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HUNGARY

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BASIC STATISTICS OF HUNGARY, 2008

LAND

Area (1 000 km^2)	93.0	Major cities (thousand inhabitants)	
Agriculture (%)	62.2	Budapest	1 720.3
Forest (%)	20.3	Debrecen	205.1
		Miskolc	171.1

PEOPLE

Population		Total labour force (thousands)	4 174
Thousands	10 038	Employment (% of total)	
Increase 2003-08 (annual rate, %)	−0.2	Agriculture, forestry and fishing	4.5
Number of inhabitants per km^2	108	Industry and construction	32.1
		Services	63.4

PRODUCTION

Gross domestic product		Gross fixed capital investment	
In billion HUF	26 553	In % of GDP	20.9
Per head (thousand USD)	15.5	Per head (thousand USD)	3.2

GOVERNMENT

Public consumption (% of GDP)	21.6	Number of seats in Parliament	386
General government (% of GDP)		Share of seats held by governing party (%)	48
Current expenditure	48.2	Last election: April 2006	
Current revenue	44.8	Next election: Spring 2010	
Gross debt, Maastricht definition	72.8		

FOREIGN TRADE

Exports of goods and services (% of GDP)	82.1	Imports of goods and services (% of GDP)	81.1
Main commodity exports (% of total)		Main commodity imports (% of total)	
Machinery and transport equipment	60.7	Machinery and transport equipment	49.1
Manufactured goods	26.5	Manufactured goods	31.6
Food, beverages and tobacco	6.7	Fuels, electric energy	12.8
Fuels, electric energy	3.8	Food, beverages and tobacco	4.7

CURRENCY

Monetary unit: forint	Annual average (2009)	
	Forints per USD	202.1
	Forints per EUR	280.3

Executive summary

Hungary is facing one of the most severe recessions among OECD countries. *Despite financial assistance from international organisations, macro policies had to remain tight. Stabilisation is underway, but the depth of the recession will leave deep marks. Looking forward, restoring sustainable growth requires decisive structural reforms. The shift in the tax burden from labour to consumption in 2009 was a positive step toward reducing economic distortions. The pension reform, which will increase labour supply, should be sustained. To increase productivity, innovation policies should be promoted. A well-balanced policy mix is also critical to restoring growth. Fiscal consolidation should continue, while avoiding excessive pro-cyclicality, if the economy deteriorates beyond anticipation. As the economy recovers, the central bank should continue to carefully communicate to financial markets so as to avoid financial stability concerns in case of sudden changes in market sentiment.*

The momentum of fiscal reform should be sustained. *Recently, significant progress in improving fiscal sustainability has been made. The creation of fiscal rules and a Fiscal Council is welcome ahead of the 2010 elections given the historical political cycle of fiscal deficits. Hence, it is of utmost importance that the Fiscal Council benefits from broad political acceptance. It is also advisable to allow some experience to accumulate before considering any substantial changes in the Fiscal Responsibility Law. Improving general public administration should bring large welfare gains and reducing the size of government should eventually allow for tax cuts. The government should continue targeted streamlining of public employment and strengthen public procurement. To spur public administration reforms, a monitoring unit should be established. The government should also enhance the efficiency of the health system by seeking consensus for introducing patient co-payment for physician care.*

The financial regulatory framework should be reshaped. *The crisis exposed several weaknesses in the supervisory framework, such as inadequate monitoring and risk assessment. Excessive risk taking by borrowers needs to be limited by capping the share of income that can be used for debt servicing while the accuracy of income should be documented. To ensure that the ceilings on debt-service ratios are observed, a comprehensive credit registry is needed. On the lender side, banks should be subject to higher costs for risky lending in the form of higher capital requirements. The scope for unilateral changes in contract should be limited, consumer protection enhanced and all conditions of financial products disclosed in a transparent way. Appropriately, the supervisory authority has been made independent from the Ministry of Finance and directly accountable to Parliament. To prevent systemic risks, close co-operation between the central bank and the supervisory authority is also needed.*

Education efficiency needs to be improved. *The school system possesses features associated with good outcomes, notably a high degree of autonomy. Nevertheless, vocationally trained school leavers are not adequately prepared for the labour market. Policy to favour vocational practical training in regional integrated vocational training centres and in workplaces should continue. In terms of school efficiency, the ratio of actual teaching relative to the total statutory working time should be raised and there remains scope for further mergers/associations among municipalities. The proportion of adults with tertiary qualifications is still low. The authorities should improve incentives to provide tertiary studies that match labour market needs and tighten the conditions under which students continue to receive free tuition, while extending ways of defraying the living expenses of students from poor families.*

Assessment and recommendations

Hungary is facing one of the most severe recessions among OECD countries

Hungary has been in one of the most severe recessions among OECD countries, with the projected fall in real gross domestic product (GDP) in 2009 being double the OECD average. Hungary's economy suffered from a trade collapse just like other transition economies in the region, but the global crisis has been compounded by a collapse in investor confidence in forint-denominated assets. This triggered a steep depreciation of the exchange rate in October 2008 and led the authorities to request financial assistance from international organisations. A combined credit package of EUR 20 billion was granted in November 2008 by the International Monetary Fund (IMF), the European Union (EU) and the World Bank.

High foreign currency indebtedness and weak fiscal sustainability were at the root of the loss in confidence of foreign investors. Foreign exchange lending became a common practice due to the interaction of several factors, reinforcing each other. On the credit demand side, lenders were encouraged to borrow by the persistently wide spread between interest rates in Hungary and western-European countries, a relatively stable currency, and the expectation of convergence. On the credit supply side, banks favoured foreign currency lending owing to the lack of domestic forint savings and also over-optimistic assumption on convergence. As a result, households and enterprises have become increasingly indebted in foreign currency, especially in Swiss francs. Total external debt reached about 120% of GDP at the end of 2008, compared to less than 50% in Poland and 40% in the Czech Republic. At the climax of the financial crisis (October 2008), gross international reserves fell short of covering short-term foreign currency debt at remaining maturity. At the same time, the capacity of the government to bail out private investors appeared limited owing to the high public debt and the still significant fiscal deficit.

Restoring market confidence has required tight macroeconomic policies…

Unlike most other OECD countries, macroeconomic policies could not afford to support the economy and had to remain tight to avoid further depreciation of the exchange rate. For the central bank, defending the forint had at times to take precedence over inflation targeting. On the fiscal side, spending was cut significantly to reinforce confidence, including nominal cuts in public wages and pensions. The pro-cyclical stance was similar to policies followed by other emerging countries with foreign currency debt overhangs. In those countries, the positive impact of reversing capital flows proved to outweigh the negative impact of tight macroeconomic policies: the restoration of market confidence

eventually led to currency appreciation and interest rate declines, which lightened the private sector debt burden, stimulating activity. In the meantime, transitory high domestic interest rates had limited pass-through to the economy since most indebtedness is in foreign currency. In Hungary also, tight macroeconomic policies, together with international support, have been successful in stabilising the currency, allowing the central bank to resume interest rate cuts in mid-2009 and the government to let automatic stabilisers work in part.

*… while the crisis acted as a trigger
for long-overdue reforms*

The need to restore foreign investor confidence also acted as a trigger to implement long-overdue structural reforms. Improving fiscal sustainability required going beyond short-term expenditure cuts. Hungary has made significant progress in reducing the cyclically-adjusted fiscal deficit over the past years. In particular, the government has improved the targeting of social transfers and has reduced inefficient subsidies. In May 2009, the government adopted a new pension reform that should significantly mitigate the rise in ageing costs. This reform, which increases the retirement age, will also favour labour supply, thereby supporting potential growth. Moreover, on 1 July 2009, the government implemented a far-reaching tax reform that switches the tax burden from labour to consumption: an increase in the value added tax rate by 5 percentage points (together with a rise in excise taxes and the creation of a wealth tax) allowed significant cuts in employer social contributions and the personal income tax. This reform should support potential growth and employment by reducing economic distortions.

*Restoring sustainable growth will require further
structural reforms and an enhanced policy mix*

Before the crisis, Hungary's productivity gap *vis-à-vis* the OECD average was already large. Real income convergence came close to a halt in 2007-08 and is likely to have been reversed in 2009. The depth of this recession is bound to leave deep marks in productive capacity. Consequently, boosting potential growth calls for continued structural reforms encompassing labour market, education, entrepreneurship and innovation. In particular, *active labour market policies should be better targeted at the unskilled*. For the recent reduction in maternity leave to lead to a significant increase in female participation, it is essential that public support for childcare (*e.g.* part-time work, working from home, nursery services) is expanded. *The still generous maternity leave provisions should be reduced further, while public support for childcare should be expanded in parallel*. Regarding product market policies, *barriers to firm creation should continue to be reduced. The share of research and development in GDP should increase and collaborative links between research institutions, universities and the business community should be strengthened*.

A well-balanced policy mix is the key to maintaining a sustainable growth path in Hungary. Fiscal consolidation is a pre-requisite since market confidence is needed to allow the central bank to base its policy stance solely on inflation targeting. Hence, *fiscal consolidation, through structural reforms, should continue, while avoiding excessive pro-cyclicality if the economy deteriorates beyond anticipation*. As the economy recovers and monetary policy shifts emphasis from financial stability to inflation targeting, *the central bank should continue to carefully communicate*

to financial markets so as to avoid financial stability concerns in case of sudden changes in market confidence, as has happened in the past. *Continued in-depth analysis of the impact of the recession on potential output should help guide monetary policy* within the inflation targeting framework, given the difficulty of interpreting inflation shifts in Hungary.

The fiscal responsibility framework needs to be fostered

A major step toward fiscal sustainability has been taken with the adoption of the Fiscal Responsibility Law that introduced strict fiscal rules and established a non-partisan fiscal council to oversee implementation. The new fiscal council holds the potential to raise public awareness about the need for fiscal consolidation and to ensure "checks and balances" for fiscal policy implementation. Hence, it is of utmost importance that the fiscal council benefits from broad political acceptance. The new fiscal rules aim at lowering the debt-to-GDP ratio over time and introduce annual spending targets for each of the next three years. By focusing on the debt ratio and moving towards a medium-term expenditure setting, the framework deals appropriately with Hungary's sustainability challenge given politicians' proclivity to overspending during election years. The Fiscal Responsibility Law has just begun to be implemented and, with two major elections taking place in 2010, it would be best to *allow some experience to accumulate before considering substantial changes*. However, the operational framework of the rules appears to be somewhat complex. To increase public ownership of the rules, *the fiscal council should prepare, as soon as possible, an operational manual describing the step-by-step process for implementing the rules, including key budgetary variables, dates and responsible governmental and parliamentary units*.

Further tax reforms and enhanced public expenditure efficiency should support growth

As mentioned above, the recent changes in the tax system, by switching from labour to consumption taxes, are steps in the right direction. However, at a constant level of taxation, economic distortions could be reduced by *considering further cuts in labour taxes, financed through higher property taxes (accompanied by improved property registry) and/or emissions taxation*. Further tax cuts would also increase welfare gains since marginal tax rates are high, with negative impacts on growth and employment. However, this would require first to reduce the size of the government – which is very large in Hungary, especially in comparison to countries with similar living standards – so as not to deteriorate fiscal sustainability. A striking feature in Hungary is the large share of public service expenditure, suggesting inefficient public administration. Another feature is the comparatively high level of outlays on social protection, reflecting generous social transfers and attractive incentives for early retirement, despite recent measures taken by the government. Finally, health-care spending, while not dramatically different from most OECD members, does not deliver adequate outcomes by international standards. While some improvement has been made, further efforts are needed to increase efficiency.

Reducing the level of general public services expenditure is the key

Hungary's public administration is one of the least efficient among OECD and accession countries, pointing to potentially large efficiency gains. One potential source of savings appears to lie in reduced staffing; central and sub-national workers account for almost 20% of total domestic employment, which is high in comparison with other OECD countries, although it reflects low total activity ratio as well. Hence, *the government should continue to streamline public sector employment.* Another source of saving could be outsourcing, given that the degree of outsourcing is rather low in Hungary at the central government level compared to other countries. *Greater use of outsourcing for public services could raise efficiency of service provision, but care would have to be taken to ensure transparent and competitive contracting,* to reduce the risk of corruption. This would require the government *to strengthen public procurement monitoring capacity and the State Audit Office, and enhance the political will in support of the Office's enforcement.* The recent legislation enhancing the control mechanism of the Public Procurement Office is a step in the right direction. More generally, to help maintain the momentum of public administration reform, *the government should establish a unit with a mandate to both promote and assess reform progress.* It should also *revisit and pursue recommendations of the 2006 State Reform Council's comprehensive stocktaking of overlapping tasks in government agencies.*

Slowing the growth of expenditure related to ageing is also crucial

A major challenge for public expenditure reduction is the anticipated rise in public expenditure related to ageing. Past and recent reforms of the pension system – in 1998, 2007 and May 2009 – should lead to a slower increase in pension costs. In the future, the government should *increase the statutory retirement age in line with increases in life expectancy.*

The health status of the Hungarian population is among the poorest in the OECD; in particular, male life expectancy at birth is the lowest, while that of women is the second lowest. Despite multi-casual factors, one of the most important determinants is the health-care delivery system. Although Hungary's public expenditure on health care is below OECD and EU15 averages, the share of private spending on health (including the traditional under-the-table payments) is estimated to be the highest in the EU, at around 30% of total spending on health. There is thus an obvious need to raise "value for money" in the health sector, all the more so in light of impending ageing-related growth in demand for health services.

Recently, the government has achieved some successful reforms, principally in reforming the pharmaceutical market, but the reform agenda spelled out in previous OECD *Surveys* remains mostly valid. Efforts to tackle the thorny issues of formal patient co-payments and devolution of the payer function from the Social Security Fund to a mix of private/public insurance schemes have encountered strong political resistance. The authorities should seek consensus toward the goal of *introducing patient co-payment to instil some cost-consciousness and help eliminate under-the-table payments. The authorities should also continue to strengthen the gate-keeping role of general practitioners.* Reform is also crucial for the government to be in a position to manage the financial impact of ageing-related increases

in health-care spending. Based solely on ageing, Hungary's public spending on health care is projected to increase relatively modestly, but the government should *plan for possible long-term budgetary impacts of rising demand, and especially the likely greater use of more costly improved medical technologies.*

Reshaping financial regulatory approaches

A major lesson learnt from the crisis in Hungary is that the approach towards household lending needs to change: stronger protection for borrowers needs to be combined with tighter regulation of lenders. The right balance needs to be struck in both directions, as neither the over-protection of households nor the over-regulation of banks would be desirable. The former can lead to moral hazard and boost the pool of "subprime" borrowers, while the latter can hurt the efficient functioning of the financial system and hence of the whole economy.

Limiting borrowers' risk taking

Household debt as a percentage of GDP, at less than 40% in 2009 is much lower than that in more developed countries, but most debt is floating-rate and a large share of the debt is in foreign currency. This exposes borrowers to interest rate and exchange rate risks that increase their solvency risks. In view of the risks that high household debt-service ratios pose for financial stability, in accordance with the already effective Code of Conduct, *the share of income that can be used for debt servicing should be capped. To ensure that the ceilings on debt-service ratios are observed, a comprehensive credit registry is needed, which goes beyond the existing negative list. Borrowers' incomes should be better documented to ensure ability to repay.* This measure would also help "whiten" the economy.

To mitigate solvency risks for households, the supply of mortgage insurance-type financial products (for instance, in the case of unemployment or sickness of the borrower) should be reinforced, and the practise by banks to use these products as a loan security should be fostered. Financial education at the stage of formal studies is widespread and covers major issues. But financial education in general should be bolstered at all life stages and targeted programmes for vulnerable groups such as the elderly and the less educated should be introduced.

Containing financial market and credit risks

Major sources of risk for financial stability have been borrowing in foreign currency and inadequate liquidity management with a mismatch of maturities between assets and liabilities. Exposure of banks in foreign currency, in particular Swiss francs, is large, while the scope for the authorities to provide emergency liquidity in this currency is limited. Hence, liquidity regulation and oversight of the largest institutions needs to be given high priority to avoid a future currency crisis. Although capital requirements have so far been adequate, better preparation for a rise in non-performing loans is needed. *Liquidity conditions in foreign currency should be more closely followed. Banks should be subject to higher costs for risky lending in the form of higher capital requirements, although this would be more*

effective if enacted at the regional (even global) level. Dynamic provisioning should be introduced once the economy recovers to provide a buffer for banks during economic downturns.

Strengthening consumer protection

A source of risk for borrowers has been the arbitrary cost increases passed on by banks without much restriction until very recently. Inadequate disclosure of the conditions of loan products, in particular unilateral change of contract by banks, resulted in soaring instalments, payment difficulties, defaults and sometimes evictions. Unfair conditions, unilateral changes of contract and other abusive practices in the recent past call for vigilant consumer protection. *All conditions of financial products should be disclosed in a transparent way before signing the contract.* More recently, the instances where banks can transfer increased costs to households have been limited with the signature of banks, the regulator and the government of a "Code of Conduct" effective from December 2009. *However, related clauses in lending contracts should be generally condemned and declared non-binding. As a second-best option for existing contracts, lenders should be encouraged to engage in restructuring of loans if borrowers' defaults result from a unilateral contract change.*

Fostering competition to enhance efficiency in the banking market

There are serious obstacles to effective competition. One relates to the lack of information on borrowers, which implies higher credit risk for banks and hence less likelihood for reducing margins. Another very important obstacle is high switching costs, amounting to 1-2% for housing loans and 3-5% for loans for other purposes. Increased competition should help reduce switching costs but *capping of pre-payment costs by a recent legislation is a welcome step, even though the cap may be somewhat high. Also, portability for housing loan subsidies across properties and across financial institutions should be introduced, as recommended by the competition authority. Independent agents should be required to offer several options to customers for a fixed fee, which should only be paid if one of the options is chosen by the customer, and these agents should be prohibited from accepting commissions from financial institutions. Agents working for or on behalf of banks should disclose their remuneration scheme and amount to the borrower.*

Strengthening the supervisory framework

The crisis exposed weaknesses in the supervisory framework, such as inadequate monitoring and risk assessment of the financial system, and insufficient co-operation among institutions in charge of financial stability. The financial supervisory authority had not been entrusted with stopping unfair commercial practices and protecting consumer interests until very recently. The supervisory authority has been made independent from the Ministry of Finance and responsible directly to Parliament. To better identify and assess systemic risks, *co-operation between the central bank and other institutions in charge of financial stability should be strengthened further. A more formal Financial Stability Council should play a prominent role in detecting risks and making recommendations to mitigate them. The financial market supervisor should be granted wider scope to issue regulation, although care should be taken to avoid overlap with the central bank. The supervisory authority should not be held liable for the*

damages its regulations may cause to regulated institutions, otherwise the new powers to charge higher fines cannot be effective.

Improving education outcomes to raise productivity performance

Hungarian educational policies and institutions are capable of combining good educational outcomes and a relatively efficient use of resources. Costs relative to GDP are at about the OECD average, while younger school pupils perform above average in internationally comparable assessments. But 15 year-olds register only average performance in the Programme for international student assessments (PISA), and the proportion of adults with tertiary qualifications, though rising, is still low. More worryingly, the school system does not adequately prepare vocational school leavers for the labour market. Hence, the government should be ready to reform the system to further improve educational outcomes and cost efficiency.

Education efficiency at the school level can be improved

The Hungarian school system possesses features usually associated with good outcomes, notably a high degree of local autonomy. However, many municipalities are too small to provide good educational facilities for all students in their district, and the government actively encourages small municipalities to form associations with each other so as to share facilities and/or combine kindergartens, primary and secondary schools. *Scope remains for further mergers/associations among municipalities to improve education efficiency.* The "National Assessment of Basic Competencies" provides a benchmark for individual school performance, but the supervision of the tests and their dissemination leave something to be desired. *To improve their reliability, the proportion of national assessments invigilated by independent inspectors should increase and, to improve their utility, a higher proportion of individual school results, preferably adjusted for the socio-economic background of the students, should be coded and disseminated in a timely fashion.*

Teacher quality is an important factor influencing educational achievement. In Hungary, the quality of incoming teachers appears to be lower than those in other professions. Recent reforms require new entrants to spend up to three years acquiring knowledge in their specific topic area, followed by up to two years studying teaching-related issues and as trainee teachers. *Entry criteria and courses taught in teacher training institutions should be independently assessed.* Hungarian teachers are paid less than teachers in most other countries, even allowing for lower per capita GDP, but they also have a lower teaching burden. *In the longer term, the ratio of actual teaching relative to the total statutory working time should be raised. The resulting gains in efficiency could be used either to reduce the number of teachers or increase the relatively low salaries of teachers, or a combination of both.*

Improving the quality and relevance of vocational training

The employment rate for youth (age 15-19) was the lowest in the OECD area in 2008, which is in part explained by the longer compulsory schooling period (gradually increased to the age of 18). Some 60% of vocationally trained workers are either not in employment, or in fields that do not correspond to their professional qualifications. *To improve the usefulness of the courses taught, school leavers should be traced in their first years after school to gain feedback on the relevance of their vocational training.*

A high proportion of Hungarian students are enrolled in two types of vocational schools after the end of the 8th grade. The OECD recently published an in-depth analysis of the vocational education and training system in Hungary. *The government should implement the policy recommendations of the OECD report.* As practical training provided on school premises is of uncertain quality as well as limited in quantity, *the policy to favour practical vocational training in regional integrated vocational training centres and in workplaces (apprenticeship system), rather than in the vocational schools should be continued.* In addition, given the poor record of the vocational training schools in preparing students for the labour market, *the government should strengthen them, for example by offering a similar education standard as in vocational secondary schools in order to offer all vocational students the same teaching resources, and adequately prepare all interested students to sit for the matura examination.*

Ensuring a better integration of students from disadvantaged background, especially the Roma

Tracking (*i.e.* selecting students into different types of school on the basis of their assessed performance and expressed preferences) is widely believed to lead to greater efficiency in teaching, despite lack of evidence. Several OECD countries have moved away from early tracking in recent decades, and no country has moved in the opposite direction. The movement towards de-tracking was influenced by the finding that early tracking tended to perpetuate existing socio-economic differentials. In Hungary, tracking can occur at age 14. *As in most OECD countries, tracking should start at the earliest at age* 15.

Many Roma adults have low educational attainment – some did not even complete primary education – and on average, systematically lower achievement than the rest of the population. Policies have moved away from concentrating Roma students in "gypsy schools" towards encouraging Roma integration with the rest of society from the earliest possible age. Research shows that integrating young children from different ethnic backgrounds in pre-school raises the probability that they will remain longer in education after the minimum age limit, and reduces social prejudices in both directions. *It is therefore desirable to encourage Roma parents, for example through financial incentives, to send their children to pre-school for longer than the compulsory period.* The special pre-schooling support for disadvantaged parents introduced by the government in January 2009 is a positive step in this direction.

*Improving tertiary education to support
innovation and growth*

In 2005, tertiary education switched to the Bologna system. The 2010 in-depth review may reveal some quality issues since major reforms combined with the rise in enrolments have put the tertiary system under strain. *The government should ensure that subsidising failing institutions and faculties is conditional on rapid improvement. The authorities should improve financial incentives to provide tertiary studies that match forecast labour market needs and tighten the conditions under which students continue to receive free tuition, while extending ways of defraying the living expenses of students from poor families.* Although numbers of tertiary graduates are rising, the proportion opting to study the kinds of science subjects important for innovation has diminished. Hungary has by far the lowest proportion of science graduates among OECD countries. *The authorities should continue to prioritise the allocation of finance to subject areas conducive to innovation and thus economic growth.*

Chapter 1

Restoring a sustainable growth path

Hungary is facing one of the most severe recessions among OECD countries. High foreign currency indebtedness gave rise to a loss in market confidence, and unsuccessful market financing of the government deficit coupled with limited foreign exchange reserves led the authorities to request financial assistance from international organisations. Amid high exchange rate volatility, macroeconomic policy had to remain tight despite a deep recession. For the central bank, defending the forint had to take precedence over inflation targeting at times. On the fiscal side, discretionary spending was cut significantly. The crisis was also a catalyst to implement decisive structural reforms, such as a far-reaching tax reform, a pension reform and the introduction of a fiscal council and fiscal rules. These ambitious macro and structural policies served to rebuild confidence. Helped by the world recovery, monetary policy has been eased, and the automatic stabilisers have been partly allowed to play. Avoiding major fiscal slippage, especially during the 2010 election year, should help firmly restore confidence and stabilise the economy.

Looking ahead, the depth of this recession is bound to leave deep marks in productive capacity. Re-stimulating potential growth and reducing the gaps in efficiency levels (across regions, firms and labour force groups) call for structural reforms, encompassing the labour market, education, entrepreneurship and innovation. The shift in tax burden from labour to consumption in 2009 was a positive step in this respect since it reduces economic distortions. The pension reform and the shortening of maternity leave, which will positively impact labour supply, should be sustained. As for the labour market, active labour market policies could be better-co-ordinated. The product market policies should further support innovation. Finally, a sustained policy of fiscal consolidation should help improve the policy mix while eventually opening the way to tax cuts supportive of growth.

Hungary has been in the grip of one of the most severe recessions among OECD countries, with the projected fall in real GDP in 2009-10 being more than double the OECD average. International financial support, a cautious macro policy stance, and decisive structural reforms have set the stage for the return of investor confidence. Even so, growth may only edge up in early 2010 and overall, real per capita income may fall relative to the OECD average, reversing the process of real income convergence. This chapter first analyses the origins of the crisis as well as macroeconomic policy responses, then explores ways of restoring sustainable growth.

Being overwhelmed by the global crisis

The global crisis hit the economy with exceptional force

Before the outbreak of the global financial crisis in September 2008, Hungary managed to achieve substantial fiscal consolidation gains. In the space of two years, the general government deficit shrank, from 9.4% in 2006 to 3.7% of gross domestic product (GDP) in 2008 (Figure 1.1). In cyclically adjusted terms, the combined fiscal adjustment was even larger (amounting to about 7% of GDP in 2007-08).

Even so, investor confidence in forint-denominated assets collapsed in mid-October 2008, pulled down by global deleveraging. Government bond auctions began to fail, with non-resident holders of forint-denominated bonds dumping large amounts of securities. Bond yields surged as a consequence, rising by much larger margins than in adjacent countries with lower levels of public and external liabilities (Figure 1.2). In consequence, the nominal exchange rate fell by 25% in October 2008, prompting the central bank to raise its main policy rate from 8.5% to 11.5%, the highest level since July 2004.

As a result, following the outbreak of the financial crisis in mid-2007, real GDP fell more steeply than in other transition economies with flexible exchange rates such as the Czech Republic and Poland (Figure 1.3). Inflation remained persistent, owing to the depreciation of the exchange rate and recent increases in indirect taxes.

International loan facilities granted by the International Monetary Fund (IMF), the European Union (EU) and the World Bank (a combined credit package of EUR 20 billion in November 2008) initially succeeded in stabilising market expectations. A moderate rebound of the exchange rate allowed the central bank to reduce its main policy rate on four occasions between November 2008 and January 2009 (a cumulative cut of 200 basis points), unwinding two thirds of the previous interest rate hike. Exchange rate volatility, though, remained high amid growing gloom about growth prospects for the world economy. As international organisations scaled down output projections for 2009 and 2010 at an unprecedented pace, financial strains quickly reappeared in Central and Eastern European markets. The exchange rate sank to a new record low (317 forints per euro) in early March 2009 (Figure 1.2, panel C). Although monetary conditions tightened with rising capital outflows, policy interest rates were kept on hold in the face of growing economic slack.[1]

Figure 1.1. **Key economic indicators**
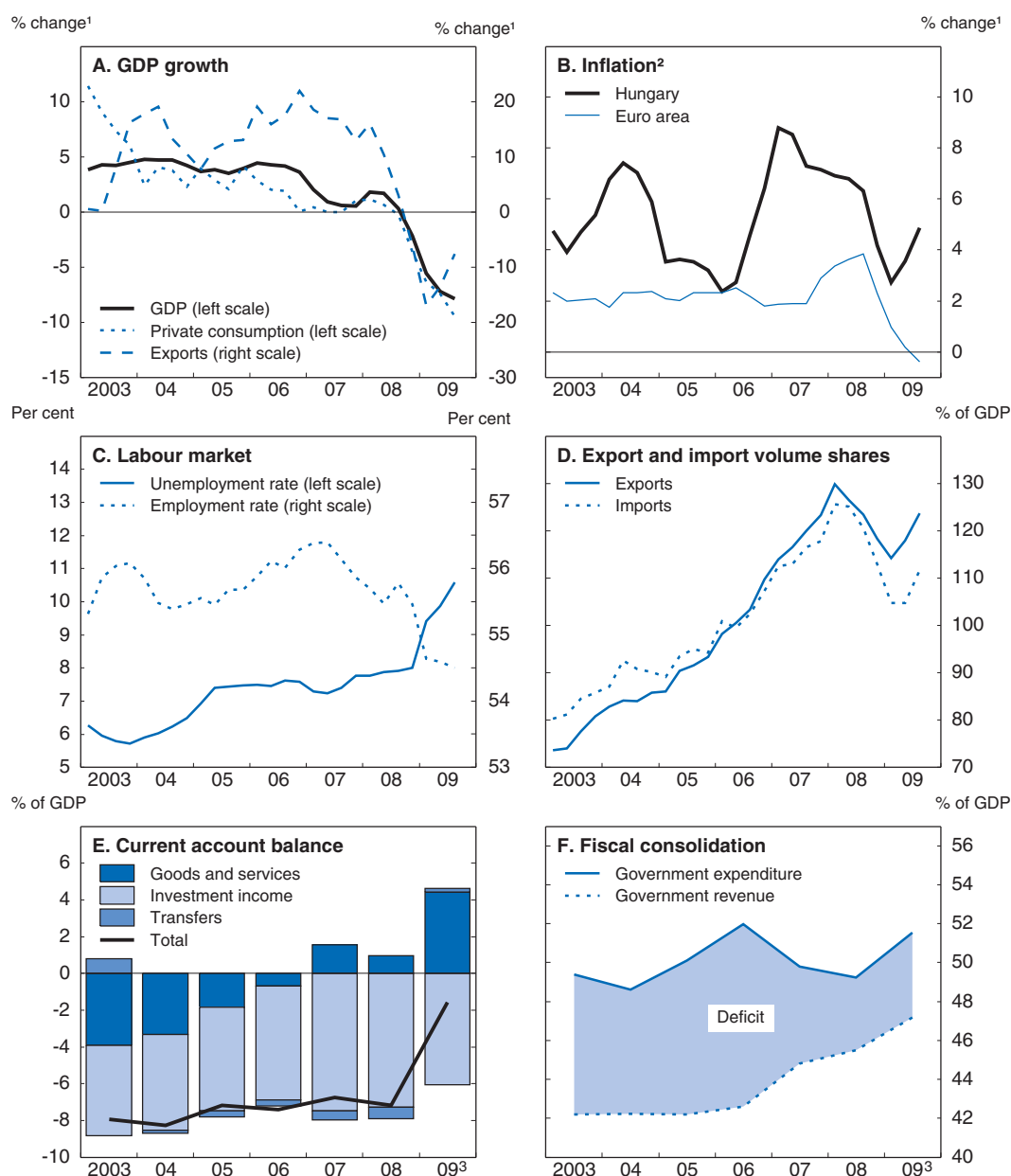
1. Year-on-year percentage change.
2. Harmonised consumer price index.
3. Projections for 2009.
Source: OECD (2009), *OECD Economic Outlook: Statistics and Projections* and *Main Economic Indicators* (databases), December.

StatLink ⟲ *http://dx.doi.org/10.1787/784840740138*

Eventually, tight fiscal and monetary policies, including the adoption of an ambitious fiscal reform package in mid-2009, bolstered market confidence, allowing market interest rates to recede and spreads on credit default swaps to narrow (Figure 1.2, panel D). In parallel, government bond auctions on national and international markets resumed amid falling long-term interest rates, while net capital inflows, exceeding the falling deficit on the current account, created room for both exchange rate appreciation (a rise of 15%

Figure 1.2. **The financial crisis**

A. Financial tensions
Per cent
— Central bank base rate
— Forward rate[1]
— HUF/EUR exchange rate volatility[2]

B. Interest rates
Per cent
Short-term Long-term
— ···· Hungary
— ···· Euro area
— ···· Switzerland

C. Exchange rate versus the euro
January 2008 = 100
— Hungarian forint
— Czech Koruna
— Polish Zloty

D. Credit default swap rates[3]
Basis points
— Hungary
— Czech Republic
— Poland
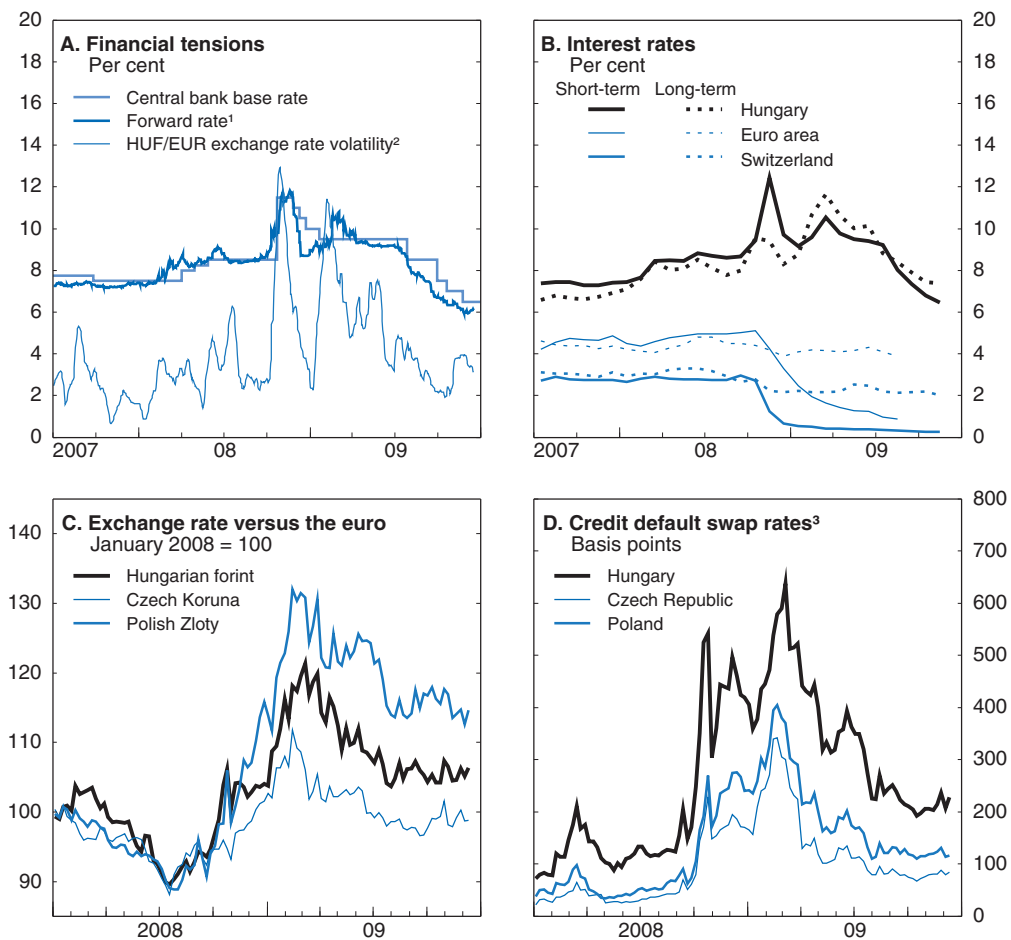
1. Average of the forward three month interest rate (one month and three months ahead).
2. Moving standard deviation of a one month window.
3. Five year rates; mid-rate spread between the entity and the relevant benchmark curve.

Source: Magyar Nemzeti Bank, Datastream and OECD (2009), *Main Economic Indicators* (database), December.

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between March and October 2009) and cuts in policy interest rates. The extension of the IMF stand-by arrangement to October 2010 should help sustain confidence.

High external debt was at the root of Hungary's vulnerability

The disproportionate impact of the global financial crisis owed much to the high and rising levels of external debt,[2] exposing Hungary to shifts in market sentiment, especially since gross official reserves fell below the short-term foreign debt at remaining maturity in 2007 and reached a low in 2008 (Figure 1.4). Earlier, Hungary's transition to a market economy and its subsequent accession to the European Union in 2004 led to full liberalisation of the capital account, setting the stage for substantial inflows of capital. While initially consisting of foreign direct investment (FDI), capital imports later took the form of debt-creating inflows, a consequence of a persistent interest rate disparity. The external debt surged as a consequence, rising from 66% of GDP in 2004 to around 120% of GDP at the end of 2008 and to 134% in June 2009 (Figure 1.4). Due to the shortening of

Figure 1.3. **GDP and inflation: comparison with other transition economies with a flexible exchange rate since the outset of the financial crisis (mid-2007)**

Index, 2007 Q3 = 100
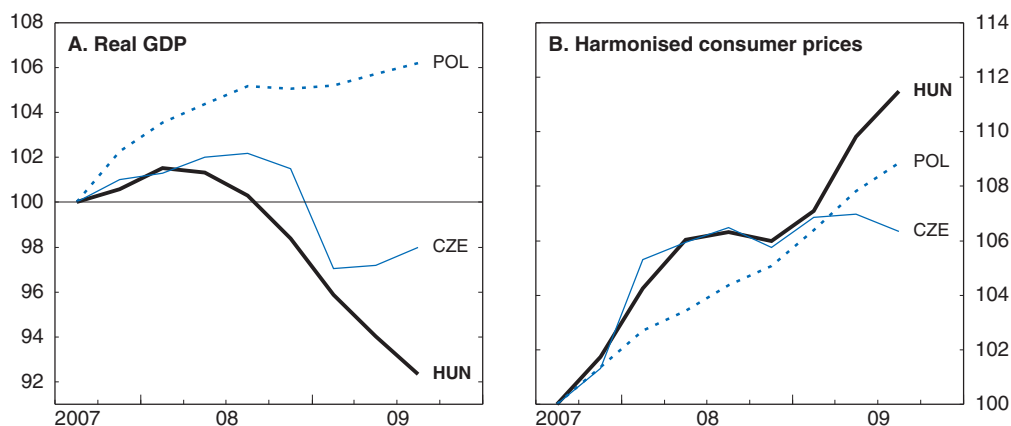
Source: OECD (2009), *OECD Economic Outlook: Statistics and Projections* (database), December.

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maturity of external debt, in particular the increased stock of banks' short-term debt, gross international reserves increasingly fell short of covering short-term foreign currency debt at remaining maturity. Already in September 2008, one month before the onset of the confidence crisis, gross official reserves only covered 84% of short-term external debt at remaining maturity, down from more than 100% at end-2007, a much more precarious situation than in the Czech Republic or, to a lesser extent, Poland (Figure 1.4). The ratio of official reserves to short-term debt came back above 120% end-2009, reflecting financial support from international organisations.

Figure 1.4. **External debt and official reserves: comparison with other transition economies with a flexible exchange rate**
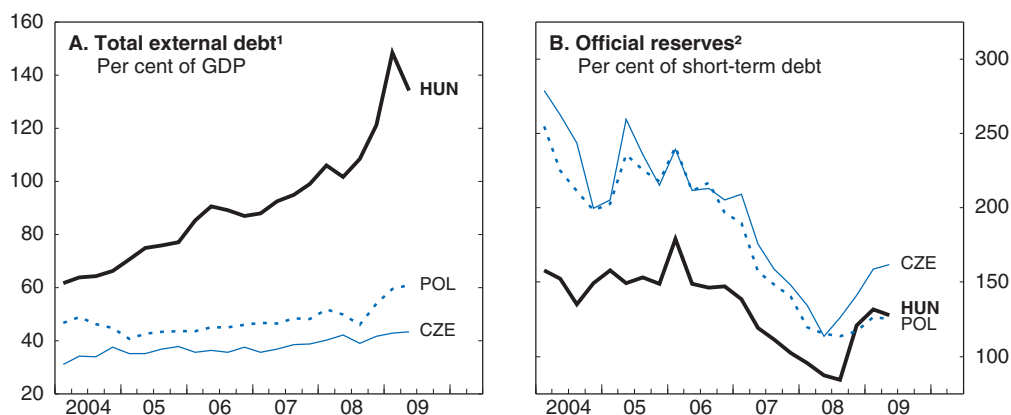
1. Total external debt in Hungary does not include special purpose entities (former offshore firms). If special purpose entities were included then the debt level would reach 165% of GDP at end 2008.
2. Total reserves excluding gold.

Source: IMF (2009), *International Financial Statistics* (CD-ROM), International Monetary Fund, November; World Bank (2009), *Quarterly External Debt Statistics* (database), December; OECD (2009), *OECD Economic Outlook: Statistics and Projections* (database), December; and Magyar Nemzeti Bank.

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The surge in private households' foreign currency borrowing began in 2003, stimulated by low foreign interest rates, the tightening of home-loan subsidies for loans in forint in 2003 (see Chapter 3), and over-optimistic expectations that Hungary would soon enter the euro area. Helped by easy access to foreign funding and exploiting the huge interest rate differential, foreign-owned banks offered foreign currency-denominated loans at lower cost to Hungarian customers (Figure 1.5). In 2008, the foreign-owned banks accounted for more than three quarters of the banking sector's assets. Domestic banks followed suit, selling foreign-currency debt to private households. A rapidly rising portion of bank lending to the non-financial sector (including the corporate sector) thus came to be denominated in foreign currency (mostly in Swiss francs) (Figure 1.5).

Figure 1.5. **Share of foreign currency loans in total domestic credit**
Per cent
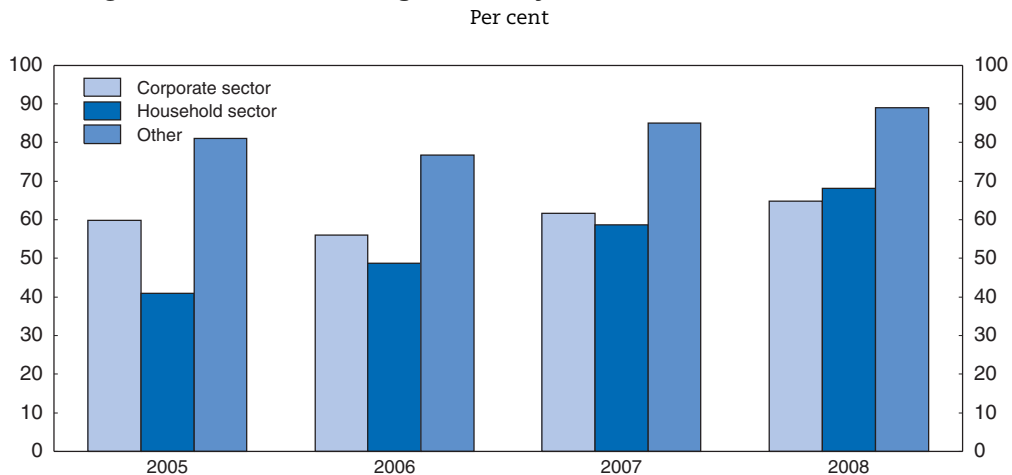
Source: MNB (2009), "Financial Accounts", *Statistical Time Series*, Magyar Nemzeti Bank, December.
StatLink http://dx.doi.org/10.1787/785010335888

External debt was mainly private debt: the external public debt totalled about 40% of GDP at the end of 2008.[3] However, latent concerns over Hungary's ability to finance its massive external debt were also nourished by a string of large budget deficits (averaging 8% of GDP in 2002-06, before the recent consolidation period), which limited the ability of the government to bail out private parties. Public debt rose sharply, reaching 73% of GDP by the end of 2008, far above levels seen in neighbouring countries (Figure 1.6).

Fiscal consolidation gains may not have been perceived as sustainable since about half of them arose from revenue increases since 2006. From the point of view of stimulating supply potential, the fiscal adjustment comprising higher taxation was sub-optimal. Moreover, expenditure cuts have partly taken the form of lower investment spending, which is also detrimental to supply.

Figure 1.6. **Public sector debt and deficit: comparison with other transition economies with a flexible exchange rate**[1]

Per cent of GDP
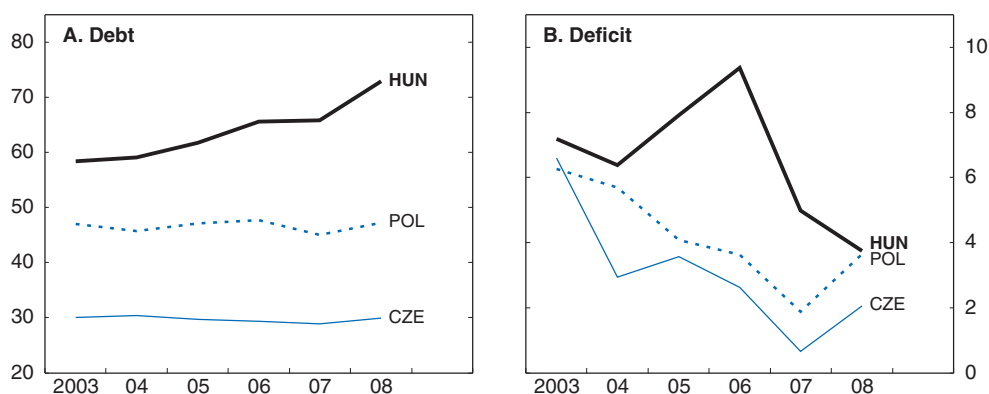
1. Gross debt Maastricht definition and general government net lending/borrowing.

Source: OECD (2009), *OECD Economic Outlook: Statistics and Projections* (database), November.

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Macroeconomic policies strive to restore financial stability during a deep recession

Continued financial fragility required a pro-cyclical fiscal tightening

Given the scale of external vulnerability, continued fiscal consolidation became unavoidable, even in the presence of the rapidly deepening output slump. The continual rollover of the large outstanding stock of debt called for further efforts in fiscal consolidation to ease concerns about Hungary's solvency. Maintaining fiscal objectives consistent with medium-term debt sustainability, while responding to the rapidly widening economic slack, emerged as the central policy challenge. The pro-cyclical policy stance follows experience in other emerging markets with a debt overhang; in those countries, fiscal adjustment has strengthened confidence, helping reverse capital flows, setting the stage for currency appreciation and interest rate declines. This, in turn, has lightened the burden of the private sector's foreign debt repayment, eventually stimulating activity (Ghosh *et al.*, 2002; IMF, 2008).

The Hungarian fiscal authorities struck a balance between restoring financial stability through fiscal consolidation, which required an overall pro-cyclical policy, and underpinning macroeconomic activity, which implied partly allowing automatic stabilisers to play out. Initially, the 2009 budget plan drawn up in November 2008 was clearly pro-cyclical, envisaging a general government budget deficit of 2.6% of GDP for 2009 (Figure 1.7). This implied a structural fiscal adjustment worth the same amount. Subsequent revisions of the deficit target for 2009 have, however, partly allowed automatic stabilisers to play (3.9% in the revised target agreed with the IMF in May 2009), and were appropriate in light of the growing evidence that the 2009 recession would be much deeper than foreseen. The implied structural adjustments, though, remain significant. Looking ahead, fiscal consolidation, through structural reforms, should continue to help restore market confidence, while avoiding excessive pro-cyclicality if the economy weakens more than anticipated. This would also help improve the co-ordination between fiscal and monetary policies, enhancing the effectiveness of the policy mix. Taking into account the

Figure 1.7. **Fiscal stance**

Per cent of potential GDP
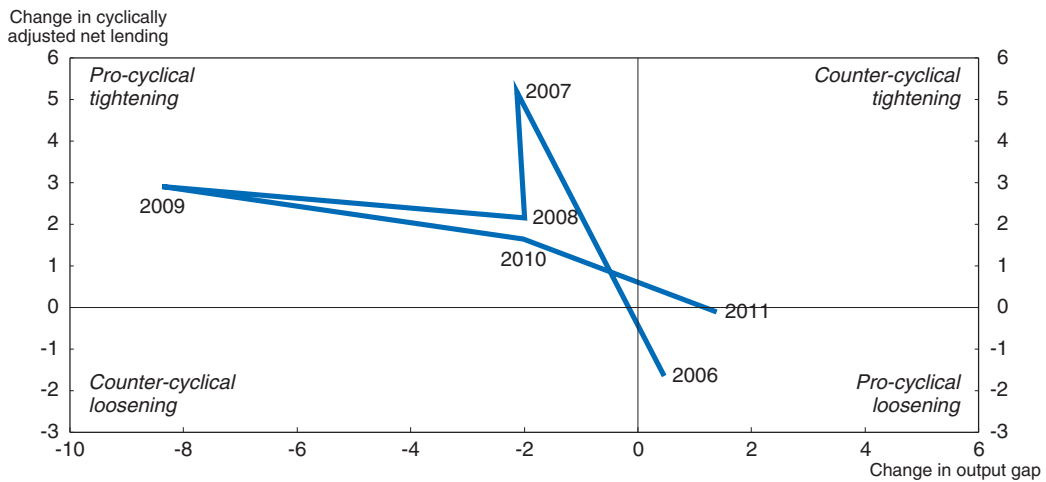
Source: OECD (2009), *OECD Economic Outlook: Statistics and Projections* (database), December.

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initial budget plan for 2010, Hungary will have gone through four consecutive years of pro-cyclical tightening (Figure 1.7).

Recent reforms have strengthened fiscal sustainability, giving room for a less pro-cyclical fiscal stance

The confidence crisis led the authorities to adopt in May-June 2009 far-reaching measures of fiscal structural reform that should improve fiscal sustainability. The implemented reforms consisted of tax reform and discretionary spending cuts, as well as the adoption of a fiscal responsibility law. This experience seems to confirm the idea that economic bad times can be propitious for pursuing otherwise politically difficult reforms (Høj *et al.*, 2006). One expected benefit of these reforms is to enable some relaxation of deficit targets in the short run without destabilising financial market expectations of fiscal consolidation in the medium run. In this sense, the timing of the fiscal reform package was appropriate, even if some measures, such as the increase in value added tax (VAT) to shift the tax burden from labour to consumption, may deepen the recession in the short run (see below and Box 1.1).

On the revenue side, the reform raised the VAT rate by 5 percentage points effective from 1 July 2009. It also increased excise taxes effective from 1 July 2009 and introduced a market-based property tax (1 January 2010). Revenue gains from these sources – and other minor ones[4] – are expected to match revenue losses resulting from a reduction by 5 percentage points in employers' social security contributions,[5] the elimination of the special tax on enterprises and the lump-sum health contribution in 2010, as well as a reform in the personal income tax. The authorities estimate the tax-reform to be broadly revenue-neutral *ex ante* (see also Chapter 2).

Due to the switch from labour taxes to consumption taxes, inflation is expected to rise temporarily, reducing output in the short-run; in the medium term, though, improved economic efficiency should stimulate growth, and potentially employment (see Box 1.1). Given depressed demand, the short-term negative impact on consumption may turn out to

Box 1.1. **What is the expected macroeconomic impact of a switch from labour to consumption taxes in Hungary?**

Governments have recently become increasingly interested in using taxes on consumption, such as sales tax and value added tax (VAT), as a means of financing a larger share of their spending (Johansson *et al.*, 2008). In 1998, Denmark implemented a reform along these lines. More recently, Germany (2007) and Hungary (2009) have increased VAT rates to partly or fully finance cuts in social security contributions, hence the name of "social VAT reform" sometimes given to this kind of reform. Two main reasons are usually advanced in support of such a reform: *first*, international tax competition makes it easier to collect tax on consumption (less mobile) than taxes on labour; *second*, a shift from labour to consumption taxes tends to stimulate growth, and potentially competitiveness and employment. However, in theory as in practice, the final impact of such a tax reform is not easy to establish firmly.

Standard static economic theory of fiscal incidence (McLure, 1975) suggests that a budget-neutral tax shift from labour to consumption should have no economic effect since taxing income is equivalent to taxing consumption (the sum of all incomes over the life cycle is equal to the sum of all expenditures). However, models taking into account the difference in the size of tax bases suggest that the shift can have an impact since consumption is a broader base than labour. Hence, for a revenue-neutral tax reform, a given increase in the consumption tax should be matched by a larger decrease in the tax on labour (Gauthier, 2009), reducing the tax wedge. The shift also affects intergenerational income redistribution, favouring younger generations compared to older ones, as older generations do not benefit from the decreased labour income taxes while being affected negatively by higher consumption taxes.

From a dynamic perspective, usually based on macroeconomic simulation models, the tax shift can also positively affect economic activity in the medium run, although the short run impact could be negative. The tax shift tends to have an immediate negative impact on consumption through the rise in consumer prices (VAT increase) but a progressive positive impact on labour demand (labour cost cuts). There is also a competiveness gain, especially if the exchange rate is fixed, both in domestic and foreign markets. In the domestic market, local producers gain competitiveness because imported goods face the VAT increase although importers do not benefit from labour cost cuts. In foreign markets, exporters improve their competitiveness thanks to lower labour costs.

Over time, the impact of the switch from labour to consumption taxes will depend upon the dynamic adjustment of different variables and the relative speed of adjustment of real variables following changes in nominal variables. Nominal wages may catch up more or less rapidly with higher consumer prices caused by the rise in VAT. This will support consumption but erode the positive impact on labour demand. Conversely, if enterprises do not increase mark-ups following the cut in employers' social security contributions (*e.g.* because of competitive pressures or already weak consumer demand), the VAT increase could have a limited impact on consumer prices, reducing the potential negative impact on consumption while also damping the potential positive impact on labour demand. Finally, the tax shift could have a negative impact on the fiscal balance in the short run since expenditures, indexed to inflation, are likely to grow faster than revenues, depressed by the negative shock on consumption. If the government tries to bring back the fiscal balance to its initial position by increasing taxes or reducing expenditures, it will lower the potential positive impact of the switch from labour to consumption taxes on activity and employment.

> **Box 1.1. What is the expected macroeconomic impact of a switch from labour to consumption taxes in Hungary?** *(cont.)*
>
> The potential impact could be even more complicated if the reduction in social contribution is tilted toward low-income workers, who are usually low-skilled workers for whom the reduction in labour costs has a more favourable impact on labour demand. This effect may be magnified by the minimum wage: the tax shift might loosen the binding constraint of the minimum wage, thereby further increasing the demand for low-skilled labour. Overall, if the tax shift increases the demand for labour, this will mostly affect the low-skilled sector. Eventually, investment should be undertaken by firms to increase the capital-labour ratio to its steady-state value. This adjustment means, however, that the economy returns to steady-state growth at a higher capital stock than in the baseline. This effect is a "permanent" result of the tax reform (Gauthier, 2009; Roeger *et al.*, 2008). In an endogenous-growth model, the increased capital stock induces higher research and development expenditures, which further amplify positive growth effects.
>
> Although evaluation results are very sensitive to the underlying assumptions (notably as regards the wage-formation process), macroeconomic models tend to simulate a positive, but limited impact. For example, according to simulation results based on the Quest model (Roeger *et al.*, 2008), a tax shift from labour to consumption amounting to 1% of GDP for the whole European Union increases GDP by 0.1% in the first year and by 0.2% in the long run; while it increases employment by 0.15% in the first year and by 0.25% in the long run. However, in the case of countries with low employment rates, such as Hungary, the effects are larger. For the calibrated Hungarian part of the model, the increase of GDP is about 0.4% and the increase of employment is about 0.5% in the long run (simulations for Hungary have been made by Aron Kiss, Hungarian Ministry of Finance).
>
> In practice, the impact assessment of the tax shift in Hungary will be strongly blurred by the current recession. Reduced total labour cost could merely serve to cushion cyclically-induced employment losses, making it difficult to assess a true positive impact on job creation. However, in depressed demand conditions, an immediate full pass-through of the VAT increase seems unlikely, as confirmed by recent price developments. This may reduce the potential mark-up increase and the negative impact on consumption. The impact on competitiveness of the tax shift could be reduced by the appreciation of the forint, as well as by the high import content of exports. The assessment of tax reform effects is also complicated by government proposals seeking to encourage, through the National Council for the Reconciliation of Interests (OET), a freeze on private wages for higher wage groups and a rise in lower wages by significant margins in 2010. These proposals, as well as discussions to increase the minimum wage, could, if accepted, largely offset desired positive effects on the demand for low-skilled labour.
>
> Finally, the informal sector needs to be taken into account in designing a constrained optimal tax system for Hungary. Taxes on labour and consumption are likely to differ in administrative and compliance costs as well in the possibilities for tax evasion. VAT is easy to enforce because most of the value added is created by large corporations (Stiglitz, 2000). While there are no such studies for Hungary, the tax shift may induce similar gains. The estimated size of the grey economy is estimated at 15-20% of GDP.

be less pronounced than in previous experiences of VAT increases. Indeed, consumer prices rose by only 1.4% in July (over June 2009), compared to a potential VAT-induced increase of 3.4% (MNB, 2009), showing that the indirect tax increases have, at least initially, only partially filtered into prices.

On the expenditure side, pension reform was strengthened by accelerating the rise in the statutory retirement age, broadening the conditions under which the consumer price indexation of pension benefits would apply, abolishing the 13th month pension for all, and reducing pension benefits in proportion to the degree of early retirement (see Chapter 2 for more details). In addition, the authorities curtailed subsidies to homebuyers and tightened eligibility for certain household transfers.

Finally, the adoption of a fiscal responsibility law, introducing fiscal rules and a fiscal council, is likely to reinforce the credibility of the sustainability of fiscal consolidation, an issue taken up in detail in Chapter 2.

Improved confidence has allowed monetary policy to reaffirm the primacy of inflation targeting

Prior to the crisis, the monetary authorities tried to enhance the effectiveness of policy action by progressively putting in place an inflation targeting framework. First, a continuous medium-term inflation target of 3% for the consumer price index (CPI) had been announced in 2005, replacing the system of end-year targets. In February 2008, the authorities relinquished the exchange rate band.[6] The free-floating exchange rate regime was seen as enabling the central bank to focus exclusively on its medium-term inflation target, meeting the nominal Maastricht criterion and preparing for entry into the ERM-II exchange rate system (Government of the Republic of Hungary, 2008).

However, the implementation of a pure inflation targeting framework did not go smoothly. As it turned out, exchange rate appreciation during the first half of 2008 may have increased households' incentives to borrow in foreign currency. Incentives to incur foreign debt were already strong, as the central bank had to keep high nominal interest rates compared to western European countries given latent inflationary risks linked to both the positive output gap and the new system of guaranteed wage minima introduced in 2006 (Box 1.2). As a result of increased foreign borrowing, the pass-through of monetary policy via interest rates weakened further, complicating the conduct of monetary policy.

Due to renewed financial market stress in March 2009, the central bank faced severe communication challenges as it had to give priority to the nominal exchange rate as an intermediate target of monetary policy instead of pure inflation targeting. Given lingering concerns about financial stability, avoiding renewed attacks against the forint became a transitory policy goal. It was announced that net current and capital transfers from the EU would be converted on the foreign exchange market rather than being added to foreign reserves as previously. Interest rates were kept unchanged at high levels from end-January to July 2009, notwithstanding concerns about large and rising economic slack.

Since July 2009, the stance of monetary policy has started to ease as reduced financial market strains lessened concerns about excessive exchange rate volatility. In neighbouring countries, the widening output gap had prompted earlier cuts in policy rates. The central bank lowered the policy rate by 100 basis points to 8.5% in July 2009, the pre-October 2008 level, and then enacted three further interest rate cuts, reducing the policy rate to 6.5% in November 2009, the lowest in three years. Short-term market interest rates fell by 300 basis points between February and October 2009, significantly below pre-crisis levels. Recognising the return of market confidence, the National Bank of Hungary indicated in August 2009 that inflation targeting would again take precedence in rate-setting sessions.

> Box 1.2. **Guaranteed wage minima and nominal wage growth**
>
> Two levels of "guaranteed wage minima", depending on experience, were introduced in July 2006 for jobs requiring at least secondary school or a vocational training qualification. Guaranteed wage minima initially exceeded the basic minimum wage by 5% and 10%. The gap widened subsequently to 22.3% by 2009. The system of guaranteed wage minima was intended to rein in the "grey" economy (by forcing the declaration of *de facto* unrecorded earnings or in-kind benefits) and also to raise the supply of scarce skilled labour in the formal economy. Wage minima for jobs requiring tertiary levels of education have also been considered. In 2009, the dependence of guaranteed wage minima on experience was abolished and its amount was only moderately increased.
>
> The net incidence of the wage minima system has been hard to assess. Little is known about the value of cash payments and in-kind benefits among low-income earners. In addition, sectoral wage agreements can override guaranteed wage minima. Finally, the system took effect in a setting of rising unemployment, which tends to disproportionately affect persons with low skills and low educational attainment. According to official estimates, the system of guaranteed wage minima has increased the formal wage and salary bill by 0.3% in 2006, 1.0-1.3% in 2007 and above 1% in 2008. In 2009, the guaranteed wage minima did not significantly increase the wage bill.
>
> While guaranteed wage minima have increased tax receipts, they have also complicated the assessment of inflation risks, the scale of the whitening effect being ambiguous. Estimates by the National Bank of Hungary show that about one half of the increase in the guaranteed wage minima in 2007 reflected the whitening of wages. In contrast, the rise in the guaranteed wage minima in 2008 has been associated with effective increases in the wage bill reflecting wage developments in large corporations and headcount adjustments in the manufacturing and service sectors (MNB [2008], *Quarterly Report on Inflation*, Magyar Nemzeti Bank, May and August; Ministry of Finance [2008], *Report on Economic and Financial Developments*, October, in Hungarian).

As the economy recovers, monetary policy needs to carefully communicate to avoid financial stability concerns in case of sudden changes in market confidence, as has happened in the past. Moreover, the end of the IMF programme in 2010 calls for a continued close monitoring of indicators that could trigger a confidence crisis, for example the ratio of official reserves to short-term foreign currency debt at remaining maturity. Finally, continual in-depth analysis on the impact of the current recession on potential output is needed to gauge the re-emergence of inflation risks in the medium term.

Macro policy measures have eased credit supply constraints

The slide of the forint in autumn 2008 boosted the share of foreign exchange loans to two-thirds from about a half of total domestic borrowing before the crisis (Figure 1.8, panel A). In contrast to households, the ballooning foreign exchange debt of corporations is a less acute problem as most have foreign currency revenue or are hedged against foreign exchange risk. As a result of larger margins for foreign currency lending rates in Hungary than in other countries, those firms that have access, prefer to borrow from financial

Figure 1.8. **Corporate debt in foreign currency, in particular direct borrowing from abroad, has been soaring**

Per cent
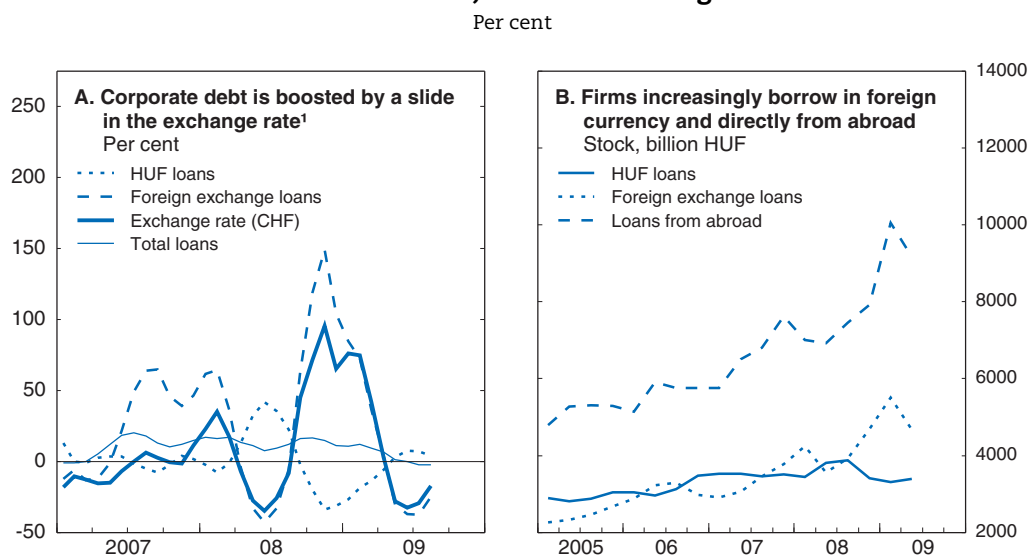
1. Loans (total outstanding, HUF and foreign exchange, not adjusted for exchange rate effects) are expressed in 3-month moving average seasonally adjusted annual rates. The exchange rate is expressed as forints per Swiss franc in 3-month moving average annualised rates.

Source: MNB (2009), "Financial Accounts", *Statistical Time Series*, Magyar Nemzeti Bank, September.

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institutions in neighbouring countries. The share of direct borrowing from abroad has reached over 40% (Figure 1.8, panel B). With the tightened liquidity in foreign lending markets, the widening of the margins for foreign exchange loans and the series of domestic interest rate cuts since July 2009, lending in forints is likely to expand more rapidly.

Following the onset of the financial crisis, bank lending to the private sector weakened substantially. On the demand side, many small and medium-sized firms (SMEs) have postponed their investments and are trying to reduce their costs to cope with the crisis. On the supply side, banks became increasingly reluctant to meet credit needs owing to the tightening of their financing conditions and the increase in non-performing loans. Credit supplies thus became increasingly insensitive to interest rates. As a result, many SMEs found it increasingly difficult to get access to credit funds even for purposes of financing working capital (Figure 1.9). SME credits account for 55% of banks' corporate loans.

Some sectors, such as agriculture, food processing, retail and wholesale trade were particularly hard hit by the credit squeeze. The government has introduced guarantee programmes, direct lending through the development bank, interest subsidies and participation in venture companies to address the need for stable financing amid deteriorating credit market conditions. Participation in such programmes, however, has been limited notwithstanding sizeable allocations from EU funds and the budget for such schemes. This is to a large extent related to stringent access conditions. Firms which meet such criteria can borrow in the market and need not pay for government and bank guarantees (2% and 0.5-6.3% of the loan, respectively) in addition to double-digit interest rates. In contrast, firms that fail to meet the criteria for guarantees or direct loans or that cannot afford high financing costs have no choice but to exit from the market.

Figure 1.9. **SME and micro financing has suffered**[1]

Percentage growth, seasonally adjusted annual rate
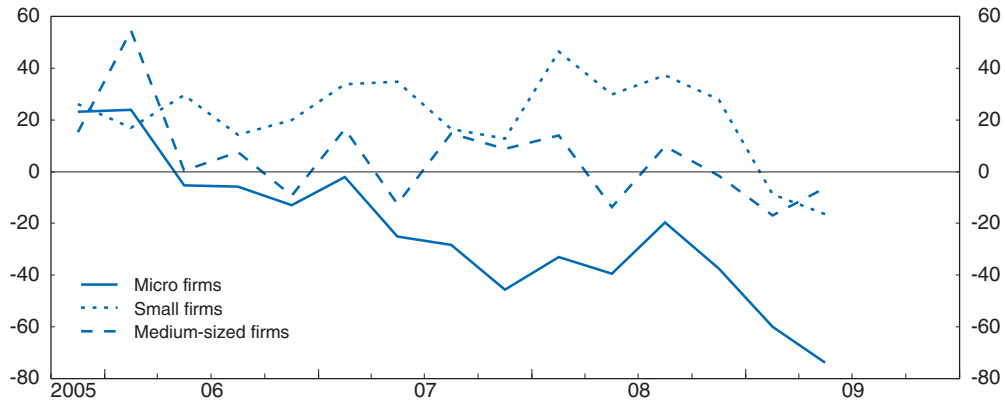
1. SME: small and medium-sized enterprises.

Source: HFSA (2009), *Time series of sectors supervised by HFSA*, Hungarian Financial Supervisory Authority, October.

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In this situation, the central bank and the government took several measures in the course of 2009 to help ease the credit crunch. In March, the central bank strengthened banks' incentives to lend *via* the introduction of new facilities, including a temporary six-month foreign exchange swap, open to banks which maintain or increase long-term external funding and uphold their current level of lending to the corporate sector. Although seven banks applied for this facility, including four of the six largest subsidiaries of foreign banks, none of the banks utilised the facility owing to stringent criteria. In addition, the central bank put into place a three-month foreign exchange swap, which was priced at least 50 basis points above the six-month facility.

Given the limited room for fiscal manoeuvre, the government took parallel, expenditure-neutral action. In June 2009, it made arrangements to supply firms with financial resources from EU funds of up to EUR 5 billion *via* the banking system under the umbrella of a central programme (June 2009). The package comprised speedier and more efficient use of EU funds, increased micro loans, interest support, the expansion of the partial mortgage debt servicing guarantee scheme for the unemployed, increased venture capital, new refinancing facilities for commercial banks from the Hungarian Development Bank and the Venture Finance Hungary Plc. (new Hungarian working capital credit) and a doubling of the SME guarantee facility.

The economy may slowly edge out of the recession

After a sharp contraction in 2009, real GDP is expected to resume growth during the course of 2010, spurred by stronger foreign demand and easier credit conditions. Nevertheless, on a year-on-year basis, real GDP is still projected to decline in 2010 (a fall of 1%) (Table 1.1). Continued fiscal austerity will curb domestic demand in 2010, with further, albeit reduced, cutbacks in private consumption. In this setting, the rate of unemployment may rise well above 10% in 2010 before edging down in 2011. Large economic slack and currency appreciation may dampen inflationary momentum.

On the external side, financing requirements have eased substantially with the narrowing current account deficit. Helped by imports contracting more strongly than exports, by a stronger income balance and by increased net transfers, the deficit on current

Table 1.1. **Short-term outlook**

Percentage change, volume

	Outcomes		Projections		
	2007	2008	2009	2010	2011
Private consumption	0.4	−0.5	−7.8	−5.3	1.2
Government consumption	−7.4	−0.8	0.0	−0.9	1.0
Gross fixed capital formation	1.6	0.4	−6.6	0.2	4.1
Final domestic demand	−1.2	−0.4	−5.8	−3.1	1.8
Stockbuilding[1]	0.0	1.1	−8.0	0.3	0.0
Total domestic demand	−1.2	0.7	−10.1	−2.8	1.9
Exports of goods and services	16.2	5.6	−11.2	6.0	7.0
Imports of goods and services	13.3	5.7	−18.1	3.0	5.6
Net exports[1]	2.2	0.0	5.5	2.5	1.3
Gross domestic product	**1.0**	**0.4**	**−6.9**	**−1.0**	**3.1**
GDP deflator	5.9	3.4	2.4	2.3	2.0
Memorandum items					
Consumer price index	7.9	6.0	4.5	4.0	3.0
Private consumption deflator	6.2	5.6	4.6	4.5	4.6
Unemployment rate (% of labour force)	7.4	7.9	9.9	10.3	9.3
General government financial balance (% of GDP)	−4.9	−3.7	−4.3	−4.1	−3.6
Current account balance (% of GDP)	−6.7	−7.2	−1.6	−1.8	−2.6

1. Contribution to GDP growth.
Source: OECD (2009), *OECD Economic Outlook: Statistics and Projections* (database), December.

account is projected to fall from 7.2% of GDP in 2008 to 1.6% in 2009 (the lowest since 1995). Part of the contribution to the projected contraction of the current account deficit may come from a lower deficit in the net investment income balance, decreased financing costs and reduced expatriation of earnings on inward FDI. Large EU transfers are expected to enlarge the surplus of the current transfer balance. Official external financing by the International Monetary Fund, the World Bank and the European Union should continue to provide a shield against renewed financial turbulence.[7]

Laying the foundations for stronger sustained output growth

Hungary's productivity gaps were already a major issue prior to the onset of the current economic crisis. In 2007-08, real income convergence came close to a halt, with the real per capita income settling at around 60% of the euro area average per capita income (Figure 1.10). This setback partly derived from a policy-induced slowing of output growth (a consequence of fiscal consolidation) as well as from particularly weak productivity (Figure 1.11). In Central and Eastern Europe, no other emerging market economy experienced a similar stagnation of relative per capita incomes.

Real income convergence is likely to have been reversed in 2009, as Hungary has experienced a comparatively steep fall in output. Income inequality, which only slightly declined between 2005 and 2007, is likely to rise owing to the crisis.[8] Further relative income declines may lie in store, given the scale of the 2009-10 output fall. Potential output has declined, reflecting accelerated scrapping, a fall in the capital stock and fixed investment, and increased structural unemployment (Box 1.3). On the other hand, the 2009-10 tax reform and earlier structural policy initiatives, by augmenting labour supply and stimulating labour demand, may dampen the recession-induced impact on potential output growth, at least in the medium term.

Figure 1.10. **Convergence of real per capita income**

Real GDP per capita in USD at constant prices and constant purchasing power parities, euro area = 100
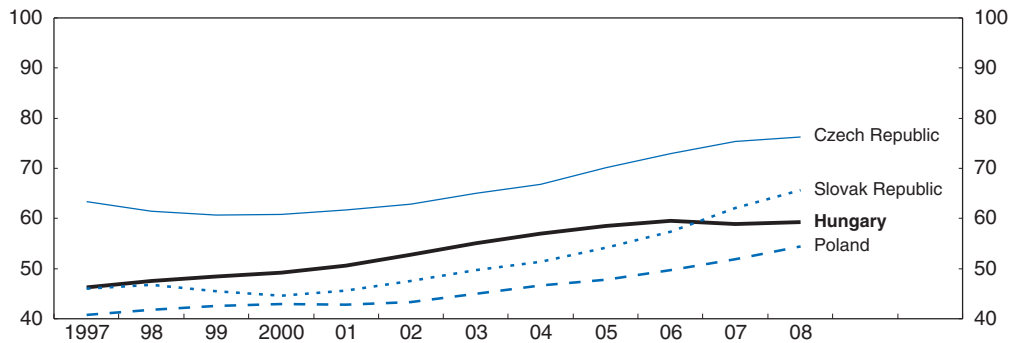
Source: OECD (2009), *OECD National Accounts Statistics* (database), December.

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Figure 1.11. **Sources of real income differences**

Percentage point differences in GDP per capita with respect to the United States, 2008[1]
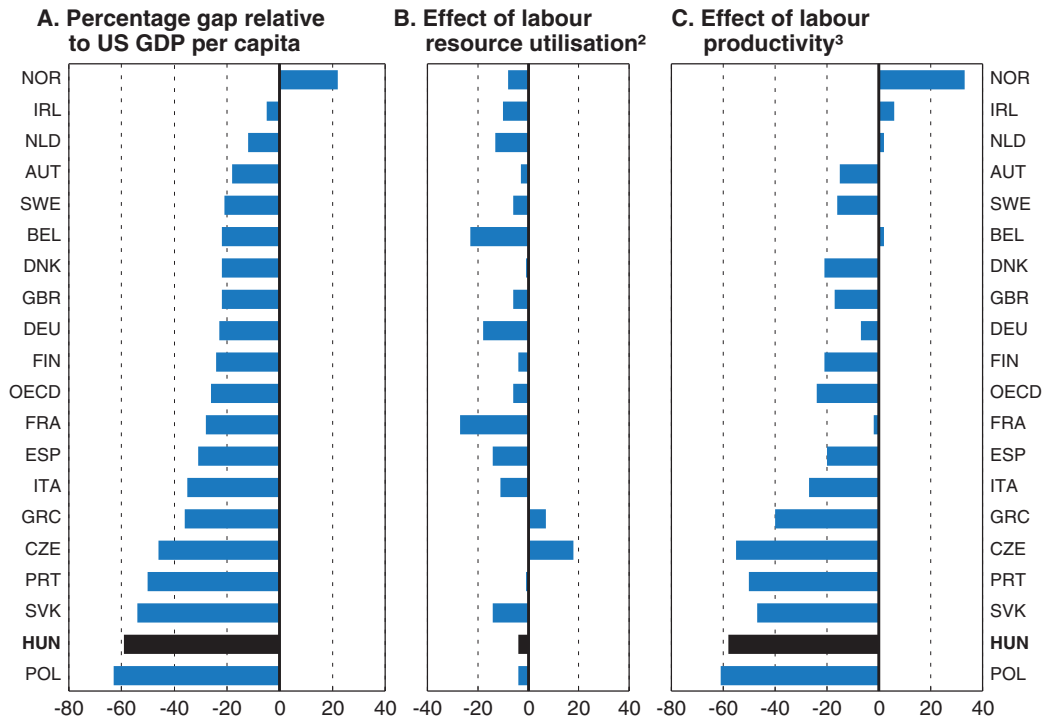
1. GDP in US dollars at current prices and purchasing power parities.
2. Measured as total number of hours worked per capita.
3. Percentage gap with respect to US GDP per hour worked.

Source: OECD (2009), *Productivity database*, June, *www.oecd.org/statistics/productivity*.

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Recent tax reform should lead to labour deepening

Unemployment steadily increased in recent years…

Hungary's labour market has traditionally displayed unusual features setting it apart from most other countries. Prominent among them are relatively low participation rates for

> **Box 1.3. The recession-induced weakening of potential output and growth**
>
> The economic crisis has led to important downward revisions of Hungary's productive potential. The revisions concern both the level and the rate of growth of potential output. Negative level effects (permanent losses to output levels) mainly stem from accelerated obsolescence of the capital stock. In the automotive and energy-intensive industries, part of the existing capacities are likely to become permanently redundant (MNB [2009], *Quarterly Report on Inflation*, Magyar Nemzeti Bank, August). The negative effects on potential output growth derive from all three factors of the production function. Capital formation is viewed as being hindered by high real user costs of capital, increased uncertainty and high risk aversion. Structural unemployment seems set to further ratchet up with rising long-duration unemployment and the related decay of human capital. Total factor productivity (TFP) growth may weaken with reduced business research and development spending, notably in the automotive industry, where such outlays are highly concentrated.
>
> On the other hand, the overall fall in potential output *growth* is likely to be in part cushioned by: falling interest rates (a consequence of continued strong fiscal stabilisation); the 2009-10 tax reform (strengthening labour supply and labour demand); the extension of the effective retirement age; and, perhaps, by stronger competition stimulating TFP growth. Taking all these factors into account, potential output *growth* seems nonetheless set to weaken sharply, averaging 1½ per cent in 2009-11 as against 2½ per cent in 2005-08. Recent estimates done by the central bank are similar, with a potential growth falling to about ¾ per cent in 2009-10 before recovering to barely 2% in 2011. The recovery of potential growth in 2011 is expected to be driven by an increase in total factor productivity and a positive contribution from labour. The contribution of capital deepening is likely to remain significantly lower than prior to the recession for a couple of years.

most categories of the labour force (women, especially women with children, young people and older persons as well as persons with a low level of educational attainment). Another striking characteristic is the low employment rate relative to the OECD average of men at all ages, in particular of prime age men (Figure 1.12, panel B). In contrast, employment rates for highly skilled persons are commensurate with rates seen in other emerging countries. Largely mirroring the profile of employment rates, participation rates are also low by international standards. On the other hand, the number of average hours worked per person, at about 2 000 per year, is among the highest within OECD countries. Thanks to policy initiatives, though, employment rates for men edged up by small margins in 2003-07. This mainly reflected higher employment rates for males aged 25-59 years, contrasting with a sharp fall in employment rates for both young men and women aged 20-24 years.[9]

Labour market outcomes have worsened. As shown in Figure 1.1, the employment rate has been falling since 2007 while the unemployment rate has kept increasing since 2003, except in 2007. Lower output growth, arising from slowdown in productivity growth and vigorous fiscal consolidation in 2007-08, has contributed to a rise of the rate of unemployment from 6% in 2003 to about 8% in 2008. Labour market polarisation naturally increased with the deteriorating labour market performance. The share of long-term unemployed (one year and longer) reached 48% in 2007 compared with 44% in 2003, while the youth unemployment rate (age 15-24 years) climbed to 18% in 2007 compared with 13% in 2003, levels unobserved since 1994 (Figure 1.12, panel C). Since 2005, young persons with low educational attainment (less than upper secondary education) suffered disproportionate increases in joblessness (Figure 1.12, panel F). Increased regional

Figure 1.12. **Labour market outcomes**
Per cent
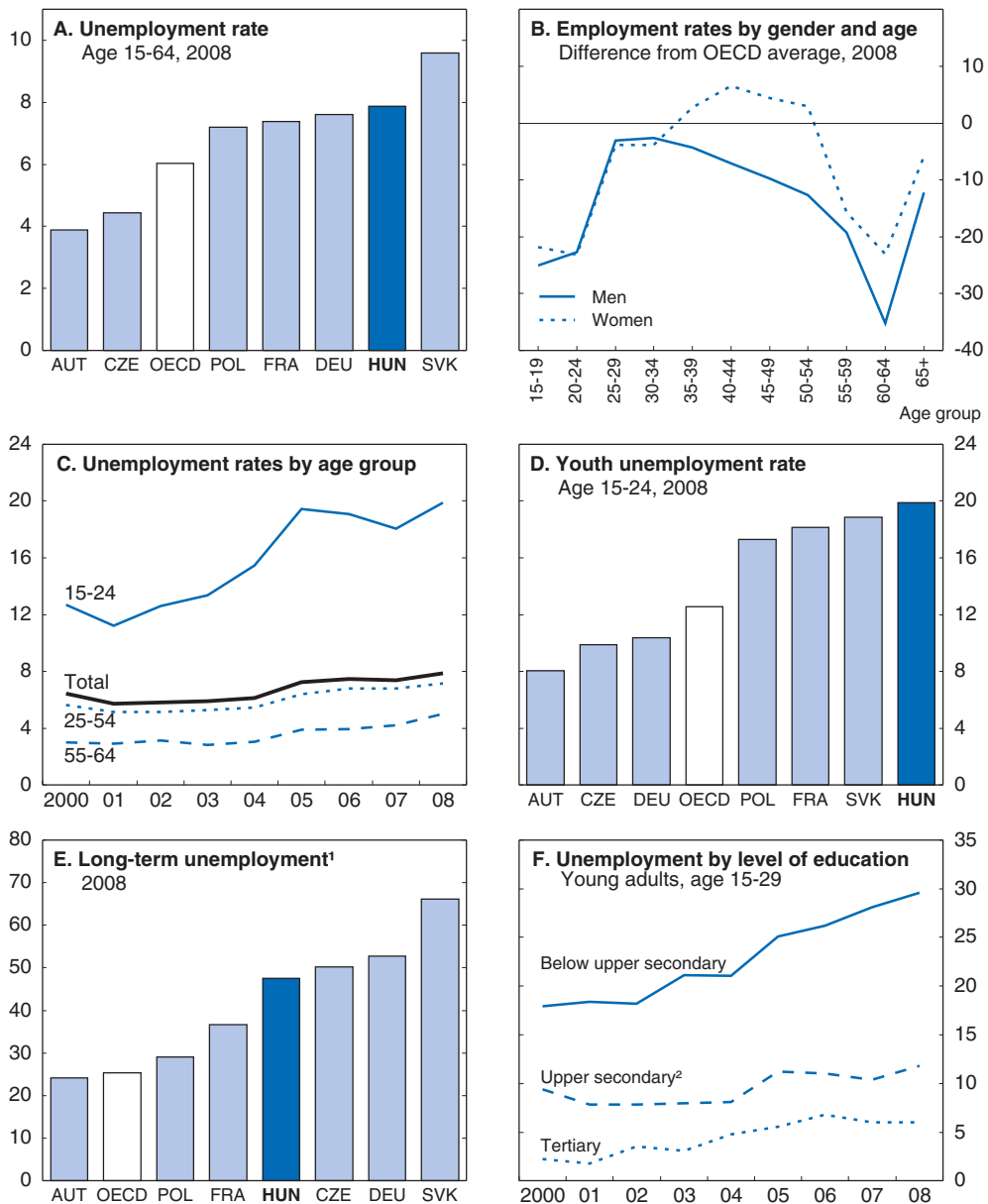
1. Unemployment duration of one year or longer in per cent of total unemployment.
2. Includes post secondary non-tertiary education.

Source: OECD (2009), *Labour Market Statistics* (database), November and Eurostat (2009), "Population and Social Conditions", *Eurostat database*, November.

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differentiation of labour market outcomes is manifest in the rising dispersion of unemployment rates and per capita incomes until 2007 (Figure 1.13). In terms of per capita income, the regional dispersion is among the highest in the OECD, while it is still slightly below average for unemployment (OECD, 2009).

The labour market performance points to a rise in structural unemployment well before the 2009 economic crisis. Indeed, *prima facie* evidence for deepened labour market

Figure 1.13. **Regional dispersion**[1]
At NUTS 3 level, per cent[2]
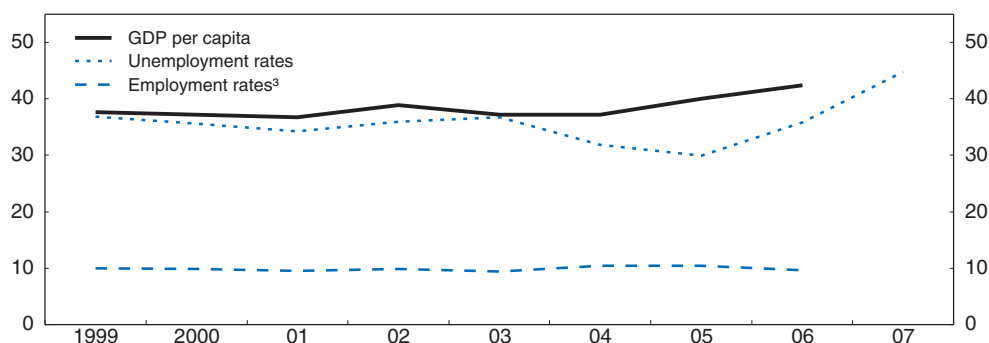
1. Measured by the sum of the absolute differences between regional and national levels.
2. NUTS: Nomenclature of Territorial Units for Statistics.
3. Age group 15-64.
Source: Eurostat (2009), "Regional statistics", *Eurostat database*, October.

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disequilibrium springs from the synchronous rise in unemployment and the positive output gap in 2003-07 (Table 1.2). On this basis, the structural rate of unemployment may have increased by around 1½ per cent between 2003 and 2007. Unless offset by innovative supply-side policies, notably efforts to improve the skills of job-seekers, the 2009-10 recession is likely to accentuate this trend.

Table 1.2. **Output gap and unemployment rate**
Per cent

	2003	2004	2005	2006	2007	2008	2009	2010
Output gap[1]	1.0	2.0	1.9	2.3	0.2	−1.8	−10.2	−12.2
Unemployment rate	5.9	6.2	7.3	7.5	7.4	7.9	9.9	10.3

1. Deviations of actual GDP from potential GDP as a per cent of potential GDP.
Source: OECD (2009), *OECD Economic Outlook: Statistics and Projections* (database), December.

Notwithstanding rising structural unemployment, aggregate real wages appear to be rather flexible in the current recession. Current surveys show that wage and salary earners generally prefer short-time work and related cuts in pay to layoffs. In 2009, the government subsidised short-time work of companies facing economic difficulties. Wage earners on a four-day schedule are entitled to receive 80% of the pay for the fifth day, provided they meet a number of conditions, including the use of training opportunities. Private real wages are expected to fall by a cumulative 5% in 2009-10.

Real wage flexibility is largely rooted in a non-confrontational, consensual approach towards nominal wage setting. Tripartite co-operation at national level is ensured by the National Council for the Reconciliation of Interests, which provides a forum for regular discussions about labour market issues. The Council recommends average wage increases for the enterprise sector and sets the minimum wage, thereby helping shape voluntary agreements of social partners and the government. Other institutional labour market features underpinning real wage flexibility include: a relatively small coverage by wage agreements in the private sector (less than 30%); low strike activity; a slightly less stringent

stance of employment protection than for the OECD average; and a minimum wage, which decreased (relative to average pay) from 43% in 2002 to 36% in 2008. During the same period, the number of minimum wage earners dropped from 11.4% of full time employees in 2002 to 2.2% in 2008. Guaranteed wage minima may have played a part in this trend (Box 1.2).

... mainly owing to an inadequate tax/transfer system

Underlying the historically low levels of employment and participation rates have been distortions linked to regulations and the tax-transfer system. High social security contributions paid by employers have prompted firms to: *i)* offer unregistered employment (mainly to unskilled workers); *ii)* pay part of the salary "under the table" for skilled or highly skilled workers; or *iii)* to force high earners into a service provider contract. More generally, high tax wedges have tilted individuals against formal labour force participation, favouring activity in the "grey" economy, damping labour mobility and delaying the return to employment of unemployed people. Adverse institutional features of the transfer/social system include a low effective pension age (less than 60 years, the second lowest in the OECD), family support policies (granting one of the longest maternity leaves in the OECD), some earnings-related family allowances and disability benefits.

For educated women with labour market experience, cash benefits paid over the period of three years of maternity leave were considered the "most generous cash support system (financing absence from work) in the developed world" (Bálint and Köllő, 2008). At the same time; it acted as a channel for opting-out from the labour market for women with poor labour market prospects. The system also failed to offer appropriate assistance to women with poor labour market prospects. Until 2009, the system provided an opportunity for working women to stay away from the labour market for up to three years, a longer period of time than is considered necessary from the child-welfare point of view (benefits for the children are usually estimated to be the greatest during the first few months; for a more general discussion, see Galtry and Callister (2005). The recent reform that reduces the maximum duration of maternity leave to two-years is a positive move. While there is room for further reductions in maternity leave, these need to be flanked by stronger support for childcare in the form of part-time work, working from home and nursery services.

The effectiveness of active labour market policies (ALMPs) has also been questioned. The persistence of high vacancies, continuously exceeding 10% of the number of unemployed persons in 1998-2006, points to sub-optimal labour market policies. Outlays on active and passive labour market measures totalled 1% of GDP in 2007 or half the EU15 average. Within this total, the share of active measures (less than 40%) is low relative to the scale of mismatch unemployment. Participation in ALMP programmes steadily declined until 2007, reflecting benefit provisions and job opportunities in the grey economy. Since 2008, ALMPs co-financed by EU funds and financed from the national Labour Market Fund are managed through the same structure, which is likely to increase their effectiveness.[10] The organisational structure of the Public Employment Service was also modified, shifting responsibility from county job centres to regional job centres (regionalisation of public employment services).

The take-up of different labour market programmes has been found to vary with the level of and changes in regional unemployment (Frey, 2008). Training and business start-up subsidies decrease with rising unemployment, while the support for young entrants into the labour force increases with rising unemployment.[11] Similarly, the use of training opportunities and business start-up schemes is typically strong in regions (counties) with

favourable labour market outcomes, while it is weak in disadvantaged regions. Participation in public work programmes, though, tends to be comparatively strong in poor regions. These findings highlight the need to further adapt ALMP to specific needs.

A study by Galasi and Nagy (2008),[12] carried out jointly with the Ministry of Social Affairs and Labour, also finds large differences between categories of ALMP participants. Among the beneficiaries of regular social allowances, unskilled and older people tend to enrol in public work programmes; although they offer short-term employment opportunities without leading to long-lasting labour force participation. On the other hand, beneficiaries of unemployment benefits (usually younger cohorts with more education and shorter unemployment spells) tend to participate in training programmes and benefit from subsidised employment, improving their employment prospects. In response to the conclusions of the survey, a new program was launched in 2009 focusing on the low-skilled. ALMP training programmes need to increase the number of participants and be better balanced in favour of the unskilled workforce.

Recent policy impulses are set to strengthen work incentives

In its special report on Hungary (OECD, 2008a), the OECD concluded that labour reform measures should be guided by the principle of shifting the focus from income support to encouraging people's return to formal employment and official labour force participation. The recommended shift in policy emphasis has become visible in several policy initiatives taken prior to the economic crisis.[13]

One of them is the 2008 *Pathway to Work Programme* aimed at enlarging labour supply and drawing people back into formal employment. It potentially affects 100 000 persons by: helping inactive persons rejoin the labour force; having permanently unemployed persons take up employment; preventing unskilled employees from dropping out of the labour force; and improving employment chances for young adults without complete schooling.[14] The 2009 reform of the tax-transfer system introduces many changes that should continue the trend of improving work incentives, notably through lower tax wedges (see Chapter 2 for details). As described previously (Box 1.1), the shift from labour to consumption taxes should also stimulate labour demand. The removal of the lump-sum health contribution in 2010 will have a particularly strong impact on the demand for low-skilled labour, which is highly wage-elastic. Lower average income tax rates for all income groups, especially for low income-earners, may raise labour supply. In parallel, the tax reform has reduced the marginal effective tax rate (METR) at the level of the average wage, while increasing METRs for higher incomes (Figure 2.14 in Chapter 2). The rise in METRs for higher incomes may turn out to be counterproductive.

Female labour force participation rates may also rise with reduced maternity leave (a labour supply effect) as long as sufficient child-care facilities are provided. Among the 2009 reforms, the eligibility period of child-care allowance has been shortened from three years to two years for children born after 30 April 2010. The eligibility criteria of insurance-based child-care benefit (GYED) have also been tightened as women (or men) need to have a minimum 365 days of insurance before the birth of the child, instead of 180 days previously.

Entrepreneurship remains hindered by a "two-tier" economy

Hungary's openness to competitive forces is manifest in large and growing foreign trade shares as well as in the rising geographical diversification of exports. The OECD

indicator of product market regulation (PMR) reveals no major deviation from the OECD average, but mark-ups in service industries are high (Molnár and Bottini, 2008). EU accession has helped establish modern framework conditions in competition policy and law oversight. Nevertheless, unusually large gaps between efficiency levels across regions and firm categories persist.

In the early 1990s, Hungary's economic transformation into a market economy had effectively given rise to a "two-tier" economy. Swift diffusion of best-practice technologies (a consequence of surging inward FDI) and rapid dismantling of barriers to competition created a class of efficient, export-oriented enterprises. Located in the western and central parts of the country, most of these firms are of large or medium size, with productivity levels far exceeding the national average. Private research and development (R&D) intensity, innovative activity and cluster formation are concentrated in this segment of the economy.[15] Contents of high and medium technology in Hungary's exports are correspondingly high, exceeding levels in many other OECD countries. The convergence of real per capita income (until 2006) owed much to the productive efficiency in this sector.

The lagging segment of the economy (the lower tier) is dominated by small and micro firms in manufacturing and services (craft and retail sectors). These firms generally suffer from over-manning and under-endowment of capital, labour skills and entrepreneurial dynamism.[16] Value added per employee, R&D intensity, cluster formation and innovative activity are all correspondingly low. The lagging segment of the economy has slowed the pace of real per-capita income convergence and waits to be integrated into the FDI-based chain with high efficiency levels. Overall, the spatial concentration of inward FDI and the associated high efficiency of production in the upper tier of the economy implied rising gaps in economic conditions across regions (19 counties) and firm classes. Hungary's dispersion of regional per capita income and regional unemployment rates have been rising (Figure 1.13). One way of improving the situation would be to upgrade the capacity to design region-specific development projects to speed up further the release of EU funds.

Entrepreneurial surveys conducted by the Hungarian Ministry of Economy and Transport, the World Bank (*Ease of Doing Business*), and the Observatory of European SMEs (*Euroflash Barometer*) all point to high taxes and social security contributions, complex regulations (red tape) and inadequate investor protection as constraints for entrepreneurial activity (OECD, 2008a and 2008b). In addition, bankruptcy procedures delay business rehabilitation, especially for small enterprises. The overwhelming majority of SMEs are not "bankable", precluding access to finance. Strict collateral requirements for loans, tiny supplies of venture capital, high real interest rates and banks' insufficient expertise in assessing small and micro firms' credit risks combine to constitute a powerful web of financial constraints. The share of venture capital funds in GDP is extremely low by EU standards. Given these barriers, motivation to set up a business are correspondingly low. The 2009 set of financial measures aimed at shielding SMEs during the recession have relaxed some of these constraints. However, further action by the government is necessary to spur firm creation and to stimulate entrepreneurship dynamism.

Overall, partly owing to strong competitive pressures, firm creation has nonetheless been quite high by international comparison. Survival rates, however, have been low (Figure 1.14). The authority might consider the need for taking action to lengthen the survival rate of firms through an improved network of firm advisory services.

Figure 1.14. **The rise and demise of enterprises**[1]

Per cent, average 2002-06[2]
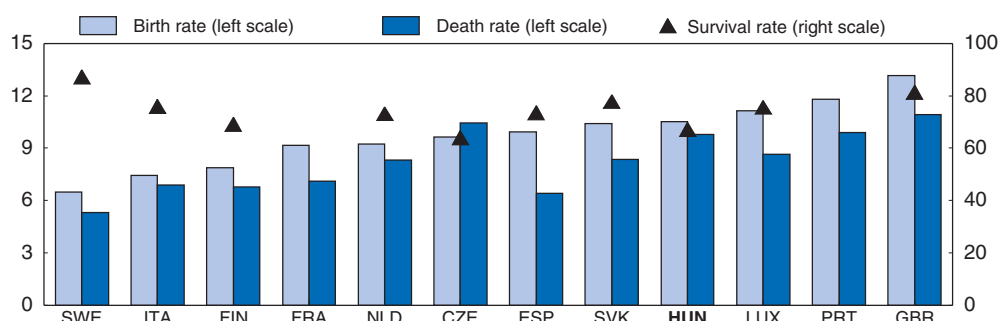
1. Industry and services excluding public administration and management activities of holding companies. The birth and death rates are enterprise births or deaths divided by the number of active enterprises. The survival rate is the number of enterprises in a year who have survived for two years divided by the number of enterprise births two years previously.
2. 2002-05 for death rate.

Source: Eurostat (2009), "Structural Business Statistics", *Eurostat database*, November.

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Overall productivity is hampered by low R&D intensity

Entrepreneurial activity and innovation tend to be closely connected with each other, innovation driving firm creation and firm expansion, while entrepreneurial dynamism fosters market, product, process, and organisational innovations. In the case of Hungary, the link between these two co-dependent variables is surprisingly asymmetrical. Vibrant firm creation has co-existed with a low level of innovative activity as measured by standard indicators such as patents, publication counts and in-house product and process innovations. According to the 2008 *OECD Review of Hungary's Innovation System* (OECD, 2008b), innovations based on own R&D efforts are low. At 1% of GDP, R&D intensity is low by international standards, even considering Hungary's relative per capita income position (Figure 1.15). Experience in other countries has shown that the capacity to absorb foreign best-practice technology and organisation not only depends on FDI, but also upon the scale of domestic R&D intensity. Moreover, Hungary's R&D spending is highly skewed, private R&D efforts being strongly concentrated in rich regions where large enterprises are located such as Budapest.[17] In contrast, innovative medium-sized firms are virtually non-existent. In 2002-04, the percentage of SMEs developing in-house product and process innovations was the lowest in the OECD.

High and medium-technology products and services account for high shares in Hungary's aggregate output and exports. Yet, apart from mobile telephones, the telecommunication infrastructure is still narrow, as indicated by comparatively low numbers of computer and Internet users, broadband and fixed telephone lines (Figure 1.16). Low diffusion of information and communication technology (ICT) partly reflects high user prices (a sign of anti-competitive forces prevailing in network industries) and low absorptive capacity in disadvantaged regions. Regional disparities in the distribution of information and information technology (IT) providers (hardware and software) are correspondingly large and widening. More than half of suppliers' businesses operate in Budapest.

ICT plays a central part in the interplay between entrepreneurial and innovative activities. ICT and e-business applications offer benefits across a wide range of intra and

Figure 1.15. **Research and development expenditure**

Per cent of GDP

A. Evolution in Hungary

B. In international comparison
2007
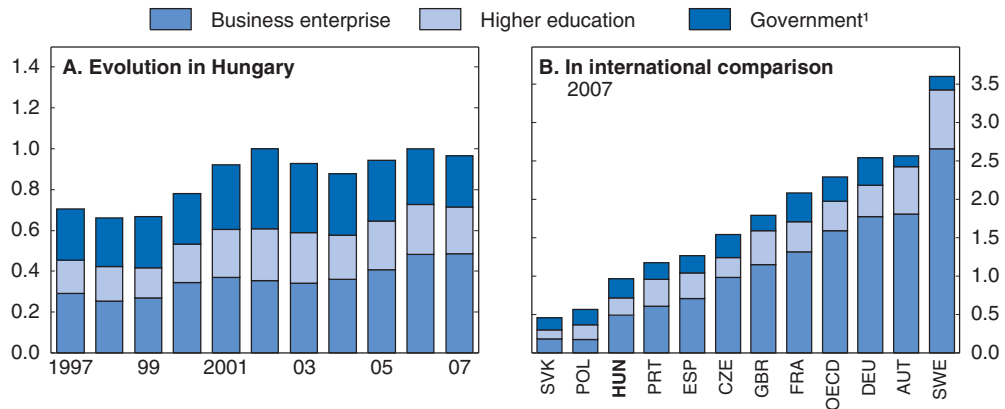
1. Includes the private non-profit sector.

Source: OECD (2009), "Main Science and Technology Indicators", *OECD Science, Technology and R&D Statistics* (database), October.

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Figure 1.16. **Telecommunications indicators**

Per 100 inhabitants

A. Broadband penetration rate[1]
June 2009

B. Mobile telephone subscriptions
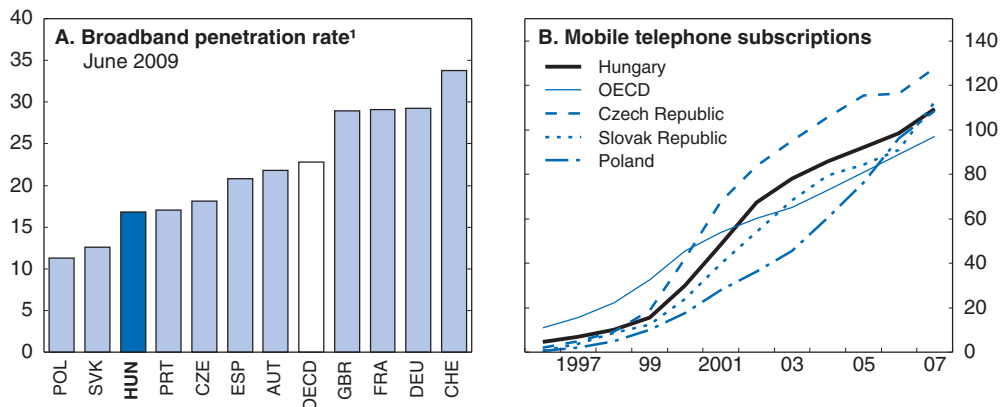
1. Number of broadband subscribers per 100 inhabitants.

Source: OECD (2009), *OECD Communications Outlook 2009* and OECD Broadband Statistics, *www.oecd.org/sti/ict/broadband*, December.

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inter-firm processes, including the internationalisation of SME activities. Wide ICT diffusion also raises the visibility of programme support, stimulating their take-up by small and micro firms. Finally, wide ICT diffusion facilitates the creation and expansion of business support centres (business service stations), enabling network building, data collection and data exchange.

Lifting "excluded" firms in the *lower-tier economy* out of economic inefficiency requires a broad set of framework conditions to be established. These include transportation facilities, education and training opportunities as well as a network of standardised business development centres specialised in giving business advice to small and micro firms. Non-R&D based innovations (wider ICT diffusion and larger supplies of

collateral-free micro finance) are known to be efficient in stimulating firm creation and firm expansion in the *lower-tier economy*. Action along these lines will tend to augment the potential for *bundling* micro and small firms to form clusters or to become part of supplier chains for large companies.

The *upper-tier economy* requires collaborative solutions of a different kind, favouring R&D based innovations through intense interactions between research and business communities. Experience in several OECD countries has shown that collaborative innovations are capable of spurring entrepreneurial and innovative activities (OECD, 2004). The strategy of collective efficiency views social capital as a vital innovation asset, improving SME access to financial resources, infrastructure and knowledge services. This approach emphasises the use of externalities and joint action by ministries, public institutions, social partners, groups of firms, universities and research institutions in the domain of local business programmes (OECD, 2007a).

The potential of collaborative innovations in Hungary is largely untapped. While technological co-operation between large firms is quite advanced, knowledge transfers between enterprises and universities are sparse due to limited mobility between academia and industry. Moreover, public research organisations contribute little to innovation

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Box 1.4. Policy recommendations

Macroeconomic policies to stabilise the economy

- Continue fiscal consolidation, through structural reforms, to help restore market confidence. Avoid excessive pro-cyclicality if the economy deteriorates more than expected.
- Achieve a well-balanced policy mix through continued structural fiscal consolidation in order to alleviate the task of monetary policy in reaching its medium-term inflation target.
- As the economy recovers, the central bank should continue to carefully communicate to financial markets to avoid financial stability concerns in case of sudden changes in market confidence.
- Continue with in-depth analysis of the impact of the current recession on potential output to help raise the efficiency of monetary policy in conditions of enhanced uncertainty.

Structural policies to restore sustainable growth

- Better target active labour market training programmes to the unskilled and increase the number of participants. More generally, further improve them by better co-ordination and more stringent evaluation criteria.
- Reduce further generous maternity leave to encourage female labour force participation. Expand public support for childcare (*e.g.* part-time work, working from home, nursery services) in parallel.
- Continue to reduce barriers to firm creation and to stimulate entrepreneurial dynamism.
- Up-grade the capacity to design region-specific development projects to speed up the use of EU funds.
- Adopt international best-practices to build an efficient network of business service stations.
- Increase research and development intensity and strengthen collaborative links between research institutions, schools, universities and the business community.
- Improve the structural policy mix through rigorous and continual evaluation of structural policy programmes.

co-operation, although, over the past few years, many "bridging" organisations have been established via international and domestic public funding. Policy schemes have been introduced to foster networking, co-operative capabilities and spin-off firms at higher education institutions and public research organisations. A significant impact on the overall innovative performance, though, has yet to be seen, pointing to sub-optimal policy approaches linked to poor planning and the absence of an evaluation culture (NDA, 2007).

A condition for efficient structural policy action is a high measure of policy consensus and consequent co-ordination among major stakeholders of entrepreneurship, innovation, labour market and education policies (OECD, 2008b). Piecemeal approaches are costly. Insufficient emphasis has been placed upon knowledge-based networking and co-operation at the local level (Gesce, 2005). Not surprisingly, Hungarian firms' networking capacity has remained low, lagging far behind best-practice approaches used elsewhere (Government of the Republic of Hungary, 2007).

Building associative links among all categories of firms requires an efficient infrastructure of public/private business support centres, covering the whole range of entrepreneurial activity (business incubators, innovation laboratories, business development centres and high-value added business advice for high-growth SMEs. The innovative momentum also depends upon the interaction between research institutions, universities and the business community. International best-practice is at hand to build an efficient network of business service stations. Geographical proximity (grouping firms, research institutions and business support centres around universities) is known to greatly enhance the quality of network links and so does entrepreneurial education at school and university level.

Notes

1. Under the initial Stand-by-Arrangement of November 2008 (covering the 17 month period to April 2010), the IMF immediately released one third of its credit facility (EUR 12.3 billion), with the remainder being disbursed in installments, following each of five quarterly reviews. The release of further funds was made conditional upon new government action to reduce the government's reliance upon external financing. The first two installments of the EU's balance-of-payments assistance were disbursed in December 2008 and March 2009, with each installment amounting to EUR 2 billion.

2. External debt data for Hungary are somewhat elevated by the so-called special-purpose entities, which used to be offshore firms until 2006 and which have little connection with the domestic economy. These companies create about 15% of Hungary's external debt and usually import and export capital due to tax optimisation reasons. As a result, while these transactions raise gross debt figures, they have practically zero effect on net debt figures.

3. Owing to greater openness to the global economy, Hungary had entered the 1990s with a higher level of external debt than other emerging economies in Central and Eastern Europe.

4. Such as the broadening of the corporate income tax base, the increase in the general and the simplified corporate income tax rates, and the taxation of offshore incomes from 2010.

5. Effective 1 July 2009, cuts in employers' social security contributions applied to wages and salaries up to twice the basic minimum wage. Effective 1 January 2010, the contribution cuts will cover the whole range of emoluments.

6. Prior to February 2008, monetary policy was conducted in a setting of both inflation-targeting and an enlarged exchange rate band (since mid-2001).

7. In May 2009, under an agreement with the European Commission, foreign parent banks pledged to maintain the funding of their Hungarian subsidiaries. In September 2009, the IMF and the government reached agreement on extending the Stand-By-Arrangement by six months to October 2010 to cover the election period and the transition to a new government. In July 2009, the

government raised EUR 1 billion through sales of euro-denominated bonds on international capital markets, confirming the return of investors' confidence.

8. The research institute TÁRKI (2008) estimates that the Gini index fell from 0.308 in 2005 to 0.288 in 2007. The economic recession may increase inequality. Although it is too early to give a comprehensive assessment of the impact on inequality of the measures taken during the crisis, some will clearly have a detrimental effect on inequality, such as the freezing of family benefit, the increase in VAT and the reduction in the personal income tax.

9. The increased participation in education partly explains the fall in employment of men and women below age 25.

10. Active labour market programmes (ALMPs) are largely financed by the Labour Market Fund with contributions paid by employees and employers. Since 2004, funds from the European Social Fund have played a stronger role in financing ALMPs. EU funded programmes have broadened the scope of ALMPs by streamlining tools apt to raise the employability of disadvantaged people. The Public Employment Service implements most ALMP programmes. Since 2008, the Labour Market Fund implements EU-funded programmes.

11. Subsidy schemes for business start-ups and self-employment were merged in 2007, the new combined scheme providing for interest-free loans or non-repayable grants (up to HUF 3 million) and a monthly payment of up to the minimum wage for a maximum period of six months (Frey, 2008). At 90%, the business survival rate for beneficiaries of the business start-up subsidy (three months after firm creation) was distinctly high.

12. The paper investigates exit probabilities of registered unemployed to active labour market programmes using administrative records from the unemployment register of the Hungarian National Labour Centre. It estimates parametric duration models that summarise variation in exit probabilities with individual characteristics, region and benefit receipt to the three main active programmes (most unemployed, who were participating in any ALMP took part in one of these programmes) – namely training, subsidised employment and public works.

13. The previous *OECD Economic Survey of Hungary* (OECD, 2007b) had welcomed progress in key areas such as early retirement (2007), disability and old age pensions (2006-07), maternity leave and unemployment insurance schemes (front loading of benefits [2005]). The rise in the pension age for men from 60 to 62 years and for women from 56 to 59 years over the period 1998-2003 did contribute to higher participation and employment rates for persons aged 55-64 years (Varga, 2008). Claims for disability benefits have begun to be more thoroughly screened by the newly created National Institute for Rehabilitation and Social Assessment (2007).

14. Under the *Pathway to Work Programme*, eligibility criteria for beneficiaries of the regular social allowance have been tightened. Under new provisions (the "stand-by allowance"), former beneficiaries of the social allowance, who are able to work, are obliged to take up public work organised by local municipalities or, alternatively, to participate in training programmes.

15. Clusters are company alliances based upon geographical proximity (Gecse, 2005).

16. According to the National Development Agency, the majority of small and medium-sized enterprises have no status as real enterprises. They represent involuntary entrepreneurship, a result of self-employment and/or tax evasion (NDA, 2007).

17. Hungary, a centralised country, is composed of 19 counties (3 000 local authorities) which have no decision-making power in the areas of education, R&D and innovation activities. Following EU guidelines, the counties have been grouped into seven statistical planning regions (NUTS 2) for administrative purposes. These regions are recipients of EU Structural Funds, Cohesion Funds and other financing aids. Some disadvantaged regions still lack the capacity for project design delaying the arrival of EU structural funds.

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ANNEX 1.A1

Progress in main structural reforms

This table reviews action taken on main recommendations from previous *Surveys*. Recommendations that are new in this *Survey* are listed in the relevant chapter.

Past recommendations	Actions taken and current assessment
FISCAL CONSOLIDATION	
Budgeting practices	
A more strategic medium-term outlook in budgeting is needed, which more closely involves local and regional governments.	Fiscal rules have been introduced since November 2008, which requires setting budgetary targets for the subsequent 3 years. No action regarding involvement of local and regional government.
Tax strategy	
Aim for greater transparency, neutrality, simplicity and stability in the tax system.	With the tax changes adopted in 2009, the tax system became more transparent and simple. Many of the tax credits, preferential tax arrangements and temporary taxes have been abolished.
Further broaden the tax base notably through the introduction of taxes on currently untaxed capital revenues.	A tax on interest income has been introduced. Also other measures widen the tax base, such as the stricter conditions of tax allowances (regarding lunch expenses) and the introduction of a new wealth-based tax.
Public expenditure	
Make greater use of performance benchmarks in the supply of public services.	Performance benchmarking was introduced in public administration.
Make tendering for public-sector contracts more competitive, particularly in local and regional government.	No action taken but the government submitted a proposal to Parliament end-2008 to enhance the control mechanism of the Public Procurement Office.
Seek solutions to excessively fragmented public-service provision at the local level.	Access to special deficit funds can be denied for municipalities that fail to embark on sufficient joint provision.
Pensions	
Increase the effective age of retirement by reforming early retirement and by de-emphasising the standard age of retirement.	Significant parametric measures taken in 2009 (raising statutory retirement age, changing the indexation formula, etc.). In particular the introduction of a bonus/penalty system contributes to narrowing the gap between the statutory and the effective retirement age.
The proposals for reform to the old-age pension system currently being developed should include increases in the statutory retirement age beyond 62 years.	Statutory retirement age has been increased to 65 years for both women and men.
HEALTH CARE *(IN-DEPTH REVIEW IN THE 2005 SURVEY)*	
Reforms need to focus on increasing the efficiency of hospital care and cutting back on drug prescriptions.	Some progress in cutting the number of hospital beds and cutting back on subsidies for pharmaceuticals.

Past recommendations	Actions taken and current assessment
STRATEGY FOR FISCAL CONSOLIDATION	
Any fiscal windfalls should be used for deficit and debt reduction.	Partially implemented (the new fiscal responsibility law provides incentives).
The implementation of the new regional hospital network needs to be supported by measures to strengthen the gate-keeping function of general practitioners.	No action taken.
Hospital managers should be given greater responsibility for deficits and debts.	No action taken.
The majority of students should finance their tuition costs but with safety nets to prevent exclusion.	Tuition fee was to be introduced, but following the referendum of March 2008 it was decided not to implement this plan.
LABOUR MARKET	
Taxes and benefits	
Continue efforts to reduce the tax wedge on labour.	As a result of the tax changes in 2009 the tax burden is being shifted from labour to indirect taxes.
For disability benefit, tighten the assessment criteria and make assessment take into account remaining work capacity.	From 2008, persons who have a good chance of reintegrating the labour market (based on their health) are eligible for the rehabilitation benefit rather than the disability pension. Concerning the process of examination, a new set of guidelines has been distributed which are aimed as a first step towards a system that takes more account of remaining abilities and encourages rehabilitation to the workforce.
Monitor the new unemployment benefit system that includes the Job Search Allowance.	Assessment of the allowance and other aspects of unemployment benefit have led to welcome reform towards a more "front loaded" benefit scheme and a more appropriate role for the allowance.
Wage formation	
Avoid a "stop-go" cycle to public sector pay.	For 2009 and 2010 the public sector wage bill has been frozen.
BUSINESS ENVIRONMENT	
Reform both the turnover-based local business tax and the non-residential property tax – both have inappropriate bases.	No action taken.
COMPETITION *(IN-DEPTH REVIEW IN 2004 SURVEY)*	
Network industries	
Phase out price-setting for gas and electricity.	Electricity and gas markets were opened to price competition from January 2007 and July 2009.
For postal services make further progress in dealing with over-staffing and non-viable rural post offices.	Re-structuring is underway, though progress is rather slow. The liberalisation of the postal service has to be implemented by end 2012 according to EU legislation.
Other industries and sectors	
For professional services reduce entry restrictions and price setting behaviour.	No action taken.
LOCAL GOVERNMENT REFORMS	
The audit powers of the State Audit Office should be bolstered by extending them to cover all local government accounts.	No action taken.
Assess the efficiency of the programmes that increase access to finance for small and medium-sized enterprises.	A cut-back in the number of schemes has been made (from about 40 to 30) in an effort to cut back duplication in the system.
Property taxation should be broadened.	A universal wealth tax on real estate is introduced from 2010.
FAMILY POLICY	
Extended maternity leave should be cut back and savings in spending made to help fund childcare services.	Maximum maternity leave has been cut back from 3 to 2 years but no action taken on childcare.
Resumption of the phase-out of the lump-sum employers' health-care contribution should be on the priority list.	Lump-sum health contribution is eliminated from 2010.

Chapter 2

Sustaining the momentum of fiscal reform

Hungary has faced a considerable challenge to regain credibility following persistent and high fiscal deficits. Efforts during recent years have produced substantial results. The fiscal deficit has been brought down significantly and, despite the recession, fiscal consolidation has continued to help restore foreign investor confidence. Short-term fiscal adjustment needed to be accompanied by measures that can durably improve Hungary's fiscal position, however, and it has; the adoption in 2009 of a pension reform and a Fiscal Responsibility Act, creating a Fiscal Council and fiscal rules hold that potential.

These results should not lead to complacency. Some expenditure cuts, such as lower public salaries, may prove difficult to sustain. Fiscal consolidation in the past owed both to expenditure cuts and revenue increases. As a result, and despite an important tax reform starting in the second half of 2009 and extended from the beginning of 2010, marginal tax rates remain high, with adverse effects on the labour market and growth. Going forward, the government needs to contain public expenditure growth and improve public administration efficiency to reduce the public "footprint" on the economy and allow lower taxes. Key areas that warrant intensified efforts are public administration and health. The government should help secure a prominent role for the Fiscal Council and some experience needs to accumulate before considering any substantial changes in the fiscal rules. Finally, improvements to make taxation less distortive should continue by further reducing tax wedges, and increasing the role of wealth taxes, notably for local governments.

Beginning in the second half of 2006, the government faced several fiscal challenges. The most immediate was to take urgent measures to reduce the general government deficit, which had exploded to a record 9.4% of GDP due to pre-electoral fiscal profligacy, with the stock of public debt rising relentlessly. It had become clear, however, that short-term and somewhat *ad hoc* measures would not assure a sustainable fiscal position. More fundamental and enduring structural fiscal reforms would be needed to improve the quality of public finances and turn government into a catalyst for growth and prosperity rather than a hindrance.

This chapter examines Hungary's ongoing fiscal challenge from a structural and long-term perspective. Progress has been achieved on many fronts in recent years. On spending, steps have been taken to scale back social transfers, to contain the growth of pension outlays, to restrain operating costs and, to some extent, to improve the efficiency of public spending. Nevertheless, more durable reforms are needed. Tax policy has centred on reducing overall deadweight losses by shifting taxation from labour to consumption, a strategy aimed at improving prospects for employment growth and shrinking the size of the grey economy ("whitening"). At the same time, in the absence of a further reduction in the structural level of public spending to allow for a general lowering of the tax burden, the government will need to pursue base broadening to achieve reductions of the more distortionary taxes. Finally, institutional reforms, notably the adoption of fiscal rules in late 2008, hold the promise, but not the guarantee, of breaking Hungary's election-driven deficit cycle by imparting a medium-term orientation to fiscal policy.

Recent developments

Fiscal efforts have borne fruit

During the past several years, the government has significantly slowed the fiscal "bleeding" and initiated fundamental reforms, with effect both in the short run and over time. Despite having implemented one of the largest fiscal adjustments in the OECD during 2007-08, the measures that comprised an untimely (*i.e.* pro-cyclical) yet necessary stance were still not sufficient to arrest the upward momentum of the public debt in 2008 (Figure 2.1). Moreover, a substantial proportion of the adjustment resulted from measures having only immediate impact, notably revenue enhancements (*e.g.* higher value added tax rates and increased corporate taxes) and temporary spending restraint (*e.g.* a public sector wage freeze and cutbacks in public investment). Nevertheless, these were accompanied by some far-reaching reforms to lower structural spending, improve public administration, and revamp taxes to help reduce the scope and scale of the grey economy (OECD, 2008).

A gauge of the possible long-term fiscal gains achieved during the past few years can be gleaned from changes in the estimated sustainability gaps calculated by the European Commission (2006 and 2009a).[1] Reflecting both the improvement in the initial budget position and the decrease in projected long-term costs of ageing due to measures taken in 2006-07. The 2009 estimated sustainability gap for Hungary has improved considerably

Figure 2.1. **General government deficit and debt: history and goals**[1]
Per cent of GDP
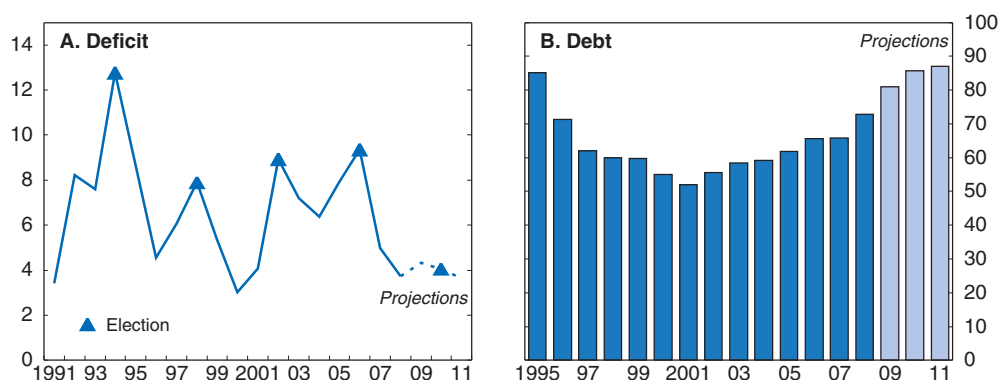
1. General government net lending/borrowing and gross debt Maastricht definition.
Source: OECD (2009), *OECD Economic Outlook: Statistics and Projections* (database), November.

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since 2006. The S1 sustainability gap, which is an estimate of the permanent adjustment to the general government primary balance needed to reach the 60% of GDP reference target under the *Stability and Growth Pact* by 2060, is estimated to have improved by 9 percentage points of GDP between the 2006 and 2009 Reports. Taking into account the pension reforms introduced in 2009, the long-term cost of ageing should decline considerably further. New government projections, which should be discussed by the Ageing Working group of the European Commission in early 2010, estimate the savings on pension expenditures to reach about 3% by 2060.

Notwithstanding Hungary's improved sustainability outlook, a number of considerations argue for a cautious perspective. First, much of the improvement can be traced to the higher structural balance achieved recently. However, some of the measures to reduce spending will have a less durable impact on outlays than implicitly assumed in the simulation. For instance, public sector wages may at some point have to be unfrozen. Barring significant reductions in public employment, the wage bill could again become a source of fiscal pressure if the pay gap between the public and private sectors is to be kept from growing (Figure 2.2). Also, in recent years cuts in public investment are of only short-term fiscal value. Moreover, some of the recent improvement in the structural balance is likely to be due to higher tax elasticities, which may have reversed during the crisis. Second, the baseline scenario assumes a return to trend (or potential) growth within a few years. Other considerations aside (for instance, slower emergence of the world economy from the current crisis), sustained progress on structural reforms will be needed. Indeed, a slower return to potential growth adds over 3 percentage points of GDP to Hungary's sustainability gap.[2] A faster catch-up in life expectancy could increase ageing further and thereby raise budgetary costs unless retirement ages are linked to life expectancy (see below). Caution is also warranted in view of evident risks that future governments might reverse some recent consolidation measures.[3]

The new fiscal responsibility framework is welcome

The risk of a repeat of Hungary's election-driven deficit cycle and a reversal of policy speaks favourably of the enactment of the *Fiscal Responsibility Act* in 2008 and the

Figure 2.2. **Trends in average wages in the public and private sectors**

Gross earnings of white-collar workers, thousand HUF
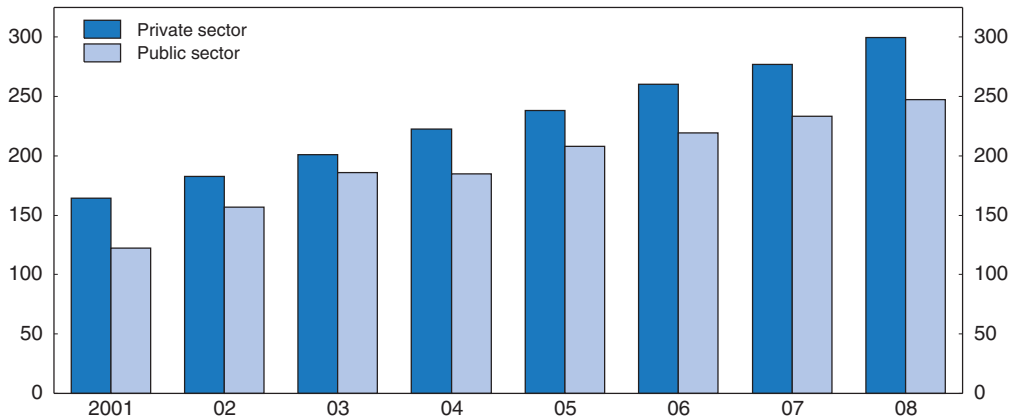
Source: HCSO (2009), *Stadat Tables*, Hungarian Central Statistical Office, October.

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establishment of a *Fiscal Council*. The decision to substantially reform budget formulation and implementation follows similar steps in a growing number of countries that have introduced rules-based fiscal responsibility frameworks designed to improve budgetary discipline (Kopits and Symansky, 1998; Poterba and von Hagen, 1999; and Kopits, 2004). Key features of a fiscal responsibility framework are: i) constraints on one or both of a specifically defined budget balance (*e.g.* overall cash, primary, current, etc.) and the stock of gross public debt; and ii) inclusion of procedural rules, transparency standards, and surveillance and enforcement mechanisms. Where discretionary fiscal policy has been plagued by time inconsistency and common pool problems, the public finances tend to be afflicted by deficit bias, pro-cyclicality and structural distortions, giving rise over time to problems of sustainability (Kopits, 2007).[4] There is preliminary evidence that a fiscal responsibility framework can reduce the risk premium on government debt through both its effectiveness in lowering the deficit and its credibility effects arising from greater assurances about future fiscal policies (Debrun and Bikas, 2008). Given its fiscal record during most of its post-transition experience, Hungary was a prime candidate for the introduction of a fiscal responsibility framework tailored to its circumstances.

Hungary's fiscal responsibility framework has teeth, and holds the promise of being an effective anchor for fiscal policy (Box 2.1). The framework includes numerical fiscal rules, along with procedural and transparency requirements. With a medium-term perspective, the rules include annual spending targets for each of the next three years, and an "error correction" mechanism that in effect constrains the government to correct, within the next three years, any deviation of debt from the targeted level. The rules are *operationally complex* (Annex 2.A1), however, and successful implementation will require extraordinary procedural clarity. To this effect, the Fiscal Council should prepare, as soon as possible, an operational manual describing the step-by-step process for implementing the rules, including key budgetary variables, dates and responsible government and parliamentary units. The Fiscal Council's considerable oversight authority, together with a governance structure (*e.g.* minimum qualifications for members, duration of terms, etc.) conceived to secure a maximum degree of political independence, hold promise for ending Hungary's election-deficit cycle.

Box 2.1. **Hungary's Fiscal Responsibility Law**

The Fiscal Responsibility Law of 2008 introduced a rules-based policy framework, whose main aim is to restore fiscal sustainability. Towards this goal, two policy rules have been set: the debt rule and the expenditure rule (see Annex 2.A1 for a more detailed presentation on rule implementation). In addition, the government is required to enforce a number of procedural rules, including the "pay-go" rule. The rules are applicable to the central government, including quasi-fiscal activities of state-owned enterprises, commencing 1 January 2010. Application of the rules is subject to a set of transparency standards and is monitored by the Fiscal Council.

The debt rule limits the stock of central government liabilities in real terms, *i.e.* that the stock of debt cannot grow faster than inflation. To this effect, starting three years in advance, the rule prescribes a sequential approach to derive a ceiling on the discretionary primary deficit, which serves as the binding operational target, consistent with the *ex ante* policy target, namely, the debt limit. Any excess above the debt limit due to an excess in the discretionary deficit must be corrected within three years. In sum, upon compliance with the rule, the ratio of public debt to GDP is envisaged to decline over time proportionally to real GDP growth. Following an initial three-year phase-in period, the debt rule will be fully effective for the 2012 budget.

According to the expenditure rule, the government will set a growth target of consolidated primary expenditures two years prior to the budget year. As a transitional arrangement, for 2010 and 2011, the rule limits the growth rate of expenditures to half of the GDP growth rate, in real terms.

Under the "pay-go" rule, all (budget and non-budget) legislative proposals involving an increase in primary expenditures or a revenue reduction (including through tax expenditures) must be offset with a commensurate expenditure cut or revenue increase, spelled out in the same proposal. This rule is effective for the 2010 budget.

The law has set up a new independent agency, the Fiscal Council. Assisted by a technical staff of about 40 people, the Council's main task is to promote the transparency and sustainability of Hungary's public finances. Toward that goal, the Council provides independent macroeconomic and fiscal forecasts, including assessments of the fiscal impact of government and/or parliamentary decisions. The Council also monitors compliance with the rules. Finally, the Council helps ensure transparency by making its assessments public.

Still in its infancy, the Fiscal Responsibility Act and accompanying rules will need to be given time to be tested and it would be best to allow some experience to accumulate before considering substantial changes. It is also essential to secure a prominent role for the Fiscal Council and for strong political will to achieve fiscal sustainability.[5] In the meantime, the authorities need to remain vigilant about some of the framework's potential weaknesses.

- *First*, the complexity of some aspects of the rule (*e.g.* the error correction mechanism, the definition of mandatory *versus* discretionary spending and revenue) should not be allowed to become a convenient means of circumvention. Similarly, ensuring consistency between accrual flow accounting of the fiscal balance and market based cash valuation of the debt stock could pose challenges in the implementation of the rule, potentially generating pro-cyclicality (Annex 2.A1).

● *Second*, as a Parliamentary Law, provisions can be changed with a simple majority, less than the two-thirds majority required for the alternative and stronger Constitutional Law. As such, considerable vigilance is warranted to avoid changes that reflect political expedience rather than analytical rigour, for example to circumvent the difficulty in achieving a significant primary surplus, as implicitly required by the rules as long as the debt ratio remains high (Annex 2.A1).

● *Third*, the law does not constrain sub-national governments. While municipalities in principle have to submit balanced budgets, they can benefit from a "deficit grant" if justified by unforeseeable developments. Pending eventual changes to the Fiscal Responsibility Law that would allow sub-national budgets to be formally folded into the fiscal rule, efforts are needed to strengthen the central government's disciplining role. Several measures would be helpful in this regard, including stronger sanctions against municipalities that break budget rules, and incentives to develop the use of multi-year budgeting by sub-national governments.

Addressing the structural fiscal challenges

Structural fiscal reforms must be pursued to fundamentally improve public finances

The government is committed to further reduce the public sector's "footprint" on the economy. The share of general government spending in GDP has been high, especially in comparison to countries with similar living standards (Figure 2.3). Cross-country comparisons of the scope and scale of the public sector based on general government spending are not without limitations. *First*, some countries rely more on tax expenditure than on direct spending to support specific expenditure.[6] *Second*, some countries rely more heavily than others on direct "social" mandates to the private sector. *Third*, social benefits are

Figure 2.3. **The relationship between government spending and per capita incomes: international comparison**

2008[1]
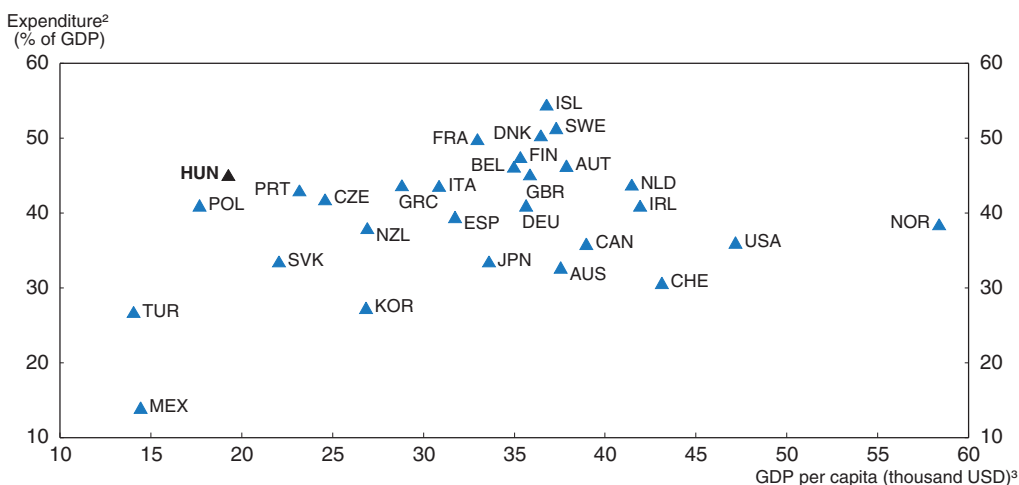
1. 2007 for Australia, Japan, Korea and New Zealand.
2. General government expenditure excluding interest payments except for Mexico and Turkey.
3. Calculated using current purchasing power parities.

Source: OECD (2009), *OECD National Accounts Statistics* and *OECD Economic Outlook: Statistics and Projections* (databases), December.

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taxed in some countries and not in others. However, Hungary's public expenditure remains high even by correcting for some of the difficulties mentioned above, especially compared to Visegrád countries (see for example Kiss and Szemere, 2009). Quite apart from the question of whether spending could be reduced without loss of public sector output (see below), financing Hungary's large public sector requires a higher overall rate of taxation. In practice, a higher average tax burden will imply high marginal tax rates. Absent lump sum taxes, an increase in the marginal tax rate causes a disproportionate increase in deadweight losses. Thus, large welfare gains could be achieved by reducing the size of the government. Until 2007, however, and in contrast to many partner countries pursuing expenditure restraint, Hungary's general government primary spending rose as a share of GDP during 1997-2008, to reach a level slightly above the EU15 average by the end of the period (Figure 2.4).

Figure 2.4. **Public expenditure in selected new EU countries**

General government primary expenditure by economic function
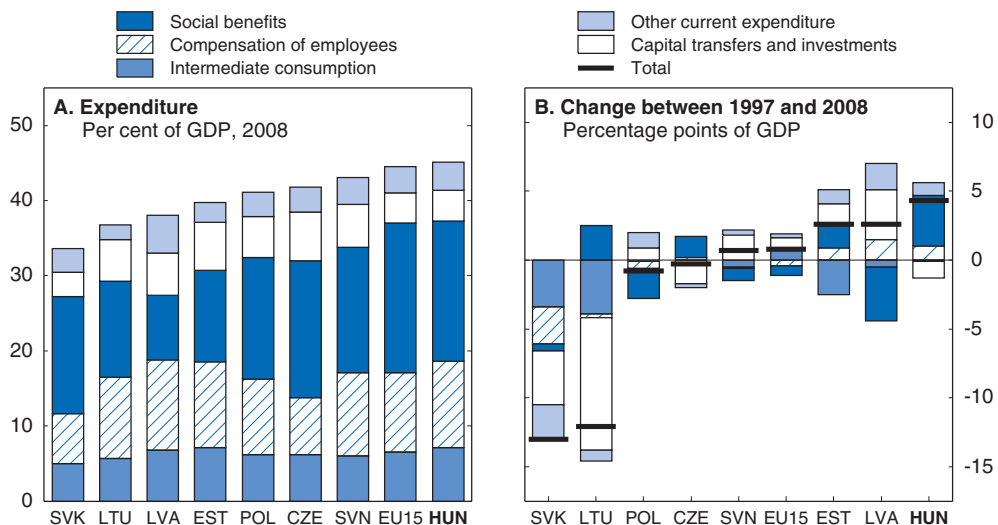
Source: Eurostat (2009), "Economy and Finance", *Eurostat database*, December.

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A comparison of the structure of Hungary's public expenditure by type of spending with that of other OECD countries is suggestive of the more promising avenues for achieving durable reductions. First, striking features in Hungary are the large share of outlays on public services and the fact that it did not decrease until 2007, in contrast to cutbacks in a majority of OECD countries (Figures 2.5 and 2.6). This suggests potential efficiency gains in public administration. Another feature of Hungary's public spending is the comparatively high level of outlays on social protection, reflecting generous social transfers and attractive incentives for early retirement.[7] Third, health-care spending, while lower than in most OECD members, is known for not delivering adequate outcomes by international standards (*e.g.* life expectancy is low). While some areas of waste have received the government's attention, stronger efforts are needed to achieve satisfactory improvements.

Figure 2.5. **Structure of public expenditure in Hungary and EU countries**

General government expenditure in per cent of GDP, average 2002-07[1]
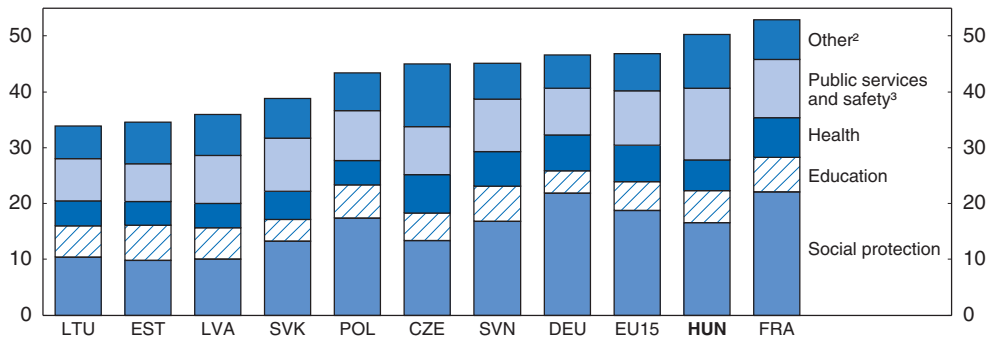
1.   Provisional data for the Slovak Republic and the European Union.
2.   Economic affairs; environment protection; housing and community amenities; recreation, culture and religion.
3.   General public services, defence, public order and safety.

Source: Eurostat (2009), "Economy and Finance", *Eurostat database*, December.

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Figure 2.6. **General public service spending**

Excluding interest payments, per cent of GDP
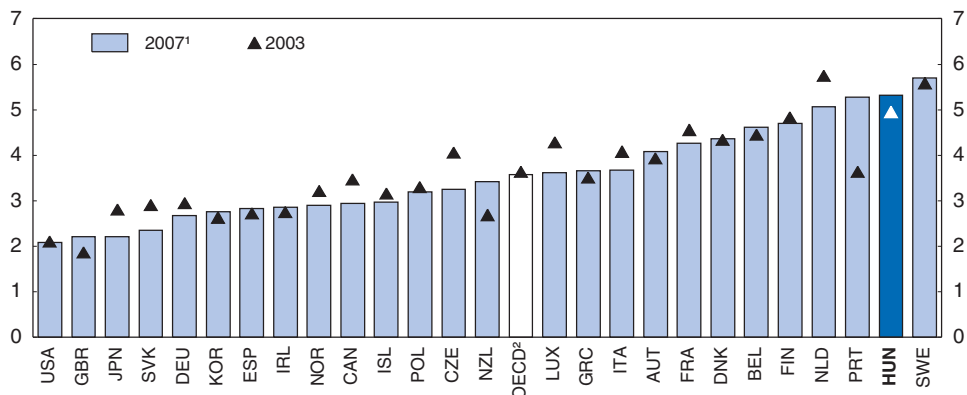
1.   2006 for Canada and 2005 for New Zealand.
2.   Unweighted average excluding Australia, Mexico, Switzerland and Turkey.

Source: OECD (2009), *OECD National Accounts Statistics* (database), December.

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Early efforts to raise the efficiency of public administration are justified

Increasing the efficiency of the public sector is therefore an obvious source of potential budgetary savings. It is especially useful to examine the efficiency of Hungary's public administration because of the large weight of the public sector in the economy, and the fact that the efficiency of the public sector impacts on that of the private sector through taxation, spending and regulation. Improved efficiency alleviates the budget constraint by achieving the same public objectives with a lower level of spending, or increased value for money by achieving better outcomes with the same outlays.

Hungary has a complex structure of public administration. It has three layers of elected government: *i)* the central government, with 14 ministries including the prime minister's office; *ii)* nineteen counties; and *iii)* over 3 000 municipalities, each of which is granted a large degree of autonomy. Major cities have a dual county-municipality status.

The county also has numerous so-called councils that interact with the elected governments and play an active role in initiating and co-ordinating activities on local and regional levels.[8] The councils have, to some degree, overlapping responsibilities with the counties, first and foremost on development, education and health care (OECD, 2007).

For policy makers, a pertinent question relates to how much gain can be potentially achieved through reforms of this complex structure of government? Efficiency analyses of other areas of public spending than general public services have revealed considerable scope for improvements in Hungary. In a recent OECD efficiency study of the health sector, Hungary ranked lowest among OECD countries (Figure 2.7) (OECD, 2009a). Hungary also ranked among the lowest among the new member states in a recent European Central Bank assessment of overall public sector efficiency (Afonso *et al.*, 2006).[9]

Figure 2.7. **Efficiency of the health system**

Output efficiency score: life expectancy in 2005
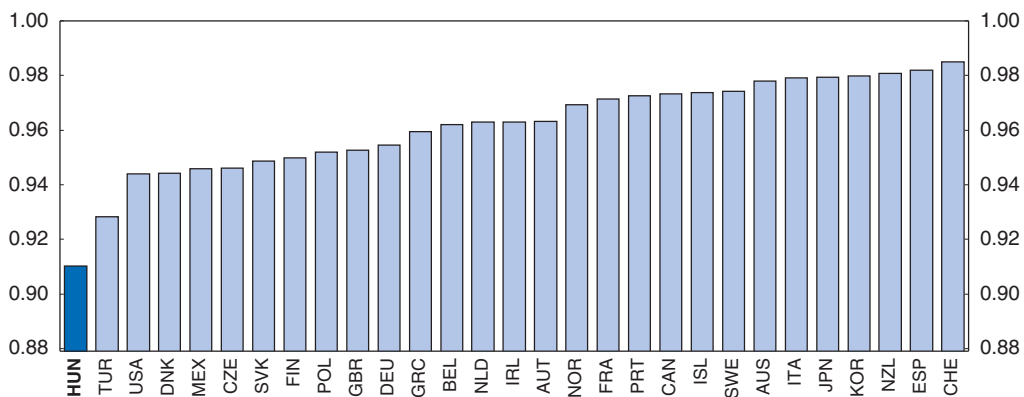
Source: OECD (2009), *OECD Economic Surveys: Mexico 2009.*

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Hungary's poor comparative performance with regard to the efficiency of public administration, however, begs the question: how large is the efficiency gap? The scale of inefficiency in the provision of public services can be estimated using Data Envelopment Analysis (DEA), which consists of constructing an efficiency frontier using the share of general public service outlays (net of interest payments) in GDP as an input, and performance indicators as an output (Table 2.1). A deviation from the estimated efficiency frontier provides a measure of a country's public sector inefficiency. Specifically, the estimate shows the extent to which a country could reduce its public service input without loss of output (Annex 2.A2).

On the basis of this analysis, Hungary's public administration appears to be one of the least efficient among OECD countries and accession countries, and the shortfall is large. The data envelopment analysis suggests that Hungary could obtain the same outcome with roughly half the level of public administration resources currently used (Figure 2.8 and Table 2.1) and raises the question whether taxpayers are getting value for money.[10] However, Hungary's substantial fiscal consolidation efforts and implemented reductions in public employment in 2008 and 2009 hold promise of improving the results.

Table 2.1. **Public administration DEA scores and input and outcome variables**

Normalised variables with average equal to one, 2008

	Input	Output				World Bank government efficiency index	DEA input efficiency score[3] (scale 0-1)
	Public service spending (% of GDP)[1]	Global competitiveness report		Product market regulation indicator (inverted)	Performance indicator[2]		
		Corruption	Justice				
Hungary	**1.40**	**0.62**	**0.86**	**1.01**	**0.83**	**0.47**	**0.50**
Austria	1.05	1.15	1.15	1.00	1.10	1.22	0.69
Belgium	1.20	1.01	1.04	0.98	1.01	0.98	0.58
Canada	0.86	1.09	1.09	1.08	1.08	1.39	0.83
Czech Republic	1.02	0.62	0.82	0.94	0.79	0.77	0.68
Denmark	1.03	1.36	1.19	1.06	1.20	1.57	1.00
Finland	1.14	1.34	1.19	1.03	1.19	1.40	0.82
France	1.06	1.00	1.04	0.97	1.01	1.10	0.66
Germany	0.82	1.14	1.14	1.00	1.09	1.18	0.88
Greece	0.94	0.74	0.86	0.83	0.81	0.40	0.74
Iceland	0.85	1.27	1.15	1.07	1.16	1.13	0.94
Ireland	0.83	1.03	1.07	1.00	1.03	1.16	0.85
Italy	1.06	0.65	0.74	0.99	0.79	0.28	0.66
Japan	0.70	0.92	1.01	1.05	0.99	1.05	1.00
Korea	0.78	1.02	0.95	0.97	0.98	0.90	0.89
Luxembourg	0.87	1.22	1.10	0.95	1.09	1.18	0.82
Netherlands	1.32	1.27	1.09	1.08	1.14	1.33	0.55
New Zealand	1.02	1.21	1.11	1.02	1.11	1.26	0.71
Norway	0.73	1.26	1.15	1.04	1.15	1.40	1.00
Poland	0.96	0.67	0.69	0.78	0.71	0.34	0.72
Portugal	1.32	0.90	0.96	0.98	0.95	0.75	0.53
Slovak Republic	0.83	0.64	0.77	0.94	0.78	0.55	0.84
Spain	0.91	0.93	0.92	1.05	0.97	0.71	0.77
Sweden	1.35	1.31	1.13	1.00	1.15	1.43	0.54
United Kingdom	0.90	0.93	0.94	1.11	0.99	1.25	0.77
United States	0.80	1.00	1.00	1.11	1.03	1.18	0.88
Estonia	1.01	0.89	0.98	1.00	0.96	0.82	0.69
Slovenia	1.21	0.83	0.88	0.97	0.89	0.78	0.58
Average	1.00	1.00	1.00	1.00	1.00	1.00	. .
Standard deviation	0.19	1.05	0.23	0.77	0.14	0.36	. .

1. 2007 or latest year of data available. Spending on general public services (excluding interest payments) and public order and safety.
2. A composite indicator for public administration outcome based on international surveys on the quality of justice and the level of corruption, both taken from the Global Competitiveness Report, and the levels of bureaucracy in the economy measured by OECD's Product Market Regulation indicator.
3. DEA: Data Envelopment Analysis.
Source: OECD calculations based on OECD (2009), *OECD National Accounts Statistics* (database), October; WEF (2008), *The Global Competitiveness Report 2008-2009*, World Economic Forum; OECD (2009), *International Regulation* (database), July; Kaufmann, D., A. Kraay and M. Mostruzzi (2009), "Governance Matters VIII: Aggregate and individual Governance Indicators, 1996-2008", *Policy Research Working Paper*, No. 4978, World Bank.

Gains can be achieved in a number of areas

Against this background, the government's ongoing efforts to improve public administration are welcome. Indeed, in the 2008 *Convergence Programme* (Government of the Republic of Hungary, 2008) the government has committed to reducing administrative burdens on market and non-market participants by 25% by 2012. There are many areas of

Figure 2.8. **Estimated public service efficiency frontier in OECD countries**

Performance indicator, 2008[1]
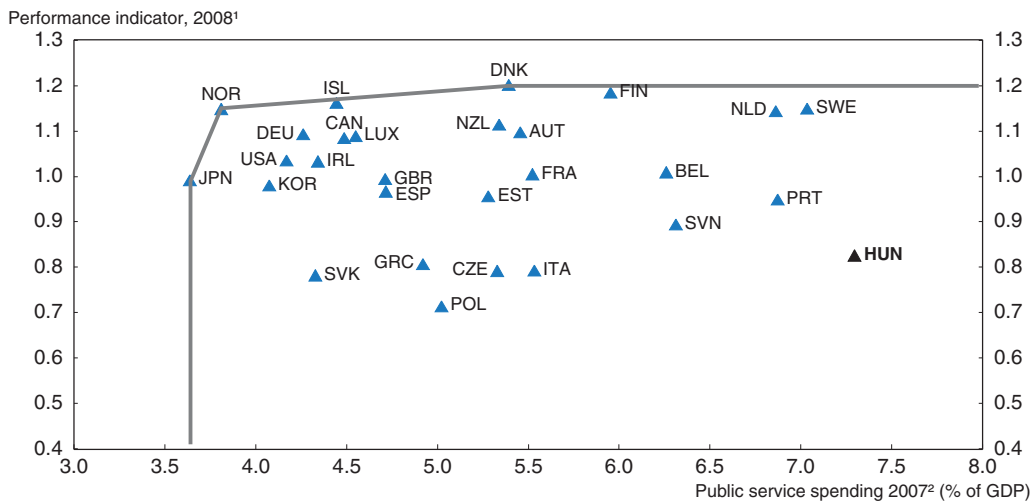
1. A composite indicator for public administration outcome based on international surveys on the quality of justice and the level of corruption, both taken from the Global Competitiveness Report, and the levels of bureaucracy in the economy measured by OECD's Product Market Regulation indicator.
2. Spending in 2006 for Canada and Slovenia, 2005 for New Zealand. Spending on general public services (excluding interest payments) and public order and safety.

Source: OECD calculations based on OECD (2009), *OECD National Accounts Statistics* (database), October; WEO (2008), *The Global Competitiveness Report 2008-2009*, World Economic Forum; OECD (2009), *International Regulation* (database), July.

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public administration where substantial gains in value for money are possible and where efforts should be concentrated.

For instance, public employment is substantial and could be reduced. With 685 000 public sector employees in 2009 (roughly 7% of the population), central and sub-national workers account for almost 20% of total domestic employment, which is high in comparison with other OECD countries (Figure 2.9).[11] Although health and education workers represent a large proportion of public employees, Hungary still ranks high after netting out those sectors. While the government has no firm plans to target specific mandatory staff reductions, it does intend that a decline in personnel be a by-product of streamlining and rationalisation of the public sector. Functional reviews could be instructive in this regard, since these can help revise mission statements and agency personnel requirements. In any event, at a minimum, progress in achieving employment cuts indirectly should be regularly assessed, and corrective action taken if excess staffing remains.

Despite Hungary's fragmented sub-national government structure, it is a relatively centralised country compared to other countries with a relatively large public sector. Nevertheless, almost half of civil servants are employed by sub-national governments, health and education employment excluded (Table 2.2). Numerous tasks are provided at the central level, such as public order and safety services and, in particular, infrastructure, although segments of these areas are endowed to local councils. In 2006, the government started a head-count reduction at the central level, as previously mentioned, that went hand in hand with a general simplification of the central government's organisation (60 units of government were abolished or merged). While these measures reduced the central government's share of general government employment from 47% in 2006 to 45% in 2007, with a further decline expected in 2008, the relatively large share of central

Figure 2.9. **Government employment**

Per cent of domestic employment, 2006[1]
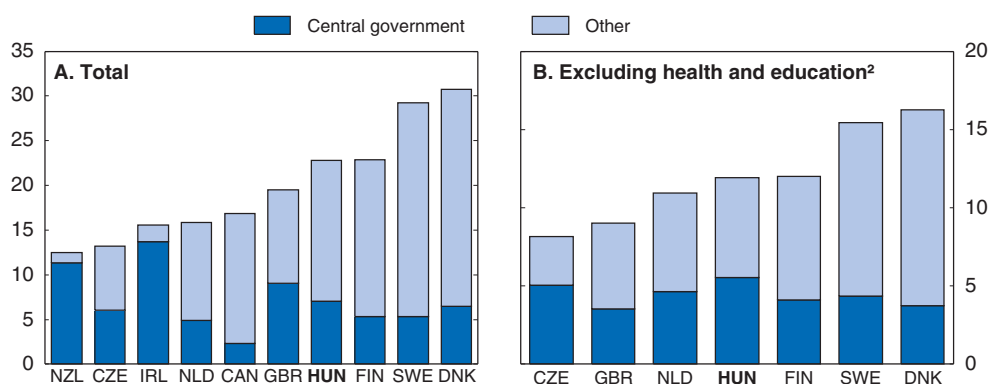
1. 2004 for New Zealand; 2005 in panel A and 2003 in panel B for the Netherlands.
2. Data in full-time equivalents.

Source: OECD (2009), "OECD Efficiency Study", Public Governance Committee, Document GOV/PGC/SBO(2009)4, May and OECD calculations.

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Table 2.2. **Centralisation and outsourcing without health and education**

2006

	Ratio of central to general government employment			Rates of central intermediate consumption		
	Average[1]	**Hungary**	Czech Republic	Average[1]	**Hungary**	Czech Republic
Collective goods in kind						
Central governance services	0.34	**0.34**	0.38	0.50	**0.40**	0.44
Basic research	1.00	**1.00**	1.00	0.51	**0.33**	0.37
Defence	0.99	**1.00**	1.00	0.57	**0.61**	0.52
Public order and safety	0.68	**0.86**	0.92	0.39	**0.12**	0.19
Infrastructure and network services	0.52	**0.91**	0.79	0.78	**0.70**	0.92
Environmental, development and community services	0.22	**0.14**	0.34	0.65	**0.82**	0.90
Service regulation	0.35	**0.40**	0.52	0.58	**0.46**	0.54
Individual goods in kind						
Non-market recreation, culture and religion	0.22	**0.36**	0.28	0.53	**0.53**	0.53
Social services	0.10	**0.04**	0.24	0.50	**0.51**	0.35
Total	0.34	**0.47**	0.62	0.54	**0.38**	0.41

1. Average of Denmark, Finland, Netherlands (2003 for employment), Sweden and United Kingdom.
Source: OECD (2009), "OECD Efficiency Study", Public Governance Committee, Document GOV/PGC/SBO(2009)4, May and OECD calculations.

government employment implies that efficiency efforts at the central level should be continued. In addition, the combination of an immense central government and a fragmented sub-national government structure raises questions about the division of labour between the central and sub-national governments.

On the central level, there is a possibility of outsourcing more services. While a clear case may exist for the government to fund certain goods and services, this does not require that it must provide all of them. Many OECD countries rely increasingly on sub-contracting and competitive tendering to obtain the provision of constant quality services at lower costs. Indeed, empirical studies generally find that competitive tendering results in lower

costs than uncontested public provision. The estimated savings vary greatly across countries and services, but tend to be concentrated in the 10% to 30% range (Joumard *et al.*, 2004). Nevertheless, outsourcing has produced significant long-term savings only when it is based on sound economic analysis. In Hungary, the degree of outsourcing is rather low at the central government level compared to other countries (measured as the share of intermediate consumption in current operational expenditure) (Table 2.2). Greater use of market solutions to obtain efficiency gains should be pursued, although these efforts must be accompanied by enhanced public procurement.

Public procurement in Hungary is a large portion of public expenditure, and is one of the highest in the OECD as a share of GDP (Figure 2.10). Public procurement is known to be a major source of potential corruption and additional taxpayer burden.[12] According to the State Audit Office of Hungary, 21% of the audited local governments failed to comply with the required procedures. A new law that came into force in April 2009 strengthens the legal framework and transparency requirements. In the meantime, Transparency International refers to an unreleased study by the Public Procurement Council in autumn 2009 alleging that more than 50% of public procurement is affected by corruption in Hungary. Given Hungary's poor showing with respect to government waste and corruption indicators, the large volume of procurement is a cause for considerable caution and potential concern. The government should therefore strengthen monitoring of procurement procedures, and the oversight and enforcement authority of the reviews by the State Audit Office. Recently, a reform of the Public Procurement Office has enhanced its control mechanisms and whistleblower protection, which is a step in the right direction. More generally, the State Audit Office, as the main institution tasked with ensuring that the will of the elected parliament is respected by the executive branch, and with controlling and assessing the performance of the public administration, ought to be generally strengthened. Specifically, its findings of misuse of public funds need follow-up which, in turn, requires strong political will and support.

Figure 2.10. **Public procurement**[1]
Per cent of GDP, 2006
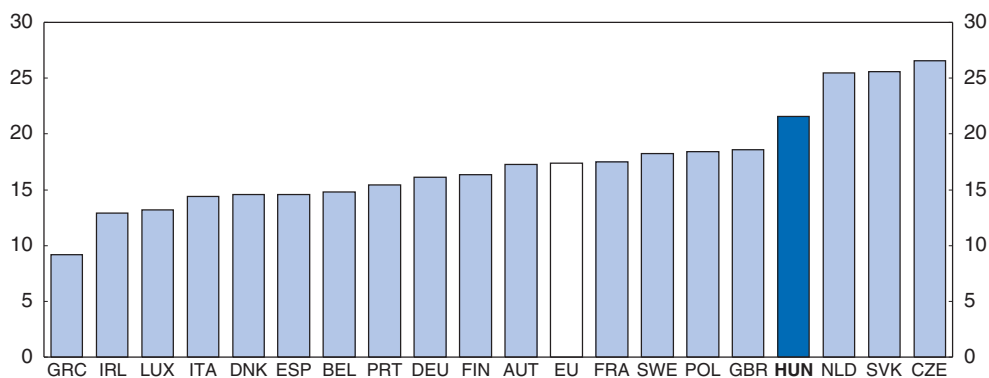
1. The EU aggregate covers the 19 member countries that are also members of the OECD.
Source: OECD (2009), *Government at a Glance 2009.*

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Spending reductions could be achieved by streamlining tasks within ministries and government agencies. In 2006, the State Reform Council compiled a comprehensive matrix of 10 000 tasks undertaken throughout government. It offered 200 recommendations for

abolishing or changing these tasks, mostly due to overlapping tasks between government agencies. Successful achievements include the headcount reduction recently implemented in public administration and a reduced number of budgetary institutions. However, the government could send a strong signal of commitment to fundamental reform by taking forward the State Reform Council's recommendations on removing overlapping tasks. Public administration reform is a huge challenge for any government, but success is more likely when a single ministry, agency or task force is empowered to monitor and assess progress. To this effect, the government should establish a unit, preferably in the office of the Prime Minister, tasked with tracking progress in all key areas of public administration reform and judging progress against specific milestones.

The public sector needs to be a catalyst for growth

The Hungarian public sector is large, and is a hindrance rather than a catalyst to growth; hence, the government's inclination toward structural reforms. Reforming key programmes that are having adverse impacts on economic performance should remain a central objective. The government has made significant changes to the public pillar of the pension system, to a large degree satisfactorily, albeit with some exceptions. Other areas, in particular health care, remain a serious challenge, and should be given high priority. Indeed, health-care reform will require the building of a still lacking political consensus, lest the already low quality of health services decline even further. On the tax side, the government has taken important steps to broaden the tax base and reduce key marginal tax rates, but further reductions are still needed.

Pensions

In 2009, the government made several parametric changes to the public pillar of the pension scheme that should significantly reduce the system's future liabilities. These are the latest in a long series of reforms and measures that started more than a decade ago. A major overhaul of the old-age pension system was introduced in 1998. The system comprises three pillars: *i)* a public defined-benefit pillar financed mostly from earnings-based contributions and providing earnings-related old-age, survivors and disability pensions; *ii)* a mandatory private defined-contribution pillar; and *iii)* a voluntary pillar introduced in 1993. New entrants to the labour force in 1998 were automatically enrolled in both mandatory pillars, while mid-career workers were given the option of participating in both mandatory pillars or to remain in the first pillar only. Participants opting into the mixed public-private scheme were given the right to reverse their decision at any time before 2013, as long as they have less than 10 years of work experience.

The pension contribution rates are high. After falling early in the decade, pension contribution rates rose by a cumulative 7 percentage points to 33.5% of gross income, including 8 percentage points paid into the second pillar. Most of the increase, however, is explained by the shift of a portion of health-care contributions to the pension fund, since these contributions had always been used, indirectly, to finance disability pensions. There has always been a minimum contribution. Since 2007, it is presumptive and based on twice the minimum wage, in part to reduce under-reporting earned wages.[13] Earnings subject to contributions are capped at roughly three times the gross average income, which is not binding for many participants.

A number of parametric reforms to benefits have been introduced over the years, with differing impacts on the financial strength of the system. Key measures through 2008 that

made the system more generous include the provision of a 13th month pension and a change in the indexation of earnings histories for the calculation of the pension base. At the same time, some measures reduced benefits, including the elimination of the deduction of unemployment and social security contributions from the earnings base for computing new pensions, a strengthening of penalties and bonuses to discourage early retirement, a tightening of eligibility for disability benefits, and a capping of the value of the 13th month pension benefit. The authorities took further actions in 2009: pensions are now indexed to the consumer price index (CPI) (rather than by the "Swiss" method of 50% wages, 50% prices) unless real GDP growth exceeds 3%; the 13th month pension has been abolished; and increases for certain disability pensions planned for 2010 have been revoked. Finally, starting in 2012, the statutory retirement ages for early and full pensions will be increased by six months each year to reach progressively 65 (see Annex 2.A3 for details on recent and past parametric changes to the public pension system).

There is little doubt that these measures, if sustained, will reduce the growth of public pension outlays. The European Commission's 2009 *Ageing Report* is informative on this question (European Commission, 2009b). In 2006, expenditures on public pensions in Hungary were projected to grow by close to 6½ percentage points of GDP to reach 17.3% of GDP by 2050; by early 2009, the projected increase over the same period had been reduced to just under 2½ per cent of GDP. To the extent that the parametric reforms could be incorporated in the Commission's projection, the decomposition of the sources of change in the ratio of pension outlays to GDP is revealing (Table 2.3). The reduction in the growth of pensions is attributable to changes in all four factors affecting outlays, the single largest impact coming from reduced benefits. Whereas the benefit ratio contributed to an increase in the public pension expenditure/GDP ratio as of 2006, changes in prospective benefits since then contribute to a lowering of the expenditure to GDP ratio, and to a lowering of public benefit ratios (Table 2.4). All the recent 2009 measures will clearly reduce further the growth of public pensions.

Table 2.3. **Projected change in public pension expenditure/GDP ratio and contributing factors**

Per cent of GDP, 2007-50

	Public pension expenditure, 2007 (% of GDP)	Contributions (% points) – impact of changes in:				Change (%)
		Dependency ratio[1]	Coverage ratio[2]	Employment rate[3]	Benefit ratio[4]	
2006 Ageing Report	10.9	10.5	−4.5	−1.1	2.0	6.4
2009 Ageing Report	10.9	9.5	−4.7	−0.7	−0.8	2.4

1. Population aged 65 and over/population aged 15-64.
2. Pensioners/population aged 65 and over.
3. Population aged 15-64/number of employed persons (inverse employment rate).
4. Average pension/average income.

Source: European Commission (2009), *2009 Ageing Report: Economic and Budgetary Projections for the EU-27 Member States (2008-2060)*, European Economy, No. 2, provisional version.

While the reform measures have positive effects on the long-run outlook for pension spending, they also carry some risks. On the one hand, the government did not fully follow the previous OECD recommendation (OECD, 2008) of an exclusive indexation of post-retirement pension benefits to inflation. While the government choice has the benefit of making pensions partly benefit from overall productivity gains, it weakens fiscal

Table 2.4. **Benefit ratios and replacement rates**[1]

Per cent

	2007	2060	% change
Benefit ratio[2]			
Public pensions	39	36	−8
Public and private pensions	39	38	−3
Gross average replacement rate[3]			
Public pensions	49	38	−23
Public and private pensions	49	43	−13

1. Due to differences in wage concepts used for calculating these two indicators, they are not strictly comparable and should be interpreted with caution.
2. Average benefit as a share of the economy-wide average wage, as calculated by the European Commission.
3. Average first pension as a share of the economy-wide average wage as reported by the Hungarian authorities.
Source: European Commission (2009), *2009 Ageing Report: Economic and Budgetary Projections for the EU-27 Member States (2008-2060)*, European Economy, No. 2, provisional version.

sustainability. On the other hand, the reduction in the projected average replacement rate, other things equal, reduces the rate of return on contributions. In a context of still very high contribution rates pertaining to the first pillar, this could reduce incentives to participate in the system. The contribution rate reduction beginning in mid-2009 mitigates some of this effect, but the net impact on pensioners' rates of return on lifetime contributions will depend on the number of years remaining until retirement at the higher age. Also, from a life-cycle perspective, a 5 percentage point increase in the value added tax (VAT) rate in 2009, if sustained over time, reduces current (not so much the future) retirees' consumption possibilities. Moreover, the relatively near-term and rapid increase in the legal retirement age will not give many participants approaching retirement much time to plan. Leaving aside the question of whether or not this is fair, political support for sustaining implementation may weaken.

With prospective falling replacement rates of public pensions, the authorities need to remain mindful of the negative effects of high contribution rates and uncertain returns. With very high contribution rates earning low rates of return, workers still have incentives to under-declare earnings, reducing the future pension base used to calculate their initial pension. This could lead over time to inadequate pension income for growing portions of the future retired population, requiring additional social assistance to prevent rising poverty.[14] Thus, the authorities' attention ought to be directed at enhancing the mandatory second pillar. Financed by a contribution rate that is only about a third of the pay-as-you-go (PAYG) rate, contributions to the second pillar are barely adequate to cover the higher fixed costs incurred in managing defined contribution pension funds. Moreover, greater lifetime contributions will be needed to maintain replacement rates in the face of rising life expectancy.

Health

Despite previous health reform efforts, it is widely recognized that Hungary's health-care system does not deliver satisfactory outcomes, and that serious reforms are needed. The government achieved some success, principally in the pharmaceutical market, which contributed to fiscal consolidation. But by and large, the reform agenda spelled out in OECD (2008) remains valid. Efforts to tackle the thorny issues of introducing formal patient co-payments and devolving the payer function from the Social Security Fund to a mix of private/public insurance schemes have encountered strong political

resistance. The opposition was successful in marshalling enough support to defeat a referendum on the former, and in halting progress on the latter by threatening another referendum. A consensus clearly needs to be built to support meaningful reforms, with the single most important objective being the improvement of health outcomes for Hungary's population.

The poor health results the system delivers speak to the urgency of the need to reform. The health status of the Hungarian population is the poorest in the OECD (OECD, 2008). Male life expectancy at birth is the lowest, while that of women is second lowest. Despite some improvements in life expectancy since the early 1990s, the gap *vis-à-vis* "old EU" has not narrowed, in contrast to other transition countries in the region such as the Czech Republic and Poland. A particularly disconcerting development is the widening gap between the life expectancy of 40 year-old Hungarian males and men of the same age in the EU15. Although Hungary's public expenditure on health care (as a share of GDP) is below both the OECD and EU15 averages, the share of private spending on health (including the traditional under-the-table payments) is estimated to be the highest in the EU, at around 30% of total spending on health. There is thus an obvious need to raise "value for money" in the health sector, all the more so in light of impending ageing-related growth in demand for health services.

Efforts need to be concentrated on those aspects that adversely impact most seriously both the demand for and supply of health services. First, co-payments, a well-established and almost universal practice, are critical to limiting frivolous and excessive use of the health system's resources, and to introducing minimal cost-consciousness. It has also been suggested (OECD, 2008) that enforcement of a mandatory system of co-payments would be effective in winding down the highly unfair and inefficient (but well-known) habit of making under-the-table payments to physicians. A practice that provides higher income patients preferential access to physicians' services relative to the less well off. Thus, the government should strive to re-introduce a system of co-payments. Second, the gatekeeper role of general practitioners needs to be strengthened. This, however, will require a more comprehensive approach that enhances the co-ordinating role of general practitioners, including by promoting multi-doctor practices and performance-based remuneration.

Reform is also crucial in order for the government to be in a position to manage the financial impact of ageing-related increases in health-care spending. Reflecting in part a more moderate projected ageing (*i.e.* the population 65 years and older relative to the working age population) than in many other EU countries, Hungary's public spending on health care is projected to increase comparatively modestly, from 5.8% of GDP in 2007 to 7.5% in 2060 (Figure 2.11). This baseline scenario assumes constant age-specific morbidity rates and unchanged age-related spending on health care. But these assumptions may not be the most realistic. First, it is reasonable to assume that life expectancy will increase over time. Coupled with the positive correlation of health spending and age, such an improvement in longevity would be accompanied by higher public spending. Second, health care is generally considered to be a "luxury" good, with an income elasticity of demand greater than one. In turn, income convergence in Hungary should be accompanied by more rapid per capita demand for health care than in the base case (the "elastic growth of demand" scenario). Finally, there is ample empirical evidence that increased use of medical technologies contribute significantly to the rise in health-care costs (Newhouse, 1992; and Culyer, 1990).

Figure 2.11. **Impact of demographic change on public expenditure on health care**
Per cent of GDP
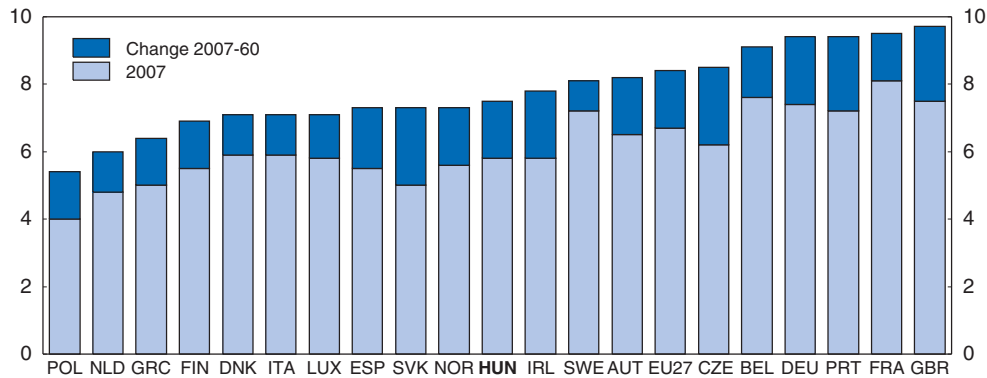
Source: European Commission (2009), *2009 Ageing Report: Economic and Budgetary Projections for the EU-27 Member States (2008-2060)*, European Economy, No. 2, provisional version.

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These alternative and generally more realistic scenarios paint a potentially different picture of the outlook for public health-care spending in Hungary. Under the rising life expectancy and "elastic growth of demand" scenarios, public spending on health care as a share of GDP would grow by about 2 percentage points between now and 2060. While these are manageable increments to the baseline rise, the potential impact of the rising use of new medical technologies could greatly strain public finances. Although the budgetary impact is larger for the EU27 (Table 2.5), the increase in public health-care outlays in Hungary would be three times greater than in the baseline scenario. Creating fiscal space for such spending underscores the need for improved efficiency of public spending overall, but also of public health spending in particular.

Table 2.5. **Alternative scenarios for public health spending**

	2060 (% of GDP)		Change 2007-60 (% points of GDP)	
	Hungary	EU27	Hungary	EU27
Baseline (pure demographic scenario)	7.5	8.4	1.7	1.7
High life expectancy[1]	8.3	8.9	2.5	2.2
Income elasticity[2]	8.0	8.8	2.2	2.1
Higher use of technology[3]	11.0	13.0	5.2	6.3

1. If mortality rates evolve in a way that life expectancy at birth at the end of the projection period is one year higher.
2. Assuming an elasticity coefficient of 1.1 evolving to unity over the projection period.
3. Ageing Working Group standard methodology with an extra increase in per capita health-care expenditure due to non-demographic drivers (about 2% per year) and an income elasticity equal to 0.7. The impact of technology is assumed to disappear completely at the end of projection period.

Source: European Commission (2009), *2009 Ageing Report: Economic and Budgetary Projections for the EU-27 Member States (2008-2060)*, European Economy, No. 2, provisional version.

Tax reform

The tax burden is too high and unfavourable to labour supply and demand

Hungary is a high tax country. Constrained though it is by the ongoing stabilisation required by years of fiscal laxity, the government has been concentrating on reforming the tax system to improve efficiency, through cuts in direct tax rates financed by

base-broadening, coupled with increases in indirect taxes. The 2009-10 tax reforms currently underway should have important economic repercussions.

At close to 40% of GDP in 2007, Hungary's tax burden is well above the levels observed in countries with similar incomes (Figure 2.12). Much of this excess is due to very high combined employer-employee social security contributions, which account for a larger share of tax revenue than on average in both the EU and OECD (Figure 2.13), while corporate income tax rates are relatively low.[15] In 2008, the combined social security contribution rates rose to 44.5% of wages, including contributions for both pension pillars and the health fund. Together with a minimum statutory marginal income tax rate of 18%, the marginal tax rate on labour has been exceedingly and comparatively high. Of the countries shown in Figure 2.13, only the tax wedge of Belgium exceeds that of Hungary.

Figure 2.12. **General government revenue and per capita incomes: international comparison**

Tax revenue including social security contributions, 2008[1]
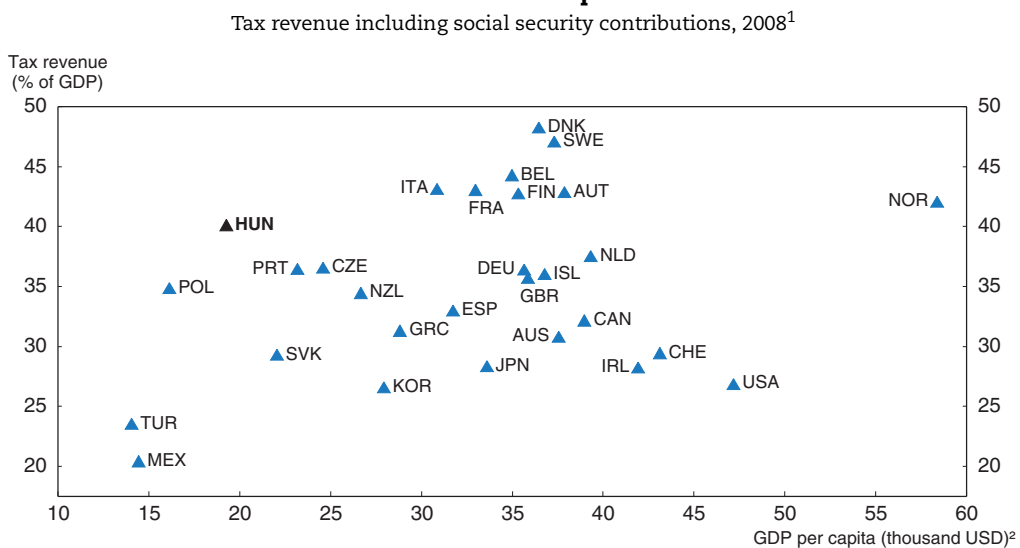
1. 2007 for Australia, Japan, Netherlands and Poland.
2. Calculated using current purchasing power parities.

Source: OECD (2009), *Revenue Statistics* and *OECD National Accounts Statistics* (databases), December.

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The government's tax reforms will help

Well aware of the negative effects of high marginal tax rates, especially on Hungarian workers, the government introduced measures in May 2009 aimed in large part at reducing the labour tax wedge. The reforms concentrate on restructuring the personal income tax, lowering the employer's social security contribution by 5 percentage points and eliminating the lump-sum health contribution while simultaneously reducing household transfers (see Chapter 1), abolishing some personal income tax preferences, and increasing consumption taxes (specifically, a 5 percentage point increase in the VAT rate from 20 to 25%, and higher excise taxes) and wealth taxes.[16] The personal income tax threshold for the initial 18% rate was increased on 1 July 2009, retroactive to the beginning of the year. Beginning on 1 January 2010, tax rates are lowered, and the thresholds raised (Table 2.6). The rebalancing of taxes toward indirect taxation has been calibrated to be revenue neutral on an *ex ante* basis during 2009-10.[17]

Figure 2.13. **Components of the labour tax wedge**[1]

Per cent of total labour costs, 2008
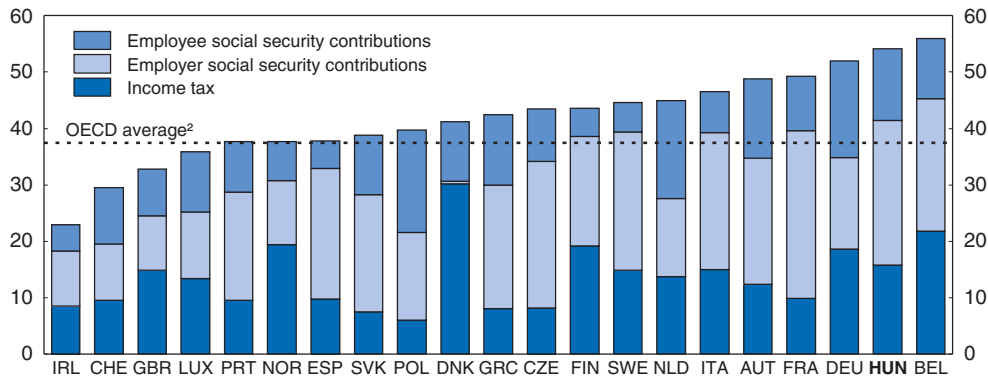
1. For a single individual without children at the income level of the average worker.
2. Average total tax wedge.

Source: OECD (2009), *Taxing Wages 2007-2008.*

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Table 2.6. **Restructuring of the personal income tax system**[1]

2008		2009		2010	
Annual wage (thousand HUF)	Tax rate (%)	Annual wage (thousand HUF)	Tax rate (%)	Annual wage (thousand HUF)	Tax rate (%)
0-1 700	18	0-1 900	18	0-5 000	17
1 700-7 448.1	36	1 900-7 449.65	36	5 000-7 657.7	32
Over 7 448.1	40	Over 7 449.65	40	Over 7 657.7	32

1. The tax base is the gross wage for 2008-09 and the "supergross wage" in 2010 (gross wage multiplied by 1.27 to take into account the employer's social security contribution).

Source: Ministry of Finance.

The government's reform strategy fits the mould of reforms being considered or implemented elsewhere, notably in countries with high taxes on labour (including social security contributions) and low employment rates, and is inspired by new empirical evidence that hints at the existence of a ranking of taxes in terms of their impacts on growth (OECD, 2009b). With high marginal tax rates on personal income in practice creating, *ceteris paribus*, greater distortions than taxes on consumption and property, the strategy consists of shifting taxes from the narrower base of labour taxes to the broader bases of consumption and property.[18] Thus, in the first instance, lower tax rates on labour reduce the size of the tax wedge (between the gross cost of labour to enterprises and the net-of-tax wage received by the worker) that adversely affects both the demand for and the supply of labour. In practice, of course, consumption is not taxed directly, but instead through indirect taxes, most often VAT, retail sales and excise taxes. In turn, if there ensues over time a VAT-generated higher domestic price level that feeds through to higher wage demands, some or all of the initial gain (from a reduced wedge) will be dissipated.

The new personal income tax and social contribution rates have a measurable impact on the labour tax wedge (Table 2.7). The reform reduces the estimated tax wedge, albeit to different degrees across the earnings scale and more so in 2010 than the second half of 2009. However, at income levels below the average wage, the tax wedge decrease is comparatively low, reflecting the proportionately smaller incidence of changes in personal

Table 2.7. **Development of labour tax wedges**

For single earners with no children at different wage levels, per cent of total labour cost

	Minimum wage[1]	Double minimum wage[1]	Average wage	167%	300%	500%
2007	39.7	47.4	54.8	58.8	61.5	61.5
2008	40.3	47.4	54.5	59.2	61.7	61.3
2009-I	40.6	47.7	54.0	58.8	61.4	61.1
2009-II	38.4	45.7	52.8	58.1	61.1	60.9
2010[2]	36.2	44.2	47.0	53.4	59.2	59.4
Change 2009-I to 2009-II (% points)	−2.3	−2.0	−1.2	−0.7	−0.3	−0.2
Change 2009-I to 2010 (% points)	−4.4	−3.5	−7.0	−5.3	−2.2	−1.7

1. In 2008, the minimum wage was 35% of the average wage and the double minimum wage was 69%.
2. No minimum wage increase is taken into consideration.
Source: Calculations based on Ministry of Finance data.

income tax provisions at the lower end of the income scale. In effect, the largest reductions in statutory marginal personal income tax rates occur in the range of roughly 75-110% of the average wage, while the marginal effective tax rate actually rises slightly at the low end of the earnings distribution.

The static labour market impacts of the reform depend, *inter alia*, on the elasticities of demand and supply of labour with respect to wages, and on the extent to which the reforms reduce employers' labour costs. Empirical evidence on the sensitivity of Hungarian labour supply to changes in wages is scarce. Galasi (2003) reports a low average elasticity, while Bakos *et al.* (2008) find a comparatively high elasticity (exceeding 0.3%) among higher wage earners, but the current reform has not significantly changed the marginal effective tax rates of high earners (Figure 2.14). Besides, owing to the relatively large size of the grey economy in Hungary, an increase in labour supply in the statistics following the reduction of the marginal rates may also reflect a "whitening" of the economy.

Figure 2.14. **Recent changes to the effective marginal tax on labour income**
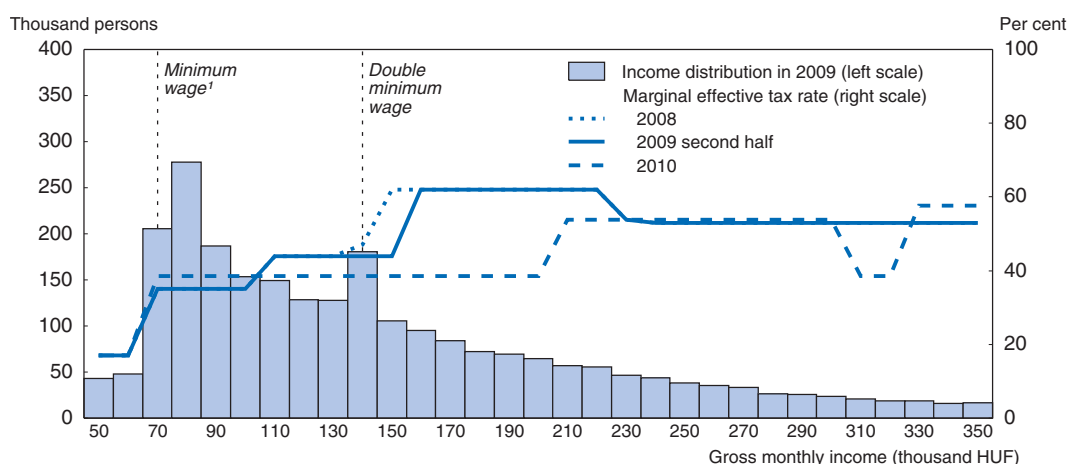
1. The (general) minimum wage was HUF 71 500 in 2009. However, there is a spike in the data for the wage bracket above the minimum wage. This is due to the granted minimum wage for skilled workers which is higher than the (general) minimum wage.
Source: Ministry of Finance.

StatLink http://dx.doi.org/10.1787/785856170251

Box 2.2. **Structural fiscal policy recommendations**

Fiscal rules

- Allow some experience to accumulate before considering substantial changes in the Fiscal Responsibility Act and accompanying rules.

- To increase public ownership of the rule, prepare, as soon as possible, an operational manual describing the step-by-step process for implementing the rule, including key budgetary variables, dates and responsible government and parliamentary units.

- Begin to consider ways of complementing the current fiscal rules with ones regulating local governments' budgets, including tougher sanctions for breach of budget rules, and incentives to develop the use of multi-year budgeting.

Public administration

- Establish a unit with mandate to monitor and assess reforms in public administration.

- Pursue staff reductions in the public sector.

- Strengthen the government's public procurement monitoring capacity and the State Audit Office, and enhance the political will in support of the Office's enforcement.

- Make greater use of outsourcing for public services via competitive bidding.

- Revisit and pursue recommendations of the 2006 State Reform Council's comprehensive stocktaking of overlapping tasks in government agencies.

Pensions

- Monitor changes in effective retirement age and eventually take steps, as needed, to increase incentives to retire later.

- Give consideration to increasing the statutory retirement age in line with increases in life expectancy.

Health

- Re-introduce patient co-payment to instill patient cost-consciousness and help eliminate under-the-table payments.

- Continue to strengthen the gate-keeping role of general practitioners while also promoting multi-doctor practices and performance-based remuneration.

- Begin to plan for possible long-term budgetary impacts of rising demand for greater use of improved medical technologies. In effect, long-term fiscal policy needs to anticipate this source of growth in health-care spending.

Taxation

- Consider further cuts in labour taxes, financed through higher property taxes (accompanied by improved property registry) and/or emissions taxation.

- Improve revenue collection through better inter-agency data sharing, harmonising the personal income tax and social security bases, and introducing a single taxpayer ID for both personal income tax and social security contributions.

Further reductions in the tax wedge should be targeted

Taxation is but one of the reasons for growth of the underground economy, but it is an important one when marginal effective tax rates become excessive. Although the government's tax measures, along with other "whitening" efforts made in recent years are steps in the right direction, the tax wedge remains exceedingly high and needs to be

reduced further. Indeed, Hungarian revenue mobilisation suffers from a classic vicious circle of burdensome taxation that induces evasion and participation in the grey economy. This reduces the visible tax base, in turn requiring yet higher, compensatory, tax rates. Reversing this to achieve a virtuous circle requires a concerted programme, including tax reforms, regulatory reform, improved public service, streamlined processes and reduced red tape, etc. Resort to such methods as using presumptive tax bases (*e.g.* the double minimum wage for calculating social security contributions) invites collusive behaviour between employer and employee to avoid or evade compliance. This of course reduces revenue, but it also lowers the employee's eventual pension.

Given the fiscal constraint of revenue-neutral reforms, and against the backdrop of the major steps recently taken, there are limited options available barring a durable and substantial cut in the size of government. Significant increases in company taxation are not an option in view of corporate mobility and the low competitive rates of other OECD countries. Further increases of VAT are not conceivable, given the already high rates in Hungary and the *de facto* EU agreement that members should treat 25% as a desirable ceiling. A couple of options for financing further reductions in labour taxes present themselves, however. *First*, albeit politically sensitive and requiring improvements in property registration, further increases in the national property tax, preferably through a widening of its tax base, mainly could be economically efficient. *Second*, emissions taxation (or, equivalently, receipts from auctioning off emissions rights) needs in any event to be implemented in the context of meeting climate-change obligations. At the same time, increased collections are achievable from solid improvements to revenue administration, in turn enabling lower direct tax rates. A number of administrative and compliance measures come to mind, including: *i)* harmonising the personal income tax and social security contribution bases; *ii)* reducing enterprises' reporting requirements for the payment of employment taxes; *iii)* improving the exchange of taxpayer data between the Tax and Financial Control Administration and the Social Insurance Agency; and *iv)* introducing a single taxpayer identity number for both personal income tax and social security.

Notes

1. Note that the 2009 sustainability gap estimates for Hungary do not incorporate parametric changes adopted in May 2009 that would reduce further pension spending over time. In addition, the estimates are based on gross pension costs, which is not a proper indicator for Hungary. Whereas pension benefits are currently not subject to tax, beginning in 2013 onwards, they will be calculated on the basis of gross earnings and will subject to taxation.

2. This estimate is taken from the European Commission's alternate scenario that allows (in all countries) for a slower recovery (the European Commission's so-called "lost decade" scenario) from the current crisis.

3. Indeed, the opposition has hinted that it would, if elected, reverse the recently implemented reductions in several social transfers.

4. The problem of common pooling is especially prevalent in countries with significant decentralised fiscal policy, when sub-national levels of government engage in "free-rider" behaviour, adopting budgetary policies that negatively impact the general government budget balance, with potential risks to macrostability.

5. Indeed, governments able to demonstrate strong political will are most likely not to require binding rules, while binding rules will be ineffective restraints on governments that lack political will.

6. Tax expenditures are revenue losses that result from granting special tax benefits to certain kinds of taxpayers or certain activities. It is considered that such provisions are the economic

equivalent of a direct budget outlay to the benefited taxpayers that could have been financed by the forgiven tax liability.

7. It should be noted that the government has recently cut such expenditures. These cuts are not fully reflected in this *Survey* due to the time frame.

8. The regional level is not a local governmental level, but a territorial development unit having statistical planning and development tasks.

9. However, capturing efficiency of health spending is a difficult task. By taking into account environmental variables (such as GDP per capita, smoking and obesity), two studies ranked Hungary's health system within the two middle quartiles of a sample of OECD countries (European Commission, 2008). Nonetheless, some of these environmental variables are not fully disconnected from health policy since better prevention could reduce smoking habits or obesity factors.

10. Replacing the performance indicator with the World Bank Government Efficiency index, the DEA analysis still ranks Hungary as the least efficient country obtaining roughly the same score. Changing the technology assumption to constant returns to scale puts Hungary last in the OECD sample and increasing efficiency discrepancy. Hungary is in the bottom league of the least efficient countries using an output-orientation (how much outcome could have been increased with unchanged spending).

11. The government has, admittedly, effected some reductions in staffing that are not reflected in this number.

12. Transparency International (2009) estimates that corruption increases the cost of procured goods and services by over 25%.

13. A reduced contribution is allowed if proper tax documentation is presented.

14. It should be noted, however, that the immediate increase in VAT adversely affects *current* retirees, a reminder that policy changes such as those adopted recently have intergenerational redistributive impacts.

15. Companies have to pay a corporate income tax rate of 16%, to which is added a 4% solidarity tax. Based on 2006 data (OECD, 2009c), Hungary was among OECD countries with both the lowest statutory and effective corporate income tax rate.

16. Besides the 8% health insurance contribution, employers had paid, prior to the reform, a HUF 1 950 flat rate monthly health insurance premium per employee.

17. The government also introduced a national property tax in 2008.

18. In theory, a uniform lifetime tax on wages is equivalent to a uniform lifetime tax on consumption. See, for instance, Stiglitz (1986).

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ANNEX 2.A1

Implementing the fiscal rules

As specified in Box 2.1, the core principle of the fiscal rule framework is to ensure the sustainability of public debt. Towards that goal, the stock of public debt cannot increase faster than inflation over the medium term. Enforcement of the debt rule is supported by a number of procedural and disclosure rules: a "pay-go" rule, rolling three-year indicative budgetary planning, preparation of budgetary impact assessments, accounting rules for public-private partnership projects, and comprehensive profit/loss accounts for state-owned enterprises. Finally, an error correction mechanism is provided to avoid permanent increases in the real debt stock. The actual functioning of the rule and its actual implications for the primary surplus balance to be achieved for the years to come is described below.

Several variables are the key to the operation of the rule, including:

● *Public debt*: the stock of gross liabilities of the central government (including social security); real public debt is the level of nominal debt deflated by the consumer price index.

● *Mandatory primary spending and revenues*: defined as beyond the scope of the annual budget legislation, because they are determined by specialised statutes or by macroeconomic and demographic developments (*e.g.* pensions, tax revenues). At present, approximately 78% of non-consolidated primary revenues and 34% of non-consolidated primary expenditures are mandatory.

● *Discretionary primary spending and revenue*: non-mandatory items amenable to discretionary change under the annual budget law (*e.g.* one-off investment projects, non-tax revenues).

In practice, Figure 2.A1.1 tracks the derivation of the rule beginning in the autumn of 2009, specified in the 2010 budget, through the first year of implementation, in the 2012 budget.

● Autumn 2009: the government determines (in the 2010 budget) the minimum primary surplus required for 2012, consistent with: *a)* the debt level at the end of 2012 should not exceed either the level of 2008, or the projected level for 2011, in real terms; and *b)* the 2012 projected interest payments.

● Autumn 2010: the government prepares (in the 2011 budget) an estimate of mandatory items for 2012, to calculate the discretionary balance in line with the minimum primary surplus for 2012, set in the previous year. The resulting discretionary primary balance is legally binding for 2012. Once the discretionary balance requirement is set, the "pay-go"

Figure 2.A1.1. **Implementation framework**

Autumn 2009	Autumn 2010	Autumn 2011	2012

Net interest expenditures in 2012 — The government prepares a forecast of net interest outlays in 2012 based on medium-term macro-fiscal projections

Allowable change in debt stock in 2012 (forecast) — The government projects an end-2011 stock of public debt based on medium-term macro-fiscal projections. It then sets the ceiling on the stock of nominal public debt at end-2012 by indexing the end-2011 debt stock by the 2012 inflation target

Required primary balance for 2012 — From this is derived the primary balance required to respect the debt ceiling for 2012

Required primary balance in 2012 — Given the required primary balance…

&

Mandatory balance in 2012 — …and a projection of the mandatory balance implied by the macro-fiscal projections…

Ceiling on discretionary balance in 2012 — … the government determines the discretionary balance needed in 2012 to respect the debt ceiling, which is legally binding

Ceiling on discretionary balance in 2012 — Any measures that worsen the balance should be offset by other measures that improve the targeted balance ("pay-go" rule)

Budget for 2012

Budget for 2012

rule applies for mandatory items in the sense that no law or amendment may worsen the balance of mandatory items in the following two years. Or, any measure that worsened the balance should be offset by other measures.

● Autumn 2011: the government presents the 2012 budget proposal, incorporating the discretionary primary balance requirement, set in the previous year.

An error correction mechanism is provided to avoid permanent increases in the real debt stock. As described, in the autumn of year t (as part of the budget proposal for $t + 1$), the primary balance target is determined for year $t + 3$, to ensure that debt level at the end of year $t + 3$ would exceed, in real terms, neither the debt level at the end of year $t + 2$, nor the debt level at the end of year $t – 1$, plus the difference of the actual and required value of the discretionary balance – to eliminate the effect of any noncompliance with the discretionary balance requirement – according to the latest estimates. If the debt level at the end of year $t + 2$ is higher than the original limit set, for example, because of deteriorating macroeconomic conditions resulting in a worse than projected mandatory

primary balance, then the excess will not be rolled on to year $t + 3$, because the level of year $t - 1$ is still the basis for comparison. However, if, based on the baseline projection, the actual primary balance is expected to be more favorable in the current year and in the four subsequent years than the required primary balance, then the difference is imputed in the Stability and Tax Reform Fund, which may be earmarked for future tax cuts.

In practice, the rule is set to require a significant primary fiscal surplus as shown by a simple simulation of the rule below. The yearly change in the debt level originates both from net borrowing requirement and stock-flow adjustments. The stock-flow adjustement mainly relates to net flows of financial assets that reflect the patrimonial policy of the government (e.g. sales of assets to buy back debt, or use of cash instead of borrowing to finance expenditure). It also reflects the valuation impact on the debt since liabilities are priced at market value, as well as the discrepancy between the accounting in accrual basis (for the fiscal balance) and in cash basis (for the debt).

Let us define D_t the outstanding level of the central government debt, PB_t the primary fiscal balance, r_t the average interest rate of debt, and SF_t the stock-flow adjustment. The debt accumulation equation is:

$$D_t = D_{t-1} + r_t \cdot D_{t-1} - PB_t + SF_t \qquad [1]$$

By dividing by GDP and writing all ratios in small letters (g_t nominal GDP growth), we obtain:

$$d_t - d_{t-1} = \frac{r_t - g_t}{1 + g_t} d_{t-1} - pb_t + sf_t \qquad [2]$$

Assuming that stock-flow adjustments are nil on average, we can derive from [2] the primary fiscal balance required to abide by the Hungarian debt rule (i.e. to keep debt constant in real terms). Noting pb_t^* the primary balance that stabilises the debt in real terms, and p_t inflation we obtain:

$$pb_t^* = \frac{r_t - p_t}{1 + g_t} d_{t-1} \qquad [3]$$

If the primary balance is equal to pb_t^*, and based on the assumption of no stock-flow adjustment (which is not true on a yearly basis), the debt will remain constant in real terms.

Using [3], we can simulate the required primary balance based on OECD projections (Table 1.1) and different hypothesis on projected growth, inflation and average debt interest payments from 2012. Assuming an average interest rate of 5%, a real growth of 2% and an inflation of 3%, primary surplus should reach more than 2% in the years following 2011 and will slowly decrease to 1½ per cent by 2030. Assuming higher growth and inflation (respectively 3% and 4%), the required surplus would still be around 1% up to 2030. In both scenarios, the debt ratio will progressively decrease to below 60% of GDP by 2030.

ANNEX 2.A2

Measuring the efficiency of Hungary's public administration

Data Envelopment Analysis (DEA) provides a means of measuring "efficient" outcomes of the public administration using monetary inputs. The method uses linear programming techniques to construct a frontier from the most efficient observations, which "envelop" the less efficient ones (see Figure 2.A2.1). Points on the frontier represent the technically most efficient use of inputs in generating each level of output, under an assumption of variable returns to scale. Thus, a government operating at a point such as D could either: *i)* raise output considerably without any additional inputs (*i.e.* move from D to E); or *ii)* provide the same level of output with fewer inputs (*i.e.* a move from D to A).

Figure 2.A2.1. **Efficiency frontiers**

Variable returns to scale
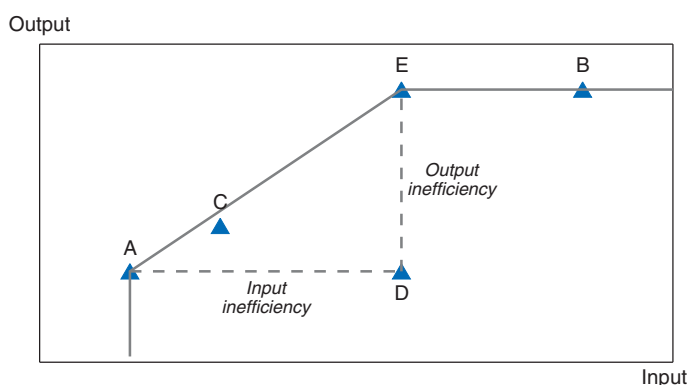
The method distinguishes between input and output efficiency, and technical and allocative efficiency. The purpose of an input-oriented example is to study how much input quantities can be reduced without changing the output quantities produced. With an output-oriented example, the aim is to assess how much output could be increased without changing the input quantities used. The two methods provide the same results under constant returns to scale but give different values under variable returns to scale (Afonso *et al.*, 2006). As Hungary needs fiscal consolidation in order to restore the confidence in the economy, the input-orientation is reported, assuming variable returns to scale technology. While the DEA analysis provides a neat summary measure of efficiency

of spending, it has a number of drawbacks that have to be addressed in its practical implementation (Sutherland *et al.,* 2007):

● *Sensitivity to outliers and small samples.* A country that has an atypical combination of inputs and outputs is likely to be classified as efficient because there are no appropriate comparator countries in the sample. If the sample is small, the efficiency level is likely to be overestimated because the most efficient country is likely to be excluded from the sample. The sample in this survey did not give reason to exclude countries due to atypical combinations of inputs and outputs or particularly high efficiency score.

● *Composite indicators.* Composite indicators can be used to summarise complex and multidimensional issues. Aggregation methods may have a non-negligible impact on results. An undesirable feature of additive aggregation is the implied compensability – poor performance in some indicators can be compensated by sufficiently high values for other indicators. A consensus has gradually emerged that equal weights have key advantages over other weighting schemes when building composite indicators. For example, equal weights are more transparent and provide a weighting scheme that is insensitive to change in period and country coverage. Thus, equal weights are applied in the composite indicator for public administration.

Measuring outcome or output in the public sector is difficult, however. In turn, estimating an efficiency frontier requires the use of proxy variables or indicators. Partly following an approach used by Afonso *et al.* (2006), an indicator of public administration outcome is constructed from international surveys on the quality of justice and the level of corruption in OECD countries, both taken from the *Competitiveness Report* of the World Economic Forum (WEF, 2008), and the level of bureaucracy in the economy as measured by the OECD's Product Market Regulation (PMR) Indicator. An alternative proxy for outcome is the World Bank's Government Effectiveness Indicator (Kaufmann *et al.*, 2009), which is restricted to measuring the competence of bureaucracy (*i.e.* bureaucratic delays, administrative and technical skills of civil servants, etc.), but incorporates neither corruption nor quality of justice (the indicators are shown in Table 2.1). These variables can serve as proxies or indicators of outcome because both affect the well functioning of the economy and, therefore, the efficiency of public administration. *First*, corruption in the public sector distorts allocation of public funds by diverting public investment into projects launched thanks to bribes rather than favourable cost-benefit analysis. Corruption may also lower compliance with construction, environmental or other regulations, and affects the private sector through increased costs of doing business in several ways as the payment itself, negotiation costs and the risk of breached agreements or detection. *Second*, several empirical studies have shown a negative relationship between the level of regulations or bureaucracy and economic growth (OECD, 2009). *Third*, public administration plays an important role in ensuring the quality of the justice system, and therefore also the protection of property rights and enforcement of the rule of law.

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ANNEX 2.A3

Key recent parametric changes to public pension systems

	1997-2006 system	Changes 2006-08	2009 parametric changes
Law	Act LXXXI of 1997	Act CVI of 2006	Act XL of 2009
Full regular retirement pension	Age 62. Age 55 – women born before 1940. Age 55-61 – women born 1941-46. Age 60 – men born before 1938. Age 61 – men born in 1938.	. .	The retirement age will be increased from 62 to 65 by 6 months each year. For those born before end 1951, it will still be age 62, but then increases proportionately (*e.g.* age 62.5 for those born in 1952, 63 for those born in 1953, up to age 65 for those born in or after 1957).
	Minimum contribution period 20 years (10 years for women turning 55 before 1991 or men turning 60).	. .	Minimum contribution period 20 years.
Non-full regular retirement pension	Age 62.	. .	Age 62 increasing to 65 at the same pace as the full regular retirement pension.
	Minimum contribution period 15 years for those reaching the retirement age between June 1993 and 2009. (Minimum contribution period of 10 years for women turning 55 or men turning 60 between 1991 and June 1993).	. .	Minimum contribution period 15 years.
Advanced retirement pension (with full pension benefit)	Minimum age 55 for women and 60 for men.	Age 57 for women and 60 for men. In 2009-12 – age 59 for women and 60 for men. In 2013 – age 60.	Up to 31 December 2012 – age 60 for men (born in 1950) and age 59 for women (born in 1952-53). From 2013 (2011 for men) – only reduced advanced retirement pension available.
	Minimum contribution period from 34 years for women born before 1943 up to 38 years for women born in or after 1946. Minimum contribution period of 37 years for men born in or before 1939, 38 years thereafter.	Minimum contribution period 38 years, 40 years in 2008-12. From 2013 at least 41 years of contribution for full pension benefit. *November 2007 amendment:* only reduced advanced pension benefit available from 2013.	Up to 31 December 2012 – minimum contribution period 40 years.
Work or pension	. .	*2007 Reform:* persons entering early retirement will be allowed to take up regular employment with earnings above the minimum wage only if they simultaneously suspend their pensioner status. The new rule is applicable to persons retiring after 1 January 2008 and will be extended to all persons in early retirement from 2010.	

	1997-2006 system	Changes 2006-08	2009 parametric changes
Reduced advanced retirement pension	. .	Minimum age 59 in 2009-12, increasing to age 60 thereafter.	Up to 31 December 2012 – age 60 for men (born in 1950) and age 59 for women (born in 1952-53). From 2013 (2011 for men) – only reduced advanced pension will be acquirable. For men born after 1950 and women born after 1958 it can be obtained 2 years before retirement age for full pension. Age 60.5 for women born in 1954, age 61 for women born in 1955, increasing by 6 months for every year up till 1958 (3 years before the retirement age for full pension). Age 60 for men born in 1952-53, age 60.5 for men born in 1954. Until 2021 the advanced retirement age will increase to a uniform age 63.
	Contribution period can be a maximum of 5 years below the required years for advanced retirement pension. The decrease is 0.1% monthly for minus 1 year up to 0.5% for minus 5 years.	Minimum contribution period 40 years for 2009-12, 41 years thereafter (minimum 37 years). From 2013 modification of the *malus* rules governing the reduction of old age pension in the case of early retirement. Rate of reduction, depending on the time remaining until retirement age, would be 0.1% per month if minus 1 year up to 0.4% per month if minus 4 years. *November 2007 amendment:* from 2013 the rate of reduction, depending on the time remaining until retirement age, would be 0.3% per month for age 61-62 and 0.4% per month below age 61.	Minimum contribution period 37 years up to 31 December 2012. Monthly reduction: 0.1% for minus 1 year, 0.2% for minus 2 years and 0.3% for minus 3 years. Same minimum contribution period from 2013 (2011 for men) but reduction will be irrespective of contribution years: 0.3% monthly if 1 year is missing from the retirement age (3.6%), 3.6% + 0.4% monthly if more than one year is missing. Maximum reduction 8.4%, so for those with 3 years advance it is still 8.4%. Minimum contribution period 42 years for men born in 1952-54 retiring at age 60.
Disability	. .	Reformed 1 January 2008. In June 2007, Parliament adopted the Act on rehabilitation benefit, which also provides for the reform of the disability pension system (the rehabilitation benefit will be separated from the disability pension). From 2008, persons who have a good chance of returning to the labour market (based on their health) will be eligible for the rehabilitation benefit rather than the disability pension. The benefit will be payable for a given period as its primary objective is the re-integration of persons with altered working ability into the labour market (rehabilitation services will also play a part in achieving that goal). The National Rehabilitation and Social Expert Institute will be responsible for examining health status, assessing working capacity and the potential for rehabilitation, and it will provide personalised rehabilitation advice to assist labour market reintegration. The Public Employment Service will expand its active employment services (job seeking assistance, incentives for taking up employment, etc.) to recipients of the disability benefit.	
Indexation	Swiss pension indexation, *i.e.* 50% consumer price index (CPI) – 50% net average wage growth.	. .	From 2010 based on GDP growth: < 3%: CPI. 3% < 4%: 80% CPI, 20% net average wage growth. 4% < 5%: 60% CPI, 40% net average wage growth. 5% ≤: Swiss.

	1997-2006 system	Changes 2006-08	2009 parametric changes
13th month pension	50% in 2004, 75% in 2005, 100% from 2006. Paid in two instalments and amounts to given year November pension. In 2008, the benefit was capped at HUF 80 000.	. .	Abolished from July 2009. If GDP growth is above 3.5% a pension premium will be provided, amounting to the minimum of either 0.25 * November pension or HUF 20 000, multiplied by the minimum of either GDP growth −3.5 or 4, *e.g.* the maximum with 7.5% GDP growth would be 4 * 20 000 = HUF 80 000.
Valorisation	. .	From 2008, for income earned in previous years, full valorisation (instead of the current partial valorisation) will be applicable in pension calculation (to the level of the year directly preceding retirement). Also calculated tax will be deducted from earnings reduced by the contributions payable by the individual. As a combined effect, the replacement ratio of initial old-age pensions may decline from 85% to around 80%.	. .
Bonus	. .	0.5% monthly, 6% per extra year worked.	. .

Source: Hungarian authorities.

ANNEX 2.A4

Revenue effects of tax proposals

Cash basis, billion HUF

	2009	2010
Labour taxes and contributions	**−127**	**−478**
Labour taxes and contributions payable by employers	**−81**	**−309**
Reduction of social security contributions payable by employers: as from 1 July 2009 a 5% points reduction up to the twice of minimum wage; as from 2010 a general 5% points reduction (3% points from the social security contributions)	−81	−302
Abolition of the lump sum health contribution	. .	−60
Health-care contribution increases from 11% to 27%	. .	18
Increase of rehabilitation contribution (5 times higher), as from 2010 (net effect on general government level)	. .	35
Measures concerning employers, but actually affecting employees' income	**0**	**110**
Some of the tax-free benefits become taxable, as from 2010	. .	110
Taxes payable by private individuals (employees)	**−46**	**−279**
Abolition of solidarity tax payable by private individuals, as from 1 January 2010	0	−29
Personal income tax bracket, wage tax credit		
As from January 2009, (retroactively) the tax bracket increases to HUF 1.9 million, without changes in the wage tax credit and tax rates	−46	. .
The personal income tax base is calculated with the new contribution rate, the tax rates are 17% up to HUF 5 million, 32% beyond. The wage tax credit is 17%, the maximum amount is HUF 15 100 per month, it is applicable up to HUF 3 188, phased out with 12%	. .	−253
Abolition of personal income tax deductions (except the family one), as from 2010 (as from 2011 it results in an additional HUF 43 billion in revenue)	. .	3
Capital taxes	**−2**	**21**
Abolition of solidarity tax payable by corporations, as from 2010	. .	−180
Broadening the corporate income tax base (tax credits related to investments remain unchanged), as from 2010	. .	65
Elimination of tax reduction on intra-group interest difference	. .	25
Corporate income tax rate increase to 19%, as from 2010	. .	97
Tax rate of the simplified business tax increase from 25% to 30%	. .	18
New tax measures on income and assets related to offshore tax regimes	. .	5
1.5% point reduction of entrepreneurial contribution, as from 1 July 2009	−2	−5
Financial enterprises are treated as credit institutions irrespective of prudential regulations	. .	−4
Local business tax	**0**	**−2**
Research and development allowance in the local business tax	. .	−2
Consumption taxes	**171**	**438**
As from 1 July 2009, the general VAT rate is increasing by 5% points. Preferential tax rate: 18% for milk, dairy products, bread, bakery products and district heating (until January 2010)	157	358
District heating under 5% VAT rate from January 2010	. .	−18
Commercial accommodation from this summer will fall under the preferential 18%	−2	−8
Excises are increasing, as from 1 July 2009	16	40
Excises are increasing, as from 1 January 2010	. .	48
Taxes on wealth	**. .**	**58**
Tax on wealth	. .	50
Increase of the taxes on cars	. .	8
Duty	**0**	**−10**
Simplification, general decrease (from 10% to 4%, in case of real estate from 6% to 4%)	. .	−10
Tax increase	**173**	**880**
Tax cut	**−131**	**−871**
Total effect	**42**	**9**

Source: Ministry of Finance.

Chapter 3

Enhancing financial stability through better regulation

The global crisis exposed weaknesses in the Hungarian financial system that pose risks to financial stability. Excessive risk-taking by banks and households had been masked by relatively stable exchange rates, the expected early adoption of the euro and unusually lax credit conditions in international markets. With credit becoming scarcer and dearer, the domestic economy was hit through multiple channels. The steep depreciation of the forint boosted households' debt burden, while banks were hit by the drying up of liquidity, including in swap markets for Swiss francs. A major lesson learnt from the crisis is that the approach to household lending needs to change: a stronger protection for borrowers should be combined with a tighter regulation of lenders. Enhancing competition in the banking market would also impose discipline on lending behaviour. Financial supervision should be strengthened by enhancing the powers of the financial supervisor to avoid abusive practices and excessive risk taking. A better early-warning system needs to be created for the monitoring and assessment of systemic risks, in which a more formal Financial Stability Council should play a prominent role.

The global crisis exposed weaknesses of the Hungarian financial system

The global downturn combined with a high-risk perception of Hungary triggered a domestic crisis hitting all sectors of the economy. The drying up of liquidity in international markets raised financing costs significantly and caused refinancing difficulties for banks. Reduced liquidity in foreign exchange swap markets aggravated the situation, as many banks have substantial foreign currency net assets, which caused temporary difficulties in hedging open positions. Households, highly indebted in foreign currency, have experienced the adverse effects of currency depreciation in the form of escalating debt service requirements. Given the prominent role of household lending in the crisis, this chapter will focus on the drivers of the household lending boom and its circumstances, including regulatory stances and lending practices and their consequences. The chapter will also provide suggestions as to how to enhance financial stability and make market players assume the costs of their risk taking.

Many households borrowed beyond their means and in foreign currency

The availability of relatively cheaper funds and the relaxation of lending practice in the few years preceding the crisis led to rapid credit growth and as a result also to lending to subprime borrowers. Thus the deterioration of household credit quality in Hungary had its origins in household borrowing, which was for many beyond repayment ability and excessive risk taking coupled with the failure of authorities to restrain such behaviour. Barrell *et al.* (2009) show evidence of excessive debt growth in some economies including Hungary, where household debt kept increasing despite moderating house prices. This is largely due to the withdrawal of housing wealth with the purpose of smoothing consumption. Barrell *et al.* (2009) also show that debt is a superior good as indebtedness rises with higher per capita incomes. It also rises with real house prices and declines with real interest rate increases. They further find that the debt-to-income ratio in the new EU member states has largely evolved in line with their fundamentals – *i.e.* GDP per capita, the real interest rate and house prices. That is, the rapid growth in indebtedness is mostly explained by rising incomes, falling real interest rates and strengthening house prices. An earlier study (Kiss, 2006) did not detect excessive lending to the household sector between 1995 and 2005. Égert *et al.* (2006) and Zumer *et al.* (2009) show that credit levels have reached their equilibrium levels in Hungary, though these studies do not distinguish between corporate and household debt.

In contrast to many other countries with rising household debt, in Hungary no bubble was observed in house prices (Figure 3.1, panel A); house prices have not been moving out of line with household income (Figure 3.1, panel B). Consequently, the mortgage loan boom was not fuelled by expectations of rising house prices as in some other countries and the average loan-to-value ratio in Hungary was well below 100%. The pent-up demand for mortgage loans was instead a result of the low initial level of household indebtedness, rapid accumulation of housing wealth that can be easily withdrawn and the introduction

Figure 3.1. **Housing price developments do not show clear sign of a bubble**
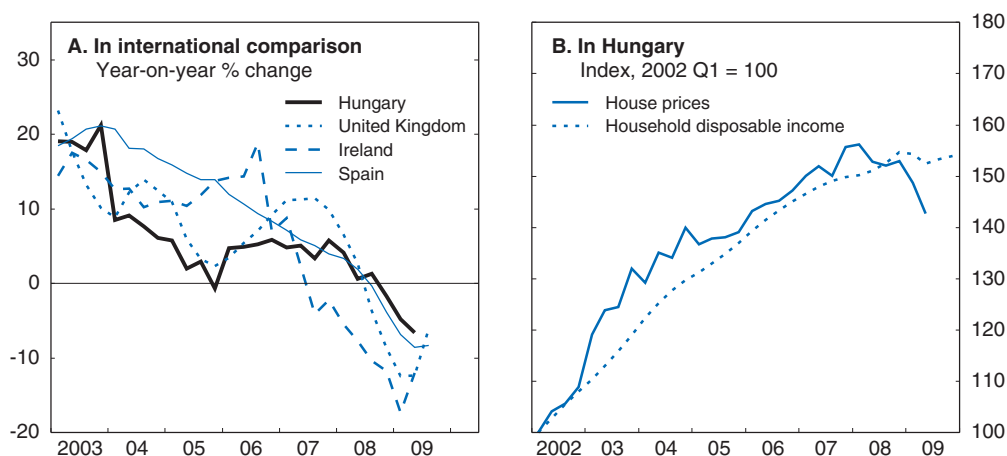
Source: Földhitel és Jelzálogbank; Girouard, N. *et al.* (2006), "Recent House Price Developments: The Role of Fundamentals", *OECD Economics Department Working Papers*, No. 475; and OECD (2009), *OECD Economic Outlook: Statistics and Projections* (database), October.

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of relatively cheap foreign currency-denominated loans.[1] The new opportunity to become a home-owner under seemingly affordable conditions spurred demand for foreign currency loans and many households did not realise the risk they were facing by taking housing or mortgage-backed consumption loans in foreign currency and with variable interest rates. There were no regulations in place that would have prevented banks from letting households over-borrow in foreign currency. As a result of foreign exchange borrowing, households are exposed to exchange-rate risk and, because of their excessive borrowing relative to income, also to solvency risk.

Household debt as a percentage of GDP of nearly 40% in 2009 (Figure 3.2, panel A) may not be particularly high in an international comparison, but most of it (over 65% in mid-2009) is in foreign currency. Indebtedness relative to disposable incomes at around 60% is not high, either, in international comparison (Figure 3.2, panel B) but households are spending an increasing portion of their incomes on servicing debt with the average reaching 13% in the first quarter of 2009 (Figure 3.2, panel C). Aggregate data on the breakdown of debt to examine the burden of servicing mortgage debt is not available, but household survey data[2] show that in 2007, households with mortgage loans spent over 13% of their net annual income on servicing the debt. With the depreciation of the currency and deteriorating earnings outcomes in 2009, this figure should be substantially higher, some estimates put it at 20%. This high ratio of debt servicing to net income is partly a result of overly optimistic expectations with regard to future incomes and the movement of forint exchange rates, and partly due to lax lending practice that put too little emphasis on borrowers' repaying ability. The global crisis has eroded the debt servicing capacity of over-borrowed households through higher costs. This reflects the scarcity of funds and the depreciation of the forint, as well as the fall in disposable incomes related in particular to job losses. Slightly above half of household debt comprises housing loans. As in the case of total household debt, residential mortgage debt as a percentage of GDP, at 15% in 2008, is also not high by developed-country standards, and is in line with the ratios of other central European transition economies (Figure 3.2, panel D).

Figure 3.2. **The household debt stock is moderate
but the debt service burden is increasing**
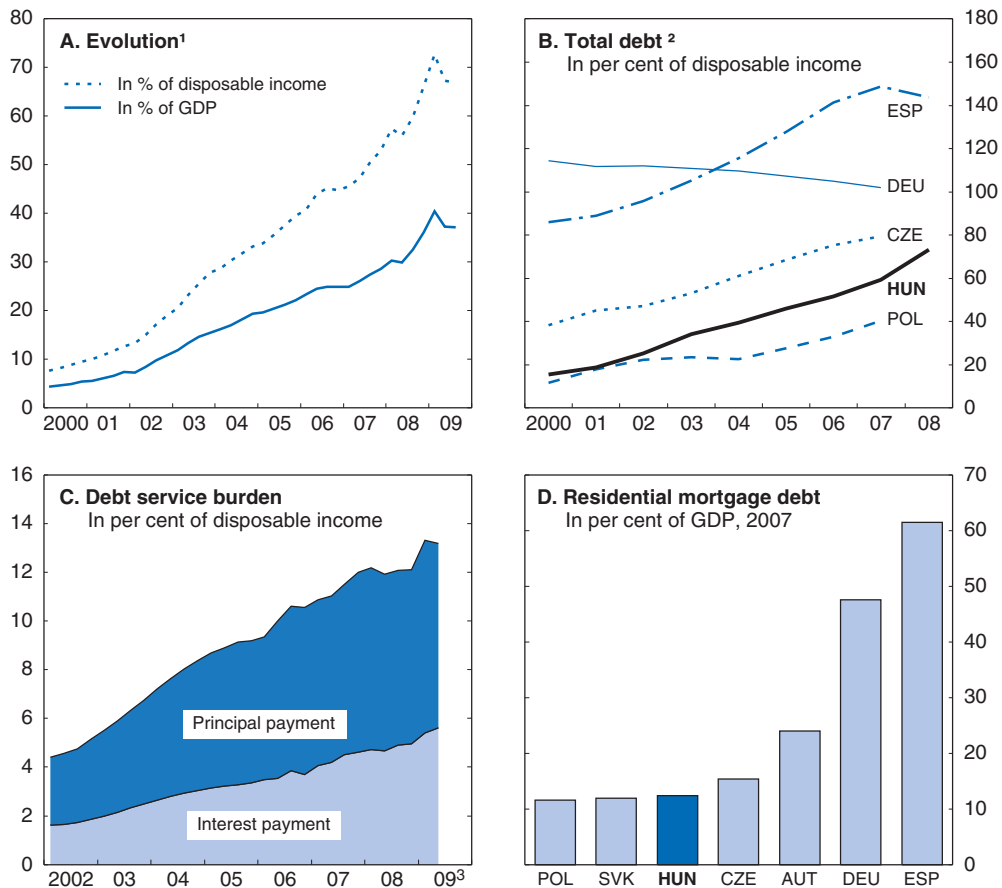
1. Housing, consumer and other loans from other monetary institutions and financial intermediaries, in local and foreign currency.
2. Total liabilities of the household sector including non-profit institutions serving households, non-consolidated stock.
3. Preliminary data.

Source: MNB (2008), *Financial Stability Report – November* and MNB (2009), "Financial Accounts", *Statistical Time Series*, Magyar Nemzeti Bank, December; OECD (2009), *OECD Economic Outlook: Statistics and Projections* and *OECD National Accounts Statistics* (databases), December; EMF (2009), *Quarterly Review of European Mortgage Markets – Q1 2009*, European Mortgage Federation; and Eurostat (2009), "Economy and Finance", *Eurostat database*, September.

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Foreign exchange loans remain competitive vis-à-vis forint-denominated ones, even with subsidies

By 2009, the share of foreign currency borrowing in total household borrowing (including housing and consumption loans) reached nearly 60%, equivalent of nearly 35% of annual household disposable income (Figure 3.3, panel A). At such a high level, even a 10-20% depreciation of the currency can have a sizeable adverse impact on household spending. The proliferation of foreign-currency loans in Hungary is to a large extent related to high domestic interest rates, stable exchange rates, overly optimistic expectations with regard to convergence and euro adoption and to the tightening of conditions for housing loan subsidies as of 2004 (Box 3.1), in addition to the funding gap, *i.e.* the extent to which banks finance their loans from wholesale borrowing as opposed to deposit taking (which is discussed in the section on banks). Interest rates on loans – both for housing and for

Figure 3.3. **Increasing foreign currency borrowing implies heavier burden for households**

A. The foreign currency debt burden is increasing[1]
- In % of disposable income
- In % of total loans

B. Housing loans in foreign currency are soaring[2]
Billion HUF

Other
Foreign currency
Subsidised
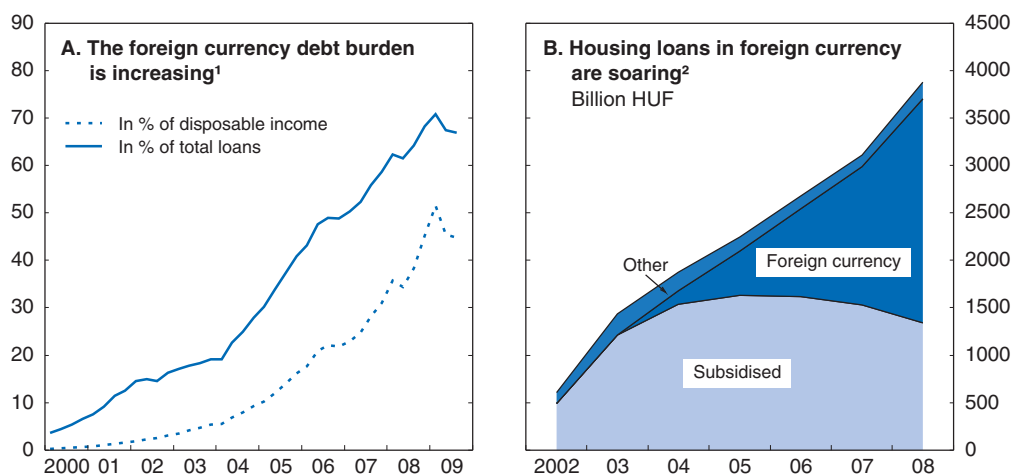
1. Foreign currency loans for housing, consumption and other purposes from other monetary institutions, financial intermediaries and rest of the world. Disposable income is estimated from 2008 onwards. Preliminary loan data for the second quarter of 2009.
2. Stock of housing credits.

Source: MNB (2009), "Financial Accounts", *Statistical Time Series*, Magyar Nemzeti Bank, December; HCSO (2009), "Dwellings, public utilities", *Stadat Tables*, Hungarian Central Statistical Office, December; and OECD (2009), *OECD Economic Outlook: Statistics and Projections* (database), December.

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Box 3.1. **The housing loan subsidy programme**

The state subsidy programme for housing loans started in 2000 with the purpose to improve the quality and increase the size of the housing stock but without any specific figures with regards to the resources to be used and the objectives to be attained (Állami Számvevöszék, 2009). In the absence of such basic parameters, it is difficult to judge how efficiently the HUF 1.5 trillion was used over the period 2000-08. It is also hard to figure out how large a percentage of the increase of the housing stock of 240 000 during the period was related to home-loan subsidies (the number of approved subsidised home loans was 404 000 during this period). In any case, the programme imposed a sizeable burden on the budget: interest subsidies reached 0.7% of GDP in 2008, a large increase from the 0.1% of GDP in 2000.

Regulations governing home-loan subsidies were modified 25 times during 2000-08, largely reducing the predictability of the programme. The modifications concerned beneficiaries of the programme, its conditions and the types of subsidies. A major component of subsidies was the interest subsidy provided through the financial institution issuing mortgage bonds and exclusively for funding through mortgage bond issuance. An additional interest subsidy was made available for couples or people raising children to build or buy new apartments. In 2003 conditions were tightened and the extent of interest subsidy was tied to the reference treasury bond yield. Owing to this benchmarking, interest to be paid became higher than that for foreign-currency loans (not accounting for exchange rate risk) from 2004, and thus the home-loan subsidy programme lost its attractiveness. The other major modification is the introduction of the homeowner programme (so-called *Fészekrakó*) for lower-income earners in 2005 that substantially lowered the down-payment ratio (to 10%). In addition, the government offered guarantees of up to 40% of the loan. While originally planned for young people without savings but

> ### Box 3.1. **The housing loan subsidy programme** (*cont.*)
>
> with future earning potential, the programme in fact attracted many poor people without any savings or even income. By faking income certificates, such people became home owners, thereby initiating one of the largest scandals related to housing subsidies in Miskolc, the third largest city of Hungary. Another anecdotal evidence of the misuse of housing subsidies is the scene of house structures without windows and doors, which were recycled for several "new" homes. In addition to interest subsidies, a lump-sum cash grant for first-time home ownership has also stimulated housing demand.
>
> The housing subsidy programme resulted in several adverse consequences: *i)* on the supply side, it led to market distortions; *ii)* on the demand side it encouraged over-borrowing and moral hazard; and *iii)* the high level of home ownership as a result of subsidies has hampered the development of a rental market. By linking interest subsidies to mortgage bond funding, mortgage banks and their related commercial banks were granted privileges in the lending market that severely hurt competition. Interest subsidies had a maximum lifetime of 20 years and a maximum mortgage loan size and rate. Nevertheless, in addition to encouraging borrowing up to the ceiling, they implied long-term commitments for the budget. In particular, the costs of guarantees initially reside off balance, but by increasing defaults they may become actual expenditure. The reduction of down-payments, and allowing the child subsidies to be used to service debt, increased moral hazard as people incur only limited costs in case of default. In a country like Hungary, where labour mobility is very low, high home ownership rates further impede the development of a rental market.

consumption purposes – denominated in major foreign currencies have remained well below those on forint-based loans (Figure 3.4), thereby attracting an increasing number of borrowers. After their emergence in 2003, foreign currency loans have been effectively crowding out not only common forint loans but even subsidised ones. This resulted in a ten-fold increase in outstanding foreign currency loans between 2004-07 reaching the size of subsidised housing loans by 2007 (Figure 3.3, panel B). The winding back of home-loan

Figure 3.4. **Foreign currency borrowing is a cheap alternative to paying high interest rates on forint loans**[1]

Per cent
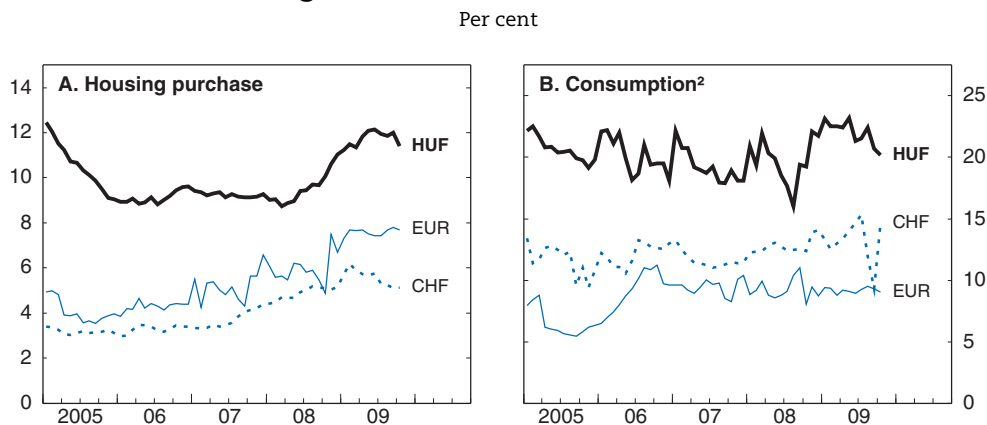
1. Loans with floating interest rates or with up to one year initial rate fixation.
2. Personal loans for Swiss francs.

Source: MNB (2009), "Monetary and Capital Markets", *Statistical Time Series*, Magyar Nemzeti Bank, December.

StatLink ⟶ *http://dx.doi.org/10.1787/786022644315*

subsidies (that only apply to forint mortgages) at the end of 2003 increased the spread between effective nominal interest rates on subsidised forint loans and interest rates on foreign currency loans. This change in policy thus spurred the introduction of foreign exchange loans as a new product to meet the still large appetite for housing loans.

Borrowing in foreign currency seems a cheap alternative to loans in domestic currency, but the exchange rate risk is significant at high levels of unhedged borrowing. The experience of emerging Latin-American and some industrialised European countries suggests that "dollarisation" or "euroisation" may lead to painful balance sheet effects in case of a sharp depreciation of the domestic currency. Notwithstanding such lessons, several European emerging economies, similarly cursed by the "original sin" of no access to borrowing in their own currency (Eichengreen and Hausmann, 1999), have borrowed heavily in euros and Swiss francs in the past decade or so.

In addition to the interest differential, Rosenberg and Tirpák (2008) empirically confirm the importance of low domestic deposits relative to demand for loans in driving foreign currency borrowing. Backé and Wójcik (2007) emphasise the consumption smoothing purpose of borrowing partially funded by foreign funds during transition. Further, Rosenberg and Tirpák (2008) show that it is irrelevant from the point of view of demand for foreign exchange loans, whether they are channelled through domestic banks borrowing abroad or foreign subsidiaries borrowing from their parent banks. For Hungary most of these findings seem to apply: there is a large funding gap, thus deposits are low and loan demand needs to be financed by wholesale borrowing from abroad. Households are more apt to borrow in foreign currency if the interest rate differential is sufficiently large and perceived risks are low. Consumption smoothing was an important driver of borrowing as part of the new mortgage loans by households were taken for consumption purposes. Foreign exchange loans were extended by all major banks in Hungary irrespective of whether they are foreign owned.

The Swiss franc used to be the favoured currency

Due to the very low interest rates and the clear appreciating trend of the forint *vis-à-vis* the Swiss franc in the early 2000s, most households chose the Swiss franc as the basis for their loans (Figure 3.5). Euro-based loans were less favoured owing to somewhat higher interest rates. Interest rates on yen-based loans appeared to be even more attractive, resulting in a short boom in yen-based loans that was halted as a result of the recommendation by the regulator not to extend further loans in that currency due to its high volatility. As banks applied a higher down-payment requirement to yen-based loans that was affordable only for the more well-to-do, customers borrowing in this currency appear to be the most reliable according to banks. This approach was reinforced by the sharp appreciation of the yen against the forint in the second half of 2008.

Figure 3.5. **Most foreign currency loans have been denominated in Swiss francs**[1]

Stock of total household loans, million HUF
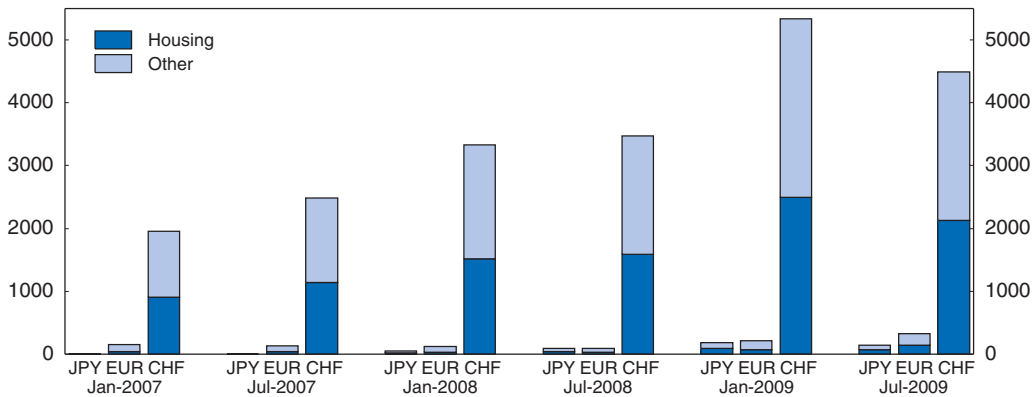
1. Euro includes other currencies.
Source: Magyar Nemzeti Bank.

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Banks have so far been weathering the crisis relatively well

The major adverse effect of the global crisis is related to the drying up of funds in international markets as the Hungarian banking sector is not exposed to toxic assets or in general structured instruments, owing to relatively conservative asset management policies of banks and robust lending in the past years. The deterioration of economic conditions in the country increased defaults by corporate and household borrowers, cutting into banks' profits. After several years of robust growth in profits in the banking sector, profitability has been declining since 2007 and 2009 is expected to be gloomier, though the first and second quarter results are still unusually good for many banks, only one big bank out of ten experienced deteriorating performance. As most of bank profits stem from household lending (with higher interest margins than for firms), notwithstanding difficulties households face in their debt servicing, the highest profits have been registered by the largest retail lenders. In particular, the biggest bank, OTP (Országos Takarékpénztár), which in terms of assets has about a 20% market share, registered half of the sector's profit.

Only three banks needed government support due to crisis-related difficulties. The Hungarian development bank (Magyar Fejlesztési Bank, MFB) got a HUF 170 billion loan, a part of which was forwarded to the Export-Import Bank and the remaining part was used to finance or refinance corporate loans. OTP Bank and Földhitel és Jelzálogbank (FHB) have also been provided with government loans of HUF 400 billion and HUF 120 billion, respectively. These loans were extended by the government on an unsubsidised basis, with the explicit aim of fostering lending to non-financial enterprises by the beneficiary banks. OTP committed to increase its corporate loan portfolio, while FHB committed to not decrease its total portfolio. FHB also got a capital injection of HUF 30 billion, increasing the government share to over 43% in the bank and giving it a preferential share. All banks are adequately capitalised so that, without the immediate need for write-offs, capitalisation will not be an issue in the very near term. According to stress tests, mortgage lending will not be a big risk factor. Even under an extreme scenario, where GDP would fall by 10% and the forint depreciate to HUF 340 to the euro, non-performing loans would only increase to 6% of the mortgage loan portfolio of end-2008 (Holló, 2009). However, banks may face an increasing flow of non-performing loans in their corporate lending portfolios, boosting

their need for fresh capital. Most foreign banks committed not to withdraw funds from the Hungarian market, but with the unfolding of the crisis some of the subsidiaries of foreign banks are shrinking their lending in Hungary in an attempt to repair their worldwide balance sheets. There is some evidence that competition for deposits is increasing as banks seek to reduce reliance on foreign borrowing.

Maturity mismatches have been mitigated by reliance on mortgage bonds

Maturity mismatches arising from the long-term nature of housing loans and relatively short terms of deposits on the liability side have been mitigated by increased reliance on long-term mortgage bonds. Commercial banks, by law, cannot issue mortgage bonds, but can refinance their mortgage loans with specialised mortgage banks. Conversely, mortgage banks cannot collect deposits but can finance their own mortgage lending or refinance commercial banks' mortgage loans by issuing mortgage bonds. As of end-2007, mortgage banks held 38% of residential mortgage loans, while commercial banks held 57% and savings co-operatives 5% (EMF, 2008). Securitisation through mortgage bonds is considered a relatively safe way owing to the direct lien to the underlying assets that makes it attractive to risk-avert investors. Mortgage bond refinancing also gained importance due to the decreasing ability of commercial banks to finance their lending from deposits. The major risk related to securatisation through mortgage bonds is a lack of liquidity in mortgage bond markets, as was the case in early 2009.

With a lack of sufficient deposits, the banking sector increasingly financed its lending from wholesale funds. The loan-to-deposit ratio of banks reached an average of around 1.6 in 2008 from a ratio below 1 in 2002 (Figure 3.6), though it declined sharply thereafter as a result of plummeting lending activities. The increase in the foreign exchange loan-to-deposit ratio to over 4 from a similarly low ratio in 2001 has been even more dramatic. An additional boost to the mortgage bond market was the tying of interest subsidies on housing loans to mortgage bond financing. The exclusive rights of mortgage banks to issue mortgage bonds thus granted advantages to commercial banks that have their own mortgage bank (Box 3.2).

Figure 3.6. **Deposits have to a decreasing extent been matching soaring loan demand**[1]

Loan/deposit ratio
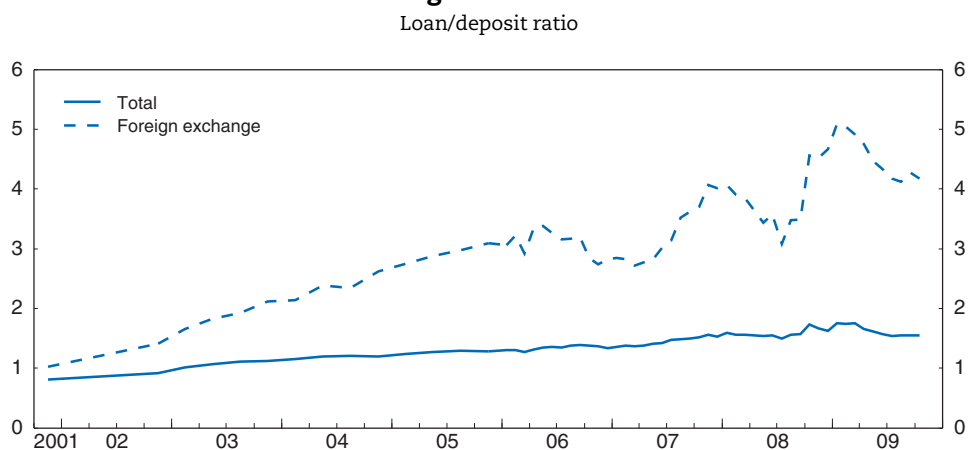
1. Credit institutions operating as joint stock companies.

Source: HFSA (2009), *Credit Institutions' Data*, Hungarian Financial Supervisory Authority, December.

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Box 3.2. **Mortgage banks and mortgage bonds in Hungary**

Hungary applies the specialist bank principle, *i.e.* the roles and rights of commercial and other special banks such as mortgage banks are distinct. Mortgage banks are subject to strict control and supervision but have access to special privileges. The most important privilege is the access to the state interest subsidy, which is linked to mortgage bond financing. Mortgage banks have legally anchored preferential rights to the property in case of default, enjoy an accelerated land registration process and can access the central property database. They have, however, strict restrictions on their portfolios: the maximum loan-to-value ratio is 70% for the total loan portfolio and at least 80% of loans outstanding must have a maturity of minimum five years. If they buy mortgage loans from commercial banks, those loans must not be substandard (this must be confirmed by an auditor). In addition, the credit risk remains with the originating bank and in case of bankruptcy of the originating bank, the mortgage loans are repaid to the mortgage bank.

There are three mortgage banks, two (OTP Jelzálogbank and Unicredit Jelzálogbank) are owned by commercial banks, and the third (Földhitel és Jelzálogbank, FHB) was set up by the government for mortgage financing. OTP Jelzálogbank refinances only its parent bank's mortgage loans, while the other two mortgage banks also buy mortgage loans from other commercial banks. The FHB was the first mortgage bank in 2001 that worked out the refinancing conditions based on the purchase of independent lien, which enabled the bank to sign contracts with the major commercial banks in Hungary. Thanks to these agreements there are more than 800 banking outlets, where the preferential mortgage loan products became available. Beside traditional housing loans, the range of products offered by the bank was broadened in 2001 by the extension of mortgage loans for real estate purchases, loan replacement and general-purpose mortgage loans. With the establishment of OTP Jelzálogbank, the market share of FHB shrank to 25-30%, while that of OTP Jelzálogbank rose to nearly two-thirds. Unicredit Jelzálogbank's share is relatively small. In an international comparison, the stock of residential mortgage loans is relatively low, but the size of the covered (mortgage) bond market is significant (Figure 3.7).

Figure 3.7. **Residential loans and mortgage bonds**
Outstanding loans and bonds, in per cent of GDP[1]
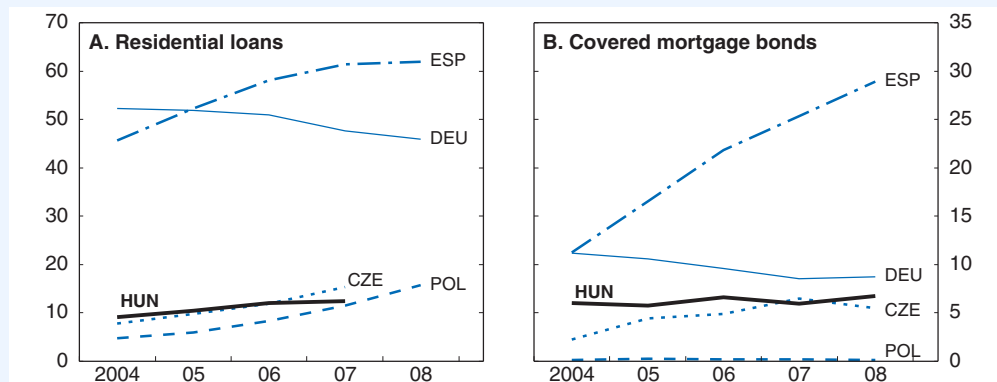
1. Provisional data for 2008.

Source: European Mortgage Federation; European Covered Bond Council and Eurostat (2009), "Economy and Finance", *Eurostat database*, December.

StatLink ⟨⟩ *http://dx.doi.org/10.1787/786162641214*

With the significant shrinking of the home-loan subsidy programme in a number of steps since 2004, the playing field is expected to become more even.

Negligible interest and exchange rate risk and limited credit risk

The legal and institutional arrangements prevailing in the past years offered little protection to households and allowed banks to pass off a large part of the risk of their loans. Most loans, in particular long-term loans, have variable interest rates. Fixed interest rates are seen only in short-term consumption or working capital lending. Moreover, instalments vary not only with official interest rates of the chosen currency for the loan and more upwards than downwards, but the fee component of regular instalments also varies in a largely unpredictable way at the time of signing the loan contract. In addition to interest rate risk, exchange rate risk is also passed on to households as most lending, at least until recently, had been in foreign currency. Foreign exchange lending increased credit risk borne by banks significantly. To hedge the exchange and interest rate risks related to financing foreign exchange lending from forint funds (as foreign exchange deposits are not sufficient for this purpose) and to generate forint liquidity for lending purposes, banks sign foreign exchange (FX) swap agreements with foreigners in need of forint liquidity to buy Hungarian government securities. FX swap transactions are also used to hedge exchange rate risk arising from the foreign currency assets matched with forint liability until the maturity of the FX swap (Mák and Páles, 2009).[3] As loans tend to be of longer maturity than swaps, banks also face a renewal risk of FX swap transactions that can be mitigated through foreign exchange liquidity provision by the parent banks. Indeed, when the FX swap market underwent functional disorders in the autumn of 2008, as a result of reduced risk tolerance and hence reduced demand for forints by international investors to buy government securities, the share of swap transactions with parents increased, contributing to enhancing financial stability. In addition, the central bank also introduced FX swap instruments to facilitate the recovery of the market. By the same token, the Hungarian central bank signed such agreements with the Swiss central bank. With the shrinking supply on the Swiss franc swap market, Swiss franc lending has virtually dried up since late 2008.

The major motivation for banks to set harsh lending conditions is to minimise credit risk. Given that there has not been a bubble forming in the housing market, sufficiently low loan-to-value (LTV) ratios would serve that purpose. Collateral values, on average, were 80% of the market value of the property. Banks applied different ratios depending on marketability such as geographical location, type and size of the property. While the LTV ratio for new loans increased with the saturation of the market, the average ratio relative to loans outstanding remained at around 65% at end-2008 (MNB, 2009).

In addition to minimising credit risk, it was important to create the legal conditions for an efficient handling of defaults, which was done by requiring the client to sign the loan contract at a notary. In Hungary, a mortgage deed is not executory by nature and signing the loan contract at a notary exempts the bank from its obligation to prove that the borrower owes it the repayment. All housing loan contracts in Hungary were signed at a notary. In the contract, the banks often reserved the right to evaluate the property and disclose it in case of default on the loan, *i.e.* without going through independent evaluation or public disclosure or without providing the borrower with sufficient time to find replacement options or sell the property. This in practice implies that the banks have no incentives to sell the property at a price above the remaining part of the loan.

In spite of all the harsh conditions, banks often did not adequately inquire about the customer's income or health and his/her age was also irrelevant when determining the conditions of the loan. This was in particular the case after the mid-2000s when loan growth was particularly strong with the gradual saturation of the market, also "subprime" borrowers were obtaining loans. The lack of interest by banks in the borrower's income is largely related to a sizeable informal economy and hence sizeable unregistered incomes in Hungary. Nevertheless, by not linking the amount of loan to monthly incomes, this allowed the grey economy to foster.

The risk of pre-payment, which hurts bank returns, is also reduced by penalising advance service of debt. Prepayment costs can reach 3-5% for consumption and housing loans. Such penalties for advance payment limit possibilities for households to refinance their loans with other banks at better terms or to prepay their debt with rising risk awareness. Capping prepayment costs at 0.5-2.5% depending on the type and the term of the loan[4] as in the recently passed law (to be effective from March 2010) is substantially higher than the originally proposed 1% for mortgage loans.[5] Nevertheless it is a welcome step as it is expected to boost competition through refinancing at better terms, while leaving ample room for banks to manage maturity mismatches. In addition to costly prepayment, most banks did not make it possible to service debt in the underlying currency of the loan contract. While for most households, servicing their loan in Swiss francs was not a choice, it could have eased repayment difficulties for some after the slide of the forint.

The possibility to pass off the risk of the loans boosted the supply of bank credit and encouraged banks to lend to households without or with little regular income. Similarly to most other countries, banks in Hungary did not factor in macroeconomic risks into their strategies. By minimising credit risk, counting on government bailout and ensuring fast debt workout for the case of default, they have, however, effectively reduced their exposure to systemic risks.

The government assumes part of the credit risk through bailout programmes

Banks not only managed to minimise most types of risks related to foreign exchange lending such as exchange rate risk or interest rate risk, but now can also pass off part of the credit risk owing to the government announcement of bailout plans for individuals with payment difficulties as a result of the crisis. The conditions of the recently accepted bailout proposal reward past profligacy by extending the programme to those who initially had up to 60% debt service-to-income ratios. The scheme originally included people that lost their jobs as a result of the crisis, but the final version also includes those who face repayment difficulties stemming from increased debt service requirement. In the present version, the borrower cannot have an initial debt service-to-income ratio of more than 40%. According to the scheme, the government guarantees the debt of borrowers who meet the above criteria and commit to service HUF 10 000 (around EUR 40) of the debt monthly for two years and the remaining part of the unpaid debt in the following eight years. These conditions appeared restrictive and the number of participants has been limited. In fact, the major reason for the very low participation in the programme (218 granted cases as of October 2009, according to the Bank Association) is the low initial ceiling of the debt service-to-income ratio at 40% at the time of taking out the loan as a condition for participation. Recent proposals would relax this condition by raising the ratio to 60%, further increasing the number of potential beneficiaries among excessive risk takers. Banks' own schemes also compete with the government programme.

Banks try to avoid foreclosures if possible, partly because mass foreclosures would drive down house prices and hence their expected revenue from selling the foreclosed properties and partly because they would then lose the client. It would also be harmful for the reputation of a bank if it became infamous for its mass foreclosures. The most common form of renegotiation of the contract is lengthening of the term, as in Hungary there is ample room for that given that the average terms are relatively short, about 15 years at end-2008. Other available options are reduced repayments or complete relief from debt servicing obligation for a determined period. As a result of joint efforts by banks and borrowers, the number of renegotiated contracts (including prepayments) reached about 50 000 in October 2009, while the number of real estate foreclosures has been under 4 000. There have been over 921 889 unsettled arrears by individuals affecting 734 535 borrowers in the list of Központi Hitelinformációs Rendszer[6] (KHR, Central Credit Information System) as of September 2009 making up almost 10% of outstanding household loans; most arrears are on consumption loans (Figure 3.8, panel A). Such loans are often unsecured cash loans and personal loans and people with several loans and payment difficulties tend to default on their credit card and consumption loans first but keep servicing their housing loans. As a result of such a tendency, and of successful renegotiations of most problematic contracts, only 5.3% of mortgage loans owed by households to banks were non-performing in September 2009. The faster increase in the number of unsettled arrears than the number of natural persons involved in 2008 suggests that the crisis hit substantially more people with multiple loans (Figure 3.8, panel B).

Figure 3.8. **Payment arrears on household loans have increased**

Thousand
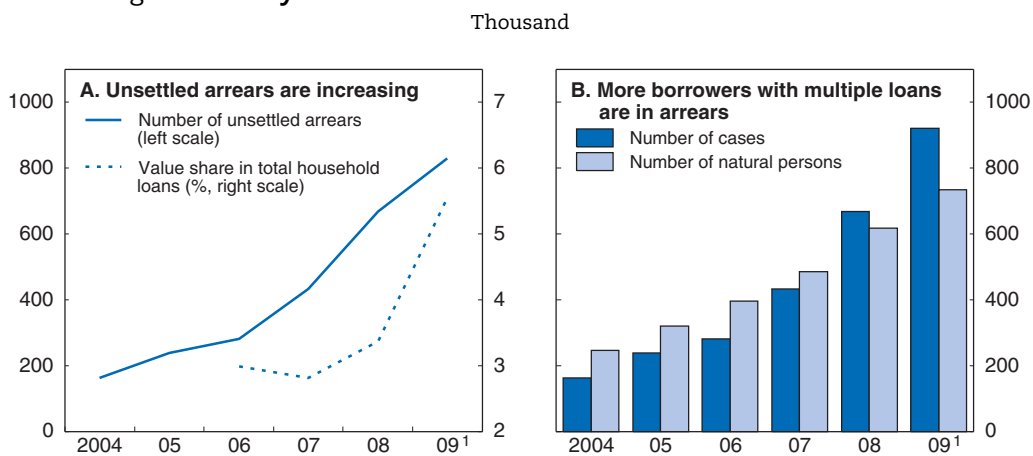
1. Data for end June panel A, end September for panel B.
Source: Hungarian Financial Supervisory Authority and BISZ Központi Hitelinformációs Zrt.

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Market structure and concentration intensity differ by segment

Concentration is very high in some market segments such as retail lending…

The Hungarian banking market does not appear to be concentrated at first sight and the market structure with over half a dozen similar-size players suggests competitive conditions. By asset size, the first five players command a share of nearly 60% with the largest player having a 20% share and the four others each having shares of close to 10%. The eight largest banks by asset size (the so-called large banks) own three-quarters of

banking assets. Twenty other banks share the remaining 25% of the market. The value of the Hirschman-Herfindahl index calculated on total assets is 1 149, far from the threshold of a highly concentrated market at 1 800.

Concentration measures in terms of total assets, however, mask the differences in market segments. Differences are large in terms of concentration between loan and deposit as well as between retail and corporate markets and their sub-segments. In retail deposits, for instance, the largest player OTP commands a market share of roughly 32%, largely owing to its country-wide branch network. Together with its mortgage bank, OTP Jelzálogbank, its share in the mortgage loan market is similar, at above 30%. OTP (combined with its mortgage bank) is also market leader in consumption loans (over 10% share) and the other loans category (over 20%) which comprises freely disposable retail loans. In contrast to the retail market, the corporate market appears to be less concentrated and OTP ranks much lower. In corporate deposits, CIB is the market leader with a share well over 10% followed by OTP, K&H, Raiffeisen, Unicredit and MKB, each with a share of slightly over 10%. CIB is also leader in corporate lending with a market share of over 15% closely followed by MKB, then Raiffeisen and K&H with 10% each. As interest margins on retail lending tend to be well above those on commercial lending, not surprisingly, concentration in profits is also significant with OTP recording 50% of after-tax profits of the entire banking sector in mid-2009.

… and competition intensity is much lower in retail markets

Due to different degrees of information asymmetries (Diamond, 1984; Rajan, 1998; and Bolton and Freixas, 2000) and other market-specific characteristics including mainly the sharp competition for the financing of large domestic companies between domestic and international credit markets, interest margins prevailing in wholesale and retail markets in Hungary are different. While interest margins on corporate loans are relatively low, the high margins on household lending in Hungary compared to other countries suggest little competitive pressure in this market (Figure 3.9). Price-cost margins are a superior measure

Figure 3.9. **Mortgage interest rates are higher in Hungary than in other countries**

Representative mortgage rates, per cent[1]
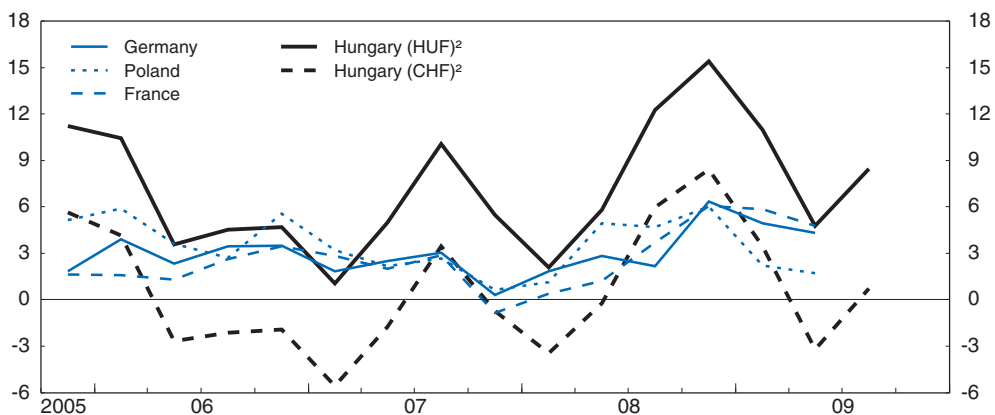
1. Nominal rates deflated by the consumer price index.
2. Average annualised percentage rate of charge of housing loans to households weighted by the amount of new business.

Source: EMF (2009), *Quarterly Review of European Mortgage Markets – Q2 2009*, European Mortgage Federation and MNB (2009), "Monetary and Capital Markets", *Statistical Time Series*, Magyar Nemzeti Bank, December.

StatLink http://dx.doi.org/10.1787/786203847558

of competition than concentration ratios as competition may stem from other sources than just the number of players, such as demanding customers. Molnár *et al.* (2007) estimate price-cost margins for different retail market segments and find that competition is low in the overdraft, higher purchase loans, personal loan, demand deposit and short-term deposit markets, while the long-term deposit market is more competitive. Stiffer competition in the long-term deposit market is not surprising given the decreasing share of lending funded by deposits. Weak price competition in retail markets is also manifest in the stickiness and lagged reaction of interest rates on consumption loans and short-term deposits to money market rates (Horváth *et al.*, 2004).

Although there is no evidence of collusion among banks to set interest rates and conditions for household loans, there are only limited signs of price competition which is manifest in a moderation of the effective net interest margin earned by banks from 4.2% in 2002 to 3.7% in 2006 and 2.6% in 2008. The virtual lack of price competition and the still substantially higher interest margins than in the EU prompted the Competition Authority to initiate an investigation in the mortgage lending market in 2005. While the investigation did not find abusive behaviour or market power, it called for strengthening consumer protection, more transparency and information about products and a clearer definition of banking fees (GVH, 2005). In addition to a larger degree of information asymmetry in the retail lending market, the lack of price competition can, to a large extent, be attributed to switching costs, which comprise direct costs such as the fees of opening and closing an account and indirect costs such as the time costs of switching. Switching costs explain a low price elasticity of retail loans, limited price competition and the persistence of profits (Dermine, 2005; Degryse and Ongena, 2008). Entry barriers in the form of costs to establish branch networks necessary for retail lending also contribute to higher margins. Cross-border competition in the retail lending market may also be limited owing to prudential regulatory differences such as repayment regimes, ceilings on loan-to-value ratios and credit risk appraisal (Dermine, 2005).

There has been some competition at the margin: Austrian banks not present in Hungary extend cross-border loans to households in the west of the country at more favourable rates. Given the higher borrowing costs that banks in Hungary face due to higher country risk, cross-border lending could potentially provide effective competition in the domestic lending market. Cross-border lending is in particular competitive in the segment of long-term lending as higher fixed costs related to contract and translation fees may make short-term borrowing less attractive. Cross-border borrowers, however, also face some inconveniences such as the need to pay the monthly instalments either in Austria or by costly bank transfers and the payment obligation is in euros. Owing to such constraints, this scheme best fits people working in Austria or at least living in the proximity of the border and earning foreign currency. These contracts are typically signed at a Hungarian notary and the lenders have access to the same procedures for redress as banks with subsidiaries/branches in the country. Geographical proximity also helps reducing information asymmetry that can be important in retail lending. Local knowledge that can reduce information asymmetry between lenders and borrowers is more important in retail lending where products tend to be more customised. Notwithstanding the unexploited interest differential, the share of cross-border household lending remains low at below 1% of outstanding household loans.

More intense competition, in particular in the retail lending market, would enhance market efficiency without necessarily endangering stability. Contrary to common

perception, there is no empirical evidence on the trade-off between competition and stability in the banking sector. Empirical studies such as Beck *et al.* (2003) find that higher concentration is positively associated with banking crisis probability while entry restrictions have a negative association. This, however, may only show that concentration may not be the best measure of competition. Claessens (2009) confirms that market-structure-based measures of competition may not be the best, though they are used widely in the literature. A review of existing literature by Claessens (2009) concludes that competition has lowered the costs of financial intermediation, spurred product differentiation and enhanced stability. Competition has been driven by making markets more open and contestable and by internationalisation of financial services.

Banks are not very efficient

A common way to compare bank efficiency with that in other countries is to estimate an efficiency frontier and calculate the distance from it. Following the methodology of Holló and Nagy (2006), such analyses show that efficiency of Hungarian banks, though increased over the past years, still lags behind not only some of the best performers such as Germany or the Netherlands, but also other CEEC countries such as Poland or the Slovak Republic (Figure 3.10, panel A). Molnár *et al.* (2010) provides details on the estimates and methodology. To obtain efficiency, first a cost function is estimated, which is assumed to take the Fourier-flexible form (see Annex 3.A1). In the analyses, the intermediation approach is applied, *i.e.* the focus of interest is how efficiently banks can intermediate deposits and other borrowed funds – using labour and capital as well as inputs and taking into account the cost of inputs – into loans, other earning assets and non-interest income.

Figure 3.10. **Bank efficiency scores**

Distance from efficiency frontier (frontier = 1), average 2004-08
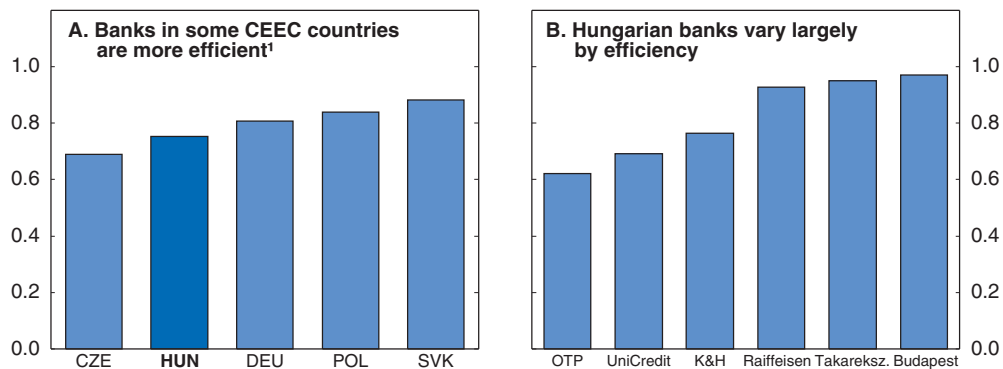
1. CEEC: Central and Eastern European countries.

Source: OECD estimation, using the Bankscope database following Holló, D. and M. Nagy (2006), "Bank Efficiency in the Enlarged European Union", *MNB Working Papers*, No. 2006/3, Magyar Nemzeti Bank, Budapest.

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The relative position of Hungarian banks improved substantially in 2004-08 compared to 1999-2003 as published in Holló and Nagy (2006). This may be related to the credit boom in Hungary in the years prior to the crisis resulting in producing more output primarily in the form of loans and non-interest income. There are large differences in efficiency across banks in Hungary (Figure 3.10, panel B) which may not be related to different ownerships.

Prudential regulation has been superior to the OECD average in some areas

Internationally used indicators would mask any prudential regulatory insufficiency as major problems in the Hungarian regulatory system lie beyond the areas covered by such indicators. The recently constructed OECD indicators on prudential regulation, for instance, suggest that regulation in most areas is at least as stringent as that of the OECD average with particularly strong requirements in accounting and provisioning (Figure 3.11). Moreover, Hungary is not among the countries with lighter regulatory stances in any of the eight areas covered by the indicator. Hungary is close to the OECD average in terms of the strength of the regulator, but within this area, political interference appears high, and on-site examinations are few as is experienced staff to conduct them.

Figure 3.11. **Prudential regulation is robust in most areas**

Strength of financial stability oriented regulation[1]
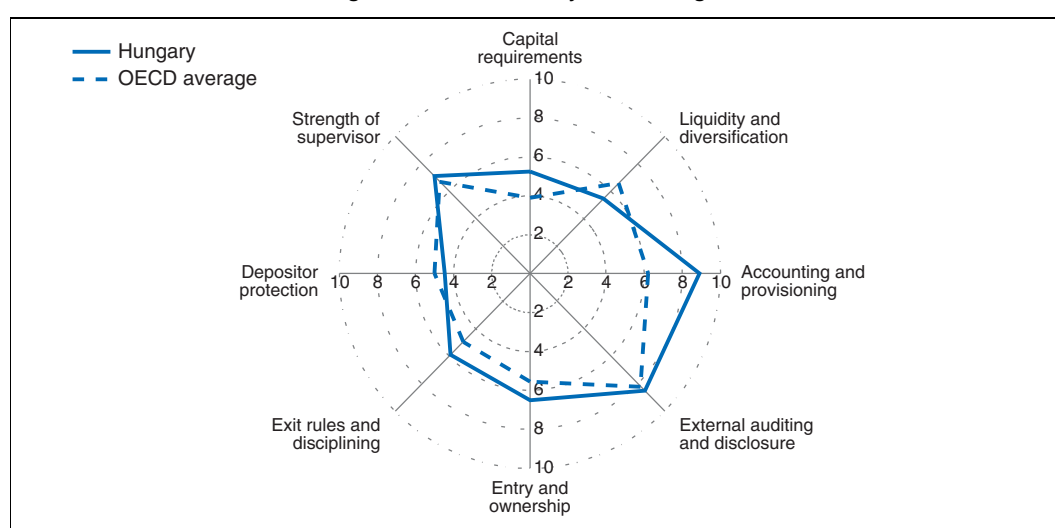
1. Score comprised between 0 (the regulation is bad from a prudential point of view) and 10 (the regulation is good from a prudential point of view). The figure reflects the state of regulation in 2006-07 and recent changes in depositor protection in Hungary would imply more stringent regulations in this area relative to the OECD average.

Source: Ahrend, R., J. Arnold and F. Murtin (2009), "Prudential Regulation and Competition in Financial Markets", *OECD Economics Department Working Papers*, No. 735.

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The only area where Hungary lags slightly behind the OECD average is liquidity and diversification requirements, where some limitation on sectoral concentration of bank lending could contribute to risk diversification. In addition, currency mismatches in banks' balance sheets could be mitigated by allowing banks to hold reserves in foreign currencies or foreign-currency denominated instruments as in many other OECD countries. Holding foreign currency on balance sheets would also help avoid liquidity problems in foreign currency. In Hungary, neither this possibility nor disincentives to lend in foreign currency had been introduced (until recently, as discussed under the section on limiting borrowers' risk taking).

Reshaping regulatory approaches

A major lesson learnt from the crisis is that the approach towards household lending needs to change: stronger protection for borrowers needs to be combined with tighter regulation of lenders. In both directions the right balance needs to be struck, as neither the

overprotection of households nor the overregulation of banks is a desirable outcome. The former can lead to moral hazard and boost the pool of "subprime" borrowers, while the latter can hurt the efficient functioning of the financial system and hence of the whole economy. Furthermore, to minimise the use of taxpayers' money, agents should be held accountable for their risk taking. In particular, households' borrowing should be determined by their repayment ability and banks should share the risks related to foreign exchange lending which is perceived as riskier and which can pose a threat to financial stability if its share is large. Furthermore, it is also essential to curb business practices that boost uncertainty and unnecessarily raise borrowing costs such as the unilateral change of lending contracts by banks.

Pent-up demand for mortgage loans made households assume excessive risks

In about a decade, over three quarters of Hungarian households became owners of their dwellings.[7] After the emergence of foreign currency loans in 2003, borrowers preferred loans in foreign currency and seemed to believe that it was risk free – a phenomenon described as "information cascade" by Bikhchandani *et al.* (1992) where other people's actions are valued over one's own judgment. Many people did not appear to realise the risk, or ignored it, counting on government bailout in case of inability to service the debt. Risk awareness significantly increased in 2008-09 when people experienced the slide of the domestic currency and hence soaring monthly repayments. Moreover, until very recently, there had not been sufficient types of mortgage insurance available for households to hedge for other potential risks such as unemployment, sickness or death. The possibility to buy insurance for the event of loss of repaying ability due to unemployment has recently emerged, though life insurance had been widely used as collateral for household loans.

With 87% of households owning their dwellings, an increasing number of owners started to use their housing wealth for consumption purposes. Home equity withdrawal data are not readily available, but the large stock of mortgage loans for other than housing purposes, the so-called free-purpose mortgage loans, (about 50% at end-2008 according to Központi Statisztikai Hivatal) suggests that housing wealth may have played an important role in fuelling the consumption boom in recent years. Indeed, in contrast to the early 2000s, when most new loans were taken for housing purchase, in the years preceding the global crisis, new consumption loans (most backed by mortgages) exceeded the amount of new housing loans. A part of these free-purpose loans may have been used though for investment purposes. Defaults on free-purpose mortgage loans imply not only loss of wealth but also loss of housing as a result of foreclosures, given that most of such properties are occupied by the owner. Mass foreclosures, therefore, could raise social issues. To avoid such problems, purchasing of the foreclosed properties by local governments for the purpose of rental was introduced.

People with low level of financial literacy or high risk appetite have become borrowers

The robust lending growth and relaxation of lending conditions in the second half of the 2000s have largely contributed to the increase of "subprime borrowers", people, who otherwise would not have borrowed. To get around the problem of low repaying ability of such borrowers, banks packaged loans in an innovative way so that initial payments would be low for the first few years, before raising monthly instalments sharply (similar to adjustable rate mortgages elsewhere). In some cases, borrowers only paid interest in the

initial years before starting to service the principal. People with low levels of financial literacy were easily talked into taking a loan as long as they could service it initially. In relation to exchange rate risk, people were often informed only about past movements of the currency in which the loan is taken but in most cases no simulations were run (until the unfolding of the crisis) to see whether they could withstand an unfavourable movement. Overly optimistic expectations to join the euro area soon, fuelled by politicians and government agencies, also diminished the perceived potential currency risk; moreover, the euro has been less volatile *vis-à-vis* the Swiss franc than the forint. Similarly, households did not realise that interest rates could have possibly moved upwards as well, as again they based their expectations on historical data. Households also accepted all the different fees and charges that were part of the debt service without questioning their reasonableness.

Excessive risk taking by households is not only a problem of financial literacy but also of moral hazard. Some borrowers who had known they would not be able to service their debt in the long run, nevertheless took housing and consumption loans. These people typically had no other assets and counted on government bailout in case of inability to pay on the grounds of the right to a living place. Unreasonably high initial debt service-to-income ratios may be a clear indication of excessive risk taking, and thus should not be rewarded by bailout programmes.

The proliferation of bank agents across all segments of society largely contributed to the increase of subprime borrowers. In Hungary, there are two types of agents: those who were just luring in customers, where no prior qualification or license was required until December 2009, and those who were authorised to act on behalf of the bank and were licensed. These latter types of agents are now required to be registered with the supervisory authority. Although agents could work with several banks, as they were paid by the bank (without disclosing the amount of remuneration and even the fact that they receive a commission to the client), they had incentives to sell the least favourable loan, *i.e.* the largest one, to the customer. Anecdotal evidence shows that, with the saturation of the housing loan market, agents were taking the same customer to a bank to finance a house purchase first then to another bank to refinance it a few months later. Agency work was very lucrative and lightly regulated. On average, the remuneration of the agent bringing a new customer to the bank was 2.5% of the loan taken by the customer. In mid-2009, banks have virtually suspended agency work. This will boost bank profits as they can economise on the agent fees since competitive pressures to force banks to transfer these lower costs in the form of cheaper loans are lacking (on competitive pressure in the banking market see more above). Another reason for banks to reduce the use of agents was that the loans intermediated by them are in general worse performing than those extended through the branch network. In the case of some banks, the share of non-performing loans intermediated by independent agents is double those extended through the branch network.

Independent agents could possibly work on behalf of customers instead of chasing financially illiterate people and abusing their position. Agents could change hats and boost banking market efficiency by making banks compete for prime customers. For this to happen, it is necessary to prohibit independent agents from receiving commission from banks (as is done by the amendments to the law passed in December 2009) and to require them to offer multiple choices. By presenting offers from several banks to the customer, excessive bank margins on housing loans could fall. In this case, the fees agents charge should be a fixed amount to avoid adverse incentives. Agents working for or on behalf of banks should be required to disclose the nature and amount of their remuneration to the customer.

Soaring demand and weak consumer protection allowed excessively harsh conditions in loan contracts

Banks exploited the opportunities offered by the unsaturated market (in Hungary 40% of housing is subject to mortgage obligations) and pent-up demand for retail loans. At the beginning, only a few banks offered foreign currency loans and the first-comers reaped high profits. Even with the increase of competitors in the housing loan market, margins remained high and the market had not matured enough to incite competition before the crisis started. This situation, coupled with lax regulation, created an environment where banks could dictate the conditions. Refinancing of loans by other banks offering more favourable conditions had been rare at the beginning of the mortgage lending boom, but started to become more common in the second half of the 2000s. The extent to which competition developed through refinancing had been limited owing to the lack of portability of housing loan subsidies. GVH (Gazdasági Versenyhivatal, Hungarian Competition Authority) had called for portability of housing loan subsidies and this recommendation had support among related authorities, but no steps have been taken as yet towards it. By making home loan subsidies portable across banks, competition through refinancing would increase and by making subsidies portable across properties with the condition that the new property is also eligible for the subsidy, also labour market mobility could be boosted.

On the top of robust demand for mortgage loans, the legal framework for consumer protection has also been weak, leaving little recourse to customers facing unfair conditions. A striking example is the right of a bank to change the lending contract unilaterally. Although the conditions for such unilateral changes were set in the law, the broad definition of cases justifying unilateral change in lending contracts by banks limited the legal ground to attack sudden jumps in the monthly instalment. There have been myriads of reasons for such unilateral increases of fees such as introduction of new information technology systems, increasing labour costs or other operational costs. Unilateral changes and the resulting jumps in the debt service were tolerated until 2006, when investigations started about the conditions and the prevalence of such changes. The Expert Committee on Retail Financial Services established by a prime ministerial decree in 2006 called for the reconsideration of the legal framework governing unilateral changes to contracts as such changes create substantial market power (The Expert Committee on Retail Financial Services, Lakossági Pénzügyi Szolgáltatásokat Vizsgáló Szakértői Bizottság, 2006), which, coupled with high switching costs and lack of transparency, results in market segmentation. But the issue of unilateral changes of contracts had not been treated seriously until borrowers experienced 60-70% jumps in the monthly instalments, although the depreciation of the currency was far less and interest rate hikes would not have justified the extent of the increase either. Given the lack of legal remedy, the role of civil consumer protection organisations has become increasingly important in providing advice to customers. Some civil organisations have achieved eviction moratorium with major financial institutions on behalf of borrowers that own only one dwelling and whose debt servicing is severely affected by either the crisis (*e.g.* job loss) or by unilateral change of contracts. They have published a black list of institutions that did not join the moratorium.

Abusive lending practices by nonbanks

Excessive protection of lenders and lack of protection of borrowers gave rise to lending activities by finance/credit companies aiming at seizing properties with defaulted mortgage loans at fire-sale prices to resell them at market rates. Foreclosure is never

costless and lengthy foreclosure procedures often drive up borrowing costs. This is not the case in Hungary, which has one of the most efficient foreclosure procedures in terms of time needed and material costs involved in the European Union (European Commission, 2006). The low costs and short time required to foreclose properties – that are *per se* desirable properties of the legal system surrounding bank lending – have been coupled with weak protection of borrowers and hence led to foreclosure-seeking behaviour by some financial institutions. These institutions focused on subprime borrowers turned down by banks, even people on the delinquent borrower list and with marketable properties. As long as the costs of foreclosure are below the price difference between the foreclosed price and the market price, they can make profits. By mid-2009 several thousand people had lost their housing as a result of these abusive contracts, which typically include a buy option for the lender in case of non-payment. Given that the clients are subprime borrowers, many of such loans are expected to turn sour. As of mid-2009, about 20% of loans extended by finance/credit companies are non-performing (HVG, 2009) although their share, according to the latest data, is relatively small at 3.7% of total mortgage loans in 2007. Profits by financial institutions should not, however, be made from foreclosure but from lending (and other financial-market related) activities, therefore many of such institutions are now under investigation. In such cases, prevention should be given priority over cure, *i.e.* contracts with unfair conditions should be revised to prevent further evictions. In addition, such abusive practices should be made deterrent by publicising the names of institutions involved. The revision of the law in December 2009 makes impossible to include buy option clauses for the lender in new contracts if the borrower is the occupant of the mortgaged property. For existing contracts with buy options, however, the 70% minimum purchase price of the market value does not provide much protection for borrowers due to lack of independent evaluation and country-wide property registry.

Shielding borrowers from abusive practices and limiting their risk taking

Greater shielding of households from abusive business practices and more severe restrictions on their risk taking are among the major reforms to carry out to enhance stability of financial markets. A stronger legal framework for consumer protection, broader consumer education and tighter regulation on borrowing limits would spare costly renegotiations of contracts, foreclosures, evictions and related social crises. Once the legal framework is made more consumer-friendly, a strong consumer protection agency can play a prominent role in shielding individuals from abusive practices such as unilateral change of contract. Changing a contract unilaterally should not be a way to transfer higher operating costs to the borrower. Unfair conditions, unilateral changes of contract and other abusive practices in the recent past call for vigilant consumer protection. Related clauses in lending contracts should be condemned and declared non-binding or, as a second-best option, lenders abusing their rights (facilitated by the vague legal framework) should engage in restructuring of loans taken by borrowers that defaulted as a result of a unilateral contract change. Buy options at a price designated by the lender for the mortgaged property in case of non-payment are similarly unfair conditions and therefore should be prohibited in mortgage contracts. By adopting the law on unfair commercial practices that is in line with the EU directive in September 2008, the legal framework now allows for making (future) contracts invalid if they contain unfair clauses. Recent changes to consumer protection rules also define how financial institutions should treat clients' complaints and how disputes should be resolved out of court.

The emphasis, however, should always be on prevention, which can best be done through financial education and transparency with regards to the features of financial products. Consumer education in Hungary is well anchored in formal education curricula, but access to education at all life stages needs to be strengthened and targeted programmes for vulnerable groups such as the elderly or the less educated need to be introduced (OECD, 2009). Changes in the lending process to result from the adoption of the code of conduct by banks include making prices of and conditions for financial products more comparable. Such practices would raise borrowers' awareness of risks and through mitigating solvency risks it would contribute to enhancing financial stability. Improved consumer protection, at the same time, would make borrowers more demanding, thereby exerting competitive pressure in the lending market and boosting efficiency.

Even in the absence of abusive business practices, households may take excessive risks either because they cannot gauge the size of the risk or because they only face upside risks, *i.e.* have nothing to lose by taking excessive risks. A straightforward way to restrict both types of potential over-borrowers is to link the debt service to the borrower's income with this ratio determined by the supervisor. A recent attempt by the central bank to encourage banks to limit the monthly repayments to 30-40% of the salary received strong opposition by banks. As a result, recent changes in regulations require banks to set their own limits on debt service for forint loans. While the limiting of monthly instalments is necessary to reduce default risk, there could be differentiation across customers with a progressive limit on monthly repayments as a percentage of income, which should be documented, for example by using tax declarations and/or pay slips. To reflect foreign exchange risks and potential increases in the instalments as a result of currency depreciation, a lower share *i.e.* 80% for loans denominated in euro and 60% for those in other currencies relative to the debt-service limit on forint-denominated loans is allowed. Such a ceiling on total borrowing would deprive banks of their customers employed in the grey market or those earning tips and other undeclared income, but would be an important step towards a further whitening of the economy. In addition to the existing life insurance requirement by some banks to obtain a loan, mortgage insurance in the case of, for instance, unemployment and sickness could be offered as option to mitigate credit risk. By offering higher LTV ratios to better-hedged people with better debt-servicing ability, banks could reach untapped market segments such as young professionals without taking excessive risks.

Reducing risks in the system

Excessive risk taking could be curbed by making lenders assume higher costs for risky lending in the form of higher capital requirements or buffers and by prohibiting business practices that expose borrowers to unnecessary uncertainty. In Hungary major sources of risk have been foreign currency lending and high debt service ratio. The European Commission is aiming in its draft proposal to curb foreign exchange lending through raising capital requirements. Higher capital requirements should apply when the LTV ratio is above 50%. For LTV ratios above 100%, there would have to be one-to-one capital backing on the lender's side. Although LTVs in Hungary are well below 100%, increased capital requirements would apply to foreign exchange loans with LTVs above 50% should this EU proposal be passed.

With soaring debt service in excess of the extent of exchange rate depreciation as a result of unilateral raising of fees by banks, it became evident that the situation needs to change. The Prime Minister chose to ask the banking industry to come up with voluntary

restrictions of abusive behaviour to be worked out together with the regulator. The recently adopted Code of Conduct by banks, the government and the regulator curbs banks' rights to change contracts unilaterally, but still leaves some room for manoeuvring by banks (Box 3.3). The code is a watered-down version of what was supposed to halt the abusive practice of unilateral changes to lending contracts by banks; as a complete ban on unilateral changes only applies for loans with maturity of up to one year. For loans with longer maturities, banks can still change contracts unilaterally, but under more restricted conditions. Banks can now raise fees only once a year and up to the inflation rate. The other major achievement of the code is that defaulted borrowers can have 115 days to sell their home before it is foreclosed. This is a very important change relative to the present practice where banks can foreclose and sell such properties at a fraction of their value as they have no incentives to set a higher price than the underlying loan value.

Box 3.3. **The Code of Conduct for banks**

The signature of the Code of Conduct by thirteen banks, the regulator and Prime Minister on 16 September 2009 was a significant milestone. Following payment difficulties, renegotiations of contracts and, to a lesser extent, foreclosures and evictions related to unilateral change of contracts by banks, a change in bank lending practices seemed inevitable. Instead of direct regulation, the government and the regulator chose the path of negotiation of a code of ethics with banks represented by the Banking Association. In July, banks agreed not to raise interest rates until the code becomes effective and clients can switch banks free of charge should the unilateral change of fees by their banks be unacceptable. In December 2009 the code became effective and banks are obliged to inform their clients on whether they have signed the code or not and to make the text of the code available to them. Clients will also learn about changes in instalments in advance.

The code covers five main areas: the *first* deals with general norms of responsible lending. The *second* addresses the general principles before the signing of contracts, or providing information to clients. The *third* chapter deals with guidelines on unilateral changes to contracts during the duration of the loan. The *fourth* governs the management of problematic loans and the *fifth* gives banks guidelines on how to proceed before and during foreclosures. The code mainly contains general principles and practices that have already constituted part of banks' internal regulation or have been recommended by the regulatory agency.

As a result of the adoption of the code, from December 2009, the bank lending process has become more transparent, more rule based and the change of fees more symmetric. Customers will have easier access to information on the conditions of the loan, the lending process will follow the rules and bank charges will also fall if interest rates and fees decrease. The code is not a regulation and only signatories need to observe it and are subject to possible fines by the regulator for non-compliance. The financial regulator will advertise non-signatory banks on its website. Although the 13 biggest banks that cover nearly 90% of the household lending market have already signed the code, some banks are reluctant. This practically implies that these banks reserve the rights to change contracts erratically and to directly foreclose the property of defaulted borrowers. While the restrictions on the unilateral change of contracts by the code are expected to boost efficiency in the household lending market, as banks will no longer be able to transfer all

cost increases to customers, competition from non-signatory banks may become predatory should they engage in intensive advertising campaigns. In the short run, these banks (or credit companies) could cream skim the household lending market by aggressive advertising, and once customers are locked in long-term loan contracts, change the conditions. The law on household lending aims at eliminating this opportunity, as it includes some of the major elements of the Code of Conduct.

From the point of view of financial stability, the code should also apply to non-bank financial institutions. Particular attention needs to be paid to finance/credit companies that deal with riskier borrowers and accumulated larger shares of non-performing loans. Large-scale defaults of borrowers at such institutions can impose a burden on the commercial banking sector as such financial institutions finance their lending by borrowing from commercial banks. The law on household lending also extends the coverage of the Code of Conduct to bank subsidiaries and makes the license conditional on signing the code.

A comprehensive credit registry is crucial to raise efficiency of the home loan market

To assess systemic risk and to mitigate moral hazard, information sharing about borrowers is crucial. Credit registries also help reducing information asymmetry between lenders and retail borrowers through information sharing (Padilla and Pagano, 1997). In addition, information sharing through credit bureaux can foster competition in the banking market, thereby increasing efficiency. Sharing information about clients at the same time diminishes the comparative advantage of the bank already present in the market and therefore may reduce incentives to provide such information. In the long run, however, information sharing is the tool against adverse selection. In Hungary, so far only a negative list of borrowers exists, *i.e.* only information about people in arrears for at least 90 days for the amount of at least the minimum wage. A positive debtor list including all borrowers irrespective of their debt servicing behaviour would enhance banks' risk evaluation ability. The current proposal to introduce a positive list on a voluntary basis falls short of this.

The regulator needs to become more pro-active

A fundamental principle in the design of the new regulatory approach is that capital and other regulatory requirements should ensure the stability of the system, not just the solvency of individual institutions. The regulator, as the authority in charge of microprudential regulation (Box 3.4), needs to be more forward looking in its assessment of

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Box 3.4. Financial regulation and supervision in Hungary

Financial regulation and supervision of banks, non-bank financial institutions, insurance and securities companies and pension funds is concentrated at the Hungarian Financial Supervisory Authority (Pénzügyi Szervezetek Állami Felügyelete, PSZÁF). It was formed in 2000 by merging the Bank Supervisory Board with the state insurance and pension supervisory agencies. While the supervisor enjoys budgetary independence by financing itself from fees, it had until recently belonged to the Ministry of Finance. Unlike its counterparts in other countries, it still has no power to formulate regulations as such attempts were voted down in Parliament. It belongs to the Ministry of Finance and it has no power to formulate regulations. To circumvent this deficiency, it has been issuing guidelines or recommendations. Hungary's financial regulations are broadly conforming to EU standards and fine-tuning of lower-level regulations to harmonise them with EU guidelines is being undertaken.

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potential risks such as risks implied by the behaviour of a financial institution to its prudent operation or to the stability of financial markets. In particular, unhedged household loans in foreign currency should carry a higher capital charge reflecting higher systemic risks. In fact, the regulatory authority recommended additional capital charges of 50-100% on yen-denominated loans, which only make up a tiny fraction of household credit. No such regulations were considered for unhedged loans denominated in Swiss francs. With the drying up of liquidity in Swiss francs as a result of the crisis, the importance of lending in this currency has sharply decreased in favour of the euro. Lending in euro should be less risky in the long term, especially once Hungary adopts the euro when exchange rate risk will disappear. Nevertheless, in the short/medium term, exchange rate volatility is a potential source of risk. Alternatively, the regulator could impose a currency risk buffer on the loan-to-value ratio or on the income-to-repayment ratio. With the publishing of EU guidelines, the adoption of such regulations should become easier. Another factor that may deter the regulator from taking a tougher stance on excessive risk takers is its liability for damages its actions may cause to a bank. This regulation prevents the regulator from fining banks proportionately to their behaviour even with the increased power to impose fines of deterring levels. This deviates from best international practice, where the regulator cannot be held liable for such damages.

There has been an international consensus on the necessity of requiring banks to build up buffers during market expansions that could be drawn down during contractions. The most often-cited experience with such buffers is that of Spain with its dynamic provisioning requirements. Under this scheme, provisioning requirements are linked to credit growth, thereby increasing in upswings and decreasing in downturns. There are practical issues related to the implementation of the scheme. One issue is how to define the size of the buffer and how it should vary. Another issue is the conflict of such schemes with present accounting practices.[8] After clearing such obstacles, pro-cyclical provisioning would be helpful in future cyclical downturns to spare banks from the need for recapitalisation.

The supervisor needs to co-operate effectively with other institutions in charge of financial stability…

The crisis has exposed some of the weaknesses in the co-operation of institutions overseeing financial stability. The financial regulatory authority in Hungary is solely responsible for micro-prudential regulation, while the central bank is in charge of macro-prudential regulation. The Ministry of Finance is the third institution related to stability issues as it formulates the legislation to be discussed and passed by Parliament. As in many other countries hit by the crisis, in Hungary there was a gap between macro and micro-prudential regulation. The regulator did a good job in ensuring the solvency of individual banks, but could have been better prepared for systemic risk events through closer co-operation with the central bank. By the same token, the central bank could have recommended taking prompt action in the wake of increasing vulnerability. Learning from past mistakes, a more appropriate early warning system is needed based on the assessment of systemic risk. The more formal Financial Stability Council (established by recent changes to the HFSA law), which incorporates representatives of all the three institutions in charge of financial stability issues, should play a more prominent role in assessing macro-prudential risks and issuing recommendations against excessive risk taking in the future.

Stronger international co-operation in crisis prevention and assessment of systemic risk is also needed. The setting up of an EU-level supervisor is an important step in this

direction, given the interwoven nature of bank branching networks and the high degree of financial market integration. Supervision at the EU level would, *inter alia,* help reduce risks related to foreign currency borrowing as foreign currency exposures could be addressed at the regional level instead of adopting regulatory measures by host-country authorities that could be theoretically avoided by direct lending from abroad. Recent regional initiatives with the involvement of home and host country supervisors and some major international banks in the region have already identified the systemic nature of risks arising from the proliferation of foreign-exchange household lending and put measures in place to limit further growth. A further desirable step would be to link national credit registries so that cross-border activities can increase competitive pressure in domestic markets.

… with more powers…

While there had been several policy options at the disposal of the regulatory authority, undoubtedly with more power it could have been more effective in curbing risky lending and abusive practices. Until the passing of the law on unfair commercial practices, it was not authorised to deal with such complaints. Until recently, the financial supervisory authority had not been in charge of consumer protection either, and its main task pertained to ensuring that banks' behaviour did not violate the rules. From September 2009, it can investigate cases based on customer complaint and can charge up to HUF 2 billion in fines. Unlike in countries that have a fully autonomous regulator, in Hungary the regulator cannot formulate regulations applicable to the entire sector and its sphere of authority is limited to regulating individual banks and to defining what assets are risky. More recently, the possibility of giving power to the regulator to formulate regulations, an amendment requiring a two-thirds majority vote, has been voted down by Parliament. In terms of their ranking, these regulations would have been below those formulated by the Ministry of Finance and would have pertained to issues such as licensing of agents, data construction, liquidity management, etc. Such powers would undoubtedly boost the role of the regulator, but it should be ensured that spheres of authority do not overlap with those of the central bank.

… and greater independence

Higher fines may be more deterring and more powers may make the regulator faster to act, but an additional necessary condition for its effective functioning is greater independence from both the sector it regulates and the government. Greater independence from banks is necessary to avoid regulatory capture and one way it can be achieved is by offering salaries competitive to those in the banking sector. In Hungary the draining effect of the banking sector appears particularly high, as the share of experienced regulatory staff is low in international comparison. Banks' rights to hold the regulator liable for damages that may be caused by regulatory action also tend to keep the regulator cautious in its actions. Greater independence from the government is equally important to avoid the politicisation of regulatory activity. Making the financial supervisor an autonomous body independent from the Ministry of Finance and responsible to Parliament as well as strengthening its governance structure (*i.e.* the President of the HFSA is now appointed by the President of the Republic) are welcome steps in this direction. The possibility of removing the head of the supervisor by simple majority in parliament through, for instance, amendments to the governance structure of the supervisory institution, and the experience of making use of such possibility during past changes of government, suggest that the regulatory body's activities are highly influenced by the government. The

Box 3.5. **Policy recommendations**

Limit risk taking by borrowers

- Debt servicing should be capped as a share of income determined by the supervisory authority. This cap should progressively increase with higher incomes. When issuing loans, banks should be required to document the borrower's income, for example by using tax declarations and/or pay slips.
- To mitigate solvency risks for households, the array of mortgage insurances should be widened.
- Abusive clauses in lending contracts should be prohibited; or, as a second-best option, lenders abusing their rights (facilitated by the vague legal framework) should engage in restructuring of loans taken by borrowers that defaulted as a result of a unilateral contract change.
- Abusive practices should be made deterrent by publishing the names of foreclosure-seeking non-banks.
- Financial education should be bolstered at all life stages and targeted programmes for vulnerable groups such as the elderly and the less educated should be introduced.

Contain financial market risk

- Banks should be subject to higher costs for risky lending in the form of higher capital requirements.
- Dynamic provisioning should be introduced to provide a buffer for banks during economic downturns.
- Consumer protection, in particular the legal framework, should be further strengthened.
- Liquidity conditions in foreign currency should be more closely followed and foreign currency denominated assets could be linked to liabilities in those currencies. One way of boosting foreign currency liquidity is to allow for holding part of the reserves in those currencies or in assets denominated in those currencies.

Foster competition to enhance efficiency in the banking market

- A comprehensive credit registry should be established to enhance efficiency in the household lending market.
- Financial products should be made more transparent and comparable. Contract conditions should be made available to the borrower before signing the contract.
- Independent agents should receive fees only from the customer and a fixed amount per type of transaction. They should be required to present several options to the customer. Those agents who work for or on behalf of banks should disclose the nature and the amount of their remuneration to the customer.
- Portability for housing loan subsidies across properties (as long as the new property is eligible) and across banks should be introduced.

Strengthen the supervisory framework

- The regulator should make sure that regulations ensure the stability of the entire system not just the solvency of individual institutions. To better identify and assess systemic risks, closer co-operation with the central bank and other institutions in charge of financial stability is needed. The more formal Financial Stability Council should play a prominent role in detecting risks and make recommendations to mitigate them.
- The supervisor should not be held liable for the damages its regulations may cause to regulated institutions.
- More attractive salaries, sure career paths and effective independence are needed to retain experienced staff.
- The supervisor's authority should be extended to issue regulations.

difficulties with the retention of senior staff may also be related to uncertainty about long-term career opportunities influenced by the instability of government attitude towards the regulator including reorganisations, changes of top management and earlier plans to scrap the agency and merge it into the central bank.

Notes

1. These "foreign exchange loans" are in fact extended and serviced in the domestic currency, but the principal of the loan is determined in foreign exchange and thus, the repayment is dependent on the exchange rate. Instalments also vary with foreign interest rates as fixed-rate loans are rare except for very short-term loans.

2. EU-SILC 2008, over-indebtedness and financial exclusion module.

3. If the bank provides the foreign currency liquidity by a simple spot conversion, then the exchange rate risk is not mitigated (Mák and Páles, 2009).

4. Prepayment cost of 0.5% for consumption loans of maturity below 1 year, 1% for above 1 year, 2% for mortgage loans in general and 2.5% for mortgage loans financed by mortgage bonds and if the prepayment falls in a period between interest rate changes.

5. Prepayment cost of 1.5% for loans refinanced by mortgage bonds and prepaid in between interest rate changes.

6. Only people with payment arrears over 90 days and larger than the minimum wage are put in the list.

7. As of mid-2009, about 87% of Hungarian households owned their dwelling and by this indicator the country ranks fourth in the European Union.

8. The ability of banks to adopt dynamic provisioning is constrained by International Accounting Standard No. 39, which does not recognise expected losses, only incurred losses (Andritzky *et al.*, 2009).

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ANNEX 3.A1

Estimation of banking efficiency

To measure banks' efficiency, first of all a certain relationship between operational costs, input prices and output quantities needs to be assumed. The form of the cost function is:

$$\ln TC_i = C(y_i, w_i; \beta) + \mu_i \tag{1}$$

where TC_i is total cost of bank i, y_i is the output in logarithmic form, w_i is input prices in logarithmic form and β is the unknown parameter vector to be estimated. In contrast to many other studies estimating efficiency, here the Fourier-flexible functional form is used, not the translog functional form. The main disadvantage of the translog functional form, as McAllister and McManus (1993) pointed out, is that the high level of sample heterogeneity may cause White-type bias. Furthermore, multi-collinearity between independent variables limits the accuracy of parameter estimates. Conversely, the Fourier-flexible form allows for adjustment for distortions arising from heterogeneity. The equation estimated to obtain efficiency scores is as follows:

$$\ln TC = \beta_o + \sum_m \alpha_m y_m + \sum_n \beta_n w_n + \frac{1}{2}\sum_m \sum_p \alpha_{mp} y_m y_p + \frac{1}{2}\sum_n \sum_r \beta_{nr} w_n w_r + \sum_n \sum_m \gamma_{nm} w_n y_m$$
$$+ \sum_m [\delta_m \cos z_m + \theta_m \sin z_m] + \sum_m \sum_p [\delta_{mp} \cos(z_m + z_p) + \theta_{mp} \sin(z_m + z_p)] + \varepsilon \tag{2}$$

where TC is total cost, y_m is the mth output (m = 1,2,3), w_n is the nth input price (n = 1,2,3), p and r are equal to 1,2,3 according to the number of outputs and inputs and ε is the error term. Bank subscripts are subsumed for the sake of simplicity. Here three outputs (loans, other earning assets and non-interest income) and three inputs (labour, capital and borrowed funds) are assumed. Symmetry and linear homogeneity require the following parameter restrictions:

$$\alpha_{mp} = \alpha_{pm}, \beta_{nr} = \beta_{rn}, \sum_{n=1}^{3}\beta_n = 1, \sum_{r=1}^{3}\beta_{nr} = 0, \sum_{n=1}^{3}\gamma_{nm} = 0 \tag{3}$$

The use of Fourier-flexible form implies the necessity of scaling the data as in Holló and Nagy (2006):

$$z_m = 0.2\pi + (1.6\pi)\frac{y_m - y_{m,\min}}{y_{m,\max} - y_{m,\min}} \tag{4}$$

The efficiency scores are derived from the error term of equation [2] using the stochastic frontier approach.

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Chapter 4

Raising education's contribution to growth

Major structural reforms following the end of the communist period have resulted in an education system that has many features that should result in good educational outcomes and efficient use of resources. Indeed, costs relative to GDP are at about the OECD average, while younger school pupils perform above average in internationally comparable assessments. But this relatively good performance fades with age. Fifteen-year-olds register only average performance in the PISA assessments, and the proportion of adults with tertiary qualifications, though rising, is still low. More worryingly, the school system does not adequately prepare school leavers, especially those from disadvantaged backgrounds, for the labour market. Encouraging more children from such backgrounds to spend more time in pre-school, raising the age at which school students must choose what type of secondary schooling they will follow, and raising the standards of vocational training would help improve matters, as would continuing steps to improve the average quality of teachers. The co-existence of very high gross wage premia for adults with tertiary qualifications, and the comparatively low numbers graduating, suggest that tertiary education should expand further, and that students in higher education should contribute more to the cost of their studies.

Introduction

Public sector spending on education is an investment in human capital, and one which yields high returns to society as well as to individuals. For the majority of individuals, the investment in education made by them, their parents and the state will probably be the most remunerative investment of their lives. It is also an investment with a long gestation period. Public investment in education is thus justified not only by the high returns to society, but also because left to themselves, parents would under-invest in the long and costly education process for their children.

Although spending on education is an investment, this does not imply that there should be no limits to spending. On the contrary, governments need to ensure that resources are spent as efficiently as possible and should be ready to reform the system if it results in cost savings and/or better educational outcomes. This chapter addresses the extent to which the Hungarian educational system uses financial resources in an efficient and effective way and explores potential reforms. The first part of the chapter describes the education system's outcomes and the second discusses ways of improving such outcomes.

Education outcomes

Younger Hungarian students perform better than older ones

The fact that primary and lower secondary education systems are very similar across countries has made possible the development of internationally-comparable assessments[1] that allow the drawing of reliable conclusions about the factors in school systems that influence outcomes. In the case of Hungary, the 2006 PIRLS assessment of literacy skills for 10-year-olds put Hungary in 9th place out of 40 countries and regions. The 2003 TIMMS mathematics and science competency assessment also puts Hungary significantly above average. By contrast, the OECD's PISA assessments for competence in reading, mathematics and science performance of 15-year-olds (OECD, 2007) put Hungary at only about the average of the OECD countries (although significantly better than some countries with higher per capita incomes) (Figure 4.1).

On closer examination, Hungary's PISA results give more cause for concern. The results show that while performance within a particular school is comparatively homogeneous, variance between schools is exceptionally high. For example, in the latest (2006) PISA exercise, within-school variance in Hungary was under 40%, compared with an OECD average of nearly 70%. Only Turkey and Mexico had lower within-school variance. But between-school variance in Hungary was very high, one of the highest among OECD countries, and mostly explained by the different social, economic and cultural status of pupils in different schools. Significantly, Germany plus some other central European countries also exhibit high between-school variance of PISA scores and like Hungary, they have school systems that segregate pupils into different types of school – "tracking" – before the age of 15, at which the PISA evaluations are administered.

Figure 4.1. **Summary of PISA results**[1]

Performance relative to the OECD average, 2006
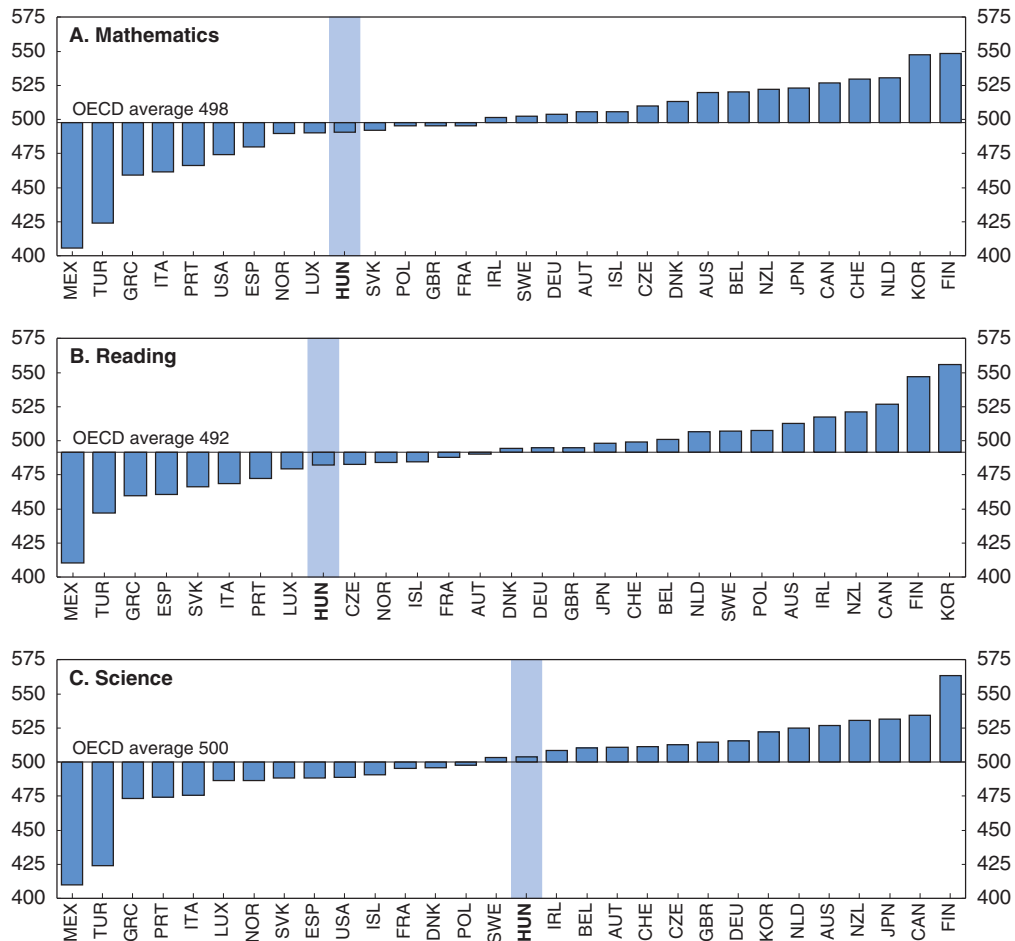
1. Programme for international student assessment.

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

StatLink 🔗 *http://dx.doi.org/10.1787/786242854612*

Most adults have at least upper secondary education, but tertiary attainment remains low despite high private returns and rising enrolments

Hungary scores somewhat above average in educational attainment up to the upper secondary level. About 20% of all adults have at most less than upper secondary education (compared with an OECD average of 30%), and 60% have at most upper secondary education, compared with OECD and EU levels of 41% in 2007. However, only 17% of adults have undergone tertiary education, compared with an OECD average of 27% (Table 4.1).

Another measure of education performance is the extent to which the system allows a large proportion of youth to enter tertiary education. In knowledge-based economies, the size and growth of human capital becomes more important than that of physical capital, and spending more years in full-time education is the main route to acquiring better human capital. In this context, Hungary has made rapid strides in the past 2-3 decades to increase the proportion of adults with tertiary education – although there is still some way to go. Between 1991 and 2006, the numbers enrolled in tertiary education grew from just

Table 4.1. **Educational attainment of adults**

Population aged 25-64, per cent, 2007

	Below upper secondary	Upper secondary	Tertiary
Canada	13	38	48
Japan	. .	59	41
New Zealand	28	31	41
United States	12	48	40
Finland	19	44	36
Korea	22	43	35
Norway	21	45	34
Australia	32	34	34
Denmark	25	43	32
Belgium	32	36	32
United Kingdom	31	36	32
Ireland	32	35	32
Switzerland	14	55	31
Sweden	15	53	31
Netherlands	27	42	31
Iceland	35	35	30
Spain	49	22	29
OECD average	30	44	27
France	31	42	27
Luxembourg	34	39	27
EU19 average	29	46	24
Germany	16	60	24
Greece	40	37	22
Poland	14	68	19
Austria	20	63	18
Hungary	**21**	**61**	**17**
Mexico	67	18	15
Slovak Republic	13	73	14
Czech Republic	9	77	14
Portugal	73	14	14
Italy	48	39	13
Turkey	71	18	11

Source: OECD (2009), *Education at a Glance 2009.*

over 108 000 to about 424 000. The proportion of all students is equivalent to approximately 42% of the 18-24 year-old age group in 2009 (if we take into account only the full-time students, this ratio falls to 27%). Nearly three quarters of secondary school leavers enter some form of tertiary education, somewhat above the EU19 and OECD averages. The tertiary education system is divided between a largely theory based tertiary type "A" education and a more practical, vocationally-oriented tertiary type "B" education.[2] About 70% of upper secondary school students pass the national "matura" examination that qualifies for entry to tertiary type A education, some 9 points higher than the EU19 average, and most then enter type A tertiary programmes (about 10% of upper secondary school students enter type B tertiary programmes). However, graduation rates for tertiary type A education were about 30% in 2006, significantly below the EU19 average (Figure 4.2).

Tertiary failure rates are high

Non-completion rates are thus comparatively high: about 45% of enrolled students in 2005 left without a tertiary qualification, compared with an OECD average of 31%, and a

Figure 4.2. **Graduation rates**

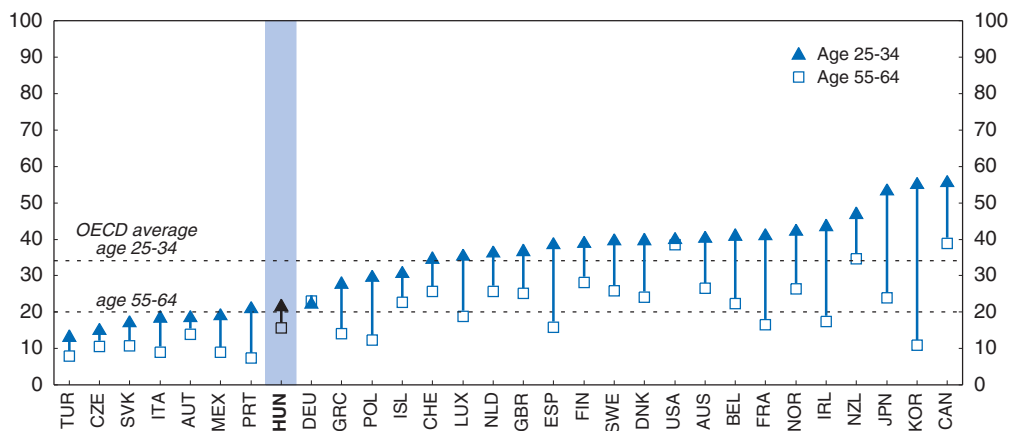Number of students completing tertiary-type A programmes for the first time, per cent, 2007[1]
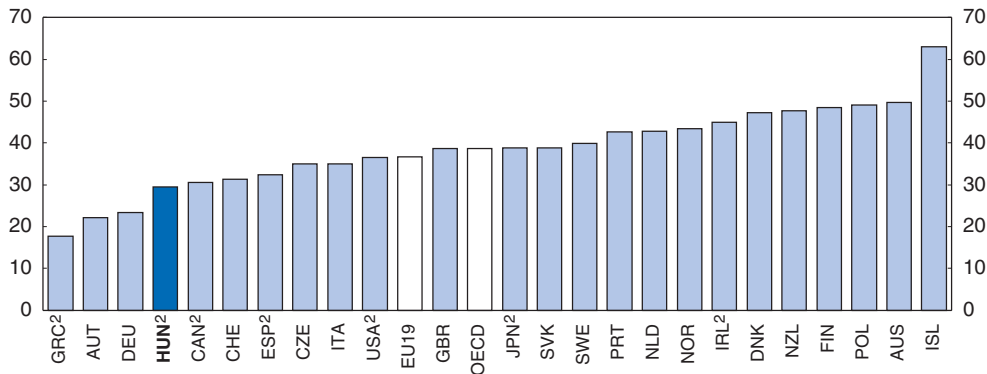
1.   2006 for Australia and Canada.
2.   Calculated on a gross basis.

Source: OECD (2009), *Education at a Glance 2009.*

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failure rate exceeded only by New Zealand and the United States (OECD, 2009). Hence despite the sharp increases in enrolments, the proportion of the younger population (aged 25 to 34 years) with tertiary education, at 21% in 2006, is well under the EU19 average of 30%. The proportion of older citizens with tertiary education is also below the OECD average, but to a lesser extent (see Figure 4.3). The reasons for the high failure rates are not entirely clear, but the prospect of eventually earning high wages, combined with comparatively generous state support (see below) may have attracted more students into tertiary education than the existing institutions (which are still adapting to a series of reforms in the past decade) can efficiently handle. Rather than attempting to artificially reduce the numbers entering, a better solution would be to ensure that prospective and enrolled students have appropriate financial incentives and disincentives to enter tertiary education in the first place, and pursue their studies diligently thereafter (see below, financing tertiary education).

Figure 4.3. **Share of population with a tertiary education**

Per cent, 2007

Source: OECD (2009), *Education at a Glance 2009.*

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The high gross wage premium that Hungarians have typically enjoyed in the past means that on average, adults with tertiary education earn more than double the average earnings for all adults, a gross wage premium that is far higher than in other OECD countries. And despite the upsurge in numbers passing through tertiary education, even young adults with tertiary education also earn nearly double the average salary. Oliveira Martins *et al.* (2007) find that the gross wage *premia* for tertiary graduates, relative to a worker with only the matura, was approximately 90% in 2002 for both males and females, the highest in the sample of countries studied. Against this, Hungary has very high marginal tax rates on wage income, up to 70% at average earnings (income tax plus employee social security contributions less cash benefits for families), the highest in the OECD in 2008, although the recent tax reform implemented on 1 July may have improved the ranking of Hungary. This large tax wedge means that the net wage premium is considerably lower than the gross wage premium and the private internal rate of return to tertiary education, as calculated by Boarini and Strauss (2007) is, at around 6-7% (in 1997), somewhat below the OECD average. By contrast, because of the same very high marginal tax rates, the *public* rate of return to tertiary education is close to 20% (average of males and females), substantially higher than in other OECD countries (see OECD, 2008a Table A1.5 and OECD, 2009, Chart A8.5).

As well as normally leading to higher earnings, tertiary education also results in higher probability of employment and lower probability of unemployment, as in other countries. In the 25-64 age group, those with only primary education have employment rates of about 40%. It rises to about 70% for those with completed secondary education, and to over 80% for those with tertiary education (Figure 4.4). Similarly to other former communist countries, the gap between the employment rate of people with below upper-secondary education and the others is much larger than in other OECD countries (Figure 4.4). This probably reflects the difficulties encountered by people with lower level of education when they face dramatic changes in the structure of the economy. Employment rates for older workers with tertiary education, at 60%, are far above those with only completed secondary education (40%) and especially those with only primary education (17%). Nevertheless, employment rates for

Figure 4.4. **Employment rates by level of educational attainment**

Per cent of the population aged 25-64, 2007
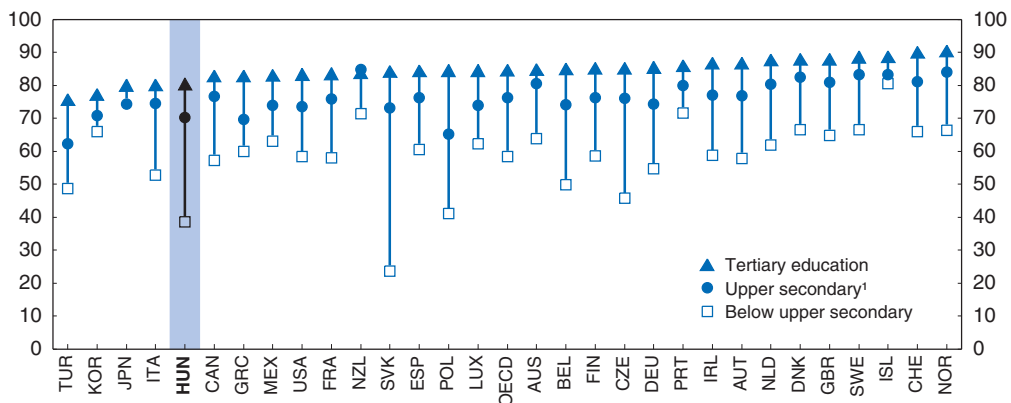
1. Includes post-secondary non-tertiary education.

Source: OECD (2009), *Education at a Glance 2009.*

*StatLink* ⚒ *http://dx.doi.org/10.1787/786255263505*

adults with tertiary education, though high, are below those in most other countries, and below the OECD average, potentially suggesting skill mismatches.

Reforms to raise school education outcomes

Spending efficiency could be improved, notably through schools mergers

Hungary spent 3.4% of GDP on financing primary, secondary and post-secondary non-tertiary education in 2005, somewhat below the OECD average (Figure 4.5, panel A). The population of school age as a percentage of the total population is also somewhat below the OECD average. Spending on pre-school education, at 0.8% of GDP in 2005, was well above the OECD average of 0.4%, but is somewhat below the 1% of GDP recommended by the European Commission Network for Childcare.[3] Hungary spends somewhat less than the OECD and EU average on primary and secondary education, relative to GDP. Almost all financing comes from the public sector, and around 80% goes on paying teachers' salaries, a proportion similar to the OECD average (Figure 4.5, panel B). Spending per student, relative to GDP, is very close to what might be expected by international comparison (Figure 4.6).

Figure 4.5. **Spending on school education**[1]
2006[2]
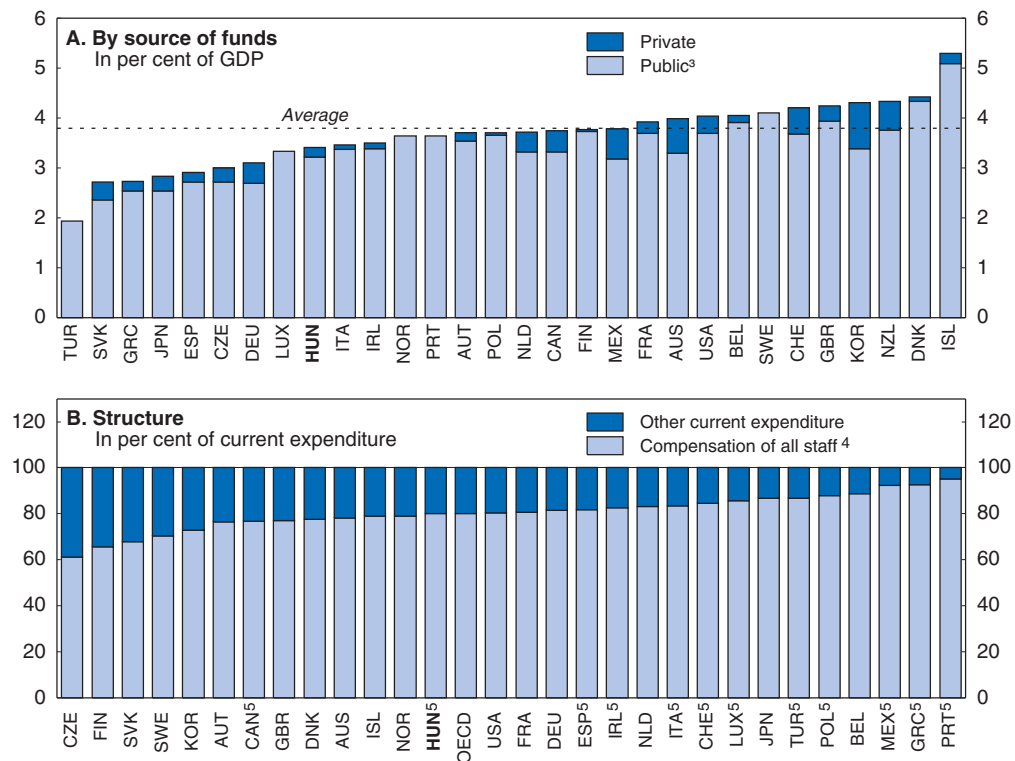
1. Expenditure on educational institutions for primary, secondary and post-secondary non-tertiary education.
2. 2005 for Canada and Greece. Public expenditure only for Luxembourg, Norway and Turkey in panel A.
3. Including public subsidies to households attributable to educational institutions. Also includes direct expenditure on educational institutions from international sources.
4. Teaching staff and support staff.
5. Public institutions only.

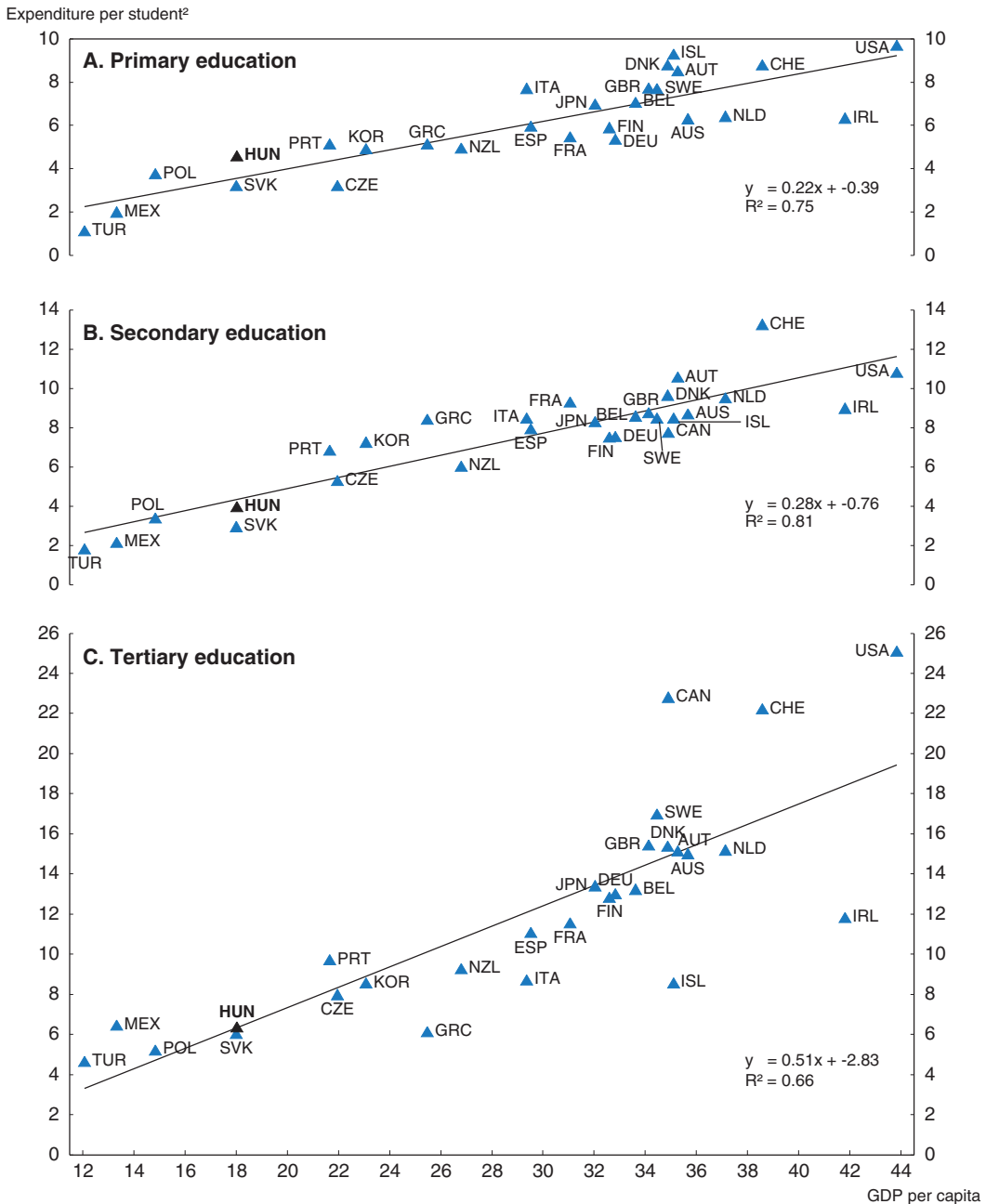*Source:* OECD (2009), *Education at a Glance 2009.*

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Figure 4.6. **Education expenditure per student relative to GDP per capita**

In thousand US dollars, 2006[1]

Expenditure per student[2]

A. Primary education

$y = 0.22x + -0.39$
$R^2 = 0.75$

B. Secondary education

$y = 0.28x + -0.76$
$R^2 = 0.81$

C. Tertiary education

$y = 0.51x + -2.83$
$R^2 = 0.66$

GDP per capita

1. Expenditure and GDP per capita in equivalent US dollars converted using purchasing power parities. 2005 data for Canada and Greece.
2. Annual expenditure on educational institutions. Public institutions only for Canada (tertiary), Hungary, Italy, Poland, Portugal, Switzerland and Turkey. Secondary education also includes primary education for Canada. For tertiary education Canada excludes type B activities and Turkey excludes research and development activities.

Source: OECD (2009), *Education at a Glance 2009.*

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The question arises as to why the relatively good performance of younger pupils fades at later ages, and why performance across schools is so uneven. Recent work by the OECD (Sutherland *et al.*, 2007; Sutherland and Price, 2007; Gonand *et al.*, 2007) attempts to

elucidate, by means of elaborate cross-country statistical analyses of 30 OECD countries, which aspects of school organisation impact on outcomes (as measured by PISA results). The Sutherland *et al.* results put Hungary somewhat below the average level of efficiency on both input-oriented and output oriented efficiency for the median school, given the PISA results. In a subsequent paper, Sutherland and Price analysed the impact of individual factors that appear to affect the level of outcomes, based on a sample of some 5 000 schools in OECD countries. In summary, they found that the main factors that make for better outcomes (after controlling for differences in socio-economic backgrounds) were greater decision-making autonomy at the school level,[4] availability of state finance for independent schools, assessment policies that monitor student performance and permit benchmarking, and better qualified teachers (that can compensate for having fewer teachers). Inefficiency was principally associated with small school size, residence-based selection, and "streaming" (*i.e.* selecting students within the same school into different classes depending on assessed ability).

On many measures, the Hungarian school system scores highly. The degree of local autonomy is especially high. Municipalities, rather than the state, have responsibility for providing public school education in their areas, with around 70% of finance coming from the state as a block grant. As from 2007, the grant takes into account the number of students per class and teaching load, rather than simply the number of students. The remaining 30% comes from municipalities own resources and can be allocated to individual schools at the discretion of the municipality. Denominational schools are financed in a similar fashion, except that the state provides the remaining 30%. Independent private schools ("foundation" schools) also receive about 70% of their financing from the state.

The role of the state is limited to providing most of the finance, setting the national curriculum and state standards of education, operating entrance and final examinations, administering national assessments, certifying teachers, operating in-service teacher training and ensuring that legal and regulatory requirements are met partly by official and professional supervision. Teachers are hired by individual school managers who have significant leeway in allocating teaching resources between topics within the national curriculum, and up to a limited point, they can select their pupils.[5] Public schools must give priority to children within their catchment area and the system of entrance exams are centrally organised and its rules have been made tighter, however. In principle, parents can also choose to which primary school to send their children, but this choice has to be reconciled with that of the school in selecting its intake. The choice of secondary school is a joint one between the students, their parents and the schools. In practice, parental choice for both primary and secondary schools is greater for those from more favourable socio-economic backgrounds, who can afford to send their children to more distant schools – or to private schools (see below) and to provide good preparation for the entrance exams. Some selection by social class thus starts at the primary school level and does not thereafter diminish.

Although decentralisation of responsibility and decision-making at the school level is associated with good educational outcomes, there is presumably a lower limit to the size of the sub-national unit that is consistent with effective provision. At present there are 3 194 local governments in Hungary, including 3 175 municipalities and 19 county local governments. The population in more than half of local governments does not exceed 1 000 inhabitants and 10% have fewer than 200 inhabitants. In principle, each local government authority is obliged to provide all educational services for all school-age children

in its area, which might include small villages ("settlements"). This means both that some schools are small – which is known to be negatively associated with good outcomes (Sutherland *et al.,* 2007) – and that many municipalities lack the kinds of expertise that would allow them to manage "their" schools efficiently. However, it is also the case that bordering settlements having a population not exceeding 1 000 often jointly provide education services. As a result of this, there are 761 such arrangements. The government actively encourages small municipalities to form associations with each other so as to share facilities (except for the youngest pupils in kindergartens and the two first years of primary school) and/or combine kindergartens, primary and secondary schools into one actual institution. In practice, this means that some pupils have to be transported to schools in other villages, the cost of which has to be borne by the local authorities. The number of such associations has increased in recent years, and there are now over 500 such, with responsibility for managing nearly 1 000 schools. But the rate of increase has slowed down markedly in the most recent period. There remains scope for further such mergers, and in the interests of providing high-quality education, they should continue, despite the transport costs involved. To the extent possible, such mergers should also facilitate the existing policy of mixing school pupils from different socio-economic backgrounds.

The number of teachers could be reduced and the number of teaching hours increased

The average number of students per teacher (full-time equivalents) is lower than in most other OECD countries at all levels in the school education system, even though the average number of students per class is not very different from the mainstream[6] (Figure 4.7). Against this, the teaching burden of Hungarian teachers is also low by international comparison, especially in secondary education (Figure 4.8). In fact, the total statutory working time of Hungarian teachers is similar to those in other OECD countries, but they spend less time in actual teaching.[7] It should be noted that the number of non-teaching staff is very low, implying that teachers are required to engage in administrative and other non-teaching activities.

Although high or low pay for teachers are not necessarily associated with either outstandingly favourable or unfavourable outcomes,[8] there is no doubt that Hungarian teachers are poorly paid in both absolute and relative terms. They are paid considerably less than teachers in most other countries, even allowing for lower per capita GDP. Figure 4.9 shows that lower secondary school teachers are the lowest paid in the OECD area in purchasing power parity dollar terms, despite a large rise in 2002-03. Even relative to per capita GDP, such salaries are one of the lowest in the OECD (the even lower earnings for Norwegian teachers are to some extent biased downwards because of the large share of the petroleum sector in GDP). Broadly speaking, the low salaries offset the low teaching burden so that at least at the upper secondary level, salary costs per student are close to the OECD average.

Another feature of Hungarian teachers' salaries compared with those in other professions is not only their low starting levels but also their widening differentials thereafter. Starting salaries of qualified teachers are about 90% of those of other graduates, falling to around 55% after 10 years. The differential narrows thereafter, but barely rises above 70% even after 30 years of experience (Figure 4.10). In public schools, teachers' salaries are determined by the relevant civil servant scale. Teachers in private denominational and "foundation" private schools are paid in essentially the same scale as those in public schools, but non-public school managers can top up teachers' salaries if

Figure 4.7. **Student-teacher ratio and average class size**

By level of education, 2007
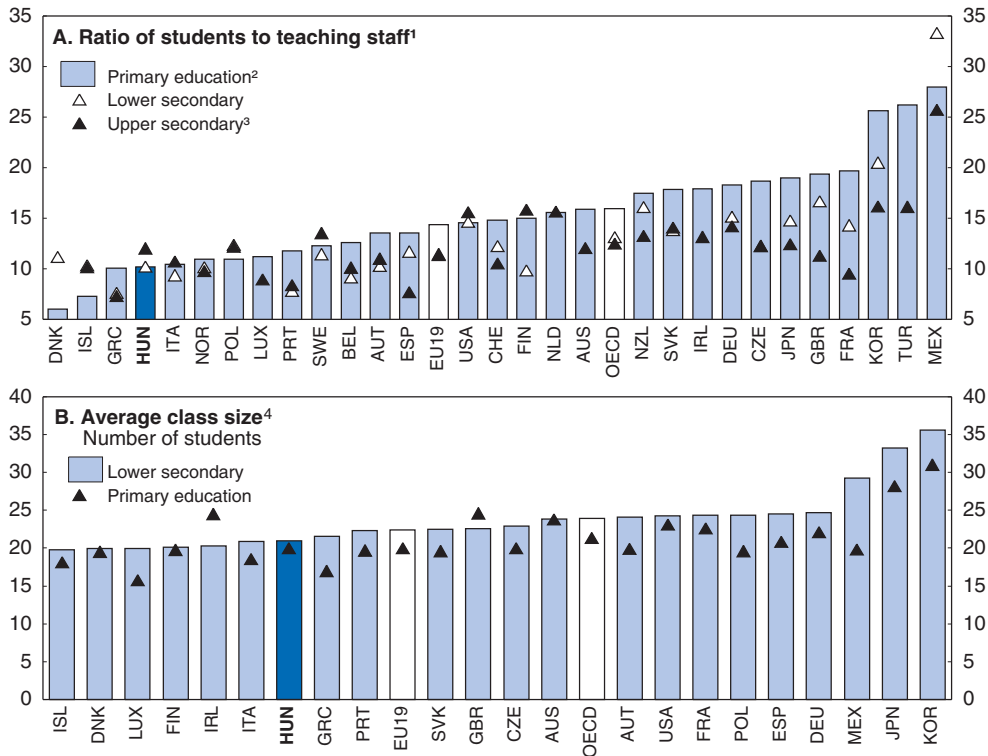
1. Calculations based on full-time equivalents. Public institutions only for Ireland (at secondary level), Luxembourg, Norway and Switzerland.
2. Pre-primary level for Denmark and Iceland.
3. All secondary education for Australia, Ireland, Luxembourg and Netherlands. Only covers general programmes in Australia, Switzerland and the United Kingdom.
4. Public institutions only for Ireland.

Source: OECD (2009), *Education at a Glance 2009.*

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Figure 4.8. **Number of teaching hours**

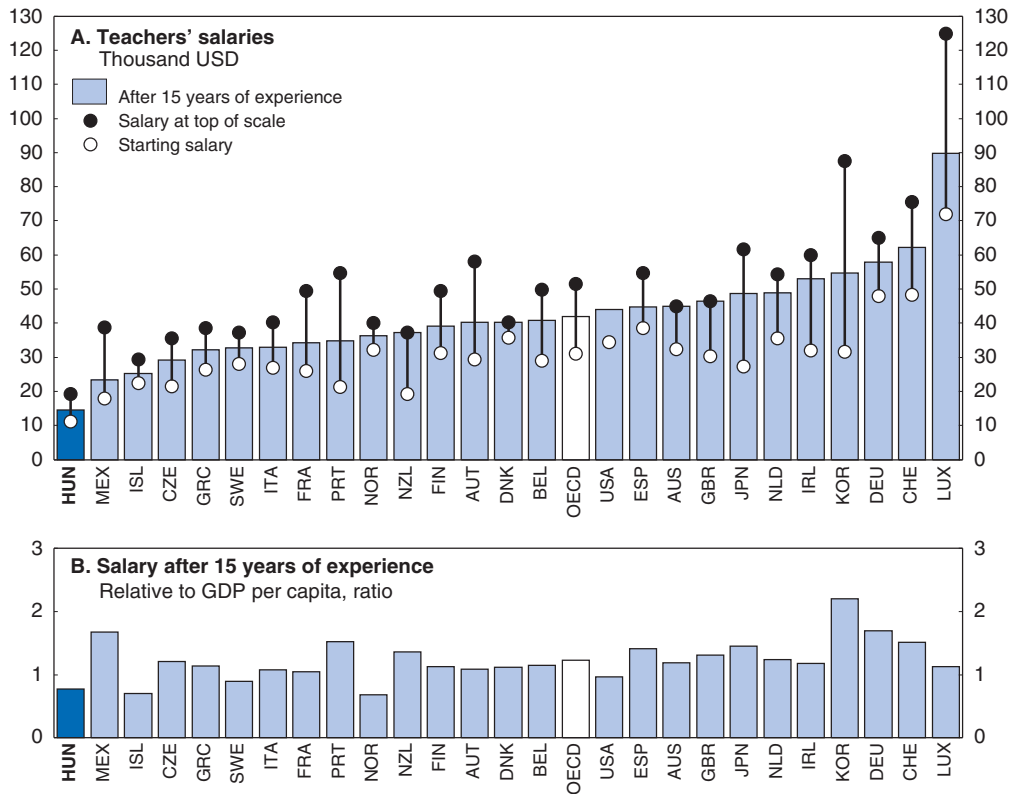Per year in lower secondary education, 2007[1]
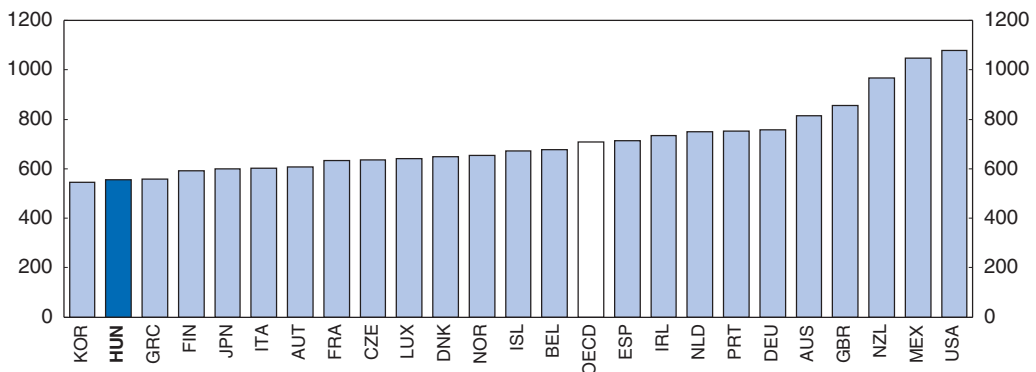
1. Data for Belgium is an average of French and Flemish areas; for the United Kingdom the only data available is for Scotland.

Source: OECD (2009), *Education at a Glance 2009.*

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Figure 4.9. **Teachers' salaries relative to teaching experience**[1]

In equivalent US dollars, 2007[2]

A. Teachers' salaries
Thousand USD

- After 15 years of experience
- Salary at top of scale
- Starting salary

B. Salary after 15 years of experience
Relative to GDP per capita, ratio

1. Annual teachers' salaries (after minimum training) in public institutions in lower secondary education. Data for Belgium and the United Kingdom is an average of regional data available.
2. Using purchasing power parities.

Source: OECD (2009), *Education at a Glance 2009*.

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Figure 4.10. **Relative evolution of teachers' salaries**

Qualified teachers' salaries in per cent of all graduate salaries, 2005

Years of experience
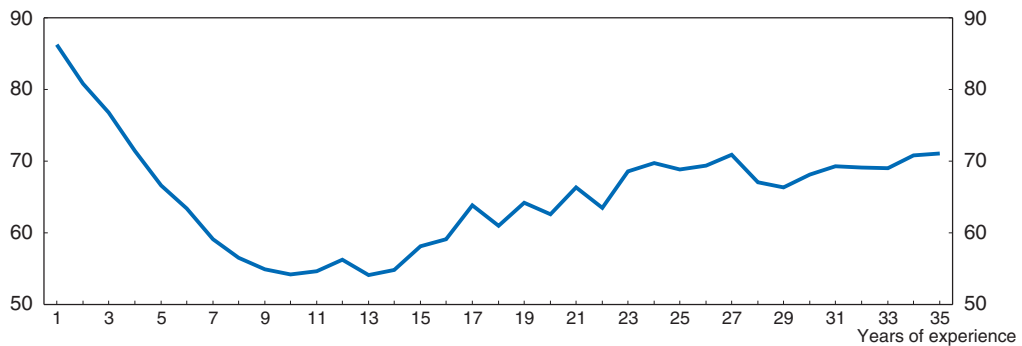
Source: Varga, J. (2009), "Institutional Structure and Funding in Education", in Fazekas, K., J. Köllő and J. Varga (ed.), *Green Book: For the Renewal of Public Education in Hungary*, Ecostat, Budapest.

StatLink *http://dx.doi.org/10.1787/786528455074*

they have the means to do so. Low salaries and low teaching burdens may discourage well-qualified and hard-working individuals from entering the teaching profession. In the longer term, the ratio of actual teaching among the total statutory working time should increase. The resulting gains in efficiency could be used either to reduce the number of teachers or increase the relatively low salaries of teachers, or a combination of both. The recent change to the calculation of the state grant to municipalities (see above) should help them assess if they are employing too many teachers, and adjust their numbers over time. A gradual rise in real salaries (relative to salaries in other professions), if combined with significant increases in teaching burdens towards the OECD average, could attract better-qualified individuals into the profession, and help raise outcomes faster than costs.

Teacher quality and education outcomes

Much research shows that teacher quality is the second most important factor (after family background) influencing educational achievement (OECD, 2005a). Measuring teacher quality is not as straightforward as measuring educational outcomes, and Kárpáti (2008) observes that in the case of Hungary, "at present, no indicators are available which could provide unambiguous and simple-to-use methods of measurement", although one indication is that teacher-training programmes are chosen by school-leavers with poorer than average skills (Varga, 2007). It has been relatively easy until recent reforms to enrol in teacher training programmes, and the programmes themselves focused on acquiring academic knowledge rather than teaching skills. Hence, although the qualifications for entry into the profession appeared on paper to be comparable to those in other professions, the actual quality of incomers has probably been somewhat below (Kárpáti, 2008). Some students opted for the teacher training programmes, not because they wanted to become teachers, but because the entry barriers were low.

Poor performance by a school or an individual teacher does not automatically result in enquiries or sanctions. Consistently, below-average performance of individual teachers should trigger remedial action, for example by counselling and/or retraining. Teachers have to be certified by the national authorities, a feature that OECD analysis shows is positively associated with input-saving efficiency (Sutherland *et al.*, 2007), but there are no publicly available national assessments of the quality of individual teachers. However, school managers regularly assess the teaching qualities and results of their staff. As viewed by the school manager, good performance helps promotion prospects and can lead to bonus payments.

Reforms introduced as from 2004 mean that prospective teachers must from now on spend up to three years acquiring knowledge in their specific topic area (languages, science, etc.) followed by up to two years studying teaching-related issues (pedagogy, psychology, etc.) and acquiring on-the-job experience as trainee teachers, in order to qualify for the Masters Degree in Education (the first set of master level programmes starts in 2009). These reforms should help to raise the average quality of new entrants to the profession in future, and possibly reduce the excessive numbers.[9] Kárpáti (2008), however, argues that the accreditation requirements are laxly administered. The overarching importance of teacher quality for good educational outcomes implies that selection of candidates for admission to the courses should be tightened, and high standards imposed nationally.[10] Entry criteria and courses taught in teacher training institutions should be independently assessed. This is all the more important because of the decentralised nature of the Hungarian teacher training system. Most of the 33 accredited institutions

(universities and colleges) are state run, but there are a significant number of independent institutions also offering teacher training programmes, with no centrally-based system of assessment or control. Teachers' competencies are normally assessed by the head teacher in a school (the school manager). Studies by Falus (2004) and Golnhofer and Nahalka (2002), as reported in the *Green Book* (Fazekas *et al.*, 2009), found that for the assessor, the most important aspect of a teacher's profile was his or her interest in shaping students' personalities, and least important the willingness to perform additional duties.

As from the late 1990s, teachers must participate in professional development programmes, of which some are offered by private businesses rather than teacher training faculties in academic institutions. OECD (2008b) urged the introduction of strict quality controls for all such programmes. Although most teachers attending professional development programmes expressed satisfaction with them, relatively few claimed that their teaching improved as a result (Nagy, 2004 as quoted in Kárpáti, 2008).

The school system has few negative features

Some features of school systems that have been found to be negatively associated with efficiency are not prevalent in Hungary. For example, the choice of school is not dictated by residence (although this may not represent a real choice for poorer parents living in small villages). Also, school autonomy is extensive. However, for school autonomy to be associated with good outcomes and efficient service delivery, school management has to be of high quality, otherwise resources will be wasted in ways that might not be easy to detect. Although school budgets are audited to prevent fraud and gross mismanagement, the auditors have no mandate to compare spending with outcomes. The national school assessments provide a check on outcomes, but they have little influence on either school budgets or teachers' careers (see for example Indicator D6 in OECD, 2009).

More fundamentally, the head teacher of a school is also the school manager, ultimately responsible for its management, including hiring and (more rarely) firing teachers, deciding on allocation of teaching time to each curriculum topic, managing the school budget and in general, providing a "leadership" role. Little or no training or coaching in management techniques had been given to head teachers in Hungarian schools in the past, but in-service teacher examinations were introduced in 1997 and teachers with such qualifications were given priority when recruiting head teachers. The system of head teachers' training has also been legally regulated and training courses have been organised since 1996. As from 2010, all newly-appointed head teachers must pass an examination in both teaching ability and management. Since head teachers are appointed on fixed-term 5-10 year contracts, eventually all head teachers will have to prove their ability in this field. Failure in the exam will disbar them from employment as a head teacher. This policy should be rigorously imposed.

Benchmarking of individual school performance is associated with good outcomes, and benchmarking exists in Hungary. Since 2003, the National Assessment of Basic Competencies in mathematics and reading has been administered for all students in 6th, 8th and 10th grades.[11] The results of the 2006 assessment showed that less than 10% scored at the highest level, whereas about 40% of school children scored at the lowest levels, 1 or below (Sinka and Horn, 2006). The tests used to be supervised by school-independent inspectors in relatively few schools, and the results were processed by the schools. Only a small proportion of results used to be centrally coded, processed, and disseminated (Kertesi, 2008). Since 2007, the Education Authority collects and centrally

processes all individual tests and prepares reports for all schools about their performance. Recent ministerial decrees help schools to commission analyses of the results of national tests, and to improve their own performance. Parents can access the results. To further improve the reliability of the national assessments, the proportion of tests invigilated by independent inspectors should be increased, and to improve their utility, individual school results should be coded and disseminated in a more timely fashion, preferably adjusted for the socio-economic background of the student body.

All in all, the Hungarian school system therefore possesses many features that should result in better than average educational outcomes (as measured by the PISA assessments). In fact, outcomes are only average, suggesting that reforms could raise outcomes, or cut costs, or both. Since around 80% of education costs are teachers' salaries, and these are already low, the scope for major cost-cutting is probably limited to encouraging further mergers between municipalities of education responsibilities to help increase average school size. But outcomes could be improved, notably by focussing efforts on raising educational achievements and competencies for those coming from disadvantaged backgrounds.

The transition to the labour market is difficult for many, notably for students in vocational training

Education is a worthwhile investment for the individual and society to the extent that it adequately prepares students for their working lives. In this respect, some aspects of the Hungarian school education system still need improvement. Those who leave full-time education at the earliest possible age find it difficult to enter the labour market. The employment rate for youth (age 15-19) was less than 3% in 2008, compared with an EU19 average of over 6%, and is the lowest rate in the OECD area (Figure 4.11). Nearly 40% of this age group in the labour force were unemployed in 2005 (Institute of Economics, HAS, 2007). The percentage of youth enrolled in education, on the contrary, exceeds both the OECD and EU19 averages (Table 4.2).

Figure 4.11. **Employment rates for youth**

Per cent, age 15-19[1]
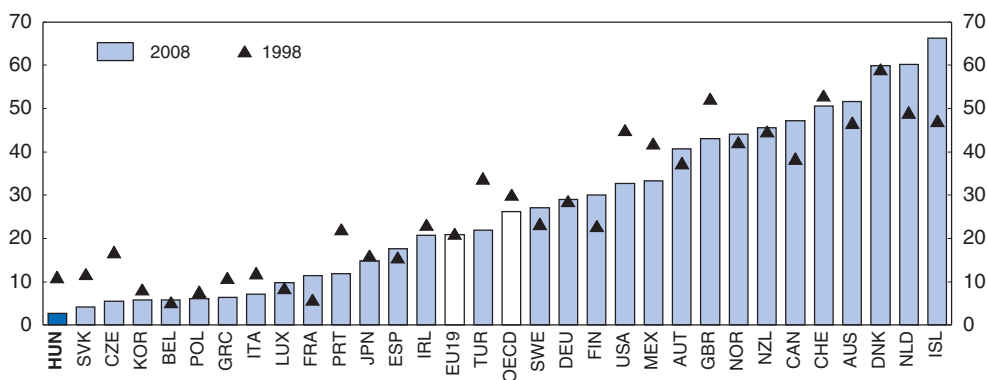
1.   Age 16-19 for Norway, Spain, United Kingdom and United States; also for Sweden in 1998.

Source: OECD (2009), *Labour Market Statistics* (database).

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The education-work transition is thus problematical for those leaving full-time education at the end of the compulsory period. This is especially the case for those who attended vocational training schools. In the year following the end of compulsory

Table 4.2. **Youth employment and non-employment rates**

Per cent of population in age group

	1997			2007		
Age group	15-19	20-24	25-29	15-19	20-24	25-29
Hungary						
In education	85.8	28.5	6.5	92.3	49.2	13.9
Not in education						
Employed	5.3	42.3	58.2	2.7	33.9	63.2
Not employed	8.9	29.2	35.3	5.0	16.9	22.9
EU19 average						
In education	85.2	36.4	12.2	87.7	42.2	13.6
Not in education						
Employed	7.9	45.3	66.7	6.6	43.2	69.2
Not employed	7.0	18.4	21.1	5.8	14.6	17.2
OECD average						
In education	80.6	34.5	12.0	84.3	41.0	14.0
Not in education						
Employed	11.1	46.7	67.3	8.6	44.1	68.9
Not employed	8.9	18.8	20.7	7.2	14.9	17.0

Source: OECD (2009), *Education at a Glance 2009.*

education, the great majority of those who were enrolled in a general secondary school (*gimnázium*) are continuing their studies, but only a third of those who exit from vocational training schools do so. About 30% of vocational training school leavers will be unemployed or not in the labour force (Tables 4.2 and 4.3). Of the annual cohort of approximately 330 000 persons currently in compulsory education, some 5 000 have not reached grade 8 by the age of 16, and around 20 000 leave school after completing primary education, or drop out of secondary school (Liskó, 2008).

Table 4.3. **Labour market status of school leavers**

Year after leaving school, per cent, 2003

School type	Studying	Working	Unemployed	Other	*Number (thousand)*
Six or eight-year academic school	97.1	. .	. .	2.9	*35*
Traditional academic secondary school	88.9	4.9	1.2	4.9	*81*
Vocational secondary school	66.4	14.6	10.9	8.0	*137*
Vocational training school	35.4	35.4	19.5	9.8	*82*
Total	**67.5**	**15.8**	**9.6**	**7.2**	***335***

Source: Fazekas, K., J. Köllő and J. Varga (ed.) (2009), *Green Book: For the Renewal of Public Education in Hungary*, Ecostat, Budapest.

Despite the decline in student numbers, the proportion of Hungarian students enrolled in the two types of vocational schools after the end of the 8th grade remains high (see Annex 4.A1), so the effectiveness of these establishments in providing high-quality education and training is of great importance. The OECD recently published an in-depth analysis of the vocational education and training (VET) system in Hungary in its series of country reviews *Learning for Jobs* (OECD, 2008c). A major criticism of the vocational training schools was that, although students enter them at age 14, actual practical training does not commence until the age of 16 (or later for those who have had to repeat classes), and that the practical training provided on school premises was of uncertain quality, as well as

being limited in quantity. Students who enter such schools to learn a trade find that they must spend the first two years in general education[12] (and the vocational training schools in particular do not attract the best quality teachers). They lose motivation and often leave as soon as legally possible. Employment rates for those who have only lower secondary education (*i.e.* who left school before the now compulsory age of 18) are less than 40%, compared with an OECD average of nearly 60%. Potential employers of vocational school leavers, especially those exiting from the vocational training schools, complain that they often do not possess skills relevant for the modern workplace, or not to a sufficient extent, and that too many are barely employable in any occupation. As practical training provided on school premises is of uncertain quality as well as limited in quantity, the policy to favour practical vocational training in regional integrated vocational training centres and in workplaces (apprenticeship system), rather than in the vocational schools should be continued. In addition, given the poor record of the vocational training schools in preparing students for the labour market, the government should strengthen them, for example by offering similar education standards as in vocational secondary schools in order to offer all vocational students the same teaching resources, and adequately prepare all interested students to sit for the matura examination if they wish. The thematic review "Equity in Education" (OECD, 2005b) already recommended this approach to help deal with the problem of low employment rates among early school leavers.

The OECD report on Hungarian vocational training recommended that the grade at entry to secondary education be raised from 9th to 10th grade. At the time of writing, there are no plans to change the age of transition from primary to secondary vocational schools. With important support from the Confederation of Employers, research has been carried out to better identify the particular skills that enterprises expect will be in highest demand in coming years, so that training courses can be adjusted accordingly, and school pupils informed about career possibilities.

The unsatisfactory state of vocational training offered in the schools themselves is widely acknowledged, but the schools are anxious to retain this training because of the financial implications. Many vocational teachers in such schools are elderly, often former workers in the large state enterprises of the previous era. The policy is to encourage the development of regional training centres, the "TISZKs", of which there are now 79, and which offer better facilities than the schools. The policy to favour vocational training in regional centres and in workplaces, rather than in the vocational schools should be continued. Two-year vocational programmes granting diplomas are also available for school-leavers. The recommendation to disseminate information to enterprises concerning the training levy will be hard to implement, especially for small firms, as the information is in the hands of the Chambers of Commerce to which many small and medium-sized enterprises are not affiliated.

Vocational training school leavers also find it difficult to find jobs that match their training, a mismatch that has deteriorated over the years. Some 60% of vocationally trained workers are either not in employment, or in fields that do not correspond to their professional qualifications (Kézdi, 2007; Kézdi *et al*. 2009). A strong indication that it is the type of training on offer that is currently the problem is the substantial wage gap between those with only vocational training, and those who left education with the matura qualification. In the past, young vocationally trained workers earned a premium, but no longer, and the wage gap widens with age (Figure 4.12). To improve the usefulness of the

Figure 4.12. **Wage differential of vocational degrees relative to secondary school (matura)**

Per cent
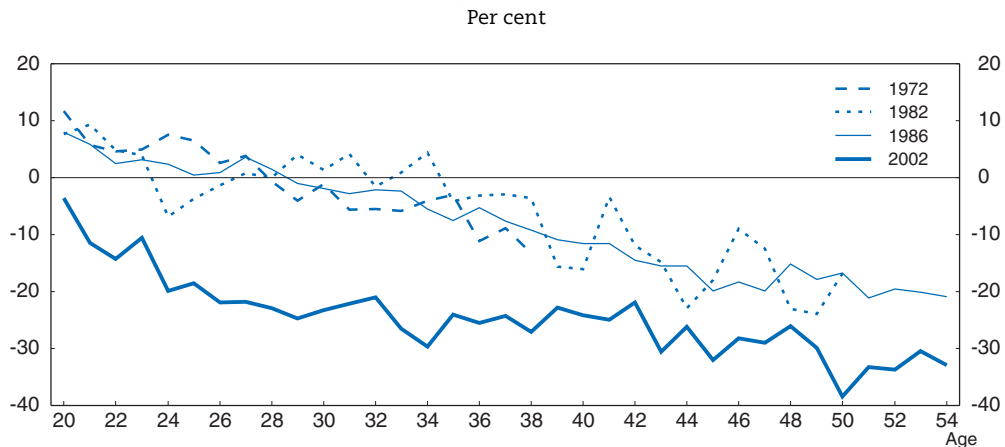
Source: Kézdi, G. (2008), "Közoktatás, Iskolai Tudás és Munkapiaci Siker", in K. Fazekas (ed.), *MTA Közgazdaságtudományi Intézet* (The Hungarian Labour Market), Institute of Economics, Hungarian Academy of Sciences, Budapest.

StatLink ⌸ *http://dx.doi.org/10.1787/786535840183*

courses taught, school leavers should be followed-up in their first years after school to gain feedback on the relevance of their vocational background.

Adult workers who lack skills, or lack appropriate skills, will find it difficult to compensate *via* additional training during their working lives. Although any Hungarian who has not passed the matura examination can present his or her candidature (the age limit is 50), the opportunity cost of pursuing the necessary studies is high if employed. And a recent Eurostat survey shows that Hungarian adults have the lowest participation rate in the EU for formal or non-formal job-related education and training. Hungarian adults are far less likely than other EU adults to participate in such training whether they are employed or unemployed, and whether they are high-skilled or low-skilled (Eurostat, 2009). Those concerned are well aware of their bleak job prospects. Confronted with the reality of their dismal labour-market prospects, about one third of vocational training school leavers decide to continue their studies elsewhere in the hope of acquiring qualifications that are valued by future employers. Some 85% of vocational training school leavers whose parents had the bare minimum of education themselves, many of them from the Roma ethnic minority (see Box 4.1) were dissatisfied with their job prospects. Those whose parents had received higher education (a small minority of such students) were far more sanguine (Liskó, 2004).

Students from disadvantaged backgrounds need to be encouraged to remain in education

In areas where there are fewer pre-school places available than there are potential candidates, priority is given to parents who are both working. This is a sensible rule, but can crowd out children from particularly disadvantaged backgrounds where neither parent works. Studies show that pre-school is particularly beneficial for such children, both educationally and socially. Pre-school attendance is associated with better educational and social outcomes subsequently, especially for children from disadvantaged backgrounds (see for example Box 4.1 in OECD, 2008d; and OECD, 2006b).

As in most countries, the Hungarian school system involves tracking, *i.e.* selecting students into different types of school at a particular stage in their school career, on the

Box 4.1. **The Roma**

The Roma is Europe's largest and poorest ethnic minority, estimated at between 7 and 9 million people, mostly living in former communist countries of Central and Eastern Europe. In Hungary, they are concentrated in comparatively small communities in the north-east and south west of the country. The exact numbers of Hungarian Roma are not known precisely as it is not compulsory to provide such information in censuses. The best estimates put the Roma population at about 6% of the total at present.

Many Roma adults have low educational attainment – some did not even complete primary education, low incomes, irregular attachment to the labour market, often marry young, and have larger families than the non-Roma. Their economic status was exacerbated in the mid-1980s when the virtual collapse of large-scale manufacturing industry led to a sharp drop in demand for unskilled workers, which persists. Until then, the Roma/non-Roma educational gap had been slowly narrowing, but has subsequently widened again (Kertesi and Kézdi, 2005).

As an ethnic group, the Roma are undeniably at a disadvantage compared with non-Roma (see Table 4.4). The average Roma school pupil is likely to leave full-time education as soon as legally possible, with few qualifications, and remain at the margins of the labour market thereafter. If long-standing demographic and educational trends continue, a substantial and rising proportion of the Hungarian population of working age in future decades will consist of low-productivity poorly-educated workers, with low employment rates and high unemployment rates, posing serious implications for economic growth, living standards and social policies. Demographic projections imply that the Roma population will rise to 8½ per cent of the total by 2021. Given the relatively large size of Roma families, the proportion of school age could reach 20% of the total by that year.

Table 4.4. **Roma statistics**
Per cent

		Roma	Non-Roma
Shares in	Total population	6	94
	Primary school	13	87
Proportion entering	Academic and vocational secondary schools	37	70
	Vocational training schools	63	30
	Tertiary education	< 1	~50
Educational attainment of adults born in 1980	Primary education	75	96
	Vocational school	20	25
	Matura	< 5	50
Employment rates (age 20-39)	Men	30	78
	Women	20	65
Parental education attainment	Primary school or less	84	24
	Tertiary	< 1	17
Number of children in family	0-2	35	90
	> 3	41	3

Source: Ministry of Education and UNDP (2003), "National Report – Hungary", background paper for the Report *The Roma in Central and Eastern Europe: Avoiding the Dependency Trap*, United Nations Development Programme, Bratislava, available at: *http://roma.undp.sk*.

basis of their assessed performance and expressed preferences. In Hungary, tracking occurs at age 14 for those who started primary school at the standard age of six (it should be mentioned that increasingly the school-starting age is seven and for these children,

tracking starts at age 15) and did not repeat classes thereafter. Tracking is widely believed, but with a lack of evidence, to lead to greater efficiency in teaching. Several OECD countries (France, Italy, Norway, Portugal, Spain, Sweden, United Kingdom and United States) have moved away from early tracking in recent decades, and no country has moved in the opposite direction. The movement towards detracking was influenced by the finding that tracking tended to perpetuate existing socio-economic differentials: children from poorer families end up in less intellectually challenging schools, surrounded by less intellectually challenging school friends, and spend less time in education, and *vice versa*. In the typical OECD country, tracking currently starts at the earliest at age 15, and in several countries, there is no tracking during the period of compulsory education. Only a handful of countries – *e.g.* Austria, Czech Republic, Germany, Hungary, Slovak Republic, Switzerland and Turkey – allow, or impose, tracking at earlier ages (as early as age 10 in the case of most German Länder and in Austria).

Two conditions have to be met for tracking to lead to better educational outcomes than no tracking: first, the judging of innate ability at the age of tracking must be accurate, second, the quality and relevance of the teaching effort devoted to each student type must permit all students to achieve their maximum potential. In practice, it is hard for these conditions to be met. Children mature intellectually at different rates, so that age-based tracking is unlikely to be optimal (Meier and Schütz, 2007). Second, children learn from each other as well as from their teachers, and segregating children of different ability prevents the less able from learning from the more able, lowering the attainment of the less able students. Although there is no firm evidence that tracking results in inferior average achievements (Meier and Schütz, 2007), it is clearly associated with greater variance in outcomes, as is the case in Hungary. Schütz *et al.* (2005) find that early tracking heightens the negative impact on attainment of family background. As well as leading to superior educational outcomes, comprehensive education institutions tend also to reduce economic and ethnic barriers to social integration. And, as noted earlier, whereas most features of the Hungarian school system should result in superior PISA results, the actual results are only average.

Tracking could also be justified if it results in the creation of disproportionately large numbers of students with the very highest skills, who will eventually contribute to a disproportionate extent to productivity growth and innovation. However, the 2003 PISA results for mathematics competence (OECD, 2004) show that in Hungary, Germany, the Czech Republic and the Slovak Republic, countries which all practice early tracking, do not have above-average performance in mathematics. In addition, the 2006 PISA results for science competencies show that whereas Hungary has a somewhat lower proportion than the OECD average of pupils scoring at the lowest levels (level 2 and below), it also has relatively fewer scoring at the highest levels (level 5 and above). And although Hungarian pupils scored above average, though by no means outstandingly so, in explaining phenomena scientifically and using scientific evidence, they were markedly below average in identifying scientific issues.

Overall, in the case of Hungary, early tracking almost certainly results in the perpetuation of existing socio-economic differentials. Parents who have themselves benefited from a high level of education, place a high value on education and have the financial means, will select schools for their children that are perceived to offer better quality education. Parents who themselves have had very limited educational achievements and low incomes may acquiesce to their children leaving education at the

earliest possible opportunity in order to help the family finances. In some countries, it is particular groups of immigrants who play this role (see for example OECD, 2008d). In Hungary, this role is played largely by the Roma (see Box 4.1 and following section).

Better integration of the Roma minority is the priority

Various measures have been taken to address the Roma education challenge. In the past, one reaction was to set up "gypsy schools" catering more or less exclusively for the Roma population at the primary level. But this only exacerbated the isolation of the Roma community. It is estimated that there are now nearly 200 primary schools in which Roma are in the majority, and 1 200 classes are attended solely by Roma children (Fazekas *et al.*, 2009, Chapter 5). Such schools typically have lower educational services and standards. Current policies are intended to encourage Roma integration with the rest of society from the earliest possible age. In Hungary the target group of educational equity programmes, including social integration programmes, is – irrespective of the ethnic origin – those with cumulative disadvantages, which includes a high proportion of Roma children. Primary schools are now forbidden to apply entrance examinations, and entrance examinations for public secondary schools are now national rather than school-specific (however, private "foundation" and denominational schools remain selective). Research shows that integrating young children from different ethnic backgrounds in pre-school raises the probability that they will remain longer in education after the minimum age limit, and reduces social prejudices in both directions (OECD, 2006b). Legally, municipalities must provide pre-school places for at least the compulsory year, but it is highly desirable that pro-active efforts be made to encourage parents from especially disadvantaged backgrounds to enrol their children for two or more years in kindergartens. Roma parents are often unaware of the potential benefits, and in zones where pre-school places are insufficient, families with two working parents take priority in the queue, whereas many Roma families have no working parent. Since the Roma are often concentrated geographically, their municipalities have lower tax bases and can less afford to provide educational facilities even of average quality. Recently, the Hungarian authorities have adopted a system of cash awards to disadvantaged parents whose children attend kindergartens on a regular basis, and such attendance is regarded as high priority by the education authorities.

Another recent policy measure is a "sticks and carrots" approach, financially rewarding schools that accept Roma pupils that they would otherwise not be obliged to, and sanctioning those that refuse. The first assessments of this integration programme suggest that the performance of Roma students rises, while that of the non-Roma is unaffected. The number of such "integrated" schools now exceeds 1 500. Some teachers are said to be hostile, however. The government also makes funds available for defraying the maintenance costs of Roma students (and non-Roma students from disadvantaged backgrounds) who remain in vocational training after the school leaving age, living in centres designed for that purpose.

Targeted policies such as these add to budgetary costs, but insofar as they succeed in raising the educational attainments of the target population, they could prove to be a valuable investment. Kertesi and Kézdi (2006) estimate that, discounted to age four, the benefit to the national budget of policies that result in a Roma child remaining in secondary school and passing the matura examination (instead of dropping out of a vocational training school) amount to some EUR 70 000, even excluding lower spending on pensions, child allowances and health costs. This results from higher tax and social

security receipts and lower unemployment benefits during the working life of the individual. Even if only one child in five were to succeed, the authors calculate that there would be a net benefit to the budget.

Since integration reduces social prejudices and helps the less able pupils, and those from disadvantaged backgrounds, a shift to a more comprehensive structure of education, for example until 10th grade, would probably help improve the educational status of Roma children – and make them more aware of the benefits for their own children.

Improve financing of tertiary education to support innovation and growth

Until the recent past, tertiary education in Hungary took place in "colleges" and universities. Colleges provided professionally-oriented 2-3 year tertiary type "B" courses, and were not equipped to perform fundamental research on any scale. Universities taught more academic subjects and granted the equivalent of master's degrees after five-year courses. As from 2005, tertiary education switched to the Bologna system of bachelor, masters and doctorate degrees, with the first set of bachelor laureates graduating in 2009. An in-depth assessment of the performance and efficiency of individual institutions under the new system will be made in 2010, with interim assessments in 2008 and 2009. The 2008 assessments have recently become available. They show that out of the 28 public institutions surveyed, only one was deemed unsatisfactory, 7 were excellent, and the remaining 20 were good or acceptable. The programme of assessing tertiary institutions beyond 2010 should continue and it should be ensured that the continuing subsidy of failing institutions and faculties is conditional on rapid improvement.

Most tertiary education institutions are public, financed directly by the state. Denominational and foundation institutions are also mostly state-funded. Tuition is free for state-financed students (but not for those paying a contribution to their tuition costs) who are accepted on the basis of their matura results and who maintain or reacquire satisfactory grades (a recent referendum turned down a proposal to charge such fees for all students). Student loans exist since 2001 and they are guaranteed by the state. About 30% of qualifying students took up such loans in 2003-04 (Oliveira Martins *et al.*, 2007) and universities can give merit-based grants out of their resources. The state finances about 80% of spending on tertiary education, amounting to 1.0% of GDP in 2005, somewhat less than the EU and OECD average.

The combination of a switch to the Bologna system, massive rationalisation in the numbers of higher education institutions and the rise in enrolments has put the tertiary education system under some strain, and average funding per student has fallen in real terms. Accreditation of new courses has proceeded apace, and the 2010 review may reveal some quality issues. Anecdotal evidence implies that the average quality of tertiary students has fallen over the years, but this is to be expected.[13] Despite mergers and rationalisation, some tertiary institutions still try to cover too many topic areas, especially given the low numbers of students enrolled in some of them. Anecdotal evidence suggests that the arrival on the job market of the first set of bachelor graduates has been problematic for some, possibly because their salary expectations were unrealistic, especially given the economic crisis. It is also possible that because tuition is free for many, some students opt for courses that they find congenial, rather than those that will help them become productive members of the labour force. Nor do universities have financial incentives to discourage them, although to counteract this, the state financing of higher

education places takes into consideration forecast labour market demands. In the longer term the authorities should reopen the question of free tuition for tertiary students, while continuing ways of defraying the living expenses of students from particularly poor families. Charging more for tuition will at most slow the rate of increase in university graduates (as well as encourage students to be more diligent and spend fewer years to complete the programme), but would not revert the trend owing to the high salary premium of university graduates. The current student loan system is appropriate and should continue to be encouraged.

Although numbers of tertiary graduates are rising, the proportion opting to study the kinds of science subjects important for innovation has diminished (as in most OECD countries). Even though the PISA results for science competencies are slightly above average, Hungary has by far the lowest number of science graduates per 1 000 population among OECD countries: less than 8 compared with an OECD average of nearly 17 (OECD, 2008a). Similarly, research and development (R&D) personnel account for about 6 per thousand in the total Hungarian labour force, a proportion similar to that in Poland and the Czech and Slovak Republics, but one which is not much more than half the EU average. The *OECD Review of Innovation Policy* for Hungary (OECD, 2008e) noted that "the standard innovation performance indicators confirm that the overall level of innovation activity is low and innovation based on R&D even weaker". It also noted that "insufficient innovation capability is among the factors preventing Hungary from better adjusting to evolving competition, notably from emerging economies, and from seizing the opportunities arising from technological change and globalisation". A high proportion of R&D in Hungary is undertaken by a small number of large foreign-owned high-tech firms with few links to the rest of the domestic economy, which take advantage of low labour costs, and export most of their output. The European Innovation Scoreboard puts Hungary at well below the level of most other countries on most measures, especially in-house innovation by small and medium-sized enterprises.

Lack of interest in science starts at an early stage: well under 10% of matura candidates opt to sit for the physics and chemistry examinations (although a comparatively high proportion of those that do, opt to take them at the advanced level). The OECD Review of Innovation Policy recommended *inter alia* strengthening education in mathematics, technology and science in primary and secondary schools so as to motivate higher numbers to pursue such studies at the tertiary level. A structural problem in this area is that to expand over time, the numbers opting for education in growth-enhancing fields, there needs to be more well-qualified teachers of these subjects at all educational levels. Expanding output by lowering entry standards to tertiary education in these topics would be self-defeating in the longer term. It is recognised at an official level that numbers of skilled scientific personnel are inadequate, and the Science, Technology and Innovation Policy Strategy focuses on this issue. Financing of university positions in science and technology receives more priority than previously, for example. The authorities should continue to prioritise the allocation of finance to topic areas which are likely to prove conducive to economic growth.

Per capita growth of GDP involves increases in physical and human capital, and technological progress, or total factor productivity (TFP). In the long term, TFP is typically the most important factor, and innovation is its the most important contributor, since innovation results not only in new products, but also more efficient ways of producing and distributing existing ones. Two kinds of knowledge are important for innovation to succeed:

Box 4.2. **Policy recommendations**

Improve the outcomes of pre-school learning

- Pro-actively encourage parents from poor backgrounds, especially Roma, to send their children to pre-school before the compulsory period.

Improve school efficiency through better quality of teaching and cost saving measures

- Independently assess entry criteria and courses taught in teacher training institutions.
- Increase the proportion of national assessment tests invigilated by independent instructors and, to improve their utility, a higher proportion of individual school results, preferably adjusted for the socio-economic background of the students, should be coded and disseminated in a timely fashion.
- Increase the ratio of actual teaching among the total statutory working time. The resulting gains in efficiency could be used either to reduce the number of teachers or increase the relatively low salaries of teachers, or a combination of both.
- There remains scope for further school mergers, and in the interests of providing high-quality education, they should continue, despite the transport costs involved.

Improve the quality and relevance of vocational training

- Implement the policy recommendations of the OECD review of vocational training in Hungary. Continue to favour practical training in regional vocational training centres and in workplaces, rather than in training workshops of the vocational schools.
- Gradually merge the vocational training schools with the vocational secondary schools, offer all vocational students the same teaching resources for both the standard curriculum and vocational courses, and permit all students to sit for the matura examination, if they wish.
- Follow up vocational school leavers in their first years after school to gain feedback on the relevance and usefulness of the courses taught.

Slow the cost of rising enrolments in tertiary education

- Continue the programme of assessing tertiary institutions beyond 2010, and ensure that the continuing subsidy of failing institutions and faculties is conditional on rapid improvement.
- Improve financial incentives to pursue tertiary studies diligently by tightening the conditions under which students continue to receive free tuition, but consider ways of defraying the living expenses of students from particularly poor families.
- Continue to prioritise the allocation of finance to topic areas which are likely to prove conducive to economic growth.
- The student loan system is appropriate and should continue to be encouraged.

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high-level skills to make original discoveries and advances; and lower-level skills that enable enterprises to become aware of advances made elsewhere, and how to incorporate them in their own business.[14] The main challenge for Hungary is to expand the numbers of the latter, and create conditions for the exchange of information concerning innovation. This, too, might be aided by less tracking at an early age. One conclusion of the *OECD Review of Innovation Policy* in Hungary was "the authorities should reconsider the current system of segregating secondary school students into vocational and academic streams, as this has a tendency to misallocate students. Furthermore, the division into vocational and academic streams is less useful for providing skills for modern labour markets".

Notes

1. For example, the PIRLS (Progress in International Reading Literacy Study), which evaluates literacy of 10-year olds across the sample of countries, the TIMMS survey of mathematics and scientific skills in 4th and 8th grade, and the OECD's PISA assessments of competencies in science, mathematics and literacy for 15-year-olds.

2. Tertiary-type A programmes (ISCED 5A) are largely theory based and are designed to provide sufficient qualifications for entry to advanced research programmes and professions with high skill requirements. Tertiary-type A programmes have a minimum cumulative theoretical duration (at tertiary level) of three years' full-time equivalent, although they typically last four or more years. These programmes are not exclusively offered at universities. Tertiary-type B programmes (ISCED 5B) are typically shorter than those of tertiary-type A and focus on practical, technical or occupational skills for direct entry into the labour market, although some theoretical foundations may be covered in the respective programmes. They have a minimum duration of two years full-time equivalent at the tertiary level.

3. Pre-school attendance is associated with better educational and social outcomes subsequently, especially for children from disadvantaged backgrounds (see for example OECD, 2008d Box 4.1 and OECD, 2006a).

4. Greater autonomy encompasses the degree of localised decision-making; clarity in the allocation of responsibilities as between both central and sub-national authorities, and between sub-national authorities; and consistency in assignment of responsibilities. At the school level, managerial autonomy includes flexibility in wage-setting and job status, credible rewards and sanctions, and coverage of school and teachers' performance. For parents and students, autonomy includes choice of school irrespective of residence or school type (public or private).

5. Until recently, schools could set their own entrance criteria. As from 2009, all secondary schools can apply central, uniform, competence-based written entrance exams in Hungarian language and mathematics. About 60% of secondary schools do so.

6. The impact of class size on educational outcomes has long been the subject of heated debate. Both parents and teachers prefer smaller class sizes, but within-country and (especially) cross-country analyses usually fail to support these views, perhaps because there is not much variation in class size. Krueger (2002) and Piketty (2006) nevertheless find that smaller class sizes are associated with somewhat better outcomes for specific student types.

7. The low teaching burden is not the result of there being many small schools with small class sizes. The teacher/pupil ratio fell in all types and sizes of schools after the beginning of the demographic transition.

8. Relative to per capita GDP, the highest paid teachers among OECD countries are in Korea and Mexico, and the lowest paid are in Iceland, Hungary and the United States. Korean 15-year-olds had well above average performance in the 2006 PISA science assessments, those from Mexico were the worst performing, and those from Iceland, the United States and Hungary were about average or slightly below.

9. However, the history of education remains a compulsory part of the course, rather than an option. Given that aspiring teachers must master an increasing volume of knowledge before starting their professional career, it is hard to see the justification for retaining education history as a compulsory subject.

10. In the best-performing countries, like Finland, teachers are typically selected from the ranks of the most academically successful tertiary students, those with PhD qualifications, and experience of research.

11. According to Kertesi (2008), the accuracy of the national assessments was questioned in the past because of various sources of sampling error, insufficient oversight, lack of sanctions for non-compliance, and insufficient financing.

12. The vocational schools also provide some pre-vocational training and career orientation during the two first years.

13. The argument that "more means worse" can be countered by the argument that "more means more". Presumably, restricting the tertiary intake to the best 1% of school leavers would raise average quality, but would not be an optimal policy.

14. In the summer of 2009 the government endorsed action plans for the development of knowledge-based, technology-intensive sectors with high added value (automotive industry, logistics, pharmaceuticals, biotechnology, and information and communication technology). The human

resource pillar of the action plan gives a sectoral focus to providing high-skilled manpower for the modern labour markets both in the tertiary and vocational education.

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ANNEX 4.A1

The school system

The current educational system includes one year of compulsory pre-school. In principle, primary schooling starts at age 6, and continues until age 14, although in practice, given the increasing emphasis upon, and availability of, pre-school training, entry into primary school now often commences at age 7 and finishes at age 15. Parents can request that their children transfer to a *gimnázium* (academic secondary school) at age 10 or 12. The school must agree to such a transfer. Comparatively few primary school pupils make such transfers. The school-leaving age was raised from age 14 to 16 starting with the cohorts that entered education in 1961. It was raised again from age 16 to 18 for the cohorts starting education in 1998 so that only in 2009 were all pupils obliged to remain in full-time education until age 18.

After the end of primary school, pupils can opt to transfer either to academic secondary schools (*gimnáziums*) or to one of two types of vocational training schools. Vocational secondary schools (*szakközépiskola*) provide four years of general education (referred to as "general grades") and also prepare students for the matura. Unlike gimnáziums, these schools combine general education with some specific subjects, referred to as "pre-vocational education" and "career orientation". Students obtain the matura at the end of the four years. At that point many students enrol in a post-secondary vocational education and training (VET) programme (for 1 to 3 years), often at the same institution, to obtain a vocational qualification, although they may also seek entry to tertiary education. Vocational training schools (*szakiskola*) provide two years of general education, combined with some "pre-vocational education" and "career orientation", followed by two or three years of vocational education and training. Students do not obtain the matura but a vocational qualification at the end of a successfully completed programme. The relative and absolute number of students attending the vocational training schools has dropped steeply since the regime change – until then, most primary school leavers entered them. The choice of secondary school depends in principle on the parents, but secondary schools can also select depending on academic results and entrance tests (which are now nationally standardised). All secondary students must follow the same core national curriculum up to at least age 16, but individual schools have considerable latitude in deciding how much teaching time to allot to different parts of the core curriculum, and which complementary options to offer. Figure 4.A1.1 presents a schematic picture of the standard education structure from pre-school to the end of the upper secondary level.

Figure 4.A1.1. **The structure of the Hungarian school system**
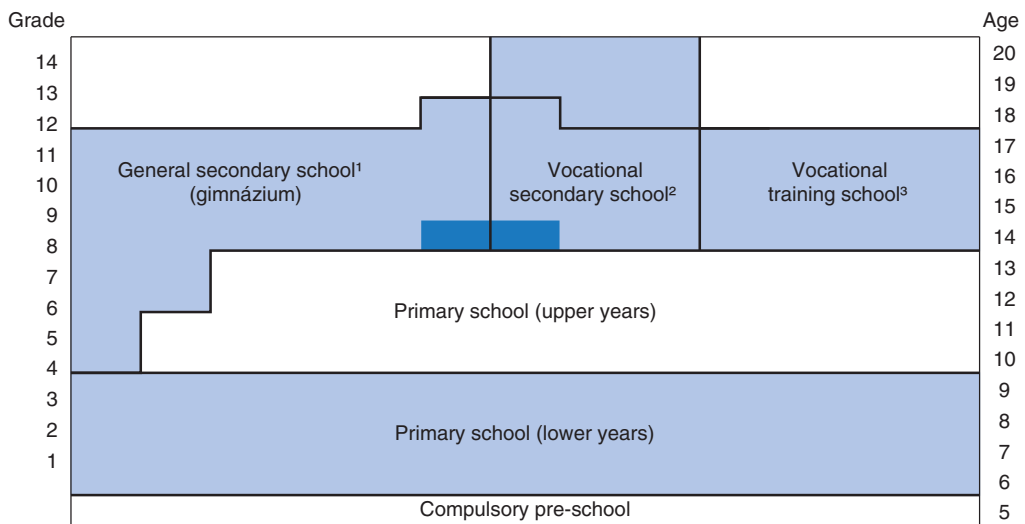
1. The gimnázium programme usually starts after 8th grade and lasts four years. A minority of students transfer to gimnáziums after 4th or 6th grade. In gimnaziums and vocational secondary schools with a special focus on foreign languages and information technology, there can be an extra year before starting the four-year programme.
2. As in the general programme, students sit the matura examination at the end of secondary school. After the four-year programme they can either follow a 1-3 year post-secondary vocational programme or continue their studies in tertiary education.
3. With no examination for direct entry to tertiary education.

Source: Ministry of Education.

Glossary

ALMP	Active labour market policy
CPI	Consumer price index
DEA	Data envelopment analysis
EU	European Union
EU15	EU members before enlargement in May 2004
EU19	EU member countries that are also OECD member countries
EU27	EU members as from 2007
EUR	Euro
FDI	Foreign direct investment
FHB	Földhitel és Jelzálogbank
FX	Foreign exchange
GDP	Gross domestic product
GVH	*Gazdasági Versenyhivatal* (Hungarian Competition Authority)
HUF	Hungarian forint
ICT	Information and communication technology
IMF	International Monetary Fund
ISCED	International standard classification of education
IT	Information technology
LTV	Loan-to-value
METR	Marginal effective tax rate
MNB	*Magyar Nemzeti Bank* (Hungarian national bank)
OTP	*Orszagos Takarekpenztar*
PIRLS	Progress in international reading literacy study
PISA	Programme for international student assessment
PMR	Product market regulation
R&D	Research and development
SME	Small and medium-sized enterprises
TFP	Total factor productivity
TIMMS	Trends in international mathematics and science study
USD	United States dollar
VAT	Value added tax
VET	Vocational education and training

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