



**MINISTRY OF FINANCE OF THE CZECH REPUBLIC**  
**DEBT AND FINANCIAL ASSETS MANAGEMENT DEPARTMENT**

**Financing and  
Debt Management Strategy  
for 2007**

1 December 2006

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On the 27<sup>th</sup> November 2006, the Minister of Finance made a decision on the structure and manner of funding the central government's gross borrowing requirement in the budgetary year 2007 and approved the absolute and relative limits for issuance activities on the domestic and foreign markets and for the active management of the state debt portfolio (Ref: 20/106 438/2006-201). The operational framework such as the one defined by the presented Financing and Debt Management Strategy for the year 2007 (hereinafter Strategy) contributes to a more transparent implementation of government debt management policy and allows for the more flexible functioning of Ministry of Finance (hereinafter Ministry) on the financial market whilst actively ensuring the financial requirements of the central government and achieving the set medium-term strategic targets of state debt and state financial assets management policy.

The Strategy comes from and is consistent with the Draft Bill on the Czech Republic's State Budget for the year 2007, the Medium-term Outlook of the Czech Republic's State Budget for the years 2007 to 2009, the Medium-term Expenditure Frameworks for the years 2008 and 2009, the internal Issuance Plan of the State Bonds for the years 2007 to 2009 and with the Czech Republic Convergence Programme.

The Strategy is presented by the Debt and Financial Assets Management Department (hereinafter Department).

## Introduction

Managing the liabilities and conceiving the medium-term strategies for funding the central government, focuses attention on those segments of the government financial balance sheet, whose management is the direct responsibility of the Minister of Finance and whose structure has a direct impact on the cash flows of the state budget due to the fluctuations in the economic and financial risk factors. The **State Debt** represents the main balance sheet item (25% GDP). Then there are the **liabilities that continue on from having to cover the expected liquidity needs of the Czech Consolidation Agency (CCA)** (0.6% GDP) and the **risky State Guarantees** (7.6% GDP), which are not actually a part of the state debt but on the expenditure side of the state budget represent the same financial and credit risks as the state debt portfolio structure and the CCA balance.

Beginning in the year 2005, on the basis of the approved Strategy for that year, the integrated management of the above mentioned three segments was introduced from the point of view of relations between costs and risks and from the point of view of planning financing and issuance initiatives. An isolated view no longer has an economic justification. In the first place the CCA activities will cease at the end of the year 2007 and on the basis of an agreement signed with the Ministry, this institution has, as of 2005, already ceased to operate on the capital bond market. As well as that the majority of state guarantees are now already a part of the government sector debt in accordance with Eurostat methodology and their coverage is a part of state budget expenditure and as such contributes to a higher state budget deficit and to the growth of the state debt.

## 1 Medium Term Government Borrowing Requirements

### Outlook of the Government Gross Borrowing Requirements

The sources of the government gross borrowing requirements in the 2006 to 2009 outlook are made up in the first place, by the state budget deficits as well as the continually growing value of the redemptions of due state bonds, which will have to be covered by new issues on the domestic and foreign markets. Also, in the year 2007 the last extra-budgetary liquidity transfer to the CCA for the payment of its accumulated losses will take place in accordance with the Act on the State Bond Program no. 5/2005 Coll.

**Table 1: Outlook of the Government Gross Borrowing Requirements to the Year 2009 (CZK bn)**

	2005 Actual	2006		2007	2008	2009
		Plan	Expectation*			
<b>State budget deficit without CCA</b>	<b>56.3</b>	<b>74.4</b>	<b>89.6</b>	<b>91.3</b>	<b>111.7</b>	<b>110.1</b>
Of						
Gross costs of the State debt**	25.3	33.8	32.2	40.4	44.2	49.5
which: Guarantees to the benefit of the CNB	5.0	0.0	18.2	0.0	0.0	0.0
<b>Planned funds for the CCA</b>	<b>30.0</b>	<b>20.0</b>	<b>20.0</b>	<b>13.3</b>	<b>0.0</b>	<b>0.0</b>
<b>Redemptions on state debt</b>	<b>22.0</b>	<b>58.0</b>	<b>58.0</b>	<b>44.8</b>	<b>94.3</b>	<b>100.2</b>
Special pension account	8.3	3.0	6.6	10.0	0.0	0.0
Other financial assets deposit accounts	-0.3	0.0	0.0	-0.2	0.0	0.0
Creation (+) /drawing (-) of funding reserves	4.0	0.0	-7.4	0.0	0.0	0.0
<b>Total gross borrowing requirement (without revolving T-Bills)</b>	<b>120.3</b>	<b>155.4</b>	<b>166.8</b>	<b>159.2</b>	<b>206.0</b>	<b>210.3</b>
<b>% HDP</b>	<b>4.0</b>	<b>4.9</b>	<b>5.2</b>	<b>4.6</b>	<b>5.5</b>	<b>5.2</b>
Change of T-Bills outstanding	-31.3	-25.0	-4.0	-20.0	0.0	0.0
<b>Total gross borrowing requirement incl. change of T-Bills outstanding</b>	<b>151.6</b>	<b>180.4</b>	<b>170.8</b>	<b>179.2</b>	<b>206.0</b>	<b>210.3</b>
<b>% HDP</b>	<b>5.1</b>	<b>5.6</b>	<b>5.3</b>	<b>5.2</b>	<b>5.5</b>	<b>5.2</b>

Note: \*Expected end year; \*\*Without budgeted debt service fees.

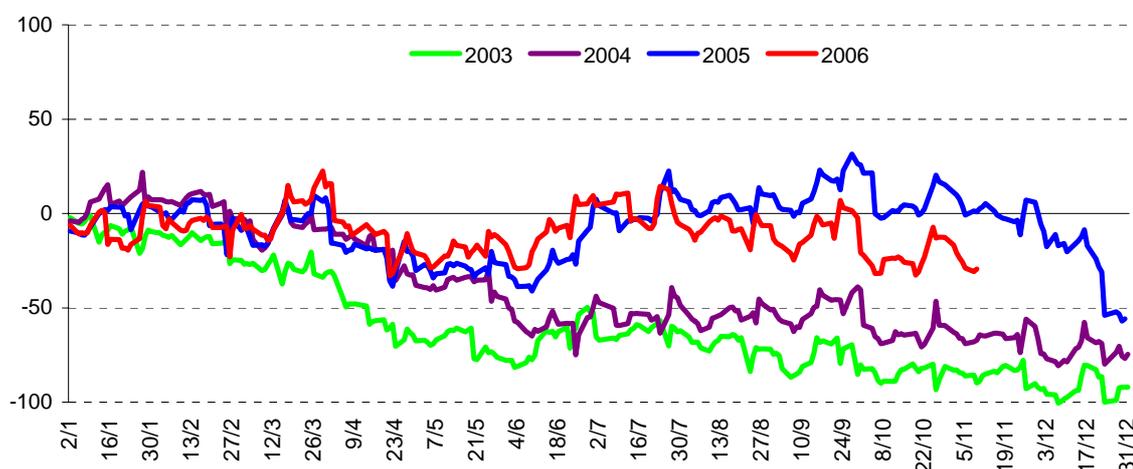
Source: MF CR, CCA.

The central government's annual gross borrowing requirements (without revolving and decreasing the value of T-Bills outstanding) for the period 2007 to 2009 are stabilised at a relative level between 4 to 6% of the GDP. Its coverage, particularly by issuance activities on the domestic and foreign markets and also the drawing down of government loans from the

European Investment Bank (EIB) should not, therefore, represent any serious risk to the realisation of the government's fiscal and budgetary policies or even to the financial stability of the domestic economy.

State budget management (without taking into account guarantee to the benefit of the CNB) is bringing to fruition the government's planned borrowing requirements from December 2005 and thus there is no decrease in it as there was in the year 2005.

**Figure 1: Daily Position of the State Budget in the Years 2003 to 2006 (CZK bn)**



Note: Without payments into the CCA. Source: MF CR.

### Additional Government's Borrowing Requirement in the Year 2006

There was an increase of **CZK 18.8 bn** in the government's gross borrowing requirement during 2006 as opposed to the previously planned amount of CZK 155.4 bn on the 1<sup>st</sup> December 2005. This increase is caused not only by a decision by the Minister of Finance on the early repayment of certain liabilities due to the central bank but also the higher than expected positive difference between the income and expenditure on pension insurance for the year 2005.

A State Guarantee for the consolidation and stabilisation of the banking sector in the amount of CZK 22.5 bn and a due date not later than in the year 2007, was given to the CNB in the year 1997 on the basis of Government Resolution no. 51/1997. Part of this liability was paid within due and proper budgetary expenditures for the realization of risky state guarantees, specifically CZK 0.5 bn in the year 2004, CZK 5.0 bn in the year 2005 and CZK 3.0 bn by the end of this year. The residual value of the liability in the amount of **CZK 14.0 bn**, will also be paid by the end of 2006, on the basis of a decision by the Minister of Finance, with the consequential impact on the state budget balance and a growth in nett borrowing and financing requirements. These will be covered by a state bond issuance in accordance with Act no. 547/2005 Coll., on the State Bond Program for the payment of liabilities from State Guarantees for the consolidation and stabilisation of the banking sector and the financial impacts from the division of the Czech and Slovak Federative Republic's assets. Also on the basis of this Act and in accordance with Government Resolution no. 62/2000 Coll., the liability to the CNB from the not yet settled compensation for the assignment of the Slovak National Bank's debts, which was not a subject of the state guarantee provided in 1997, will be paid in the amount of **CZK 1.2 bn**. The payment of these liabilities to the central bank will increase the state debt but will not influence the overall government sector debt because it has already been included there in the past, on the basis of the Eurostat methodology used.

Another source of additional government gross borrowing requirement in 2006 is the transfer of the positive difference between the income from insurance revenues and the expenditure on pension insurance in the year 2005 on the special account for pension insurance in the state financial assets, which according to the State Final Account for the year 2005 is about CZK 6.6

bn, whilst the previously planned reserve was only about CZK 3.0 bn. The growth in borrowing requirement on account of this is **CZK 3.6 bn**.

## Liquidity Needs of the Czech Consolidation Agency

From the beginning of 2005, an important element in the planning the Ministry's issuance activities has also been the anticipated requirements of new sources arising from the expected outlook of the liquidity needs of the CCA. The outlook of these financing requirements is regularly up-dated at joint meetings between the Ministry and the CCA. Until the 31.12.2007, when the CCA ceases to exist without liquidation, these sources are secured by the Ministry through the issue of state bond pursuant to a special State Bond Program for the payment of a portion of CCA losses (Act no. 5/2005 Coll.) up to an amount of CZK 63.3 bn. The legal available residual limit for the year 2007 is CZK 13.3 bn and is part of the total planned government requirements for next year and this ensures a sufficient reserve for the smooth settlement of the CCA's financial needs and the problem free transfer of its residual balance to the Ministry. However, this maximum limit does not necessarily need to be fully used up should the CCA's liquid needs during the year prove to be of a lesser value.

As far as the CCA's own movements on the domestic financial market are concerned, in the year 2007 it will not issue any of its own mid-term or long-term bonds as it did not already in 2005 and 2006. Nevertheless, it may finance additional short-term liquid requirements through the money market by the issue of short-term bonds and inter-bank market loans.

## 2 Financing Requirement in the Year 2007

In the year 2007, the total planned government's gross borrowing requirement without the revolving of T-Bills will be about **CZK 159.2 bn**.

**Table 2: Government's Gross Borrowing Requirement in the year 2007 (CZK bn)**

Expenditure by the state budget	1 040.8
Receipts to the state budget	-949.5
<b>State budget deficit without the CCA</b>	<b>91.3</b>
Planned new sources of covering the CCA liquid needs	13.3
<b>Government's net financing requirement incl. the CCA</b>	<b>104.6</b>
Redemptions on domestic medium and long-term T-Bonds	43.0
Maturing non-marketable debt (European Investment Bank)	1.8
<b>Government's gross financing requirement (excl. T-Bills revolving)</b>	<b>149.4</b>
Special pension account	10.0
Other financial assets deposit accounts	-0.2
Creation (+) /drawing (-) of funding reserves	0.0
<b>Government's gross borrowing requirement</b>	<b>159.2</b>

Source: MF CR, CCA.

This amount is made up of the planned state budget deficit in the amount of **CZK 91.3 bn**, the planned maximum resources for the CCA in the amount of **CZK 13.3 bn**, the creation of reserves for the eventual transfer of the positive difference between the income from insurance revenues and the expenditures on pension insurance for the year 2006 in the special pension insurance account in the state financial assets pursuant to Article 36 para.3 of Act no. 218/2000 Coll., in the amount of **CZK 10.0 bn** and the refinancing of due, medium and long-term state bonds, in the amount of **CZK 43.0 bn** and the repayment of loans from the European Investment Bank in the amount of **CZK 1.8 bn**. At the same time, a portion of government's net financing requirement in the amount **CZK 0.2 bn**, will be covered by the reduction in the balance of the state financial assets accounts.

The central government's borrowing requirement may also be influenced by the additional needs of the extra-budgetary state funds, the development of the public health insurance system, the results of international arbitrations and the fulfilment of other explicit and implicit conditional liabilities. As in the past, the Ministry is not expecting to face any more significant payments due to the realization of guarantee on behalf of IPB, to the CNB, the state of which at the end of 2006 is CZK 157.5 bn and whose date of final payment is in the year 2016. Also, on the basis of

the results of communications with representatives of the CNB, the Ministry does not expect any operations for the purpose of resolving the CNB's accumulated accounting losses.

### 3 Annual Financing Programme

#### Accomplishing the 2006 Financing Programme

Accomplishing the planned financing programme for the year 2006 is being significantly influenced, especially by the growth in the government's gross borrowing requirement of approximately CZK 18.8 bn and the Minister of Finance's decision not to implement a public benchmark issue on the foreign market. The majority of government requirements therefore, had to be secured through the domestic bond market.

On the foreign market in 2006, only one private placement to a Japanese institutional investor was undertaken, which covered less than 10% of the gross government financing requirements. A result of this will probably be the slight overstepping of the published maximum value of CZK 150 bn for the gross issue of medium and long-term state bonds on the domestic market in the year 2006.

**Table 3: Financing Programme Performance in 2006 (CZK bn)**

	Plan at 1.12.2005	Expectation at 30.11.2006
<b>Government's gross borrowing requirement (excl. T-Bills revolving)</b>	<b>155.4</b>	<b>166.8</b>
<b>State debt growth</b>	<b>97.4</b>	<b>108.6</b>
<b>Long-term loans from the international institutions</b>	<b>9.2</b>	<b>7.2</b>
<b>Gross T-Bonds issues</b>	<b>150.0 to 171.2</b>	<b>163.6</b>
Domestic capital market	72.3 to 150.0	157.3
International capital market	0.0 to 77.7	6.3
<b>Net change of T-Bills</b>	<b>-3.8 to -25.00</b>	<b>-4.0</b>

Note: The growth in the government's gross borrowing requirement of CZK 18.8 bn is, in the meantime, planned to be covered in the year 2006, partially by the lowering of reserves from previous years by CZK 7.4 bn; therefore the gross borrowing requirement is shown in the table as an amount of CZK 166.8 bn and not an amount of CZK 174.2 bn.  
Source: MF CR.

#### Financing Programme for the Year 2007

The planned financing programme for the year 2007 arises from the planned government's gross borrowing requirement in the amount of CZK 159.2 bn, which will be covered in the window of opportunity of the successive absolute and relative limits that determine the Ministry's possibilities when using particular and available borrowing instruments on the domestic and foreign markets.

**The portion of financing on the foreign capital market will be limited to a maximum of 50% of the total annual gross government financing requirements without the planned net changes to the T-Bills in circulation and without their revolving.**

In 2007, the Ministry will also analyse the actual development of the conditions of funding on the domestic and foreign markets and operate in a flexible manner within the given relative limit which remains the same as for the year 2006 and restricts the above mentioned foreign issuance activity. Due to the fact that in 2006, no public benchmark issue of Eurobonds, following up on the successful operations of the years 2004 and 2005, was implemented, the Ministry will once again target these strategic operations and the strengthening of the Czech Republic's position on the Eurozone market when looking at foreign financing in the year 2007. Depending upon the approval and implementation of this type of borrowing instrument this year, an additional possibility may also be the realisation of cost effective private placements with selected strategic investors. From the point of view of currency composition, foreign operations are not restricted by any explicit targets though should respect a cautious approach to currency risk management and potential national economic impacts.

**Financial requirements in the amount of CZK 6.4 bn will be ensured by CZK long-term loans drawn from the European Investment Bank.**

Taking up these loans that are exclusively intended for infrastructure programs, is conditional upon the passing of the relevant laws by the Czech Parliament. The drawing down from the loans and their use as part of the expenditure by the actually relevant Ministries in the state budget is explicitly contained, as in previous years, in the Draft State Budget for 2007. The negotiation, management and administration of these loans is, from the middle of this year, 2006, in the hands of the Debt and Financial Assets Management Department.

According to the laws on loans that have already been passed, it concerns the projects: the Development of the materially technical base of the Masaryk University in Brno in the amount of approximately CZK 930.4 mil (EUR 33 mil), Flood Prevention I in the amount of approx. CZK 129.7 mil CZK (EUR 4.6 mil), Czech Motorway B in the amount of approx. CZK 1,071.4 mil (EUR 38 mil), the construction of the D8 Motorway, the Trmice-state border ČR/Germany section in the amount of CZK 140 mil, City Circle Roadway around Prague, the south-western section in the amount of approx. CZK 3,073.3 mil (EUR 109 mil) and the construction and renovation of the infrastructure for water supply and sewerage in the amount of CZK 700 mil. The Act on the Loan for the Flood Prevention II project in the amount of CZK 9,000 mil, from which CZK 1,000 mil is due to be drawn in the year 2007, is presently in the approval phase before the Parliament of the Czech Republic.

By the end of the year 2006 the portion of the non-tradable state debt will exceed the 4.6% mark and by the end of 2007 it is possible to expect that it will be approaching the 5% mark. This is a supplementary financing instrument, whose further use in the medium-term horizon should not clash with the Ministry's own issues and borrowing strategies on the domestic and foreign markets. In the meantime, the government's current plans show that up to the end of 2009 the non-tradable share of instruments in the debt portfolio will not exceed the 10% mark.

**The amount of issued CZK medium and long-term bonds on the domestic market shall not exceed the value of CZK 153 bn.**

The above mentioned maximum value will be realised in the event that in the year 2007, the Ministry, the same as in the year 2006, does not step into the public foreign capital market. This situation would occur in the event of an extraordinarily beneficial development on the domestic market and a significant surplus of demand over supply of CZK state bonds during the year. The final annual issued value will depend in particular on the final resources acquired on the foreign market. In the case of the lower than maximum allowed volume of foreign issues, the volume will be increased in the equivalent amount, of issued domestic medium and long-term state bonds or possibly the planned changes to T-Bills in circulation will be adjusted.

The issue of medium and long-term state bonds and their subsequent re-opening on the domestic market will still continue in the maturities of 3, 5, 10, 15 and 30 years. These will be fixed rate instruments. The Ministry will continue in the creation of a limited number of tradable liquid benchmark issues in such a way that their equivalent in the future domestic currency, the euro remains at the level of about EUR 1 to 3 bn.

During the year 2007, the Ministry will introduce a total of three new benchmark issues with maturity dates of the years **2012**, **2017** and **2022**, onto the domestic market. At the same time the re-opening of existing issues due in the years 2009, 2010, 2015 a 2020 will take place. On the 29<sup>th</sup> November 2006, the Ministry implemented a historic first auction of CZK bonds with a thirty year maturity in the year **2036**. This issue will not be filed into the regularly published quarterly issuance calendars but its further possible re-opening during the year 2007 will consequently depend, simply on the will of the Ministry to satisfy the indicated demand of domestic and foreign investors in this segment of the yields curve, whilst the issuance plans will be set up so that the Ministry can react flexibly to this revealed demand.

**In the year 2007 the Ministry will manage the volume of T-Bills, when financing the government's long-term needs so that throughout the year, the short-term state debt is maintained at under the limit of 20%.**

The projection of the structure of the debt portfolio at the end of 2007, shows that maintaining the limit of the short-term state debt due within 12 months, will require the T-Bills portion to be under the 10% mark of the debt portfolio, contrary to the end of the year 2006, which would mean the stabilisation at or the decline of the T-Bills to CZK 30 bn. The management of T-Bills in circulation will depend, first of all, on the actual economic state of the state budget and on the success of the Ministry in its issuance of capital state bonds on the domestic and foreign markets. Also, in 2007, the T-Bills will be issued in standardised maturities of 3, 6, 9 and 12 months.

The following programme for financing the government's requirements in the year 2007 is defined on the basis of the structure and scope of the stated limits. It determines the planned structure of the debt portfolio and thus unilaterally stipulates the limits for the management of the state debt.

**Table 4: Financing Programme for the Year 2007 (CZK bn)**

<b>Government's gross borrowing requirement (excl. T-Bills revolving)</b>	<b>159.2</b>
<b>Long-term loans from the international institutions</b>	<b>6.4</b>
European Investment Bank	6.4
Other	0.0
<b>Gross T-Bonds issues</b>	<b>152.8 až 182.8</b>
Domestic capital market	72.8 až 152.8
International capital market	0.0 až 80.0
<b>Net change of T-Bills</b>	<b>0.0 až -30.0</b>

Source: MF CR.

## **4 Strategic Targets and Financial Portfolio Management**

The public definition of the strategic, or rather benchmark, portfolio of government liabilities and financial assets through the announcement of strategic targets is the main tool in raising the transparency of the Ministry's debt management policy. The targets are set out on the basis of requirements that come from a cautious approach to the management of financial and credit risks at the same time as minimising the economic debt costs in the long-term horizon.

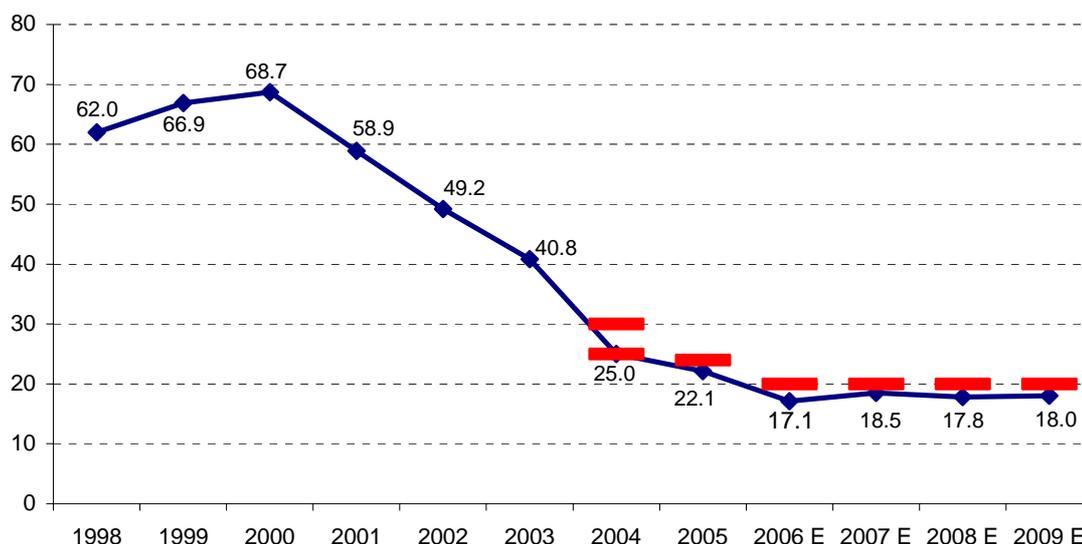
The strategic targets for the state debt portfolio for the year 2007 have also been formally announced. Nevertheless, even in the future, the accomplishment of these quantitative criteria will be assessed in their relation to the risky state guarantees and state financial assets. As in the years 2005 and 2006, the practical management of debt portfolio in the year 2007 will also be undertaken in such a way that should it come to pass that the actual structure of the risky state guarantees portfolio and on top of that the state financial assets portfolio begin to significantly deviate from the monitored criteria on an integrated basis, in an undesirable manner away from the announced targets, the Ministry may use its available instruments, especially its issuance activity and financial derivatives, to turn these trends around and ensure the stabilisation of the criteria in the direction of the acceptable levels.

### **Refinancing Risk Management**

The stabilisation of the refinancing risks is the blazon point in the concept of the Ministry's issuance strategy. The key indicator, which in this connection the Ministry has been targeting since the beginning of 2004 is the **portion of the short-term state debt** (i.e. debt payable within one year of the total debt). In the first half of the year 2004, the Ministry, in conjunction with a decision by the Minister of Finance to introduce regular issuance activities on the foreign market, announced a gradual three year trajectory for the reduction of this indicator in this manner: 2004 – 25.0 to 30.0%, 2005 – 22.5 to 27.5%, 2006 – 20.0 to 25.0%. The successful introduction of foreign funding in June 2004 allowed for the redefinition of the strategy in the

direction to the further speeding up of this reduction program. By the end of the year 2004, the value, exactly at the level of the lower limit of the announced corridor, 25.0%, was achieved. The target of 24% or less was also achieved in the year 2005, when by the end of the year, this indicator reached 22.1%. It was already during the first quarter of 2006 that the breakthrough of the planned final and long-term targeted limit of 20% and less was achieved so that by the end of the year it is possible to expect a value of around 17%. Thus, at the beginning of the year 2007, the **20%** limit definitely becomes the fundamental limit for the Ministry's issuance activities and the management of the financial risks of the Czech debt portfolio.

**Figure 2: Short-term State Debt Development and Targets 1998 to 2009 (% of the total debt)**

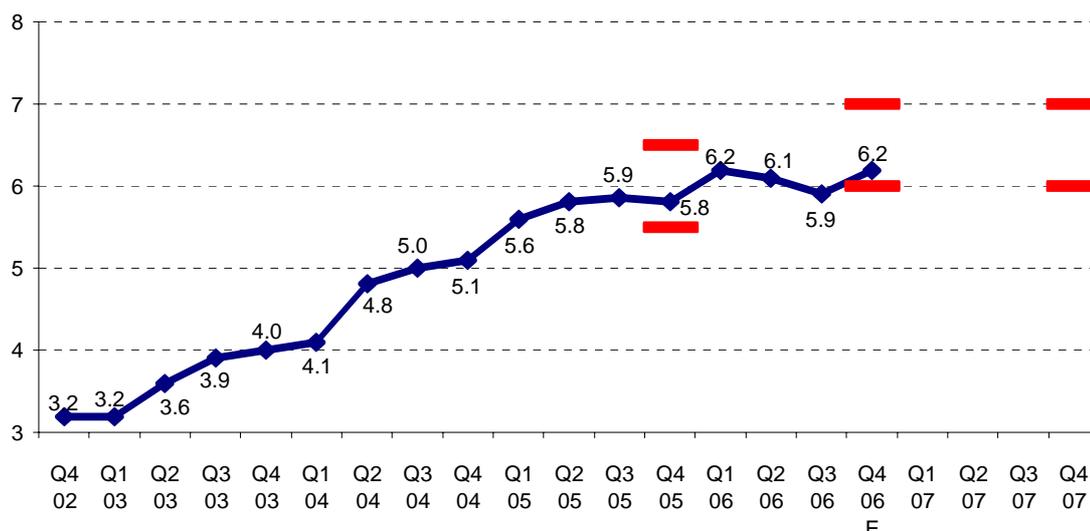


Source: MF CR.

Another indicator that is used in refinancing risk management is the **average time to maturity of the state debt**. For the first time for this indicator, the Ministry announced a specific target for the year 2005 of the level of 5.5 to 6.5 years, which was satisfied and the average maturity reached 5.8 years. This target range was shifted upwards by 0.5 years for the year 2006, to 6.0 to 7.0 years. Because of the increase in borrowing requirements and the non-implementation of a Eurobond issue at the long end of the yield curve, this target shows itself to be relatively ambitious and being able to secure it, in the main through issuance activities on the domestic market, meets with a limited absorption capacity. The decision by the Minister of Finance on the opening of a historically first issue of CZK bonds with a maturity of 30 years was apart from other things, also motivated by the effort to satisfy the announced target, at least at the level of the lower limit of the range.

For the end of the year 2007, the Ministry is leaving the target for the average time to maturity of the state debt at the level of **6.0 to 7.0 years**. The achievement of this target will also be determined by the time and volume structure of issues of state bonds on the domestic and foreign markets and the set-up of redemption profiles for the drawn loans from the EIB. The implicit prerequisite for the problem free fulfilment of this target range is the implementation of a public benchmark issue on the foreign market in the year 2007 in maturity segments of 10 year and more.

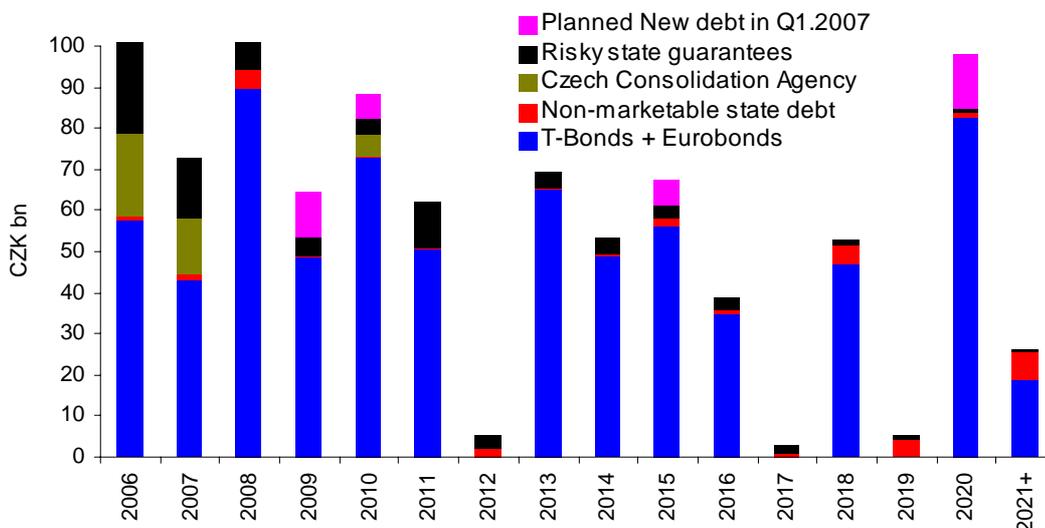
**Figure 3: Average Time to Maturity of the State Debt and Annual Targets (years)**



Source: MF CR.

New issues of state bonds, the same as drawing long-term loans from the EIB will continue to be managed in compliance with the fulfilment of the key targets in mind, in the manner of the **stabilisation and smoothing of the redemption profile of state liabilities in a time period**, which from the year 2005, has been monitored and planned on an integrated basis.

**Figure 4: Expected Redemption Profile of Explicit State Liabilities at the end of 2006**



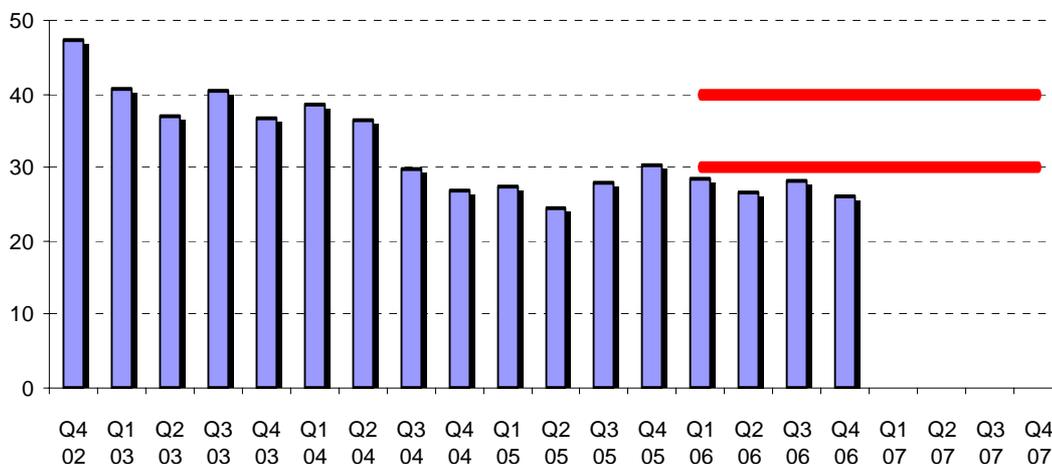
Note: Without including T-Bills in circulation. Source: MF CR, CCA, Czech-Moravian Guarantee and Development Bank.

## Interest Rate Risk Management

Interest rate risk remains the most important market risk in the management of the state debt. A change in the area of announcing the strategic targets for this sphere of state debt management took place at the beginning of 2006. The new explicit target became the **interest rate re-fixing for the 12 month debt portfolio**, which is not sensitive to the interest rate fluctuations on the financial market. The medium-term target band of 30 to 40% was determined for the year 2006. The main reason that the Ministry did not achieve this range during the year was the decision by the Minister of Finance not to implement a public benchmark issue of eurobond, the hedging of whose currency risk would otherwise have taken place as it did in 2005, in that, its CZK equivalent of the principal was left on a floating leg of hedging swap

operations and it would thus be exposed to the fluctuations of the rates of the CZK inter-bank market. At the same time, it was decided that in the year 2006 there would be no further synthetic derivative operations which would increase the interest rate exposure even in the absence of the Eurobond issue and this parameter was left under the lower limit of the target range.

**Figure 5: Interest Rate Re-fixing up to 1 year and Medium Term Target Band (% of total debt)**



Note: Including the quantification of the impact from derivatives operations. Source: MF CR.

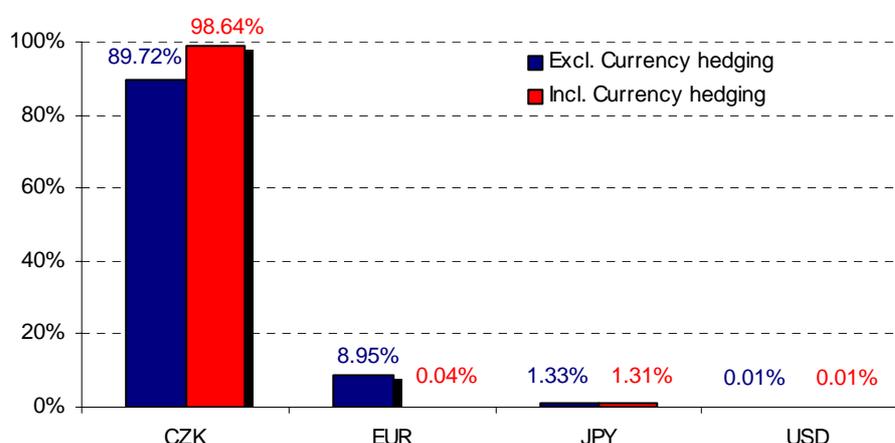
Due to the fact that the macro-financial model simulation still continues to indicate a positive trade-off for the medium-term horizon in the relationship between costs versus risks, the Ministry is also leaving valid for 2007, the target, of the exposure of the 12 months debt portfolio to interest rate fluctuations, including derivative operations, in the form of a range between **30% to 40%**.

The Ministry will acquaint the public with the relevant model frameworks that are indicating the effect of the higher share of interest rate exposure in the case of the Czech open economy during the year 2007.

## Currency Risk Management

Even at the end of 2006, the State Debt is not exposed to any relevant risks arising from exchange rate fluctuations. The growth in currency exposure after hedging, through financial derivatives above 1% of the debt portfolio, was caused by the private placement with a Japanese investor, where only coupon payments and not currency hedging the principal, was carried out.

**Figure 6: Currency Exposure of the State Debt Portfolio at the end of 2006 (%)**



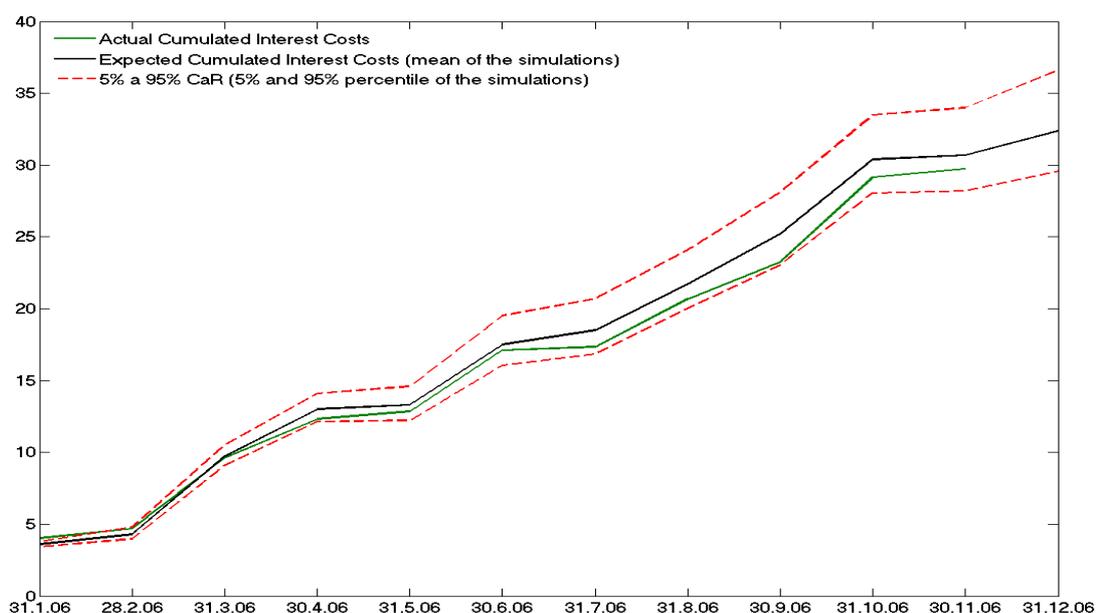
Note: Currency hedging of the principal of debt instruments. Source: MF CR.

The Ministry is not even announcing any specific quantitative targets in the area of the currency structure of the state debt for the year 2007.

## 5 Cost-at-Risk of the State Debt for the year 2007

The model CaR (Cost-at-Risk), of interest costs and its most important output in the form of expected interest costs and interest costs at risk (95% CaR), was first set out in Czech conditions, in the Strategy for the year 2006. The comparison between the actual development of interest costs and the development of the simulated model of CaR from January to November 2006 is shown in figure 7.

**Figure 7: Actual versus Expected Cumulated Interest Costs in 2006 (CZK bn)**

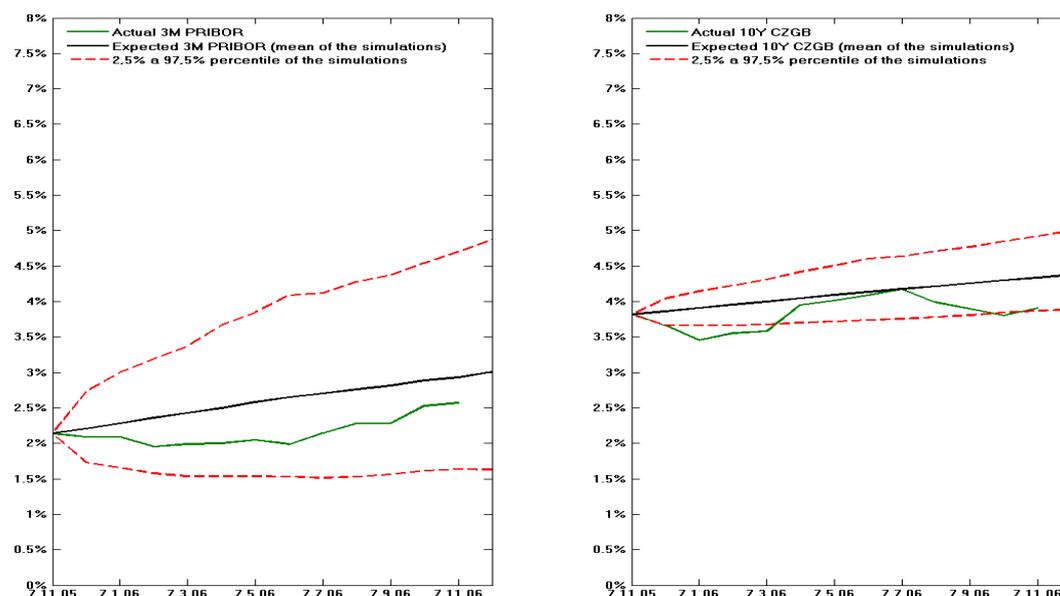


Note: Interest costs are calculated on the cash principle relevant for the methodology for the state budget.  
Source: Own calculations.

It is obvious from Figure 7 that a 90% confidence interval, i.e. 5% and 95% CaR (5% and 95% percentile of simulations) of cumulated interest costs covers the actually cumulated interest costs. The expected cumulated interest costs are slightly overvalued which is caused by two main factors.

The first factor is the difference in the planned and realized state bonds issuance calendar (lower volume of issued T-Bills and a different timetable for medium and long-term state bonds issuance on domestic and foreign market) and also less drawing on loans from the EIB. The second factor is the slower growth of interest rates than that which is shown by the CIR model, which was used for the simulations of the yield curve. The actual development of the yield curve together with the expected value (average of the simulations) and a 95% confidence interval (2.5% and 97.5% percentile of simulations) for PRIBOR 3 month and 10 year state bond is shown in Figure 8.

**Figure 8: Actual versus Simulated Development of Interest Rates in 2006**



Source: Bloomberg L.P., own calculations.

The yield curve is the stochastic element of the CaR model. The development of the state debt portfolio in the CaR model is, in the meantime, deterministic and springs from the planned state bonds issuance calendar, including foreign issues, planned drawings from EIB loans and from other financial operations. The model further assumes that the interest payments of the possible foreign issues will be hedged against exchange rate fluctuations through swap operations. All the stated values of costs, come to, without budgeted fees, the amount of CZK 300 mil.

**Table 5: Basic Model Scenario of the State Debt Structure Development in 2007 (CZK bn)**

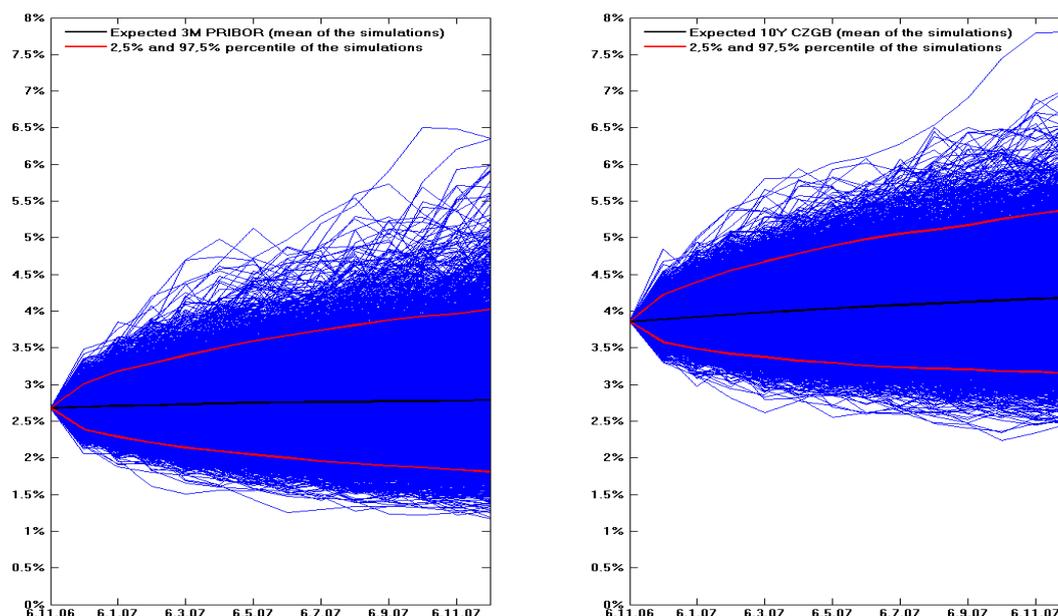
As at	T-Bonds + Eurobonds	T-Bills	Non-marketable	Total
31.10. 2006	621.8	75.2	37.4	734.4
31.12. 2007	800.8	69.0	44.5	914.2

Source: MF CR.

For the simulations of interest rates the CIR model was originally used in the year 2006. This can be described as a classic in the area of modelling interest rates. Nevertheless, in the event that it is used in interest rate risk management, the CIR model has a whole range of shortcomings. From the point of view of state debt management, it is possible to consider that the greatest shortcoming is the undervaluation of the volatility of the interest rates at the long end of the yield curve as is shown in Figure 8 in the case of the simulated yield of a ten year state bond.

That is why, for the calculation of CaR for the year 2007, a model of interest rates, which according to a simulation experiment shows better properties than the CIR model was prepared within the Department's quantitative research programme. The model is established on the modelling of the principal components of the yields curve with the use of non-linear stochastic differential equations (the equation of the drift in the CIR model is linear). The technical estimation of the parameters of the model come from the Yacine Ait-Sahalia's article „Testing Continuous-Time Models of the Spot Interest Rate, *The Review of Financial Studies*, 1996, Vol. 9, No. 2", pp. 385-426. The parameters of the model are estimated from monthly comparisons of the Czech yields curve since January 2000. For each of the required maturities, there are 5000 simulations of the interest rate for the next fourteen months, carried out. The model shows the property, „mean reversion", from which, for the present value of interest rates means that their expected values are growing. The simulations of interest rates of the 3M PRIBOR and 10 yearly state bonds are noted in Figure 9.

**Figure 9: Simulations of the Development of Interest Rates in the Czech Republic in 2007**



Source: Bloomberg L.P., own calculations.

The simulations of interest rates are the crucial input for the calculation of interest costs of the floating part of the state debt portfolio: new issues of T-Bills and T-Bonds, capital profits or rather losses of re-opened bonds, loans from the EIB and the floating legs of derivatives. The simulations of interest rates thus provide the simulations of interest costs of the state debt portfolio. The average of the interest costs simulations is the estimated expected value of interest costs and p% percentile of simulations of interest costs is the estimated p% percentile of the probability distribution of interest costs. The value of 95% percentile of simulations alleges a 95% CaR, therefore the amount of interest costs that with a 95% probability will not be exceeded.

Table 6 shows the development of the expected cumulated interest costs and 95% CaR for the year 2007. The graph form of table 6 is represented in Figure 10 on the following page.

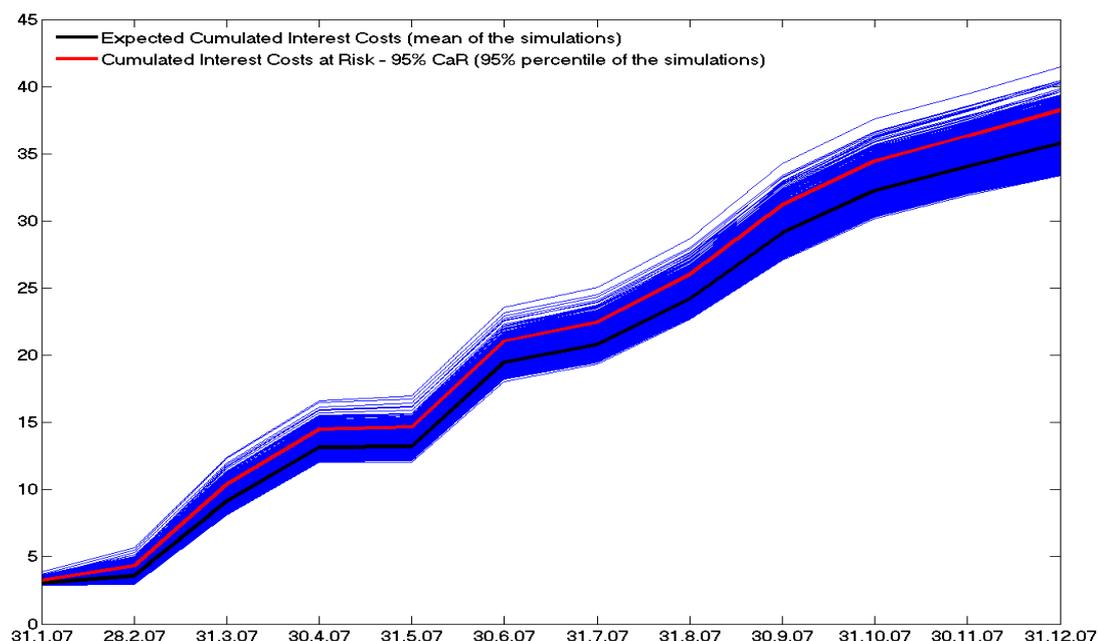
**Table 6: Monthly Cumulative Interest Costs of the State Debt in 2007 (CZK bn)**

Months of year 2007	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.
Expected costs	3,03	3,59	9,13	13,16	13,22	19,49	20,78	24,21	29,09	32,27	34,04	35,73
95% Cost-at-Risk	3,28	4,33	10,39	14,49	14,66	21,06	22,44	26,01	31,19	34,47	36,33	38,24

Source: MF CR, own calculations.

The expected interest costs for the state debt portfolio for the year 2007 are **CZK 35.7 bn**. Costs at risk – 95% CaR is **CZK 38.2 bn**.

Figure 10: Simulations of Cumulated Interest Costs in 2007 (CZK bn)



Note: Interest costs are calculated on the cash principle relevant for the methodology for the state budget.  
Source: Own calculations.

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This publication was prepared on the basis of information available at the 30 November 2006. The Ministry of Finance reserves the right during the year 2007 to react in a flexible manner with the assistance of its instruments to the actual development of the government's financial requirements in the area of the state budget, extra budgetary Funds, and health insurance, coverage of the liquidity needs of the CCA and the settlement of risky state guarantees. Fulfilling the planned financing programme and announced medium-term strategic targets will depend, in the main, on the development of the situation on the domestic and foreign financial markets from the point of view of the minimisation of economic debt costs and financial risk management.

This publication is also available on the website:

**[www.mfcr.cz/statedebt](http://www.mfcr.cz/statedebt)**

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