February 2007
IMF Country Report No. 07/85

Czech Republic: Selected Issues

This Selected Issues paper for the Czech Republic was prepared by a staff team of the International Monetary Fund as background documentation for the periodic consultation with the member country. It is based on the information available at the time it was completed on February 6, 2007. The views expressed in this document are those of the staff team and do not necessarily reflect the views of the government of the Czech Republic or the Executive Board of the IMF.

The policy of publication of staff reports and other documents by the IMF allows for the deletion of market-sensitive information.

To assist the IMF in evaluating the publication policy, reader comments are invited and may be sent by e-mail to publicationpolicy@imf.org.

Copies of this report are available to the public from

International Monetary Fund ● Publication Services
700 19th Street, N.W. ● Washington, D.C. 20431
Telephone: (202) 623 7430 ● Telefax: (202) 623 7201
E-mail: publications@imf.org ● Internet: http://www.imf.org

Price: $18.00 a copy

International Monetary Fund
Washington, D.C.

INTERNATIONAL MONETARY FUND

CZECH REPUBLIC

Selected Issues in Fiscal Policy Reform

Prepared by Anita Tuladhar, Robert Sierhej (both EUR),
Todd Mattina (FAD), and Sagé De Clerck (STA)

Approved by European Department

February 6, 2007

Contents Page

I. Introduction and Overview

1. **The Czech Republic is currently debating the fiscal reform agenda on its path to euro adoption**. An immediate priority is to identify fiscal measures, focused on expenditure-based consolidation, to lower fiscal deficits consistent with the Stability and Growth Pact. These measures are also needed to address age-related spending pressures, improve fiscal flexibility, and lower the tax burden. Yet, recent pre-election populist decisions, leading to higher mandatory spending, risk reversing earlier progress on fiscal consolidation. Strong political commitment will be needed to address these fiscal pressures.

2. **Against this background, this paper examines two key questions on fiscal policy reform**. First, how can the fiscal institutional framework be strengthened to maintain discipline and enhance transparency? Second, what are the priorities in expenditure reform that can be implemented without sacrificing the quality of spending?

3. **Adhering to the reform program calls for firm commitment to the fiscal framework**. Chapter II discusses the recent Czech experience with the medium term expenditure framework and some proposals for strengthening it. Stronger political will is the main precondition for its success, in the absence of which any new fiscal rule that targets the budget balance would not be effective. Further refinements in the expenditure rule to improve its flexibility, and transparent monitoring and assessment of its implementation could facilitate compliance with the framework.

4. **Expenditure reform priorities need to be guided by the objective of enhancing efficiency and budget flexibility**. Chapter III focuses on cross country analyses of spending efficiency and flexibility, and proposes areas for fiscal adjustment that reduce inefficiencies. The analysis, which uses a mapping of spending inputs to performance outcomes to develop an efficiency frontier, suggests scope for improvements in healthcare and education spending. Additional social benefit spending will yield marginal gains while improved targeting of existing benefits could perform better in terms of reducing poverty and inequality.

5. **Expenditure restructuring is also needed to create room for growth-enhancing investment projects funded by the EU**. Chapter IV examines the absorption capacity of EU-funded projects in the Czech Republic. After a slow start, the pace of implementing these projects has picked up recently, placing increasing demands on the budget in future.

6. **Strong public financial management and transparency are also crucial to ensure successful implementation of fiscal reforms**. Drawing on the Fund's pilot project for implementing *GFSM 2001*, Chapter V focuses on fiscal accounting issues. It recommends expanding the coverage of institutions and transactions in the data and supplementing source data to enhance its consistency and comparability, which will contribute to stronger fiscal policy analysis and transparency.

II. STRENGTHENING THE FISCAL FRAMEWORK[1]

A. Introduction

1. **The Czech Republic has made important strides in introducing a fiscal framework as part of the fiscal reform agenda for EU entry**. Currently, it has a three-year rolling budgetary framework underpinned by nominal expenditure ceilings. The fiscal targets anchoring the nominal ceilings are spelled out in the Convergence Program and determined by a gradual adjustment path to meet the three percent deficit limit under the Stability and Growth Pact. The framework has helped lower deficits and the introduction of a carryover provision for fiscal underspending has also led to incentives for a more efficient spending of resources.

2. **Nevertheless, weaknesses have emerged in the process of implementing the medium term budgetary framework**. The upward revision of the spending limits in the medium term budget during the 2006 and 2007 budget process and the abandonment of the 2005 Convergence Program targets suggests that the fiscal framework needs to be strengthened to increase fiscal discipline in good times. Given the current environment of political uncertainty, the fiscal framework takes on added importance as a disciplining device.

3. **In the context of these recent developments, the paper reviews challenges to the fiscal framework and seeks to identify some areas that could strengthen it**. Section B reviews fiscal trends and key challenges and section C discusses the emerging pressures in the fiscal framework. Section D focuses on policy issues including key considerations for the level of the fiscal deficit target, on whether these targets should be institutionalized as a fiscal rule and possible changes to strengthen the medium term expenditure framework. Section E concludes.

B. Fiscal Trends and Key Challenges

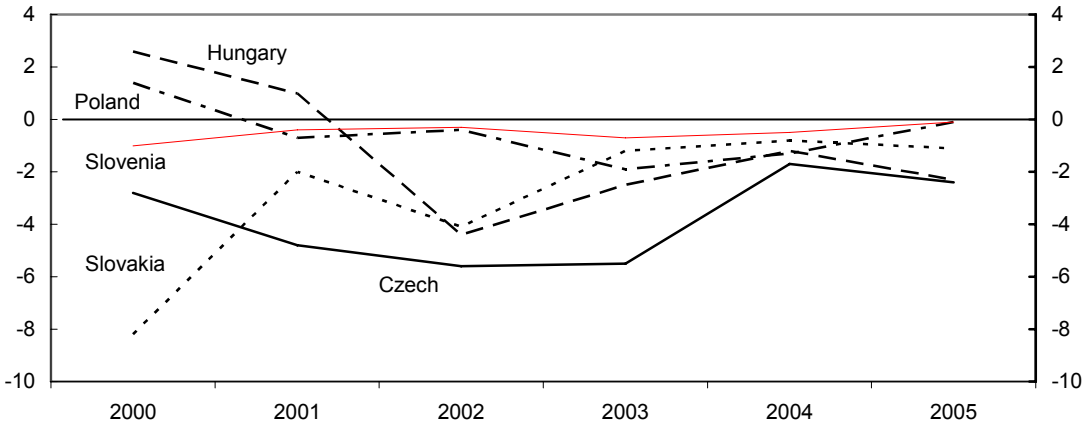
4. **Public debt rose rapidly since 2000, with some moderation over 2004-05**. Although the debt level at 27½ percent of GDP at end 2006[2], is relatively low, primary deficit remains among the highest in the region (Chart 1) and debt dynamics have also been relatively unfavorable (Chart 2). Until 2003, these rising deficits were driven mainly by expenditures (Chart 3). This deteriorating trend was reversed in 2004 when, in preparation for EU entry, a three year fiscal reform program with a medium term expenditure framework was introduced.

---

[1] Prepared by Anita Tuladhar.

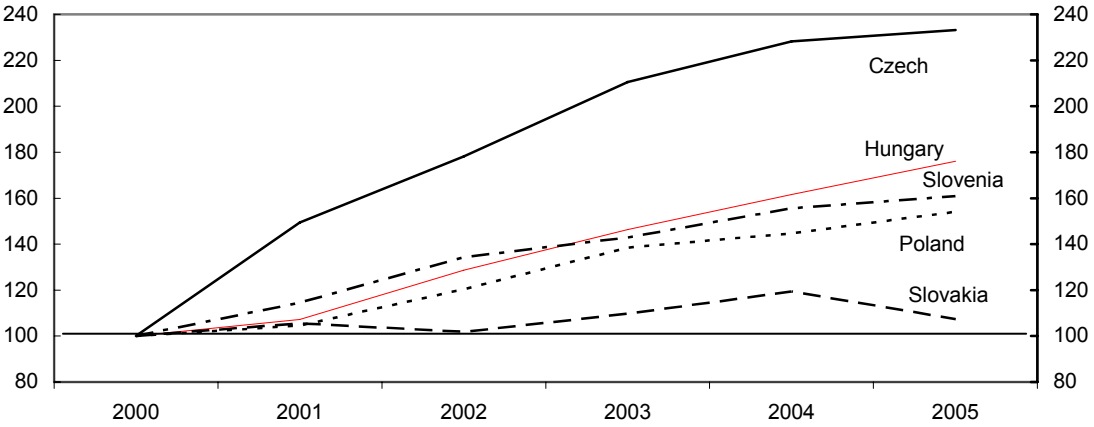
[2] In GFS 1986 terms. On ESA-95 basis, gross debt stood at 30 percent of GDP at end 2005.

Chart 1. Primary Balance, 2000-05
(in percent of GDP)



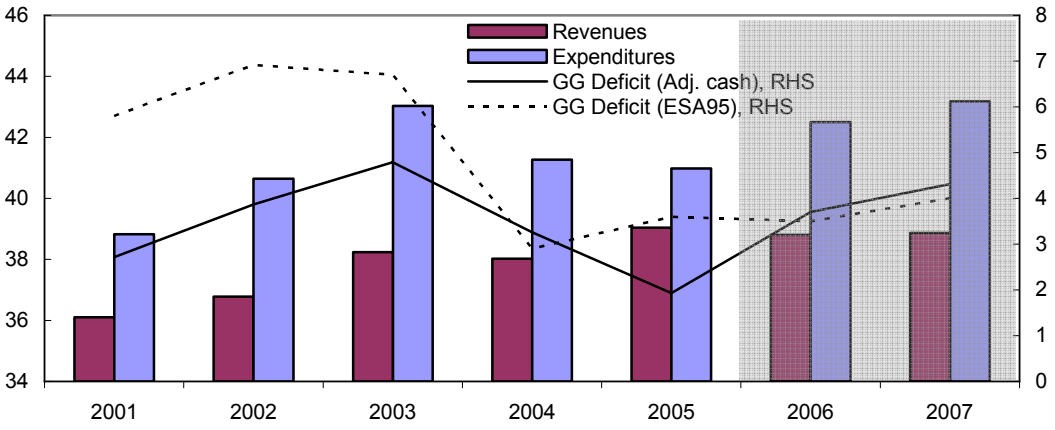
Source: Eurostat.

Chart 2. CEEC: Government Consolidated Gross Debt, 2000-05
(2000 General Government Debt/GDP = 100)



Source: Eurostat; and IMF staff calculations.

Chart 3. Czech Republic: Fiscal Indicators, 2001-07
(In percent of GDP)



Source: Ministry of Finance; and IMF staff calculations.

Chart 4. Czech Republic: Fiscal Stance, 1996-2006
(In percent of GDP)

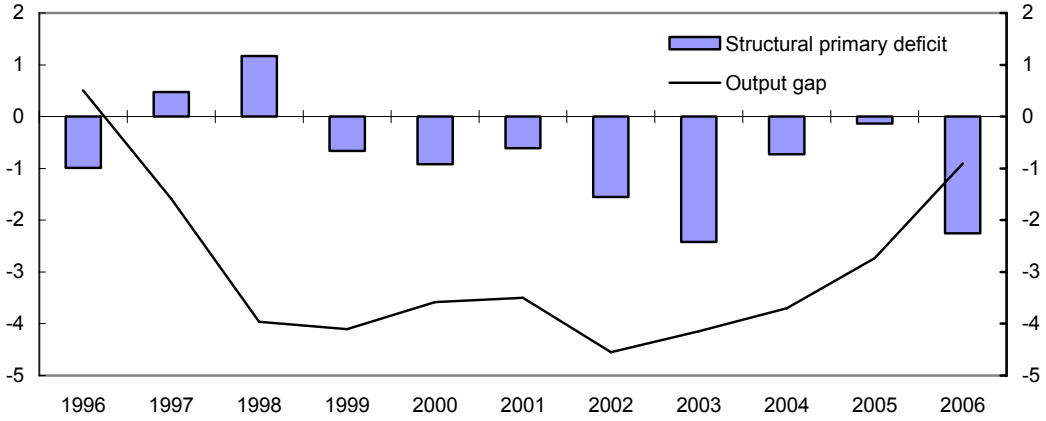


Chart 5. Czech Republic: Sensitivity of Structural Budget Balance to Output Gap
(In percent of potential GDP)

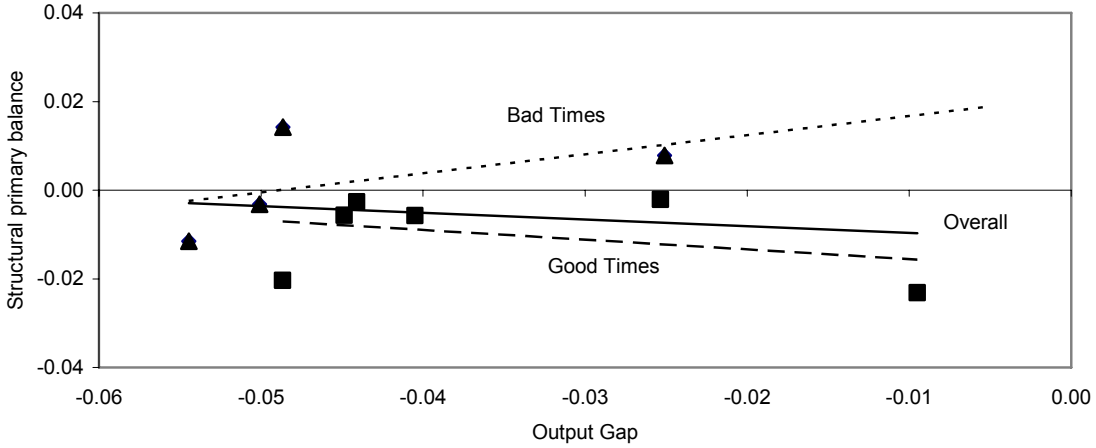
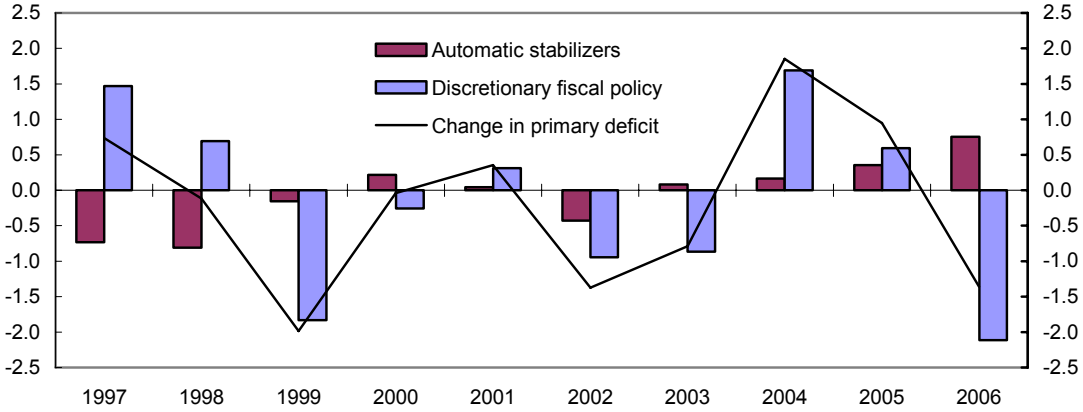


Chart 6. Czech Republic: Decomposition of the Change in Primary Balance, 1996-2006
(In percent of GDP)



Source: Ministry of Finance; and IMF staff calculations.

5. **The reduction in deficits in 2004-05, however, was not underpinned by durable expenditure reforms**. Two main factors contributed to the lower deficits. In 2004, new budgetary rules allowing unspent budget allocations to be carried forward as reserves, created disincentives for a large year-end spending. In 2005, windfall revenue gains from an export-led boom contributed to lower deficits, but were used to finance an increase in mandatory social spending programs, reversing the favorable fiscal trends.

6. **A cyclical analysis of the budget over the past decade suggests that discretionary factors have contributed to the high deficits**. Based on estimates of potential output which show a negative but closing output gap[3], the fiscal stance has been generally expansionary between 1999-2003 as shown by the positive fiscal impulse (Chart 4 and Table 1). These trends in the size and direction of the fiscal impulse are robust to different methodologies used for calculating the output gap and structural balance. To better understand the cyclical properties of the Czech fiscal policy, the fiscal stance is also evaluated separately for 'good times', defined as periods of narrowing negative output gap, and 'bad times' when the negative output gap was widening (Chart 5). This analysis shows that fiscal policy has followed a somewhat asymmetric trend with a procyclical stance during cyclical upturns and a countercyclical stance during downturns, contributing to a rapid rise in debt. The fiscal expansion has been driven primarily by discretionary factors (Chart 6). The automatic stabilizing effect appears to have been small, which could be attributed to the relatively small share of income-related transfers and progressive direct taxes, and lower labor market flexibility compared to the OECD and EU-15 countries.[4]

7. **Looking ahead, budgetary pressures are likely to mount**. Regional tax competition and a high tax wedge have led to pressures to reduce tax rates. Corporate tax rate remains among the highest in the new member states despite a phased reduction since 2004. The drying up of privatization revenues, which have been used to finance infrastructure spending and guarantee payments, would further worsen debt dynamics. The authorities also face large high-risk contingent liabilities from past bank restructuring and environmental guarantees. Longer term spending pressures for pensions and health care and co-financing needs of EU-fund pose further significant challenges. Over the medium term, the Czech Republic needs to lower its deficits in a sustainable manner below the three percent threshold to fulfill the Maastricht criteria for euro adoption.

---

[3] See Appendix I for details on calculation of potential output and structural deficits.

[4] See Appendix II for further details.

Table 1. Structural Balance and Discretionary Fiscal Policy
(In percent of GDP, unless otherwise noted)

	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	Average
1 Macroeconomic data												
Nominal GDP (in bill. of CZK.)	1683	1811	1996	2081	2189	2352	2464	2577	2781	2978	3181	--
Real GDP (percent change)		-0.7	-0.8	1.3	3.6	2.5	1.9	3.6	4.2	6.1	6.0	2.8
Output gap (in percent of potential GDP)	0.5	-1.6	-4.0	-4.1	-3.6	-3.5	-4.5	-4.1	-3.7	-2.7	-0.9	-2.9
Potential/Actual GDP	0.99	1.02	1.04	1.04	1.04	1.04	1.05	1.04	1.04	1.03	1.01	1.0
2 Fiscal data												
Revenues	39.5	36.7	35.5	35.4	35.7	36.1	36.8	38.2	38.0	39.1	38.8	37.3
Expenditures 1/	41.6	38.0	36.8	38.5	38.8	38.8	40.6	43.0	41.3	41.2	42.5	40.1
Noninterest	40.3	36.8	35.7	37.6	37.9	38.0	40.0	42.3	40.2	40.3	41.4	39.1
Interest	1.2	1.1	1.1	0.9	1.0	0.9	0.6	0.8	1.1	0.9	1.1	1.0
Overall balance	-2.0	-1.2	-1.3	-3.1	-3.2	-2.7	-3.9	-4.8	-3.3	-2.1	-3.7	-2.8
Primary balance	-0.8	-0.1	-0.2	-2.2	-2.2	-1.9	-3.2	-4.0	-2.2	-1.2	-2.6	-1.9
Change in primary balance		0.7	-0.1	-2.0	0.0	0.4	-1.4	-0.8	1.9	1.0	-1.4	--
3 Structural balance, (elasticity = 0.94)												
Estimated revenues	39.3	37.3	36.9	37.2	36.9	37.4	38.4	39.8	39.5	40.1	39.1	38.4
Estimated expenditures	41.6	38.0	36.8	38.8	38.8	38.9	40.6	43.0	41.4	41.1	42.5	40.1
Non-interest estimated expenditures	40.3	36.8	35.7	37.8	37.8	38.0	40.0	42.2	40.3	40.2	41.4	39.1
Overall balance	-2.2	-0.7	0.1	-1.6	-1.9	-1.5	-2.2	-3.2	-1.8	-1.0	-3.4	-1.8
Primary balance	-1.0	0.5	1.2	-0.7	-0.9	-0.6	-1.6	-2.4	-0.7	-0.1	-2.3	-0.8
4 Automatic stabilizers and discretionary fiscal policy												
Change in actual primary balance		0.7	-0.1	-2.0	0.0	0.4	-1.4	-0.8	1.9	1.0	-1.4	-0.2
of which, automatic stabilizers 2/		-0.7	-0.8	-0.2	0.2	0.0	-0.4	0.1	0.2	0.4	0.8	-0.1
discretionary fiscal policy 3/		1.5	0.7	-1.8	-0.3	0.3	-0.9	-0.9	1.7	0.6	-2.1	-0.1
5 Fiscal stance and fiscal impulse 4/												
Fiscal impulse 1		-1.5	-0.7	1.8	0.3	-0.3	0.9	0.9	-1.7	-0.6	2.1	
Fiscal stance 5/		-1.4	-2.3	-0.4	-0.1	-0.4	0.5	1.5	-0.2	-0.7	1.4	-0.2
Revenue stance		2.8	4.0	4.1	3.9	3.4	2.8	1.3	1.5	0.4	0.7	2.5
Non-interest expenditure stance		-4.2	-6.3	-4.5	-4.0	-3.8	-2.3	0.2	-1.7	-1.2	0.7	-2.7
Fiscal Impulse 2		-1.4	-0.9	1.9	0.3	-0.3	0.9	1.0	-1.7	-0.5	2.1	

Source: IMF staff estimates.
1/ Excludes privatization financed net lending and transformation grants.
2/ Calculated as the change in the difference between actual and structural revenues and expenditures.
3/ Calculated as the difference between the change in the actual primary balance and automatic stabilizers.
4/ Positive impulse implies loosening and negative number implies tightening.
5/ Calculated as the difference between the "neutral" revenues and non-interest expenditures. See Horton (2005) for methodology details.

8. **Addressing these challenges will require strong fiscal institutions to limit the deficit bias**. Reversing the recent tendency to raise spending or cut taxes during favorable cyclical periods is key to avoiding procyclical fiscal policy. A countercyclical policy not only supports output stabilization, which will be increasingly important as the economy integrates with the eurozone, but also prevents a build up of high deficits and debt that could require a procyclical fiscal contraction.

C. The Fiscal Framework and Emerging Pressures

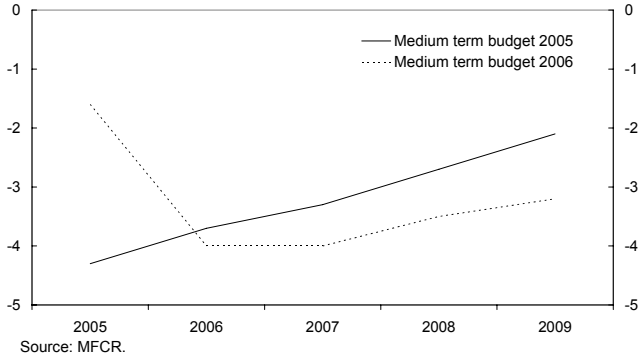
9. **The Czech fiscal framework was introduced in 2004**. While there is no explicit fiscal rule for a budget balance, the framework requires the government to announce medium-term fiscal targets at the general and central government levels for two years subsequent to the budget year. These targets have been consistent with the Convergence Program, which has sought to gradually lower the general government deficit to below 3 percent of GDP threshold under the Stability and Growth Pact. Based on the medium-term macroeconomic forecasts prepared by the Ministry of Finance, nominal revenues are projected, which together with the deficit targets are used to derive the nominal expenditure ceilings for the state budget and the state funds.

10. **The expenditure targets are legally binding and can only be adjusted in specific cases**. The medium-term expenditure framework is submitted along with the state budget to Parliament and the conditions under which the annual budget can deviate from these medium term targets are pre-specified. For instance, escape clauses exist for large deviations in CPI developments, EU financed programs, legal changes in budgetary allocation of taxes for decentralization, and extraordinary spending not projected when the framework was determined. A margin of one percent for the budget year and two percent for the following year is allowed. Any positive surprises such as windfall revenue gains are required to be used to lower deficits. In the event of a breach of spending ceilings, however, no sanctions exist.

11. **The experience of past three years with the fiscal framework has pointed to several weaknesses in its implementation**:

Lack of adherence to fiscal deficit targets: Although the annual budgets for 2005 and 2006 respected the preannounced medium term deficit targets, the 2007 budget relaxed the deficit target significantly (Chart 7), despite stronger than projected growth. Furthermore, no medium term targets were announced. The increase in the

Chart 7. Medium-Term General Government, 2005-09
Deficit Targets (In percent of GDP) 1/

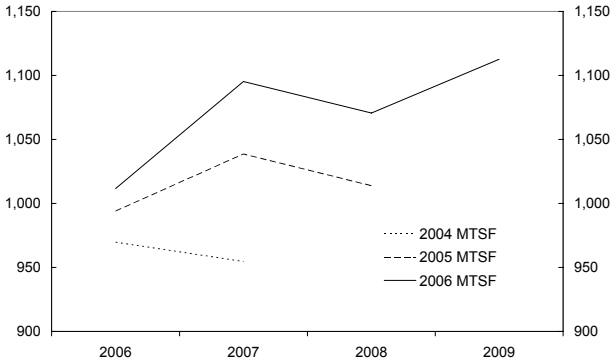


Source: MFCR.
1/ Authorities' fiscal targeting methodology. Corresponds to ESA-95 targets for 2007-09.

deficit was driven by a large mandatory social spending package approved ahead of the 2006 elections, impacting the deficits over the medium term.

***Revenue windfalls used to increase spending**:* In the face of strong revenue growth, spending ceilings have been repeatedly revised upwards (Chart 8). These increases were justified on the premise that the revenue surprise reflected structural changes in the revenue base. The revenue surprises were thus used to lower within-year deficits but not the multiannual budget targets as required by the framework. The upward revision in spending amounted to nearly ¾ percent of GDP in the 2006 budget and 1¾ percent of GDP in 2007. This revision has led to a procyclical stance, undermining the objective of the fiscal framework as an automatic stabilizer.

Chart 8. Central Government Consolidated Spending Ceilings, 2006-09
(In billions of CZK)



***GDP revisions and macro forecast error**:* Projecting revenues has been complicated by the forecast errors in the GDP projections (Table 2). The frequent revisions in the GDP series, structural changes following EU accession, and tax reform measures have added to the difficulties of forecasting structural revenues.

Table 2. Macroforecasts: Budget versus Outcome, 2004-05

	2004		2005	
Growth in	Budget	Outcome	Budget	Outcome
Real GDP	2.8	4.2	3.6	6.1
Deflator	2.7	3.7	3.1	1.0
Nominal GDP	5.6	7.9	6.8	7.1
Fiscal Impulse	-0.6	-1.3	-1.4	-0.5

Source: Czech authorities.

Coverage of the fiscal framework: Under the budgetary rules, extra budgetary funds and line ministries are allowed carryover of annual budgetary underspending in both current and capital budgets which can be spent in future years without any limits placed by the Ministry of Finance. At end-2005, these budgetary reserves had accumulated to 1¾ percent of GDP reflecting the persistent overbudgeting of expenditure allocations. Similarly, spending from privatization account remains outside the spending ceiling. Exclusions in the current fiscal framework risk erosion of fiscal control by the Ministry of Finance.

D. Key Considerations for Strengthening the Fiscal Framework

12. **Against this backdrop, the fiscal policy framework faces some key questions**:

- What is the appropriate long-term budget deficit target?
- Should the target be fixed in the form of a fiscal rule?
- How can the current fiscal framework be strengthened as a commitment device towards achieving these targets?

The following sections discuss some considerations to address these questions.

What is the appropriate long-term budget target?

13. **Standard debt sustainability analysis suggests that the present deficits will not stabilize debt**. The debt stabilizing primary fiscal balance is given by the following debt dynamic equation,

$$pb = (r - g).d$$

where pb denotes the primary balance as a percent of GDP, r is the real interest rate, g, the growth rate, and, d, the debt to GDP ratio. The Czech Republic's average primary balance, at 2.5 percent over 2001-05, ranks among the highest in the new member states, easily exceeding the level needed to sustain the debt level of 26 percent of GDP at end-2005 (Table 3). Even with a more optimistic medium term growth forecast and a higher target deficit level of 30 percent of GDP, the debt stabilizing deficit is below that implied by the deficits projected under the 2005 Convergence Program and the medium term budget. Since the desired target deficit is endogenous to the target level of debt, this raises the question as to the optimal level of debt.

Table 3. Debt Stabilizing Primary Balance Scenarios (In percent of GDP, unless noted otherwise)

	Average 2001-05	Average 2006-11 2/	Optimistic	Pessimistic	Optimistic	Pessimistic	Optimistic	Pessimistic
Target debt level	26	30	40	40	50	50	60	60
Growth rate (in percent)	3.7	4.6	5.0	3.0	5.0	3.0	5.0	3.0
Real interest rate (in percent) 1/	2.2	3.1	2.5	3.5	2.5	3.5	2.5	3.5
Required primary balance	-0.4	-0.4	-1.0	0.2	-1.3	0.3	-1.5	0.3
Actual primary balance	-2.5	-1.4	…	…	…	…	…	…

Source: Staff calculations.

1/ Derived as nominal rate minus change in GDP deflator. Nominal rate is calculated as the nominal interest expenditure divided by previous period debt stock.

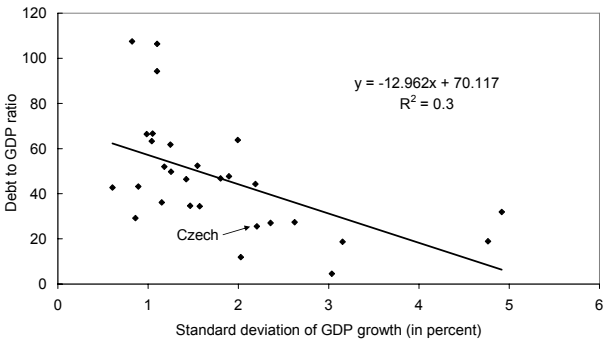
2/ Staff projections based on 2005 Convergence Program targets.

14. **Long-run growth rates and the time rate of preference are important factors in determining the optimal debt target level**. As an economy catching up with EU income levels, higher investment spending would support faster growth rates. This justifies following a golden rule where investment spending can be financed through debt. Furthermore, debt stabilizing deficits are arguably higher than in more mature markets, as growth will be

stronger in the process of income convergence and real interest rates will be lower due to the higher equilibrium rate of inflation. Under this optimistic scenario with a 5 percent long term growth, a primary deficit of 1.4 percent of GDP as projected in the medium term plans would stabilize debt at around 55 percent of GDP. However, after income convergence, the deficit level would need to much lower in order to stabilize debt given a slowdown in growth and a higher interest burden.

15. **Additional considerations are market expectations of a sustainable debt level and risks stemming from output volatility and debt rollover**. When debt is at an unsustainable level and the market perceives that fiscal consolidation is not credible, with debt on an explosive path, a rational investor could refuse to buy the debt. Vulnerability to this risk is particularly high if output growth is volatile, and a growth slowdown necessitates larger financing needs. Cross country data show that debt levels are negatively related with output variability (Chart 9). Using output volatility as a benchmark for European countries, a sustainable level of debt for the Czech Republic would be higher than the current levels, at around 40 percent of GDP. Also, refinancing risk for Czech state debt is relatively low with the average time to maturity of 5.9 years, close to most European nations (IMF, 2005b) [5].

Chart 9. General Government Debt and Output Variability in EU-25 and Candidate Countries



Source: World Economic Outlook.

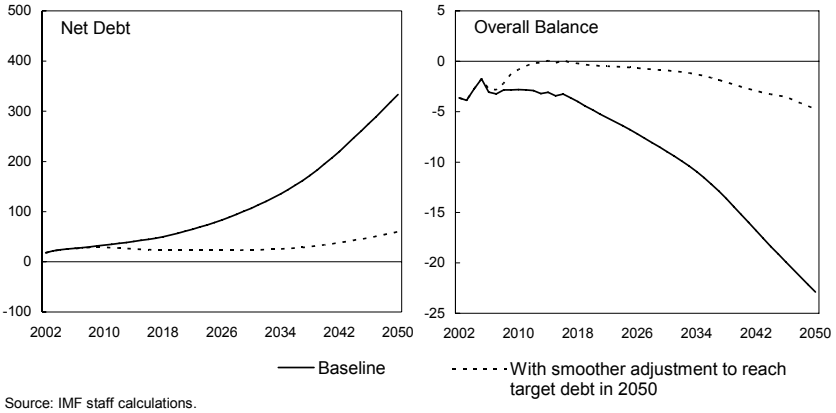
16. **The main motivation for debt reduction is to create fiscal space for age-related spending pressures**. Over the next few decades, the Czech Republic faces one of the largest demographic shifts among the new member states.[6] Yet, it remains one of the few countries in the region which has not yet reformed its pension and health care system. Old-age income support and health care are almost entirely provided by the public sector. Longer term debt sustainability analysis projects that age-related spending would rise by nearly 7 percent of GDP by 2050 leading to unsustainable debt dynamics. To maintain debt within a 60 percent of GDP limit by 2050, a permanent fiscal adjustment of 6 percent of GDP is required which translates into a surplus of 2 percent of GDP. If consolidation is delayed, the additional adjustment needed will increase by 1/3 percent of GDP every 2 years. Generational equity

[5] Other theoretical considerations on optimal debt provide limited policy guidance. For example, on efficiency grounds, a positive debt level is preferable to the use of distortionary taxes. On the other hand, a lower debt level is desirable to raise national savings.

[6] For detailed discussion on long-term fiscal sustainability analysis, see Czech Republic, *Selected Issues*, Country Report No. 05/275.

considerations argue for lowering debt to limit the interest cost on future generations who will be facing the burden of higher pension and health expenditures. In the absence of systemic pensions and health care reforms to address the long-run pressures, the Czech Republic should seek to generate budget surpluses as reserves to pay for these future spending needs.

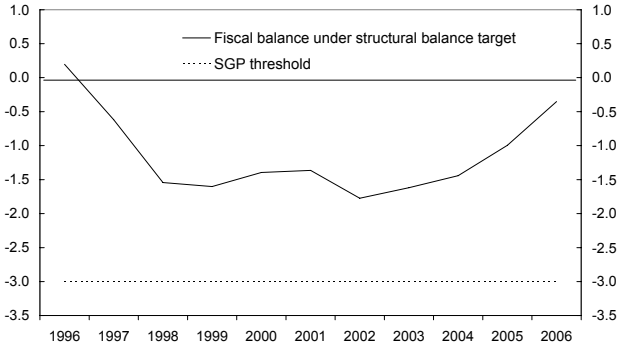
Chart 10. Net Debt and Overall Balance, 2002-50
(In percent of GDP)



Source: IMF staff calculations.

17. **Based on these competing considerations, a target of a structural balance or a small surplus by early next decade appears to be appropriate (Chart 10)**. This would require a sustained reduction in the structural balance of at least ½ percent of GDP annually starting from a 3 percent structural deficit in 2007 and reaching structural balance by 2013. This target will also allow a cyclical margin below the Maastricht requirement of 3 percent of GDP (Chart 11). Historical GDP data suggests that the size of the largest negative output gap was 4½ percent in 2002. Based on an estimate of semi-elasticity of budget to output gap of 0.39 (OECD, 2005), this would imply a cyclical fluctuation of 1¾ percent. This is below the threshold of 3 percent of GDP under the Stability and Growth Pact, providing a margin for forecast errors, especially in case of large shocks.

Chart 11. Alternative Fiscal Balance Scenario, 1996-2006
(In percent of GDP)



Source: IMF staff calculations.

Should the deficit targets be fixed in the form of a fiscal rule?

18. **The current 'soft' approach to fiscal targets highlights the tradeoffs between a commitment to long-run fiscal goals and short-term fiscal flexibility**. A flexible deficit target allows more discretion on the short term fiscal policy stance, even though this could contradict longer term fiscal goals of lowering debt. But this discretion can also be misused

in the face of weakening discipline and short term spending pressures. International experience has shown that these political pressures tend to be particularly acute during cyclical upswings, providing a procyclical bias.

19. **The loss of fiscal discipline and a history of procylical fiscal policy call for an institutional mechanism to ensure stronger fiscal commitment**. A budget balance rule, in the form of a permanent deficit target, would serve to directly address the deficit bias. In a highly fragmented political system with the presence of coalitions and a 'commitment' form of budgeting, such rules can help to limit spending bias arising from a 'common pool' problem. [7] Empirical evidence also shows that deficits have been lowered following introduction of budget balance rules, although these findings may be subject to endogeneity bias which makes it difficult to establish causality.

20. **Fiscal rules also have potential drawbacks**. A rigid rule that targets an annual deficit can introduce a procyclical bias. It could also lead to a poor quality of fiscal adjustment if expenditure cuts fall on areas which are more productive yet may be easiest to cut due to more discretion. In the case of a 'golden rule' that excludes capital spending, there may also be a tendency for creative accounting such as through reclassification of spending from current to capital items. Other methods of circumventions include using off-budget government operations, or changing cash-accrual adjustments if targets are in accrual terms. For these reasons, at the general government level, a fiscal balance rule is less frequent or is applied with more flexibility over a multi-year horizon, or with cyclical margins and escape clauses for periods of low growth (Table 4). Instead, rules on annual budget balance appear to be more prevalent at local government levels, especially in countries with a 'delegation' type of budget formulation where the Finance Ministry is provided more responsibility and held accountable for overall fiscal performance.

Table 4. Deficit Target Rules in Select EU Countries.

	Fiscal objective	Planning horizon
Finland	Structural surplus	Four years on a rolling basis
Netherlands	Below 3 percent of GDP under normal economic fluctuations	Four years at beginning of coalition period
Sweden	Surplus of 2 percent of GDP over the business cycle	Three years
Switzerland	Balanced structural budget	Permanent
United Kingdom	Golden Rule: balanced current account	Three years on a two year rolling basis
United States	Balanced budget	Four year reform program ending in 2002

Source: IMF.

21. **Experience with a budget balance rule as a percent of GDP to support the existing expenditure rule suggests difficulties in interpretation**. A few countries with an expenditure rule have also adopted a form of a budget balance rule (Denmark, Finland,

[7] See Ylaouten (2004) for a discussion on political systems and budgetary framework.

Sweden), which acts as a permanent constraint, on the basis of which the expenditure ceilings are derived. Since the targets are usually applied over multiple years, there are variations on its interpretation, complicating the task of setting expenditure ceilings and monitoring performance. Targets set in structural terms are also challenging particularly in the case of a transition economy where the extent of the cyclical adjustment is even more uncertain.

22. **Without political commitment, enforcing any fiscal rule will be a challenge**. Country practices show that sanctions are applied more commonly at the local government level. Such sanctions may be at the institutional level such as through withholding of transfers, credit restriction, and fines or even, at times, personal sanctions aimed at the responsible official (IMF, 2005a). Where rules have been applied at the general government level, sanctions have been reputational rather than judicial in nature, highlighting the difficult nature of enforcement of such rules. Adoption of fiscal rules often reflect the underlying social preferences for fiscal adjustment and political commitment is a precondition for its implementation. Given these considerations, more prominence needs to be given to fiscal deficit target requirements during budgetary debates. Although a numerical fiscal balance rule itself would not ensure greater compliance, introduction of such a rule would highlight the importance of fiscal discipline and increase the reputational costs of deviating from the rule.

23. **Efforts to safeguard the pre-announced fiscal targets need to be stepped up**. One approach entails specifying the deficit targets of the Convergence Programs in the coalition agreement, as in the fiscal framework of many 'commitment' type of countries. This allows the targets to be more transparent, allowing public scrutiny and debate—the main mechanism to provide incentives for compliance and build up credibility. A requirement that any measures on taxes and mandatory spending that will lead to a deviation from these targets be budget neutral, much alike the US Budget Enforcement Act, would also facilitate more discipline.

24. **Since the existing expenditure rule covers only the central government level, rules for local governments could be considered**. At present, local governments face a debt rule limiting debt servicing to 30 percent of revenues. Local government debt is low and stable. Nevertheless, recent legislative changes to devolve responsibilities for education, healthcare, social care, and implementation of EU-funded projects to the regional governments, increase risks for the future. A balanced budget rule for regional governments could be considered. Furthermore, sanctions on municipalities for breaches in the debt rule are weak and could be strengthened. The debt servicing rule should also be revised to exclude debt repayments under the definition of 'debt servicing' which provides disincentives for earlier debt repayments and inceases tendencies towards longer term borrowing (OECD, 2006).

25. **Special consideration for funding future pension liabilities is also needed**. While a separate spending ceiling covers extra-budgetary funds, state pensions remain within the state budget. Assuming pension spending is contained, state pensions are expected to run a surplus in the near-term due to an upward revision in the contribution rate and the gradual extension of the statutory retirement age. Preserving the pension surpluses in a separate account could be considered in order to prefund the impending cost of aging on public finances.

How can the expenditure framework be strengthened as a commitment device?

26. **The breach of the expenditure rule highlights the importance of political commitment**. Although reputational sanctions are supposed to provide sufficient incentives to comply with the rule, a lack of significant public debate can limit reputational costs. Reputational sanctions may also be ineffective if fiscal policy does not figure substantially on the voters' agenda. Hence, additional sanctions for lack of compliance during implementation are sometimes introduced. Introducing such sanctions would require strengthening the legal foundations to make the spending ceilings legally binding at a disaggregated level of the budgetary chapters (OECD 2005, Convergence Program 2005). In practice, however, these sanctions are more common at the level of local governments. At the central or general government level, a number of countries require the government to prepare a plan to offset the overspending within a certain time horizon, which could also be introduced in the Czech budgetary rules.

27. **Monitoring of the expenditure rule could be made more transparent in order to strengthen enforceability**. Independent fiscal institutions are sometimes established to limit time-inconsistent behavior of policymakers. The model for an independent fiscal institution varies considerably by country.[8] Their roles range from providing macroeconomic forecasts for the budget to an independent monitoring and analysis of fiscal policy developments. They frequently provide normative statements on fiscal policy implementation, including on adherence to fiscal rules. Studies show that their presence has led to more transparency and public debate and contributed to fiscal discipline. In the Czech Republic, macroforecasts used in the budget by the Ministry of Finance have been on the conservative side (MFCR, 2005a). Neverthless, an institutional mechanism that allows for independent assumptions, for example, in assessing if revenue increases are structural, and monitoring of budget plans, could help strengthen the credibility of the expenditure framework.

[8] See European Commission (2006) for a more detailed discussion of the type of independent fiscal institutions.

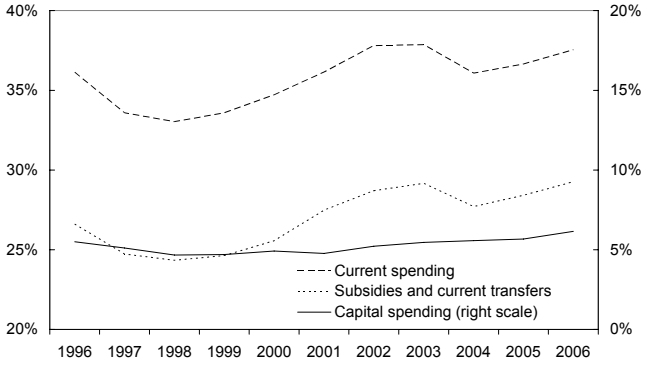
28. **Removing certain categories of spending from expenditure ceilings could facilitate adherence to the rule**. A few spending items warrant consideration:

(i) Removal of *interest expenditure* is a common practice which will be increasingly relevant with rising interest rates and debt stock.

(ii) The ceilings sometimes also exclude *pensions* and cyclical items such as *unemployment benefits*. In such a case, a separate rule for pensions will be needed.

(iii) *Public investment spending* is also excluded sometimes to prevent reduction in desirable investments to meet the expenditure target. Based on this principle, EU-financed spending has been excluded from the Czech spending ceilings. Similarly, some countries have adopted a 'golden rule' limiting borrowing to finance capital spending. To the extent that spending ceilings have been revised up due to higher than planned allocations for infrastructure spending, this exclusion could be considered. This would help to better monitor how current spending, where growth has picked up more significantly, is adhering to its limits (Chart 12). However, such exclusions from a fiscal rule have also been criticized on the grounds that returns on public investment spending do not necessarily ensure a return higher than the cost of borrowing. Furthermore, the distinction between capital and current spending is not always very clear.

Chart 12. Expenditure Trends, 1996-2006
(In percent of GDP)



Source: Ministry of Finance.

(iv) *Exclusion of some unpredictable items* such as guarantee payments have been used in the Czech fiscal targeting methodology for spending ceilings. The existing rule that new guarantees are limited to 40 percent of annual expenditures has been largely met. In order for the issuing government to bear the cost of these guarantees, it was proposed that payments for guarantees deemed to be high risk be put into reserves at the time of the issuance of the guarantees. However, the guarantee fund is currently being used merely as a short-term fund for making payments on called guarantees. To ensure more equitable burden-sharing, the guarantee fund needs to be serve as a reserve to fund future guarantee payments.

29. **To minimize the risk that binding multiyear spending ceilings become too rigid, a cyclical contingency margin could be considered**. A potential drawback of such margins is that they are fully used during downswings with no adjustment during cyclical upturns. To address this concern, one suggestion is to introduce spending ceilings set at central values

consistent with potential growth and desired structural adjustment while allowing margins for overruns or savings depending upon output deviations from trend.

30. **The coverage of central government institutions under the expenditure ceiling needs to be broadened to help ensure compliance with the overall deficit target**. Spending from reserve funds that have accumulated from prior years by line ministries is excluded. While it is desirable to maintain the efficiency gains from such carryover provisions, limits on the extent of the rollover of budgetary allocations and their drawdown are needed to ensure sufficient fiscal policy control. Spending from the carryover reserves could to be tied to the efficiency outcome of the budgetary spending.

31. **Higher transparency could help prevent circumvention of the rules**. For example, international experience shows that tax expenditures are often resorted to get around the spending ceilings. Hence, annual reports on the use of tax expenditures are needed. Finally, budgetary rules and procedures at the implementation level, and expenditure management represent important elements of the fiscal framework, which deserve further review.

E. Concluding Remarks

32. **Recent years have witnessed some erosion of fiscal discipline**. Over the past decade, discretionary policy led to a steady rise in deficit and debt in the Czech Republic. The introduction of a fiscal framework with a multi-year expenditure ceilings helped to reverse this trend. But in the face of strong revenue growth from a cyclical upswing, populist pressures led to abandonment of the medium term fiscal targets and spending ceilings. Against this background, the paper examined considerations for strengthening the framework and whether the medium term targets should be permanently fixed under a fiscal rule.

33. **Strengthening the fiscal framework and greater political commitment would help compliance with the framework**. In light of long-run sustainability concerns, fiscal policy should aim for a gradual adjustment that leads to a structural balance or a surplus early in the next decade, if systemic pension and healthcare reforms to address long-run spending pressures are not addressed soon. These targets need to be integrated in the fiscal framework more prominently while recognizing that, in the absence of a stronger political commitment, fixing targets under a fiscal rule alone would not necessarily lead to greater compliance. Efforts need to focus on strengthening the design of the expenditure framework through greater flexibility and independent monitoring that allows more public debate and sanctions, helping to enforce the framework.

Table 5. Key features of Expenditure Rules in Select Countries

	Type of expenditure	Definition of target	Level of government	Additional Rule	Timeframe	Statutory base	Sanctions for non-compliance	Escape clause	Body responsible for monitoring
Belgium	Primary expenditure	Annual medium term growth rate of 1.5 percent	Federal government	Revenue rule	Medium term (4 years)	Coalition agreement	No measures specified ex-ante	No exceptions ex-ante	Independent Court of Auditors, High Council of Finance and National Parliament
Denmark	Public consumption	Real expenditure growth rate in accrual terms	General government	Budget balance rule, revenue rule	Multiannual	Political agreeement	No measures specified ex-ante	No exceptions ex-ante	Ministry of Finance
Finland	Total expenditure	Freezing of real expenditure at 1999 levels	Central government	Budget balance rule, debt rule	Cabinet period (5 years)	Political agreeement	No measures ex-ante. Government proposes corrective action.	No exceptions ex-ante	Ministry of Finance
Ireland	Total expenditure	Annual nominal growth of 4 percent over 1998-2002	Central government	Expenditure rule for pension fund	Government's term (5 years)	Legal act	No measures specified ex-ante	No exceptions ex-ante	Government
Netherlands	Expenditures as defined by ceilings (central government expenditures less non-tax revenues and infrastructure funds, ceilings for social security, health care and general government	Medium term real expenditure ceilings translated into annual nominal amounts	General government		Cabinet period (4 years)	Coalition agreement	Commit to offset overruns by expediture cuts	Rules to divide windfalls and shorfalls between tax cuts and lowering deficit	Ministry of Finance
Sweden	Primary expenditure plus old age pension expenditure outside budget	Annual nominal expenditure ceiling: annual expenditure should not rise faster than projected nominal	Central government excluding extra budgetary funds	Budget balance rule	three years - rolling	Legal act	Bi-annual monitoring required y budget law. Government shall prepare a plan for correction if signs of overruns.	No exceptions ex-ante	Independent Court of Auditors, Government and National Parliament
Switzerland	Central government expenditures including investments	Annual nomial expenditure ceiling equal to one-year reveue forecasts adjusted for cyclical position of	Central government	Budget balance rule	Annual		Judicial		
United Kingdom	Departmental Expenditure Limits (DEL)	Nominal expenditure	Government departments	Budget balance rule, debt rule	three years		Although DELs are binding, they can be altered during budget. Under or over spending can be offset in another year within the	No exceptions ex-ante	Independent (National Audit Office), Ministry of finance, Treasury, and National Parliament

Source: Danninger (2002); European Commission (2003, 2006).

References

Andre, Christophe, and Nathalie, Girouard, 2005, "Measuring Cyclically-adjusted Budget Balances for OECD Countries," OECD Economics Department Working Papers No. 434 (Paris: Organization of Economic Cooperation and Development).

Balassone, Fabrizio, 2005, "The Swedish Fiscal Framework: Towards Gradual Erosion," in *Selected Issues: 2005 Article IV Consultation for Sweden*, Country Report No. 05/344 (Washington DC: International Monetary Fund).

Bouthevillain, C., P. Cour-Thimann, G. Van den Dool, P. Hernandez de Cos, G. Langenus, M. Mohr, S. Momigliano and M. Tujula, 2001, "Cyclically Adjusted Budget Balances: An Alternative Approach," European Central Bank Working Paper No. 77, (Frankfurt: European Central Bank).

Danninger, Stephan, 2002, "A New Rule: The Swiss Debt Brake", IMF Working Paper 02/18.

European Commission, 2003, "Expenditure Rules in EU Member States, " in *Public Finance in EMU, 2003* (Brussels: European Commission).

European Commission, 2006, "National Numerical Fiscal Rules and Institutions for Sound Public Finances," in *Public Finance in EMU, 2006* (Brussels: European Commission).

Hagemann, Robert, 1999, " The Structural Budget Balance: The IMF's Methodology," IMF Working Paper No. 99/95 (Washington DC: International Monetary Fund).

Horton, Mark, 2005, "Role of Fiscal Policy in Stabilization and Poverty Alleviation," in Post Apartheid South Africa—The First Ten Years, ed. by Michael Nowak and Luca Antonio Ricci (Washington: International Monetary Fund).

IMF, 2005a, *Fiscal Responsibility Laws*, unpublished, Washington DC.

IMF, 2005b, *Cyclicality of Fiscal Policy and Cyclically Adjusted Fiscal Balances*, unpublished, Washington DC.

IMF, 2005c, *Promoting Fiscal Discipline Over the Business Cycle*, unpublished, Washington DC.

Ministry of Finance of the Czech Republic, 2005a, "Macroeconomic Forecast – July

2005," (Prague: Ministry of Finance).

Ministry of Finance of the Czech Republic, 2005b, "Convergence Program 2005," (Prague: Ministry of Finance).

Ministry of Finance of the Czech Republic, 2005c, "Multiyear Budgetary Framework 2006-2008," Prague.

Ministry of Finance of the Czech Republic, 2006a, "Macroeconomic Forecast – October 2006," Prague.

Ministry of Finance of the Czech Republic, 2006b, "Multiyear Budgetary Framework 2007-2009," Prague.

OECD, 2005, "Economic Survey of the Czech Republic," (Paris: Organization of Economic Cooperation and Development).

OECD, 2006, "Economic Survey of the Czech Republic," (Paris: Organization of Economic Cooperation and Development).

Sedmihradska, Lucie and Stanislav Klazar, 2005, "Public Budgeting in the Czech Republic," available at http://unpan1.un.org/intradoc/groups/public/documents/NISPAcee/UNPAN022181.pdf

Szekely, Istvan, 2005, "What Should Be the Level of Public Debt in Poland?" in *Selected Issues: 2005 Article IV Consultation for Poland*, Country Report No. 05/264. (Washington DC: International Monetary Fund).

Yläoutinen, Sami, 2004, "Fiscal Frameworks in the Central and Eastern European Countries," Discussion Paper No. 72, (Helsinki: Central Bank of Finland).

Appendix I. Cyclical Stance of the Czech Budget: Estimation Methodology

Following Hagemann (1999), we estimate the structural budget balance, which reflects the approach used in the World Economic Outlook calculations. This involves three steps: (i) estimation of the underlying potential output and the associated output gap; (ii) quantification of the cyclical expenditures and revenues; and (iii) subtraction of the cyclical components from the observed levels.

Potential Output and Output Gap: Potential output is estimated using the production function approach. Under this method, output is a Cobb Douglas function of capital, labor and total factor productivity. The potential output is the level of GDP at which the labor input is consistent with the natural rate of unemployment and the total factor productivity is at the trend level given normal levels of capital utilization. For the Czech Republic, an average of two estimates are used: one assuming a varying scrap rate and the other with a fixed rate of depreciation. The main assumptions are as follows:

- Labor: Labor input is calculated by estimating the structural unemployment level, and a smoothed series for labor participation and demographic data on working age population.
- Capital: Estimates of the capital stock uses investment data from national accounts and also assumes varying scrap rate for the 'old' and 'new' sectors.
- Total factor productivity: A trend growth in total factor productivity is estimated, based on historical experience.

An alternative is to use a filtering method such as an HP-filter. This is the method used by the European Commission. Table (1) presents the estimates of the potential GDP growth using the production function approach as well as estimates of output gap using alternative filtering methods.

Estimates of Potential Output Growth under Alternative Methodologies

	97-99	00-02	03-05
Production function (IMF)	1.52	2.82	3.58
Combination of production function and filtering (OECD)	2.23	2.78	3.84
HP-filter (EC)	1.50	2.06	3.40

Sources: AMECO, OECD database, staff estimates.

Quantification of Cyclical Revenues and Expenditures: The budget balance comprises of the structural and cyclical components. In analysing the fiscal policy stance, the structural budget is interpreted as the discretionary policy component while the cyclical budget reflects the automatic stabilizing part of the budget. Much of the cyclical effect of the budget emerges from the revenue side.

Cyclical revenues represent the revenues that arise from the variation in the tax base due to the deviation of output from its underlying potential level. They are calculated using tax

revenue elasticities, which have been estimated by Girouard and Andre (2005) for personal income taxes, corporate income taxes, social security taxes and indirect taxes. An aggregate revenue elasticity, ε, is computed using the share of each revenue in total current revenue as of 2005 (table 1).

Revenue Elasticity Estimates

	Personal Income Tax	Social Security Contributions	Corporate Income Tax	Indirect Tax
Tax elasticity	1.19	0.80	1.39	1.00
Share of current revenues	0.13	0.37	0.13	0.31
Total tax revenue elasticity				0.94

Source: OECD.

Structural revenues, $R_{s,t}$, is the revenues obtained after adjusting for cyclical revenues from actual revenues. It is assumed that capital revenues are largely structural in nature since they comprise dividends from public enterprises. The structural component of current revenues are computed by adjusting observed current revenues by the amount of the output gap, Y_t^* / Y_t, and the elasticity of revenues to the output gap, ε, while taking into consideration the impact of a collection delay on taxes, as expressed by the elasticity of tax revenues on previous years' output gap. This can also be expressed by the following equation:

$$R_{s,t} = R_t^{current} \cdot \left(\frac{Y_t^*}{Y_t}\right)^{\varepsilon} \cdot \left(\frac{Y_{t-1}^*}{Y_{t-1}}\right)^{lagged\,\varepsilon} + R_t^{capital}$$

In the case of the Czech Republic, all the tax revenues are assumed to be collected in the concurrent year. Consequently, lagged ε, is set to be zero.

On the expenditure side, only the spending on unemployment insurance benefits, UB_t, is considered to be cyclically sensitive. These are then adjusted for the variation in the cyclical component of unemployment, (UR_t^n / UR_t), as computed for output gap estimations. Thus, structural expenditures, $E_{s,t}$, are estimated as:

$$E_{s,t} = (E_t - UB_t) + (UB_t * (UR_t^n / UR_t))$$

The structural budget balance, SBB_t, is then derived as:

$$SBB_t = R_{s,t} - E_{s,t}$$

This is also taken as a measure of the discretionary component of the budget, while the cyclical budget is the component that works as the automatic stabilizer. To measure the impact of the budget on the economy, the fiscal impulse is measured as the change in the structural budget balance.

$$Impulse = SBB_t - SBB_{t-1}$$

It is also common practice to measure the fiscal impulse as the change in the primary structural budget balance, as the interest component is not directly under the control of policymakers.

Appendix II. How Does the Automatic Stabilizing Property of the Czech Budget Compare to the Region?

The estimated elasticity of the budget is relatively low, compared to OECD countries, including Poland and Hungary (Table 5). This is consistent with a trend of lower output elasticities of revenues and expenditures in emerging market economies compared to more developed economies. Some of the key factors explaining the automatic stabilizing properties are the size of the progressivity of tax, share of direct taxes in total revenues, share of unemployment benefits, and other income related transfers, and size of government.

Budget Elasticity Estimates

	Personal Income Tax	Social Security Contributions	Corporate Income Tax	Indirect Tax	Expenditure (current primary expenditure) 1/	Total
Czech Republic	**1.19**	**0.80**	**1.39**	**1.00**	**-0.02**	**0.39**
Hungary	1.70	0.63	1.44	1.00	-0.03	0.47
Poland	1.00	0.69	1.39	1.00	-0.14	0.44
Slovak Republic	0.70	0.70	1.32	1.00	-0.06	0.37
OECD average	1.26	0.71	1.50	1.00	-0.10	0.44

Source: OECD (2005).
1/ Includes only unemployment-related transfers.

Degree of progressivity of income tax: A higher progressivity of tax strengthens the role of revenue stabilizers as high income growth shifts taxpayers to higher income tax brackets. The top statutory rate on wage income in the Czech Republic is higher than in the Slovak Republic which has adopted a flat tax system, but is lower than those of Hungary, Poland and most OECD countries.

EU-8: Income Tax Rates, 2006 (In percent)

	Corporate	Personal
Czech Republic	**24**	**12, 19, 25, 32**
Hungary	16	18, 36
Poland	19	19, 30, 40
Slovak Republic	19	19
Slovenia	25	16, 33, 38, 42, 50

Sources: KPMG, IMF.

Share of direct taxes: A higher share of direct taxes strengthens the automatic stabilizing property of taxes. The Czech Republic shows a much lower share of income and profit tax than in the OECD and EU-15 countries, though higher than those of some neighboring countries such as Poland and the Slovak Republic. This low share contributes to a lower wage elasticity of income tax. However, the tax wedge is relatively high, owing in particular to employer social security

Tax on Income and Profits, 2005

	Total tax (In percent of GDP)	Direct tax (In percent of GDP)	Direct Tax (In percent of total tax)
Czech Republic	**39**	**9**	**24**
Hungary	37	9	24
Poland 1/	34	6	18
Slovak Republic	29	5	18
OECD 1/	36	13	35
EU15 1/	40	13	34

Source: OECD.
1/ 2004 data

contributions. Unlike many other countries, there is no cap on social security contributions. As a result, this has led to a stronger elasticity of social security contributions relative to income.

Unemployment and income-related benefits: On the expenditure side, government spending on income-related items also impact the stabilizing property of the budget. This consists mainly of unemployment benefits. Public spending on unemployment benefits, including part-time unemployment benefits, is very low by regional standards, especially in comparison to the EU-15 where these benefits generally exceed 1 percent of GDP. Hence, it is assumed that the output elasticity of government spending is close to zero.

Unemployment Benefits and Beneficiaries, 2004

	Public Expenditure (In percent of GDP)	Participants (In percent of Labor Force)
Czech Republic	**0.26**	**3.29**
Hungary	0.37	2.98
Poland	0.4	2.66
Slovak Republic	0.31	2.96

Source: OECD.

Size of government: As a first approximation, the size of the government indicates the extent of the automatic stabilizing property of the budget as reflected in the budget (semi) elasticity of output. After expanding rapidly until 2003, the size of the government was reduced in 2004 due to reforms in sickness insurance and a change in budgetary rules that allowed carryover of unspent spending allocations encouraging year-end savings by line ministries. In 2006-07, government spending is expected to pick up significantly owing to increased social benefits spending. While this level of spending is above average central European levels, it is still below the average EU-15 levels.

Size of Government, 2004

	General Government Expenditure (In percent of GDP)
Czech Republic	**44.3**
Hungary	49.7
Poland	42.2
Slovak Republic	39.7
EU-15	47.7

Source: OECD.

Flexibility of labor and product markets: Another important factor affecting the degree of budget elasticity is the degree of the flexibility of the income bases such as the wage bill and the gross surplus. Given the short data period, formal econometric estimates of the elasticity of wage bill and employment are highly unreliable. Nevertheless, a preliminary estimate of the elasticity of employment to output gap (-3.3) appear relatively low by OECD standards, which is consistent with the observation that long term structural unemployment has been persistently high in the Czech Republic, accounting for almost half of the unemployment rate.

Other factors also affect the degree of the automatic stabilizing effect of the budget. These include the openness of the economy which negatively affects the size of the fiscal multiplier. In addition, the lags with which the policy changes are transmitted to the change in the structural budget balance and, in turn, to the rest of the economy also affect the degree of the stabilizers.

III. Efficiency and Flexibility of Public Spending[1]

A. Introduction

1. **Spending commitments ahead of elections in June 2006 have fueled an increase in social benefits and other mandatory spending**. As a result, a key priority for fiscal policy in 2007 will be to ensure that the increase in spending delivers correspondingly better social outcomes, particularly given the high tax burden that is required to sustain elevated public spending in the Czech Republic. Moreover, the increase in social spending in 2007 adds to age-related and other medium-term fiscal pressures, underscoring the need for an expenditure-led adjustment to reduce the structural deficit. This paper outlines an approach to help focus expenditure adjustment in relatively inefficient areas so that public spending can be reduced without jeopardizing the quality of public services. In addition, the potential effectiveness of the planned increase in social spending is assessed indirectly by considering the relative efficiency of existing social expenditures.

2. **This paper measures the relative efficiency of social spending in the Czech Republic by comparing key social indicators to the results of other countries**. Relative efficiency is defined as the maximum result that can be achieved for a given level of spending based on the performance of similar countries. Consistent with this definition, the efficiency of social spending in the Czech Republic is evaluated against a sample of countries consisting of the new EU member states (NMS), the advanced EU-15 countries, OECD countries, and several other Eastern European countries.[2]

3. **The results present a mixed picture of the relative efficiency of social spending in the Czech Republic**. While existing social benefits appear to be relatively efficient in reducing inequality in earnings and the risk of poverty, there appears to be limited scope for additional gains from higher social spending. Moreover, there is ample opportunity to expand the means testing of social benefits to enhance efficiency. In terms of health care, spending is relatively high compared to similar countries without delivering correspondingly better results. This could be a major concern looking ahead as population aging amplifies the financial strain on the public health insurance system. The education system appears to be relatively efficient in delivering strong average scores on international standardized tests. However, there could be medium-term challenges in supplying appropriately skilled workers for the shifting labor market. In each of these sectors, performance-based budgeting could be implemented on a pilot basis to better link spending with expected results.

---

[1] Prepared by Todd Mattina (FAD).

[2] As many factors affect the link between spending and performance across countries, the relative efficiency results should be interpreted as an initial diagnostic analysis. Identifying the causes of relatively inefficient spending across countries requires second-stage econometric work as described in Simar and Wilson (2007).

4. **The paper also explores the observed flexibility of social spending**. Flexibility is essential so that policy makers can eliminate inefficiencies as they are identified, and reallocate savings into higher priorities. Greater flexibility in public spending will also facilitate macroeconomic stabilization following euro adoption as fiscal policy becomes the primary tool to manage aggregate demand. Flexibility is defined as the discretionary scope to adjust spending over a short time horizon, such as one or two fiscal years. The results suggest that spending could be more inflexible than in other EU countries. Looking ahead, maintaining sufficient flexibility in public spending will be essential to avoid distortionary cuts in traditionally flexible areas of the budget, such as public investment.[3]

5. **The next section outlines recent trends in public expenditure and social indicators in the Czech Republic and other similar countries**. Section C derives efficiency scores of key social spending categories, and outlines potential reforms to enhance efficiency. Section D presents indicators of flexibility in expenditure, and posits potential steps that could enhance flexibility. Section E outlines possible explanatory factors for understanding cross-country differences in efficiency. The paper concludes in section F.

B. Overview of Public Spending Trends and Performance Results

Recent trends in social spending

6. **Public spending in the Czech Republic is relatively high as a share of GDP compared to the average of NMS**. For instance, average total spending of about 45 percent of GDP exceeds the average of NMS during 2000-05 by about 5 percentage points of GDP. In addition, the share of non-discretionary spending exceeds the average of NMS by about 3 percentage points of total spending, largely as a result of high social benefits (Figure 1).[4] Table 1 shows the tilt in the composition of expenditure towards social protection transfers compared to other NMS countries, which is driven mainly by health insurance premia covered by the state.[5] This factor more than offsets lower compensation to employees in the Czech Republic compared to other NMS countries. In terms of functional expenditure categories, average healthcare spending is comparable to the average of EU-15 countries at about 6½ percent of GDP, but is relatively high compared to the average of NMS countries at 4.7 percent of GDP. In contrast, education spending as a share of GDP is lower than both the EU-15 and NMS countries.

---

[3] Refer to International Monetary Fund, 2005, "Public Investment and Fiscal Policy—Lessons from the Pilot Country Studies."

[4] Non-discretionary spending is defined as the sum of social benefits, employee compensation, and the interest bill.

[5] The state covers the health insurance premia of approximately 55 percent of the Czech population.

7. **The high share of non-discretionary spending in the Czech Republic is consistent with the low level of observed flexibility in spending over time**. Figure 1 illustrates that the coefficient of variation (standard deviation scaled by the mean) for total spending as a share of GDP is one of the lowest among EU countries. This apparent inflexibility in the short-run variation of spending could reflect political economy constraints, or rigidities in budgetary management.[6] This issue will be discussed in section D.

Figure 1. Level and Coefficient of Variation in Non-discretionary Spending, 2000-05

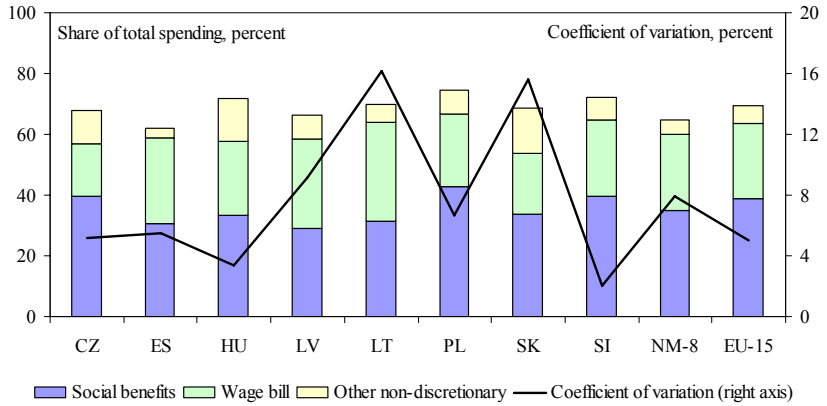


Table 1. Average Functional Spending by Major Category, 2003-2004
(As a percent of GDP)

	EU 15	NMS	CZ	EE	LV	LT	HU	PL	SI	SK
Health care	6.5	4.7	6.4	4.1	3.6	3.7	5.5	4.3	6.6	3.2
Education	5.3	5.7	5.0	6.5	6.1	6.1	5.8	6.1	5.8	4.0
Social protection	27.2	17.8	19.8	13.2	13.0	13.1	21.0	20.6	24.0	17.8
Old age and survivor	12.4	8.2	8.2	5.9	6.9	6.3	8.6	12.0	10.8	7.0
Disability	2.1	1.7	1.6	1.2	1.1	1.3	2.2	2.5	2.0	1.6
Sickness and health	7.7	5.3	7.1	4.2	3.0	3.9	6.2	4.2	7.8	5.8
Unemployment	1.8	0.6	0.8	0.2	0.4	0.2	0.6	0.8	0.7	1.0
Family and children	2.2	1.6	1.5	1.3	1.4	1.0	2.7	1.0	2.1	1.5
Housing	0.5	0.1	0.1	0.1	0.1	0.0	0.5	0.0	0.0	0.1
Other	0.5	0.4	0.5	0.3	0.1	0.4	0.2	0.1	0.6	0.8

Source: Eurostat database. January 2007.

Recent trends in social indicators

8. **Social indicators provide a mixed picture of the relative performance of social spending compared to other NMS countries**. For the analysis presented in this paper, indicators are divided into desired *outcome* and intermediate *output* indicators. Outcomes correspond to the underlying objectives sought by policy makers. Intermediate outputs are

[6] Alternatively, the authorities may have opted to smooth spending, which is observationally equivalent to inflexible spending over time.

thought to be related to desired outcomes but can be more closely associated with current spending. For instance, the pupil-teacher ratio is an output indicator that is closely linked to current spending and thought by some to be correlated with desired outcomes, such as the transfer of knowledge and productive skills. Indicators in Table 2 summarize performance in social protection, health care, and education programs, as elaborated below:

- **Social protection:** The risk of poverty after transfers in the Czech Republic is the lowest among NMS countries, and is almost half of the average level in the advanced EU-15 countries. Similarly, income inequality after transfers is among the lowest in the EU. While these results should be reassuring given the relatively high social protection transfers, scope remains to enhance performance, as discussed in section C.

- **Health care:** The output indicators considered include the density of healthcare workers and the number of hospital beds. Both of these indicators for the Czech Republic are among the highest in the NMS countries. For instance, the density of healthcare workers is comparable to the average of EU-15 advanced countries and about 30 percent higher than the average of NMS. [7] Key outcome variables include the standardized mortality rate from all causes per 100,000 people and healthy average life expectancy (HALE). Healthy life expectancy appears to be relatively high in the Czech Republic compared to other NMS countries while the standardized death rate is only modestly below the NMS average. The efficiency of healthcare spending in terms of these outputs and outcomes will be evaluated in section C.

- **Education:** Key output indicators in the education sector include pupil-teacher ratios, and the ratios of secondary and tertiary graduates to the respective school-age population. For instance, the primary pupil-teacher ratio is significantly higher than the average of NMS and EU-15 countries, and is only surpassed by the Slovak Republic. In addition, the ratio of tertiary level graduates is relatively low compared to the NMS and EU-15 countries. These indicators point to important questions for policy makers, such as the appropriate level of staffing and the capacity of the education system to supply skilled graduates for an economy shifting into higher value-added production. The main outcome indicator in the education sector is the average score on an international standardized test in mathematics.[8] Table 2 indicates that the Czech Republic exceeded average performance in other NMS and EU-15 countries.

---

[7] There are numerous other potential output indicators in the health sector, including the average length of hospital stay and the rate of in-patient hospital admissions. Table 2 highlights two widely cited output indicators to assess the operating capacity of hospital facilities and workforce.

[8] Test scores are compiled by the OECD through its Programme for International Students Assessments (PISA). Tests are administered to about 4,500 to 10,000 15-year old students in each participating country.

Table 2. Cross-Country Summary of Major Social Indicators, 2003

	EU 15 1/	NMS	CZ
Social protection			
Outcome indicators (after social transfers)			
Earnings inequality in EU countries 2/	4.6	4.6	3.4
Poverty risk in EU countries 3/	15.0	14.6	8.0
Health care			
Output indicators			
Health workforce density / 1,000	13.7	10.4	13.4
Hospital beds / 1,000	5.7	7.4	8.8
Outcome indicators			
Standardized mortality, all causes / 100,000	646	975	900
Healthy life expectancy in years	72	66	68
Education			
Output indicators			
Primary pupil-teacher ratio	13.6	14.2	16.8
Secondary graduation ratio	84.6	82.5	87.5
Tertiary graduation ratio, 2004	36.4	30.3	19.7
Outcome indicators			
Average test score in mathematics (PISA)	501	498	516

Sources: World Development Indicators database (World Bank); UNESCO; WHO

1/ Figures for the EU-15 advanced countries represent an average of available country data.

2/ Ratio of total income received by top 20 percent of the population to the income of the bottom 20 percent (equalized disposable income).

3/ Share of population with an equalized disposable income below the risk-of-poverty threshold set at 60 percent of the national median equalized disposable income after transfers.

C. The Relative Efficiency of Social Spending

Approach to assessing relative efficiency

9. **We attempt to quantify the magnitude of potential inefficiencies in the Czech Republic relative to similar countries.** The previous section illustrated that social spending is relatively high compared to other EU countries while results have been mixed. This section evaluates the performance of spending on social protection, health care, and education after first outlining the diagnostic technique used to derive relative efficiency scores. [9]

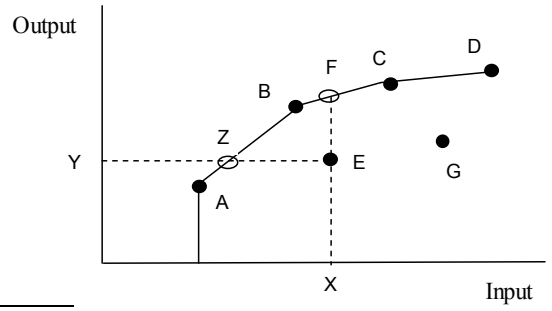
[9] This section draws from Zhu (2003) and the Selected Issues Paper of the 2006 IMF Article IV Consultation with Slovenia (Chapter 2).

Data envelope analysis

10. **Efficiency is assessed using a cross-country approach that measures the effectiveness of spending in producing desired results**. A mathematical programming technique called Data Envelope Analysis (DEA) is used to evaluate the efficiency of spending in each country.[10] The DEA approach generates a convex piecewise linear frontier of input-output combinations that dominate the results of other countries in the sample. In this manner, countries operating on the frontier are said to be relatively efficient compared to the countries performing below the frontier.

11. **DEA is a powerful tool to assess the relative efficiency of spending, albeit with important caveats**. Figure 2 illustrates a stylized example of DEA based on a single spending input and performance indicator for a sample of countries. The efficient frontier connects points A to D as these countries dominate countries E and G in the interior. The convexity assumption allows an inefficient country (point E) to be assessed relative to a hypothetical position on the frontier (point Z) by taking a linear combination of efficient country pairs (points A and B). In this manner, an input-based technical efficiency score that is bounded between zero and one can be calculated as the ratio of YZ to YE. The score corresponds to the proportional reduction in spending that is consistent with relatively efficient production of a given output.[11] Similarly, an output-based technical efficiency score can be calculated as the ratio of FX to XE, consistent with the potential increase in the outcome indicator if production is relatively efficient.[12] This paper focuses on input-based efficiency scores in line with the medium-term policy focus on expenditure rationalization.[13]

Figure 2. Illustrative Example of Applying DEA



[10] The DEA approach was developed by Farrell (1959) and popularized by Charnes, Cooper and Rhodes (1978).

[11] Many factors affect the link between public spending and performance across countries. Ideally, these factors should be controlled in a second stage using bootstrapping techniques as discussed by Simar and Wilson (2007).

[12] An output-based efficiency score of one corresponds to a relatively efficient country operating on the frontier. Scores exceeding one imply that spending could achieve better output performance. This differs from input-based efficiency scores that range between zero and one.

[13] The input- and output-based efficiency scores are equal assuming constant returns to scale. However, the DEA models considered in this chapter permit variable returns to scale. See Zhu (2003) for a technical elaboration of the DEA approach.

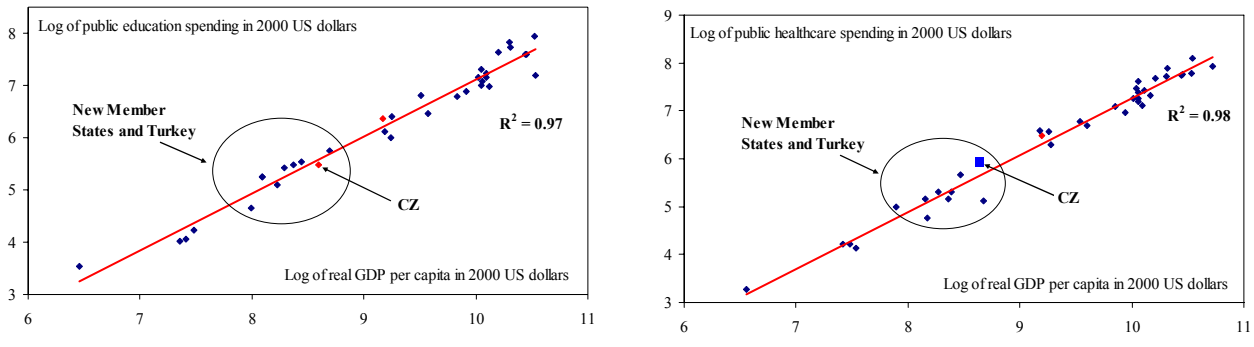
DEA does not require an assumption about unknown functional forms for the efficiency frontier or complex distributional properties for econometric analysis. It also generates intuitive results that can quantify inefficiencies both within and across sectors to prioritize reforms. However, there are important caveats:

- **Sample selection:** As DEA generates a relative measure of efficiency, the approach is sensitive to sample selection and measurement error.
- **Quality of spending:** Spending attributes that are difficult to quantify are not easily incorporated in the analysis, such as the quality of spending.
- **Performance indicators:** A fair assessment of efficiency requires that inputs are evaluated against the indicators that are actually targeted by policy makers.
- **Private spending:** The outcomes targeted by policy makers are also impacted by private spending. As a result, large differences across countries in private health or education spending could bias the efficiency scores of public spending.
- **Exogenous factors:** Factors beyond the direct control of policy makers can also affect the relative efficiency scores. For instance, relatively mountainous terrain would reduce the measured efficiency of road spending compared to other countries.

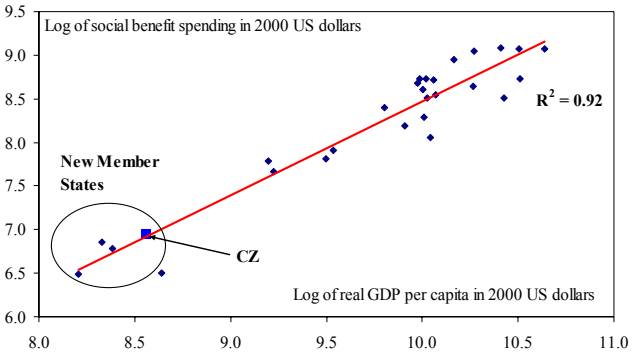
Adjusting expenditure inputs for purchasing power parity

12. **A close relationship exists between real GDP per capita and public spending**. Figure 3 illustrates that public spending on health, education and social protection transfers are strongly related to real GDP per capita. This close relationship could reflect an elastic demand for public services, and the rising relative price of non-tradable goods and services with the level of economic development (e.g., the Balassa-Samuelson effect). Consequently, spending inputs in the DEA models evaluated in this paper are adjusted into internationally comparable purchasing power parity (PPP) terms.[14]

Figure 3. Relationship Between Social Spending and Real GDP Per Capita



[14] Herrera and Pang (2005) also adjust spending inputs for purchasing power parity.



Country sample and data sources

13. **The results of the efficiency and flexibility analyses are based on a sample consisting of the NMS, the EU-15, OECD countries, Bulgaria, Romania, Ukraine, and Russia**. The specific sample of countries used in each DEA model depends on the available data for each country. However, the widest possible sample is used after eliminating outliers that would bias the results. Spending data are drawn largely from Eurostat, OECD, WHO, UNESCO, and the World Bank's database on World Development Indicators. The indicators include: (i) standardized mortality rates, health workforce density, and the number of hospital beds from the WHO to assess health sector efficiency; (ii) pupil-teacher ratios, ratios of graduates to the school-age population, and international standardized test scores in mathematics (PISA) to assess efficiency in the education sector; and (iii) poverty and inequality indices published by the OECD to assess the efficiency of social protection transfers. Appendix A summarizes the data and sources.

Relative efficiency literature using DEA

14. **There is a well-established literature using DEA to assess the relative efficiency of public expenditure**. Gupta and Verhoeven (2001) studied the relative efficiency of education spending in a broad sample of African countries during the 1984-95 period. An important implication of their results is that strengthened outcomes require greater efficiency in addition to greater resources. Afonso and St. Aubyn (2004) applied DEA and a related frontier-based approach on health and education spending in a sample of OECD countries. They found that countries with lower spending are associated with greater efficiency. Herrera and Pang (2005) studied the relative efficiency of spending in 140 countries using DEA. Their findings reinforced Afonso and St. Aubyn in that high-spending countries were found to be less efficient than low-spending countries. They also found that a high wage bill is associated with reduced efficiency. Finally, Afonso, Schuknecht and Tanzi (2006) applied DEA in a sample of EU and emerging market countries. An important contribution of their work was to apply truncated regression models based on procedures developed by Simar and Wilson (2007) to control for exogenous factors that impact efficiency but that are not directly controlled by policy makers.

Relative efficiency results and policy implications

Social protection transfers

15. **The current system of social protection transfers appears to be relatively efficient in addressing income inequality and the risk of poverty**. Figure 4 illustrates that the Czech Republic operates on the efficient frontier in a sample of 23 countries in terms of reducing poverty risk after social transfers. However, the shape of the efficient frontier is highly concave, suggesting that additional social protection spending could be subject to sharply diminishing returns. This result could have implications for the effectiveness of the increase in social transfers announced in the 2007 budget. Similarly, Figure 5 illustrates that the existing system of social protection transfers is relatively efficient in reducing income inequality after transfers in a sample of 21 countries. The shape of this frontier indicates that there remains room at the margin to increase performance through higher social spending. However, the potential gains in reducing income equality are subject to diminishing returns.

Figure 4. Relative Efficiency in Reducing the Risk of Poverty in OECD Countries

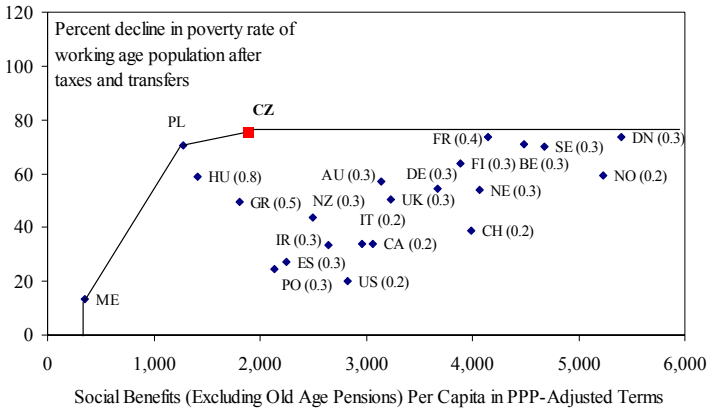
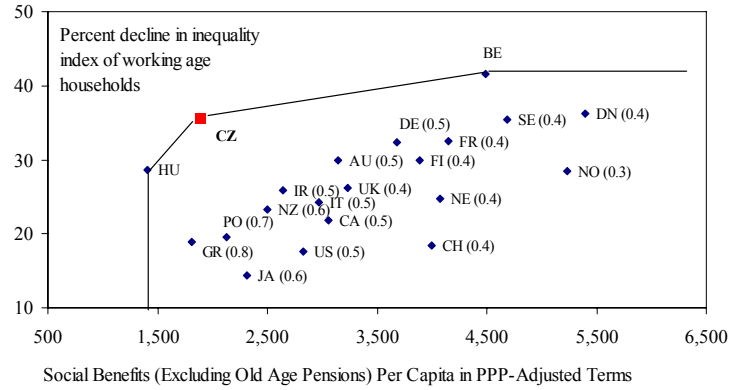


Figure 5. Relative Efficiency in Reducing Income Inequality in OECD Countries



16. **The success of higher social protection spending in reducing inequality and the risk of poverty will depend on the effectiveness of targeting benefits.** For instance, the health insurance premia of about 55 percent of the population are covered by the state

without targeting household income. In addition, child allowances in 2003 covered 19.2 percent of the population compared to about 13.8 percent on average in the NMS countries. Similarly, about 4 percent of the Czech population receives social welfare assistance compared to about 3 percent in the average of NMS countries.[15] This broad coverage in social welfare assistance might explain in part the Czech Republic's strong relative performance in reducing income inequality and poverty. However, broad coverage of social benefits also underscores the need to ensure that scarce resources are directed to the households most in need of assistance. In this context, the package of social protection transfers introduced in the 2007 budget generally appears to be weakly targeted to income, as summarized below:

- **Parental benefit allowance:** The 2007 budget increased the parental benefit to 40 percent of the average wage compared to the previous system that linked the benefit to the Minimum Living Standard (MLS). The approximate impact of the reform was to double the benefit to parents of children under age four at a cost of CZK 15 billion (0.4 percent of GDP).[16] The parental benefit is not means tested, and departs from the strategic direction of social policy pursued since the mid-1990s, i.e. a move towards greater targeting of benefits, as demonstrated by the declining share of family allowances from about 3 to 1.5 percent of GDP during 1990 to 2003.

- **Birth allowance:** The Budget increased the birth benefit at a cost of CZK 1 billion (under 0.1 percent of GDP). However, the grant is not means tested, which could diminish its effectiveness in promoting fertility rates or addressing social inequality.

- **Benefit for parents of first grade students:** The Budget introduced a new benefit to help parents defray the cost of school supplies for first grade students. While the cost of the program is relatively modest, the benefit is not means tested.

- **Housing allowance:** The housing allowance represents a new component of the social benefits system aimed at households in "material need". The allowance aims to ease the social impact of liberalizing rent controls by providing an allowance for households that spend more than 30-35 percent of income on housing based on a standardized calculation of appropriate costs. This measure is calculated as the difference between actual housing costs and the estimated cost taking into account family size, type of housing, market prices, and location. In this manner, the program excludes high-income households that opt to live in expensive areas. The fiscal impact of the reform has been estimated at CZK 3 billion (0.1 percent of GDP). A supplementary housing benefit was also introduced in the event that additional

[15] See Social Assistance in Central Europe and the Baltic States (2007), World Bank.

[16] The amount of this benefit is independent of the number of children under the age of four.

material need can be demonstrated. The supplementary program will be administered by municipalities on a case-by-case basis.

- **Contribution for elderly care:** The 2007 budget introduced a new "contribution for care" to meet up to two thirds of the cost of elderly care. The program permits substantial flexibility in the choice of arrangements (e.g., hospitals, institutions, or family care). The program is estimated to cost CZK 6.5 billion (0.2 percent of GDP).

- **Sickness insurance:** In a reform aiming to modernize legislation dating from 1956, employers will become liable for covering the first two weeks of employee absences due to illness. The budget neutral reduction in employers' payroll contributions was estimated to decline from 3.3 to 2.3 percent of covered wages. However, the Parliament elected to phase in a lower employer contribution rate of 1.4 percent by 2009 that will entail a net fiscal cost to the budget estimated at about CZK 12 billion (0.4 percent of GDP).

17. **Since most of the affected programs in the 2007 budget are not strongly targeted to income, additional spending may not significantly influence desired social outcomes**. In this context, future reforms should focus on strengthening the overall targeting of social benefits, especially the programs that have been affected by the increase in mandatory spending in 2007. In addition, many benefits under the existing system are linked to the annual MLS. While this system is relatively effective in supporting vulnerable households, periodic realignments in the MLS raise the benefits of all beneficiaries regardless of household income. As a result, there could be scope to enhance the targeting of benefits that remain linked to the MLS.

Health care

18. **Inefficiencies in healthcare delivery appear to be more pronounced in the Czech Republic compared to similar countries.** In terms of output indicators, the relatively high level of health spending has not generated comparable rates of health workforce density as in similar countries (Figure 6, left panel). For instance, the same workforce density could be achieved with about 70 percent less spending if the Czech Republic operated on the efficient frontier, ranking the Czech Republic 15th out of 28 countries in the sample. However, the right panel in Figure 6 demonstrates that four countries dominate these stark results (e.g., Ukraine, Russia, Norway and Finland), suggesting they might be relative outliers compared to other countries. The exclusion of these countries results in a more realistic efficiency score for the Czech Republic of about 0.6, which remains relatively low.

19. **Healthcare spending also appears relatively weak in terms of reducing mortality rates and promoting healthy life expectancy.** However, there is likely to be a long lag between current spending and improvement in outcomes as mortality rates and quality of life

reflect the cumulative impact of previous lifestyle decisions and public spending.[17] With this qualification, the Czech Republic ranks 18th out of 22 countries in reducing standardized mortality rates with a score of 0.4, and ranks 15th out of 37 countries in promoting healthy life expectancy with a score of 0.6.

20. **Strain on the public healthcare system has stemmed from both excess demand for services and rising costs.** For instance, the near universal coverage of basic healthcare benefits encourages excess demand for services. Health insurance is provided through public insurers that negotiate rates of compensation with the extensive network of public healthcare providers, leaving little room for private insurance or service provision. In this connection, the Czech Republic has the lowest share of private healthcare spending among NMS countries (Figure 8). In addition, there is only modest use of co-payments to rationalize demand except for certain pharmaceutical products.

Figure 6. Relative Efficiency in Producing Health Workforce Density
(Number of healthcare workers per 1,000 people)

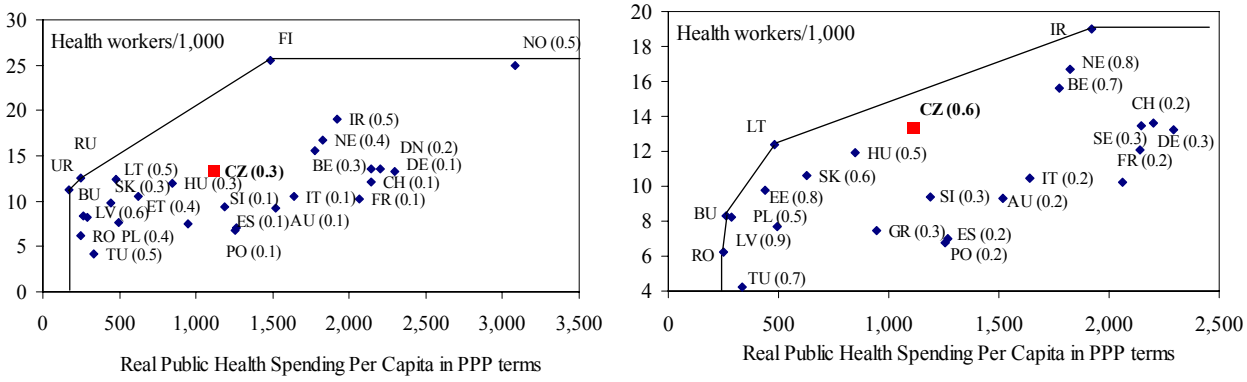
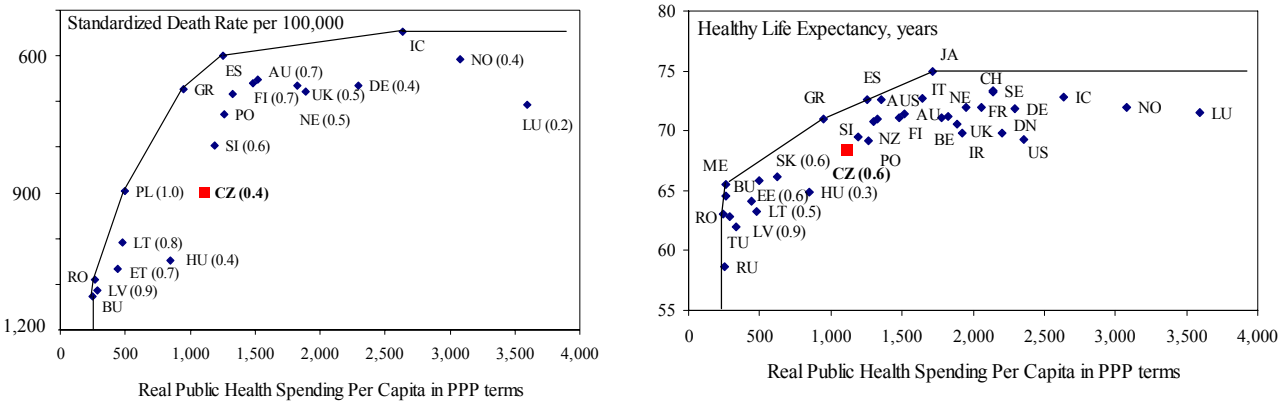
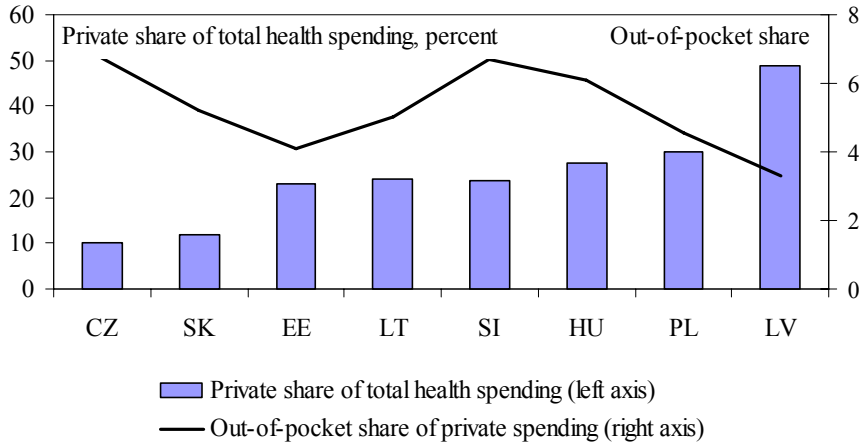


Figure 7. Relative Efficiency in Producing Health Outcomes



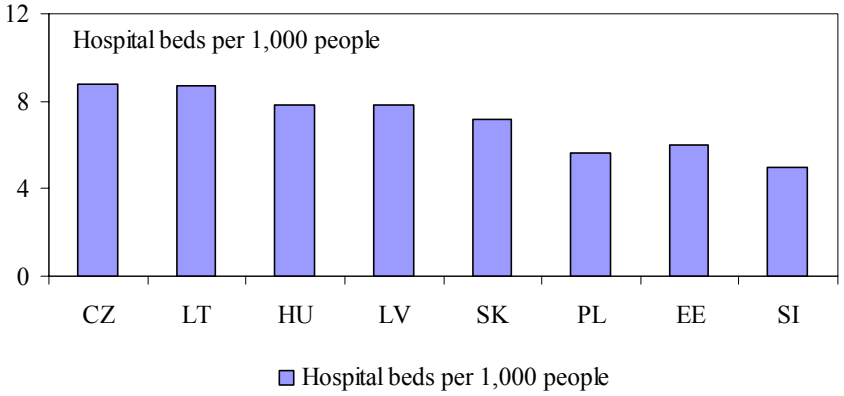
[17] For instance, smoking, alcohol and diet are key factors in determining mortality rates and quality of life, while inadequate health spending or policies in the past could have long-lived effects on outcomes.

Figure 8. Indicators of Private Healthcare Spending, 2003



21. **Rising costs are also exerting pressure on the public healthcare system**. Cost pressures emanate from the high share of pharmaceutical spending that accounts for 25 percent of the health budget compared to the OECD average of just 15 percent. Moreover, there is a weak link between the average cost and the rate of compensation for health service provision, which has weakened the incentive to consolidate hospital facilities. Hospitals cross-subsidize loss-making services with more profitable activities, given rates of compensation for various services.[18] Consequently, hospitals lack an incentive to seek greater specialization in service delivery to reduce operating costs. This factor may partly explain the regionally high number of hospital beds in the Czech Republic (Figure 9). Another issue is the "social hospitalization" of elderly patients. Officials indicated that about 20 percent of long-term hospital beds are dedicated to social hospitalization, which appears to be an inefficient mechanism to provide long-term care for the elderly.

Figure 9. Indicators of Hospital Capacity in the NMS Countries, 2003



Source: World Bank WDI database

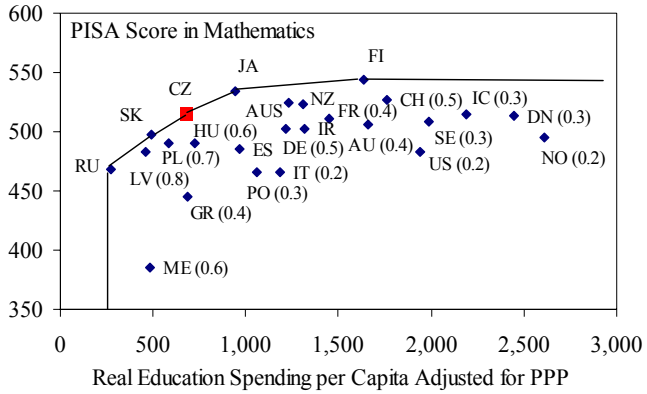
[18] Officials indicated that surpluses in cardiac and intensive care services cross-subsidize loss-making services, such as mental health.

22. **Health sector efficiency can be strengthened by addressing cost and demand pressures**. For example, excess demand could be contained in part by introducing means-tested co-payments to increase the share of private spending. In addition, the wide coverage of publicly provided and insured services could be paired down to allow greater scope for private sector provision. Moreover, greater private sector participation in health care would inject more competition between insurers and providers, which could help keep a lid on rising healthcare spending. The reasons for the high share of pharmaceutical costs relative to other OECD countries should also be actively investigated, and steps should be taken to contain these costs, such as improving strategic purchases or increasing private co-payments. The system of hospital financing is also in need of reform to align compensation with the expected average cost of service delivery. The sustained implementation of "Diagnosis Related Groups" (DRGs) over the medium term could help address this challenge.[19]

Education

23. **The Czech Republic performs well with respect to scores on international standardized tests, but results are weaker for key output indicators.** Figure 10 illustrates that the Czech Republic is relatively efficient in a sample of 25 countries in achieving high scores on the PISA test in mathematics.[20] In contrast, performance appears to have been softer in delivering comparable pupil-teacher ratios or graduation ratios at the secondary and tertiary levels. For example, the relative efficiency score in terms of the pupil-teacher ratio is 0.7 based on primary education spending per capita expressed as a share of GDP per capita as the input variable. The efficiency scores for producing high ratios of secondary and tertiary graduates relative to the school-age population are 0.8 and 0.6, respectively. These weaker results suggests that policy makers should be vigilant in identifying the source of output inefficiencies to safeguard high performance in outcomes.

Figure 10. Relative Efficiency in Achieving High International Test Scores in Mathematics



[19] Work on a DRG system for monitoring purposes is ongoing. Tapping the full potential of the DRG could be a useful approach to better link compensation to costs.

[20] The results presented in this analysis correspond to the PISA test in mathematics, but remain valid for the *Trends in Mathematics and Science Study* (TIMSS) administered by the US Department of Education.

24. **Education sector reforms should aim to enhance cost recovery to boost efficiency**. In particular, increased cost recovery of pre-primary expenses and tertiary tuition fees could be warranted.[21] Looking ahead, a number of issues could affect the efficiency of public education spending. First, there are concerns regarding weakness in "soft skills" compared to demonstrated strength in "hard skills" that can be tested, such as mathematics. Second, local governments might not be providing adequate capacity for pre-university secondary schools, which are increasingly demanded by students. In contrast, there remains an excess supply of vocational schools oriented towards traditional industries. This issue underscores the potential mismatch in the supply and demand for skills as production shifts towards higher value-added products. One approach to enhance the efficiency of the education sector would be to introduce performance-based budgeting on a pilot basis to tighten the link between spending appropriations and anticipated results.

D. Flexibility of Public Spending

Flexibility of Czech public spending

25. **The high share of mandatory spending appears to have constrained the flexibility of public spending over time**. Flexibility is defined as the scope to adjust expenditure to address new priorities or eliminate inefficiencies over a given time period, such as one or two fiscal years. The share of non-discretionary spending is a conventional indicator of budgetary inflexibility. As highlighted in Figure 1, the share of non-discretionary spending is higher than the average of NMS, mainly owing to higher social benefits that offset lower employee compensation. The relatively low coefficient of variation during 1995-2005 bears out this association. Higher mandatory social benefits in the 2007 budget are likely to exacerbate the rigid composition of expenditure.

26. **The flexibility of spending is measured using a set of indicators that serve as a proxy for *observed* and *potential* flexibility**. Figure 11 presents the results for the Czech Republic and the averages of the NMS and EU-15 countries. The four vertices include: (i) the coefficient of variation over the 1995-2005 period[22]; (ii) the share of expenditure adjustment over 1995-2005 that has been in non-discretionary areas of spending; (iii) the average level of spending as a share of GDP in 2005; and (iv) the average share of

[21] Pre-primary child care programs allow households to expand their income opportunity set while tertiary education provides students with private benefits by raising the present value of their lifetime income. These factors suggest that recipients of pre-primary and tertiary services could be expected to cover a significant share of total costs. The impact of greater cost recovery on vulnerable households could be addressed through a student loan program and subsidizing pre-primary child care on a means tested basis.

[22] The time series statistics for the Czech Republic exclude an outlier in total spending during 1995.

discretionary spending in 2005.[23] A larger surface area covered by the diamond-shaped figures corresponds to increased prospective flexibility in public spending.

27. **The results suggest that the Czech Republic has not materially reduced non-discretionary expenditure since 1996**. This contrasts significantly with the experience of other NMS countries, suggesting that there could be relatively stronger constraints in the Czech Republic that hinder expenditure adjustment. In addition, the observed coefficient of variation over the 1995-2005 period is somewhat lower than the averages of the NMS and EU-15 countries. The remaining two axes provide a measure of potential flexibility. Countries with a high initial level of spending should have greater scope to cut expenditure, other things being equal. In addition, a larger share of discretionary spending should provide greater flexibility to implement cuts. These measures of potential flexibility are broadly equivalent in the Czech Republic, NMS and EU-15 countries.

Enhancing the flexibility of public spending

28. **Reforms to enhance the flexibility of public spending should focus on containing growth in mandatory social entitlements**. Reducing social entitlements requires strong political commitment that might take time to develop. Initial steps can still be taken by reviewing indexation rules to contain the pace of spending growth. For instance, parental benefits are now linked to average wages rather than inflation, which adds another source of expenditure pressure, especially if nominal wages grow faster than the revenue base. Similarly, pension benefits are partially indexed to average real wage growth. In addition, the broad coverage and wide eligibility of social benefits reduces the cyclical responsiveness of social spending, attenuating a potentially valuable tool for macroeconomic stabilization.

29. **Reforms should also focus on expanding flexible work arrangements in the civil service**. Multi-year collective agreements and centralized personnel management constrain the flexibility of managers to vary inputs, which is essential to retain relatively efficient service delivery. Effective job tenure in the civil service also constrains the discretionary scope to reallocate spending to higher priorities or eliminate inefficiencies. Population aging will add further pressure on the wage bill owing to seniority-based promotion procedures. Greater use of fixed-term work arrangements could address several of these issues.[24]

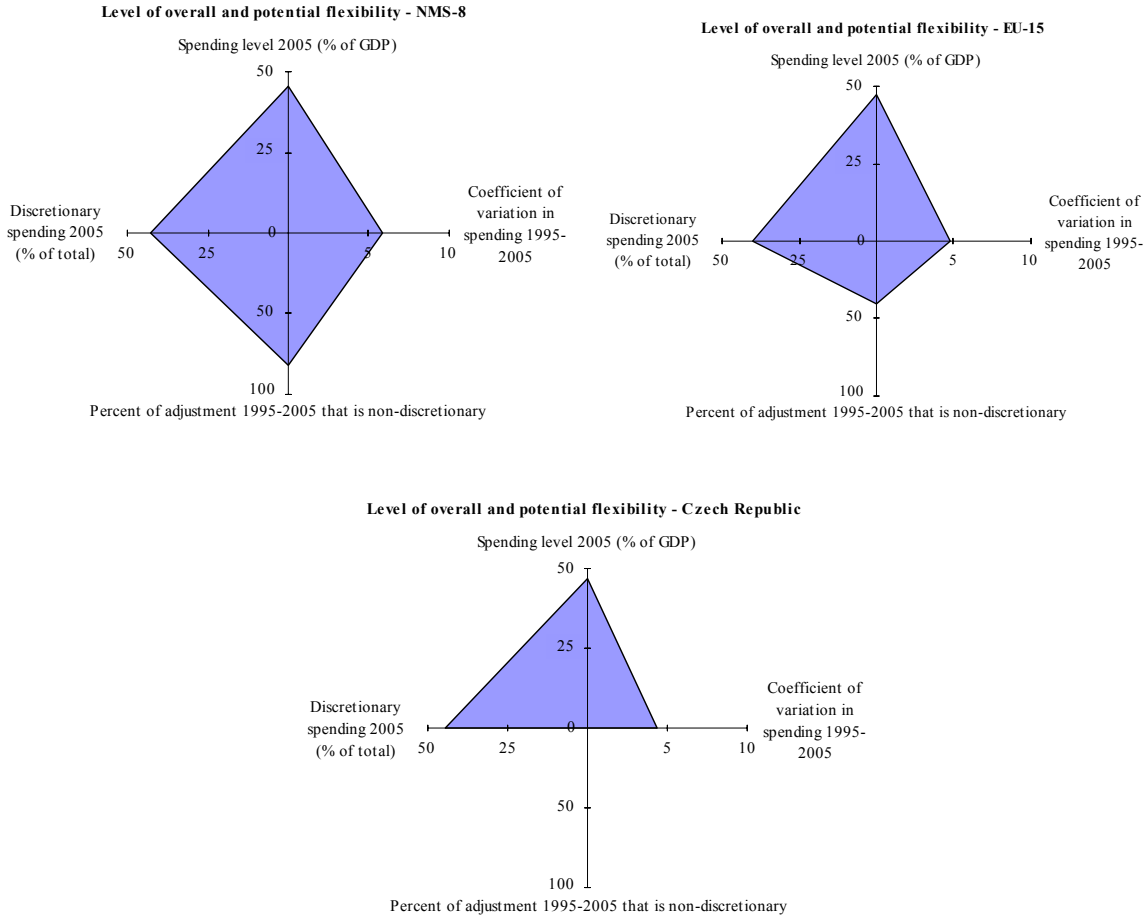
30. **Finally, the funding mechanism for basic social services should be reviewed to eliminate rigidity**. For example, incremental-cost budgeting hinders the reallocation of resources across competing budget users. Introducing pilot projects for performance-based

[23] Factors (i) and (ii) reflect observed flexibility while factors (iii) and (iv) reflect potential sources of flexibility. The premise of indicators (iii) and (iv) is that countries with high initial spending or a large share of discretionary spending should have greater room to cut spending over a short-run horizon.

[24] Refer to Davies, Verhoeven, and Gunnarsson (2006) for additional work on wage bill flexibility.

budgeting in key ministries, especially in education and health, would be a positive step to strengthen the link between appropriations and anticipated results. In addition, the formula governing transfers between levels of government should be screened for potential disincentives to consolidate small schools or healthcare facilities with high operating costs.

Figure 11. Indicators of Flexibility in Public Spending



E. Potential Factors Explaining Relative Efficiency Scores

31. **While DEA is a useful diagnostic tool to assess the relative efficiency of key spending categories, the next critical step will be to identify factors that explain cross-country differences**. In this manner, policy makers can design a reform strategy that can yields the greatest dividends in terms of improved effectiveness. However, the limited sample size in DEA models represents a major constraint in linking specific factors to cross-country differences in efficiency scores. Moreover, the efficiency score is a limited dependent variable ranging between zero and one, which introduces additional technical

challenges for robust econometric analysis.[25] As a result, we focus on simple correlation statistics to explore associations between scores and potential explanatory relationships rather than try to infer causal relationships.

32. **Countries with high spending as a share of GDP are more strongly associated with relatively inefficient spending**. Herrera and Pang (2005) and Afonso and St. Aubyn (2004) also identified this association between high and relatively inefficient spending. The correlation between efficiency scores and social spending highlights the robust negative association between spending and results (Table 3). In almost every case, there is a significant negative correlation of around 0.6 between spending (both as a share of GDP and in real per-capita terms adjusted for PPP) and the efficiency score.

33. **There are a number of potential explanatory factors underlying the association between high and relatively inefficient spending**. Policymakers in high spending countries could be seeking different outcomes than the indicators included in the DEA models. For example, expanding access to certain medical services might not substantially reduce mortality rates even though quality of care might improve.[26] In addition, the level of real GDP per capita is highly correlated with public spending (Figure 3). As a result, the negative association could reflect an imperfect adjustment of the spending inputs for differences in PPP. However, the association might also reflect waste in spending compared to other countries. In this context, the high level of public spending in the Czech Republic underscores the need to evaluate the composition of social spending, especially in those sectors where performance appears to be lagging the most behind similar countries.

34. **In the healthcare sector, numerous exogenous factors can impact efficiency scores**. For example, the prevalence of alcohol and tobacco use, and dietary factors, could exert a major impact on mortality rates and HALE. In this connection, Figure 12 illustrates the association between average alcohol use and efficiency scores based on reducing the standardized mortality rate from all causes. The association appears to be weaker between the efficiency scores and the use of tobacco or caloric intake. In addition, there are large differences across countries in the composition of public and private financing in health care. However, the proportion of private healthcare insurance does not appear to be strongly related to the efficiency scores.

---

[25] Simar and Wilson (2007) demonstrate that regressing non-parametric DEA scores on explanatory variables results in invalid inferences owing to "complicated, unknown serial correlation among the estimated efficiencies". They outline a double bootstrap procedure that permits valid inference and statistical efficiency.

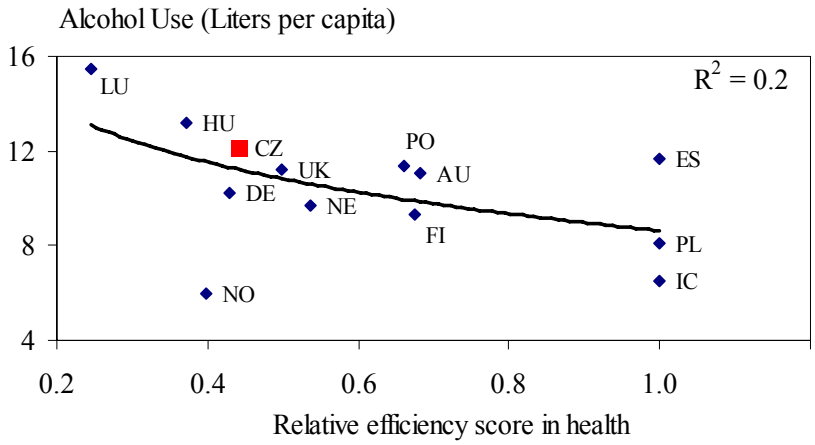
[26] Ensuring broad access to the latest medical technologies could improve the perceived quality of services without substantially impacting mortality rates or HALE, which are used as the outcome variables in the DEA healthcare models.

Table 3. Correlation Between Social Spending and Relative Efficiency Scores

	Spending (as a percent of GDP)	Spending (real GDP per capita adjusted for PPP)	Countries in sample
Health Sector			
Std. mortality rate, all causes	-0.5*	-0.6*	21
Healthy life expectancy	-0.6*	-0.6*	37
Health workforce density	-0.6*	-0.5*	28
Social Protection			
At-risk-of-poverty	-0.1	-0.6*	22
Inequality	-0.2	-0.6*	21
Education			
Average PISA score	-0.5*	-0.6*	25

* Indicates statistically significant at the 5 percent level or better.

Figure 12. Trend Between Health Sector Efficiency Scores and Alcohol Use
(Efficiency score based on reducing standardized mortality rate, all causes, per 100,000)



Source: Statistics on the use of alcohol are drawn from the OECD.

F. Conclusions

35. **This paper assessed the relative efficiency and flexibility of key social spending categories in the Czech Republic relative to similar countries**. In terms of efficiency, the objective was to apply DEA as a diagnostic tool to measure the effectiveness of spending in achieving results. In this manner, expenditure-led fiscal adjustment can better focus on relatively inefficient areas of public spending rather than relying on unsustainable cuts in traditionally flexible areas of the budget to achieve deficit targets. Ensuring sufficient flexibility in public spending is also necessary to eliminate inefficiencies and secure budgetary savings.

36. **The increase in social benefits in the 2007 budget could be better designed to strengthen social outcomes.** The existing system of social protection transfers in the Czech Republic appears to be relatively efficient in reducing inequality in earnings and the risk of poverty after transfers. However, the shape of the efficient frontier demonstrates that there exists limited scope to improve performance further. Moreover, the increase in social benefits introduced in the Budget are largely untargeted to household income, which could limit their effectiveness. Consequently, there should be room to identify savings in social benefits without jeopardizing social outcomes.

37. **Strengthening the efficiency of healthcare spending should be a priority as excess demand and supply are adding financial strain to the public health system.** In particular, there could be room to trim excess bed capacity, reduce pharmaceutical costs, and introduce means-tested co-payments to contain growing pressure on the public healthcare system. In addition, expanding the use of DRGs to link compensation with the expected cost of service delivery should be implemented through a sustained medium-term reform.

38. **Reforms in the education sector should aim to seek greater cost recovery in areas where public spending provides significant private benefits.** For instance, there could be room to require larger out-of-pocket tuition fees, and greater cost sharing of pre-primary childcare expenses. In addition, policy makers should address concerns that the supply of secondary education in some regions is not meeting growing demand for pre-university educational streams. This could result in a mismatch in the supply and demand for skilled labor.

39. **A range of reforms that could enhance the flexibility of public spending call for sustained political commitment.** For instance, opportunities to reduce social spending through enhanced targeting to low-income households would be a welcome step. Expanding the application of flexible work arrangements in the civil service would also promote greater flexibility. Rigid budgetary practices should also be identified and addressed where possible, such as incremental-cost budgeting and possibly the funding formula for basic social services.

References

Afonso, A., Schuknecht, L., and V. Tanzi, 2006, "Public Sector Efficiency: Evidence for New EU Member States and Emerging Markets," European Central Bank Working Paper Series No. 581, (Frankfurt: European Central Bank).

Afonso, A., and M. St. Aubyn, 2004, "Non-Parametric Approaches to Education and Health: Expenditure Efficiency in OECD Countries," mimeo, (Lisbon: Technical University of Lisbon).

Charnes, A., Cooper, W., and E. Rhodes, 1978, "Measuring Efficiency of Decision-Making Units," European Journal of Operational Research, 3, pp. 429–44.

Davies, M., M. Verhoeven and V. Gunnarsson, 2006, "Wage Bill Inflexibility and Performance Budgeting in Low-Income Countries," (Unpublished; Washington: International Monetary Fund).

Farrell, M., 1957, "The Measurement of Productive Efficiency," Journal of the Royal Statistical Society, Series A, Vol. 120, No.3. pp. 253–90.

Gupta, S., and M. Verhoeven, 2001, "The Efficiency of Government Expenditure: Experiences from Africa" Journal of Policy Modeling, No. 23, pp. 433–67.

Herrera, S., and G. Pang, 2005, "Efficiency of Public Spending in Developing Countries: an Efficiency Frontier Approach," World Bank Policy Research Working Paper 3645, (Washington: World Bank).

International Monetary Fund, 2005, "Public Investment and Fiscal Policy—Lessons from the Pilot Country Studies," (Washington: International Monetary Fund).

International Monetary Fund, 2006, "Republic of Slovenia—Selected Issues" (Washington: International Monetary Fund).

Simar, L., and P. Wilson, 2007, "Estimation and Inference in Two-stage, Semi-parametric Models of Production Processes," Journal of Econometrics, 136 (2007), pp. 31–64.

World Bank, 2007, "Social Assistance in Central Europe and the Baltic States," (Washington: World Bank).

Zhu, J., 2003, Quantitative Models for Performance Evaluation and Benchmarking (New York: Springer Science+Business Media Inc.)

Appendix I. Data Sources

Eurostat's *Government Finance Statistics* represents the principal source of general government spending data during the 1995-2005 period by economic and functional classification. Expenditure ratios are calculated using nominal GDP data that are also drawn from Eurostat. Performance indicators are drawn from the World Bank's extensive database on World Development Indicators (WDI), including health workforce density per thousand people; number of hospitals beds per thousand people; pupil-teacher ratios; and graduates as a ratio of the school-age population. Health outcomes are obtained from the World Health Organization's *Core Health Indicators* and *World Health Statistic*, including standardized mortality rates from all causes per 100,000 people and healthy average life expectancy (HALE) in years. Performance indicators are also extracted from the OECD, including the Gini measure of income inequality, the at-risk-of-poverty measure, and average scores on international standardized tests in mathematics administered through the Programme for International Students Assessment (PISA).

IV. Absorption of EU Funds: Issues and Challenges[1]

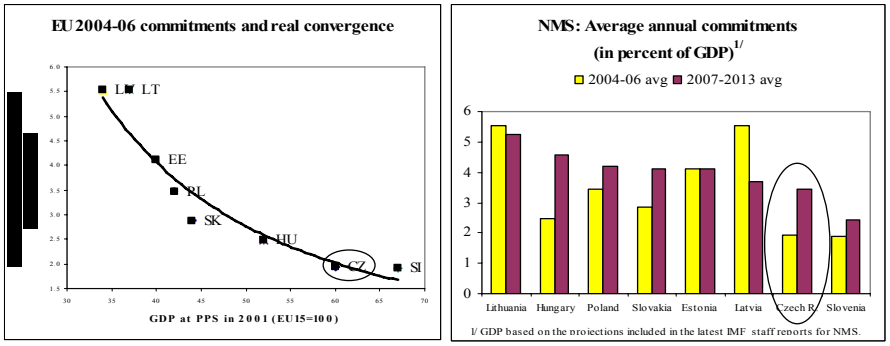
A. Introduction

1. **The expected increase in the use of EU funds in coming years presents important issues for policy and institutions.** Increasing allocations of EU funds provide the Czech Republic with a unique opportunity to increase its growth potential and accelerate the economic catch-up. There are, however, a number of policy challenges. While now at par with most regional peers, the absorption of structural funds has been slow to pick up and, looking forward, a part of the committed amounts may be lost if bottlenecks are not removed. Strengthening personnel capacities, simplifying the institutional framework, and ensuring a better coordination in managing structural funds could help to further improve absorption. EU transfers appear to have had a drag on the budget so far, to the extent that they have not substituted domestic spending programs. The challenge ahead is to reconcile the full utilization of EU funds with the need for fiscal consolidation.

Funds allocated to the Czech Republic

2. **Growing allocations of EU funds provide the Czech Republic with increasing economic opportunities.** The main role of EU funds in new member states (NMS) is to support their economic catch-up,[2] and the income level relative to the EU average is the key criterion in allocating structural funds. The Czech Republic, relatively advanced in convergence, received only modest allocations for 2004-06 compared to other NMS (Figure 1). Still, at close to 2 percent of GDP and set to rise considerably under the EU's new financial perspective 2007-13, they provide a unique opportunity to support economic and social cohesion.

Figure 1: New Member States: Available EU Allocations



[1] Prepared by Robert Sierhej (Warsaw Regional Office).

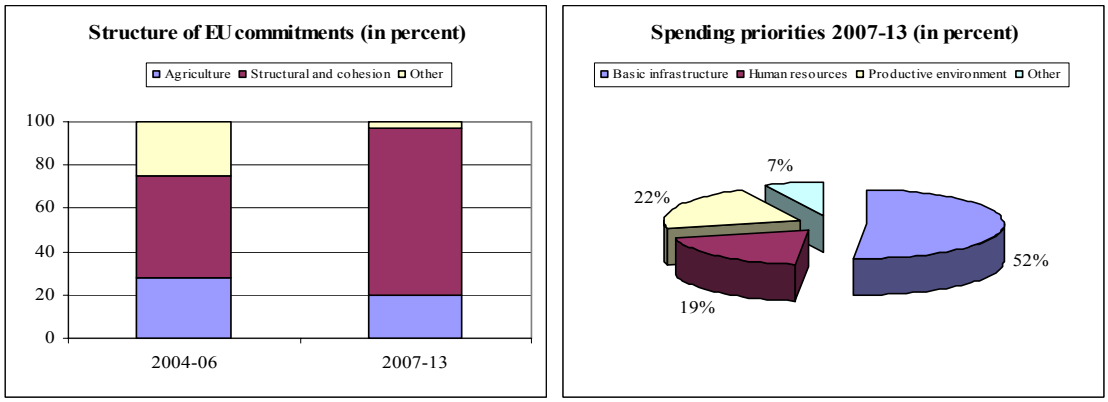
[2] This role is served by structural and cohesion funds, but there are also funds financing EU policies in agriculture, nuclear safety, or cross-border cooperation.

Sources: European Commission, and staff estimates.

3. **Structural and cohesions funds, the EU's main vehicles to promote economic convergence, represent a growing share in total allocations.** Allocations for these funds are increasing (Figure 2)[3]: while they accounted for less than ½ of total allocations in 2004-06, the share increases to around ¾ in 2007-13. This trend reflects EU-wide policy priorities, but also the expiration of the non-structural EU transfer (budget compensation) which was aimed at preventing NMS from becoming net contributors to the EU budget.

4. **EU funds are spent on domestically designed programs to support the national development strategy**. EU funds finance projects promoting economic and social cohesion through a myriad of nationally designed programs. The Czech Republic's national development strategy puts particular emphasis on basic infrastructure, human resources, and the support to productive environment (Figure 2).[4]

Figure 2. Czech Republic: Structure of EU Commitments and Spending Priorities



Source: European Commission, data from the authorities

Net transfers from the EU and absorption of structural funds

5. **As in other new member states, net transfers have remained below committed amounts.** The allocations described above are gross amounts, representing a maximum of what the country could receive out of the EU's budget. Actual net flows are bound to be significantly lower, reflecting several factors:

[3] Structural funds are for regional programs, research and development, supporting economic competitiveness, and human resource development; cohesion funds are for country-wide transport and environment projects. To ensure intertemporal comparability, rural development and fishery funds are classified under agriculture in 2004-06.

[4] The structure of spending shown at Figure 2 reflects both the EU and domestic expenditure component.

- As other member states, the Czech Republic has to contribute to the EU budget, with annual payments at around one percent of GDP.

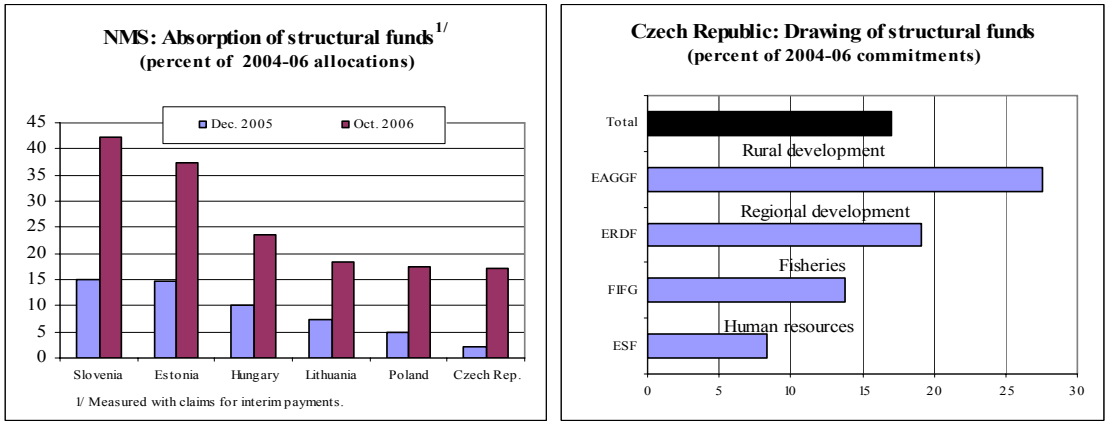
- Commitments from a given year are spent over several years, reflecting the duration of project cycles, implying that annual payments are generally below the commitments.

- EU funds may be lost (de-committed) if there is no adequate capacity to prepare and implement projects financed by the EU in a timely manner.

Net transfers from the EU amounted to 0.2-0.3 percent of GDP in 2004-06, slightly below the original projections (0.4 percent of GDP) mainly reflecting lower than planned utilization of structural funds. Net transfers are projected to peak at close to 2 percent of GDP around 2011-13. This, however, depends crucially on the absorption capacity.

6. **The Czech Republic was initially slow to absorb structural funds, but absorption picked up in 2006.** Absorption of structural funds suffered some teething problems as regulatory and institutional frameworks had to be established. This early stage took somewhat longer than elsewhere in the region, as reflected in a low absorption rate at end-2005 (Figure 3). By late 2005, however, the preparatory stage had been completed, implementing agencies had gained experience, and many projects had been contracted. All this laid the grounds for better absorption. As a result drawing of EU funds had increased to levels comparable with regional peers by late 2006.

Figure 3: Absorption of Structural Funds



Source: Data from national authorities.

7. **Despite uneven progress among programs, no major funds are currently at risk.** There are differences in the absorption paths of various programs (Figure 3). Rural development funds have done better than human resource development programs, financed by

the social fund (ESF). Nevertheless, no major funds were at risk in 2006.[5] In part this reflects the treatment of advance payments which are added to absorption figures even if they are not yet spent on any project.[6] Only small funds could be de-committed in the Prague region, where advance payments were lower.[7]

8. **But the future absorption challenge is increasing.** While advances may provide a temporary relief, they can only be a short-term solution—all the 2004-06 structural funds will have to be spent by the end of 2008. This implies a sharp increase in absorption challenges, compounded by the need to start drawing funds under the new financial perspective. Extrapolating current absorption trends shows that there is a risk that some funds could be decommissioned.

9. **Developing a coordinated framework for managing EU funds could help to improve the utilization of available resources.** The framework for managing EU funds seems more disaggregated in the Czech Republic than elsewhere in the region. The number of EU financed programs is large and line ministries act as managing authorities for their programs. This implies institutional rigidities as resources can not be moved easily among programs. Looking forward, regional authorities (which are often untested in dealing with EU funds) are set to gain more control at the same time as the number of programs under the 2007-13 funds will increase. These plans go against the regional trend of limiting the number of programs and creating strong central agencies to coordinate the management of EU funds.

Fiscal implications of EU transfers

10. **Measuring the fiscal impact of EU transfers is complicated by methodological caveats and the lack of data.** Fiscal implications of EU transfers are important for countries trying to meet the Maastricht criteria and to comply with the excessive deficit procedure. However, measurement is not a straightforward d task. There are differences between cash and accrual (ESA95) statistics reflecting:

Sector coverage—ESA95 includes only transfers to government beneficiaries; cash statistics may include transfers to non-government intermediated by the government agencies;

---

[5] Structural funds have to be drawn within so called N+2 rule: funds committed in year N must be drawn by the year N+2. The 2004 commitment should be utilized by end-2006.

[6] Advance payments amounted to 16 percent of total allocations, and 2004 commitments were 24 percent of the allocations. Thus, actual spending of only 8 percent was needed to formally comply with the N+2 at end-2006.

[7] Prague region projects are under the so-called Objective 3 for regions where income is above 75 percent of the EU average.

Time of recording—every spending on EU programs has an automatic revenue counterpart in ESA95 (neutral for fiscal balance); cash statistics books spending and receipts on EU separately depending on the actual time of effecting the transactions (not deficit neutral).

Importantly fiscal implications depend on whether EU transfers, and related national co-financing, are spent on new programs—expansionary effect—or if they substitute existing programs—no expansionary effect. Unfortunately, data on fiscal substitution are not directly available. A simple accounting framework (Box 1) will have to suffice to assess the direct (first-round) budgetary impact of EU transfers.

Box 1. Measuring the Fiscal Impact of EU Transfers

Given methodological and data constraints, the following framework for measuring the fiscal impact is proposed:

Direct impact	
Revenues	
budget compensation	(+)
refundable EU programs	(+)
Expenditures	
contribution to EU	(-)
refundable EU programs	(-)
Indirect impact	
Domestic co-financing	(-)
Subsituted domestic spending	(+)

Fiscal balance is improved by the **(+)** items and the **(-)** items deteriorate fiscal position. Spending on refundable EU programs, i.e., programs financed with transfers other than budget compensation, is by definition equal to revenues on these programs in ESA95.

11. **The budgetary impact of EU transfers appears to have been negative if one assumes no substitution between domestic spending programs and EU transfers.** Within the framework proposed in Box 1, EU transfers appear to have created a direct fiscal drag in the order of 0.3-0.8 percent of GDP (Table 1). These estimates represent the maximum possible negative effect. The actual impact would be lower to the extent that there is a substitution between expenditures financed with EU transfers and domestic spending programs.

Table 1. Direct Fiscal Impact of EU Transfers

(ESA95basis, in percent of GDP)	2004	2005	2006p
EU related revenue	0.6	0.5	0.5
budget compensation	0.4	0.3	0.2
refundable programs	0.2	0.2	0.3
EU related expenditure	0.9	1.3	1.4
contributions to EU budget	0.6	1.0	1.0
refundable programs	0.2	0.2	0.3
Net fiscal impact	-0.3	-0.7	-0.8

Source: Data from the authorities and staff estimates.

12. **Reconciling full utilization of growing EU funds and meeting the Maastricht criteria poses a number of policy challenges.** As the authorities pursue fiscal consolidation, they will need to address a number of issues related to the use of EU funds:

Co-financing: Utilization of growing funds puts pressures on finding domestic co-financing. This would lead to pressures on deficit unless room is made by cutting expenditures elsewhere in the budget.

Fiscal management: Budgeting for EU funds has been too optimistic so far, leaving unused budget appropriations booked as reserve funds. Large reserve funds may loosen the grip on fiscal policy as they could be spent on top of the annual budget law.

Assessment of the fiscal impulse: Increasing spending of EU transfers may obscure the assessment of the fiscal impulse. Such spending adds a demand stimulus which is not captured in fiscal accounts—the revenue counterpart (EU grants) do not represent any withdrawal of domestic demand. Increasing EU-financed spending would thus be neutral for headline deficit, but associated with an underlying positive fiscal stimulus.

V. PRESENTATION OF FISCAL DATA USING THE FRAMEWORK OF THE *GFSM 2001*, PRELIMINARY RESULTS[1]

1. **At the Executive Board seminar on November 16, 2005 Directors agreed that the use of the *Government Finance Statistics Manual (GFSM 2001)* framework would lead to greater transparency and consistency in the presentation of country fiscal data in staff reports (see Box 1 for background)**. This paper reports on the preliminary results for the Czech Republic of the pilot study which sets out to incorporate the *GFSM 2001* operating statement, integrated balance sheet, and cash statement in the Article IV consultation. Section I is a general discussion of the data sources and the institutional coverage used in the Czech pilot study, followed in Section II by a description of the main results of the pilot. Finally, this paper suggests future work to improve fiscal data. Fiscal data for Czech Republic in the *GFSM 2001* framework are presented as Appendix I.

2. **The Czech Republic pilot study draws attention to three advantages of developing fiscal statistics using the *GFSM 2001* framework**. These advantages are: (i) a broadening of coverage of fiscal activities; (ii) the proper recording of events associated with privatization (or nationalization) resulting from the use of an integrated statistical framework; and (iii) using an integrated approach to achieve improvements in source data for fiscal analyses.

3. **The paper concludes that the application of *GFSM 2001* framework highlighted the lack of comprehensiveness of the institutional and transactional coverage in fiscal data, when compared with the guidelines of the GFS manual**. Due to a lack of comprehensive source data, the operations of general government in staff reports do not cover all institutional units that comprise general government, as defined by international statistical principles, and therefore are also not consistent with the coverage of data disseminated to meet European Union (EU) reporting requirements. Accordingly, the analysis of fiscal policies carried out in the context of the Fund's surveillance exercise is based on aggregates and balances that are different from those used by the EU for monitoring.

4. **This pilot study suggests that improvements in the government accounting systems and reporting formats, that serve as source data for the government finance statistics, will greatly facilitate the integrated and standardized presentation of general government data**. Such improvements would not only meet the needs of all data users, but will also eliminate the need to employ supplementary methods, such as surveys and questionnaires, to improve source data. Development of an integrated approach to the data compilation would

[1] Prepared by Sagé De Clerk (STA). The Czech Republic was selected for a pilot study on GFSM 2001 in consultation with the Office of the Executive Director for the Czech Republic and the European Department (EUR).

facilitate economic analysis based on resource balances, liquidity, and sustainability factors, and would also allow for comparability across data sets and with the statistics for other countries.

Box 1. Background for the Pilot Studies

The Executive Board seminar on November 16, 2005 discussed the joint STA/FAD paper "Using the *GFSM 2001* Statistical Framework to Strengthen Fiscal Analysis in the Fund" (http://www.imf.org/external/np/pp/eng/2005/102505.pdf). Directors noted that use of the *GFSM 2001* framework will lead to greater transparency and consistency in the presentation of country fiscal data in staff reports and agreed on the following:*

In principle, that the Fund should move in a phased way to present fiscal data using the *GFSM 2001* framework in staff reports.

To conduct pilot studies to include the *GFSM 2001* operating statement, integrated balance sheets, and cash statements in Article IV consultation reports. The pilot studies should be done for volunteer countries, over the course of two years and within the Fund's budgetary envelope, to map out more fully the process involved in moving to the *GFSM 2001* framework.

That the staff should report to the Board on the experience with the pilot studies, together with migration path proposals to fully implement the *GFSM 2001* methodology.

* *For a more complete summary of the discussion, see the Public Information Notice (PIN) No. 05/167* available online at http:/www.imf.org/external/np/sec/pn/2005/pn05167.htm.

A. General Issues

5. **The Czech Republic was selected for the pilot study in recognition of reforms in fiscal data reporting that the Czech authorities have made for monitoring fiscal performance**. These reforms were made both with regard to cash based reporting and accrual based reporting. Following technical assistance provided by the Statistics Department (STA), reforms of cash-based reporting primarily pertain to the introduction of bridge tables that link the State budget accounts to the *GFSM 2001* framework. Accrual based reporting[2] was introduced to meet the reporting requirements of the EU in accordance with the *European System of Accounts* (*ESA 95)*. These data are disseminated by the Ministry of Finance (MOF) and the Czech National Statistical Office (CNSO), respectively.

6. **The institutional coverage in this pilot study is the general government sector**. Although Article IV staff reports for Czech Republic have focused on the general government data as reported by the MOF, the institutional coverage of these data is not in line with international guidelines, and therefore differs from the coverage of general government data compiled and disseminated consistent with EU reporting requirements. The MOF general

[2] In the absence of accrual accounts for all institutional units, accrual based data are partially based on cash accounting records adjusted for estimated accrual transactions.

government account does not include the operations of the so called "semibudgetary[3]" organizations, which operate at both the central and local government levels, and it also excludes a number of state extrabudgetary institutions[4] and special funds. The most important of these institutions are the Czech Consolidation Agency and its subsidiaries, the Czech Collection Company, the Railway Infrastructure administration, the Public-private-partnership centre, and public universities. The general government account nevertheless records all transactions with these institutions. However, given that the excluded entities are capable of generating their own revenue and borrowing in their own name, the main balancing items in the general government accounts of the MOF exclude these fiscal activities. Similarly, fiscal risks that may originate in these entities will not be considered in policy decisions based on the flow data recorded in the MOF general government accounts. Although staff reports consider high risk guarantees to give a rough indication of the fiscal risks associated with these institutions, it does not fully substitute for the lack of an integrated set of source data.

7. **While it is conceptually easy to identify the gaps in the coverage of general government, the impact on the data is difficult to quantify**. Given the lack of an integrated and complete set of data for all institutional units, an estimation of the impact of missing units on the main balancing items in the general government accounts of the MOF is very difficult. Complex institutional arrangements, differences in the basis of recording and lack of comprehensive source data complicate estimation procedures. The impact of this lack of coverage is best illustrated by approximately a 5 percentage point difference between the general government debt, reported by MOF, and general government debt, reported by CNSO in terms of the Maastricht criteria.

8. **The various sets of published data, differing in institutional coverage and methodologies employed, are a potential source of confusion for the uninformed user of fiscal statistics of Czech Republic**. Data on State budgetary units are compiled according to the national legislative framework and are presented in national policy documents. These data are bridged to *GFSM 1986* framework and disseminated as required under the Special Data Dissemination Standard. This set of data is also the primary source of data for staff reports compiled by EUR for the Article IV consultation exercise. A third set of data is bridged to the *GFSM 2001* framework from national data sources for publication in the *GFS Yearbook*. Lastly, a set of data compiled for the general government in terms of the national accounts is reported to Eurostat in accordance with EU reporting requirements. This set of data is based on the principles of the *ESA 1995*.

---

[3] Institutional units that are mainly financed from transfers received from the state budget and have limited capacity to generate own revenue or to borrow.

[4] Institutional units that receive transfers from the state budget and have the power to generate significant own revenue and borrow in their own name.

Box 2. Summary of National Accounting Practices

The Ministry of Finance prescribes the classification and accounting rules for all agencies within the State Budget and for the State Extrabudgetary Funds. These accounts are compiled on a cash-accounting basis.

The accounts of semi-budgetary organizations, health insurance organizations, and special funds are compiled using various degrees of accrual accounting. Generally these accounts comprise a profit-and-loss statement which presents the financial results of their operations and a balance sheet which presents the stocks of assets and liabilities.

Although the accounting practices allow for classification systems that are rather detailed, they are not structured in accordance with internationally recognized standards, such as the *GFSM 2001*. The accounting system and framework for presentation are also not standardized and do not support an integrated approach to fiscal analysis.

Bridge tables are used to recast the national data into the *GFSM 2001* framework, but limitations in the source data translate into data gaps in the bridged *GFSM 2001* data.

The CNSO is the compiler of the data submitted to Eurostat for monitoring compliance with the Excessive Deficit Procedures and other EU reporting requirements. This Office needs to employ supplementary methods of collecting data from various sources because of the lack of comprehensiveness and integration in the underlying accounting framework.

B. Results

9. **This section describes a number of data deficiencies and issues of appropriate methodological treatment that were identified when the fiscal data were recast from the national presentation, to the framework of the *GFSM 2001***. Summary tables compiled in accordance with *GFSM 2001* (Tables 1, 2, and 3), are shown in Attachment 1. Table 1, the *Statement of Government Operations* is based on full coverage of general government and the *ESA 95* accrual-based methodology, while Tables 2 and 3 are based on the limited coverage and cash data of the MOF. Box 3 provides a description of the main aggregates and balances of analytical significance used in these tables.

10. **Although the use of *GFSM 2001* necessitated reclassification of certain transactions, this did not alter the major trends reflected in the staff reports, but suggests that the magnitudes of certain key balances would have been slightly different**. These reclassifications pertain to EU resources, improved details on government transfers to households and non-profit organizations, and improvements in the classification of capital transfers. However, the main balancing items remain essentially unchanged because offsetting changes occurred in other categories of revenue and expenses. The overall fiscal balance as presented in staff reports amounted to 3.6 percent of GDP, while the cash deficit in the *Cash Statement* was calculated at 3.3 percent of GDP, the difference being the impact of lending on the balancing item in the staff report. These balances could not be compared with the net

lending/borrowing as presented in the *Statement of Government Operations*, given the differences in coverage of government.

11. **Bridging the available source data to the *GFSM 2001* framework revealed a lack of source data on the stock of nonfinancial and financial assets**. The lack of data on the stock of assets is particularly important in light of privatization initiatives of the government. Adjustments made in staff reports to present privatization proceeds as financing transactions, and not as net lending, brings the presentation in staff reports closer to the treatment recommended in *GFSM 2001*. However, the impact of such transactions is only reflected in cash receipts and there is no offsetting reduction in the investment of government in the original financial asset recorded. The *GFSM 2001* framework when correctly applied clearly indicates privatization as the exchange of one type of asset for another without any impact on the net worth of the government – this would be clearly demonstrated in a full balance sheet.

12. **Although staff reports make adjustments for privatization proceeds, similar adjustments for investments for policy purposes are not made**. Policy lending treated in the traditional framework as an expense distorts the fiscal balance. This is especially evident in years during which the Czech government extended large policy-related loans which, for example, in 2003 amounted to almost 1 percent of GDP. The *GFSM 2001* framework consistently records both the lending and privatization transactions as transactions in financial assets (shares and equity of public institutional units), which has no impact on net lending/borrowing.

13. **The current lack of data on the stocks and 'other flows' related to non-financial assets is highlighted by the *GFSM 2001* framework**. The availability of data on nonfinancial assets, not only in terms of the cost of acquisition and disposal, but also with regard to changes in their value as a result of price or volume changes, will facilitate the application of appropriate asset management principles and policies. Such data are important for informing government's investment decisions with regard to the mix of its comprehensive asset portfolio.

14. **Liabilities as reported by the Czech authorities are valued according to the principles of the Maastricht criteria**. According to these criteria, 'debt' is understood to be gross debt at nominal value outstanding at the end of the period and consolidated within and between the sectors of general government. In terms of an EU Council regulation, nominal value of debt is considered to be equivalent to the face value of the liability. Debt is therefore reported at the contractually agreed amount that the government will have to refund to creditors at maturity. As indicated in Table 2, the outstanding balances on foreign loans are converted into national currency at the market exchange rate on the reporting date – evidenced by the residual value between the opening and closing balance of this category of liabilities. However, the influence of other price and volume changes on other categories of assets and liabilities are not accounted. The *GFSM 2001* framework when fully applied clearly indicates the impact of all price and volume changes on the stock of assets and liabilities.

Box 3. The *GFSM 2001* Statements and Core Balances

The **Statement of government operations** (presented in Table 1) records transactions on an accrual basis. The statement distinguishes between the following transactions:

Revenue	Transactions that increase net worth.
Expense	Transactions that reduce net worth.
Net acquisitions of nonfinancial assets	Transactions that affect the stock of nonfinancial assets, without changing net worth (acquisitions minus disposals).
Financing	Transactions that affect the stock of financial assets and liabilities, without changing net worth (net acquisition of financial assets minus net incurrence of liabilities).

The analysis of government operations is supported by two key fiscal indicators:

Operating balance	Summary measure of the effects of revenue and expense transactions on net worth. Net operating balance (NOB) equals revenue minus expense. The gross operating balance (GOB) equals revenue minus expense other than consumption of fixed capital. 1/
Net lending/borrowing	Represents the financial resources that the government absorbs from, or releases to, other sectors of the economy. It is calculated as the NOB minus the net acquisition of nonfinancial assets. Net lending/borrowing is also equal to the net acquisition of financial assets minus net incurrence of liabilities.

The **Integrated balance sheet** (presented in Table 2), focuses on an assessment of the sustainability of government operations from a fiscal perspective. It shows the government's net worth at the beginning and end of each fiscal year, as well as the related transactions and other economic flows. The sustainability of fiscal policy depends in part on how the government's net worth changes over time. Changes in net worth can be explained not only by government's transactions but also by other economic flows attributable to gains or losses resulting from changes in the prices of assets and liabilities, as well as other changes in their volume.

Net worth	The total stock of assets minus liabilities. The net worth in period (t) can also be calculated as the net worth of the previous period (t-1), plus changes in net worth in period (t) due to transactions (the NOB), plus changes in net worth in period (t) due to other economic flows.
Net financial worth	The stock of financial assets minus liabilities.

The **Statement of sources and uses of cash** (presented in Table 3) shows purely cash flows associated with revenue and expense transactions and transactions in nonfinancial assets, which yields the cash surplus/deficit. The assessment of the government's level of cash holdings and its determinants is a key element in analyzing fiscal policy, its interrelationships with the monetary policy and liquidity analysis.

Cash surplus/deficit	Net cash inflow from operating activities minus the net cash outflow from investments in nonfinancial assets.

1/ The NOB/GOB excludes net acquisition of nonfinancial assets. The latter does not affect net worth because it represents only an accumulation of assets in exchange for an accumulation of liabilities or use of existing assets.

C. Next Steps

15. **The authorities broadly agreed that they would work toward improving the compilation and presentation of fiscal data in the *GFSM 2001* framework**. However, no specific benchmarks for further engagement were agreed at the time. Nevertheless, it was agreed that implementation of the recommendations of STA missions will be considered. The authorities reiterated that the highest priority will continue to be given to compliance with the reporting requirements of the European Union regulations.

16. **The coverage of fiscal data should be improved to agree with the coverage of data disseminated in the *ESA 95* framework**. Full coverage of all the units in the general government sector is essential for reconciling the data of the MOF and the CNSO.

17. **Due to limited resources, the MOF is considering discontinuation of the compilation and dissemination of fiscal data compiled according to the *GFSM 1986* framework**. MOF staff emphasized that they prioritize dissemination of general government data in the *ESA 95* framework. The potential impact on the work of Fund staff must be noted, given that currently staff reports primarily rely on the *GFSM 1986* data.

18. **Comprehensive fiscal analysis of the liquidity of the general government and of the sustainability of government policies is dependent on the availability of cash and accrual data, respectively**. The authorities are strongly encouraged to develop the MOF data to fully comply with the requirements of reporting the *Statement of Sources and Uses of Ca*sh for the comprehensive general government (i.e. continue with improving classification and coverage). Furthermore, the authorities need to continue with developing accrual accounting to allow for improvements to and dissemination of the *Statement of Government Operations* and other *ESA 95* based reporting.

19. **While recasting existing data into the *GFSM 2001* framework presents certain types of transactions, such as privatization and debt assumption, in a more consistent manner, full implementation of the *GFSM 2001* will be dependent on additional accounting reforms**. An integrated approach to improvements in source data systems is essential so as to facilitate the compilation of both the GFS and to provide improved source data that can used to compile the national accounts. Improving the coverage of data, the basis of recording, and providing for the valuation and recording of financial and nonfinancial assets is dependent on development and improvement of source data systems.

Table 1. Czech Republic: Statement of General Government Operations (*GFSM 2001*)

(In million Czech koruny)

GFS code:	GFS Descriptor	2000	2001	2002	2003	2004	2005
	Transactions affecting net worth:						
1	**Revenue**	**833.9**	**911.4**	**974.4**	**1049.4**	**1155.1**	**1201.1**
11	Taxes	429.9	465.5	491.3	533.7	598.7	620.1
12	Social contributions	312.0	335.0	367.4	388.9	419.4	448.4
13	Grants	...	...	...	...	...	...
14	Other revenue	...	...	...	...	...	...
2	**Expense**	**943.9**	**1080.9**	**1155.2**	**1228.0**	**1229.7**	**1293.7**
21	Compensation of employees	154.7	172.9	191.6	214.2	222.1	236.6
22	Use of goods and services	144.0	152.9	173.6	196.0	193.5	208.8
23	Consumption of fixed capital	107.9	112.0	113.5	123.2	128.4	133.1
24	Interest	18.4	23.8	30.5	29.3	32.6	34.4
25	Subsidies	61.0	65.4	56.6	68.2	59.0	55.3
26	Grants	...	...	...	...	...	...
27	Social benefits	379.3	407.9	447.2	465.9	489.2	510.1
28	Other expense	...	...	...	...	...	...
	Net operating balance 1/	***-110.0***	***-169.5***	***-180.8***	***-178.6***	***-74.6***	***-92.6***
	Gross operating balance	***-2.0***	***-57.5***	***-67.3***	***-55.4***	***53.8***	***40.5***
	Transactions in nonfinancial assets						
31	**Net acquisition of nonfinancial assets 2/**	**-28.5**	**-34.4**	**-14.0**	**-8.6**	**5.4**	**14.8**
	Net lending/borrowing 3/	***-81.5***	***-135.0***	***-166.8***	***-170.0***	***-80.0***	***-107.5***
	Transactions in financial assets and liabilities (financing):						
32	**Net acquisition of financial assets**	...	...	**-59.4**	**-78.4**	**21.6**	...
321	Domestic	...	...	...	...	...	...
322	Foreign	...	...	...	...	...	...
323	Monetary gold and SDRs	0.0	0.0	0.0	0.0	0.0	0.0
33	**Net incurrence of liabilities**	...	...	**107.4**	**91.6**	**101.1**	...
331	**Domestic**	...	...	...	...	...	...
332	**Foreign**	...	...	...	...	...	...
	(In percent of GDP)						
1	**Revenue**	38.1	38.7	39.5	40.7	41.5	40.4
2	**Expense**	43.1	46.0	46.9	47.7	44.2	43.6
	Gross operating balance 1/	***-0.1***	***-2.4***	***-2.7***	***-2.1***	***1.9***	***1.4***
	Primary gross operating balance 1/	***0.7***	***-1.4***	***-1.5***	***-1.0***	***3.1***	***2.5***
31	**Net acquisition of nonfinancial assets 2/**	-1.3	-1.5	-0.6	-0.3	0.2	0.5
Net lending/borrowing 3/		***-3.7***	***-5.7***	***-6.8***	***-6.6***	***-2.9***	***-3.6***
32	**Net acquisition of financial assets**	...	...	-2.4	-3.0	0.8	...
33	**Net incurrence of liabilities**	...	...	4.4	3.6	3.6	...
331	**Domestic**						
332	**Foreign**						
	Memorandum items:						
	GDP at market prices (millions of koruny)	2189.2	2352.2	2464.4	2577.1	2781.1	2970.3
	Gross operating balance/Net acquisition of nonfinancial assets (ratio)	3.9	4.9	12.9	20.8	-13.7	-6.2

Sources: Eurostat

1/ The net operating balance equals revenue minus expense, when expense includes the consumption of fixed capital.
The gross operationg balance equals revenue minus expense other than consumption of fixed capital.

2/ Acquisitions minus disposals and consumption of fixed capital.

3/ Net lending/borrowing equals the net operating balance minus the net acquisition of nonfinancial assets.
It is also equal to the net acquisition of financial assets minus the net incurrence of liabilities.

Table 2. Czech Republic: Integrated Balance Sheet for the General Government (*GFSM 2001)*

(In millions of CZK) GFS Descriptors	2002				2003			2004		
	Opening balance 2001	Transactions	Other Economic Flows 1/	Closing balance	Transactions	Other Economic Flows 1/	Closing balance	Transactions	Other Economic Flows	Closing balance
Net worth and its changes:	**...**	**...**	**...**	...	**...**	**...**	...	**...**	**...**	...
Nonfinancial assets 1/	**...**	61.8	**...**	...	65.6	**...**	...	73.8	**...**	...
Fixed assets	**...**	61.1	**...**	...	64.6	**...**	...	72.8	**...**	...
Change in inventories	**...**	0.0	**...**	...	0.0	**...**	...	0.0	**...**	...
Valuables	**...**	0.0	**...**	...	0.0	**...**	...	0.0	**...**	...
Nonproduced assets	**...**	0.7	**...**	...	1.0	**...**	...	1.0	**...**	...
Net Financial Worth:	**...**	**-153.1**	**...**	...	**-128.7**	**...**	...	**-97.7**	**...**	...
Financial assets	**...**	-113.1	**...**	...	-21.0	**...**	...	8.8	**...**	...
Domestic	**...**	-90.4	**...**	...	-21.5	**...**	...	17.1	**...**	...
Currency and deposits	**...**	22.6	**...**	...	-18.2	**...**	...	16.9	**...**	...
Securities other than shares	**...**	7.2	**...**	...	-4.4	**...**	...	5.5	**...**	...
Loans	**...**	3.8	**...**	...	13.5	**...**	...	10.3	**...**	...
Shares and other equity	**...**	-124.1	**...**	...	-12.4	**...**	...	-15.6	**...**	...
Insurance technical reserves	**...**	0.0	**...**	...	0.0	**...**	...	0.0	**...**	...
Financial derivatives	**...**	0.0	**...**	...	0.0	**...**	...	0.0	**...**	...
Other accounts receivable	**...**	**...**	**...**	...	...	**...**	...	...	**...**	...
Foreign	**...**	-22.7	**...**	...	0.5	**...**	...	-8.2	**...**	...
Currency and deposits	**...**	0.2	**...**	...	0.0	**...**	...	0.0	**...**	...
Securities other than shares	**...**	-1.5	**...**	...	2.7	**...**	...	-6.5	**...**	...
Loans	**...**	-21.5	**...**	...	-2.3	**...**	...	-2.1	**...**	...
Shares and other equity	**...**	0.1	**...**	...	0.1	**...**	...	0.3	**...**	...
Insurance technical reserves	**...**	0.0	**...**	...	0.0	**...**	...	0.0	**...**	...
Financial derivatives	**...**	0.0	**...**	...	0.0	**...**	...	0.0	**...**	...
Other accounts receivable	**...**	**...**	**...**	...	...	**...**	...	...	**...**	...
Monetary gold and SDRs	**0.0**	0.0	**...**	**0.0**	0.0	**...**	**0.0**	0.0	**...**	**0.0**
Liabilities	**404.5**	39.9	**0.0**	**444.4**	107.8	**0.9**	**553.1**	106.6	**-0.3**	**659.4**
Domestic	**373.4**	31.4	2.9	**407.7**	81.3	-2.5	**486.5**	19.1	1.8	**507.4**
Currency and deposits	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Securities other than shares	325.4	48.0	0.0	373.4	80.4	0.1	453.9	16.6	1.8	472.3
Loans	48.0	-16.6	2.9	34.3	0.8	-2.5	32.6	2.4	0.1	35.1
Shares and other equity	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Insurance technical reserves	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Financial derivatives	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Other accounts payable	...	**...**	**...**	...	...	**...**	...	...	**...**	...
Foreign	**31.1**	8.5	**-2.9**	**36.7**	26.5	**3.4**	**66.6**	87.5	**-2.1**	**152.0**
Currency and deposits	0.0	0.0	**0.0**	0.0	0.0	**0.0**	0.0	0.0	**0.0**	0.0
Securities other than shares	20.9	5.2	**0.0**	26.1	16.2	**0.4**	42.7	77.6	**-1.2**	119.1
Loans	10.2	3.3	**-2.9**	10.6	10.3	**3.0**	23.9	10.0	**-1.0**	32.9
Shares and other equity	0.0	0.0	**0.0**	0.0	0.0	**0.0**	0.0	0.0	**0.0**	0.0
Insurance technical reserves	0.0	0.0	**0.0**	0.0	0.0	**0.0**	0.0	0.0	**0.0**	0.0
Financial derivatives	0.0	0.0	**0.0**	0.0	0.0	**0.0**	0.0	0.0	**0.0**	0.0
Other accounts payable	...	**...**	**...**	...	...	**...**	...	...	**...**	...

Sources: Ministry of Finance

1/ Other economic flows record holding gains and losses and other changes in the volume of assets and liabilities.

Table 3. Czech Republic: Statement of Sources and Uses of Cash for the General Government (*GFSM 2001*)

(In million Czech koruny)

	GFSM 2001Descriptors	2000	2001	2002	2003	2004	2005
	Cash flows from operating						
1	**Cash receipts from operating activities (inflows**	796.1	868.6	921.8	999.8	1075.6	1173.7
11	Taxes	433.7	463.1	498.1	535.0	570.5	626.4
12	Social contributions	311.2	344.6	363.0	387.3	416.7	445.6
13	Grant	1.2	2.8	2.5	12.3	24.8	31.6
14	Other receipts	50.0	58.0	58.2	65.3	63.6	70.2
2	**Cash payments for operating activities (outflows -)**	-823.2	-914.0	-1013.0	-1062.9	-1099.5	-1202.8
21	Compensation of employees	-94.1	-102.0	-111.1	-109.5	-112.2	-119.9
22	Purchases of goods and	-109.3	-107.2	-125.3	-122.7	-118.1	-113.9
24	Interes	-20.9	-20.1	-15.7	-19.9	-30.5	-25.4
25	Subsidie	-157.7	....	-236.7	-244.2	-237.9	-234.9
26	Grant	-1.7	-2.2	-1.7	-2.3	-13.8	-22.1
27	Social	-378.6	....	-437.4	-461.4	-478.9	-502.8
28	Other	-60.8	-65.3	-85.0	-103.0	-108.2	-183.9
	Net cash inflow (+) from operating activities	-27.1	-45.5	-91.2	-63.1	-24.0	-29.1
	Cash flows from investments in nonfinancial assets:						
31.1	**Purchases of nonfinancial assets (cash outflows -)**	-68.2	-70.3	-71.8	-75.6	-84.4	-81.0
311	Fixed assets	-64.1	-66.3	-68.0	-71.4	-79.7	-78.0
312	Strategic assets	0.0	0.0	0.0	0.0	0.0	0.0
313	Valuable	0.0	0.0	0.0	0.0	0.0	0.0
314	Nonproduced assets	-4.2	-4.1	-3.8	-4.2	-4.7	-2.9
31.2	**Sales of nonfinancial assets (cash inflows +)**	8.2	8.2	9.9	10.0	10.6	12.4
311	Fixed assets	6.3	6.0	6.9	6.8	6.9	7.9
312	Strategic assets	0.0	0.0	0.0	0.0	0.0	0.0
313	Valuable	0.0	0.0	0.0	0.0	0.0	0.0
314	Nonproduced assets	1.9	2.2	3.1	3.1	3.7	4.5
	Net cash outflow (-) from investments in nonfinancial assets	-60.0	-62.2	-61.8	-65.6	-73.8	-68.6
	CASH SURPLUS (+)/DEFICIT (-)	-87.1	-107.6	-153.1	-128.7	-97.7	-97.8
	Cash flows from financing activities:						
	Net acquisition of financial assets other than cash (cash outflows -)	24.5	61.8	135.9	2.7	8.1	93.7
	Domesti	22.5	60.6	113.0	3.2	-0.2	-8.6
	Foreign	2.0	1.2	22.9	-0.5	8.2	102.3
	Net incurrence of liabilities (cash inflows +)	56.2	78.0	39.9	107.8	106.6	102.6
	Domesti	55.1	79.8	31.4	81.3	19.1	35.4
	Foreign	1.1	-1.8	8.5	26.5	87.5	67.2
	Net cash inflow (+) from financing activities	80.7	139.8	175.8	110.5	114.6	196.3
	NET CHANGE IN THE STOCK OF CASH	-6.4	32.2	22.7	-18.2	16.9	98.5
	Memorandum						
	THE STOCK OF CASH (end of the fiscal year)	...	...	...	...	...	...