Ensuring Debt Sustainability Amid Strong Economic Uncertainty in Hungary

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ENSURING DEBT SUSTAINABILITY AMID STRONG ECONOMIC UNCERTAINTY IN HUNGARY

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ABSTRACT/RESUMÉ

Ensuring debt sustainability amid strong economic uncertainty in Hungary

Despite a deep recession in 2009 and weak growth in subsequent years, Hungary's fiscal position compares favourably with many other OECD countries. Nonetheless, the underlying fiscal balance started deteriorating in 2010 and 2011. Recognising this, Hungary's government launched an ambitious set of fiscal consolidation measures in spring 2011, the Széll Kálmán plan, which is rightly focused on curbing public expenditure. This plan, together with subsequent significant revenue-increasing measures, should help restore fiscal adjustment in 2012 and 2013. However, ensuring the sustainability of Hungarian public debt remains challenging in the context of the persistence of the sovereign debt crisis in many European economies since shifts in market sentiment could lead to unsustainable debt servicing costs. In this context, increasing the credibility of fiscal consolidation requires using several policy levers. First, the cost/risk assessment of the debt management strategy should be reassessed by taking into account lessons from the current crisis: the share of government borrowing in foreign currency will likely need to be drastically reduced. Second, additional consolidation efforts should focus more strongly on the spending side and avoid raising distortive taxes. Third, the fiscal framework should be improved by making fiscal rules less pro-cyclical and by raising the profile and political acceptance of the fiscal council through better analytical support and an enlarged mandate, while removing its power to veto the budget.

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Assurer la viabilité de la dette publique dans un contexte de forte incertitude économique en Hongrie

En dépit d'une grave récession en 2009 et d'une faible croissance au cours des années suivantes, la situation budgétaire hongroise est meilleure que celle de beaucoup de pays de l'OCDE. Néanmoins, le solde sous-jacent a commencé de se dégrader en 2010 et 2011. Conscient du problème, le gouvernement a lancé au printemps 2011 un dispositif ambitieux de redressement budgétaire, le plan « Széll Kálmán », qui est centré à bon escient sur la réduction des dépenses publiques. La conjonction de ce plan et de mesures subséquentes d'augmentation substantielle des recettes devrait permettre de revenir vers l'ajustement budgétaire en 2012 et 2013. Cependant, il reste difficile d'assurer la viabilité de la dette publique hongroise face à la persistance de la crise de la dette souveraine dans de nombreuses économies européennes, car les changements de perception des marchés pourraient porter le coût du service de la dette à un niveau insoutenable. Dans ces conditions, il est nécessaire d'employer plusieurs leviers pour renforcer la crédibilité du redressement budgétaire. Il convient d'abord de réévaluer la stratégie de gestion de la dette en tirant les leçons de la crise actuelle : la part des emprunts de l'État libellée en devises étrangères devra probablement être fortement réduite. Ensuite, il faut faire porter davantage l'effort d'assainissement sur les dépenses et s'abstenir d'augmenter les impôts qui introduisent des distorsions. Enfin, le cadre budgétaire doit être amélioré en rendant les règles budgétaires moins procycliques, mais aussi en donnant plus de poids et de soutien politique au conseil budgétaire grâce à un renforcement de ses moyens d'analyse et à l'élargissement de sa mission tout en supprimant son pouvoir de veto sur le budget.

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by Pierre Beynet and Rafał Kierzenkowski[1]

The Hungarian government has put the reduction of public debt on the top of its policy priorities. The Convergence programme released in April 2011, largely based on the Széll Kálmán plan published a month earlier, detailed measures to foster fiscal sustainability. These measures were initially projected by the authorities to put the debt-to-GDP ratio on a declining trajectory, although the combination of faltering growth perspectives and, also, expected partial implementation has required additional efforts since then. Moreover, the trajectory of the Hungarian debt ratio remains highly sensitive to macroeconomic (inflation, growth, interest rate, exchange rate) shocks and, in the context of the sovereign debt crisis, the willingness of investors to subscribe to government bonds becomes a key determinant of debt sustainability as well. Hence, the authorities should not only put the debt-to-GDP ratio on a declining path, but also ensure that a sound debt management policy reduces the sensitivity of debt sustainability to economic uncertainty.

This paper starts by examining the current fiscal position, notably by assessing how the structural fiscal balance has evolved since the 2010 OECD *Economic Survey* (OECD, 2010). It then assesses long-term fiscal sustainability challenges in the face of macroeconomic shocks. Finally, it draws some recommendations on the future consolidation mix and structural reforms to foster the long-term sustainability of public finances.

A relatively favourable fiscal position despite the economic crisis

The cyclically-adjusted deficit improved markedly since the onset of the crisis…

Despite a deep recession in 2009 and weak growth afterwards, Hungary's change in fiscal position compared well with other OECD countries. As illustrated in Figure 1, the headline fiscal balance has improved by 0.8 percentage point of GDP since 2007 and the cyclically-adjusted fiscal balance strengthened even more, by 4.3 percentage points, reflecting the size of the consolidation effort despite weak economic performance. It is also noteworthy that the fiscal balance kept improving in 2010 despite elections at both the national and local levels. This is a major achievement compared to previous election years (Figure 1, Panel B), owing both to the adoption of a tight 2010 budget at the end of 2009 under the auspices of the EU/IMF programme and implementation of additional consolidation measures in late 2010 by the new government to compensate for revenue shortfalls and expenditure slippages (see below).

Figure 1. **General government financial balances**
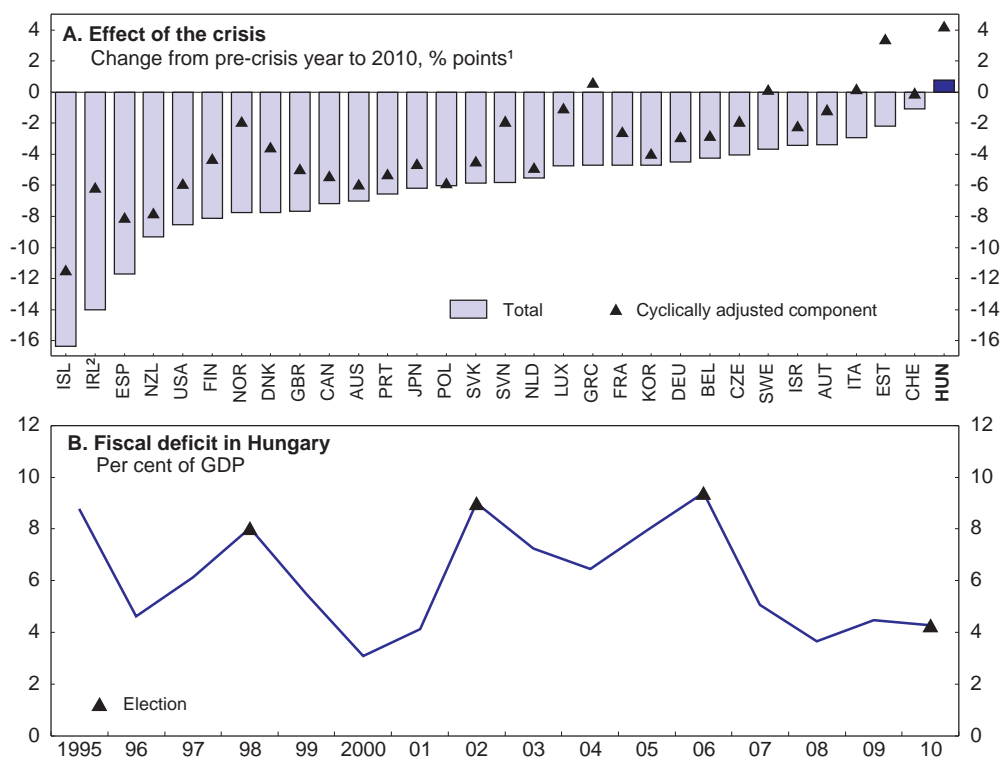
1.   The pre-crisis year is 2006 or 2007, whichever has the highest value.
2.   Excluding bank support measures of 20.2% of GDP for Ireland.

Source: OECD (2011), *OECD Economic Outlook: Statistics and Projections* (database), December.

Another factor explaining the sound fiscal position despite adverse economic circumstances was the prevalence of large non-Keynesian effects in the Hungarian economy in 2009. While standard channels of fiscal consolidation hurt growth (IMF, 2010), part of these negative factors were offset by confidence effects. The credibility of the 2009 fiscal consolidation, reinforced by the backing of international organisations and a new fiscal responsibility law (IMF, 2011a; OECD, 2010), played a significant role in supporting the forint, thereby reducing the debt burden in foreign currency of households and companies in the non-tradable sector. A simulation using a DSGE model calibrated for the Hungarian economy shows that these non-Keynesian effects can be sizeable when fiscal consolidation is credible (Box 1).

… although the underlying fiscal position has significantly deteriorated recently

While the fiscal position has evolved relatively favourably since the outset of the crisis, this does not imply that such improvement is sustainable. In 2010-11, Hungary used a number of *ad hoc* consolidation measures. Considering the cyclically-adjusted balance net of such one-off measures, the fiscal stance appears to have loosened both in 2010 and 2011 (Figure 2). In 2011, underlying net lending is projected by the OECD to have reached a deficit of 6.5% of GDP (compared to a headline surplus of 4% of GDP), by this measure reversing *de facto* all consolidation efforts achieved since 2007. Because of a cumulative deterioration in the structural balance by above 2% of GDP over 2010-11, in January 2012 the European Commission concluded that Hungary has not made sufficient progress towards a timely and sustainable correction of its excessive deficit (European Commission, 2012).

Box 1. **A DSGE simulation of the macroeconomic impact of fiscal consolidation in Hungary**

The specific features of the Hungarian economy can facilitate the appearance of growth-enhancing effects of fiscal consolidation. Three non-Keynesian channels which can positively affect private consumption and investment, are modelled: *i*) expectation effects linked to a reduction in future tax liabilities; *ii*) risk premium effects driven by a lower risk default premium and interest rate induced by a cut in government debt; and *iii*) balance sheet effects stemming from a decrease in the level of debt resulting from foreign currency exposure. A DSGE model estimated for the Hungarian economy shows that, when considering expectation effects only, Keynesian effects dominate regardless of the fiscal instrument chosen. When interest rate premium effects are included as well, then the probability of a positive output reaction increases. When the previous two channels are supplemented with balance sheet effects, fiscal consolidation always leads to positive output responses if it is fully credible. The credibility of fiscal adjustment is key in achieving positive output effects. A non-credible consolidation is unlikely to generate positive output effects, regardless of the assumptions regarding specific features of the economy, and regardless of the composition of the consolidation package. Also, if inflation expectations are well anchored, non-Keynesian effects are more likely to dominate.

Source: Benk, S. and Z. Jakab (2012), "Non-Keynesian Effects of Fiscal Consolidation: an Analysis with an Estimated DSGE Model for the Hungarian Economy", *OECD Economics Department Working Papers*, No 945.

Figure 2. **Cyclically adjusted and underlying fiscal balance**

General government, per cent of GDP or potential GDP
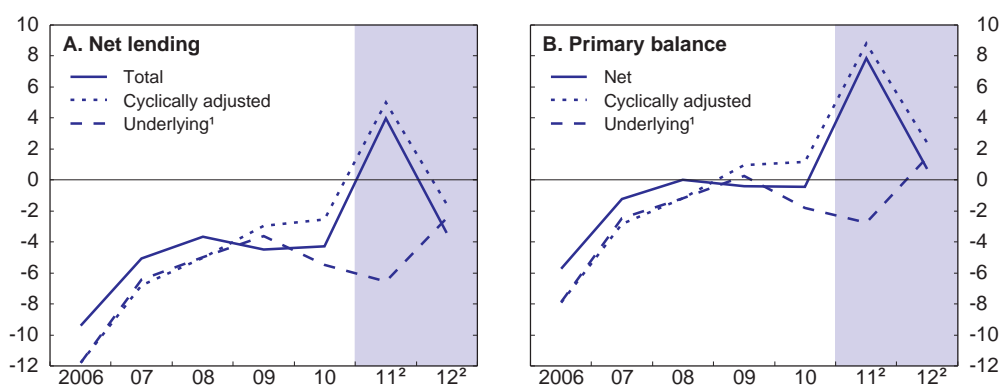
1. Cyclically adjusted less one-offs.
2. Projections.

Source: OECD (2011), *OECD Economic Outlook: Statistics and Projections* (database), December.

The deterioration of the underlying deficit could reflect some "adjustment fatigue" following three years of fiscal adjustment. In 2010, expenditure slippages and revenue shortfalls compared to the budget of about 1% of GDP each (European Commission, 2010a) were compensated by revenue increases of a one-off nature, such as capital transfers and the "crisis taxes". The latter included an exceptional levy on bank assets (raising about 0.7% of GDP) and several temporary taxes on network industries (telecommunication, energy and retail sectors). In total, these taxes raised almost 1.3% of GDP in 2010 (and about the same amount in 2011). In 2011, the introduction of a flat-rate personal income tax and other tax reductions (notably applying for a full year a lower corporate income tax on small and medium-sized enterprises [SMEs] introduced in mid-2010) resulted in revenue losses estimated at around 1.8% of GDP (European Commission, 2011a). Nevertheless, exceptionally large one-off capital transfers amounting to above 10% of GDP (almost fully related to the transfer of the second-pillar pension assets to the government; see Box 2) switched the fiscal balance to a sizeable surplus in 2011 (Figure 3, Panel A). As a consequence, the headline fiscal balance will return to a deficit in 2012. However, the underlying fiscal position is expected to improve in 2012, owing to the resumption of consolidation efforts based on the Széll Kálmán plan and significant increases in revenues (see below).

The Széll Kálmán plan: a positive step towards a more sustainable fiscal consolidation

Recognising the need for further fiscal consolidation, the government adopted the Széll Kálmán plan in March 2011, with most measures to be implemented from 2012 onwards (FRIB, 2011a). The plan was initially expected to result in 1.8% of GDP additional consolidation in 2012 and a further 1% of GDP in 2013 (Table 1). Together with additional measures laid out in the Convergence programme, the plan was a positive step towards a sustainable fiscal adjustment with about three quarters of consolidation efforts expected to arise from expenditure restraint, which tends to be more effective than tax increases (Guichard *et al.*, 2007).

Table 1. **The Széll Kálmán plan**

Per cent of GDP, cumulative impact

	2012	2013
Total Széll Kálmán Plan	**1.8**	**2.8**
Employment and labour market	0.7	0.7
Tightening of job-seeking benefits	0.1	0.1
Wage supplement system reform	0.1	0.1
Reduction of active labour market programmes and vocational training	0.1	0.1
Other (notably reduction of social benefits)	0.1	0.1
Pension system	0.3	0.4
Tightening of disability pension eligibility	0.3	0.4
Public transport	0.2	0.2
Restructuring of MÁV	0.1	0.1
Higher education	0.0	0.1
Health care	0.3	0.4
Encouragement of generics	0.1	0.1
State and local government finances	0.1	0.4
Economies of scale at local level	0.1	0.3
Revenue increases (through the Debt Reduction Fund)	0.3	0.7
Electronic toll system	0.0	0.3
Maintain of the bank tax in 2012	0.3	0.0
Postponement of the reduction of the CIT	0.0	0.4

Source: Hungarian authorities and OECD calculations.

However, the deterioration of growth prospects led to the adoption of additional fiscal measures, mainly on the revenue side, notably including hikes in employees' social security contributions, increases of various excise taxes and a rise of 2 percentage points in the value added tax (VAT) rate to 27% (the highest level in the European Union). When coupled with a partial implementation of the Széll Kálmán plan, consolidation efforts based on legislated measures have become more tilted to the revenue side, with an adjustment on the expenditure side limited to slightly less than 60% in 2012 according to official estimates (Ministry for National Economy, 2011a). As a result, fiscal consolidation is expected to remain a mix of expenditure restraints and significant revenue-enhancing measures (see also FRIB, 2011a, b).

Hence, it is crucial to ensure that expenditure growth continues to remain well below potential growth, as happened between 2007-10, to reduce the size of the government through a reduction in the ratio of expenditure to GDP over time (Figure 3, Panel B). The composition of spending restraint will be critical in this respect. So far, some spending measures have been less well defined (for instance the review and more efficient management of public tasks and duties) or their gains may prove to be difficult to sustain (for example the freeze in public wages or indexation of family benefits and other social transfers). The government should favour permanent measures to achieve a sustainable reduction in expenditure growth (see below).

Figure 3. **Composition of fiscal consolidation**[1]
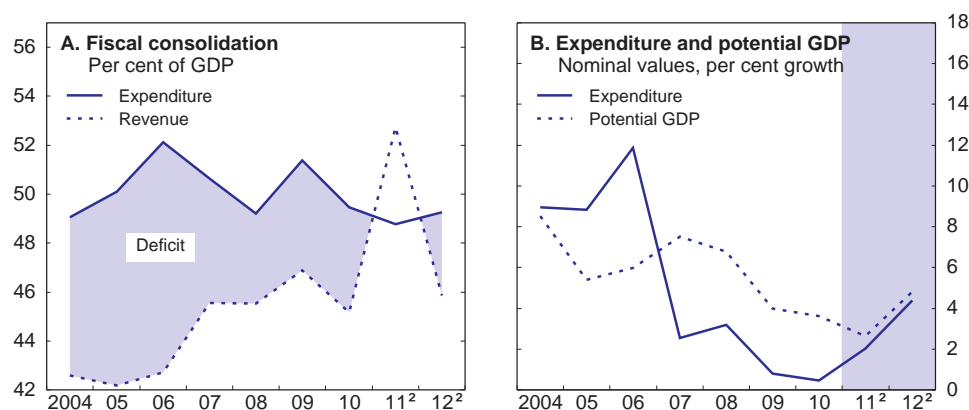
1. General government total expenditure and total revenue.
2. Projections.

Source: OECD (2011), *OECD Economic Outlook: Statistics and Projections* (database), December.

Long-term fiscal sustainability remains highly sensitive to economic shocks

The downward debt trajectory is highly sensitive to economic shocks

If consolidation measures are implemented as planned and growth picks up, the debt-to-GDP ratio is expected to start decreasing eventually, reversing a regular increase of the Hungarian public debt since 2001 from about 55% of GDP to about 86% by end-2013 based on OECD projections. The debt ratio will however remain sensitive to temporary or permanent macroeconomic shocks. Since about half of the Hungarian debt is denominated in foreign currency (Figure 4, Panel A), the debt-to-GDP ratio is particularly sensitive to fluctuations in exchange rates. A depreciation of the forint by 10% increases the gross debt-to-GDP ratio by about 3-4 percentage points. As an illustration of this point, the steep depreciation of the currency in the second half of 2011 wiped out all debt reduction efforts achieved by using part of the second-pillar pension assets to reduce the debt level (by about 5% of GDP in 2011). The interest rate on sovereign debt also represents a risk to debt payments as debt is progressively rolled-over and yields remain very volatile and high (Figure 4, Panel B). A rise of interest rates by 100 basis points increases the debt-to-GDP ratio by at least one percentage point after four years (Government of the Republic of Hungary, 2011). Finally, about 50% of marketable debt is held by non-residents (up from 30% in early 2000), which makes rollover risk sensitive to shifts in investors' sentiment.

Figure 4. **Characteristics of government debt**

A. Gross debt by currency[1]
Per cent, September 2011

B. Average bond yields[2]
Per cent
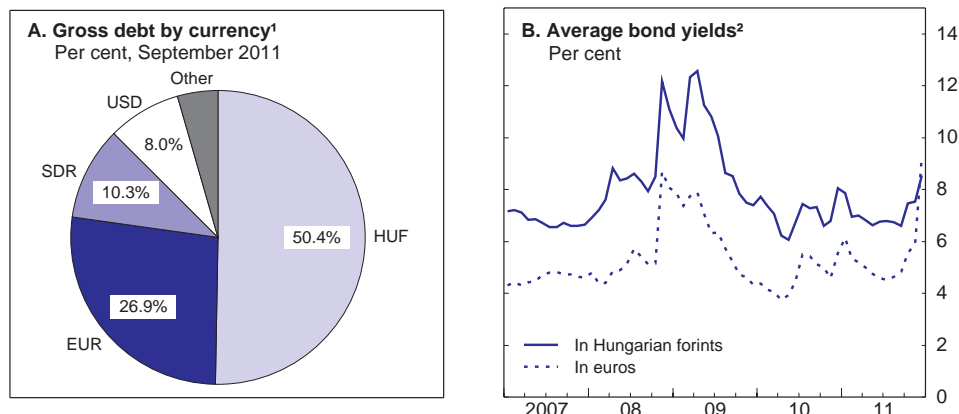
1. Central government gross debt, the currency composition of the foreign exchange portfolio is before swaps (almost all non-euro bonds have been converted into euro liabilities through swaps). OECD calculations for shares of foreign exchange denominated debt based on the ÁKK *Government Securities Market, Quarterly Report, Third Quarter 2011*. SDR: Special drawing rights. The breakdown of the "Other"' category is: GBP 2.4%, JPY 1.6% and CHF 0.4%.
2. OECD calculations based on Datastream data. Average of ten-year government bonds.

Source: Government Debt Management Agency (ÁKK) and Datastream.

To analyse the potential impact of economic shocks to debt sustainability, stochastic debt trajectories have been simulated based on past variances of macroeconomic shocks and assuming two simple alternative fiscal policy reactions, one letting the automatic stabilisers operate and the other offsetting them (Beynet and Paviot, 2012). Potential debt paths (or "fan-charts", see Figure 5) diverge substantially depending on whether or not the automatic stabilisers are allowed to operate. With the automatic stabilisers, the range of likely debt path is quite wide, the debt path being potentially explosive in the worst case scenario (Figure 5, Panel A). Offsetting the impact of automatic stabilisers narrows potential debt trajectories, underscoring the benefits of not deviating excessively from fiscal targets. It should be noted, however, that there is still a non-negligible probability of 25% that the debt-to-GDP ratio could be above 90% of GDP by 2016 (Figure 5, Panel B), a range that is deemed to hurt growth and is likely to be unsustainable.

Figure 5. **Stochastic general government debt simulations**[1]

Per cent of GDP

A. With automatic stabilisers

B. Without automatic stabilisers
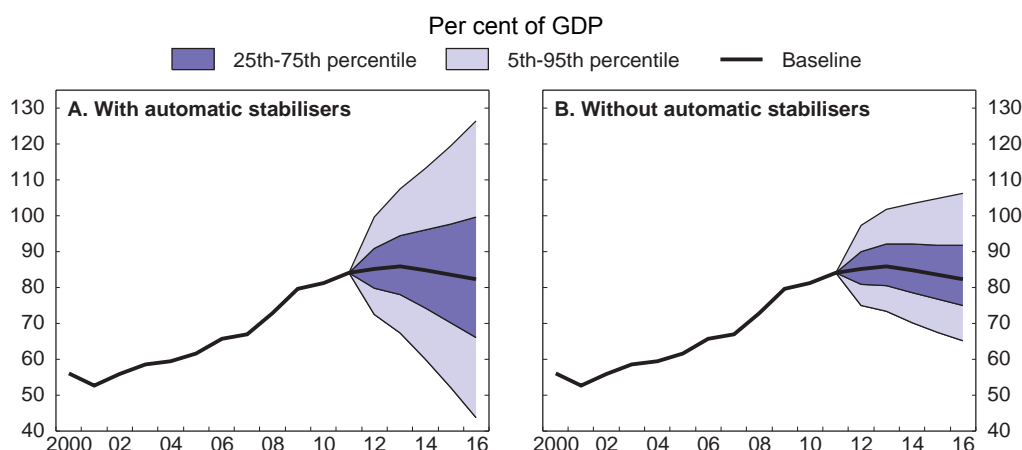
1. The likelihood of potential debt paths are shown with their attached probability. Shocks are assumed to be of a temporary nature.

Source: OECD (2011), *OECD Economic Outlook: Statistics and Projections* (database), December and OECD calculations.

Long-term fiscal sustainability gaps may have worsened recently

Since 2006, Hungary's long term fiscal sustainability has significantly improved, owing to both progress in fiscal consolidation and the implementation of several pension reforms. As shown in Table 2, the immediate fiscal adjustment necessary to reach debt sustainability in 2009 (the so-called "sustainability gaps") became nil, or even slightly negative, based on two different indicators used by the European commission (S1 or S2). This compares with sustainability gaps of 7.9% (S1) or 9.8% (S2) in 2006. The bulk of the improvement was due to the significant improvement of the fiscal position between 2006 and 2009, which explains 6.4 percentage points out of an improvement of about 9 (S1) or 9.9 (S2) percentage points of the sustainability gaps (Table 2). The rest of the improvement is linked to a reduction of anticipated ageing costs, mainly due to successive pension reforms in 2006/07 and 2009.

Table 2. **Sustainability indicators**

Required adjustment to the structural primary balance, per cent of GDP

	Sustainability Report		Change between 2006-09
	2006	2009	
S1 – To reach target debt of 60% of GDP[1]	**7.9**	**−1.1**	**9.0**
Given the initial budgetary position	4.5	−1.9	6.4
To reach the debt-to-GDP ratio[2]	0.3	0.4	0.1
Given the long-term change in the primary balance due to demographic ageing	3.1	0.4	2.7
Cost of delay[3]	1.3	−0.2	. .
S2 – To fulfil an infinite horizon inter-temporal budget constraint	**9.8**	**−0.1**	**9.9**
Given the initial budgetary position	4.8	−1.6	6.4
Given the long-term change in the primary balance due to demographic ageing	5.1	1.5	3.6
Cost of delay[3]	0.8	0.0	. .
Required primary balance to ensure the sustainability of public finances under no policy change scenario	6.2	3.5	. .

1. In 2005 (2010) to reach target debt in 2050 (2006 Sustainability Report) or 2060 (2009 Sustainability Report).
2. In 2050 (2006 Sustainability Report) or 2060 (2009 Sustainability Report).
3. Increase in the sustainability indicators due to a five year delay in implementing budgetary consolidation compared to the baseline.

Source: European Commission (2009), *Sustainability Report 2009,* European Economy, No. 9; European Commission (2006), *The Long-term Sustainability of Public Finances in the European Union*, European Economy, No. 4.

As a consequence of pension reforms, the projected increase in gross pension expenditure by mid-century was cut by more than half from 6.7 to 3 percentage points of GDP (Table 3). In 2006-07, early retirement conditions were tightened by extending the minimum age and contribution period, and setting up higher pension penalties for early retirement as from 2013. In 2009, another reform raised the statutory retirement age from 62 to 65 between 2014 and 2022 and gradually increased the early retirement age from 60 to 63. Moreover, a less generous indexation rule giving a higher weight to consumer price index (CPI) inflation was established, with the Swiss formula (equal weights for inflation and wage growth) binding only for a real GDP growth rate above 5% and a full indexation to prices for a real GDP growth rate below 3%. Finally, the payment of a 13th month pension was abolished and replaced by a pension premium subject to tighter conditions for eligibility (see also OECD, 2010).

Table 3. **Projected change in gross age-related expenditure/GDP ratio and contributing factors**

Per cent of GDP

	Public expenditure (% of GDP)	Contributions in % points – impact of changes in:					Change in % points (by)
		Pension	Health care	Long-term care	Unemployment benefits	Education	
2006 Ageing Report	21.2 (2004)	6.7	1.0	0.6	-0.0	-0.7	7.6 (2050)
2009 Ageing Report	21.6 (2007)	3.0	1.3	0.4	-0.1	-0.4	4.1 (2060)

Source: European Commission (2006), *The Long-term Sustainability of Public Finances in the European Union*, European Economy, No. 4; European Commission (2009), *2009 Ageing Report: Economic and Budgetary Projections for the EU-27 Member States (2008-2060)*, European Economy, No. 2.

While the improvement in long-term fiscal sustainability is significant, it should not lead to complacency. The recent deterioration of the underlying deficit may signal a weaker fiscal position than assumed in the 2009 Ageing Report, especially if new consolidation measures are not implemented as planned or further deterioration occurs from 2012 onwards. Sustainability gaps are highly dependent on growth assumptions, and since the last calculations by the European Commission in 2009, any new estimates are likely to be based on much less favourable growth assumptions (OECD, 2012a). The dissolution of the second pillar of the pension system in 2011 (see Box 2) reduced fiscal sustainability as the transfer of implicit pension liabilities to the state pillar was not fully offset by an equivalent cut in the public debt as part of the assets was used to finance current expenditure. Out of about 11% of GDP of transferred assets, around 5% of GDP held in government bonds led to an immediate reduction of public debt, 0.9% of GDP were used to pay real yields to those having transferred their pension assets to the first pillar, and 2% of GDP was spent to cover the deficit in the first pillar of the pension system. The authorities had also planned to assume the debt of two public transport companies (1.4% of GDP) and buy out selected public-private-partnership projects (0.7% of GDP), but have done so to a very limited extent for the debt of public transport companies (0.2% of GDP). In order not to further worsen fiscal sustainability, it is crucial that all remaining pension assets are used to reduce public debt. On the other hand, a planned taxation of new pensions from 2013 is expected to lead to a decrease in the level of net pension expenditure by 0.5 percentage point of GDP (European Commission, 2010b). Other parametric changes in the first pillar of the pension system have also contributed to an improvement of fiscal sustainability (see below).

Box 2. **Dissolution of the second pillar of the pension system in Hungary**

In November 2010, the government stopped transferring social security contributions to the second pillar until the end of 2011, generating budgetary savings of HUF 420 billion (1.4% of GDP) in 14 months. In the next step, pension fund members were given slightly more than two months to decide between shifting their assets to the first pillar or keeping them in the second pillar. Ninety-seven per cent of members chose to shift their assets (around 11% of GDP) to the first pillar, generating a sizeable one-off budget surplus in 2011. The share of pension fund assets in the second pillar became low compared to the OECD average or even to some regional peers. This result reflected financial incentives. Those who opted not to transfer their assets to the first pillar were subject to a "pension tax". Despite the payment by their employers of social security contributions (24% of gross monthly earnings) to the first pillar, they did not accumulate further eligibility to a public pension and thus could lose up to 70% of their expected pension benefits. Those who did opt back into the state pillar were offered the real yield achieved on their assets (0.9% of GDP). However, the Hungarian association of private pension funds challenged this policy in the Constitutional Court, and threatened to refer the matter to the European Court of Human Rights in Strasbourg. According to policy decisions adopted in December 2011, employee social security contributions (10% of gross monthly earnings) of the remaining pension fund members were permanently redirected to the first pillar in return for eligibility to a public pension. Moreover, as the second pillar is no longer part of the mandatory pension system, its remaining members were given another possibility to return their assets to the first pillar by end-March 2012.

Achieving more progress towards fiscal sustainability

Reducing the impact of economic shocks on public debt

The global financial crisis has put the resilience of the debt management strategy of many OECD countries to a test. Hungary has not been an exception and the operational response of its debt managers to the crisis has involved three main dimensions: *i*) changing the mix of instruments; *ii*) adapting the issuance techniques; and *iii*) stepping up market management operations (Table 4). The transfer of most of the second-pillar pension assets to the first pillar has also influenced debt management, since it reduced debt roll-over requirements. Nevertheless, several unsuccessful debt auctions at the end of 2011 demonstrated the persistence of debt management challenges in the context of heightened sovereign debt tensions. The government requested a new financial support from the EU and IMF in mid-November 2011.

Table 4. **Hungary: debt management responses to the crisis**

Measures taken since 2009

Instruments mix	Issuance technique	Market functioning	Other
Increased proportion of foreign exchange loans	More flexibility in the auction calendar	More frequent buy-back auctions	Introduction of direct and regular meetings with investors
Introduction of floating-rate notes	More flexibility in the amounts offered	More frequent reopening/taps of off-the-run bonds	Diversification of investors
New inflation-linked instrument	Introduction of a non-competitive auction facility	. .	. .

Source: IMF (2011), "Managing Sovereign Debt and Debt Markets through a Crisis – Practical Insights and Policy Lessons", *IMF Policy Paper*, International Monetary Fund, April and Hungarian authorities.

The effect of recent adjustments in debt management practices on the vulnerability of Hungarian debt has been mixed. On the positive side, more frequent issues of "off-the-run" bonds (*i.e.* bonds that are no longer considered as benchmarks) helped smooth the market. The introduction of an inflation-linked instrument and direct and regular meetings with investors were also positive innovations. However, the share of marketable debt with a short maturity has started increasing again and the share of debt sensitive to short-term variation of interest rates has stopped declining, reversing earlier trends (Figure 6). In parallel, marketable debt subject to exchange rate risks has kept increasing and debt held by non-residents remains high (Figure 6). The near elimination of the second pillar also increases risk if it reduces the depth of the Hungarian capital market, which could force the government to borrow even more from non-residents, most likely in foreign currency.

The first challenge for the debt management agency is to ensure that its main official objective - reducing debt issuing costs while minimising risks – remains based on a up-to-date optimal portfolio model to help define the appropriate mix of instruments (e.g. foreign exchange (FX) versus domestic currency; floating versus fixed-rate, short-term versus long-term maturity; see OECD, 2005). Optimal portfolio (or cost-at-risk) models are usually calibrated on historical outcomes and are likely not to be valid for an event as extreme as the current crisis. Also, some models tend to focus on a limited range of risks (e.g. the maturity structure) or model risks independently, abstracting from an analysis of the underlying macroeconomic framework (IMF, 2011b). In the case of Hungary, it is difficult to judge the relevance of the cost-at-risk model for the current crisis since its features are not public. Only the main benchmarks given by the model are public (ÁKK, 2010). On this basis, the share of loans in FX seems to be excessive once EU/IMF loans are taken into account: at more than 50%, it is well above the optimal range of 25-38% currently given by the model. Consequently, the planned reduction of the share of the

Figure 6. **Evolution of debt risk indicators**

Marketable debt instruments in per cent of total marketable debt
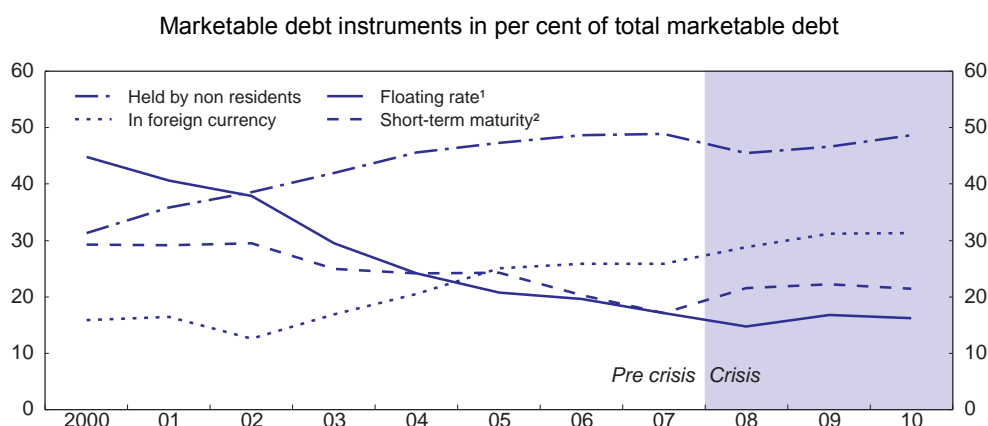
1. Treasury bills, index-linked bonds and variable rate notes.
2. Money market instruments and short-term bonds.

Source: National authorities.

debt in foreign currency should be pursued (Government of the Republic of Hungary, 2011). A recalibration of the main parameters of the model based on the experience of the current crisis should be done as soon as sufficient historical data are available and the optimal size of borrowing in FX adjusted in this light. To ensure greater transparency, the main features of the debt management risk model and its underlying assumptions could be made public.

Improving debt management also requires a smooth functioning of the market. The government should encourage the development of third-pillar pension funds (see also Havrylchyk, 2012) to promote a deeper domestic capital market, which would help maintain a significant share of resident subscribers in domestic currency to avoid an excessive reliance on non-resident buyers. A smooth functioning of the primary bond market could also be fostered by putting into competition primary dealers by making their accreditation conditional every year on good performance, based on clear and public criteria. More generally, communication with stakeholders and investors should be strengthened to understand better their needs and avoid the failed or partially failed auctions as happened at end-2011, while the size of liquidity buffers necessary to sustain a temporary loss of market access could be increased.

Another challenge is to guarantee efficient co-operation between debt management, fiscal policy and monetary policies to get a full perception of risks and ensure consistency of policies. While the current institutional set-up seems appropriate (both the Ministry for National Economy and the central bank have a seat at the board of the debt management agency), it would be advisable to complement it with instruments that help internalise debt management externalities on fiscal or monetary policies (BIS, 2011). In particular, the development of inflation-indexed bonds is welcome, and would reinforce monetary and fiscal policy co-operation as they would act as a strong incentive for the government to reduce the inflation rate.

### *Improving the future consolidation mix*

Sustainably curbing expenditure

Structural reforms to enhance public sector efficiency can promote sustained spending restraint (OECD, 2010). At around ¾ million, the overall number of public sector employees is high, representing around 20% of the labour force (Figure 7). A planned restructuring of local governments provides an

opportunity to reap economies of scale and improve the division of labour between the central and sub-national governments, notably through an expected introduction of a task-based financing system in 2013. The government took measures to reduce public employment at end-2011. However, it is important that dismissals of civil servants fully comply with best practices in this area. Following a law passed in late 2010, the government had been allowed to operate lay-offs without justification and this practice was declared unconstitutional by the Constitutional Court and the government amended the law accordingly. Redundancies should occur following a prior assessment of staff performance.

Figure 7. **Government employment**

Per cent of labour force, 2008[1]
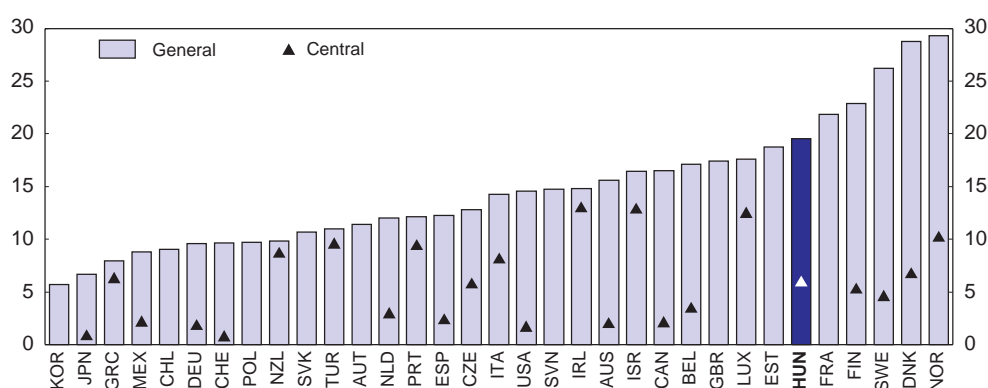
1.   2006 for Portugal.

Source: OECD (2011), *Government at a Glance 2011*.

Public procurement is another area where important savings could be made. In 2008, general government and state-owned utilities' procurement represented 20% of GDP, three percentage points above the OECD average. The government adopted in mid-2011 a new act on public procurement to simplify the legal practice and favour a higher participation of small and medium-sized enterprises. At the same time, grounds for exclusion from the public procurement process have been extended to offshore companies (or companies in which a participation of an offshore entity exceeds 25%) and to firms failing to comply with tax regulations. Yet a greater opening of national procurement markets to foreign suppliers would reduce costs by creating conditions to reap the benefits of enhanced competition. In 2008, a quarter of announced tenders were advertised internationally, a share above the OECD average, but best-performing OECD countries (Estonia and Poland) had shares close to 40%. Competition and transparency could also be fostered through a greater use of information and communication technologies in the procurement process. Most OECD countries have developed one-stop-shop facilities (single-entry procurement websites) or several websites depending on the type of purchase or operation/transaction. However, such solutions are underdeveloped in Hungary (OECD, 2011a). Finally, it remains to be seen to what extent the new act will mitigate the risks of corruption given Hungary's poor showing in this area and the need to strengthen the monitoring of procurement procedures (OECD, 2010).

There are significant potential efficiency gains as the organisation of public transport is generating losses. It has been rightly identified in the Széll Kálmán plan as an area where savings could be achieved by restructuring the organisation of the bus and railway companies (Volán and MÁV). While projected savings were estimated at almost 0.3% of GDP over the period 2012-13, the government had to increase support for public transport companies by almost 0.1% of GDP in 2012. On top of that, in 2011 it bailed out several times the chronically unprofitable state-owned airline company Malév, which had benefited from significant state support in the past (estimated at 0.3% of GDP). The company went bankrupt early in 2012. On the other hand, the financing of public transport has been improved with higher than planned cuts

in price subsidies in 2012. More generally, any other bailouts of the transport companies should go in tandem with a hardening of their budget constraint and, even if this could be politically difficult to implement, a reduction in service provision. Moreover, there is a need to open those sectors to competition and privatisation to reduce pressure on public expenditure and improve governance and efficiency.

Increasing tax revenues using the least distortive taxes

As the authorities may need to resort to taxation to achieve their consolidation goals, they should do so by raising the least distortive taxes. Measures taken so far are mixed in this regard. The recent increase in VAT is favourable in this respect. But the "crisis taxes" are highly distortive, in particular the bank tax (Havrylchyk, 2012), and should be removed as quickly as possible and no later than the end of 2012 or 2013 (bank tax) as planned. Only limited increases of environmental taxes have been implemented, although several avenues exist to raise environmental taxation (OECD, 2010).

Property taxes (notably on immovable property, net wealth, inheritances and legal transactions) are still low as they raised around 1% of GDP in 2008, compared with an OECD average of nearly 2% of GDP. Recurrent residential property taxation is an under-exploited source of revenue in Hungary, especially as it is relatively growth friendly (Arnold *et al.*, 2011). Only 0.3% of GDP was raised in 2008, against an OECD average of 1% of GDP and close to 3% of GDP in Canada, the United Kingdom and the United States. A recurrent tax on immovable property that was to be raised at the central level was cancelled by the Constitutional Court in 2010. In 2011, the authorities had been debating whether to allow local governments to raise such taxes up to 3% of the market value from 2012, but this proposal was not implemented.

More reliance on recurrent residential property taxation for fiscal consolidation would require addressing two challenges (OECD, 2011b). *First*, the intergovernmental fiscal framework would have to be adapted. As the tax accrues to local authorities, the government should take advantage of the reform to reduce the value of transfers from the state budget to local authorities' budgets. Otherwise, property tax revenues would need to be more centralised or levied on the state level. *Second*, there is strong political resistance to increasing that type of highly visible and difficult to avoid tax. Property taxes tend to be regressive, which can be tackled by providing income-related reliefs to lower the burden on the poorest households. For liquidity-constrained individuals or households, who are income-poor/house-rich, a reverse-mortgage system would allow them to honour their payments without having to leave their homes, but would require a careful financial supervision at the same time.

Strengthening tax collection is another challenge. The merger in January 2011 of two tax authorities (the Tax and Financial Control Administration and the Customs and Finance Guard) and the creation of a single institution (the National Tax and Customs Administration) is a step in the right direction. Additionally, the powers and procedures of the new institution were enhanced in January 2012, including pre-registering of new firms, checking individual transactions and establishing a new database to identify risky taxpayers. It is important to implement stronger penalties and financial sanctions to make tax compliance effective. Supported by better inter-agency data sharing, tax controls should be also reinforced at the top and the bottom of the income distribution as more than one million workers report earning the minimum wage (representing a third of total employment) according to annual tax record data. There is also evidence that income underreporting is higher among the self-employed than among employees in Hungary, with the former concealing around two-thirds of their income (Benedek and Lelkes, 2011).

Ensuring a fair burden sharing of consolidation is also key for its public acceptance

Successful fiscal consolidation requires fair sharing of adjustment efforts between the rich and the poor to foster public acceptance and ensure the sustainability of tax reforms. Notwithstanding the

government's motivation to improve economic efficiency through tax reforms, this issue is all the more pressing in Hungary because recent fiscal reforms have shifted the tax burden towards low-income earners. On the revenue side, across-the-board hikes in social security contributions and the removal of the employment tax credit significantly increased the tax wedge on households at the low-end of the income distribution, especially for those without children (Ladányi and Kierzenkowski, 2012). The rise in the standard VAT rate (the reduced rates have remained unchanged), while limiting economic distortions, tends to affect low-income earners more as they spend relatively more of their income on consumption. On the expenditure side, a freeze in social benefits has been more detrimental to the poorer. Tax expenditures introduced along with the flat tax for families with children rise with the level of income, with a gearing down in overall income gains for those in the highest income decile (MNB, 2010).

There are options to adjust burden sharing while retaining the efficiency aspects of the recent reforms, but all such measures would need to be carefully considered in the light of the need to reduce the fiscal deficit and ensure longer-term fiscal sustainability. Reinstating the recently removed employment tax credit would both provide income to low-income earners and enhance work incentives. The fiscal cost could be lowered by phasing it out from a lower income level than was previously the case. A tax-free allowance in the personal income tax system would provide relief at the low end while maintaining the overall flatness of the tax structure. Cancelling current plans to lower the effective income tax rate to 16% for those earning above the average wage would be another option to preserve progressivity. A significant number of social benefits are means tested (social assistance, housing benefit, etc.), thus linking child-related benefits to income rather than, as now, only the number of children would also steer more money to the needy. All the more as the effectiveness of tax allowances on the fertility rate is low and they negatively affect budget revenues by curbing the employment rate of women (Kierzenkowski, 2012). Finally, raising the least distortive property taxes on affluent individuals would create fiscal space for the restructuring of foreign currency loans of distressed borrowers (Havrylchyk, 2012).

Tackling long-term pressures on public spending of population ageing

Hungary faces rapid population ageing and, despite significant past pension reforms, a rise in the cost of ageing is expected by 2060. A first avenue to reduce the increase would be to raise the statutory retirement age in line with gains in life expectancy. Despite a rise in the legal retirement age from 62 to 65 by 2022, the gap with projected life expectancy will widen for men from 8.4 years in 2010 to 9.3 years in 2025 and reach 16.9 years in 2060 (European Commission, 2011b). The expected gap will be even higher for women, amounting to 16.4, 20.6 and 22.4 years, respectively. In a defined-benefit system, raising the retirement age would favour an extension of the working life and prevent further increases in net pension wealth linked to higher expected years in retirement.

Based on the prospective effects of pension policies, future Hungarian pensioners could have expected to enjoy relatively high levels of net pension wealth in 2008, defined as the present value of the lifetime flow of pension benefits (OECD, 2011c). Calculations presented below are for workers who enter work at age 20 and contribute to the pension system each year until the age of exit from the labour market. It is also assumed, among other things, that the investment performance of the Hungarian mandatory fully-funded pension sector would have converged to the OECD's assumption of a net real return of 3.5% per year. However, these estimates did not take into account the effects of the 2009 pension reform and those of the dissolution of the second pillar in 2011. With this as a background, at above nine times annual gross earnings, the level of net pension wealth accrued for men with average earnings at age 60 could have ranked Hungary in the highest third group of OECD countries. Net pension wealth could have become even higher for women, representing 11.5 times the annual gross earnings and was two percentage points higher than the OECD average. On a different measure, net pension replacement rates of average earners could have come close to 105% (with close to 60% stemming from the first pillar) against an OECD average of slightly below 70% in 2008 (OECD, 2011c). The dissolution of the second pillar is likely to

have incidentally reduced the overall expected replacement rate by 20%, under the OECD's standard assumptions of 2% annual growth in real average earnings and a 3.5% rate of return on investments net of administrative charges per year (OECD, 2012b), which would bring the overall net replacement rate to close to 85%. Nevertheless, the historical performance of Hungarian mandatory pension funds between 1998 and 2010 was weak (Havrylchyk, 2012) and a neutral rate of investment return would need to be equal to wage growth minus 1.5% per year over lifetime contribution years to cancel any favourable impact on replacement rates of the second pillar in comparison with the first pillar (OECD, 2012). Against this background, there is still room to further reduce replacement rates. This could be achieved by making all pension benefits liable to the personal income tax as is the practice in most OECD countries. As from 2013, only newly granted pensions will be calculated from gross earnings and subject to the personal income tax (even though detailed tax rules have not been defined yet). Another possibility to reduce replacement rates and contain rises in public expenditure would be to shift valorisation of past earnings from wages to prices (or a combination of the two).

Another avenue for reform is to significantly restrict access into different early retirement pathways, as the authorities started doing in 2011. Early retirement options in the general pension regime were eliminated, except for women who are allowed to retire after forty years of contributions. Restricting eligibility to other early retirement schemes would also boost the employment rate of older workers and reduce spending. In 2011, Parliament adopted legislation stating that any pension granted before reaching the legal retirement age may be reduced by subjecting it to personal income tax, transformed into a social benefit (subject to indexation rules) or even terminated for beneficiaries finding employment. From 2012, the level of new and existing retirement benefits of special pension regimes (up to the statutory retirement age) will be reduced by an amount equivalent to the income tax. However, detailed legislation effectively cancelling eligibility conditions for early retirement privileges of law enforcement officers (policeman, fire-fighters, border guards, and customs officers), miners, chemists or artists has not yet been implemented. Parliament also passed a bill that lowered the retirement age for judges and prosecutors to 62 from the current 70, effective from January 2012. Closing pathways into early retirement for women and phasing out all special pension regimes should remain a priority not only from fiscal, but also labour market perspective.

Adequate fiscal rules could help maintain the fiscal adjustment effort

Significant changes were made to the fiscal responsibility law in 2010 and 2011 as opposed to the recommendation from the last *Survey* to allow a minimum implementation before doing so. The government adopted a debt ceiling in the Constitution stipulating that gross public debt should eventually be cut below 50% of GDP year after year, backed by a debt rule enshrined in a new cardinal law (subject to a two-thirds majority to be changed) on economic stability adopted in late December 2011, which repealed the law on fiscal responsibility. The debt rule stipulates that public debt can increase only by expected inflation minus half of expected real GDP growth, as long as the debt-to-GDP ratio is above 50%. However, this rule will come into force only in 2016, while the targets of the Convergence programme of 2011 will apply in the meantime. This rule could lead to a sizeable primary surplus in 2016 (Annex).

The new fiscal framework could be improved. The escape clause dealing with economic contingencies ("significant and enduring national recession") may be too restrictive since the rule could turn out pro-cyclical in some instances: for example, this could happen when economic growth is positive but the output gap still negative (see also Annex). Relating the growth in public debt to the level of the output gap would enhance counter-cyclicality. The definition of the debt under the rule is close to the Maastricht definition, but does not fully coincide with it (Ministry for National Economy, 2011b). This introduces potential confusion, widens the scope for accounting gimmickry, reduces transparency, and could significantly undermine the credibility of the debt rule through further revisions of the domestic definition. Therefore, the definition of public debt should be made strictly identical with the Maastricht

definition. Besides, as the debt rule is defined in gross terms, it could act as an incentive to sell various public assets to reduce gross debt, although it may not be optimal for fiscal sustainability if losses in asset revenues are higher than gains in debt servicing costs. To avoid this, debt policy options should be supported by systematic cost-benefit analysis, whose conclusions and assumptions should be made public. More broadly, the public acceptance of the debt rule should be bolstered by removing the stipulation that most prerogatives of the Constitutional Court in economic matters are suspended as long as the debt ratio is above 50% of GDP.

The efficiency of the fiscal framework could be further enhanced by effectively switching into a multi-year budgeting framework, with medium-term deficit targets supported by realistic growth projections and detailed measures to achieve the targets. In April 2011, the publication in the Convergence programme of conservative and dynamic paths over the period 2011-15 represented a welcome step in this direction. Moreover, to strengthen fiscal discipline, the new law on economic stability subjects changes to a two-thirds majority in Parliament of some regulations of the tax system (*e.g.* adoption of a flat-rate taxation of personal income from 2013 and corporate income from 2015; the amount of family tax benefit per child depends on the number of children and cannot be lower than in the previous year; employers' social security contributions are no longer a base for future claims on social security benefits), pension system (*e.g.* pension levels are guaranteed in real terms) and budget management (*e.g.* Parliament is not allowed to pass any budget bill or budget amendment without an approval of the fiscal council). Yet such provisions are likely to unduly restrict needed flexibility in the future.

Local governments were behind a significant increase in the deficit in 2010. Following a law from 1990, local governments in Hungary face loose fiscal constraints with a theoretical debt limit defined as the perpetuity value of 70% of own resources reduced by short-term liabilities. Moreover, there is no restraint on the path of reaching the debt ceiling, which can lead to excessive deficits in the case of low indebtedness (Baksay and Kiss, 2009). The new constitution has subjected the borrowing of local governments to a prior approval of the government and the new law on economic stability stipulates that financial liabilities stemming from debt repayment obligations of local governments shall not surpass 50% of their own revenues. The authorities have also started to progressively centralise expenditure on health and education and intend to implement a task-based financing system for local governments. Instead of direct government control, it would be advisable to improve the fiscal rules at the local level. The most common fiscal rule for sub-central governments in OECD countries is a budget balance requirement (mainly in terms of annual budgets) often coupled with a restriction on borrowing and limits on tax autonomy (Sutherland *et al.*, 2005).

The fiscal framework was weakened with the dissolution of the previous high-profile fiscal council created by the 2008 fiscal responsibility law. The council was replaced by a new one composed of three members: a chairman of the council, the governor of the central bank, and the head of the state audit office. It has a restricted mandate to assess the state budget and support Parliament's legislative activities, but on the other hand it has been granted an extraordinary unlimited power to veto budget laws. This opens the possibility for the President to dissolve Parliament if it fails to pass a budget by the end of March if two out of three members consistently reject the bill. This power given to an independent institution staffed by only three persons over an elected Parliament is unique and, beyond democratic considerations, is clearly excessive due to the lack of resources (both in terms of budget and staffing) to do a proper analysis of the budget and fiscal policy. A more effective institution would need more resources (its own analytical staff or an inter-institutional committee of experts) and an enlarged mandate to assess, on an ongoing basis, the consistency of fiscal policy with the fiscal framework. At the same time, it should lose its veto power. To be credible, the council needs to be, and to be seen to be, independent from government, and its analyses should be widely disseminated. Also, the fact that one member of the fiscal council can only be replaced if two-thirds of Parliament can agree on a new candidate risks further undermining its credibility in case of political gridlock.

Box 3. **Recommendations on ensuring debt sustainability amid strong economic uncertainty in Hungary**

Improving debt management to address heightened economic uncertainty

- To insure against immediate risks of sudden capital outflows and rollover of public debt, conclude an agreement with multilateral organisations.

- To reduce medium-term risks, start reducing significantly the exposure to foreign exchange loans and increasing debt maturity. Update the optimal portfolio model by taking into account new risks identified during the crisis.

- To smooth issuance in forint and reduce its cost, increase the pool of potential subscribers by developing the third pension pillar. Increase competition among primary dealers by making their accreditation dependant on performance criteria.

- To foster consistency between fiscal, monetary and debt management policies, develop inflation-indexed bonds and use systematic cost-benefit analysis when reducing the gross debt level by using public assets and make the assessment (together with underlying assumptions) public.

Fostering fiscal position by improving the consolidation mix

- Increase the efficiency of public transport companies and make any additional financing conditional on credible consolidation and restructuring plans.

- Continue staff reductions at all levels in the public sector to foster efficiency gains.

- Continue shifting the tax system towards the least distortive property and environmental taxes. In particular, increase taxes on immovable property after ensuring that their tax base is closely linked to market values. The crisis taxes should be swiftly eliminated and no later than at the end of 2012 or 2013 (bank tax) as planned.

- Ensure a balanced distributional impact of fiscal consolidation by means testing child-related benefits, reinstating the employment tax credit, adopting a tax-free allowance in the personal income tax system, cancelling plans to cut the effective personal income tax rate for above-average earners, and raising the least distortive property taxes on affluent individuals.

Tackling long-term pressures on public spending of population ageing

- Make pension benefits liable to personal income tax and shift from wage to price-valorisation of past earnings (or a combination of the two).

- Continue to close pathways into early retirement of special pension regimes, notably retirement privileges of law enforcement officers, miners, chemists and artists.

Enhancing the fiscal framework

- To raise the profile of the fiscal council, it would be more useful to devote greater resources (own analytical staff or an inter-institutional committee of experts) and enlarge the mandate to assess, on an ongoing basis, the consistency of fiscal policy with the fiscal framework, instead of keeping the veto power.

- To reduce the incentive to use one-off measures to meet fiscal targets and reduce the pro-cyclical bias of the new debt rule adopt a multi-year budgeting approach, with medium-term deficit targets supported by realistic growth projections and detailed measures to achieve the targets.

- Increase the public acceptance of the debt rule by cancelling the principle linking the powers of the Constitutional Court to the level of the debt ratio.

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ANNEX

The Hungarian government debt rule

The core principle of the fiscal framework is to ensure the sustainability of public debt. To that aim, the stock of public debt cannot increase faster than the difference between projected inflation and half of projected real GDP growth from 2016 onwards, as long as the debt-to-GDP ratio remains above 50%. The rule would apply to general government, but would also include intermediate borrowing limitations for each level of government. In the case of "significant and enduring recession", the application of the debt rule would be suspended.

In practice, the rule is set to require a significant primary fiscal surplus as shown by a simple simulation below. The yearly change in the debt level originates both from net borrowing requirements and stock-flow adjustments. The stock-flow adjustment 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 can be 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, i_t the average nominal interest rate of debt, and SF_t the stock-flow adjustment. The debt accumulation equation is:

$$D_t = D_{t-1} + i_t \cdot D_{t-1} - PB_t + SF_t \tag{1}$$

By dividing by GDP, writing all ratios in small letters (with g_t the real GDP growth and p_t the GDP deflator) and excluding second-order terms, we obtain:

$$d_t - d_{t-1} = \frac{i_t - p_t - g_t}{1 + p_t + g_t} d_{t-1} - pb_t + sf_t \tag{2}$$

The Hungarian debt rule requires that the stock of debt does not increase faster than the difference between the projected inflation rate (assumed here to be equal to the GDP deflator), and the projected real GDP growth, i.e.:

$$D_t = (1 + p_t - \tfrac{1}{2} g_t) \cdot D_{t-1} \text{ or, dividing by GDP: } d_t = \frac{1 + p_t - \tfrac{1}{2} g_t}{1 + p_t + g_t} d_{t-1} \tag{3}$$

Assuming that stock-flow adjustments are nil on average, we can derive from (2) and (3) the primary fiscal balance, pb_t^*, required to abide by the Hungarian debt rule:

$$pb_t^* = \frac{i_t - p_t + \tfrac{1}{2} g_t}{1 + p_t + g_t} d_{t-1} \tag{4}$$

Using (4), we can simulate the required primary balance to meet the rule from 2016 onwards, based on different hypothesis on growth, inflation and average debt interest payments. Assuming a trend scenario (the output gap being closed) based on a real potential growth of 2%, an inflation rate of 3% (the target of the central bank), average interest rate of 5.6%, and a debt ratio close to the current level from the start of the simulation (i.e. at about 80% of GDP), the primary surplus would need to reach about 3% in 2016 to abide by the fiscal rule. It will afterwards slowly decrease to 1 ¾ per cent by 2030, when the debt ratio would eventually reach 50% of GDP. This scenario, based on conservative assumptions, illustrates the sizeable fiscal consolidation effort that implementing such a rule would require.

If growth and inflation were to temporary deviate from the trend scenario, the impact on the consolidation effort would be quite different whether growth and inflation would be above or below trend. Assuming growth is above potential and inflation overshoots the target (e.g., respectively 3% and 4%), the required surplus would be lower than in the trend scenario (about 2½% in 2016), although the output gap would be positive. Conversely, growth below potential and inflation below the target (respectively 1% and 2%, a situation of negative output gap) would require sizeable primary surpluses (about 3½% in 2016). These alternative scenarios indicate that the implementation of the rule could be tougher in periods with a negative output gap and easier in periods with a positive output gap, pointing to some risks of pro-cyclicality.

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