, Slovenia, the Baltic countries, Bulgaria and Romania. Luxembourg is excluded from the regression as an outlier.
7. In 2007, the GDP price level of the Slovak Republic was below the value implied by the estimated relationship between the relative GDP *per capita* level and the relative price level (see also Figure 2.1, panel A). For the projection it is assumed that the implicit residual gradually declines over time at a diminishing rate.

Slovak Republic is likely to reach 70% of the euro area[7] average by around 2015 (the simulation assumes that GDP *per capita* in the EU will continue to grow at 1.7% per year). Using EU population projections, this means that Slovak real GDP will grow at an annual average rate of about 3¾ per cent until 2015 which is somewhat lower than the average growth rate of around 5% achieved over the period 1996 to 2007 (that number is pushed upwards by the extraordinarily high growth since EU entry in 2004).

The relationship between relative GDP *per capita* and the relative price level suggests that the price level of the Slovak Republic will also reach 70% of the euro area average by around 2015, implying an average annual inflation rate that is more than 2 percentage

points above the euro area average until around 2015. The inflation differential can be expected to be particularly high during the first years of euro area membership where it is estimated at above 2½ percentage points. Such an inflation differential would be more than ¾ percentage points higher than the maximum inflation differential observed for the euro area (see Figure 2.6, panel B). With nominal interest rates equal across all member countries, real interest rates will thus be around 2 percentage points lower in the Slovak Republic than in the other euro area countries for several years to come. The difference is likely to be smaller for long-term real interest rates due a higher risk premium of the Slovak Republic compared with the average euro area country.

… its speed is surrounded by uncertainty…

The convergence speeds underlying these calculations depend on several assumptions and vary considerably across countries and over time. Estimating the GDP *per capita* convergence equations for each Central and Eastern European country individually shows that the catch up over the period 1995 to 2007 was faster in Slovenia and the three Baltic countries (over 5% per year) than in the four Visegrad countries (less than 4% per year). A similar observation can be made for the first-wave euro area member countries. While Ireland managed to increase its relative GDP *per capita* level from ¾ of the euro area average at the beginning of the 1990s to over 130% in 2007, Greece and Spain reached only 90% by 2007, starting from approximately the same level as Ireland. Portugal achieved only a minimal catch up in terms of GDP *per capita* over the same period, raising its relative position by only 3 percentage points. Regarding the variation over time, the convergence process of the Central and Eastern European countries appears to have accelerated in recent years: Since the EU entry of the eight countries in 2004, their GDP *per capita* levels have converged at an annual rate of over 8% towards the GDP *per capita* level of the euro area.

The speed of convergence appears to depend on the level of economic integration of the catching-up economy and its macroeconomic policy settings, both of which are ignored in the simple model outlined in Box 2.2. Economies that are more open to trade and foreign direct investment tend to experience faster GDP *per capita* convergence because openness helps to promote a more efficient allocation of resources and facilitates technology diffusion.[8] To the extent that euro area membership encourages further trade and financial integration with existing euro area countries, the convergence process of the Slovak Republic might even accelerate going forward.[9] However, the benefits from increased economic integration do not accrue automatically. Proper institutions, a conducive macroeconomic environment, a sound financial system and investments in human capital and research and development (R&D) appear to be important for enabling economies to benefit from increased openness.[10]

A faster (slower) catch up in GDP *per capita* is likely be accompanied by a faster (slower) catch up in relative price levels. Table 2.2 shows the expected inflation differential *vis-à-vis* the euro area for different assumptions for the convergence speed. If the convergence process continues at about the speed observed since EU entry, the GDP *per capita* level of the Slovak Republic would reach ¾ of the euro area average by 2015. However, this faster convergence is likely to be accompanied by a faster catch up in prices, leading to an inflation differential *vis-à-vis* the euro area of close to 3½ percentage points. Such a rapid catch up does not seem unlikely given the implied real GDP growth rate of 5% per year on average over that period, which is 1% below the current estimate of potential growth.

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Table 2.2. **Real and nominal convergence scenarios for the Slovak Republic**

Speed of convergence	Relative GDP price level (EU12 = 100)		Avg. annual inflation differential *vis-à-vis* EU12 (in %)		Relative GDP per capita level (EU12 = 100)		Average annual real GDP growth[2] (in %)	
	2015	2030	2008-15	2016-30	2015	2030	2008-15	2016-30
3.5% (Visegrad avg. 1995-07)[1]	68	81	2.0	1.2	69	81	3.4	2.6
4.6% (CEEC8 avg. 1995-07)	70	85	2.4	1.3	72	85	3.8	2.7
8.2% (CEEC8 avg. 2004-07)	76	92	3.4	1.3	78	93	5.0	2.7

1. Czech Republic, Hungary, Poland, and Slovak Republic.
2. Real GDP growth rates are derived from real GDP per capita growth rates using Eurostat population projections.
Source: Eurostat and OECD calculations.

... and it also entails a catch up in wages

As part of the convergence process wages in the Slovak Republic are also catching up with the levels seen in advanced economies. As long as wages in the open sectors rise in line with productivity growth, wage catch up does not jeopardise competitiveness. In the past, wage growth in the open sectors was roughly in line with (or even lagging behind) productivity growth in these sectors, whilst wage growth in the sheltered sectors outstripped productivity growth: the Balassa-Samuelson effect (see Figure 2.5, panel A). Going forward, there is a risk that the catch-up potential that was built up in those sectors of the economy where wage growth was lagging behind productivity growth in the past might unwind and thus weaken the international competitiveness of these sectors. Moreover, the higher wage and price transparency *vis-à-vis* existing euro area member countries that comes with euro adoption might lead to an additional level effect, thus leading to a wage catch up to the levels in those countries which is too fast. The *Declaration of social agreement to adopt and use the euro* in which all social partners agreed to keep wage raises in line with productivity growth after euro adoption should help contain the risk of excessively high wage increases.

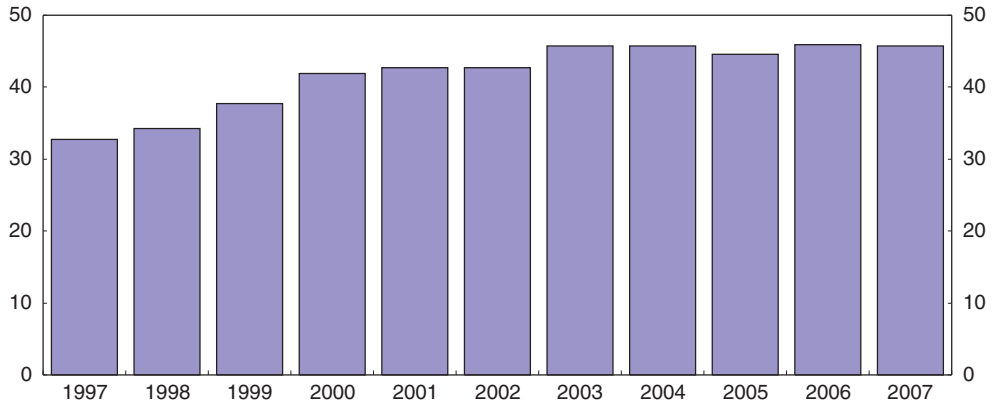
Raising wage flexibility

Wage flexibility across regions and sectors helps the economy to better adapt to a changing economic environment. Economy-wide sectoral wage settlements inhibit regional wage differentiation, especially if collective wage bargaining outcomes are legally extended to companies that are not covered by the agreements.[11] As a consequence, wage agreements may not sufficiently respond to macroeconomic shocks, reducing the adjustment potential of the economy. Legal extension exists in the Slovak Republic since 1991, but the regulation had been significantly relaxed in 2004 by granting employers the right to veto an extension to their company. This veto right was abolished in 2007. Under the new legislation, collective wage agreements may be extended to firms which do not participate in collective wage bargaining, although these firms have limited ground on which to ask for exoneration.[12] Although the number of extensions has been low in recent years, the measure may hamper wage flexibility and may be damaging to employment. Legal extension should therefore be abolished. Alternatively, the conditions for exoneration should be eased and the authorities should make generous use of their powers to accept requests for exoneration. Whilst relevant for all sectors of the economy, such measures are particularly pertinent for the sheltered sectors given that wages in these sectors tend to grow much faster than productivity, thereby generating inflationary pressures.

Another way to maintain wage flexibility is to avoid significant increases in the minimum wage. Evidence suggests that a moderate minimum wage is generally not problematic, but overly high minimum wages risk limiting employment prospects of youth and other vulnerable groups (OECD, 2006). Although minimum wages in the Slovak Republic are still low by international standards, they have tended to rise relative to the median wage in the past (Figure 2.7). Further increases in the minimum wage should be implemented only insofar as they do not have negative impacts on employment opportunities. Under current law, the minimum wage is set by an agreement between the social partners. If they cannot reach an agreement, the government specifies the increase in the minimum wage based on the average growth of wages two years ago.[13] Decisions on the minimum wage level should take into account advice from an independent expert commission, as happens in several other OECD countries.

Figure 2.7. **Minimum wage to median wage ratio**

Per cent



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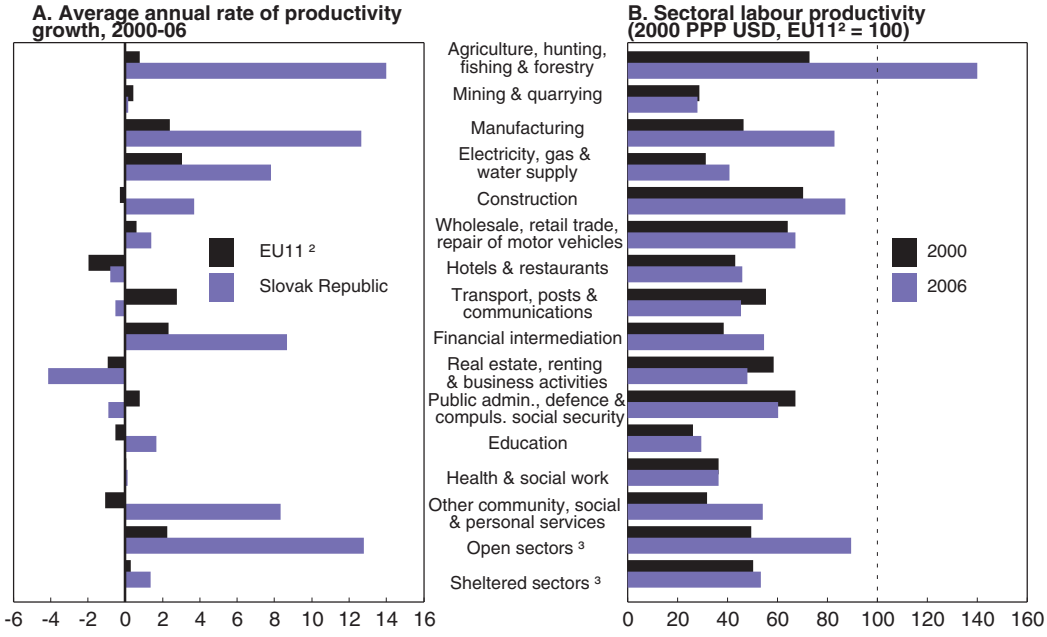
Source: Ministry of Finance.

Raising flexibility in the sheltered sectors

While productivity in the open sectors grew strongly over the past years, owing not least to rising competitive pressures from abroad, productivity growth has generally been quite low in the sheltered sectors (Figure 2.8, panel A). This poor performance is particularly disappointing given that labour productivity in most sheltered sectors is well below the levels achieved in other euro area countries suggesting a large catch-up potential (Figure 2.8, panel B).[14] A notable exception is the financial sector where productivity almost doubled between 2000 and 2006 thanks to the technological advances brought into the country through foreign banks. Productivity growth was also strong in the electricity, gas and water sector owing to wide-ranging reforms aimed at introducing competition in energy markets (see OECD, 2007, for details). However, productivity in this sector is still only about half of the euro area average. The Slovak Republic fell even further behind the euro area in the transport, posts and communications sector, in real estate, renting and business activities and in public administration. In general, the public sector still displays the largest productivity differences *vis-à-vis* the euro area.

Figure 2.8. **Sectoral labour productivity**[1]



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1. Labour productivity is defined as gross value added (in constant 2000 prices) per employment.
2. Austria, Belgium, Finland, France, Germany, Greece, Italy, Luxembourg, Netherlands, Portugal and Spain.
3. The open sectors include agriculture, hunting, fishing, and forestry, mining and quarrying, and manufacturing. The remaining sectors not classified as open sectors are classified as sheltered.

Source: OECD, *National accounts Database* and Eurostat.

The poor productivity performance, especially of the sheltered sectors, calls for further action to liberalise the regulatory framework and foster competition. This should improve the flexibility of the economy, thereby raising its adjustment potential in the wake of macroeconomic shocks. At the same time, higher productivity growth in the sheltered sectors should help dealing with the risk of a too rapid pick up of wages in these sectors during the convergence process. In those areas where productivity growth was lower than in the euro area – transport, posts and telecommunication, business services and public administration – measures should be taken to encourage firms to offer new services, create employment with higher-value added and boost productivity growth to the growth rates seen in more advanced countries.

Promoting competition in service sectors

Unduly strict product market regulations have been found to impede productivity growth in service sectors by reducing competitive pressures (Nicoletti, 2001). The burden of inappropriate regulations appears to be particularly high in ICT-using sectors such as retail trade and business services (Nicoletti and Scarpetta, 2005; and Arnold *et al.*, 2008). Within the regulatory framework, regulations that limit entrepreneurship tend to be particularly harmful. As argued by Arnold *et al.* (2008), easing the entry of new firms should foster competition and promote a more efficient allocation of resources, thereby stimulating business investment, innovation, technological catch up and ultimately productivity growth.

According to the *Doing Business* survey by the World Bank, the Slovak Republic has made some notable progress in facilitating the start up of new businesses leaping from 23rd in the OECD in the 2007 survey to 17th in the 2008 survey (Table 2.3).[15] The picture is slightly worse for the overall score on the ease of doing business, where the Slovak Republic is placed 20th in the OECD. Nonetheless, starting a new business is still more complicated, costly and time-consuming than in many other OECD countries. This picture is confirmed by the executive opinion survey conducted by the World Economic Forum which canvasses the views of business executives in 131 countries. The Slovak Republic scores relatively poorly on the burden of government regulation, ranking 21st in the OECD (World Economic Forum, 2008). In sum, these indicators suggest considerable scope to further reduce market-unfriendly regulations.

Table 2.3. **Ease of starting a business**

	Rank in the world (from least to most restrictive)	Procedures (number)	Time (days)	Cost (% of income per capita)	Minimum capital (% of income per capita)
New Zealand	1	1	1	0.4	0
Canada	2	1	5	0.5	0
Australia	3	2	2	0.8	0
Ireland	5	4	13	0.3	0
United States	6	6	6	0.7	0
United Kingdom	8	6	13	0.8	0
France	14	5	7	1	0
Denmark	16	4	6	0	40.1
Iceland	17	5	5	2.6	13.6
Finland	18	3	14	1	7.4
Belgium	20	3	4	5.2	19.9
Hungary	27	4	5	8.4	10.8
Sweden	30	3	15	0.6	30.3
Norway	33	6	10	2.1	21
Portugal	34	6	6	2.9	34.3
Turkey	43	6	6	14.9	10.9
Slovak Republic	**48**	**6**	**16**	**3.3**	**30.4**
Netherlands	51	6	10	5.9	51.7
Switzerland	52	6	20	2.1	27.6
Italy	53	6	10	18.5	9.7
Japan	64	8	23	7.5	0
Luxembourg	69	6	26	6.5	21.3
Czech Republic	86	8	15	9.6	31.8
Germany	102	9	18	5.6	42.2
Austria	104	8	28	5.1	52.8
Mexico	115	9	28	12.5	11
Korea	126	10	17	16.9	53.8
Greece	133	15	19	10.2	19.6
Spain	140	10	47	14.9	13.1
Poland	145	10	31	18.8	168.8

Source: World Bank (2008).

The Slovak government has acknowledged the need for further reforms in this area and has made improving the regulatory framework and the entrepreneurial environment a priority in its *Modernisation Programme Slovakia 21* (Box 1.2 in Chapter 1). Within this programme, the government intends to perform a comprehensive evaluation of

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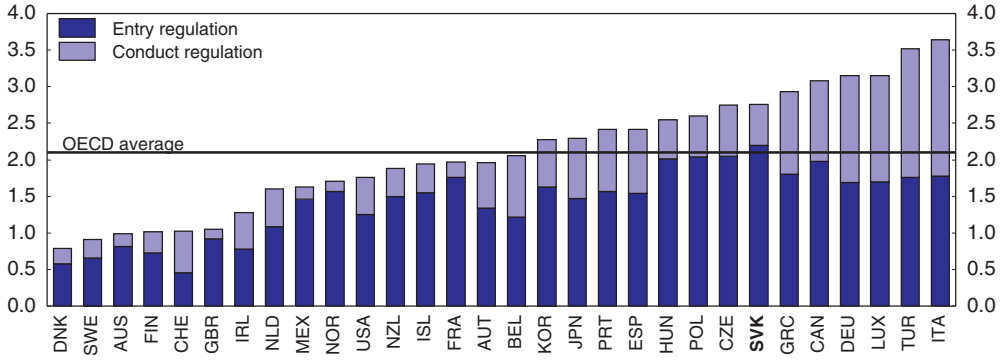
administrative burdens on businesses, in particular on small- and medium-sized enterprises, which will then feed into an action plan and concrete measures for their decrease. While the government initiatives to reduce administrative obstacles to doing business in the Slovak Republic are welcome, a timetable for their completion is needed as euro area entry adds to the urgency of the reforms.

Professional services are subject to a number of specific regulations that unduly restrict competition. As shown in Figure 2.9, entry regulations are particularly restrictive in the Slovak Republic. In order to obtain authorisation to establish a business, registration in a chamber is mandatory for architects, auditors, civil engineers, lawyers, notaries and tax advisers. Such compulsory chamber membership represents a significant hurdle for setting up a new business as registration periods are generally long. Conduct regulations, by contrast, are relatively low in the Slovak Republic. One notable exception is legal and notary professions, with advertising prohibited by law,[16] the form of business restricted to sole practitioners and price schedules for notaries set by the government. To foster competition in professional services and to help raise productivity growth towards the growth rates seen in other OECD countries, entry and conduct regulation should be eased, while maintaining required standards of professional qualification.

Figure 2.9. **Regulation in the professional services**
(scale is 0 – 6 from least to most restrictive of competition)



StatLink http://dx.doi.org/10.1787/528240732821

Note: The indicator covers conduct and entry regulation in legal, accounting, engineering and architecture professions.

Source: Conway, P. and G. Nicoletti (2006), "Product market regulation in the non-manufacturing sectors of the OECD countries: measurement and highlights", *OECD Economics Department Working Paper* No. 530.

In line with the EU directive on services in the internal market, the Slovak government is planning to establish points of single contact for entrepreneurs to facilitate the entry into new business activities. Such a system would enable entrepreneurs to perform all administrative acts necessary to start and carry on a business at one single point, thus considerably shortening the administrative processes and making them more efficient. The planned points of single contact are already operational for small enterprises (with the small business offices serving as the points of single contact), but they are still lacking for the liberal professions. The authorities should quickly proceed with the planned set up of points of single contact for the liberal profession. In doing so, they should extend the points of single contact that already exist for small enterprises to entrepreneurs from the liberal professions.

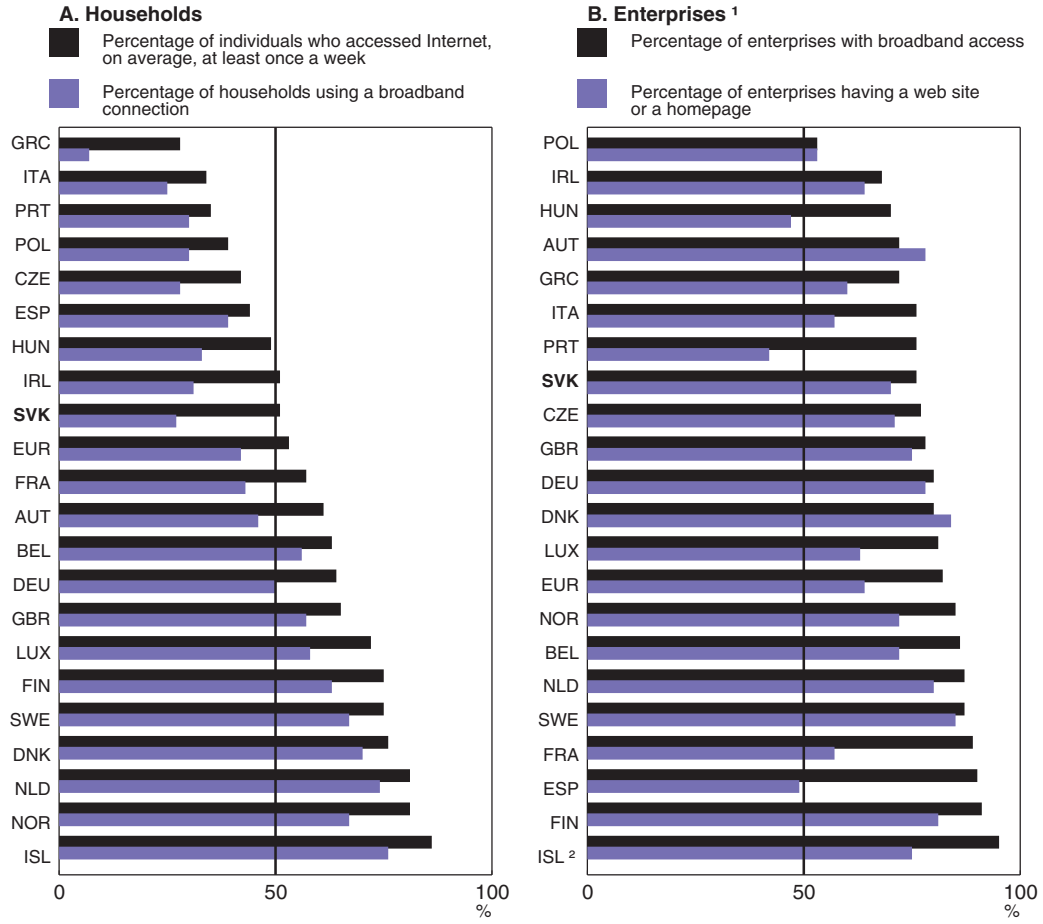
Improving the framework conditions for e-business and e-commerce

Sector and firm level studies on the economic impact of ICT investment suggest that ICT raises labour productivity in service sectors as it enables firms to restructure their organisations, to reengineer business processes and to develop completely new products (OECD, 2004a). However, the experience of other OECD countries shows that encouraging better use of ICT is a challenging task as the mere availability of ICT technology does not automatically translate into electronic commerce or more sophisticated electronic business applications. For example, the gains from ICT are contingent on complementary ingredients such as skill upgrade and organisational change (OECD, 2007b) as well as an overall competition friendly regulatory environment.

Indicators of the overall access and use of ICT by enterprises and individuals rank the Slovak Republic in the middle of OECD economies (Figure 2.10). For example, in 2007, 27% of all households in the Slovak Republic had broadband connection compared with 42% in the euro area. However, when it comes to e-commerce, the Slovak Republic has

Figure 2.10. **ICT access and use**

2007



StatLink http://dx.doi.org/10.1787/528241403658

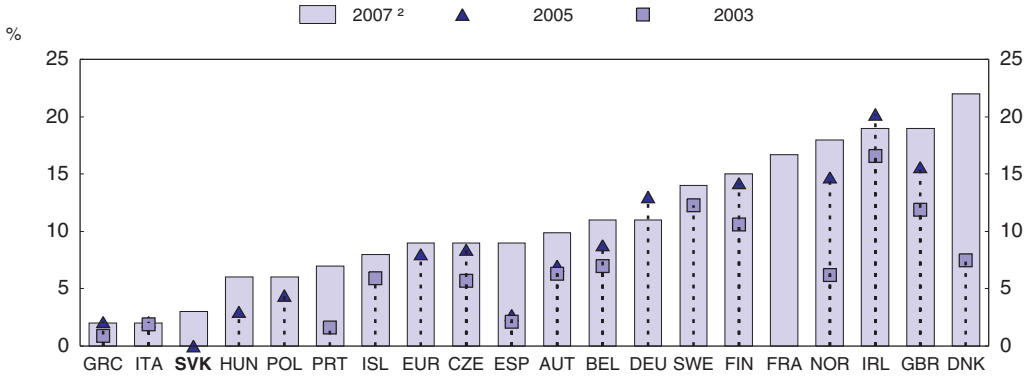
1. All, without financial sector (10 employed persons or more).
2. Values refer to 2006.

Source: Eurostat.

one of the worst scores among member countries (Figure 2.11). Despite some increase in recent years, total business-to-consumer and business-to-business e-commerce represented only 3% of the turnover of Slovak companies in 2007. Better use of ICT is thus an obvious means by which to raise productivity growth in service sectors.

Figure 2.11. **Percentage of enterprises' total turnover from e-commerce, 2003-07**

As a percentage of total enterprise[1] turnover



StatLink http://dx.doi.org/10.1787/528253485301

1. All, without financial sector (10 employed persons or more).
2. 2006 for Austria, France and Iceland.

Source: Eurostat.

Small firms in particular tend to have a limited understanding of the potential of electronic business and electronic commerce (OECD, 2004b). Establishing centres that provide comprehensive information on the benefits of business and e-commerce, disseminate best practices, offer training courses and workshops as well as support services for the establishment of e-business activities can help overcome this obstacle. These centres could be set up as an integral part of the small business offices. Such strategies should be carried out in conjunction with business and industry associations in order to gain economies of scale in developing and delivering the information and training services and to better tailor the offered services to the needs of specific industries.

Although the attachment to existing shopping habits appears to be the most important impediment to Internet purchases among consumers, lack of trust about receiving and returning goods and security and privacy concerns also play a role. To address the problem of consumer acceptance and trust, several private initiatives have emerged in OECD countries to provide online business certification, such as quality labels or trust seals, that certify compliance with a pre-specified set of rules on honest business conduct that indicate a good past track record. Whilst such private initiatives can help build trust in Internet commerce, a strong and efficient regulatory framework that addresses concerns about consumer protection, privacy, and security of transactions can reinforce these efforts. Currently, these issues are governed by different laws that are under the competencies of different agencies. The resulting lack of transparency risks reducing consumers' trust in e-commerce. The government should therefore reassess the current regulatory framework to increase transparency and to ensure that it does not inhibit e-commerce activities. In addition, it should ensure that efficient out-of-court dispute settlement mechanisms are in place as they appear to be crucial for building consumer confidence in electronic commerce.

High Internet access costs present another barrier for the wider use of electronic commerce both between firms and between firms and consumers (OECD, 2004b). Although there have been significant drops in broadband prices in recent years thanks to important liberalisation steps in the telecommunications sector, prices are still higher than in most other OECD countries (OECD, 2007c), placing a heavy burden especially on small firms. Further steps are needed to foster competition in the telecommunications sector. Most importantly, the independence of the telecommunications regulator should be strengthened as stressed in the 2007 *Survey* (OECD, 2007a). Similarly, insufficient supply of private distribution and logistics services could potentially constrain the development of electronic commerce in the Slovak Republic by limiting efficient product delivery. Currently, Slovenska Posta (a joint stock company which has all of its shares owned by the state) dominates the market with a share of about 85%. The government should quickly proceed with the privatisation of Slovenska Posta in order to set a basis for the development of fair competition in the postal sector. In addition, the 2008 amendment to the Postal Act that grants Slovenska Posta the exclusive right to deliver hybrid mail[17] should be abolished.

Ensuring a timely introduction of e-government

Better use of ICT is also an important channel by which to increase the productivity of public administration (OECD, 2005b). The Slovak government estimates that e-government could reduce the public administration headcount by at least 3 900 workers (out of around 430 000 employed in the public sector[18]), saving approximately 0.07% of GDP per year.[19] Since 2004, the government has approved several documents, formulating the strategic objectives of e-government in the Slovak Republic as well as associated action plans (Box 2.3).[20] However, implementation has been slow due to unclear accountability and insufficient monitoring and co-ordination. Only a limited number of services are offered electronically and citizens still spend an average of five days per year at public administration offices. Co-operation between offices is low, with registers not mutually

Box 2.3. **The e-government strategy of the Slovak Republic**

The e-Government strategy of the Slovak Republic formulates the following main objectives:*

Increasing satisfaction of citizens, businessmen and other public bodies with public administration

- A central portal for e-government services will be created with fully functional personalised electronic accounts. Citizens will need to update their data in a single action and this information will be shared across offices.
- Electronic services of public administration will be available to a large degree through intermediaries from the private sector.
- E-government services will be made available to all citizens including handicapped people and socially disadvantages groups.
- Citizens will spend a maximum of two days at public administration offices in unavoidable instances.
- Information safety will be ensured for the communication between citizens and the public administration and within the public administration.

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Box 2.3. **The e-government strategy of the Slovak Republic** *(cont.)*

E-enabling public administration processes

- Basic registers will be set up and interconnected. They will also be used by commercial entities.
- Citizens will be able to obtain different services from different offices and institutions in one step. Mediators and providers of services from the private sector will be able to combine their own packages of services with the services of the public administration.
- Electronic identity cards and electronic signatures will be fully available.
- The legal framework will be adjusted to the needs of e-government.

Making public administration more effective and efficient

- ICT financing will be managed centrally in accordance with the actual process of the state budget creation.
- Central applications will be developed and jointly used by different offices.
- Public procurement will take place electronically. The offices will co-operate in procurement which will improve effectiveness, transparency and ultimately procurement costs.

Increasing the competence of public administration employees

- People working with ICT will be computer literate.
- Employees of public administration will meet demands of a knowledge-based society.
- Electronic training will be available to employees.

* Ministry of Finance of the Slovak Republic (2008).

interconnected or even duplicated and investment decisions not harmonised across offices, so that little use is made of systems already developed by other offices. Moreover, the e-procurement portal that has been set up is hardly used for public procurement. As a result, the Slovak Republic is ranked second last in the OECD on e-government readiness by the United Nations in its *e-government Survey 2008*.

To revitalise the e-government initiative, the government approved the *e-government strategy of the Slovak Republic* and the *National concept of public administration informatisation* in 2008, specifying new time goals for the implementation of the e-government strategy and laying out the architecture of the public administration information system. It is vital that the government make every effort to ensure that the new timetable is met and that e-government is implemented by the target date of 2013. Regarding priorities, the training of employees in computer and Internet skills should take place at a very early stage, as should the adoption of the legal framework to the requirements of e-government services. To avoid past problems, such as insufficient co-ordination and lack of accountability, the responsibility for the introduction of e-government initiatives was given to one single state body, the Ministry of Finance. Whilst having a central co-ordinating agency is welcome, it is also essential to assign a high-level representative in each ministry responsible for the implementation of the action plan in that ministry.

Box 2.4. **Recommendations to raise flexibility in labour and product markets**

Avoid wage growth in excess of productivity growth

- Abolish the legal extension of collective wage settlements. Alternatively, ease the conditions for exoneration and make generous use of the scope for exoneration.
- Implement further increases in the minimum wage only insofar as they do not have negative impacts on employment opportunities.
- Take into account advice from an independent expert commission when making decisions about the minimum wage level.

Reduce regulatory barriers to promote competition in service sectors

- Ease entry conditions for the liberal professions, while maintaining required standards of professional qualification.
- Ease conduct regulation in legal and notary professions. For example, reconsider the law that prohibits advertising in legal and notary professions and reduce price regulation in these sectors. In addition, ease restrictions on the legal form of the business.
- Extend the points of single contact that already exist for small enterprises to entrepreneurs of the liberal professions.

Ensure that framework conditions do not inhibit the spread of e-business and e-commerce

- Establish centres (possibly as an integral part of the small business offices) that provide comprehensive information on the benefits of e-business and e-commerce, disseminate best practices, offer training courses and workshops as well as support services for the establishment of e-business and e-commerce activities. Consider the involvement of business and industry associations in order to gain economies of scale and to better tailor the offered services to the needs of specific industries.
- Reassess the current regulatory framework on consumer protection, privacy and security to increase transparency and to ensure that consumers participating in e-commerce activities are sufficiently protected from any misuse.
- Introduce efficient and fair out-of-court dispute settlement mechanisms to build consumer confidence in electronic commerce.
- Strengthen the independence of the telecommunications regulator.
- Quickly proceed with the privatisation of Slovenska Posta. Abolish the 2008 amendment of the Postal Act that grants Slovenska Posta the exclusive right to deliver hybrid mail.

Speed up the implementation of e-government

- Make sure that the e-government is implemented by the target date of 2013.
- Make sure that the training of employees in computer and Internet skills as well as the adoption of the legal framework to e-government services takes place at an early stage of the implementation phase.
- Assign a high-level representative in each ministry responsible for the implementation of the action plan.

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Notes

1. The low level of public sector wages might be at the root of the low price level of public services. In the past, prices that were kept at an artificially low level because of political considerations also contributed to the low overall price level of the public sector. However, most of these price distortions have by now been eliminated (OECD, 2005a). Whilst in the Slovak Republic wage differences between the public and the private sector are negligible, public sector wages in the advanced economies are higher than private sector wages.
2. Čihák and Holub (2005) argue that the catch-up process is not only associated with a convergence in aggregate price levels but also with a convergence in the structure of relative prices. As such, the catch-up process is likely to lead to a decline in the dispersion of prices in the catching-up economies.
3. With the producer price index (PPI) mainly reflecting movements in the prices of tradable goods and services, the Balassa-Samuelson effect can theoretically only explain the difference between the appreciation of the HICP-based real exchange rate (6¼ per cent per year on average between 2000 and 2007) and the appreciation of the PPI-based real exchange rate (3¾ per cent per year).
4. Empirical support for the quality bias hypothesis in the Slovak Republic is provided by Cincibuch and Podpiera (2006) and Égert *et al.* (2006).
5. A rising share of non-tradable goods and services affects aggregate consumer prices in two ways. First, assuming that non-tradables have a higher inflation rate than tradables, by increasing the weight of non-tradables within the HICP, aggregate inflation will increase through a simple accounting effect. Second, the higher demand for non-tradable goods will push up the prices of these goods, thereby raising the aggregate price level. Whilst theoretically, such a shift in preferences towards non-tradable goods and services should only lead to a shift in relative prices, with the prices of tradables determined on the world market the price level will be affected as well.
6. Lein-Rupprecht *et al.* (2007) show that inflation in the EU countries of Central and Eastern Europe is to a large extent structural in nature, driven by the nominal convergence process. In the case of the Slovak Republic, these convergence effects appear to be particularly long-lasting (the authors estimate that it takes around 9 years to reduce a given price level gap by half).
7. Unless stated otherwise, the euro area is defined as the pre-2007 euro area countries, *i.e.* Austria, Belgium, Finland, France, Germany, Greece, Ireland, Italy, Luxembourg, Netherlands, Portugal, and Spain.
8. Hervé *et al.* (2007) estimate for a panel of 9 economic regions that a 10 percentage point increase in trade openness (measured as exports plus imports over GDP) raises the rate of *per capita* output convergence towards the long-run equilibrium by 0.3 percentage points per annum.
9. Rose and Stanley (2005) use a meta-regression analysis to quantify the trade effect of monetary union and put the contribution of monetary union to bilateral trade within an interval of 30 to 90%. The National Bank of Slovakia (2006) expects euro adoption to raise total foreign trade of the Slovak Republic by approximately 50% in the long run.
10. For a literature review on the growth effects of economic integration and their contingency on R&D and human capital investment see Hervé *et al.* (2007), Box 2.
11. About ¼ of all Slovak employees are covered by collective agreements.
12. An exemption is applicable to an employer mainly in the following cases: Another higher-level collective agreement is applicable to the employer, a petition of bankruptcy is filed against the employer, the employer is in liquidation, the employer employs fewer than 20 employees, more than 10% of persons employed by the employer are handicapped persons, the employer was affected by an extraordinary event and the consequences of such an event persist.
13. In 2008, the social partners could not reach an agreement regarding the increase in the minimum wage for January 2009 and consequently the increase was specified by the government. The government decided to increase the minimum wage to SKK 8 902 (€ 295) which is more than allowed by law. The higher increase was made possible through an amendment to the Minimum Wage Act (approved in September 2008) that gave the government the scope to raise the minimum wage by more than stipulated by law.
14. The existence of a productivity gap in the sheltered sectors deviates from the Balassa-Samuelson assumption of equal productivity in these sectors across countries.

15. Although such opinion surveys might not be representative of the actual state of regulations but simply represent the subjective opinion of the participants, it is these subjective opinions that ultimately determine business decisions.

16. According to the EU directive 2006/123/EC on services in the internal market, total prohibitions on advertising in one or more given media have to be abolished by end-2009 in all member countries.

17. Hybrid mail is bulk mail (such as invoices) which can be electronically sent closer to the destination and then printed, sorted and delivered to the final customer.

18. The figure refers to public administration, defence and compulsory social security, education and health and social work.

19. See Ministry of Finance of the Slovak Republic (2008). The calculations assume that citizens use the internet for 20 basic categories of services provided by the public administration. The cost savings are based on the average wage of a public sector employee for the 1st quarter of 2007 (SKK 20 921 or € 694).

20. The strategic objectives of e-Government were formulated in the documents *Strategy of informatisation of the society in the Slovak Republic* (approved by the Slovak government in 2004) and *Strategy of competitiveness of the Slovak Republic by 2010* (approved in 2005). The main implementation plan was laid out in the document *Road map for the introduction of electronic services of public administration* (approved in October 2005) and the financing of the project was specified in the document *Operational program information society 2007-2013* (approved by the European Commission in September 2007).

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Chapter 3

Achieving fiscal flexibility and safeguarding sustainability

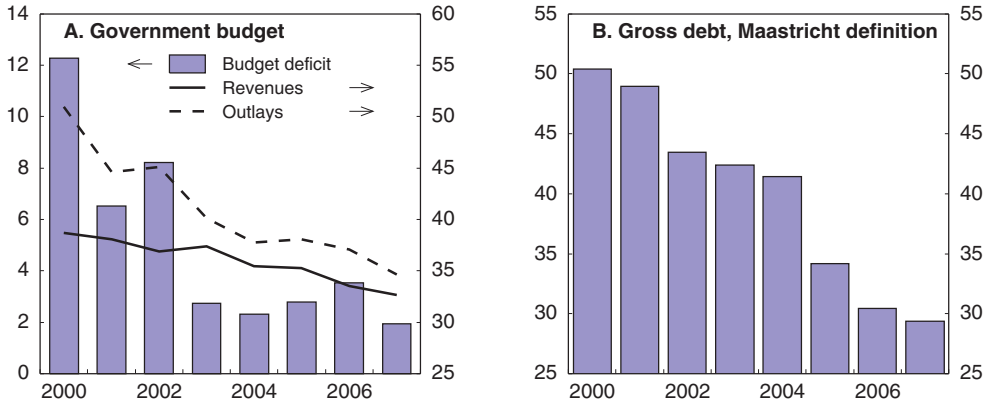
Euro area entry calls for more fiscal flexibility to absorb cyclical shocks that cannot be dealt with by the common monetary policy. At the same time fiscal consolidation must not be put at risk, especially given rising ageing-related costs. The current fiscal framework could be improved by introducing multi-year expenditure ceilings and by removing pro-cyclical elements in fiscal rules. An adjustment account that serves to register breaches of fiscal rules and eliminates them over time could help in coping with projection errors. To ensure long-term sustainability of public finances it is essential not to dilute the substantial improvements in the long-term balance of the defined-benefit pillar associated with past pension reforms. The government should consider making participation in the defined-contribution pillar mandatory for new labour market entrants or, at the very least, make it the default option. For current workers the pillars should remain closed. Moreover, further parametric changes such as increasing the retirement age in line with life expectancy gains and reducing unsustainable elements in the pension formula would improve the balance of the defined-benefit pillar.

Fiscal consolidation has proceeded rapidly

Government finances have improved markedly over the past years with the budget deficit coming down from levels as high as 12% of GDP in 2000 to slightly above 2% of GDP in 2007 (Figure 3.1, panel A). In 2006, the deficit was still above the 3% limit of the *Stability and Growth Pact* (SGP) and the country therefore remained under the *Excessive Deficit Procedure* (EDP) which had been opened in 2004.[1] The EDP was closed in spring 2008 after the deficit had fallen below the threshold in 2007 and the country fulfilled the Maastricht criteria for entry into the euro area in the examination in mid-2008. Reflecting the positive developments in the budget balance, gross debt as a share of GDP (according to the Maastricht criterion) also declined noticeably, falling from around 50% of GDP in 2000 to below 30% of GDP in 2007 (Figure 3.1, panel B).

Figure 3.1. **Government finances**

% of GDP



StatLink http://dx.doi.org/10.1787/528261414447

Source: OECD, *Economic Outlook Database*.

The fiscal consolidation was expenditure-driven with the GDP share of general government expenditures falling from more than 50% in 2000 to 35% in 2007. Although the fall in the expenditure-to-GDP ratio benefited from buoyant economic growth and an associated significant decline in unemployment, expenditure restraint and reforms such as substantial restrictions on social and unemployment benefits, tightening of conditions for early retirement and a gradual increase in the retirement age played a key role. The authorities also made major efforts to improve the tax structure by introducing a flat tax of 19% on personal income, corporate revenues and consumption, and by eliminating many exemptions. As a result, the tax system became simpler and more transparent. The tax burden declined for many workers and companies, strengthening the incentives for

work and entrepreneurial activity. Nevertheless, structural weaknesses remain in some areas, notably property taxation, which is addressed in more detail in Chapter 4.

Fiscal policy in the Slovak Republic faces two major challenges going forward. *First*, euro area entry calls for more flexibility to deal with cyclical shocks that cannot be dealt with by the common monetary policy of the union. *Second*, the rapid ageing of the Slovak society will put upward pressure on spending on pensions as well as health and long-term care. Pension expenditures are a particular reason for concern as the Slovak authorities have started to partly roll back the pension reforms that were enacted in 2004 and 2005, which had been associated with improvements in the sustainability of the public pension system although this reform has had larger short-term costs for the general government budget than originally expected.

Adapting the fiscal framework to life in a monetary union

With euro adoption, the importance of fiscal policy as a mechanism to smooth cyclical shocks increases. This means above all relying on automatic stabilisers, cyclically-induced changes in taxes and expenditures. Letting tax revenues and expenditures (basically unemployment-related expenditure) vary with the cyclical position of the economy cushions against economic fluctuations with practically no information and implementation lags.

When looking at fiscal developments in a medium to long-term perspective across countries, there seems to be a case for constraining fiscal policy in order to avoid undesirable biases. *First*, there may be significant politically motivated changes in fiscal policy, such as changes in taxes or spending around election times (*e.g.* Persson, 2001; Calmfors, 2005; Kopits, 2001). *Second*, fiscal policy might behave in a pro-cyclical manner as cyclical increases in revenue could be misinterpreted as being structural with the result that taxes are cut or spending is increased in economic upswings. Cross-country evidence suggests that well-designed budgetary procedures (Hallerberg *et al.*, 2006; Fabrizio and Mody, 2006) and numerical fiscal rules (European Commission, 2006; Ayuso-i-Casals *et al.*, 2007) can help contain such biases.

The current fiscal rules…

Public finances in the Slovak Republic are subject to the rules laid down in the *Maastricht Treaty* and the *Stability and Growth Pact*. The framework requires member states to avoid excessive deficit positions, measured against reference values for deficits and debt of respectively 3% and 60% of GDP,[2] and to achieve and maintain the medium-term budgetary objective (MTO), which for Slovakia is a cyclically-adjusted deficit of just below 1% of GDP. As laid out in the *Convergence Programme*, the Slovak government expects to reach the medium-term objective by 2010. Although adhering to the medium-term budgetary objective will provide some additional room for manoeuvre it may not be sufficient to allow automatic stabilisers to operate freely without breaching the 3% of GDP deficit threshold.[3]

At the national level, public finances are governed by three laws, the *General Government Budgetary Rules Act*, the *Local Government Budgetary Rules Act* (both introduced in 2004) and the *State Budget Act* for the respective budget year. The *General Government Budgetary Rules Act* stipulates the rules for the preparation and implementation of the general government budget. According to this law, the government approves a budget for

three consecutive years on an annual basis, the relevant budget year (*i.e.*, the year that succeeds the year of the budget approval) and the two years thereafter. The drafts for the second and third years are not binding, as any change is subject to re-approval by the government alone, thus giving too much leeway to the government. The general government is not allowed to increase net lending in case revenues fall short of expectations. Instead, expenditures have to be reduced to ensure that the original target for the overall balance is met.[4] This provision can have pro-cyclical effects, as it prevents the functioning of the automatic stabilisers during economic downturns. Rules on the use of windfall revenues are laid down in the *State Budget Act* which is concluded for each budget year. According to this law, the government may spend the additional revenues, but only up to 1% of the originally budgeted expenditures.[5] Revenues that are not used to cover additional expenditures have to be used for debt repayment.

Although the basic provisions of the *General Government Budgetary Rules Act* apply to local government entities, a separate regulatory mechanism also exists. This *Local Government Budgetary Rules Act* stipulates that the current budget of local government entities must be balanced or in surplus. As capital expenditures are excluded from this rule, local government entities essentially follow a golden rule. As regards net lending, municipalities and higher territorial units are subject to two conditions: they may take on loans if the total amount of their debt does not exceed 60% of the actual current revenues of the preceding fiscal year and the total amount of their annual instalments for loans does not exceed 25% of the actual current revenues of the preceding fiscal year.

... could be strengthened

Although all member countries of the European Union are obliged to adhere to the provisions of the *Stability and Growth Pact*, several of them also have implemented national deficit rules. In some member countries (*e.g.* Sweden) the national rules are not compulsory but a political commitment while in others countries the rules are embedded in law (*e.g.* the Netherlands).[6] Such arrangements demonstrate to the public that the government is firmly committed to the *Stability and Growth Pact*. Given the challenges that public finances in the Slovak Republic are facing in the wake of euro area entry on the one hand and the rapid ageing of the Slovak society on the other, the government should consider extending the existing national budgetary framework by incorporating a deficit rule into the constitution. The rule should be consistent with the *Stability and Growth Pact*, possibly drawing on the medium-term objective of achieving a 1% structural deficit. Such an arrangement would improve transparency and strengthen national ownership of the *Stability and Growth Pact*. To improve enforceability and to increase the political cost of breaking the rule the framework should include a strong reporting system and *ex post* assessments of the government's performance *vis-à-vis* the rule (as is the case in Belgium, Sweden and the Netherlands).

Automatic stabilisers need more breathing space

Cross-country evidence suggests that fiscal sustainability is enhanced by augmenting a deficit rule with an expenditure rule (Guichard *et al.*, 2007). Many member countries of the European Union therefore complement the *Stability and Growth Pact* with expenditure rules at the national level (see Box 3.1). With the introduction of the *State Budget Act* and the *General Government Budgetary Rules Act* the Slovak Republic has also introduced expenditure

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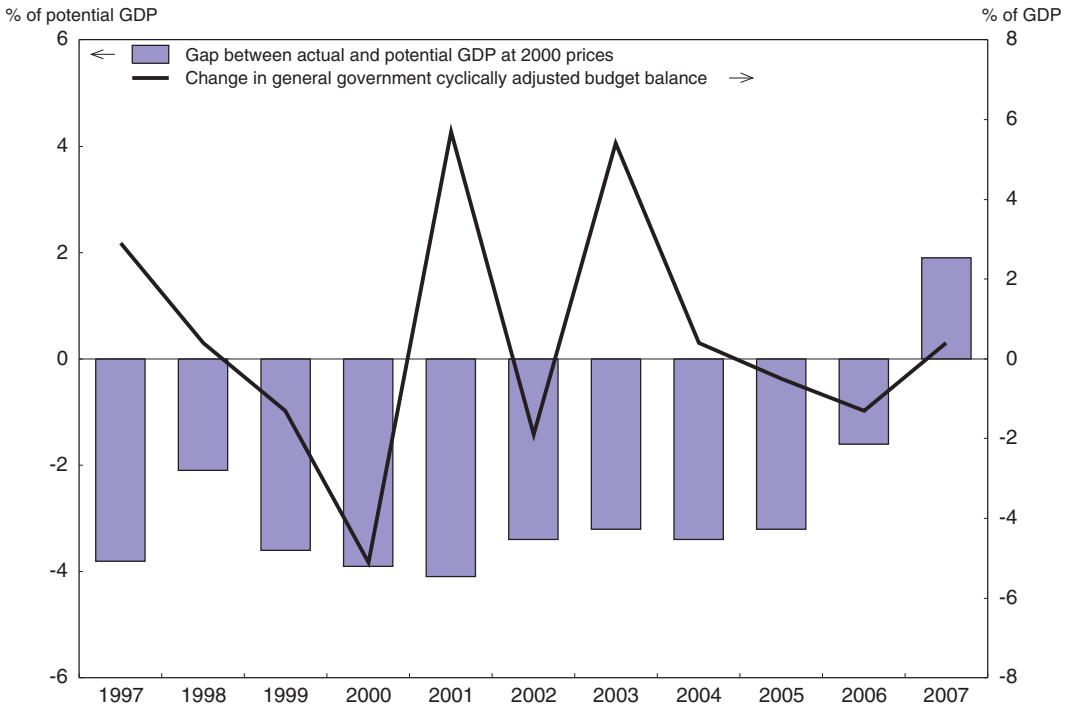
rules, which is a highly welcome step. However, in their current form the rules contain pro-cyclical elements as described above in the case of revenue shortfalls or windfalls.

Estimates of the cyclically-adjusted budget balance of the general government suggest that in the past, fiscal policy was indeed pro-cyclical in some years (Figure 3.2).[7] For example, the cyclically adjusted balance improved significantly in 2001, driven by sizable cuts in current expenditures to support fiscal consolidation, despite a negative and widening output gap. Since the introduction of the *General Government Budgetary Rules Act* and the reduction of the ceiling on the spending of windfall revenues to 1% of the originally budgeted expenditures in 2005, fiscal policy has been slightly countercyclical, suggesting that these laws did indeed improve the stabilising role of fiscal policy (Figure 3.2). However, as the economy has enjoyed an economic upswing during this period with GDP growing at above potential since 2005, the framework has not yet been tested in an economic downturn. And it is precisely in such a situation where the pro-cyclical elements of the current framework would be expected to become most visible and potentially damaging, given the ban on additional net lending in the case of unexpected revenue shortfalls. Whilst the underlying aim of ensuring fiscal sustainability through continued fiscal consolidation is welcome, particularly in the light of population ageing, such consolidation efforts are problematic if they come at the cost of pro-cyclical fiscal tightening in an economic downturn. This is all the more important in a monetary union. As such, the fiscal framework should be modified to avoid pro-cyclical behaviour by giving more breathing space to the automatic stabilizers once the medium-term objective has been reached in 2010.

Figure 3.2. **Output gap and government budget balance**



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Source: European Commission – Economic and Financial Affairs, *Cyclical Adjustment of Budget Balances*, Spring 2008 (Table 27).

Although the design of expenditure rules varies considerably across countries and there seems to be no one-size-fits-all rule, several features have often been associated with successful fiscal policy.[8] One that is not yet fully reflected in the fiscal framework of the Slovak Republic relates to the time period over which the expenditure targets are to be met. While the current fiscal framework provides for multi-year fiscal planning, the targets for subsequent years are just indicative and thus might be changed on an *ad hoc* basis by the government. To increase the government's commitment to the targets as well as to raise transparency, multi-year expenditure ceilings should be introduced, as exist for example in Sweden and the Netherlands (see Box 3.1). Such binding expenditure ceilings are all the more important in light of the substantial consolidation efforts envisaged for the coming years, as argued by European Commission (2008). Cyclical expenditure items such as unemployment benefits could be excluded from the ceilings to ensure that the automatic

Box 3.1. **Fiscal policy rules in selected OECD countries***

Sweden

The key element of Sweden's fiscal policy framework is a general government surplus of 1% of GDP over the business cycle. The surplus target is supported by an aggregated expenditure ceiling for central government budget expenditure and expenditure for the extra-budgetary public pension system; interest on government debt or local government expenditures are not covered. The expenditure ceiling is set for three years (every year a new third year is added). The ceiling is nominal, *i.e.* it includes estimated future inflation, and it contains a contingency margin. The aggregated expenditure ceilings are broken down into 26 expenditure areas. Local governments are required to offset any deficit by surpluses within three years. In addition, the aggregated position of all local governments must be balanced. The fulfilment of the fiscal targets is monitored *ex-post* by the Fiscal Policy Council that was established in 2007. The performance of the government against the surplus target is assessed based on three indicators: i) average net lending from the year 2000 when the target was first applied, combined with information about the estimated output gap over that period; ii) average net lending over a seven-year period, including the current year and the next three and the previous three years; and iii) the cyclically adjusted net lending adjusted for one-off and temporary effects.

Finland

At the beginning of the electoral period, the Finnish government decides on the ceilings for the budget expenditures over the entire electoral period. There is no legal requirement for the ceilings; rather they are a voluntary restriction that the government places on itself. The ceilings are set for the central government only, although they include transfers to sub-national governments. The overall level of the spending limits is adjusted annually for price level changes (the ceilings are established in real terms) and for changes in the structure of the budget. Moreover, the allocation of expenditures by ministries is revised every year. Several expenditure items are excluded from the ceilings. These include cyclical expenditures such as unemployment benefits, interest payments on government debt and expenditures that correspond to revenues received from the European Union. Overall, about three-quarters of expenditures are included in the ceilings. The ceilings for 2008-2011 include a margin to cope with unexpected increases in expenditures. To avoid excessive deficits, the government is required to take actions (even under weak economic conditions) if the forecast suggests that the deficit will be higher than 2¾ per cent of GDP. This rule may result in pro-cyclical policy.

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Box 3.1. **Fiscal policy rules in selected OECD countries*** *(cont.)*

The Netherlands

The main features of the current Dutch fiscal framework are the multi-annual expenditure ceilings, the use of trend-based assumptions and the role of quasi-independent organisations such as the Central Planning Bureau (CPB). The expenditure ceilings are established at the start of any new coalition government for the entire term of government (four years). The ceilings are set with reference to a target for the fiscal balance based on longer-term budgetary sustainability considerations. Analyses by the CPB on developments in the Dutch economy and public finances are the backbones of this process. No explicit corrections are made for business cycle fluctuations. On the revenue side, automatic stabilisers are allowed to work freely. Revenue shortfalls can be compensated within the budget so that no immediate reduction in expenditures or increase in taxes is required. Since 2002, a qualitative clause stipulates that a cyclical drop of expenditures below the ceilings must not lead to any additional discretionary spending. To avoid excessive deficits, the Dutch fiscal framework requires that additional measures are taken and that the expenditure ceilings no longer apply if the deficit risks surpassing the threshold of 2% of GDP.

* This box draws on OECD (2008a), Bos (2008), Küchen and Nordman (2008), Ljungman (2008), and Ministry of Finance of Finland (2005).

stabilizers can work in both directions. The expenditure ceilings might be set so as to allow a structural deficit, for example of close to 1% of GDP as required by the medium-term objective of the *Stability and Growth Pact*. In addition, possible new tax expenditures could also be included in the expenditure ceilings.

As the expenditure ceilings are set several years in advance, they necessarily rely on projections of the cyclical position of the economy. Empirical evidence suggests that forecasting output gaps is a difficult undertaking with the forecasts surrounded by a high degree of uncertainty (Koske and Pain, 2008). This is especially the case in fast growing countries such as the Slovak Republic where rapid changes in potential output add an additional source of error. To address this problem consideration should be given to setting up an adjustment account similar to the Swiss debt brake that serves to register breaches of the fiscal rule in case of projection errors.[9] If the deficit turns out to be higher (or lower) than allowed *ex post* due to projection errors the difference is debited (credited) to the adjustment account. If the accumulated deficit on the account exceeds an upper limit, the account has to be settled within a certain time period (the Swiss framework, for example, foresees that the deficit has to be lowered under the limit within three years).

Whilst such an account would be helpful in dealing with projection errors, questions of implementation remain, such as the specification of an appropriate level for the threshold above which no more breaches of the rule are allowed as well as the definition of an appropriate sanction mechanism. Difficulties also arise from data revisions that can be quite sizeable even several years after the initial estimate of the output gap in a certain year is published (Koske and Pain, 2008). As such, a decision has to be made about whether to change the amount that is debited or credited to the adjustment account each time the data are revised, or whether to regard the data outturn of a certain year as final. A more fundamental issue is that the rule could force fiscal policy to act pro-cyclically if the upper

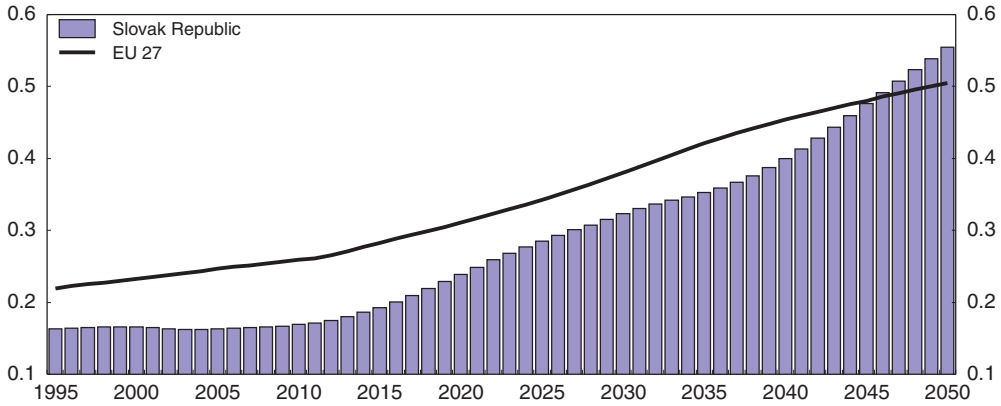
limit is reached in an economic downturn and taxes need to be raised or expenditures cut in order to reduce the deficit on the account.

Improving the pension system to ensure fiscal sustainability

The suggested modifications to the fiscal framework should help prevent continued rises in the debt level. Population ageing, however, also requires more fundamental changes to the social security system. The size and age structure of the Slovak population will undergo dramatic changes in the coming decades due to low fertility rates and continuous increases in life expectancy, with adverse effects on the old-age dependency ratio (Figure 3.3). The rapid ageing of the population will lead to significant pressures to increase public spending on pensions, as well as on health and long-term care. The disciplining nature of financial markets may raise borrowing costs if the debt burden rises. Recognizing this problem, the government implemented a major reform of the pension system, first reforming the public defined-benefit (DB) pay-as-you-go (PAYG) pillar and then introducing a fully-funded defined-contribution (DC) pillar. Recently, however, a number of modifications were made to the system which rolled back parts of the original reform.

Figure 3.3. **Population ageing in the Slovak Republic**

Population aged 65 and over as percentage of the population aged 15 to 64



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Source: Eurostat.

Past pension reforms significantly improved the sustainability of the pension system

When becoming independent in 1993 the Slovak Republic inherited a public PAYG pension system. Although the financial situation of the pension system was stronger than in many other economies, with the annual deficit amounting to less than ½ per cent of GDP in the pre-reform years, the system was clearly unsustainable in the light of population ageing. Simulations carried out in 2004 suggested that the deficit of the pension system would rise by between 4 and 8 percentage points of GDP until around 2050 (Schmidt-Hebbel, 2004; World Bank, 2004). Due to this very gloomy outlook the government pushed for reforms, starting in 2004 with parametric changes to the PAYG system.

The contribution rate was increased and redistribution was lowered…

Under the new system, the overall contribution rate to pension insurance was raised to 28.75% (from 28% before) with employers paying 21.75% and employees paying another 7% (between 2004 and 2005 the contribution rate of employees was reduced by ½ percentage point for each child). Of this contribution 18 percentage points are used to finance old age pensions, 6 a disability fund and 4.75 a reserve fund that is used to cover any shortfalls in the other funds. The upper ceiling of the base of pension contributions (and pension entitlements) was set at three times the average wage. Benefits are based on a points system, which is equivalent to providing pensioners with 1¼ per cent[10] of the average lifetime wage per year of service; an earlier year's pay is revalued in line with the growth of average wages to take account of changes in living standards between the time pension rights accrue and the time they are claimed. Post-retirement pensions are indexed 50% to nominal wage growth and 50% to inflation.[11]

The pension reform removed the significant elements of redistribution that were incorporated in the pre-reform system and transformed the system from one based on the security principle towards one based on the insurance principle. A direct link between contributions paid and benefits received from the system was established, one of the tightest links of pensions to earnings among OECD countries (OECD, 2007b).[12] In line with the transition towards the insurance principle, the new system does not contain a minimum pension in order to separate social insurance from social assistance. Individuals who have not accumulated enough pension points or who do not qualify for a pension at all may apply for social assistance which is provided at the minimum subsistence level. The link between pension entitlements and earnings improves work incentives as well as compliance (in the old system earnings were frequently underreported) but creates the risk of a resurgence in old-age poverty. Whilst the net replacement rate of the median earner is about the OECD average, the replacement rate of individuals earning just half of the average wage is notably below that level (see Table 3.1).

… the retirement age was increased…

An important element of the reform was to increase the statutory retirement age from 60 years for men and 53 to 57 years (depending on the number of children) for women to 62 years for both. The increase is being introduced gradually at a rate of 9 months per year beginning in 2004. As a result, the legal retirement age of 62 was reached in 2006 for men but will not be reached until 2015 for women with four or more children. Early retirement is possible if the pension benefit reaches at least 1.2 times the subsistence minimum. To raise the work incentives of the elderly, early retirement is penalised by a reduction in pension benefits by 6% per year whilst those who postpone retirement receive a bonus of 6% per year. However, as stressed in the 2007 *Survey* (OECD, 2007c), the discounts fall short of being actuarially neutral and should therefore be increased. Individuals may also choose to continue working while drawing a pension.

Overall, these parametric changes led to a substantial improvement in the pension balance. According to the simulations by Schmidt-Hebbel (2004) and the World Bank (2004), the deficit of the reformed pension system would just rise by between 2 and 4½ percentage points of GDP until around 2050. Although financial solvency was still not ensured, the peak deficit was substantially lower than in the pre-reform system. However, elements of redistribution, which were removed from the pension system, have now been replaced by

Table 3.1. **Net pension replacement rates by earnings**

	Median earner	Individual earnings (multiple of mean)						Median earner	Individual earnings (multiple of mean)				
		0.5	0.75	1	1.5	2			0.5	0.75	1	1.5	2
Men							Men (cont.)						
SVK	71.9	66.4	70.6	72.9	75.4	76.7	KOR	77.8	106.1	83.1	71.8	61.9	50.7
AUS	61.7	83.5	66.2	56.4	46.1	40.8	LUX	98	107.6	99.8	96.2	92.9	91
AUT	90.6	90.4	90.6	90.9	89.2	66.4	MEX	37.9	50.3	37.8	38.3	39	40
BEL	64.4	77.3	65.5	63	51.1	40.7	NLD	105.3	97	103.8	96.8	96.3	94.8
CAN	62.8	89.2	68.3	57.4	40	30.8	NOR	70	77.1	71.2	69.3	62.5	55.1
CHE	68.8	75	68.2	64.3	45.7	35.1	NZL	48.6	81.4	54.9	41.7	29.4	23.2
CZE	70.3	98.8	75.6	64.4	49.3	40.2	POL	74.8	74.5	74.8	74.9	75	77.1
DEU	57.3	53.4	56.6	58	59.2	44.4	PRT	67.4	81.6	66	69.2	72.2	73.7
DNK	94.1	132.7	101.6	86.7	77	72.2	SWE	66.2	81.4	69.2	64	71.9	73.9
ESP	84.2	82	83.9	84.5	85.2	72.4	TUR	103.4	101	102.9	104	106.4	108.3
FIN	68	77.4	68.4	68.8	70.3	70.5	USA	55.3	67.4	58	52.4	47.9	43.2
FRA	62.8	78.4	64.9	63.1	58	55.4							
GBR	45.4	66.1	49.2	41.1	30.6	24	OECD	72.1	83.8	74	70.1	65.4	60.7
GRC	111.1	113.6	111.7	110.1	110.3	107							
HUN	96.5	94.7	95.1	102.2	98.5	98.5	Women (where different)						
IRL	44.4	65.8	49.3	38.5	29.3	23.5	ITA	63.8	63.6	64.4	63.4	63.7	63.5
ISL	86.9	110.9	92	84.2	80.3	79.7	MEX	32.2	50.3	35.7	31.7	32.3	33.2
ITA	77.9	81.8	78.2	77.9	78.1	79.3	POL	55.3	57.5	55.3	55.2	55	56.4
JPN	41.5	52.5	43.5	39.2	34.3	31.3	CHE	68.1	75.4	68.9	65	46.3	35.5

Source: OECD (2007), *Pensions at a Glance.*

social assistance. As such, some of the savings in pension expenditures will be spent on social assistance for the elderly.

... and a defined-contribution pillar was introduced...

As the pension system remained unsustainable even after the parametric changes, the government decided to undertake a more fundamental reform of the system and complemented the DB pillar with a DC pillar that came into force in early 2005.[13] Under the mixed system, the share of the pension contribution that is specifically designated for old age (18% out of the total 28.75%) is split half-half between the DB and DC pillars.[14] The DB pension entitlements are derived from the pension points as before, with years of payment only to the DB system regarded as generating full years of contribution, while years under the mixed system generate only half years of contribution. Additional benefits come from the DC pillar with accumulated contributions and investment returns converted into a pension-income stream at the time of retirement. The minimum period of pension contributions to a pillar needed to claim a pension from that pillar was set at 10 years. All contributions are collected by the Social Insurance Agency (SIA) but the DC contributions are transferred to the private pension company of the contributor's choice. Whilst existing labour market participants were allowed a transition period (from January 2005 to June 2006) to choose whether to stay in the DB pillar or to join the mixed system, participation in the mixed system was made mandatory for those entering the labour market for the first time after December 2004. More than half of all labour market participants decided to join the mixed system, and by end-2007, over 1.5 million individuals (out of a total of 2.6 million individuals enrolled in pension insurance) were participating in the mixed system.

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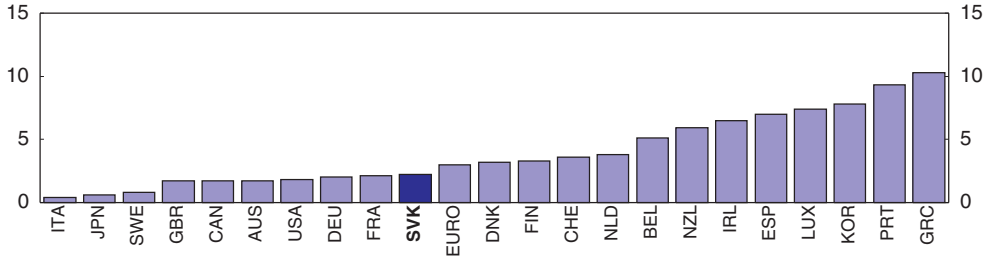
The pension savings under the DC pillar are managed by private pension fund management companies that are certified by the National Bank of Slovakia. Initially, eight pension fund management companies were operating in the Slovak Republic, though two mergers in 2005 and 2006 reduced the number to six.[15] All pension fund management companies provide three types of funds: a conservative fund (all funds have to be invested in bonds and monetary instruments), a balanced fund (up to 50% of all funds may be invested in equities) and a growth fund (up to 80% of all funds may be invested in equity). Pension scheme members are allowed to switch between pension fund management companies every two years against a fee of SKK 500. Moving between different types of funds within a pension fund management company is possible at any time.

... resulting in a significant reduction in future pension costs

Simulations suggest that thanks to the wide-ranging reforms of the pension system, the deficit of the DB system will increase by less than 2 percentage points of GDP until 2050 (Figure 3.4).[16] This small shortfall, less than in most other OECD economies, represents an important step towards a sustainable pension system. The introduction of the DC pillar was, however, associated with deterioration in the balance of the DB pillar over the short term (Figure 3.5). To cover the resulting transitory financial gap in the DB pillar, the amount of approximately SKK 70 billion (€ 2.3 billion) was earmarked from privatization resources. These resources are expected to be depleted by the end of 2010 and the government is planning to cover the deficit in 2011 (the last year of the current budget plan) from general revenues.

Figure 3.4. **Projected change in public spending on pensions**

2006-50, in percentage points of GDP



StatLink http://dx.doi.org/10.1787/528362237701

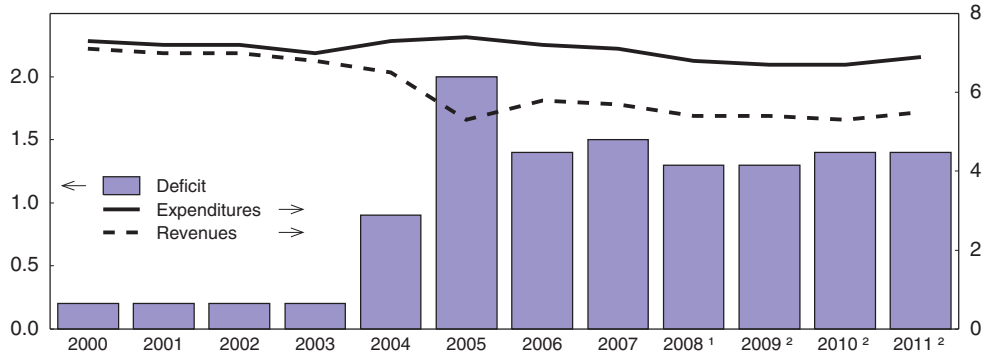
Source: Projections of public pension spending are taken from EU EPC (2006), The impact of ageing on public expenditure: projections for the EU25 Member States on pensions, health care, long-term care, education and unemployment transfers (2004-50), European Commission, and EU EPC (2007), Pensions Schemes and Projection Models in EU-25 Member States, *European Economy Occasional Paper* No. 35, for EU countries; from Visco, I. (2005), Ageing and Pension System Reform: Implications for Financial Markets and Economic Policies, Financial Market Trends, November 2005 Supplement, OECD, Paris, for Canada, Japan, Switzerland and the United States and from Dang *et al.* (2001),"Fiscal Implications of Ageing: Projections of Age-Related Spending, *Economics Department Working Paper* No. 305, OECD, Paris, for Australia, Korea and New Zealand.

Reforms are rolled back...

The shortfall in the DB pillar turned out to be higher than originally envisaged as the underlying assumptions proved to be incorrect.[17] Given the higher than expected deficit of the DB pillar, the government introduced several changes to the pension system during the course of 2008 aimed at reducing the deficit and is planning to adopt further measures in 2009. Among the modifications that came into force in January 2008 was a re-opening of

Figure 3.5. **Revenues and expenditures of the DB pillar**

% of GDP



StatLink http://dx.doi.org/10.1787/528378644174

1. Estimate.
2. Projection.

Source: Ministry of Labour and Social Affairs of the Slovak Republic.

the two pension pillars between January and June 2008. This allowed those pension scheme members who found the DC pillar disadvantageous – either based on their previous experience or because they were not well informed when making their original choice – to revert to the full coverage within the DB pillar or those who were in the DB pillar to join the mixed system (Ministry of Finance of the Slovak Republic, 2007).

During that six-month period, 22 900 people joined the mixed system and 106 600 moved to the DB pillar.[18] The entire DC-pillar savings of those members who moved to the DB pillar were transferred to the Social Insurance Agency, thereby resulting in a one-off increase in revenues of SKK 4 billion.[19] Amongst those who left the DC pillar were mostly people above the age of 45 who essentially had no choice but to move because the simultaneous increase in the minimum contribution period to 15 years meant they could not draw a pension from the DC pillar anyway.[20] Due to the financial market turmoil and the associated drop in returns of pension funds the government decided to open up the two pillars again from mid-November 2008 to end-June 2009.

... putting sustainability at risk

Opening-up the two pension pillars is problematic as it worsens the long-term sustainability of the system and sets wrong incentives for those participating in the system. The first wrong incentive is created because those who quit the mixed system for the DB pillar are treated as if they had never left the DB pillar. Thus, the decision to switch out of the mixed system depends not only on the expected future returns of the two systems, but also on the past returns. This creates an adverse selection problem with those members to whom the DC pillar was disadvantageous most likely to switch.[21] As a result, the savings that are transferred back to the Social Security Agency are likely to be lower than the average savings of a saver in the DC pillar.

The second wrong incentive is created by the ad-hoc nature of the re-openings which creates expectations of further re-openings in the future. The second re-opening that was motivated by the financial market turmoil is especially problematic in this regard as the government cannot now credibly claim that it will not open the system again if another crisis were to occur in the future. The expectation of further re-openings could encourage

risky behaviour on the part of savers. For example they might choose a more risky type of fund, in the belief that if things go badly they will always to able to switch to the DB pillar. Given the long-term nature of pension savings, the potential implications of the current financial crisis on pension benefits should be limited and no government intervention is needed. The third wrong incentive is created on the side of the pension funds. As it is a-priori unclear how many people will make use of the option to switch to the DB pillar, pension funds need to shift money into short-term liquid instruments in order to be in a position to pay leaving participants. This artificial reduction of their investment horizon and, thus, returns is to the detriment of those members who decide to remain in the DC pillar. To avoid these negative effects, the government should refrain from opening-up the two pension pillars.

Consider making participation in the DC pillar mandatory

Apart from giving *existing* labour market participants another chance to choose between the two systems, the government made participation in the mixed system voluntary for *new* labour market entrants. By default, persons joining the labour market for the first time participate in the DB pillar but can decide to switch to the mixed system within six months of their first contribution. Similarly, compulsory participation in the DC pillar was abolished for persons who do not carry out any gainful activity due to childcare or care for severely disabled persons. As the change in legislation came into force just recently, it is not yet possible to draw any strong conclusions about the share of new labour market participants that will make use of the option to switch to the mixed system.[22]

Although making participation in the DC pillar voluntary for new labour market entrants raises government revenues in the near term, it increases uncertainty regarding future pension liabilities of the DB pillar and, in particular, risks deteriorating government obligations in the long term. Therefore, the government should consider making participation in the DC pillar mandatory for all persons joining the labour market for the first time. At the very least the government should make participation in the DC the default option. Findings from behavioural experiments suggest that individuals are much more likely to choose the default option, even when the costs of switching to a different option are low or even negative. A classic example is the 401(k) retirement savings plan that allows workers in the US to save for retirement while deferring *income taxes* on the saved money and earnings until withdrawal. Employees who are automatically enrolled in the savings plan generally do not make use of the opt-out option, producing enrolment rates of close to 90%. By contrast, when employees are not automatically enrolled in the 401(k) savings plan, less than half enrol on their own during the first year of employment (Madrian and Shea, 2001). This default behaviour appears to result from participant inertia as well as from the perception of the default option as an investment advice by the company. As such, changing the default option from non-participation to participation in the DC pillar is likely to significantly raise membership rates in that pillar.[23]

The previous legislation of allowing people to switch to the mixed system within six months of their first contribution to pension insurance was problematic as some new labour market entrants might not be aware that their six-month period is already running. This is especially the case for persons who just work for a very short period of time, such as students working during school holidays. The government has addressed this problem through an amendment of the law stipulating that new labour market entrants have to make their decision only if they pay pension contributions for at least 150 days. If they pay

contributions for less than 150 days, this period is not counted for the six-month switching period.

Regarding the share of the DB and DC schemes in the mandatory provision for income in old age, OECD countries have opted for differing designs (OECD, 2007b) and no one-size-fits-all rule appears to exist. While the authorities may consider moving away from the equal split between the DB and DC schemes, such a change should not be done on an *ad hoc* basis due to short-term budget considerations. When considering a change in the split, the government should keep in mind that every measure that reduces the weight of the DC pillar will increase future liabilities of the DB pillar.

As another means of improving the financial situation of the DB pillar, the maximum assessment base for pension insurance (as well as several other types of insurance) was increased in January 2008 from three to four times the average wage in the economy. As the upper ceiling for the calculation of accrued pension points was retained at three times the average wage, any contribution above that limit is essentially a tax used to fill the financing gap of the DB pillar.[24] The change in the ceiling adds to the long list of modifications adopted in 2008 with the aim of reducing the short-term deficit of the DB pillar. Such frequent changes create uncertainty among the population and have to be avoided. The government should in particular refrain from any measures that tend to undermine the sustainability of the DB pillar by raising revenues in the short term at the expense of higher liabilities in the long run. Any increases in pension contributions for the DB pillar stemming from recently introduced modifications of the pension system should be used to reduce government debt.

Increasing the sustainability of the DB pillar through further parametric reforms

According to estimates by the Social Insurance Agency, the DB pillar is likely to have a deficit of around 2½ percent of GDP in 2008. Although no updated deficit projections are available that take into account the various measures taken in 2008, the measures are likely to be associated with a higher peak in the DB-pillar deficit than the one suggested by the projections of the European Commission (see above). It is therefore vital that the government takes additional steps in order to improve the balance. There are essentially three options available to achieve this goal: raising the contribution rate and/or the base on which contributions are paid; reducing benefits either through direct cuts in benefit rates, changes in the base on which the pension entitlements are calculated or through changes in indexation rules; or increasing the retirement age and/or strengthening the eligibility criteria for early retirement. As contribution rates are already relatively high by international standards and any increase in labour costs would be counterproductive to lowering long-term unemployment, it would appear to be better to adjust the other two parameters of the system.

Although life expectancy in the Slovak Republic at a given age is low relative to other OECD countries, life expectancy at retirement is only slightly lower for men and about average for women given the very low statutory retirement age for both genders (Figure 3.6). Moreover, life expectancy at a given age is expected to converge towards the levels seen in other OECD countries, along with convergence in real incomes. The authorities should increase the statutory retirement age in line with gains in life expectancy as soon as the increase in the retirement age for women to 62 years is fully legally phased in by 2015. This would ensure that the DB-pillar balance does not deteriorate with rising life expectancy and would even lead to an improvement in the balance to the extent that the higher revenues and lower expenditures during the additional working years are not fully offset by the higher expenditures during the

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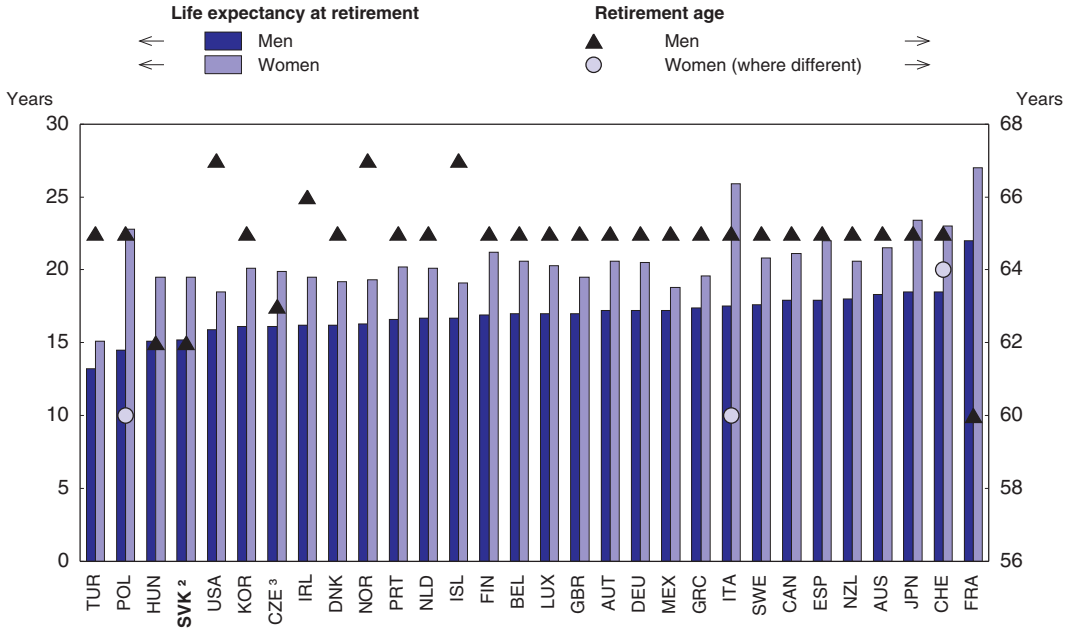
Figure 3.6. **Life expectancy and retirement age**

2007 or latest available [1]



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1. 2007 for Turkey and New Zealand; 2004 for Italy; 2005 for Canada, United Kingdom and United States; and 2006 for others.
2. SVK: For women the increase in the retirement age to 62 will not be fully phased in before 2015.
3. CZE: The retirement age for women varies between 59 and 63 depending on the number of children.

Source: OECD, *Health Database*, OECD (2007), *Pensions at a Glance* and OECD calculations.

retirement years that result from the accumulation of additional pension entitlements. To increase the effective retirement age, the conditions for early retirement were tightened in January 2008, allowing people to retire no earlier than two years before reaching the statutory retirement age.

Pension benefits could also be adjusted. One possibility is to make the indexation rule less generous by indexing pension benefits solely to inflation. This should relax budgetary pressures especially in a catch-up country such as the Slovak Republic where wages increase faster than prices due to strong productivity gains. Whilst an indexation to inflation means that the position of pensioners deteriorates relative to that of workers, it ensures that the consumption level at the age of retirement is protected throughout the retirement period.

As an alternative, the government could also modify the existing pension formula to ensure an automatic cut-back of replacement rates as the old-age dependency ratio worsens. Germany adopted such a sustainability factor with its *Old-Age Pension Insurance Sustainability Act* of 2004.[25] Such a rule would ensure the sustainability of the pension system, thereby helping to make further discretionary changes to the system unnecessary. The sustainability factor would be consistent with the suggested increase in the retirement age as any such increase would automatically be reflected in the pension formula via a lowering of the dependency ratio. Such a formula might also serve as a signalling mechanism to pension scheme members, showing that the DB pension pillar is not sustainable in its current form. This is all the more important if participation in the DC pillar is not made mandatory for all new labour market entrants. In that case, financing the

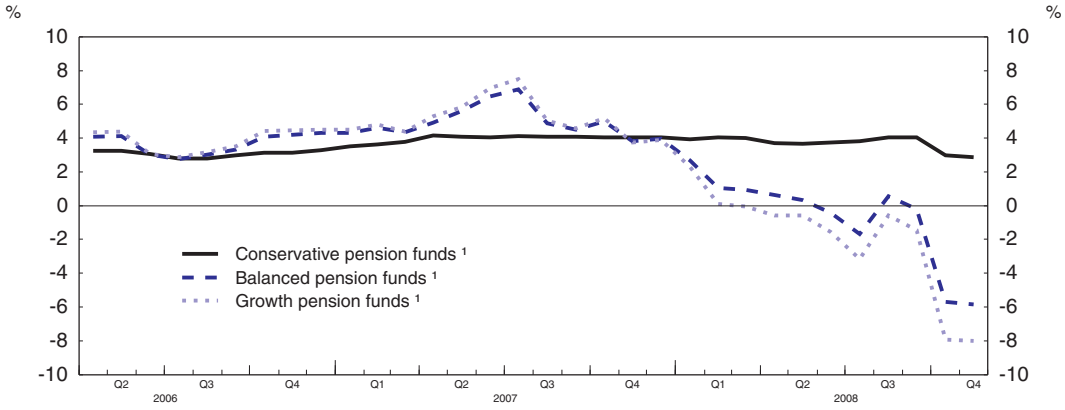
DB-pillar deficit from general government revenues instead of closing the gap through an adjustment in pension benefits might lead to a free rider problem, as all pension scheme members (including those that participate in the mixed system) have to pay higher taxes in order to finance the additional DB-pillar pensions. In order to avoid that a lowering of the average replacement rate leads to a rise in old-age poverty, the solidarity of the defined-benefit pillar should be strengthened as pointed out in the 2007 *Survey* (OECD, 2007c).

Improving the framework conditions for pension funds

Low real interest rates and a virtually non-existing stock market make it difficult for pension funds to achieve returns that are sufficient for the value of pension savings to rise in line with real wages. Before the financial market turmoil, the pension funds achieved annual returns of around 3 to 5% in nominal terms. However, the returns of the balanced and growth funds dropped markedly during the course of 2008 (Figure 3.7).[26] Nonetheless, looking ahead, investing in capital markets is expected to achieve notably higher returns than the DB pillar (Box 3.2).

Figure 3.7. **Returns of pension funds**

Year-on-year, nominal



StatLink http://dx.doi.org/10.1787/528480225621

1. Unweighted average of all pension funds of that type.

Source: OECD calculations based on data from the Slovak Association of Pension Fund Management Companies.

Box 3.2. **Comparing the returns of the two pension pillars**

This box presents calculations of the real rates of return obtained by different age cohorts in the two pillars of the pension system. The calculations follow closely those conducted by the Council of Advisors to the German Ministry of Economics. Both the effects of population ageing as well as the effects of the catch-up process are taken into account.[1]

The internal rate of return of the DB pillar is defined as the real rate of interest a pension scheme member needs to achieve by investing the pension contributions on the capital market in order to receive the same pension that he would receive from the DB scheme. The simulations assume that the rate of return equals the rate of growth of the sum of wages (which in turn equals the real GDP growth rate) adjusted for the number of pensioners that receive pension payments at any point in time. Furthermore, it is assumed that persons aged 15 to 61 contribute to the system whereas persons aged 62 and above receive pension payments. The contribution rate is assumed to remain constant over the

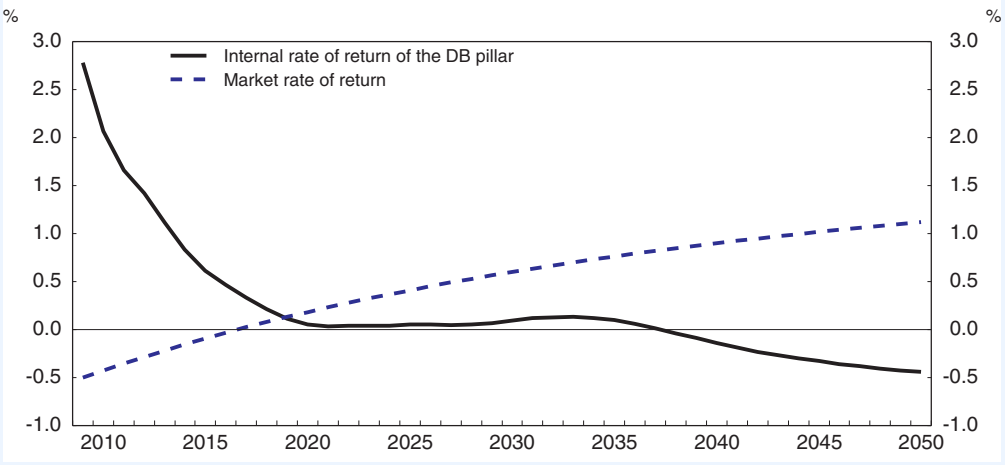
Box 3.2. **Comparing the returns of the two pension pillars** *(cont.)*

projection period. Together with the constant retirement age this implies that the ageing effect translates into a decline in the replacement rate. Projections on real GDP growth are taken from Box 2.2 in Chapter 2 and thus take into account the dynamics of the catch-up process. Data on population projections are obtained from Eurostat.

The simulation results are displayed in Figure 3.8, showing the internal rate of return of the DB pillar for alternative age cohorts. For example, a person retiring in 2010 receives a return of 2.1% on his pension contributions whilst somebody retiring in 2015 only gets a return of 0.6%. The sharp decline in the internal rate of return over the next decade reflects the rapid ageing of the Slovak population and the associated decline in pension payments as well as the slowdown in real GDP growth as convergence proceeds. Between 2008 and 2020, the share of persons paying pension contributions in the total populations is expected to decline from 70% to 65% whilst the share of those receiving pension payments is expected to increase from to 15 to 21%.

The figure also shows the compound annual rate of interest of a repeated investment in government bonds where the nominal bond yield is assumed to be equal to 4%[2] and data on inflation are again taken from the projections in Box 2.2 in Chapter 2. The real rates of return increase with the year of retirement as inflation is projected to decline going forward due to the progression of the catch-up process. According to the simulations the rate of return offered by the DB pillar is lower than that offered by the capital market for all persons retiring after 2019. The gap in returns will widen quickly for person retiring in later years and for somebody retiring in 2040 (*i.e.* somebody aged 30 today) the DC pillar is estimated to offer a 1 percentage point higher return than the DB pillar. For older persons who retire within the next decade, the DB pillar offers the higher returns and this is signalled to Slovak pension scheme members through the minimum period of pension contributions needed to claim a pension.

Figure 3.8. **Rates of return of the DB and DC pillars**



StatLink http://dx.doi.org/10.1787/528484101377

Source: OECD calculations based on Eurostat data.

1. Council of Advisors to the German Ministry of Economics (1998); and Sinn (2000).
2. This assumes that in the long run, the nominal interest rate equals the nominal GDP growth rate. The long-run nominal GDP growth rate in the euro area is assumed to be 4%, composed of an annual real GDP growth rate of 2.2% and an annual inflation rate of 1.8% (both equal to the 1995 to 2007 average).

Investment decisions by pension funds are subject to a number of regulations relating to the share of certain classes of assets in the overall portfolio of pension funds. Whilst ensuring sufficient investor protection, it is essential that pension fund regulation does not unduly restrict pension funds from investing pension savings efficiently, as such restrictions could have adverse effects on returns. One regulation that appears to be unduly restrictive in this regard is the requirement to invest at least 30% of the capital into entities domiciled in the Slovak Republic, especially as euro area entry will remove any exchange rate risk *vis-à-vis* the euro from 2009 onwards. For this reason, the elimination of this requirement in January 2009 is welcome. The regulation is also eased with respect to changes between pension fund management companies. As of January 2009, it is possible to change between funds once every year without any costs; for more frequent changes a fee of € 16 applies.

Another reason for concern is the benchmark rate introduced by the government to ensure that the return of any pension fund does not fall significantly behind the returns achieved by other pension funds of the same type. If the yield of a pension fund deviates from the benchmark by more than permitted by the law, that pension fund management company (*i.e.* the mother company) has to put additional money into the fund to ensure that the yield of this fund achieves at least a limit set by the law. Whilst having a benchmark helps to foster prudent behaviour by pension funds, the choice of the benchmark as the average of the rates of return achieved by all pension funds of a certain type is problematic. Firstly, this benchmark is neither known to contributors nor to pension fund managers in real time, complicating investment decisions. Secondly, it risks creating herd behaviour, as no pension fund wants to fall behind the others, so that the benchmark becomes a target, not a floor as intended. To solve these issues, the authorities should shift the responsibility for setting the benchmark to the pension fund level, combined with the requirement to regularly publish information about their performance against an absolute benchmark.

Box 3.3. **Recommendations for fiscal policy**

Fiscal rules

- Consider extending the existing national budgetary framework by incorporating a deficit rule into the constitution. The rule should be consistent with the *Stability and Growth Pact*, possibly drawing on the medium-term objective of achieving a 1% structural deficit.
- The framework should include a strong reporting system and *ex post* assessments of the government's performance *vis-à-vis* the rules.
- Introduce multi-year expenditure ceilings. To ensure the operation of the automatic stabilizers, consider excluding cyclical expenditure items, such as unemployment benefits, from the ceilings.
- Consider introducing an adjustment mechanism to claw back accumulated deviations from the fiscal rule in case of projection errors.

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Box 3.3. **Recommendations for fiscal policy** *(cont.)*

Pension system

- Refrain from any opening-up of the two pension pillars.
- Consider making participation in the DC pillar pension mandatory for all persons joining the labour market for the first time. At the very least, make participation in the DC pillar the default option.
- Avoid any measures that tend to undermine the sustainability of the DB system by raising revenues in the short term at the expense of higher liabilities in the long run. Also, do not change the split between the DB and DC schemes on an ad-hoc basis due to short-term budget considerations.
- Use the increased pension contributions for the DB pillar stemming from recently introduced modifications of the pension system to reduce government debt.
- Increase the statutory retirement age in line with gains in life expectancy as soon as the increase in the retirement age for women to 62 years is fully legally phased in by 2015.
- Consider making the indexation rule less generous by indexing pension benefits solely to inflation.
- As an alternative, consider modifying the existing pension formula to ensure an automatic cut-back of replacement rates as the old-age dependency ratio worsens.
- Strengthen the solidarity of the pension system.
- Shift the responsibility for setting the benchmark to the pension fund level, combined with the requirement to regularly publish information about their performance against an absolute benchmark.

Notes

1. In July 2004, the Council decided that Slovakia was in excessive deficit as the general government deficit was 3.6% of GDP in 2003. Due to data revisions after the 2004 decision, the general government deficit remained below the 3% threshold in the years 2003-05.
2. A deficit in excess of 3% of GDP that is exceptional and temporary may not be considered excessive provided the deficit remains close to the threshold. A deficit above 3% of GDP may also not be considered excessive if it has declined substantially and reached a level that comes close to the threshold. Similar exceptions apply to countries with a debt ratio above 60% of GDP, provided this ratio diminishes sufficiently and approaches the value of 60% of GDP at a satisfactory pace.
3. Using the revenue and expenditure elasticities obtained by Girouard and André (2005) the European Commission estimates the sensitivity of the GDP share of the Slovak general government budget balance with respect to the output gap at 0.29 (European Commission, 2005).
4. An amendment to the Act gives public universities a higher degree of flexibility similar to the one granted to municipalities and higher territorial units.
5. The limit has been equal to 1% since 2005; in 2004, the limit was 5%, in 2003 it was 15% and in 2002 no provision existed.
6. Germany is discussing the option of putting the deficit rule of the SGP into the constitution (OECD, 2008b)
7. As the OECD does not publish output gap data for the Slovak Republic, estimates by the European Commission are used.
8. A comprehensive discussion of the pros and cons of different design elements of expenditure rules is provided by Ljungman (2008).
9. For a description of the Swiss debt brake rule, see OECD (2007a) and the references cited therein.
10. The figure assumes a career length of 40 years and earnings at the average wage level.

11. Prior to the reform increases in pensions were decided by the parliament.
12. According to the pension formula of the pre-reform system, individuals with 25 years of contributions received 50% of the average of the five highest of the last 10 years' salaries and 1% in addition per additional year of service up to 17 additional years. The pension system contained a significant element of redistribution as only the first SKK 2 000 per month were fully included in the pensionable earnings whilst earnings above that ceiling were only counted to respectively one-third (up to SKK 5 999) and one-tenth (up to SKK 9 999). Beyond SKK 10 000 no increases to the pension were made although contributions were assessed up to SKK 32 000.
13. In addition to the mandatory DB and DC pillars, a voluntary DC pillar exists. This pillar was originally established in 1996 as a system of voluntary supplementary pension insurance based on the employer-employee principle. In 2004, the system was transformed into a one of supplementary pension savings and participation was opened to all natural persons older than 18 and not only to employees. By end-2007 790 000 persons were enrolled in the voluntary pension scheme.
14. The remaining 10.75% of the contributions continues to flow into the disability and reserve funds.
15. Sympatia – Pohoda merged with ING on 31 December 2005, and Prvá dôchodková sporiteľňa merged with Allianz-Slovenská on 1 March 2006.
16. The simulations take into account the parametric changes introduced in 2004 as well as the introduction of the fully-funded second pillar in 2005. It is assumed that 65% of all pension scheme members switched to the mixed system which is slightly higher than the actual number of switchers of close to 60%.
17. The Ministry of Finance of the Slovak Republic estimates that the difference between the projection and the actual outturn represents a shortfall of 1.0% of GDP per year (Ministry of Finance of the Slovak Republic, 2007, Box 5).
18. Most people waited until the end of the six-month period with their decision: more than 40% of all switches took place in the second half of June.
19. The government also expects additional contributions to the DB pillar of some 0.07% of GDP per year by these returning participants.
20. The change in legislation was appealed to the Constitutional Court; at the time of writing the decision was still pending. Under current legislation, pension scheme members who pay contributions for less than 15 years to one of the pension pillars will not receive any money upon retirement from that pillar. Instead, the contributions will be paid to the heirs after the death of the pension scheme member.
21. This argument is put to an extreme in the case of a regular or permanent opening up of the two pillars with participants deciding shortly before retirement which system is the more beneficial to them.
22. During the first half of 2008 4 250 persons that joined the labour market for the first time decided to switch to the mixed system. This compares to a total number of new labour market entrants of approximately 50 000 per year.
23. New Zealand follows this approach with KiwiSaver, a voluntary work-based savings scheme. New employees aged 18 to 65 are automatically enrolled in the scheme when they start a new job but have the choice to opt out within six weeks.
24. According to estimates by the Social Insurance Agency, the budgetary impact of the increase in the ceiling is 0.09% of GDP in 2008, 0.08% of GDP in 2009 and 0.07% of GDP in 2010.
25. Details on the sustainability factor adopted by the German government can be found in the 2004/05 annual report of the German Council of Economic Experts.
26. By end-2007, the net value of assets in growth (balanced) funds represented 60% (30%) of the total net value of assets of pension funds.

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Chapter 4

Adjusting housing policies in light of euro adoption

House prices have risen strongly in past years, helped by rising incomes and declining interest rates. At the same time, construction of new dwellings has remained fairly muted and has only recently shown signs of picking up. A characteristic feature of the Slovak housing market, and a consequence of the privatization programme initiated in the early 1990s, is the virtual absence of a private rental market. As euro membership will most likely go along with easier financial conditions and also entails limited availability of national policy tools, current housing policies will have to be adjusted. The challenges are to avoid overheating of the housing market in the medium term, in part by making supply more reactive to demand, and to phase out the hurdles that are currently impeding the private rental market, which would facilitate labour mobility.

The housing market has been booming

House prices and outstanding mortgage loans have been growing fast…

House prices in the Slovak Republic have seen phenomenal growth since 2002, the first year for which official statistics are available. In the past couple of years, prices in real terms have risen significantly faster than in most other OECD countries (Figure 4.1). Between 2002 and the second quarter of 2008, nominal prices rose 2.6 times. Even though the global housing cycle has turned, Slovak house prices continued to rise until the second quarter of 2008, although prices have started to decline slightly in the third quarter. However, house price growth has been quite divergent across the country. While the Bratislava region registered annual average increases of 21% since 2005, prices rose by 32% on average in Trenčín and by 14% in Trnava.[1] In general, the regions which benefitted most from inward FDI flows tended to have the largest price increases.

Given that price data are available for only a short time period, it is difficult to analyse if houses are correctly valued. Relating the level of house prices to GDP *per capita* (in PPP) over time, the National Bank of Slovakia finds that prices are now somewhat higher than could be explained by such a relationship (NBS, 2008). Another possibility is to look at developments in the ratios of house prices to rents and income, respectively, in comparison to other OECD countries. According to these ratios, house price valuations have risen more in the Slovak Republic since 2002 than in other OECD countries, in particular since 2007 (Figure 4.1).[2] In some other CEE countries, which – similar to the Slovak Republic – have experienced rapid financial development (the broad increase in the availability of credit) and therefore rising affordability, house price valuations have also increased dynamically.

Econometric estimates based on regional price data suggest that house price growth for Slovakia as a whole can partly be explained by higher household incomes, lower real interest rates and a lack of supply (Annex 4.A1).[3] These estimates suggest that actual house prices grew stronger than can be explained by these fundamentals (Figure 4.2, panel A).[4] This holds in particular for the period ahead of EU accession in 2004. While decreasing real interest rates supported house prices mainly in 2003 and 2004, more recently rising incomes have become the determining factor, along with continued lack of supply (Figure 4.2, panel B). Overall, the demand for real estate significantly exceeds the supply side as construction has lagged behind and the dwelling stock is low compared with other countries.

… and euro entry is likely to add fuel

Regardless of whether current house prices are fairly valued or not, the important issue going forward is that euro adoption will likely lead to additional demand pressure. This relates foremost to the effect of lower real interest rates on house prices. At least three factors come into play, as outlined in Chapter 1. *First*, during the catch-up phase over the next several years, inflation rates will be higher and real interest rates lower than in the

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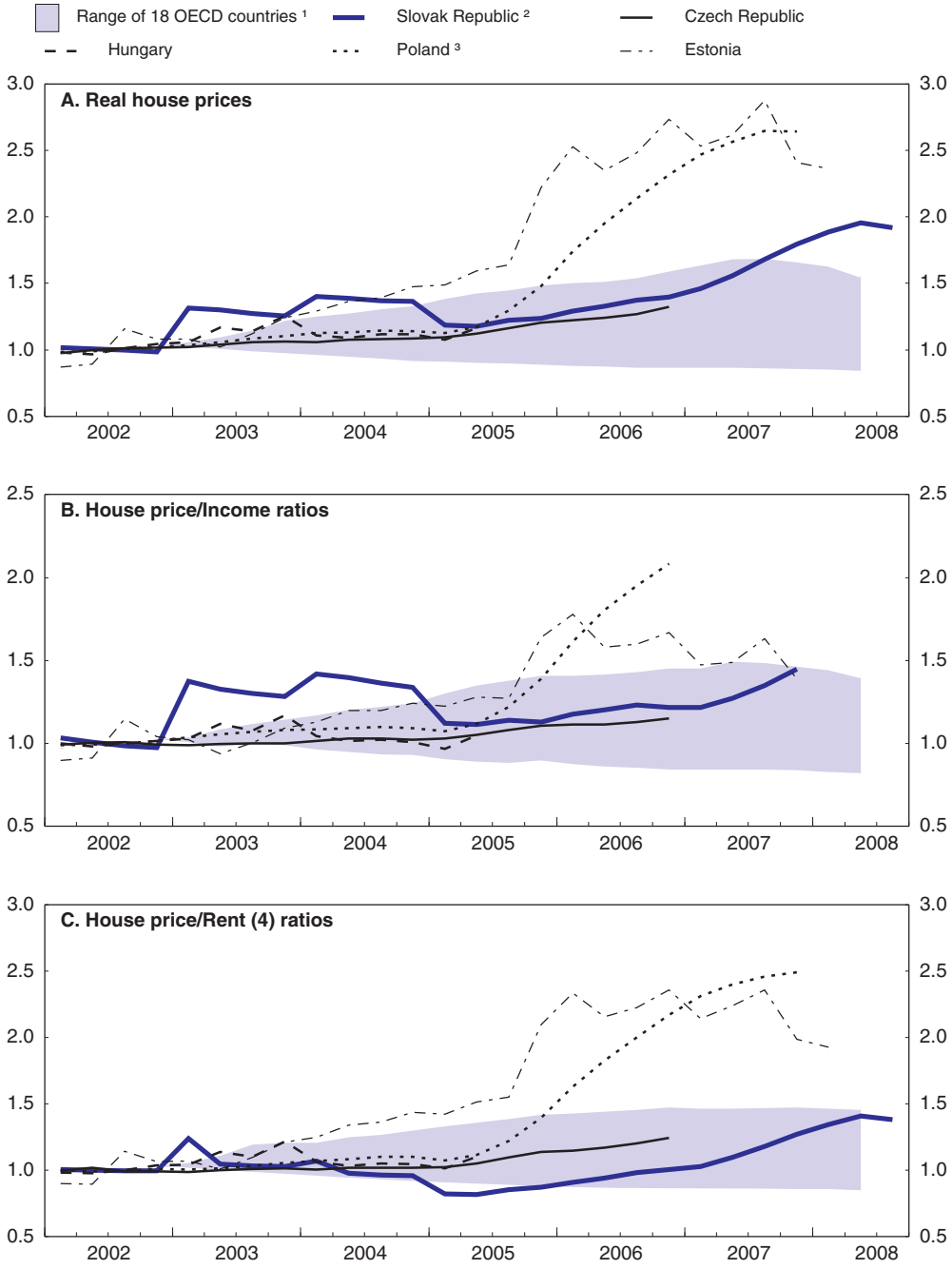
Figure 4.1. **Real house prices**

2002 = 1

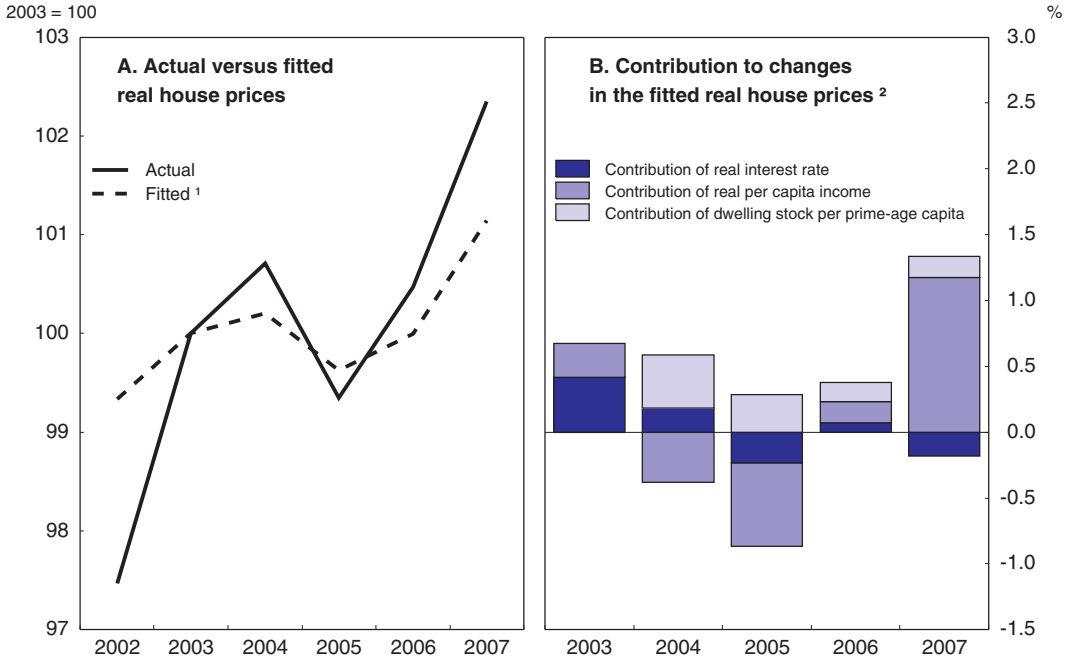


StatLink http://dx.doi.org/10.1787/528486615353

1. Includes Australia, Canada, Denmark, Finland, France, Germany (up to 2007Q4), Ireland, Italy, Japan, Korea, Netherlands, New Zealand, Norway, Spain, Sweden, Switzerland, United Kingdom and United States.
2. Slovakia: Annual house prices from 2002 to 2004, converted by taking the annual average in every quarter.
3. Poland: Annual house price index is derived from the average of the regional increases in residential property prices in the largest cities on the primary and secondary markets (as published in the Financial Stability Report of the National Bank of Poland). Then quarterly data are interpolated from these annual figures.
4. CPI rent except for Czech Republic where CPI housing has been taken.

Source: OECD Economic Outlook Database, National Bank of Slovakia, National Bank of Poland and BIS.

Figure 4.2. **The impact of fundamentals on real house prices 2002-07**



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1. Fitted house prices in logs according to the model estimated in Annex 4.A1, using specification (2).
2. Graph shows each component's contribution to changes in the fitted house price over time in log differences.

Source: OECD calculations based on Statistics Slovakia and *OECD Economic Outlook Database* data.

euro area, raising the danger of overinvestment. *Second*, as the Slovak Republic joins the larger euro capital markets, increased financial integration is likely to lead to a downward adjustment of retail interest rates. In particular, conditions for mortgage loans with a longer initial fixed interest rate period will benefit from this (Box 4.1). *Third*, risk premia embedded in interest rates will be lower. In addition to these interest rate effects, continuing financial market development will make credit, including mortgages, more available.

Box 4.1. **Financial integration effects on retail interest rates**

Experience from existing euro area member countries shows that euro adoption enhances and accelerates financial integration between countries (ECB, 2003; Baltzer *et al.*, 2008), not least as the removal of exchange rate risk is beneficial to the cross-border provision of financial services. As financial markets become better integrated, economies of scale can be realised and the supply of funds for investment opportunities is increased as banks and non-financial companies can tap the large and more liquid euro capital markets. Greater integration raises price transparency and lowers transaction costs, which should foster more cross-border activities, increase competition in the national markets and result in a more efficient allocation of capital as well as a reduction in the cost of capital. With perfect integration, identical financial products should have the same price across countries.

Box 4.1. **Financial integration effects on retail interest rates** *(cont.)*

In this regard, Slovak retail banking markets will become more integrated with those of the other euro area countries and over the longer term, retail interest rates for loans (to both households and non-financial companies) should converge towards the lower euro area level and interest rates for deposits may rise towards the higher euro area level.* Indeed, econometric evidence suggests that the convergence process is already underway (Hüfner and Koske, 2008). The convergence potential is largest for household consumption and mortgage loans, while conditions for loans to non-financial companies are already much closer to the prevailing euro area levels. In particular for mortgage loans with longer initial interest rate fixation period, Slovak customers still pay significantly more than euro area customers (Table 4.1). Differences are smaller for floating rate mortgages and initial interest rate fixation up to one year.

Experience from other euro area member countries suggests that the adjustment process can take several years. In the case of Greece, for example, mortgage rates with medium initial interest rate fixation period reached the euro area average level only in 2007, six years after joining the euro area.

Table 4.1. **Differences in mortgage interest rates for new loans, 2008**

%

Initial interest rate fixation period	Slovak Republic	Euro area average	Difference
Up to 1 year	6.08	5.49	0.59
Over 1 and up to 5years	6.17	5.13	1.04
Over 5 and up to 10 years	8.49	5.11	3.38
Over 10 years	8.58	5.21	3.37

Note: Interest rates are averages over the period January-October 2008.
Source: ECB and National Bank of Slovakia.

* It should be noted, however, that retail markets are still rather fragmented and far from perfectly integrated in the euro area as retail interest rate differentials remain substantial (ECB, 2008a).

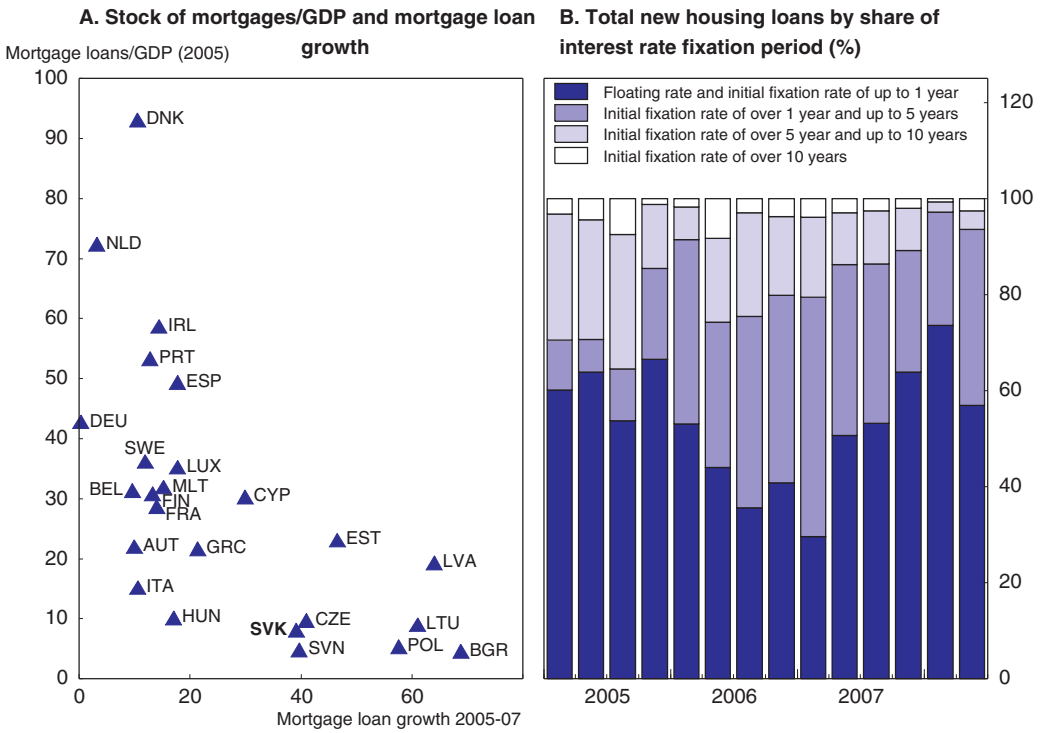
Although the impact of the global financial crisis may limit the real interest rate effect of euro area entry in the short run, the driving forces identified above will remain in place in the medium to long run. Against this background, an important challenge is to avoid overheating of the housing market, which could lead to a boom-bust cycle. On the demand side, it will be important to watch closely the financial risks associated with the development in household indebtedness, and reduce the subsidisation of owner-occupied housing implicit in the tax and benefit system. On the supply side, construction needs to be made more responsive to price signals. A longer term challenge is to support the build-up of a functioning rental market. This would raise mobility between renting and owning, thereby helping to deal with house price fluctuations, and raise regional mobility so as to help reduce regional dispersion in unemployment and more efficiently reallocate labour.

Watch developments in household indebtedness closely

Household indebtedness is rising fast, primarily reflecting the growth in mortgage loans. The average annual growth rate in the stock of outstanding housing loans was around 40% between October 2006 and October 2008, compared with 6% in the euro area. On the one hand, such significant growth is a common feature of financial development in

catch-up countries, which start with a lower stock of loans but tend to exhibit higher growth rates (Figure 4.3, panel A). The mortgage debt/GDP ratio is currently only 11% in the Slovak Republic, significantly below the euro area average of around 40%. Moreover, compared with other European countries with similar indebtedness, Slovakian loan growth rates do not seem to be excessive (Égert *et al.*, 2006). On the other hand, as in other catch-up countries, the brisk speed of credit growth during the catch-up phase raises concerns as underwriting standards may deteriorate and rising indebtedness renders some households more vulnerable to credit conditions, income shocks and house price fluctuations. Research shows that credit booms are often associated with sharply rising asset prices and falling prices when the boom ends (Mendoza and Terrones, 2008). Ireland, Portugal and Spain are examples of euro area countries that experienced such a cycle. Differentiating systematically between a credit boom and a catch-up-induced rise in indebtedness is complicated, not least due to the lack of historical evidence of credit cycles for most transition economies.[5]

Figure 4.3. **Mortgage loan growth**



StatLink http://dx.doi.org/10.1787/528536832765

Source: ECB and National Bank of Slovakia.

Along with rising indebtedness, the share of interest expenses in household disposable income has more than doubled from 0.45% in 2002 to almost 1% in 2006 (Beka, 2007). This is still below the average debt service burden of 3.25% of disposable income in the euro area (ECB, 2008b). However, the trend needs to be watched carefully as sharp increases always entail the danger that individual households overstretch their debt burden. In particular, the aggregate data conceal an uneven distribution of debt across household income categories. Typically, the young and lower income groups are those that

tend to exhibit the highest debt burden. In addition, the interest burden is becoming more volatile because the share of variable interest mortgages is rising significantly. While in 2004, loans with an initial fixed interest rate of between 5 and 10 years made up the biggest part of new loans, by 2005 more than half of all loans carried a floating rate or an initial fixed interest rate period of less than one year (Figure 4.3, panel B). In this respect, it should be noted that the share of outstanding variable rate loans in the euro area is estimated to be around 25% (ECB, 2008b), most likely lower than in the Slovak Republic (where no official information about the stock of outstanding loans, broken down by interest rate fixation period is available) given the tendency towards new floating rate loans over the past years.

While the situation should be watched closely, several factors limit somewhat the dangers to financial stability. *First*, innovative mortgage products, such as interest only loans, have not played an important role so far, limiting the danger that some households have taken up higher mortgages than they can afford.[6] *Second*, in contrast to some other EU accession countries, borrowing in foreign currency (other than euro) is almost absent in the Slovak Republic.[7] *Third*, mortgage equity withdrawal is not prevalent, so households cannot borrow against inflated house prices for consumption purposes. Overall, risks to financial stability remain contained, according to the National Bank of Slovakia (NBS). Its stress tests of banking sector stability indicate that the banking system could withstand a house price decline of 50%, as average loan-to-value (LTV) ratios on the stock of outstanding loans were fairly low (also due to the increase in prices). However, the NBS also points out that the average LTV ratio is rising and sometimes loan amounts even exceed the value of the collateral (Lintner and Rychtárik, 2007).

Options for regulatory interventions are limited

Financial stability risks, in particular related to household borrowing, should thus be monitored carefully. The set of measures available to the authorities to limit borrowing is limited, though. Financial conditions are set by the European Central Bank. In addition, within the EU the scope for regulatory action is limited because the Slovak banking system is almost fully foreign owned and banks therefore may circumvent national regulation. In particular, they could choose to switch from subsidiaries, which are supervised by the Slovak Republic, to branches, which are supervised by their home country.[8] At the same time, evidence for such regulatory arbitrage is limited, possibly reflecting the fact that such a transformation is costly and subsidiaries benefit from the low Slovak corporate tax rates. This suggests that Slovak supervisors have some room to manoeuvre, which they should use.

One particular regulatory option is to lower the LTV ratio for mortgage loans that are refinanced by mortgage bonds. Currently, to qualify as a mortgage loan, the loan amount has to be lower than 70% of the collateral and this LTV ratio is set by the NBS under the Banking Act. While banks can grant loans for a higher LTV than 70%, such loans cannot be refinanced through a covered mortgage bond (and are thus called *other housing loans* instead of *mortgage loans*).[9]

Moreover, strong cross-border cooperation with foreign supervisors should be ensured. This is important given that there is evidence that foreign-owned banks in the new member states tend to take on more credit risk than domestically owned banks, even though these risks seem to be in line with the strength of their parent banks (Fabrizio *et al.*, 2006).[10]

Redesign housing taxation and subsidisation

Currently, the fiscal treatment of housing is geared heavily towards supporting owner-occupation. Subsidisation remains substantial, real estate taxes are low and capital gains on housing are tax-free for residents after two years. Preferential treatment of real estate investment relative to other assets introduces distortions in capital allocation. A tax system with generous incentives for homeownership not only fosters a higher level of house prices (given the low responsiveness of housing supply to demand), but may also result in higher volatility of house prices (Van den Noord, 2003). Current policies will thus have to be adjusted to minimise misallocations of capital, not only in light of the demand push that low real interest rates will inevitably have on house prices, but also to foster the rental market.

Housing subsidies should be lowered…

Subsidisation of housing initially gets capitalised into higher house prices. Three main forms of subsidisation exist: a premium for deposits in home savings bank accounts, mortgage loan interest subsidies for young people and loans granted by the *State Fund for Housing Development* at favourable rates (with the latter two being means-tested) (Box 4.2). The extent of support does not seem to be excessive, at 0.25% of GDP, and has been falling. Still, there seems to be a case for phasing it out.

Box 4.2. **Forms of housing subsidisation in the Slovak Republic**

Premium for deposits in home savings bank accounts

For all deposits in home savings bank accounts the government pays a certain percentage share (determined annually; in 2008 it was 12.5%) of the annual deposit as a bonus up to a maximum of SKK 2 000 (€ 66) for a given calendar year. The home savings banks allow customers to accumulate funds during the savings process and – upon achievement of the target savings sum – they become entitled to a building loan at advantageous terms (similar to the German model of *Bausparkassen*). The loan can be used for any housing-related purposes (acquisition, construction, renovation, etc.). The bonus has been introduced in 1992 and is granted to natural persons or apartment owner societies.

Mortgage loan interest subsidy for young people

Reduced interest mortgages are available for persons under 35 years who earn up to 1.3 times the national average monthly salary of currently SKK 23 676 (€ 786). The state interest rate subsidy is applied to mortgages of up to SKK 1.5 million (€ 49 791) and the volume of the loan must not exceed 70% of the value of the property used as collateral. The reduction in the interest rate amounts to 2.5-3 percentage points (1-1.5 pp from the bank and 1.5pp from the State). They are valid for a period of 5 years.

State Fund for Housing Development

The *State Fund for Housing Development* (SFHD) was introduced in 1996 to improve the then unsatisfactory situation in housing finance. It grants loans at favourable interest rates to natural persons that are both citizen and permanent resident of the Slovak Republic aged above 18.* The support takes the form of a subsidised loan up to 80% of the procurement price, not exceeding SKK 8 000 (€ 265) per square metre. It is charged at a 6% interest rate with a duration of up to 20 years (amount and conditions are differentiated

Box 4.2. **Forms of housing subsidisation in the Slovak Republic** *(cont.)*

depending on the purpose). Financing from the fund is also available for public housing. In 2007 half of the loans were granted to towns and municipalities for the construction of rented apartments. Loans granted to apartment owner communities and households for reconstruction and improvement of residential houses each accounted for around a quarter of total loans.

Table 4.2. **State budget allocations for housing support (in million SKK)**

	2005	2006	2007
Mortgage loan interest subsidy	639	613	570
Home savings bank bonus	1 726	925	1 150
State Housing Development Fund	2 815	3 118	2 650
	5 180 (0.35% of GDP)	**4 656 (0.28% of GDP)**	**4 370 (0.24% of GDP)**

Note: The allocation of the *State Housing Development Fund* relates to the amount of loans granted in 2007.

* The natural person receiving the loan must obtain its own regular income from business activities or from a dependent activity.

... and real estate taxation increased

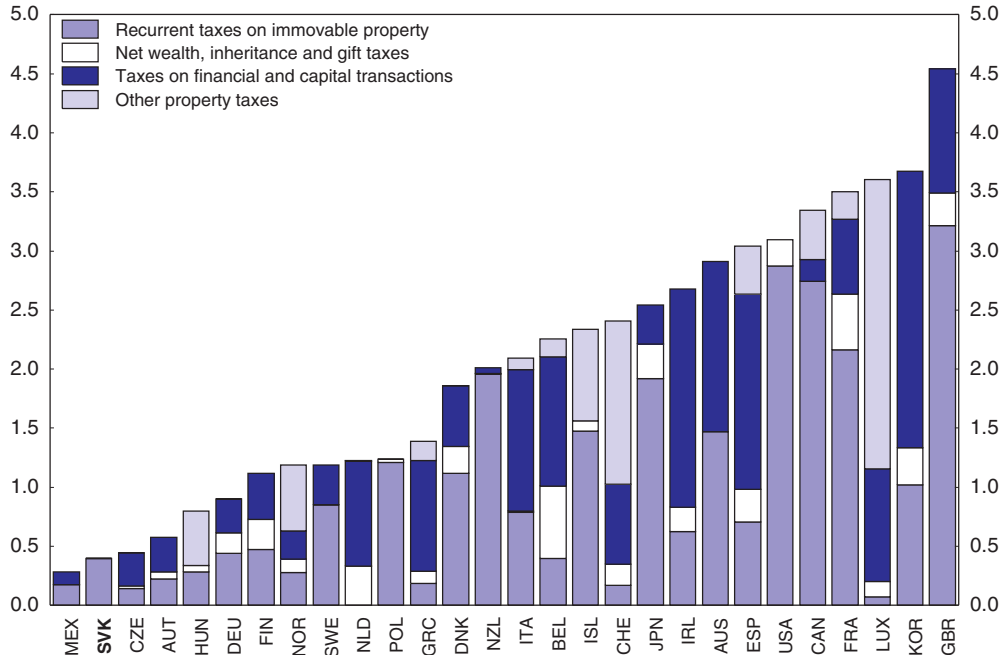
At around ½ per cent of GDP in 2007, revenues from property taxation are among the lowest in the OECD (Figure 4.4). As there is no wealth, inheritance or gift tax, and no real estate transfer tax, the real estate tax is the only tax levied on property. It is levied by local authorities and is divided into land tax, tax on buildings and tax on apartments. In contrast to many other OECD countries, however, mortgage interest payments are not tax-deductible. The land tax is levied at a rate of 0.25% of the tax base and the tax on buildings and apartments amounts to SKK 1 per square metre. However, municipalities have the right to increase or decrease tax rates on the basis of local conditions within a municipality or set various rates for individual types of land plots or individual cadastral areas. The only binding limit is that the highest tax rate cannot exceed the lowest rate by more than a factor of 20 in case of the land tax and a factor of 40 in case of the building or apartment tax. No information is available regarding the tax rates applied across municipalities. Of total real estate tax revenues, the building tax accounts for over two-thirds and the land tax for around one-quarter; revenues from the apartment tax are minuscule.

The tax base for the land tax is a fixed value per square metre, independent of the market value, and is laid out in the Local Tax Act. It was first fixed in 1992 and adjusted once in 2004 (when it was increased by a factor of 3). Generally, the value increases with the size of the town, with Bratislava having the highest value of SKK 1 800 (€ 60) per square metre, which is only around 3% of the current price per square metre. Even in the Nitra region, which has the lowest market prices, the tax base does not reach 10% of the current market value. With a statutory tax rate of 0.25%, the current effective tax rate in the Bratislava region is thus lower than 0.01% of the market price.

The low rate and the determination of the tax base of the property tax are problematic in several respects. *First*, by taxing immobile assets at a low rate, more distortive taxes on mobile sources need to be higher, all else equal. *Second*, the set-up of the tax may fuel house

Figure 4.4. **Property tax revenues**

% of GDP, 2007 [1]



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1. 2006 for Australia, Belgium, Greece, Mexico and Poland.

Source: OECD, *Revenue Statistics*, 2008 edition.

price booms. As the tax base does not follow market values, the effective tax rate declines as house prices increase, perhaps exacerbating cycles. It would be better to base the land tax on market valuations, which could be determined by using prices observed in real estate transactions, taking for example those collected by the National Association of Real Estate Offices of Slovakia (NARKS) on a regional basis.[11] To account for errors in estimating the correct price, only say 80% of the market price could be taken as the tax base (a similar system is in place in Sweden). A *third* problem is that the current real estate taxation is below a neutral level *vis-à-vis* the taxation of other assets, thereby distorting capital allocation decisions.[12]

Given these considerations, the real estate tax rate should be raised to a neutral level and should be based on market values. While for neutrality reasons, capital gains on owner-occupied housing should also be taxed, implementation of such a tax is not straightforward as it could lead to lock-in effects, thus reducing labour mobility (Box 4.3).

Of course, such a rise in real estate taxes would incur significant additional expenditures for households. Their tax payments would increase in line with rising house prices and some would find themselves liquidity constrained as their cash flow situation remained unchanged and "you cannot eat bricks and mortar". However, this is not a valid argument against a real estate tax as it concerns more a liquidity than a solvency issue. When house prices go up in one area, all homeowners become richer, including those who remain resident in their house. They become richer as the difference between the value of the house and their remaining mortgage debt (the so-called mortgage equity) on the house becomes larger. This allows them to borrow against the higher value of their house and mortgage finance their tax liability.

Box 4.3. **Capital gains taxation of owner-occupied housing across OECD countries**

In the Slovak Republic capital gains on housing are generally taxed at the time of realisation within income taxation at the 19% flat tax rate. There is an important tax exemption, however, for capital gains incurred by owners who had their permanent residence in the apartment or house for at least two years immediately prior to the sale, except if it was used for business purposes. In general, exempting capital gains from taxation gives rise to tax distortions favouring capital gains assets. In the Slovak case, investments in owner-occupied housing are thus favoured over investments in financial assets (whose capital gains are taxed).

While it would be preferable to abolish such a distortion, designing an appropriate tax on capital gains on owner-occupied housing at the time of realisation is not straightforward, as the main problem of such a tax is that it could lead to lock-in effects. For example, owners could be encouraged to hold on to their residence for a longer period than they would in the absence of this tax.* This would result in an inefficient use of the housing stock and would represent an obstacle to mobility. This is why the practice of exempting an owner's principal residence from capital gains taxation is quite wide spread and in fact the majority of OECD countries exempt capital gains on a primary residence under certain conditions, although the practical implementation of the exemption differs across countries (OECD, 2006). Several countries fully exempt personal residences occupied by the owner from capital gains taxation, except if the home is used for income-producing purposes (*e.g.* France, Italy, Greece, New Zealand). Spain exempts the capital gains from taxation if the owner is 65 years of age or older. Some countries have tests requiring that the taxpayer owned and resided in the home for a certain period of time in order to be exempted from taxation. These minimum periods of residence range from 1 year (*e.g.* Norway) up to 5 years (*e.g.* Poland). Other countries provide tax deferral relief by allowing the rolling over of the tax liability in case the gains are reinvested in a residence within a certain time *(e.g.,* Sweden, Spain, and Hungary). In the case of Sweden, only two-thirds of the capital gain is taxed. The only two OECD countries that tax capital gains without exemption are Japan and the US. However, in the Japanese case the applied tax rate declines with the holding period. The US grants exemption amounts of USD 250 000 (USD 500 000 for married persons filing a joint tax return) if the residence is owned and occupied by the taxpayer for more than two years over the prior five years.

* Similarly, taxation of capital gains on a realization basis can also encourage the selling of loss-making assets to obtain tax relief on loss deductions.

Make construction more responsive to demand

In addition to reducing excess demand for housing, a flexible housing supply response helps to dampen house price cycles. In the Slovak Republic, it is noteworthy that the stock of housing is lower than in most other comparable countries (Table 4.3), which is a consequence of the plunge in housing construction during the transition period when state subsidies for large-scale panel construction were abolished. The construction of new dwellings per 1 000 inhabitants dropped from 9.1 in 1980 to 1.2 in 1996 – a steeper decline than in many other transition economies. Partly as a response, the government set out in 1995 a *Concept of State Housing Policy* which shifted the responsibility to procure housing to the citizen, with the state and municipalities being responsible for ensuring suitable conditions (UNECE, 1999).

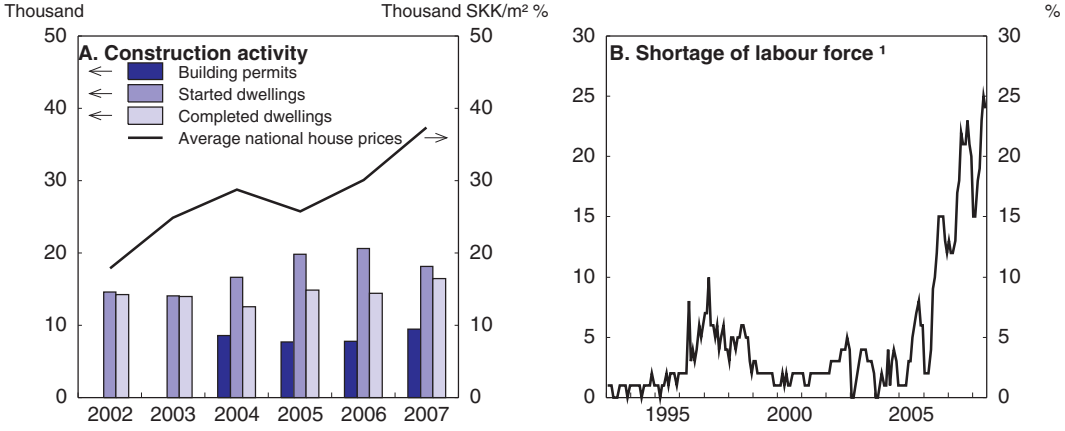
Table 4.3. **Housing supply across countries**

	Dwellings per 1 000 inhabitants	Year	Dwellings completed per 1 000 inhabitants	Year	Average number of persons per occupied dwelling	Year
Slovak Republic	**361**	**2006**	**3.1**	**2007**	**3.2**	**2004**
Poland	314	2002	2.8	2004	3.1	2004
Czech Republic	438	2005	3.2	2004	na	
Hungary	423	2005	4.3	2004	2.5	2004
Slovenia	408	2004	3.5	2004	2.4	2004
Germany	477	2004	3.4	2004	2.2	2005
France	513	2005	6.0	2004	2.3	2004
Ireland	400	2003	19.0	2004	2.9	2004
Austria	421	2004	5.2	2002	2.4	2004
Belgium	409	2004	4.4	2004	2.0	2004
Netherlands	422	2004	4.0	2004	2.4	2004
Sweden	486	2004	3.3	2004	2.1	2004

Source: Housing Statistics in the European Union 2005/06, Statistics Slovakia.

Even though construction activity has picked up since then, it has remained surprisingly low despite the steep increases in house prices and the widespread availability of housing finance. The number of completed dwellings per 1 000 inhabitants rose from 2.7 in 2006 to 3.1 in 2007 and thus still remains at the lower end of construction activity in most countries (in 2004; Table 4.3). In line with this observation is that there is no sign of a construction boom. The share of employees working in the construction sector has barely increased from 5% in 2002 to just below 6% in 2006. However, the number of building permits rose by a substantial 16% in 2007, suggesting that construction of new dwellings will rise soon, although with a long time lag (Figure 4.5, panel A). At the same time, the construction sector seems to have already reached its capacity limits with the increase in construction in 2007 (Figure 4.5, panel B). The share of building companies reporting that a lack of labour is limiting their activity has risen to 25% in mid-2008 from almost zero in 2006. This could explain why the number of house starts declined in 2007.

Figure 4.5. **Construction activity and labour shortages**



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1. Percentage of construction companies reporting labour shortages as a limiting factor for their building activity.

Source: Statistical Office of the Slovak Republic, National Bank of Slovakia.

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There is evidence that building costs are quite high which could be a sign of lack of competition.[13] Thus, the competition authorities should investigate constraints on competition and possible infringements of law in the construction sector to guard against anti-competitive behaviour, as recommended in previous *Surveys* (OECD, 2005a).

Regulatory procedures that absorb substantial amounts of time, such as land-use planning procedures might explain the lagged supply response (Beka, 2007). The basis for decisions about issuing new land for building at the local level is the urban development plan of a town or municipality. It identifies new residential areas as well as the required transport and technical infrastructure and needs to be approved by the town or municipal council. The binding part of the plan then constitutes a local law. The practical implementation of these regulations, however, is weak. Although the Building Act obliges every town and municipality with more than 2 000 inhabitants to have a town structure plan, only 68% have such an approved plan (Beka, 2007). This opens the door for arbitrariness, compounded by the reported practice of decisions deviating from existing plans. Potential builders might therefore refrain from planning in such an area for fear of a lack of legal security. It is also reported that town structure plans are out of date and do not reflect the needs of inhabitants and investors for new construction plans. For example, the plan for Bratislava had not been updated between 1993 and March 2007, limiting the supply response for the high demand in this area (Beka, 2007). Finally, land ownership is often not well established or is fragmented into lots too small to build on (NBS, 2008).

Taking account of the procedural difficulties of the current Building Act and its implementation, a new Building Act had been prepared under the sponsorship of the Ministry of Construction and Regional Development. Besides a new classification of buildings, the new Act aims to streamline procedures and to reduce the administrative burden on both developers and staff of building authorities, thereby helping to speed up the decision-making process. Currently, however, the new Act is stuck in the legislative process. The authorities should implement the simplified planning process swiftly. Making sure that the supply-side of housing reacts more rapidly and flexibly to the demand situation is important for dealing with the housing shortage and rising prices. Even a small increase in the dwelling stock would restrain house price growth quite significantly (Annex 4.A1).

Reduce impediments for the build-up of a private rental market

The private rental market is almost non-existent

A defining feature of the Slovak housing market is a tenure structure which is very heavily concentrated on owner-occupied dwellings (Table 4.4). The share of rental dwellings is, at least according to official statistics, very small, and most of it is public social housing provided by municipalities. Although there is an unofficial rental market, no evidence is available about its size. The small rental sector is due to the huge transformations in the tenure structure in the post-communist era. At the beginning of the 1990s, owner-occupied dwellings made up just half of the tenure structure and public rental housing had a large share (Lux, 2006), but in 1991 all state-owned dwellings were transferred to municipal ownership.[14] The privatisation programme that started in 1993 allowed tenants in the municipal housing stock to purchase their home under very favourable conditions (right-to-buy legislation).[15] Co-operative housing was also transformed into private ownership from 1992 onwards. In total, around 340 000 rental

Table 4.4. **Occupied dwelling stock by tenure**
% of total

	Rental	of which social rental dwellings in %	Owner-occupation	Cooperative	Other
Slovak Republic	**5**	**80**	**85**	**7**	**3**
Czech Republic (2001)	29	80	47	17	7
Poland	25	47	57	18	0
Hungary	6	48	93	na	1
Slovenia	9	73	84	na	7
Germany (2002)	55	12 (2005)	45	na	0
France	40	40 (2002)	57	0	3
Italy	19	24 (1989)	73	na	9
Spain	11	na	82	na	7
United Kingdom	31	65 (2001)	69	na	0

Note: Data refer to 2004 unless stated otherwise.
Source: Housing Statistics in the European Union 2005/06.

apartments and 270 000 cooperative apartments were privatized between 1992 and 2006. The changes in the tenure structure were most dramatic in the urban areas. For example, in Bratislava, the share of private dwelling ownership increased from 12% in 1991 to about 70% in 1998 (UNECE, 1999). The right-to-buy legislation is still in effect today, although it applies only to apartments built before 1998.[16]

Significant changes in the tenure stock also occurred in several other transition economies such as Estonia and Hungary. In Poland and the Czech Republic, the process was less drastic as they did not pass a right-to-buy legislation but rather left it to the discretion of each municipality whether and under which conditions to privatise their housing stock (Lux, 2006). As a consequence, the rental housing share in these two countries, at around a quarter, is significantly higher.[17]

The lack of a rental market, in particular a private one, is problematic in at least two ways. *First*, rental markets support the regional mobility of labour, which will be very important to deal with the upcoming structural transformation of the economy (Chapter 1; OECD, 2007a, 2005a). In this regard, it is noteworthy that regional mobility in the Slovak Republic is one of the lowest among OECD countries, resulting in the large regional disparity of unemployment rates. In contrast to many other OECD countries, regional mobility in the Slovak Republic is very similar across age groups and between different groups of education attainment, suggesting that a common factor, such as the availability of rental housing or the relatively small stock of housing in general, is hindering mobility.[18] In cross-country studies, owner occupation is found to be an obstacle to geographic labour mobility due to high transaction costs and potential capital losses. Living in social rental housing also reduces the probability to move, compared with living in private rental accommodation (OECD, 2005b). In particular if social housing is heavily subsidised and/or means-testing is only weakly enforced, tenants have a strong incentive to remain in the place as long as possible (lock-in effects). *Second*, a functioning rental market would also help to deal with sustained house price increases. Giving young families the choice to rent or to buy, rather than to effectively force them to buy, potentially reduces some of the demand coming from the prime-age population group.

Decisions about whether to buy or to rent are also influenced by socio-cultural factors that cannot easily be manipulated by policy. Thus, instead of actively supporting the build-

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up of a private rental segment, policymakers should aim to remove features of regulations or the tax and benefit system that are distorting the individual decisions. An important step in this direction would be the reduction of the fiscal incentives for owner-occupation, as outlined above. Furthermore, the right-to-buy policy should be phased out, or at least sales prices should be raised to market values. Regarding the rental market itself, two aspects warrant a closer look: tenant protection and the regulation of rents in the public sector. Although both are often primarily associated with lowering labour mobility, they may also provide disincentive for supplying new private rental housing.

Tenant protection should be relaxed

Tenant protection is very strong for rental contracts of indefinite period, although such contracts are becoming rarer over time. The tenant must be provided with alternative accommodation if the landlord terminates the contract, even if the landlord is entitled to terminate the lease and even if failure to pay the rent on time or other breaches of the lease agreement are the cause for termination. The tenant is not obliged to vacate until appropriate housing has been secured. These rules do not apply if the rental agreement is for a definite period, which is increasingly the norm. However, before 1989 all rental contracts were for an indefinite duration and it thus seems likely that still a fair share of tenants is protected by this law, in particular since rental contracts can be bequeathed from one generation to the next. As the current tenant protection can contribute to immobility and might also act as a deterrent for private rental supply, the government should consider easing the rules for indefinite contracts.

Scale back the public housing sector and expand housing allowances

Public housing support for low-income households is currently mainly provided through the public rental housing sector rather than through housing allowances. While public housing is open to households earning up to 76% of average wages (AW), only social assistance recipients (*i.e.* persons with incomes below 25% of AW) receive housing allowances.[19] Rents in public housing are regulated and are around three times lower than in the private rental market (OECD, 2005a); in city centres differences are even more marked. Demand for public housing apartments is exceeding the supply as there is evidence of waiting lists for public rental apartments. In contrast, housing allowances play only a marginal role as only 2.1% of the population received them in 2007, fewer than in many other European countries (Table 4.5).

While a public housing sector certainly has an important function, the current set up in Slovakia could lead to work disincentives and impedes labour mobility. For example, since eligibility depends on income, once a person manages to obtain a public housing apartment his incentive to earn more is reduced for fear he becomes ineligible (poverty trap). According to the law a person has to leave the apartment if he passes the income level for public housing, in case there is someone in line waiting for it. In practice, however, income controls are weak and households often remain in their apartments after they have surpassed the eligibility criteria (Lux, 2003). This lowers labour mobility and leads to an inefficient allocation of the housing stock as it crowds out private rentals. Even though public housing rental contracts from 2001 onwards are limited to three years with the prolongation depending on eligibility, tenants are often allowed to stay due to the lack of an alternative private rental apartment.

Table 4.5. **Housing allowances across OECD countries**

	Maximum cash housing benefits in % of AW	Entitlement depends on actual rental cost	Share of households receiving housing allowances
Australia	6	Yes	
Austria	9	Yes	
Czech Republic	6	No	
Denmark	11	Yes	21
Finland	16	Yes	20
France	15	Yes	23
Germany	2	Yes	7
Greece	11		0.6
Iceland	10	Yes	
Ireland	20	Yes	5
Netherlands	8	Yes	14
New Zealand	6	Yes	
Poland	16	Yes	6.4
Slovak Republic	**13**	**No**	**0.7**
Sweden	11	Yes	6.3
United Kingdom	19	Yes	19

Note: Housing allowances are for rented accommodation. The maximum benefit amount relates to an unemployed couple with two children aged under six under the assumption that housing costs are 20% of the gross earnings of an average wage. Data relate to 2005 for the maximum amount of housing allowance and to 2004 for the share of households receiving those allowances (2003 for Slovak Republic, 2002 for Finland and the UK, 2001 for Germany).
Source: OECD (2007), Benefits and Wages.

Similar distortions to labour mobility are created by the housing allowance system. *First*, allowances are not differentiated by region, setting serious disincentives for someone to move from a region with low housing costs to a region with high ones, which tend to be where job opportunities emerge. Moreover, the benefits are low and do not take actual housing costs into consideration, as is done in many other OECD countries (Table 4.5), despite the wide differences in rent levels.[20] *Second*, individuals loose eligibility when they take up a job which earns more than the subsistence minimum, as housing allowances are granted through social assistance. In contrast, several other OECD countries maintain housing cost support to low income households regardless of whether they work or not (OECD, 2007b).

Taken together, housing support needs to be reformed in order to remove the current disincentives to labour mobility and to make the support more targeted and effective. In particular, public housing provision should be made more targeted and housing allowances should be expanded. This would also help to expand the private segment of the rental market. The government should consider raising public housing rents closer to market levels; at least, tenants who no longer fulfil the eligibility criteria should pay market rents. To this end, income controls should be better enforced. Such an approach is taken in Poland, for example, where households that live in public housing have to pay a free market rent when their income starts to exceed the ceiling for eligibility (checked every two years; Lux, 2003). Housing allowances should be made available to those who work (but who are poor) and the allowance should reflect local housing costs – as envisaged within the *Modernisation Programme Slovakia 21* – in order to encourage movement to rapidly growing (and high cost) areas of the country.

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Box 4.4. **Recommendations for housing policy**

Avoid overheating of the housing market

- Continue to carefully monitor financial stability risks, in particular related to household borrowing. Tighten regulation, such as lowering the loan-to-value ratio, if there are indications of an overheating in the housing market. Ensure strong cross-border cooperation with foreign supervisors.

Remove obstacles to the expansion of a private rental market

- End the right-to-buy policy or make it less attractive by adjusting conditions closer to market prices.
- Increase the taxation of real estate by basing it on actual property prices and by raising the tax rate to neutral levels.
- Further reduce the subsidisation of owner-occupied housing.
- Consider bringing the rent level in public housing apartments closer to market levels. At the very least, tenants who no longer fulfil the eligibility criteria should pay market rents.
- Consider raising housing allowances, make them more widely available (also to persons in work) and take into account regional differences in housing costs when setting the amounts.
- Consider phasing out the tenant protection for indefinite rental contracts.

Make housing supply more responsive to demand

- The competition authorities should investigate constraints on competition and possible infringements of law in the construction sector to guard against anti-competitive behaviour.
- Swiftly implement the planned new Building Act in order to simplify and speed up the land planning process.

Notes

1. House prices in Bratislava were standing at around € 1 665/square metre (SKK 50 188/square metre), compared with a price level of € 2 550/square metre in Vienna (UniCredit Group: Residential Real Estate in CEE, May 2008).
2. Note that these series are indexed to be equal in 2003, so only growth rates, not levels, can be compared.
3. Further factors include the rapid growth of loans, various forms of housing support, low housing taxation and the low perception of risk in the housing market (NBS, 2007). In addition, the spending of black money on real estate prior to the euro cash changeover could be a demand factor. Anecdotal evidence suggests that such transactions took place prior to the euro cash changeover in the first-wave countries in 2002.
4. Estimation results should be interpreted with care as they are based on a panel with only a short time series dimension. Also, note that these series are indexed to be equal in 2003, so only growth rates, not levels, can be compared.
5. Mendoza and Terrones (2008) define a credit boom as an episode where credit to the private sector grows by more than during a typical business cycle expansion. They identify a boom if real credit *per capita* deviates by more than 1.75 standard deviations from its long-run trend.
6. However, Beka (2007) reports that products such as mortgages for 120% of the real estate price or the postponement of principal payments over the first years are starting to become available.
7. The share of foreign-currency loans in total household loans in 2005 was over 50% in the Baltic countries and around 25% in Poland and Hungary (Rychtárik and Licák, 2006). These are mostly

denominated in EUR, but also in CHF. The motivation is to benefit from interest rate differentials at the cost of exposure to exchange rate fluctuations.

8. Under the single EU banking passport, foreign banks can open up branches in other countries that fall under the regulation of their home country supervisor. Subsidiaries of non-domestic banks, in contrast, are local corporate citizens and therefore subject to local licensing and prudential oversight. This regulatory framework has been in place since the Second Banking Directive in 1993 which dealt with banking market integration and cross-border supervision in the EU. It introduced the home-host principle, where home-country supervisors are responsible for supervising the institutions they licence (including their foreign branches, but not subsidiaries). Some exceptions exist, such as the host country being responsible for liquidity provision and oversight (OECD, 2008).

9. In July 2008, around half of outstanding loans given for housing purposes were *mortgage loans*. *Other housing loans*, which do not fall under the regulation of the Banking Act made up for one-third of outstanding loans and loans provided by building societies made up the rest.

10. Fabrizio *et al.* (2006) find that sounder banks are expanding more rapidly than weaker banks in the Slovak Republic.

11. As it is the land value that typically drives real estate prices, the building and apartment tax could remain at a fixed amount per square metre, possibly indexed to the construction price index.

12. This can be illustrated with a simple example: Consider someone owning and residing in a debt-free house. The house can be interpreted as a durable consumption good which delivers a stream of consumption in the form of housing services to the owner (similar to the rent that he would have to pay in case he were a tenant). If he sold the house and invested the money on the bond market at an interest rate of 5%, he would have to pay income tax of 19% on the interest income. For the net-investment income he would not be able to rent a house delivering similar housing services to the one he sold. Neutrality would require taxing the benefit associated with living in the house at a tax rate that makes the individual indifferent between renting and owning. In principle, such a taxation of imputed rent would need to vary with the interest rate level in capital markets.

13. The ratio of the comparative price level (relative to the EU15 based on PPPs) of the construction sector relative to the price level of total GDP at 1.04 is larger than for the euro area on average in 2006 (0.97).

14. The restitution process that was started in 1990 in order to return property previously nationalized after 1948 to its former owners or their heirs did have little effect on the tenure structure as it affected only a small share of the public housing stock (UNECE, 1999). This might be due to the fact that individual family housing had never been nationalized (in contrast to apartment houses), leaving most of the rural and village families owning their own houses (Faltan and Dodder, 1995).

15. Central legislation defined the general terms of privatizations, leaving municipalities with little influence about the scale and conditions of the sales. The privatization programme stated that the price had to be based on the purchasing price at the time of construction, depreciated by 2% per year, minus 30%. Prices were thus severely depressed, standing at less than 5% of the market value of the dwellings (UNECE, 1999).

16. Apartments built after 1998 can be sold by the municipality only after 30 years.

17. Lux (2006) distinguishes between fast privatisers (Romania, Estonia, Slovak Republic) and slow privatisers (Czech Republic and Poland). Bulgaria is a special case, as homeownership already accounted for 91% of the total housing stock at the start of transition.

18. Cross-country evidence suggests that the probability to move is higher for more educated households. Furthermore, the probability to move tends to decline with age (OECD, 2005b).

19. Access to public housing is granted to persons whose income is lower than three times the living minimum (amounting to 76% of AW), families with one person younger than 35 years and with monthly income lower than three times the living minimum as well as handicapped persons. Eligible for housing allowances, by contrast, are citizens which are in material need, defined as a state in which the income of the citizen or family does not achieve the subsistence minimum of SKK 4 580 (€ 152 or 25% of AW). Thus, eligibility is much stricter than for public housing.

20. The amount of the housing allowance is SKK 1 490 (€ 50 or 8% of AW) for one citizen and SKK 2 350 (€ 78 or 13% of AW) if one citizen and jointly assessed natural persons are involved. The monthly rent for a 3-room rental apartment of lower standard in Bratislava amounts to around SKK 10 000 (€ 332) compared with SKK 2 800 (€ 93) in Prešov.

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ANNEX 4.A1

What drives house prices in the Slovak Republic?

So far, little quantitative evidence is available on the determinants of house price developments in the Slovak Republic, in contrast to some other CEE countries (Égert and Mihaljek, 2007). One reason for the lack of econometric analysis is that house price data start only in 2002, limiting the possibility for time series analysis on a national basis. However, price data are available on a regional basis, allowing for panel data analysis in order to obtain evidence on the fundamental determinants of house price changes (Meen, 2001; Cameron *et al*., 2006).

We estimate a variant of the standard model presented in Cameron *et al*. (2006), where real house prices are a function of the relative supply of houses (the dwelling stock *per capita*), disposable income *per capita* and the real interest rate. Further, to capture the importance of first-time buyers in the housing market, we included the prime age (age group 25-44) population group, either as denominator for the dwelling stock or as a share of total population as an additional explanatory variable (Rae and Van den Noord, 2006). The dataset comprises time series for all 8 regions of the Slovak Republic on an annual basis, covering the period 2002 to 2007. House prices are available at quarterly frequency only from 2005 onwards and we convert those into annual frequency using averages. The dwelling stock, household incomes and population are only available until 2006. For the population series, data for 2007 were obtained by linear extrapolation. The dwelling stock series was extrapolated using 2007 data on completed dwellings and disposable income *per capita* was extrapolated using 2007 data on GDP per working age population.

The following baseline specification was estimated:

$$hpr_{r,t} = \alpha_r + \beta_1 irs_t + \beta_2 inc_pop_{r,t-1} + \beta_3 hs_pop_{r,t} + \beta_4 pag_pop_{r,t} + \varepsilon_{r,t}$$

where *hpr* denotes real house prices (nominal prices deflated by consumer prices), *irs* denotes a short-term real interest rate which is equal across regions (deflated with the private consumption deflator; a short term interest rate was used to take account of the high share of new loans with variable interest rate or an initial interest rate fixation period of up to one year), *inc_pop* denotes real *per capita* income (deflated by consumer prices), *hs_pop* denotes the ratio of the number of dwellings over total population and *pag_pop* is defined as the ratio of the prime age population over total population.* All variables except the interest rate are in logarithms. The subscripts *r* and *t* refer to the region and the period, respectively.

In subsequent specifications, *hs_pop* and *pag_pop* were replaced with *hs_pag* (or its first lag), which denotes the dwelling stock divided by the prime age population. A Wald test of restricting *hs_pop* to the opposite sign of *pag_pop* did not reject the null hypothesis. This

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indicates that using both *hs_pop* and *pag_pop* is equivalent to using only *hs_pag* in the estimation. To account for potential endogeneity of the dwelling stock and population, the equations are estimated by two-stage generalised least squares, using lagged variables as instruments for both variables. As some of the variables are non-stationary and cointegration tests provided ambiguous result due to the short time series dimension, the model was estimated both in differences and in levels.

The parameter estimates of the regression in levels and first differences are reported in Table 4.A1.1. All variables show the expected signs. The interest rate semi-elasticity is similar to Rae and Van den Noord (2006), who find a coefficient of around –2 for Ireland using a similar approach (a one percentage point decrease in real interest rates raises house prices by 2%). The estimated income elasticities of between 2½ and 3½ are somewhat higher than their finding for Ireland. An increase in the dwelling stock *per capita* is estimated to dampen house prices significantly, though the size of the coefficient varies considerably across specifications.

The coefficients of *irs* and *inc_pop* are highly significant in all three specifications in levels and first differences. As the coefficient of *hs_pag* is highly significant in specifications (2) and (3), these are the preferred specifications. While the results proved to be relatively robust across the different specifications presented in Table 4.A1.1, they should be interpreted with caution due to the short time series dimension; different lag structures, for example, did not produce meaningful parameter estimates.

Table 4.A1.1. **House price regression: Parameter estimates**

$hpr_{r,t}$	(1)	(2)	(3)	$\Delta hpr_{r,t}$	(4)	(5)	(6)
irs_t	–1.63*** (0.58)	–1.69*** (0.53)	–3.18*** (0.79)	Δirs_t	–2.21*** (0.54)	–2.06*** (0.19)	–2.38*** (0.84)
$inc_pop_{r,t-1}$	2.73*** (0.48)	2.92*** (0.33)	2.41*** (0.45)	$\Delta inc_pop_{r,t-1}$	3.48*** (0.77)	3.38*** (0.21)	2.79*** (0.36)
$hs_pop_{r,t}$	–17.18 (10.73)			$\Delta hs_pop_{r,t}$	–39.13 (38.09)		
$pag_pop_{r,t}$	18.53** (9.05)			$\Delta pag_pop_{r,t}$	38.29 (30.76)		
$hs_pag_{r,t}$		–22.26*** (5.47)		$\Delta hs_pag_{r,t}$		–34.17*** (5.57)	
$hs_pag_{r,t-1}$			–16.97*** (5.38)	$\Delta hs_pag_{r,t-1}$			–6.76 (10.92)
$adjR_2$	0.86	0.86	0.87	$adjR_2$	0.56	0.59	0.52

Note: Specifications (1), (2), (4) and (5) are estimated by Two-Stage Least Squares using the lagged dwelling stock and the prime-age population as instruments. Specifications (3) and (6) do not use instruments as the dwelling stock enters as a lagged variable. Standard errors are in parentheses and ***, **, * denote significance at the 1%, 5% and 10% level. Significance levels and adj. R^2 are computed using a seemingly unrelated regression weighting matrix.

* House prices are average offer prices in SKK per square metre from the National Bank of Slovakia, which are based on data from the National Association of Real Estate Offices of Slovakia (NARKS). See Cár (2006) for a discussion of the data. Real *per capita* income is based on net money income (NMI; in SKK *per capita* per year, taken from the regional database of Statistics Slovakia. Data are available for the period 2001-2006 and 2007 data are obtained by extrapolation using coefficients of a regression of the regional NMI on national GDP/working age population (from the *OECD Economic Outlook Database*). The dwelling stock is the total number of dwellings as of 31 December, taken from the urban and municipal database of Statistics Slovakia. Data are available from 2001-2006 and 2007 data are calculated using regional statistics on completed dwelling construction (the yearly difference of the dwelling stock is regressed on the data of completed dwelling construction for each region and the obtained coefficients are used to extrapolate the 2007 dwelling stock from the number of completed dwellings of 2007). The prime-age group is the population between 25 and 44 years and 2007 data were obtained by linear extrapolation.

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