



Volume 4, Issue 8

20.07.2007

ECFIN COUNTRY FOCUS

Highlights in this issue:

- The short-term economic outlook is very positive
- But the young and low-skilled unemployed have not drawn much benefit from the current boom
- Education and R&D expenditure need to be increased to improve long-term growth prospects

Long-term growth remains a challenge for Slovakia despite the current boom

By Anton Jevčák*

Summary

In recent years, Slovakia has introduced wide-ranging reforms in the tax, pension, social and health care systems. These reforms have increased incentives to work, to create jobs and to invest, and have thus fostered growth and economic catching-up. The supply-side driven growth has so far ensured favourable price and wage developments. However, it is not clear whether this positive trend will continue in the medium term. The availability of a sufficiently skilled labour force has decreased significantly while young and unskilled unemployed have so far not benefited to any significant degree from the strong employment growth. At the same time, the public education system does not seem to be ensuring that everybody has sufficient skills to participate in the labour market, and is failing young people from disadvantaged backgrounds in particular. Moreover, R&D investment in Slovakia has been very low and falling in recent years. Hence, in order to ensure that employment and productivity continue to grow strongly in the coming years, Slovakia should focus on improving educational attainment and stimulating R&D investment.

Overall macroeconomic situation

In the period 1998-2006, major structural reforms were introduced in Slovakia. The labour market was made more flexible, the social benefits system became less generous and more targeted, the tax system was simplified, a funded pension pillar was established and state ownership was reduced. These reforms were intended to increase incentives to work, to employ and to invest and thus promote growth.

Slovakia did indeed attract some large greenfield investment projects in the automotive and electronics sectors which offered new employment opportunities for blue-collar workers and boosted export growth. As a result, GDP growth accelerated gradually from 4.2% in 2003 to 8.3% in 2006 and is expected to peak at around 8.5% in 2007. Investment growth has been more volatile, increasing by 12.5 percentage points to 17.5% in 2005 (with investment in equipment growing by 25%) before slowing down to 7.3% in 2006. Although lagging output growth, employment growth picked up from -0.3% in 2004 to 1.4% in 2005 and 2.3% in 2006 while the unemployment rate fell from 18.2% in 2004 to 13.4% in 2006. The labour market situation is expected to continue improving in 2007 and 2008, albeit at a more moderate pace.

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Table 1: Main macroeconomic indicators (%)

	2003	2004	2005	2006	2007(f)	2008(f)
Real GDP growth	4.2	5.4	6.0	8.3	8.5	6.5
Investment growth	-2.3	5.0	17.5	7.3	7.1	6.1
Employment growth	1.8	-0.3	1.4	2.3	1.7	0.9
Unemployment rate	17.6	18.2	16.3	13.4	12.2	11.7
HICP Inflation rate	8.4	7.5	2.8	4.3	1.7	2.4
Real unit labour cost growth	0.8	-2.7	-1.8	-1.0	-2.6	-1.0
Output gap (% potential GDP)	-2.8	-2.5	-2.4	-0.4	1.7	1.8
NAIRU	17.6	16.7	15.5	14.2	12.9	11.6

Thanks to relatively moderate nominal wage growth, real unit labour costs have been falling since 2003 and are expected to continue falling over the next 2 years. The availability of skilled labour, a decentralised bargaining structure and well-anchored inflation expectations seem to be the reason why the economy has not so far showed signs of overheating despite the negative output gap being expected to turn positive in 2007 and widen further in 2008, having closed gradually in the years 2004-2006. HICP inflation is forecast to fall to below 2% in 2007 after accelerating to 4.3% in 2006 from 2.8% in 2005 due to hikes in administered prices induced by higher energy prices.

However, while the still relatively high overall unemployment level and the relatively low employment rate may suggest that labour supply is still sufficient, the Commission's calculations indicate that the unemployment rate has already fallen below the NAIRU in 2006. And a closer look at certain segments of the labour market confirms that the labour market situation may indeed be already quite tight.

Labour market situation

Although the overall unemployment level has decreased by almost 5 percentage points in the last 2 years, the long-term unemployment rate has only decreased by 1½ percentage points and very long-term unemployment only marginally, by ¼ percentage point, in this period. As a result, the long-term unemployed represented 76.3% of all the unemployed in 2006, which is by far the highest share of long-term unemployment in the EU27.

Table 2: Labour Market Statistics (LFS adjusted series)

	2002	2003	2004	2005	2006
Unemployment rate (total)	18.7	17.6	18.2	16.3	13.4
Unemployment rate (15 to 24 years)	37.7	33.4	33.1	30.1	26.6*
Long-term unemployment (> 12 months)	12.2	11.4	11.8	11.7	10.2**
Very long-term unemployment (> 24 months)	7.5	7.6	8.2	8.4	7.9**
Employment rate (15 to 64 years)	56.8	57.7	57.0	57.7	59.4
Employment rate (15 to 24 years)	27.0	27.4	26.3	25.6	25.9
Employment rate (55 to 64 years)	22.8	24.6	26.8	30.3	33.1
Activity rate (15 to 64 years)	69.9	70.0	69.7	68.9	68.6
Activity rate (15 to 24 years)	43.4	41.1	39.3	36.6	35.3
Activity rate (55 to 64 years)	26.9	28.5	31.7	35	36.7

* The second highest in the EU, ** The highest in the EU

Source: Eurostat

Moreover, while gradual increases in the retirement age have a clear positive impact on employment and on the activity rates of the elderly segment of the labour force (55-66 years), young people seem to be continuing to face serious problems on the labour market. Even though youth (15-24 years) unemployment decreased by 6½ percentage points between 2004 and 2006, the youth employment rate stagnated at around 26%, indicating that even a prolonged period of strong economic growth has so far failed to generate more jobs for young labour market entrants, some of whom probably used the 2004 EU entry to exploit employment opportunities in other EU

... the situation of long-term and young unemployed has not been improving much.

countries. Consequently, stronger public policies might be necessary to resolve the problems of long-term and youth unemployment as insufficient education and training seem to be currently the biggest obstacle to finding employment.

The unemployment rate for young Slovaks with only pre-primary, primary and lower secondary education amounted to 74% in 2006 and – 3½ times higher than the EU27 average of 21.2%. By contrast, the unemployment rate for young people who had achieved upper secondary and post-secondary non-tertiary education was much lower, at 21.4%, albeit still above the EU27 average of 15.6%. On the positive side, as many as 91.8% of 20- to 24-year-olds had completed at least upper secondary education in Slovakia in 2005 – more than anywhere else in the EU27.

In particular, it is very difficult for low-skilled young people to find employment...

Table 3: Youth unemployment rate by educational attainment (LFS)

	Pre-primary, primary and lower secondary education				Upper secondary and post-secondary non-tertiary education			
	2003	2004	2005	2006	2003	2004	2005	2006
EU27	20.4	21.3	21.8	21.2	17.8	18.0	17.4	15.6
EU15	19.3	20.0	20.9	20.4	13.2	13.9	14.2	13.4
SK	69.6	73.7	76.8	74.0	30.6	28.6	25.2	21.4

Source: Eurostat

Completing university also dramatically increases young Slovaks' chances of eventually finding employment: the overall unemployment rate among people with tertiary education decreased to 3.3% in 2006, below the EU27 average of 4.6%.

Table 4: Total unemployment rate by educational attainment (LFS)

	Pre-primary, primary and lower secondary education			Upper secondary and post-secondary non-tertiary education			Tertiary education		
	2004	2005	2006	2004	2005	2006	2004	2005	2006
EU27	12.0	11.9	11.5	9.6	9.2	8.2	5.1	5.0	4.6
EU15	11.2	11.2	11.0	8.1	8.0	7.5	5.1	5.0	4.6
SK	52.1	53.3	48.4	16.9	14.4	11.8	5.9	5.1	3.3

Source: Eurostat

However, the share of Slovaks aged 25-39 having attained tertiary education level is increasingly lagging behind the EU27 average, which increased by 5.1 percentage points, to 27.5%, between 2001 and 2006 while Slovakia's only increased by 4.5 percentage points between 2001 and 2006, to 16%.

Table 5: Population (aged 25 to 39 years) by highest level of education attained (% of total) (LFS)

	Pre-primary, primary and lower secondary education		Upper secondary and post-secondary non-tertiary education		Tertiary education	
	2001	2006	2001	2006	2001	2006
EU27	26.3	22.6	49.8	49.7	22.4	27.5
EU15	29.9	25.5	43.7	44.8	24.5	29.4
SK	7.3	6.5	81.2	77.6	11.5	16.0

... while the skill-composition of the labour force is improving only relatively slowly.

Source: Eurostat

Since, according to "endogenous" growth theories, human capital formation is crucial for ensuring strong long-term growth, Slovakia should try to improve levels of educational attainment more rapidly, by allocating sufficient resources to the education sector and ensuring that they are used efficiently.

Education and R&D investment are crucial for long-term growth

Box: Basic growth theory

The neoclassical growth model based on the seminal work of Solow (1956) and Swan (1956) shows that due to a declining marginal productivity of capital the economy converges to a constant capital-to-labour ratio. Hence, the steady state rate of growth of output per worker depends solely on the exogenous rate of technological progress. An increase in the savings/investment rate has no impact on the long-run rate of growth although it does lead to an increase in the level of capital and thus output per worker, and introduces a period of higher growth until the new steady state is reached.

The assumption of diminishing returns to capital is the key convergence mechanism in the Solow model. Countries with lower capital-to-labour ratios should enjoy a higher marginal product of capital and thus, ceteris paribus, a higher growth rate. In a world of free capital mobility, convergence would be reinforced by capital inflows attracted by higher rates of return and contributing to technological spillovers. However, higher growth rates are only temporary (although they can last for a decade or more) and decrease with the growing capital-to-labour ratio.

In the long run, growth in the Solow model is only determined by some unexplained, "exogenous" rate of technological progress. Endogenous growth models, developed since the second half of the 1980s, try to overcome this limitation: the rate of growth is determined endogenously and depends on investment decisions and/or framework conditions for economic activity, including in particular R&D (see e.g. Romer, 1990). The concept of investment used in endogenous growth theory includes expenditure on research and development or human capital formation. This broader definition allows for constant returns to capital accumulation and thus for investment-determined long-term growth (for a detailed overview see e.g. Barro & Sala-i-Martin, 1995).

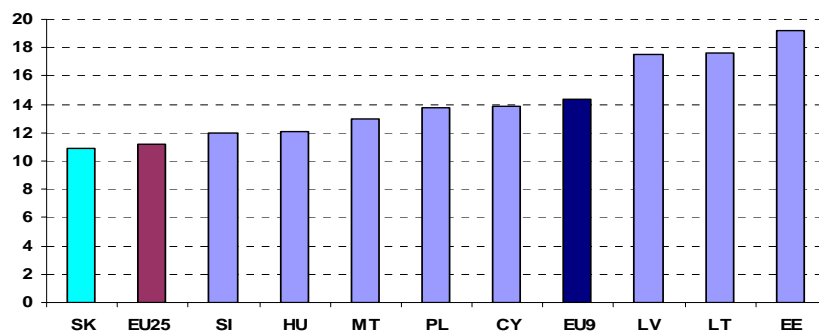
The implication of this theory for the new EU Member States is that with increasing convergence higher capital-output ratios lead to ever lower investment returns and economic growth at a given level of technological progress. Hence, they will have to increasingly rely on human capital formation and R&D to absorb and generate technological progress and thus sustain high growth rates. Slovakia still has to improve considerably in these areas.

Education expenditure in Slovakia is relatively low....

Education system

Public expenditure on education in Slovakia amounted on average to 4.2% of GDP in the period 1999-2003 and was thus below both the EU27 average of 5.1% of GDP and the average of 5% of GDP in the 12 new Member States (EU12). Moreover, the share of education expenditure in total Slovak public expenditure hovered around 10% in the years 2003-2005 and was thus below the 2003 EU25 average of 11.2% and the 2003 9 new Member States' average of 14.4%.

Chart 1: Education Expenditure (% of total expenditure of GG in 2003)



Source: Eurostat

There is evidence that the results are insufficient in terms of educational achievement. According to the 2003 OECD PISA study which assessed 15-year-olds in 41 countries Slovak pupils' overall results were below the OECD average. Although their scores in mathematics were close to the OECD average their performance in science, problem solving and especially reading was clearly below average. Moreover, performance was more sensitive to socio-economic background (represented by the occupational status of parents) than in most other countries (OECD, 2007). Hence, the public sector in Slovakia seems to provide a lower quality of education on average than in the OECD as a whole while failing to ensure equal access to education of the same quality for all.

... while educational outcomes are below the OECD averages.

Table 6: Mean scores in the 2003 OECD PISA study (% of the OECD average)

	Mathematics	Science	Problem Solving	Reading	Overall
Czech Republic	103	105	103	99	103
Latvia	97	98	97	99	98
Poland	98	100	97	100	99
Slovakia	100	99	98	95	98

Source:OECD

R&D and innovation

As pointed out above, the availability of relatively skilled workers has decreased over recent years while their wages continue to converge to the EU27 average. Therefore, the 2005 FDI-financed investment boom which generated a significant increase in the growth contribution of net exports in the period 2006-2008 is not likely to be repeated on a similar scale. Hence, besides enabling young people to succeed in the labour market, the public sector should also consider increasing incentives for R&D and innovation to foster technological progress and thus expand the production of higher value-added products, which might be necessary for long-term growth in Slovakia.

Gross domestic expenditure on R&D in Slovakia amounted on average to 0.56% of GDP in the period 2001-2005 and was thus below both the EU12 average of 0.71% of GDP and the EU27 average of 1.86% of GDP. Moreover, the GDP share of gross domestic R&D expenditure has been continuously falling in the last years from 0.65% of GDP in 2000 to 0.51% of GDP in 2005.

R&D expenditure has been low and falling and...

Table 7: Gross domestic expenditure on R&D (% of GDP)

	2001	2002	2003	2004	2005	01-05 average
EU27	1.88	1.88	1.87	1.84	1.84	1.86
EU12	0.71	0.67	0.66	0.72	0.77	0.71
SK	0.63	0.57	0.58	0.51	0.51	0.56

Source:Eurostat

It is possible that the large foreign investors which have established production capacities in Slovakia in recent years will also gradually move more of their R&D and innovation activities there. However, the size of this potential relocation will depend on the supply of university graduates familiar with state-of-the-art technologies and research. Although the share of tertiary graduates in science and technology among the population aged 20-29 increased from 0.53% in 2000 to 0.92% in 2004 and thus slightly exceeded the EU12 average of 0.9%, it still lagged behind the EU27 average of 1.24%. Hence, a production shift toward higher-tech goods is likely to be crucially dependent on education outcomes being improved in terms of providing the right skill mix.

... the number of tertiary graduates in science and technology is still lagging behind.

**Table 8: Tertiary graduates in science and technology
(% of population aged 20-29)**

	2000	2001	2002	2003	2004	00-04 average
EU27	1.00	1.06	1.11	1.21	1.24	1.12
EU12	0.64	0.68	0.75	0.80	0.90	0.75
SK	0.53	0.75	0.78	0.83	0.92	0.76

Source: Eurostat

Conclusion

While the wide-ranging reforms introduced in Slovakia in the period 1998-2006 increased incentives to work, create jobs and invest and have resulted in a marked acceleration of employment and output growth since 2005, the young, unskilled unemployed, in contrast to young graduates, have not so far significantly benefited from the employment growth. Indeed they are far more likely to be unemployed in Slovakia than anywhere else in the EU – a situation that has remained stable over the last 3 years of strong growth. The persistence of the unemployment rate among low-skilled young people in the context of otherwise strong employment growth indicates a low employability of this segment of the labour force, which might act as a drag on potential output growth in coming years.

More broadly, educational achievement in Slovak schools appears to be below the OECD average overall and also more sensitive to socio-economic background than in most other countries. Moreover, Slovakia's education and R&D spending has been below both the EU27 and the EU12 averages in recent years. This may have negative consequences for long-term growth which according to endogenous growth theories depends on investment in human capital formation, R&D and innovation. Hence, in order to ensure that the poor employability of the low-skilled unemployed and sluggish productivity growth do not limit potential output growth in the coming years, Slovakia should shift sufficient resources into the education system and R&D support, while ensuring their efficient use.

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Chief Editor: Marco Buti, Deputy Director-General, Economic and Financial Affairs

Coordinating Committee: Gerrit Bethuyne, Heinz Jansen, Elena Reitano

Layout: Johannes Kattevilder, Fabrizio Melcarne

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