



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


# **Funding and Debt Management Strategy for 2010**

**3rd December 2009**

## **Contents**

Medium-Term Borrowing Requirements	3
Annual Funding Programme 2010	4
Strategic Targets and Portfolio Management	6





On 30 November 2009 the Minister of Finance decided on the structure and financing of the central government's gross borrowing requirement in the 2010 budget year and approved the basic absolute and relative limits for issues on the domestic and foreign markets and for the active management of the debt portfolio in relation to other government liabilities and the financial assets (ref. no. 20/94139/2009). The defined operating framework in the form of this Funding and Debt Management Strategy for 2010 (the "Strategy") is now a traditional contribution to the transparent implementation of government debt management policy and enables the Ministry of Finance (the "Ministry") to operate flexibly on the domestic and foreign financial markets when actively securing funding to cover the central government's borrowing requirement, which is a necessary condition for the smooth implementation of the government's budgetary and fiscal policy.

The Strategy is based on and is consistent with the draft act on the Czech Republic's state budget for 2010, the Medium-term Outlook of the Czech Republic's State Budget for 2011 and 2012, the Medium-term Expenditure Framework for 2011 and 2012, the internal Issuance Plan of Government Bonds for 2010 to 2012 and the Czech Republic's Convergence Programme.

The Strategy is presented by the Debt and Financial Assets Management Department (the "Department"), which is in charge of operations linked to state funding, managing the debt portfolio, liquidity management of the state treasury and investing cash funds of state financial assets.

## Introduction

Since Autumn 2008 the management of state debt was influenced by the global financial crisis. Demand for fixed-rate government bonds froze in September 2008. At that time the Ministry decided to introduce new debt instruments that market participants were interested in. Two floating rate notes with maturities of 8 and 3 years respectively were issued. Also a period of publication of the issuance calendars was changed from three months to one month. By the end of the 1<sup>st</sup> quarter of 2009 the situation was slowly coming back to normal and the Ministry started to issue fixed-rate instruments again.

The issuance of eurobonds was postponed till the end of April 2009, when spreads were substantially lower than at the beginning of 2009. In October 2009 the Ministry successfully issued bonds denominated in Swiss Francs. Foreign issues were very well accepted on the markets.

In managing liabilities and conceiving the medium-term strategy for the funding of the central government, attention is focused on those segments of the government's financial balance sheet whose management is the direct responsibility of the Minister of Finance and whose structure has a direct impact on state budget cash flow as a result of the permanent fluctuation of both economic and financial risk factors. The major financial item on the government balance sheet is the national debt, which accounts for roughly 90% of the total gross government sector's debt of the national economy and will exceed 35% of gross domestic product in 2009.

The funding of the national debt in 2010 will continue to be affected by the consequences of the global financial crisis. Taking into account certain easing of the situation on the markets in comparison with the same period of the last year we expect better predictability of demand for particular debt instruments. During 2010 the Ministry will react very flexibly to current developments in the demand for different types of government bonds and will adjust implementation of the funding programme accordingly.

Due to a certain stabilisation of the domestic government bonds market the Ministry has decided to re-adopt a quarterly period of publication of issuance calendars. In case of need the calendar will be updated for a following month period.

Ministry will also continue in its policy of diversification of funding sources. After a successful first ever domestic auction of EURO-denominated bonds made in September 2009 the Ministry considers a possibility of adding further domestic EURO-denominated bonds auctions into the ordinary issuance calendar. Also the issue of CZK-denominated bonds for retail investors is planned.

In the area of foreign issues, the Ministry plans to carry out at least one benchmark issue of Eurobonds in 2010. The Ministry will also analyse other alternatives of foreign financing in order to achieve optimal structure of funding sources under acceptable market conditions.

# 1 Medium –Term Government Borrowing Requirements

## Outlook for gross borrowing requirements

In the medium-term outlook, the government's gross borrowing requirements are determined by the planned state budget deficits and a growing value of principals of maturing government bonds, which will have to be refinanced by new issues on the domestic and foreign markets.

**Table 1: Outlook of Gross Government Borrowing Requirements until 2012 (CZK billions)**

	2008	2009		2010	2011	2012
	Actual	Planned	Expected	Planned	Planned	Planned
<b>State budget deficit</b>	<b>20.0</b>	<b>38.1</b>	<b>179.3</b>	<b>162.7</b>	<b>186.7</b>	<b>185.5</b>
Costs of national debt	37.7	42.9	47.1	57.9	71.9	84.5
Planned extra-budgetary financial need	0.0	0.0	5.3	0.0	0.0	0.0
Redemptions on State debt	76.8	89.0	87.3	84.1	103.2	111.1
Buy-backs and exchanges of government bonds	8.0	10.0	13.5	10.0	10.0	10.0
Addition to pension reserve	9.9	10.0	2.6	0.0	0.0	0.0
Other changes in financial assets accounts	0.5	1.3	2.3	3.2	0.8	1.3
Creation (+) / drawing (-) funding of reserves	65.8	0.0	-11.5	20.0	5.0	5.0
<b>Total gross borrowing requirement</b>	<b>181.0</b>	<b>148.4</b>	<b>278.8</b>	<b>280.0</b>	<b>305.7</b>	<b>312.9</b>
<b>% of GDP</b>	<b>4.9</b>	<b>4.1</b>	<b>7.7</b>	<b>7.7</b>	<b>8.0</b>	<b>7.8</b>
Net change in money market instruments						
Increase (-) / decrease (+)	+3.4	-25.0	-9.5	0.0	0.0	0.0
<b>Gross borrowing requirement, incl. net change in money market instruments</b>	<b>184.4</b>	<b>123.4</b>	<b>269.3</b>	<b>280.0</b>	<b>305.7</b>	<b>312.9</b>
<b>% of GDP</b>	<b>5.0</b>	<b>3.4</b>	<b>7.5</b>	<b>7.7</b>	<b>8.0</b>	<b>7.8</b>

NB: Starting in 2008, the cost of national debt is on a net basis, i.e. after including revenues from the investment of idle funds of the state treasury account on the money market; the gross borrowing requirement does not include money market instruments revolving within the budget year.

Source: Czech Statistical Office and Ministry of Finance of the Czech Republic

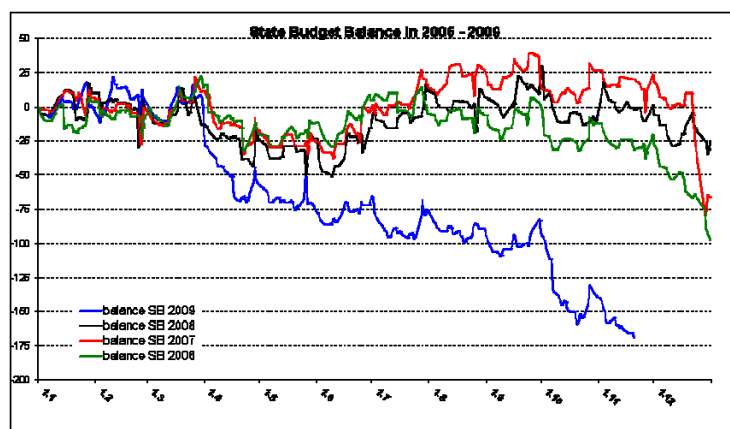
The central government's annual gross borrowing requirements, without revolving money market instruments in circulation, reached 4,9 % of GDP in 2008. It is expected to reach 7,7 % of GDP at the end of 2009. For years 2010 – 2012 planned levels are up to 8% of GDP in 2011.

Subject to market conditions the Ministry plans to implement buy-backs of government bonds before maturity and/or bond exchanges on the secondary market.

## Gross borrowing requirements of the Government in 2009

Due to unfavourable development of the state budget balance during 2009 the gross government borrowing requirements increased. In comparison with the originally approved budget deficit for 2009 the expected deficit shows an increase by CZK 141.2 billion at the end of 2009.

Figure 1: Daily Position of the State Budget in the years 2006 to 2009 (CZK billion)



Source: Ministry of Finance of the Czech Republic

As a result of the mentioned increase in the budget deficit the gross borrowing requirements will increase to the amount of 278.8 billion CZK, or 269.3 billion CZK including a planned change in the value of money market instruments in circulation.

## 2 Annual Funding Programme 2010

### Implementation of the Funding Programme in 2009

The basis for defining the funding programme for 2010 is the implementation of the funding programme in 2009. That is influenced primarily by the situation on the domestic and foreign financial markets and development of the state budget. After government bond markets froze in the last quarter of 2008 and credit and swap spreads soared, the bond markets started to calm down and spreads begun a steady fall at the end of the first quarter of 2009. Demand for bonds started to exceed supply on both domestic and international markets. Due to a stabilization of the situation on the market, the Ministry was able to satisfy increasing government financing needs smoothly.

Table 2: Implementation of the funding programme in 2009 (CZK billion)

	Planned as of 30.11.2008	Expected as of 3.12.2009
<b>Government's gross borrowing requirement</b>	<b>148.4</b>	<b>278.8</b>
<b>Increase in national debt</b>	<b>49.7</b>	<b>173.9</b>
<b>Direct loans from international financial institutions</b>	<b>15.8</b>	<b>11.9</b>
<b>Issues of medium-term and long-term government bonds<sup>1</sup></b>	<b>82.6 to 132.6</b>	<b>257.4</b>
Issues of medium-term and long-term bonds on the domestic market	40.0 to 125.0	202.2
Issues of medium-term and long-term bonds on the foreign market	0.0 to 74.2	55.2
<b>Net change in money market instruments</b>	<b>+50.0 to 0.0</b>	<b>9.5</b>

NB: <sup>1</sup>including direct sales on the secondary market

Source: Ministry of Finance of the Czech Republic

Almost 20% of the government's gross borrowing requirement was secured by issues on foreign capital markets. However the issues on the domestic market remain the main source of financing when amounting to more than 75 % of the government's gross borrowing requirement.

Final parameters of implementation of the funding programme will depend on the actual state budget results and developments on the domestic primary and secondary markets for government bonds.

## Gross borrowing requirement in 2010

The planned government gross borrowing requirement, without net change in and the revolving of money market instruments will be **CZK 280.0 billion** in 2010.

**Table 3: Government gross borrowing requirement in 2010 (CZK billions)**

State budget expenditure	1 184.9
State budget incomes	- 1 022.2
<b>State budget deficit</b>	<b>162.7</b>
Planned off-budget financial requirement	0.0
<b>Government's net financing requirement</b>	<b>162.7</b>
Redemptions on medium-term and long-term government bonds	83.0
Buy-backs and exchanges of government bonds	10.0
Instalments of non-tradable national debt	1.1
<b>Government's gross financing requirement</b>	<b>256.8</b>
Pension insurance special account	0.0
Other operations on state financial assets accounts	3.2
Addition to (+) / drawing of (-) financing reserve	20.0
<b>Government's gross borrowing requirement</b>	<b>280.0</b>

Source: Ministry of Finance of the Czech Republic

This amount comprises the planned state budget deficit of **CZK 162.7 billion**, the refinancing of mature medium-term and long-term government bonds which amount to **CZK 83.0 billion**; the refinancing of buy-backs of government bonds in 2010 to the value of **CZK 10.0 billion**; and **CZK 1.1 billion** in repayments on loans from the European Investment Bank. At the same time, the government's net borrowing requirement is increased by the planned rise of the state financial assets by **CZK 3.2 billion** and building of the financial reserve in the amount of **CZK 20.0 billion**.

As in the past, the Strategy does not envisage substantial payments due to the realisation of the non-standard guarantee for IPB in favour of the Czech National Bank: the guarantee amounted to CZK 157 billion as of the end of 2009 and its maximal maturity is in 2016.

## Funding programme for 2010

The funding programme for 2010 is based on the planned government gross borrowing requirement of CZK 280.0 billion and reflects current situation on the financial market. With regard to market development, the following absolute and relative issuance limits may be adjusted accordingly.

**Foreign market financing will account for at most 50% of the planned annual government gross borrowing requirement, free of the planned net change in money market instruments in circulation and the revolving of such during the budget year.**

In 2010 the Ministry will monitor the development of the financing conditions on both the domestic and foreign markets and will operate within the framework of the given relative limit, which remains the same as in 2006, 2007, 2008 and 2009. The ministry plans to carry out at least one benchmark issue of Eurobonds during 2010. The Ministry will also analyse other alternatives of financing on the foreign markets in order to achieve optimal diversification of the structure of funding sources under acceptable market conditions. While observing a prudent approach to currency risk management, foreign operations are not constrained by any explicit currency limits.

**CZK 12.7 billion of the borrowing requirement will be covered by long-term loans drawn from the European Investment Bank.**

Taking these loans intended solely for infrastructure projects is conditional on the relevant acts being passed by the Parliament of the Czech Republic. As in previous years, the drawdown of loans for the special-purpose financing of the respective ministries' expenditures in the state budget is explicitly included in the draft state budget for 2010.

**The amount of medium-term and long-term government bonds issued on the domestic market will not exceed CZK 292.3 billion.**

This maximum amount will be achieved if no public or non-public foreign issues are made during 2010. The Ministry will offer fixed-rate and possibly variable-rate government bonds in 2010. During the year new issues with maturities of 3, 5, 10 and 15 years could be launched.

After a successful domestic auction of EURO-denominated bonds in September 2009 the Ministry considers carrying out further EURO-denominated domestic auctions during 2010.

In 2010 we also expect a new issue of bonds for public. A retail channel for the sale of government bonds would thus be opened for the Ministry.

**In 2010, the Ministry will manage the volume of money market instruments when financing the government's long-term liabilities so that the share of short-term national debt (i.e. debt with a maturity of up to one year as a proportion of total debt) continues to be kept below the 20% limit during 2010.**

The funding programme envisages a zero net change of money market instruments in circulation in 2010. Government treasury bills with standardised maturities of 3, 6, 9 and 12 months will be issued in 2010. In case of need given by market development the Ministry may also introduce a 1-month maturity. Government treasury bills might also be sold on the secondary market from the Ministry's own portfolio through the Department's trading systems.

Based on the structure and scope of the set limits, the following programme for financing the government's gross borrowing requirement is defined for 2010. This programme determines the planned structure of the debt portfolio and thereby unequivocally determines the boundaries within which management of the national debt will operate.

**Table 4: Funding programme for 2010 (CZK billions)**

<b>Government's gross borrowing requirement</b>	<b>280.0</b>
<b>Direct loans from international financial institutions</b>	<b>12.7</b>
Loans from the European Investment Bank	12.7
Other	0.0
<b>Issues of medium-term and long-term government bonds<sup>1</sup></b>	<b>242.3 to 292.3</b>
Issues of medium-term and long-term government bonds on the domestic market	102.3 to 292.3
Issues of medium-term and long-term government bonds on the foreign market	0.0 to 140.0
<b>Net change in money market instruments in circulation</b>	<b>+25.0 to -25.0</b>

NB: <sup>1</sup> including direct sales on the secondary market

Source: Ministry of Finance of the Czech Republic

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

Publicly defining the strategic benchmark debt portfolio by declaring strategic targets is the principal means for enhancing the transparency of the Ministry's debt policy in line with international best practice. Targets are set on the basis of the requirements ensuing from a prudent approach to managing financial and credit risks, whilst minimising economic costs in the long-term horizon. Refinancing and interest rate risks are the main risks the debt portfolio is exposed to in the long term.

#### **Managing the refinancing risk**

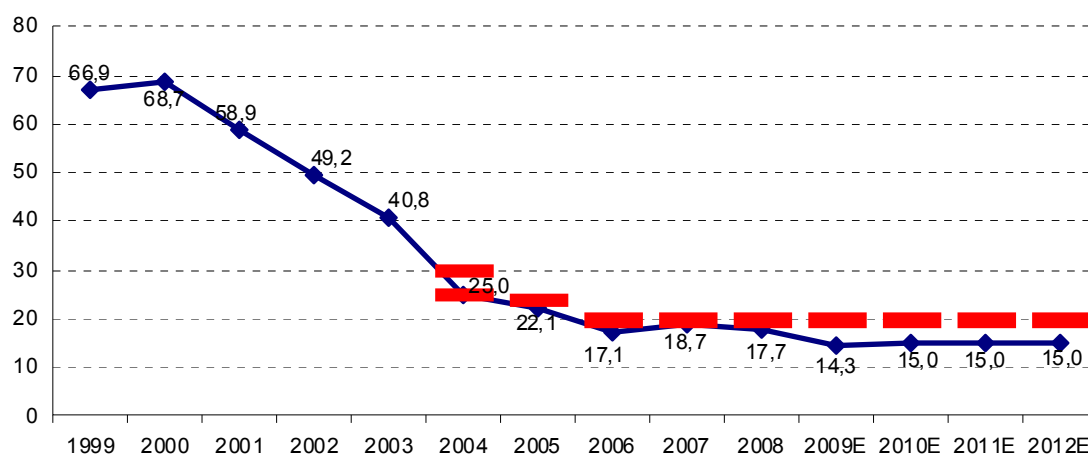
The stabilisation of refinancing risk forms the core of the Ministry's planning of issues. Since 2004, the **share of short-term national debt** (i.e. debt with a maturity of up to one year as a proportion of total debt) has been the key indicator that the Ministry targets in this context. In the first half of 2004 the Ministry, further to the minister's decision to commence regular issues on the foreign market, declared a gradual, three-year trajectory for reducing this indicator as follows: 2004 – 25.0% to 30.0%; 2005 – 22.5% to 27.5%; 2006 – 20.0% to 25.0%.



The successful launch of foreign financing in June 2004 made it possible to redefine the strategy for the further acceleration of this reduction programme. A value exactly at the lower limit of the declared corridor – 25% – was achieved as of the end of 2004. The goal of 24% and less was also achieved in 2005, with the indicator equalling 22.1% at year end. Then, in the first quarter of 2006, the planned final and long-term targeted limit of 20% had already been achieved. Since the first quarter of 2007 till the 3rd quarter of 2009 the share of short-term debt has been still below 20 %.

In line with the long-term strategy, in 2010 the ceiling of **20% of total debt** remains the fundamental limit for the Ministry's issuance activity and the management of the Czech debt portfolio's financial risks. At the end of 2009 this indicator is expected to be below 15 %.

**Figure 2: Development and targets of short-term national debt, 1998 to 2012 (% of total debt)**

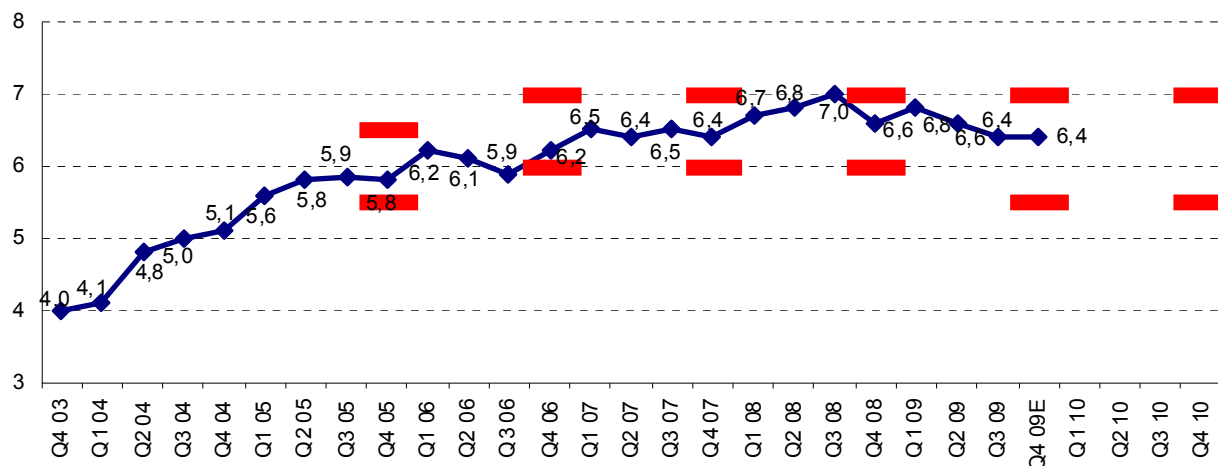


Source: Ministry of Finance of the Czech Republic

Another indicator used in managing refinancing risk is **the national debt's average time to maturity**. The Ministry first announced an explicit target for this indicator for 2005 – the target of 5.5 to 6.5 years was met, with an average maturity of 5.8 years. For 2006 the target bracket was shifted upwards by half a year to 6.0 to 7.0 years, and a value of 6.2 years was attained. The same bracket applied for 2007 and 2008. For the 2009 the Ministry was changing this target range to 5.5 to 7.0 years. The enlargement of the range with shift the under bound down for 0.5 related to uncertainty on the financial markets and difficult predicting of demand after particular types and maturities of government bonds.

For the end of 2010 the Ministry is keeping the target range for the average maturity of the national debt to **5.5 to 7.0 years**. Due to the current market sentiment and higher demand for shorter debt instruments the Ministry expects approaching trend to the lower limit. By the end of 2009 the indicator is expected to be around 6.4 years. Achieving this target determines the time and volume structure of government bond issues on the domestic and foreign market and the repayment calendars for the drawing of European Investment Bank loans.

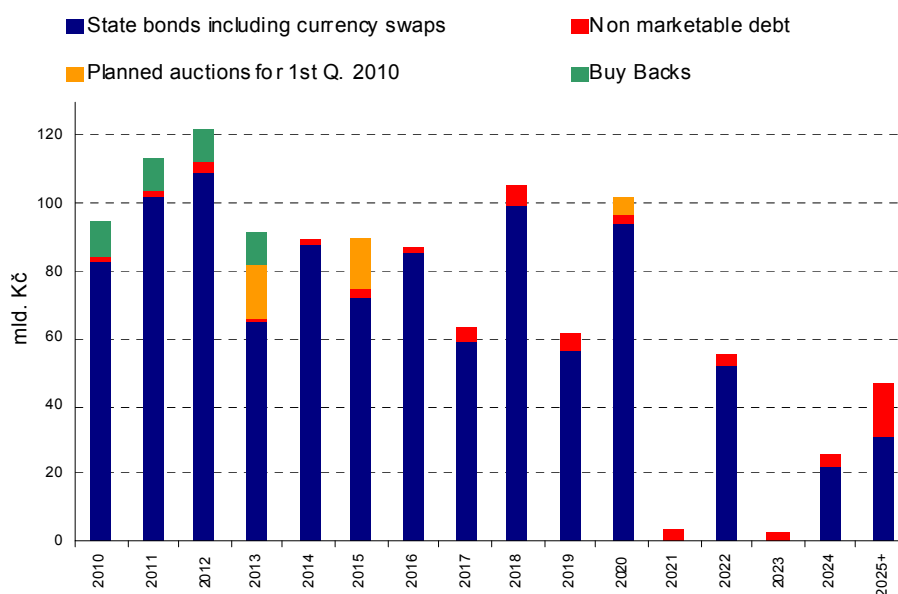
Figure 3: Average maturity of the national debt and target, 2003 to 2010 (number of years)



Source: Ministry of Finance of the Czech Republic

New issues of government bonds and the drawing of long-term EIB loans will continue to be managed in line with progress in achieving the key goal of **stabilising and smoothing the maturity profile of the national debt over time**, which has been pursued and planned on an integrated basis since 2005. The active management and fine-tuning of the maturity profile also takes place via government bond operations on the secondary market that were commenced in 2007 and will continue in 2010. Annual payments of state commitments will not exceed CZK 130 billion in the medium-term outlook.

Figure 4: Expected maturity profile of the national debt as of the end of 2009

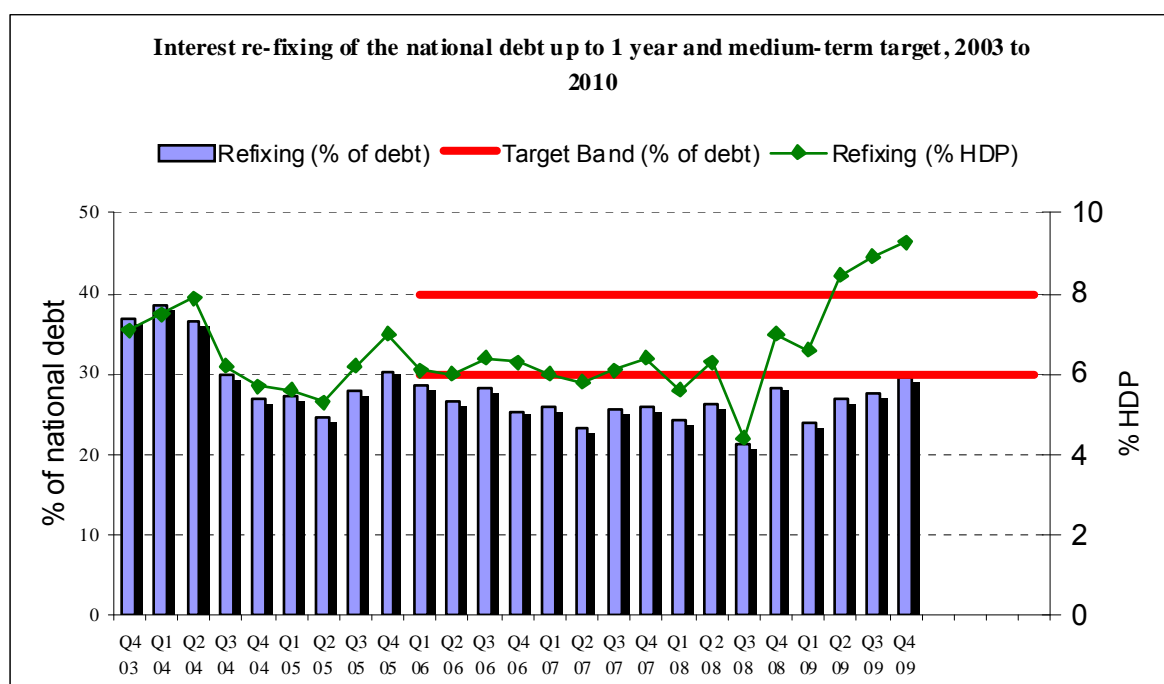


NB: not including money market instruments in circulation  
 Source: Ministry of Finance of the Czech Republic

## Managing interest rate risk

Interest rate risk remains the most important market risk for the management of the national debt. Starting in 2006, the declaration of the strategic goals for this area of national debt management was changed. **Interest rate re-fixing of the debt portfolio up to 1 year**, which is not sensitive to fluctuations of interest rates on the money market, became a new explicit target. A medium-term target range of 30% to 40% of total national debt was set for the years 2006, 2007, 2008 and 2009.

**Figure 5: Interest re-fixing of the national debt up to 1 year and medium-term target, 2003 to 2010**



Source: Czech Statistical Office and Ministry of Finance of the Czech Republic

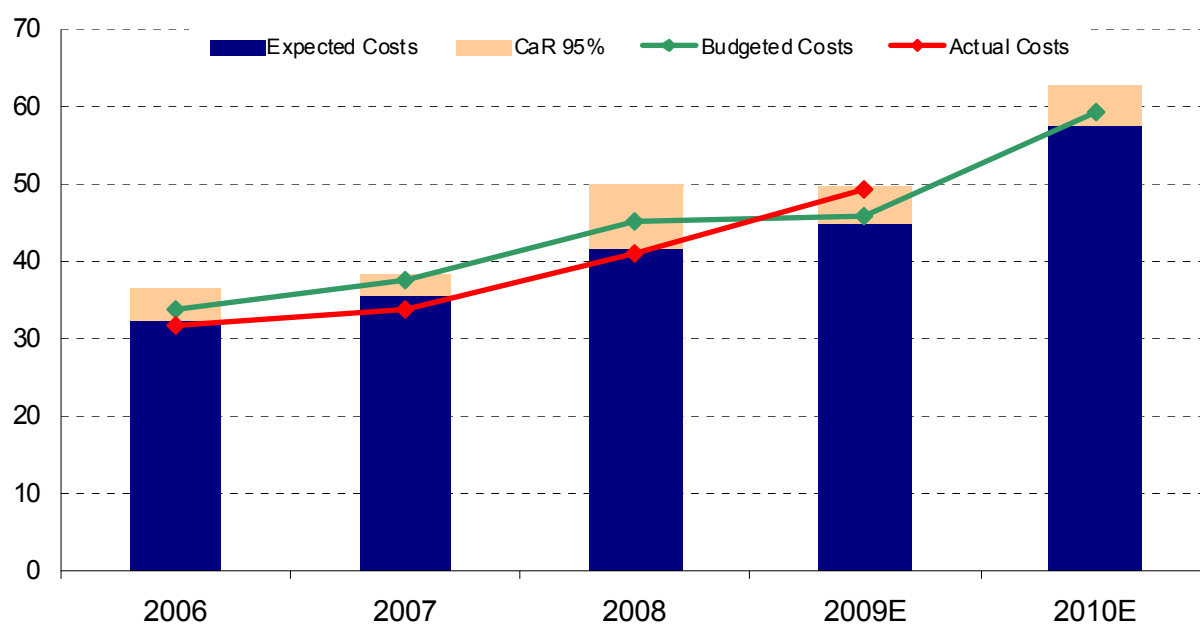
Based on the macro-financial modelling applied on the state debt portfolio in medium term perspective, the Ministry keeps for 2010 the target for the 1 year interest rates change exposure of the debt portfolio including derivatives in the range of 30 to 40% of the total national debt.

Since 2005 the Ministry has applied a more sophisticated model framework when measuring and managing interest rate risk, namely Cost-at-Risk (**CaR**), which is based on the VaR methodology and simulates future expected and maximum interest costs at a given risk level that is derived from the volatility of the time structure of interest rates. The yield curve is thus the stochastic element in the CaR model. In the CaR model, the development of the national debt portfolio is regarded as deterministic and is based on the basic scenario of the financing of the government's borrowing requirement, which ensures that the funding programme and strategic targets of risk management for 2010 are achieved.

In the years 2006 to 2008 the utilised model framework for simulating interest costs displayed relatively reliable values of the CaR indicator that were consistent with the enacted state budgets and described the actual development of the servicing costs of the national debt. In 2006, the expected costs were overvalued by 2.9%; in 2007 by 5.0% and in 2008 by 1.5% compared to the actual state. In all three years, the realisation of costs was always below the maximum value determined by an absolute CaR 95%.

Due to the higher than planned issuance activity in 2009, the expected interest costs will approach the absolute value of CaR 95%. Nevertheless, Ministry expects that interest costs stays below the CaR 95% in 2009.

**Figure 6: Interest costs and Cost-at-Risk in 2006 to 2010 (CZK billions)**



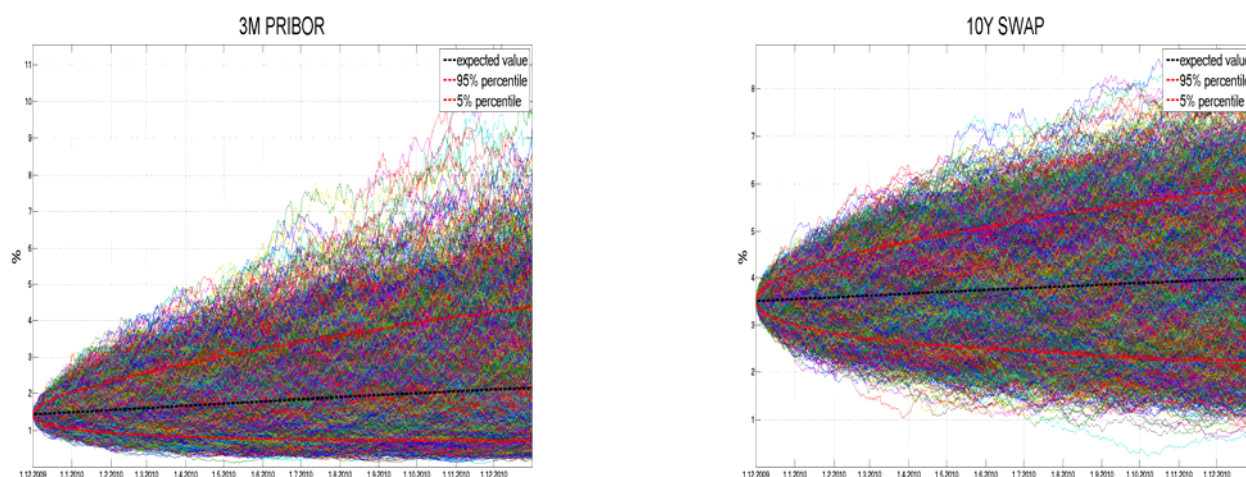
NB: Interest costs are simulated without revenues from the investments of idle funds of the state treasury account on the money market, which are income of the national debt chapter of the state budget.  
 Source: Ministry of Finance of the Czech Republic

### Cost-at-Risk of the national debt for 2010

Ministry used interest rate model combined with an adjusted Wiener Process to simulate the time structure of interest rates just like in 2009. The details may be found in, for example, James & Weber: Interest Rate Modelling, John Wiley & Sons, 2002.

The model's parameters are estimated from daily observations of the Czech and EU yield curves since 1.1.1999. 15,000 interest rate simulations for the coming thirteen months, starting on 1.12.2009, are performed for each of the required maturities. The model is characterised by "mean reversion" which indicates that the current values of interest rates are below their long-term equilibrium level, which means that expected rates will increase. The performed simulations of the 3-month interbank interest rate (3M PRIBOR) and 10-year interest rate swap rate (10Y SWAP) on a daily basis in the period from 1.12.2009 to 31.12.2010 are shown in Figure 7.

**Figure 7: Daily simulations of the development of Czech interest rates in 2010**



Source: Ministry of Finance of the Czech Republic

Interest rate simulations are an input for the calculation of interest rates of the floating part of the debt portfolio during 2010, which include discounts from revolving and new issues of state treasury bills, new coupon rates from the revolving of medium-term and long-term government bonds and direct loans, discounts/premiums from the re-openings of medium-term and long-term government bonds, re-fixing of interest rates on European Investment Bank loans and on the floating part of derivative contracts.

Simulations of the interest costs of the national debt portfolio are thus obtained from interest rate simulations. The mean of interest cost simulations is an estimate of the expected value of interest costs and the  $p\%$  quantile of interest cost simulations is an estimate of the  $p\%$  quantile of the probability distribution of interest costs. The value of 95% of the quantile of the simulation gives 95% of CaR, i.e. the absolute amount of interest costs that will not be exceeded with a 95% probability. Table 5 shows the development of the expected value of cumulative interest costs and 95% CaR for 2010.

**Table 5: Development of cumulative interest costs of the national debt in 2010 (CZK billions)**

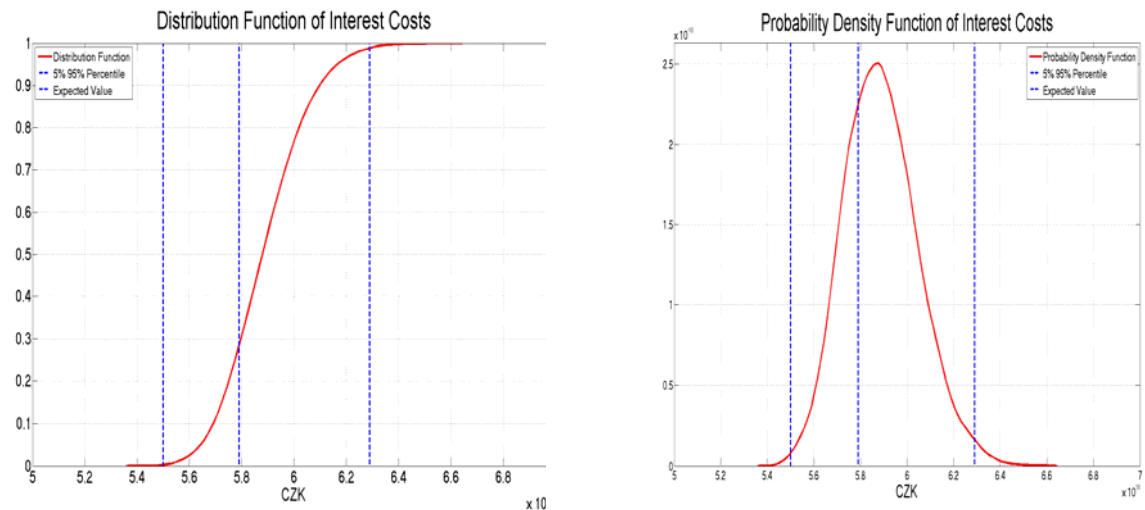
Months of 2010	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.
Expected costs	3,2	4,9	7,8	23,2	26,0	34,3	37,1	40,7	47,3	55,7	56,5	57,5
Absolute CaR 95%	3,6	5,4	8,6	25,4	28,2	36,5	40,0	42,9	49,8	59,0	59,5	62,9

Source: Ministry of Finance of the Czech Republic.

The expected interest costs of the national debt portfolio for 2010 are **CZK 57.5 billion**. Cost-at-Risk, i.e. absolute CaR 95%, is **CZK 62.9 billion**. Actual interest costs thus will not exceed expected costs by more than CZK 5.4 billion with a 95% probability.

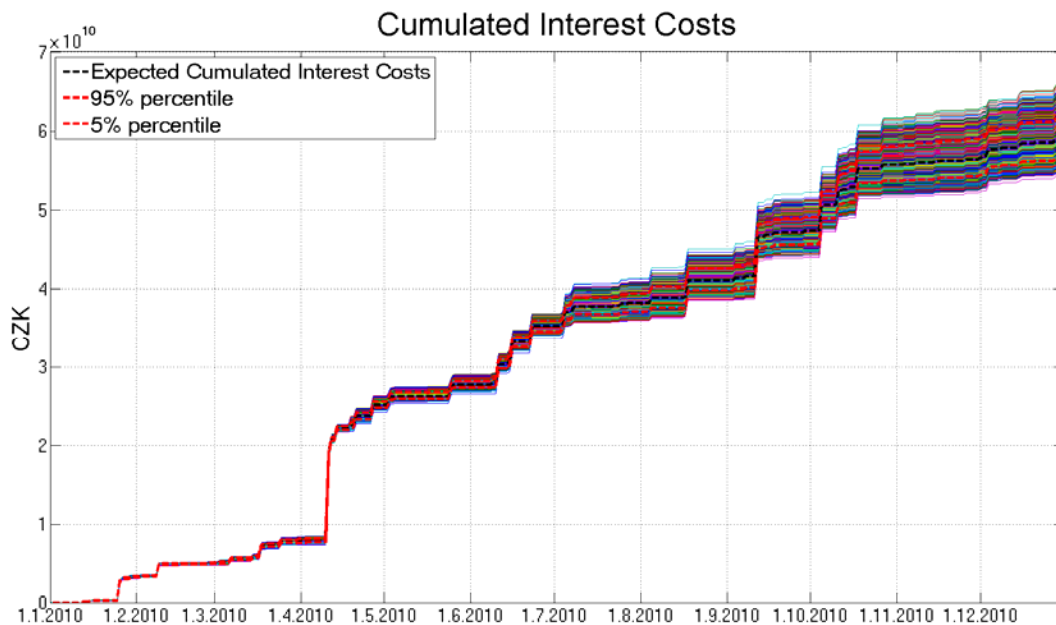
The probability distribution of cumulative interest costs at 31 December 2010 is fully described through density and distribution functions which are shown in Figure 8, which shows the expected value, 5% and 95% percentile of simulated interest costs. The daily behavior of simulated interest costs during 2010 is shown in Figure 9.

**Figure 8: Distribution of interest costs in 2010 (CZK billions)**



NB: Interest costs are calculated on basis of the cash principle relevant for the state budget methodology.  
Source: Ministry of Finance of the Czech Republic.

**Figure 9: Interest costs simulation in 2010 (CZK billion)**



NB: Interest costs are calculated on basis of the cash principle relevant for the state budget methodology.  
Source: Ministry of Finance of the Czech Republic.

The budgeted expenditure of the national debt chapter should thus be sufficient to cover actual interest costs, provided that the basic scenario of the model development of the national debt structure is fulfilled in 2010. Model framework is complicated due to market uncertainty as for the basic scenario of funding programme to cover borrowing requirement in the course of 2010.

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This document was prepared on the basis of information available as of 30 November 2009. The Ministry reserves the right to respond flexibly in the course of 2010 and with help of its instruments to the actual development of the gross borrowing requirement of the Government in the area of the State budget, extra-budgetary funds, health insurance, and settlement of exposed State guarantees. The fulfilment of the planned financing programme and of the declared strategic targets will depend, in particular, on the developments on both domestic and international financial markets in view of the minimisation of the costs of debt service 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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