Ministry of Finance

Debt and Financial Assets
Management Department

The Czech Republic

Government Debt Management

Annual Report

2015

12 February 2016

Ministry of Finance

The Czech Republic Government Debt Management Annual Report for 2015

The Czech Republic Government Debt Management Annual Report for 2015

12 February 2016

Ministry of Finance
Letenská 15, 118 10 Prague 1
Czech Republic
Tel.: +420 257 041 111
E-mail: pd@mfcr.cz

ISSN 2336-5862
(Print)
ISSN 2336-5870
(On-line)

Issued once a year, free

Electronic archive
www.mfcr.cz/statedebt

Table of Contents

List of Tables

List of Figures

List of Abbreviations

APEI	Aggregate Performance Evaluation Index
bn	Billion
CaR	Cost-at-Risk
CDCP	Central Securities Depository Prague
CHF	Swiss Franc currency code
CNB	Czech National Bank
CZK	Czech koruna currency code
CZSO	Czech Statistical Office
DETS	Designated Electronic Trading System
EA12	Euro area (12 countries)
ECB	European Central Bank
EIB	European Investment Bank
ESA2010	European System of Accounts 2010
ESRB	European Systemic Risk Board
EU	European Union
EUR	Euro currency code
EURIBOR	Euro Interbank Offered Rate
FIX	Fixed-rate
FX	Foreing-exchange
GDP	Gross domestic product
ISIN	International Securities Identification Number
JCR	Japan Credit Rating Agency
MoF	Ministry of Financeí
MTS	Mercato Telematico Secondario
OECD	Organization for Economic Co-operation and Development
p.a.	Per annum
p.p.	Percentage point
PRIBOR	Prague Interbank Offered Rate
R&I	Rating and Investment Information, Inc.
T-Bonds	Medium-term and long-term government bonds
T-Bills	Treasury Bills
VAR	Variable-rate
VAT	Value added tax

Summary

The Ministry of Finance (hereinafter the „Ministry" or „MoF") presents to the public The Czech Republic Government Debt Management Annual Report for 2015 (hereinafter the „Report") in accordance with the calendar of published information, which involves the detailed summary of events related to the state debt management and the state treasury liquidity management, the evaluation of the issuance activity of the state and the situation on financial markets in the context of financing of the Czech Republic, the analysis of the dynamics of state debt and related state budget expenditure and revenue on the state debt service, the detailed evaluation of meeting the targets set for the risk management of debt portfolio and last but not least, the results of annual evaluation of the primary dealers in Czech government securities. Although the Report deals with the events of 2015, it also includes the detailed quantification of interest expenditure on the state debt service in 2016 and in the medium-term outlook performed by the Cost-at-Risk methodology.

The economy of the Czech Republic was in relatively good shape in 2015, when the GDP growth supported particularly by the domestic demand was rather stable during the year and substantially exceeded the estimations from 2014. The year-on-year real GDP growth in 2015 is expected to reach 4.6%; it belongs among the highest in the European Union and is significantly higher than the average growth of the euro area. It did not fall under 4% in any quarter of 2015. The decreasing unemployment rate, one of the lowest in the European Union, reflected the economic upturn. The average unemployment rate (according to the Labour Force Survey) decreased annually by 1.0 percentage points in 2015 to 5.1%. This all took place during the historically low inflation, of which average level for 2015 reached 0.3%, significantly below the inflation target of the CNB. Concerning the external balance, the all-time high surplus on the current account in relation to GDP of 1.2% is probably expected. The very stable banking environment was preserved in 2015, which also recorded the decrease in the share of holding of the state government securities to 39.9% which is the lowest share since 1994.

Generally conservative management of government institutions together with the active support to economic growth through the state fiscal policy for the government contributed to the stable macroeconomic environment. Thanks to the economic recovery the management of state finances reached the best result since 2008, when the state budget deficit decreased by CZK 15 billion annually and by CZK 37.2 billion as compared with the approved state budget deficit. The expected general government deficit for 2015 of 1.1% of GDP, which represents a substantial decrease of 0,8 p.p. as against 2014, is safely below the reference limit of 3%. The total general government debt in 2015 should decrease by 1.8 percentage points in comparison to 2014 and reach 41.0% of GDP, which ranks the Czech Republic into the group of European Unioun countries with lowest indebtedness. It is the second year-on-year decrease of general government debt in a row.

The increase in effectiveness of the state debt and state treasury liquidity management substantially contributed to the positive development of public finances. The rationalisation of available cash resources of the central government under the treasury single accounts administered by the Czech National Bank enabled the increase in the state debt only by CZK 9.3 billion, following the decrease by CZK 19.7 billion in 2014. The increase was based on the Ministry's effort to make use of the current favourable conditions on the financial markets, not on the covering financing needs.

In this connection, the Ministry used the environment of negative yields of the medium-term and long-term government bonds together with the timing at the end of the calendar year and executed the auction of the government bond with maturity in 2017 in December. The all-time low yield of -0.35% p.a. on the primary market was reached in this auction, bringing additional net revenue of CZK 99.2 million to the state budget. Despite the minor annual increase in the state debt to CZK 1,673.0 billion, which represents 90% of the total government sector gross indebtedness of national economy, the share of the state debt in GDP dropped by 1.8 percentage points to 37.2% thanks to the economic growth. It is the second significant decrease in the share of the state debt in GDP in a row after the decrease of 2.2 percentage points in 2014.

With regard to the dropping yields on the financial markets the Ministry adjusted the strategy for investment of available state treasury liquidity, and as part of the rationalisation of the available liquidity of both treasury single accounts were interconnected, which created more space for optimal involvement of the available liquidity to the covering of the financing needs. The risk of adverse impact of the negative yields on the EUR-denominated accounts on the state budget deficit was also substantially mitigated. The utilization of the relation between both treasury single

accounts is one of the most important parts of the modernisation of the state treasury liquidity management and the risk management. The income from the investment of state treasury cash resources in 2015 amounted to CZK 107.3 million. It represents a decrease by CZK 131.6 million as compared to 2014, which is caused by the significant reduction of interest rates. Nevertheless, the decrease in income from the investment of the available state treasury liquidity was more than balanced by the Ministry's prompt response based on the planning of the issuance activity. Thanks to this response, the total state budget revenue from the investment activity, lending facilities with government bonds and from the negative yields of government bonds amounted to CZK 524.9 million, which is an increase by CZK 284.2 million in comparison with 2014 and by CZK 416.0 billion as against 2013.

The positive perception of the Czech Republic on the domestic and foreign markets, which was again confirmed by the outstanding rating with stable outlook by all the main international rating agencies, and the continuing easing of the monetary policy of the CNB and ECB was reflected in 2015 in the drop in yields of government bonds in all maturity segments to the all-time low level, with the exception of increase in yields in the second and partially in the third quarter based on the uncertainty related to the refinancing of Greek debt.

Particularly in the last quarter of the year the theoretical yield curve of the Czech government bonds constructed using the quotations on the secondary market of government bonds operated on the electronic trading platform MTS Czech Republic signalled negative yields up to the maturity of 5 years, which was confirmed by the primary auction of the Czech government bond, 2005-2020, 3.75%, held on 25 November 2015. The bond was issued in the total nominal value of CZK 2.6 billion with the average auction yield -0.08% p.a.

The domestic benchmark yield curve flattened also in the segment over 10 years. Based on the right timing of issuance activity and the flexible response to the development on the financial markets the Ministry was able to reduce the net expenditure on state debt service by CZK 3.2 billion. The total savings in interest expenditure on state debt service in last two years together with the 2014 savings amounting to CZK 2.3 billion sum up to CZK 7.8 billion. The average weighted yield of CZK-denominated medium-term and long-term government bonds sold in primary auctions was 0.2% p.a., which is the all-time low figure and a substantial decrease as against 1.7% p.a. in 2014. The total state budget revenue from the sales of government bonds and state treasury bills with the negative yield amounted to CZK 413.7 million.

The financing needs of central government in 2015 amounted to CZK 311.2 billion, i.e. they were lower by CZK 54.1 billion than in 2014 and at the same time CZK 56.0 billion lower than the originally planned financing needs according to The Czech Republic Funding and Debt Management Strategy for 2015. This is based on the significantly lower cash state budget deficit in comparison to the budgeted deficit of CZK 100 billion according to the approved State Budget Act of the Czech Republic for 2015 and on the suspension of buybacks in 2015 in connection to the development on the financial markets.

The gross borrowing requirement increased by CZK 2.5 billion to CZK 268.1 billion in comparison to the previous year, while the financing of the gross borrowing requirement in 2015 was carried out only on domestic market almost exclusively through CZK-denominated government bonds issues, accompanied by the received cash resources of CZK 2.2 billion within the lending facilities. The gross issue of medium-term and long-term government bonds amounted to CZK 180.4 billion, i.e. CZK 27.2 billion higher than in previous year. Its increase was given mainly by partial substitution of gross issue of state treasury bills for the issue of the Government Bond of the Czech Republic, 2015–2017, 0.00 %. This option was presented by the Ministry on 26 June 2015 within the update of The Czech Republic Funding and Debt Management Strategy for second half of 2015. Due to the achieving of negative yields in auctions of this government bonds with unprecedented interest from the primary dealers and with respect to positive impact on risk indicators of debt portfolio, the Ministry used this situation and decreased the total nominal value of state treasury bills outstanding to CZK 84.4 billion compared to the originally planned minimum value of CZK 100.0 billion, i.e. by CZK 15.6 billion. The total nominal value of the gross issue of zero-coupon government bond maturing in 2017 amounted to CZK 59.7 billion in 2015.

Nevertheless, the net issue of CZK-denominated medium-term and long-term government bonds decreased by CZK 28.6 billion from CZK 96.0 billion to CZK 67.4 billion compared to 2014, which implies the lower net increase of total nominal value of domestic government bonds outstanding in 2015 compared to 2014 with positive impact on yields of domestic government bonds. In 2015, two redemptions of medium-term and long-term government bonds in total nominal value of CZK 113.0 billion and EUR-denominated variable-rate

government bond in total nominal value of EUR 300 million were carried out. Even in 2015 the Ministry did not carry out any operation on foreign markets due to the large demand of investors for government bonds on domestic markets and higher costs of foreign issuance compared to domestic financing after taking into account the costs of the currency risk management. Due to the decrease in yields of Czech Republic government bonds bearing an interest mainly on shorter end of yield curve and unprecedented interest of investors for this type of government bonds, the gross issue of government bonds in the segment of residual maturity up to 3 years dominated, which represented 42.6% of total gross issue. The next dominant segment of gross issue was the segment of residual time to maturity of 10 to 15 years with the share of 31.6%.

Fixed-rate and variable-rate government bonds were issued and sold solely through 33 primary auctions on domestic market in 2015. The Ministry registered ongoing strong and stable demand for government bonds sold in primary auctions in 2015, which is documented by the ratio of total demand to satisfied demand in competitive part of the auctions at average value of 2.1. The share of variable-rate government bonds in total gross issue amounted to 18.0% and decreased by 5.5 p.p. compared to 2014. The decrease of this share is consistent with the reaction of the Ministry to the significant decrease in yields of fixed-rate government bonds.

In accordance with the original plan, the three new benchmark issues of fixed-rate Government Bond of the Czech Republic, 2015-2023, 0,45%, Government Bond of the Czech Republic, 2015–2026, 1.00 %, and Government Bond of the Czech Republic, 2015–2030, 0,95 % were issued with the coupon rate set closer to the market compared to the other benchmark issues of government bonds issued in previous years. These issues were accompanied with the Government Bond of the Czech Republic, 2015–2017, 0.00 %. No tap sales of medium-term and long-term government bonds were carried out on secondary market through the electronic trading platform MTS Czech Republic in 2015 mainly due to the great interest of primary dealers for government bonds sold in primary auctions. The Ministry decided to sell out the Czech Republic Treasury Bond, 2005 - 2020, 3.75 % from its own asset account in auction, which proved as a right decision with regard to its success.

In accordance with the Ministry's intentions to react flexibly to the situation on financial market under circumstances, when state government bonds with residual time to maturity up to 3 years achieved lower yields to maturity then 1-year state treasury bills, with concurrent positive impact on riskiness of state debt portfolio, there was a decrease of state treasury bills outstanding as at the end of 2015 by CZK 23.2 billion to CZK 84.4 billion compared to the end of 2014 and substitution of these state treasury bills with the 2-year government bonds. Nevertheless, the gross issue of state treasury bills including the roll-over in 2015 amounted to CZK 99.3 billion with average auction yield of -0.05% p.a. As a Ministry's reaction to the development of financial markets during 2015, the state treasury bills with maturity of 3 months and shorter were issued; they did not serve to cover the financing needs, but to increase the revenue of state budget in the form of auction premiums due to the negative yield.

The significant increase of interest of primary dealers for lending facilities of medium-term and long-term government bonds with positive impact on liquidity of secondary market of government bonds has continued. In 2015, the loans of government bonds through lending facilities from Ministry's asset accounts in total nominal value of CZK 141.4 billion were provided, which represents an increase of CZK 56.8 billion compared to the previous year, against received cash resources of CZK 172.8 billion. Within the additional support of secondary market of medium-term and long-term government bonds, the Ministry started using the lending facilities in the form of collateralized loans of securities during the fourth quarter with respect to the demand from primary dealers. The Ministry provides Czech Republic government bonds from its own asset account against other Czech Republic government bond or CNB bill for a short period of time for a fee. The Ministry provided medium-term and long-term government bonds to primary dealers in total nominal value of CZK 10.4 billion within these operations in 2015.

1 - Macroeconomic Framework and Financial Markets

Economic Development

Economic activity accelerated during 2015 with the real GDP in Q1 2015 reporting a quarter-on-quarter growth of 2.5%, followed by a quarter-on-quarter growth of 1.0% in Q2, 0.7% in Q3, and in Q4, the quarter-on-quarter growth amounting to 1.0% is expected. The development of the Czech Republic's economy in 2015 confirms that the period of economic recession has been overcome; dynamic of GDP growth accelerated also due to positive contribution of fiscal policy. Robust GDP growth was partially supported by one-off factors in the form of effective use of the remaining EU funds, government support of the domestic aggregate demand and favourable supply-side shock represented by slump in the price of oil. The negative production gap was most probably closed in 2015, which is also confirmed by the year-on-year growth of GDP in Q4, which amounted to 5.3% after adjustment for price effects and seasonality.

Positive factor of the recovery was also the fact, that the economic growth in 2015 was driven exclusively by domestic demand. In terms of dynamics, the most important component in GDP recovery was the gross fixed capital formation with the year-on-year growth of 6.8% in Q3 2015 supported by the use of EU funds. In Q4 2015, the year-on-year growth of gross fixed capital formation is expected at the value of 14.6%. Positive contribution to the year-on-year growth of GDP was also recorded for consumption of households and the government. The economic growth based on the domestic absorption confirms also faster year-on-year pace of growth of the real imports of goods and services in comparison to its exports. These reflect the slower economic performances of main trade partners' countries in contrast with the Czech Republic.

Table 1: Main Macroeconomic Indicators of the Czech Republic

	2009	2010	2011	2012	2013	2014	2015F
Real GDP growth (%)	-4.8	2.3	2.0	-0.9	-0.5	2.0	4.6
Household consumption growth (%)	-0.7	1.0	0.3	-1.5	0.7	1.5	2.9
Government consumption growth (%)	3.0	0.4	-3.0	-1.8	2.3	1.8	3.2
Growth of gross fixed capital formation (%)	-10.1	1.3	1.1	-3.2	-2.7	2.0	8.3
Contribution of foreign trade to GDP growth (p.p.)	0.5	0.5	1.9	1.3	0.0	-0.2	-0.4
Average inflation rate (%)	1.0	1.5	1.9	3.3	1.4	0.4	0.3
Unemployment rate (%)[1]	6.7	7.3	6.7	7.0	7.0	6.1	5.1
Nominal wage and salary growth (%)	-2.0	0.6	2.2	2.5	0.4	1.9	4.1
Current account balance on GDP (%)	-2.3	-3.6	-2.1	-1.6	-0.5	0.6	1.2
EURCZK exchange rate	26.4	25.3	24.6	25.1	26.0	27.5	27.3
Real Eurozone GDP growth (%)[2]	-4.4	2.0	1.6	-0.9	-0.3	0.9	1.4

[1] Unemployment rate based on the method of Labour Force Survey.
[2] EA12.
Source:MoF, CZSO

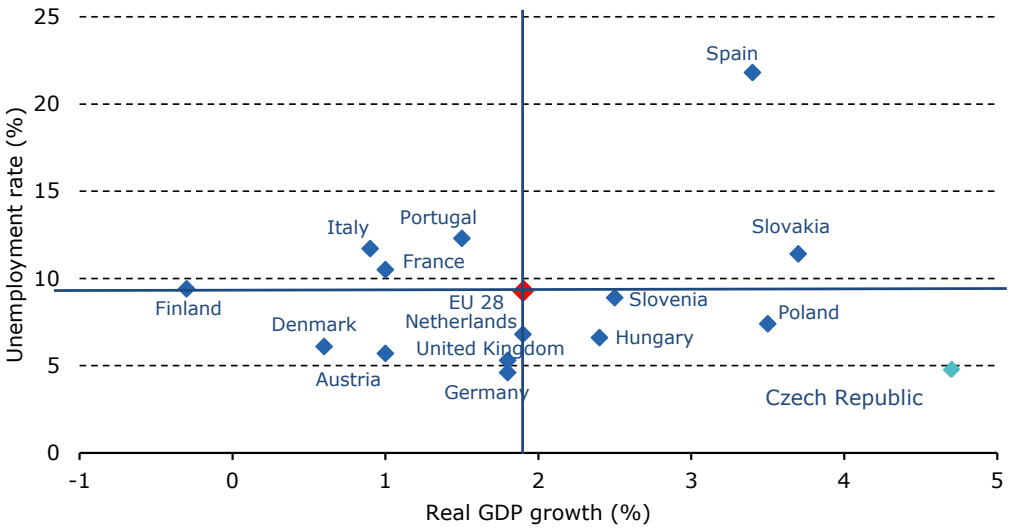
For 2015 a real GDP growth of 4.6% is expected. In case of economic recovery of main trading partners, the positive contribution of all components to real GDP growth is expected. The contribution of net exports to real GDP growth depends largely on the uncertain economic development of primary trading partners in the context of the geopolitical risks. Since 2015, the trend in the terms of trades changed, prices of exports decreased faster than prices of imports. One-sided FX commitment of the CNB, which had a positive impact on the competitiveness of Czech exporters, counteracted the terms of trades in 2015. In Q3 2015 the surplus of 1.2% of GDP on the current account of the balance of payments was achieved, which confirms trouble-free sustainability of external macroeconomic equilibrium.

On 7 November 2013, the CNB announced the launch of FX interventions within the easing of monetary policy through an alternative instrument in the form of one-way exchange rate commitment to floor EURCZK FX rate at 27.0 for the purpose of maintaining inflation rate close to the inflation rate target of 2%. Real

FX intervention took place mainly in November 2013, and between the July and December 2015. However, inflation rate in 2015 remained well below the inflation rate target and accepted band, but avoided to deflation range. Demand- and supply-side factors acted oppositely on the inflation development. In December 2015, the inflation rate expressed as the increment in the consumer price index compared to the same month of the previous year was around 0.1%. Throughout 2015, inflation rate remained on a very low value, with the inflation rate of 0.3% expressed as the increment in the consumer price index, which was the lowest inflation rate since 2003. Development of the consumer price index in 2015 mainly reflected reduction in oil prices and drop in producer prices in the euro area, which forms the outside pressure on the decrease in the domestic inflation. On the contrary, dynamic growth of GDP and closing of the output gap had a positive effect in favour of consumer prices. Since July 2015, the month-on-month consumer price index decreased slightly, in December, the month-on-month decrease reached 0.1%.

The Czech Republic is among the countries with one of the lowest unemployment rates in the long term. The unemployment rate (according to Labour Force Survey) in Q3 2015 was around 4.8%, which meant a year-on-year decrease of about 1.0 percentage point. The increase in the number of employed persons occurred mainly in the tertiary sector. Positive fact is that there is connectivity between GDP growth, and average and median wage growth, and total disposable income of household growth. Strong growth of wages appeared in the manufacturing industry. No significant growth of unemployment is expected in accordance with the change in the structure of aggregate demand, even in case of slower recovery of the euro area or China. The exchange rate commitment of the CNB, which should not be abandoned earlier than in 2017, should also have a positive impact on employment among Czech exporters. However, if there's going to be a slight recovery in Western Europe, to which most Czech exporters export their goods and services, it is possible to expect the continuation of this trend and further decrease in unemployment rate. Since the beginning of 2015 there is a decrease in the number of long-term unemployed persons, which is reflected positively in the development of the potential product of the Czech economy.

Figure 1: Real GDP Growth and Unemployment Rate in Selected EU Countries in 2015



Note: GDP expressed as a year-on-year growth in Q3 2015. Unemployment rate adjusted for seasonality in Q3 2015. Data for the Czech Republic from Macroeconomic Forecast of the Czech Republic – January 2016
Source:MoF, Eurostat

A significant advantage of the Czech Republic is the stable financial sector and credible fiscal policy. There is a sufficient disposable liquidity in the banking system, which is additionally increased by direct interventions of the CNB on FX market. The profitability of banks has positive impact on capital adequacy. Household indebtedness remains relatively low in the international comparison due to the moderate pace of their borrowing, and the share of non-performing loans is also stable, being 4.5% for households and 5.7% for non-financial enterprises as of the end of Q3 2015. The loans-to-deposits ratio of households and non-financial enterprises also shows a long-term stability and its value is among the lowest in the international comparison. The high volume of deposits by residents and sufficient liquidity

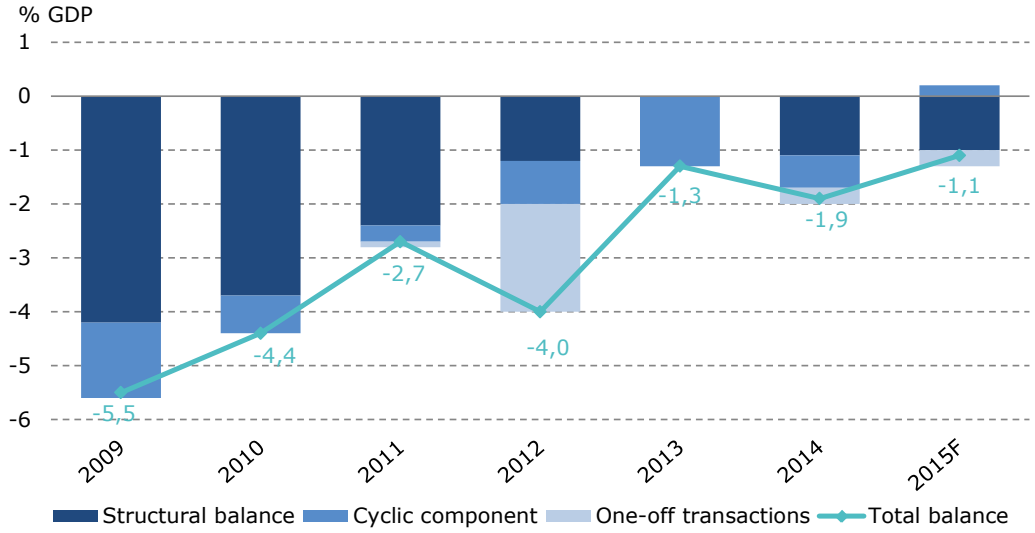
in the banking system mean that the domestic banking sector is independent of foreign sources of funding in the long term. Capital adequacy measured as Capital Adequacy Ratio Tier I reached 16.73% as at the end of Q3 and was well above regulatory capital, which means that the banking sector sufficiently fulfils the new European regulatory requirements.

General Government Sector Finances

After four years of fiscal consolidation, the Czech Republic managed to reduce the general government deficit from 5.5% of GDP in 2009 to 1.3% of GDP in 2013. The fiscal effort was a contributing factor to the fact that on 20 June 2014, the European Council decided to terminate the excessive deficit procedure. Starting in 2014, the new government has been gradually reducing the fiscal restrictions with unambiguous aim to support the revival of domestic aggregate demand, but not necessarily at the cost of excessive deficit.

The draft state budget and state fund budgets for 2016 are focused primarily on pro-growth investment with a positive long-term impact on development of potential product. The investments into education, science and research, and transport infrastructure are particularly emphasized. Despite GDP support, the long-term objective is to maintain the government sector deficit safely below the level of 3% of GDP.

Figure 2: The Czech Republic Government Sector Balance (ESA2010)



Note: Structural balance based on the European Commission methodology. Data for 2015 from Ministry's Macroeconomic Forecast of the Czech Republic – January 2016
Source: MoF

In 2014 the government sector balance ended with a deficit of 1.9% of GDP, which represents slight deterioration of 0.7 percentage points in comparison to the previous year. The general government balance was strongly influenced by the general government sector (e.g. the Deposit Insurance Fund disbursement of CZK 14.7 billion), one-off accrual drop in excise taxes and due to the higher expenditure on the investments activity. On the contrary, there was a very favourable development of VAT revenues, where their year-on-year increase exceeded 5%. The restored economic activity was reflected favourably in direct tax collection which increased by 7.6% compared to the previous year. In 2015, the decrease in government sector deficit to 1.1% of GDP is expected.

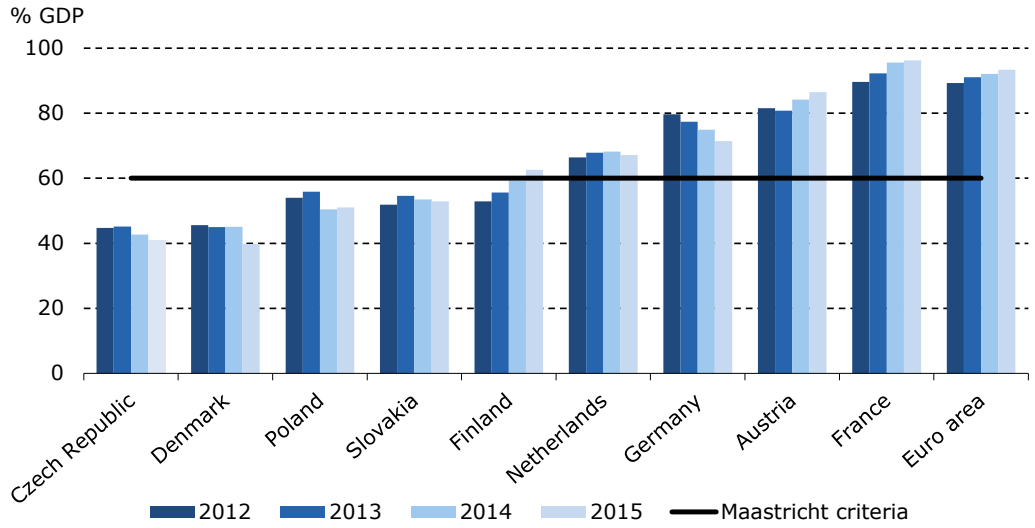
At the end of 2015, the state budget reported a cash deficit of CZK 62.8 billion, which is lower by CZK 15.0 billion compared to 2014, and by CZK 37.2 billion compared to the planned budgeted value in State budget Act for 2015. This was the best result since 2008 confirming the recovery of the Czech economy after the long-term stagnation.

Total state budget revenue reached CZK 1,234.5 billion and was CZK 21.6 billion higher compared to the budget after changes. The total state budget revenue grew year-on-year by CZK 100.7 billion, i.e. 8.9%, which was enabled particularly by tax revenue including social contributions. In terms of structure the collection of social contributions increased year-on-year by CZK 21.7 billion, the collection of income tax from legal persons by CZK 10.2 billion, the collection of excise tax by CZK 9.0 billion and the collection VAT by CZK 6.4 billion.

Total expenditure in 2015 reached the amount of CZK 1,297.3 billion, which represented a year-on-year increase of CZK 85.7 billion, i.e. 7.1%. The year-on-year growth was affected (apart from other items) in particular by higher spending designated for co-financing the joint programs of the Czech Republic and EU by about CZK 57.8 billion and social expenditures (year-on-year growth of CZK 10.5 billion). The budget after changes was used to a level of 98.8%, which represents savings in the amount of CZK 15.6 billion. The highest savings of CZK 10.2 billion were achieved particularly on non-investment transfers to state funds (partially compensated with investment transfers), savings on expenditure associated with the state debt service amounting to CZK 4.2 billion, savings on the social benefits amounting to CZK 5.2 billion, savings on the payments towards the European budget amounting to CZK 2.3 billion or savings on operating expenses of the state amounting to CZK 2.3 billion. Large government investments (year-on-year growth of 58 %) with the direct aim to support economic growth affected the expenditure side in 2015.

According to the October Notification, general government sector debt in 2014 decreased to 42.7% of GDP, i.e. by 2.4 percentage points. The debt is expected to decrease by 1.8 percentage points to 41.0% of GDP in 2015. In terms of meeting the Maastricht criteria, the indicator is safely below the limit of 60%.

Figure 3: Government Sector Debt in Selected EU Countries (ESA2010)



Note: The Maastricht criterion is a part of the condition for EU members to join the single currency union. The value of the share of government sector debt to GDP should not exceed 60%. Euro area (19 countries). Data for the 2012 to 2014 from Eurostat, data for 2015 from Macroeconomic Forecast from January 2016
Source:MoF, Eurostat

Financial Markets

After a slight increase in government bond yields the government bonds yields started to decrease again since the beginning of February 2015, as the 10-year government yield fell under 0.40% p.a. in the first half of April 2015. Yield of 10-year government bond reached its all-time low in auction carried out on 22 April 2015, when the Ministry achieved average yield in auction of Czech Republic Government Bond, 2014–2025, 2.40 %, amounting to 0.352% p.a. Since the end of April, international government bond market became volatile due to uncertainty lasting until July 2015 regarding the upcoming repayments of Greek state debt and following negotiation of the new emergency loans. The yield of 10-year Czech government bond grew to 1.28% p.a. during June 2015. After the debt crisis had calmed, the yields of the Czech government bonds across all maturities continued in the decreasing trend, and mainly in short-term and medium-term part of the yield curve they reached all-time lows. The drop in government bonds yields in 2015 was positively impacted by a number of factors, which were strongly reflected in the declining trend accros the whole risk-free yield curve. The Ministry‘s flexible reaction allowed to fully use the favourable conditions on financial market and had a major effect on savings on the interest expenditure of the state debt. In 2015, the average yield of fixed-rate CZK-denominated medium-term and long-term government bonds in domestic auctions was 0.17% p.a.

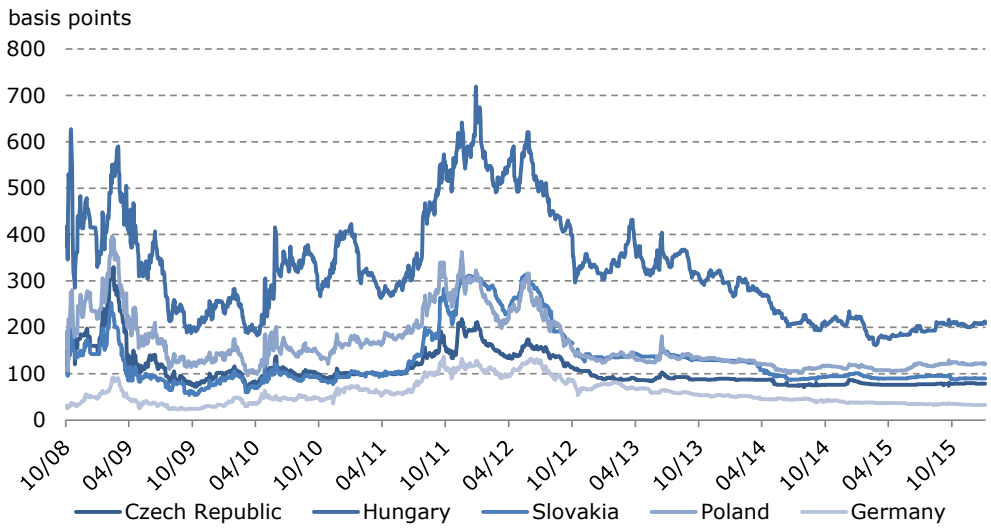
Figure 4: Development of Czech Government Bonds Yields

Source: Thomson Reuters

The important factor in the decrease of government bonds yields is the conservative debt management and the credible fiscal policy of the government, with a positive impact on investor trust, which is reflected in the higher investors' demand for medium-term and long-term government bonds in primary auctions. The wide offer of both fixed-rate and variable-rate debt instruments in particular segments of risk-free yield curve created a sufficient range for investors to diversify the government bonds portfolio without the necessity to use interest rate swaps to optimize their positions. In contrast, flexible issuance strategy enables the Ministry to respond quickly to constantly changing market conditions. Moreover, yields at the short end of the yield curve have been positively affected by the CNB's exchange rate commitment; the rest of the yield curve was affected by the healthy macroeconomic fundamentals of the Czech Republic and effective management of public finances and state treasury liquidity.

The perception of the Czech Republic on the international market as a reliable issuer of government bonds is illustrated by the situation on the credit default swaps markets, where market participants pay the lowest risk premium compared to Poland, Hungary and Slovakia.

Figure 5: Premiums on Credit Default Swaps (10-year)

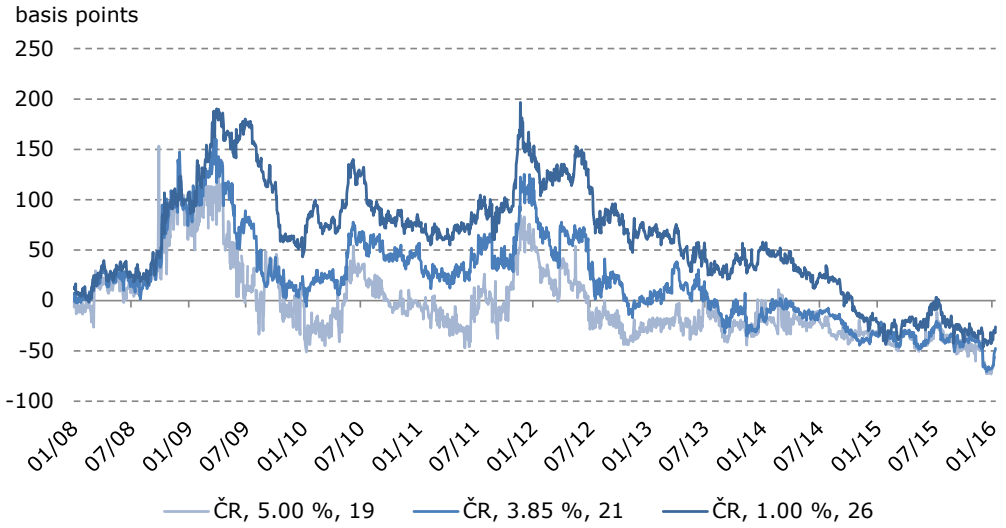


Source: Thomson Reuters

Likewise, the development of the risk premium measured using the spread to comparable swap rates ("asset swap spread") indicates a significant decrease of the risk premium on Czech government bonds since the half of 2015. This reduction in aversion to risk is related to the gradual calming

down of the situation in the Greece. The main uncertainty in terms of the debt crisis in euro area remains the development of the Greek economy, although new loans of about EUR 86 billion were negotiated successfully at the beginning of July 2015.

Figure 6: "Asset Swap Spread" Risk Premium on Czech Government Bonds



Source: Thomson Reuters

ECB's accommodative refinancing conditions, expanding of the Asset purchase programmes by sovereign bonds and supranational bonds from March 2015 and additional decrease of basic interest rates of ECB had a positive impact on the decrease in the Czech government bonds yields in 2015. At the beginning of December 2015, deposit facility interest rate was lowered to -0.30% p.a. The interest rate differential against CZK 2W repo rate was thus widened. As of 31 December 2015 cumulative net purchases of the Euro system amounted EUR 494.93 billion with average time to maturity of 8.02 year. The limit per particular issue was increased from 25% to 33 % since November 2015 to enhance amount of available bonds within quantitative easing. The effect of spill-over between national debt markets was also reflected in the decrease in Czech government bond yields.

The decrease in the Czech government bonds yields was also positively impacted by the reduction of the illiquidity premium, which is confirmed by the decreasing competitive spread particularly among bonds subjected to quoting on the electronic trading platform MTS Czech Republic. Investors thus demand a lower illiquidity premium, if they can sell the government bonds on the functional secondary market without problems. This is subsequently reflected in the overall decrease of government bonds yields with a positive impact on the reduction of the interest expenditure on state debt service.

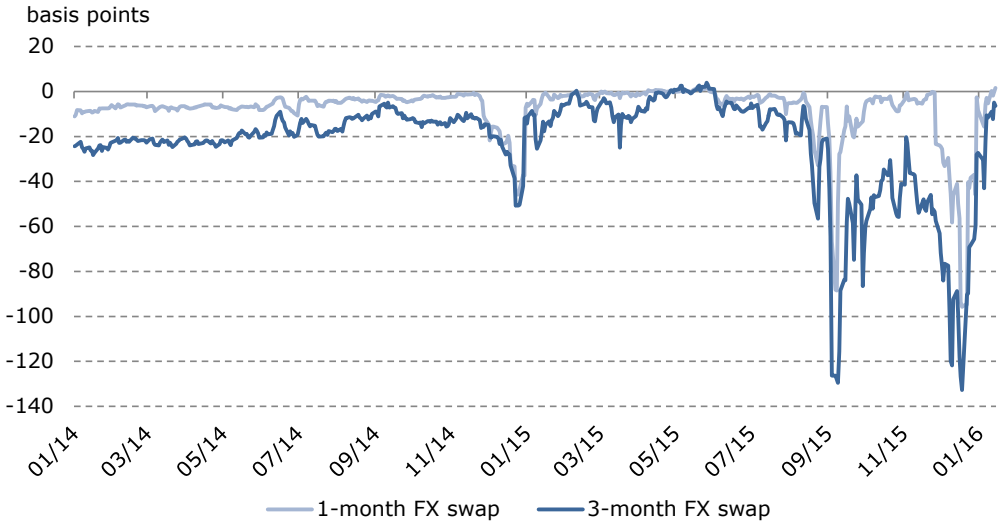
In times of global surpluses of liquidity on the interbank market, investors seek possibilities to valorize available liquidity or avoid to negative interest rates on the euro money market. Liquidity provided by central banks on a long-term basis is illustrated in the flattening of the risk-free yield curve. Government bonds provide an investment alternative at zero or negative interbank interest rates. Short-term zero-coupon government bonds offer another investment alternative to deposit available liquidity on liquid markets with maturities exceeding the money market.

Developments in the EURCZK foreign exchange swap (FX swap) market in 2015 had a positive impact on the short term end of the yield curve. It's important to note, that FX swap market during the last quarter 2015 was affected by the calendar effect in form of the end of the year, which also contributed to the decrease in the yields of medium-term and long-term government bonds. The Ministry actively used favourable FX market condition to effectively invest available euro liquidity of the state treasury by the end of 2015.

The positive effect in the second half of 2015 was transferred from the short end of the yield curve to its medium-term segment. Even the Czech Republic Treasury bond, 2007-2022, 4.70 %, was traded at negative yield on the secondary market from late September to the end of November 2015. Since mid-2015, Czech government bonds with a residual maturity up to three years were continuously traded at negative returns.

Status of the Czech Republic as a reliable issuer is confirmed by the fact, that foreign investors invest gained CZK from FX market into Czech government bonds, which was reflected by the increase in non-resident holding the Czech state debt.

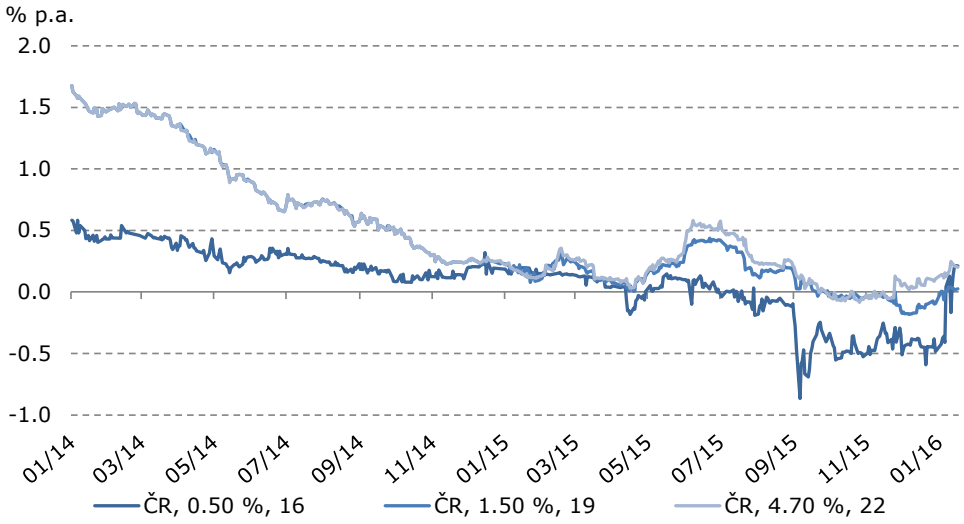
Figure 7: Development of EURCZK FX swap market



Source: Thomson Reuters

In maturity segments of up to 1 year, the state treasury bills auction yields in 2015 were below the level of 0.05% p.a. Since the September 2015, auctions yields of all state treasury bills were at the negative level. Due to the strong demand for Czech Republic Government bond, 2015-2017, 0.00%, the issuance of state treasury bills was reduced (yield significantly below state treasury bills primary auctions yield). The average state treasury bills auction yield in 2015 amounted to -0.05% p.a.

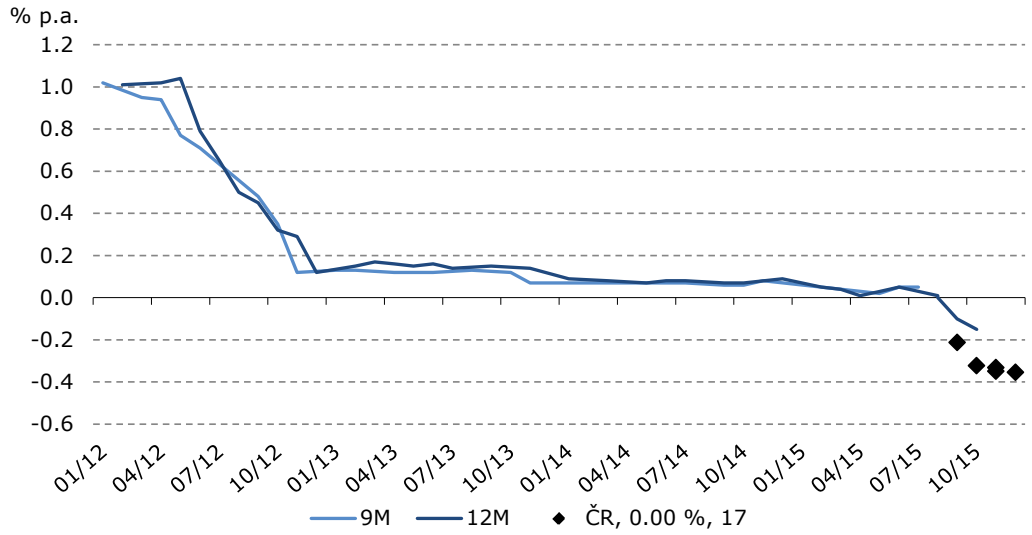
Figure 8: Yields Development of Government Bonds in Short-Term and Long-Term Segment



Source: Thomson Reuters

The decrease in the Czech government bond yields may also have been positively affected by the alternative monetary policy instrument in the form of the CNB exchange rate commitment. This lowered the currency risk and foreign investors could raise their investments into Czech medium-term and long-term government bonds without demanding a higher yield to cover significant fluctuations in terms of the depreciation of FX rate. Unsterilized currency interventions also contributed to the increase of the liquidity of the banking system in the Czech Republic, where financial institutions can subsequently place available liquidity into Czech government bonds.

Figure 9: Development of State Treasury Bills Auction Yields



Source: MoF, CNB

Czech Republic's Sovereign Credit Rating

The Czech Republic belongs among the exceptionally reliable issuers and enjoys considerable interest from domestic and foreign investors, as confirmed by its high credit rating with a stable outlook from all the major credit rating agencies. The rating was confirmed by Standard & Poor's and Fitch in 2015. The Czech Republic has the highest total rating of all the countries in Central and Eastern Europe and has had a higher rating than the euro area countries average for several years.

Table 2: Czech Republic's Sovereign Credit Rating

Rating agency	Domestic long-term liabilities	Outlook	Foreign long-term liabilities	Outlook	Granted/ affirmed
Moody's	A1	Stable	A1	Stable	19/07/2013
Standard & Poor's	AA	Stable	AA-	Stable	22/01/2016
Fitch Ratings	AA-	Stable	A+	Stable	16/10/2015
JCR	AA-	Stable	A+	Stable	25/06/2015
R&I	AA-	Stable	A+	Stable	19/01/2016

Source: Moody's, Standard & Poor's, Fitch Ratings, JCR, R&I

2 - Borrowing Requirement and Development of State Debt

The borrowing requirement represents a key quantity in the system of public finances of a national economy, which definitely determines the value of financial sources that the central government needs to acquire over the course of the respective calendar year through borrowing operations primarily on financial markets, in order to ensure coverage of the total planned annual government financing needs as a necessary condition for a smooth realization of state budget and government economy policy.

Apart from the borrowing operations which are the main determinant of changes in the value of the state debt, the funding requirement may also be covered by the operations with state financial assets or by managing of other state assets within non-budgetary on-balance-sheet operations, or the involvement of available cash resources of the state treasury through refinancing mechanisms.

Financing Needs and Sources

The financing needs are quantified by standard components, which must be financed in the given year using cash resources, i.e. particularly the state budget cash deficit and all redemptions, early redemptions, and buy-backs and exchanges of nominal value (principals) of state debt, including the related derivatives. Financing operations on the side of state financial assets and within state treasury single account in individual currencies are then carried out on the side of the available cash resources, which may be involved in covering the financing needs in parallel with the state's borrowing operations on financial markets both in the short and long term.

Table 3: Financing Needs and Sources (CZK billion)

Financing needs	2009	2010	2011	2012	2013	2014	2015
Primary balance of state budget	147.9	120.6	97.6	59.6	30.4	29.3	17.5
Net expenditure on state debt[1]	44.5	35.8	45.1	41.4	50.9	48.5	45.3
T-Bonds redemptions[2]	100.0	83.0	104.1	121.7	107.9	143.7	123.9
Redemptions and early redemptions on savings government bonds	0.0	0.0	0.0	9.6	7.7	11.9	11.9
T-Bills redemptions[3]	78.7	88.2	113.3	162.6	189.1	120.9	107.6
Other money market instruments redemptions[3]	0.0	0.0	0.0	0.0	0.0	0.0	2.5
Repayments on credits and loans	0.8	1.1	1.1	5.3	2.8	11.1	2.5
Total financing needs	**372.0**	**328.7**	**361.3**	**400.2**	**388.8**	**365.3**	**311.2**
Gross T-Bills issue[3,4]	88.2	113.3	162.6	189.1	120.9	107.6	84.4
Other money market instruments[3]	0.0	0.0	0.0	0.0	0.0	2.5	2.2
Received collateral in cash	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Gross issue of T-Bonds in the domestic market[4]	203.0	167.4	180.3	164.6	145.6	153.3	180.4
Gross issue of T-Bonds on foreign markets[2,4]	54.7	49.7	0.9	69.0	0.0	0.0	0.0
Gross issue of savings government bonds[5]	0.0	0.0	20.4	45.4	39.1	2.1	1.0
Received credits and loans	11.9	10.4	5.3	4.0	4.3	0.0	0.0
Financial asset and liquidity management	14.2	-12.0	-8.2	-71.8	78.9	99.7	43.2
Total financing sources	**372.0**	**328.7**	**361.3**	**400.2**	**388.8**	**365.3**	**311.2**
Gross borrowing requirement	**357.8**	**340.7**	**369.5**	**472.0**	**309.9**	**265.6**	**268.1**

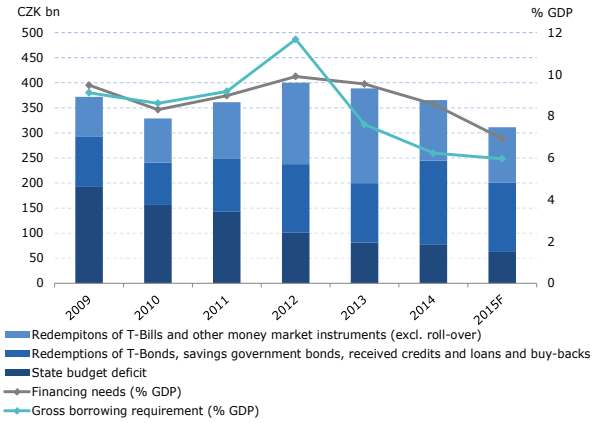
[1] Balance of the budgetary chapter 396 – State Debt.
[2] Incl. hedging operations and the effect of already executed buy-backs and exchanges in previous years..
[3] Excl. T-Bills issued and redeemed within respective year, and roll-over of other money market instruments.
[4] Nominal value; premiums and discounts included in the net expenditure on state debt, i.e. they are included in the net borrowing requirement.
[5] Incl. the.reinvestment of yields.
Source: MoF

In 2015 there was a decrease in financing needs by CZK 56.0 billion in comparison to the original plan published on 17 December 2014 within The Czech Republic Funding and Debt Management Strategy for 2015. The main cause of this decrease was significantly better state budget deficit, the actual state budget deficit was CZK 37.2 billion lower compared to the budgeted amount. The second factor was the suspension of buy-backs programme in 2015 due to the development of government bond markets.

The total financing needs are adjusted according to the recommended international OECD methodology for roll-over operations with state treasury bills and for re-financing operations with cash and other money market and deposit market instruments, which take place within the calendar year and thus do not affect the net change of these items in the course of the year related to the end of the respective years. The total annual financing needs in the given year thus take into account only the balances of these short-term instruments at the end of the previous year.

The following figure depicts the share of the financing needs and their components in GDP, including the balance of state treasury bills and other cash and money market and deposit market instruments outstanding at the end of the previous period, which also have to be re-financed in the current year, and the share of the gross borrowing requirement in GDP. It is apparent that the financing needs of the Czech Republic is relatively stable over time and since 2013 it has recorded slightly downward trend in year-on-year comparison in absolute terms and relative to GDP.

Figure 10: Financing Needs



Note: GDP in the ESA2010 methodology. The source of data for 2009 – 2014 is CZSO, for 2015 the Macroeconomic Forecast of the Czech Republic – January 2016.
Source: MoF, CZSO

Financing of the Gross Borrowing Requirement

The gross borrowing requirement determines the part of the sources for the government's financing needs secured through borrowing operations, i.e. it stipulates the value of cash resources that the government has to obtain primarily by issuing and selling government bonds and drawing credits and loans.

Table 4: Financing of the Gross Borrowing Requirement

CZK bn	2009	2010	2011	2012	2013	2014	2015
Gross borrowing requirement	**357.8**	**340.7**	**369.5**	**472.0**	**309.9**	**265.6**	**268.1**
Gross T-Bills issue[1,2]	88.2	113.3	162.6	189.1	120.9	107.6	84.4
Other money market instruments[1]	0.0	0.0	0.0	0.0	0.0	2.5	2.2
Received collateral in cash	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Gross issue of T-Bonds in the domestic market[2]	203.0	167.4	180.3	164.6	145.6	153.3	180.4
Gross issue of T-Bonds in the domestic market up to 5 years[2,3]	81.4	63.4	45.3	31.4	37.8	37.3	100.0
Gross issue of T-Bonds in the domestic market from 5 to 10 years[2,3]	62.3	61.2	73.6	93.3	79.6	50.0	23.3
Gross issue of T-Bonds in the domestic market over 10 years[2,3]	59.3	42.8	61.4	39.9	28.3	65.9	57.1
Gross issue of T-Bonds on foreign markets[2,4]	54.7	49.7	0.9	69.0	0.0	0.0	0.0
Gross issue of savings government bonds[5]	0.0	0.0	20.4	45.4	39.1	2.1	1.0
Received credits and loans	11.9	10.4	5.3	4.0	4.3	0.0	0.0
Total financing of gross borrowing requirement	**357.8**	**340.7**	**369.5**	**472.0**	**309.9**	**265.6**	**268.1**

[1] Excl. T-Bills issued and redeemed within respective year, and roll-over of other money market instruments.
[2] Nominal value; premiums and discounts are included in net expenditure on state debt service, i.e. they are included in the net borrowing requirement.
[3] Remaining time to maturity at the transaction settlement date.
[4] Incl. hedging operations.
[5] Incl. reinvestment of yields.
Source: MoF

In case the state financial assets or liquidity management operations are actively involved as financing resource, the final gross borrowing requirement may be lower than the annual financing needs, which happened e.g. in 2009, 2013, 2014 and 2015. On the other hand, final gross borrowing requirement may be higher than the annual financing needs if the assets are accumulated through borrowing operations of the state e.g. in order to strengthen the cash reserve for the purposes of risk management, which took place especially in 2010, 2011 and 2012 in a situation of increased uncertainty on financial markets

Net Borrowing Requirement, Change and Structure of State Debt

The net borrowing requirement of the central government is a key factor in the change in the nominal CZK-denominated value of the gross state debt and is determined by the difference between the gross borrowing requirement and total redemption on the nominal value (principals) of state debt, including the related principal hedging. In the case of a zero net change in the state financial assets, including the cash reserve, the net borrowing requirement corresponds to the sum of the state budget deficit and potential extra-budgetary financing needs. Hence, the net borrowing requirement represents the value of cash resources that the central government has to borrow in the current year beyond the resources already borrowed in previous years and due in the respective year.

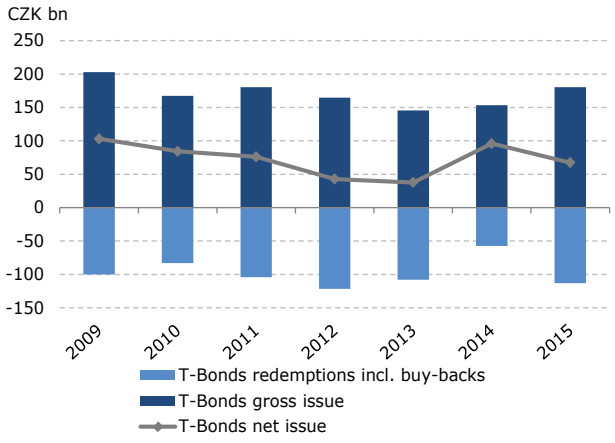
Table 5: Net Borrowing Requirement

CZK bn	2009	2010	2011	2012	2013	2014	2015
Gross borrowing requirement	**357.8**	**340.7**	**369.5**	**472.0**	**309.9**	**265.6**	**268.1**
T-Bonds redemptions[1]	100.0	83.0	104.1	121.7	107.9	143.7	123.9
Redemptions and early redemptions on savings government bonds	0.0	0.0	0.0	9.6	7.7	11.9	11.9
T-Bills redemptions[2]	78.7	88.2	113.3	162.6	189.1	120.9	107.6
Other money market instruments redemptions[2]	0.0	0.0	0.0	0.0	0.0	0.0	2.5
Repayments on credits and loans	0.8	1.1	1.1	5.3	2.8	11.1	2.5
Net borrowing requirement	**178.2**	**168.5**	**151.0**	**172.8**	**2.3**	**-21.9**	**19.6**

[1] Incl. hedging operations and the impact of the buy-backs and exchanges executed in previous years.
[2] Excl. T-Bills issued and redeemed within respective year, and roll-over of other money market instruments.
Source: MoF

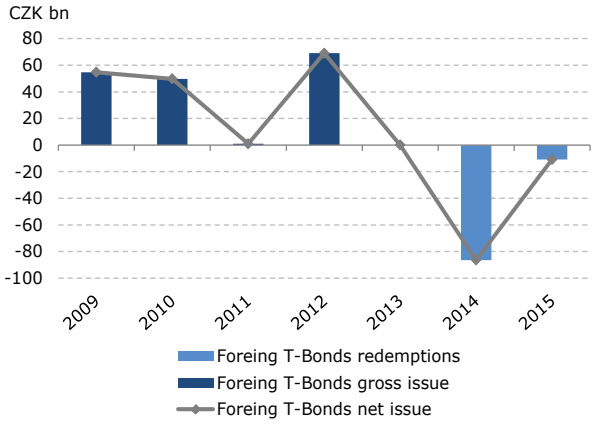
The net borrowing requirement is financed using the same instruments as the gross borrowing requirement. In financing the net borrowing requirement, however, it is necessary to take into account the value of total redemption on the nominal value (principal) of the given debt portfolio instruments, including the impact of derivatives.

Figure 11: Net Issue of T-Bonds on the Domestic Market



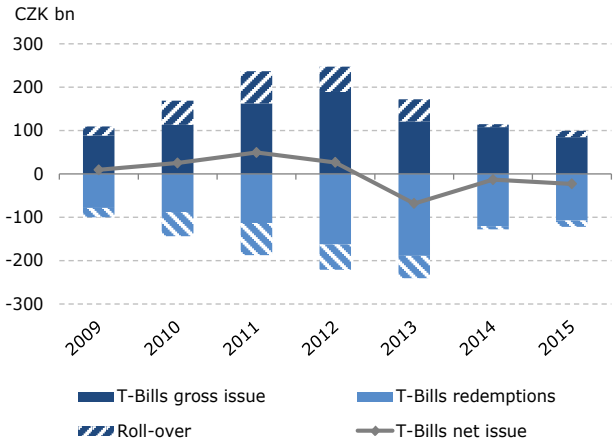
Note: Redemptions on T-Bonds including executed buy-backs.
Source: MoF

Figure 12: Net Issue of Foreign T-Bonds



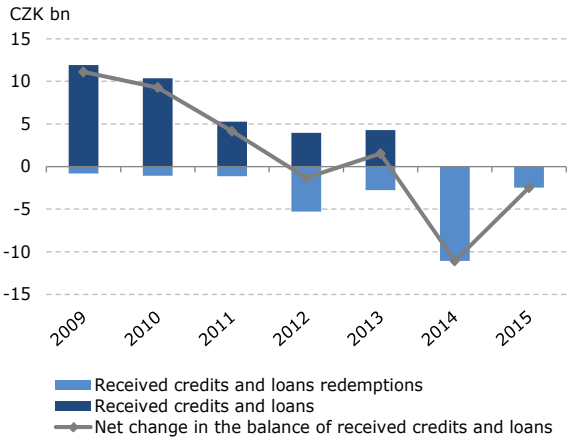
Source: MoF

Figure 13: Net Issue of T-Bills on Domestic Market



Source: MoF

Figure 14: Net Change in the Balance Received of Credits and Loans



Source: MoF

Table 6: Net Borrowing Requirement and Change in State Debt

CZK bn	2009	2010	2011	2012	2013	2014	2015
Gross state debt as at 1 January	**999.8**	**1,178.2**	**1,344.1**	**1,499.4**	**1,667.6**	**1,683.3**	**1,663.7**
Primary state budget balance	147.9	120.6	97.6	59.6	30.4	29.3	17.5
Net expenditure on state debt service[1]	44.5	35.8	45.1	41.4	50.9	48.5	45.3
Financial asset and liquidity management operations	-14.2	12.0	8.2	71.8	-78.9	-99.7	-43.2
Net borrowing requirement	**178.2**	**168.5**	**151.0**	**172.8**	**2.3**	**-21.9**	**19.6**
T-Bills net issue	9.4	25.1	49.3	26.5	-68.2	-13.3	-23.2
Net change in the balance of other money market instruments	0.0	0.0	0.0	0.0	0.0	2.5	-0.4
T-Bonds net issue on domestic market	103.0	84.4	76.2	42.9	37.7	96.0	67.4
T-Bonds net issue on foreign markets[2]	54.7	49.7	0.9	69.0	0.0	-86.4	-10.8
Savings government bonds net issue	0.0	0.0	20.4	35.8	31.4	-9.7	-10.9
Net change in balance of received credits and loans	11.1	9.3	4.1	-1.3	1.5	-11.1	-2.5
Financing of net borrowing requirement	**178.2**	**168.5**	**151.0**	**172.8**	**2.3**	**-21.9**	**19.6**
Revaluation of state debt[3]	0.5	-2.4	4.5	-4.4	13.4	2.3	-10.3
Promissory notes net change	-0.2	-0.3	-0.2	-0.1	0.0	0.0	0.0
Gross state debt change	**178.4**	**165.8**	**155.3**	**168.3**	**15.7**	**-19.7**	**9.3**
Gross state debt as at 31 December	**1,178.2**	**1,344.1**	**1,499.4**	**1,667.6**	**1,683.3**	**1,663.7**	**1,673.0**
Share of GDP (%)[4]	**30.0**	**34.0**	**37.3**	**41.3**	**41.3**	**39.0**	**37.2**

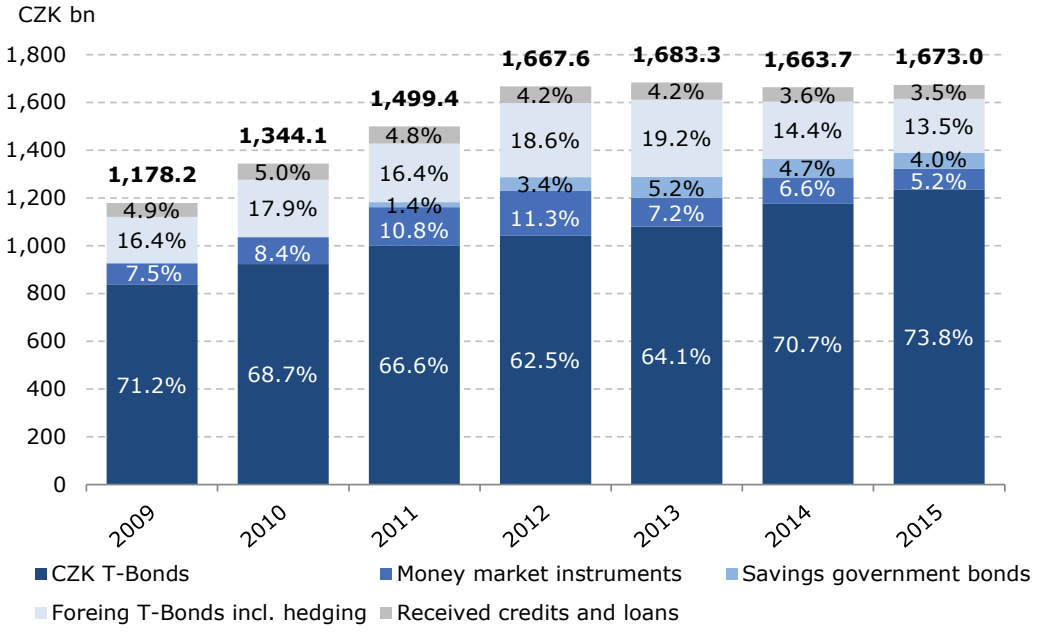
[1] Balance of budgetary chapter 396 – State debt.
[2] Incl. hedging operations.
[3] Incl. the revaluation of the debt denominated in foreign currencies based on the exchange rate difference and the consolidation of state debt from the bonds, which were at the moment of issuance registered on the asset account maintained by the Ministry in the respective record, for the period they were registered on such account, as well as the bonds acquired by the state as the issuer before their maturity date, and the cash resources received under the investment facilities provided from the nuclear investment portfolio.
[4] GDP in the ESA2010 methodology. The source of data for 2009 – 2014 is CZSO, for 2015 the Macroeconomic Forecast of the Czech Republic – January 2016.
Source: MoF, CZSO

Table 7: Balance and Structure of the Net Debt Portfolio

CZK bn	2009	2010	2011	2012	2013	2014	2015
Gross state debt	**1,178.2**	**1,344.1**	**1,499.4**	**1,667.6**	**1,683.3**	**1,663.7**	**1,673.0**
T-Bills	88.2	113.3	162.6	189.1	120.9	107.6	84.4
Other money market instruments	0.0	0.0	0.0	0.0	0.0	2.5	2.9
Received collateral in cash	0.0	0.0	0.0	0.0	0.0	0.0	0.0
T-Bonds issued on domestic market	838.6	923.0	999.1	1,042.0	1,079.7	1,175.7	1,235.2
T-Bonds issued on foreign markets[1]	193.0	240.3	245.7	310.3	323.7	239.6	225.6
Savings government bonds	0.0	0.0	20.4	56.2	87.6	77.8	66.9
Received credits and loans	57.9	67.2	71.3	70.0	71.5	60.4	58.0
Promissory notes	0.6	0.3	0.1	0.0	0.0	0.0	0.0
Liquid state financial assets	**102.2**	**112.3**	**119.7**	**191.5**	**116.7**	**67.8**	**77.1**
Nuclear investment portfolio	13.5	15.1	16.6	18.5	20.7	22.7	24.5
Pension investment portfolio	21.2	21.6	22.0	22.4	22.6	22.7	22.9
Special-purpose state financial assets accounts	9.2	10.2	10.5	10.6	10.7	10.9	11.1
On-lending over 1 year[2]	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cash reserve[3]	58.3	65.4	70.6	139.9	62.7	11.5	18.6
State financial assets	**102.2**	**114.0**	**121.4**	**193.2**	**116.7**	**67.8**	**77.1**
Liquid state financial assets	102.2	112.3	119.7	191.5	116.7	67.8	77.1
On-lending[4]	0.0	1.7	1.7	1.7	0.0	0.0	0.0
Net debt portfolio	**1,076.0**	**1,230.1**	**1,378.0**	**1,474.4**	**1,566.7**	**1,595.8**	**1,595.9**

[1] Incl. hedging operations.
[2] Extra-budgetary loans with maturity of over 1 year and the estimated remaining time to maturity shorter than 12 months granted to other countries and domestic legal entities.
[3] Available cash resources created according to Section 35(4) of Act No. 218/2000 Coll. incl. the impact of exchange rate difference of the CZK value of the part of the cash reserve in foreign currencies.
[4] Extra-budgetary loans with maturity of over 1 year and the estimated remaining time to maturity longer than 12 months granted to other countries and domestic legal entities.
Source: MoF

Figure 15: Structure of the Debt Portfolio



Source: MoF

State Treasury Liquidity Management

In the environment of extremely low and negative interest rates and in case of the Czech Republic also under the regime of the foreign exchange interventions of the Czech National Bank, that increased the liquidity in the domestic banking sector, the Ministry focused on the significant rationalization of the available state treasury liquidity in 2015. Since a substantial increase in interest rates on the financial market cannot be expected, the liquidity became involved more intensively as a short-term source of cash resources for the covering of financing needs of the central government in accordance with the most recent principles of the management of government finances. The cash reserve generated in previous years by the issuance activity with correlative increase in the gross state debt is being progressively replaced by the available cash resources of the central system of treasury single accounts management.

Table 8: State and Structure of Resources and Investment Position of State Treasury

CZK bn, EUR bn	2013		2014		2015	
	CZK	EUR	CZK	EUR	CZK	EUR
Liquid state financial assets	**94.0**	**0.8**	**56.3**	**0.4**	**58.5**	**0.7**
Mandatory clients of state treasury[1]	96.1	2.2	99.3	1.8	114.3	2.0
Optional clients of state treasury	4.4	0.0	5.6	0.0	10.0	0.0
Liabilities to the state treasury (-)	0.0	0.0	-50.7	0.0	-81.8	-0.8
Total liquidity position of the state treasury[2]	**194.5**	**3.0**	**110.5**	**2.2**	**101.0**	**1.9**
Reverse repo operations (T-bills collateral)	18.0	0.0	0.0	0.0	0.0	0.0
Reverse repo operations (T-bonds collateral)	0.0	1.4	0.0	0.8	0.0	0.4
Reverse repo operations (CNB bills collateral)	141.5	0.0	71.3	0.5	0.0	0.0
Reverse repo operations (foreign securities collateral)	0.0	0.0	0.0	0.0	0.0	0.0
Provided deposits and short-term borrowings and loans	14.0	1.0	22.1	0.8	0.0	1.4
On-lending[3]	0.0	0.0	0.0	0.0	0.0	0.0
Investment in securities	19.2	0.0	15.5	0.0	7.5	0.0
Provided collateral (in cash)	0.0	0.0	0.0	0.0	0.0	0.0
Cash resources in treasury single account[4]	1.8	0.7	1.7	0.0	93.5	0.0
Ministry's cash resources in commercial banks accounts[5]	0.0	0.0	0.0	0.0	0.0	0.0
Total investment position of the state treasury	**194.5**	**3.0**	**110.5**	**2.2**	**101.0**	**1.9**

[1] Excl. quasi-clients of the state treasury (state debt and state financial assets).
[2] Available liquidity of the state treasury incl. investments outside state treasury liquidity management accounts.
[3] Extra-budgetary loans with maturity of over 1 year and the estimated remaining time to maturity shorter than 12 months granted to other countries and domestic legal entities.
[4] Until 31/3/2013 it is a part of the cash reserve denominated in EUR, as the CNB established the treasury single account in EUR for the Ministry on 2/4/2013.
[5] Incl. cash resources in transit.
Source: MoF

With regard to the reduction in interest rates, the yields from the investment operations on the money market within the state treasury liquidity management in 2015 were by CZK 131.6 million lower than in 2014. However, the decrease in yields was compensated by the revenue from the issuance activity based on the negative yields achieved in the primary auctions of the government bonds in the total amount of CZK 413.7 million, taking into account the future expenditure on interest payments related to the bonds, unless they were zero coupon bonds.

Within the CZK-denominated state treasury liquidity management and the state financial assets investment operations in the nuclear portfolio, short-term investments with the use of the CNB bills and state treasury bills as collateral in total nominal value of CZK 2,957.1 billion were carried out in 2015. The average interest rate achieved when investing with the use of this collateral was 0.04% p.a. Short-term investments in form of deposit operations in total nominal value of CZK 2,219.7 billion were carried out as well. The average interest rate achieved when investing in form of deposit operations was 0.04% p.a. The Ministry did trade with 8 counterparts in 2015, mainly domestic but also foreign banks. CZK 40.2 million of yields from operations with the CZK-denominated state treasury liquidity were transferred to the state budget.

Within the EUR-denominated state treasury liquidity management, short-term investments with the use of the medium-term and long-term government bonds or CNB bills and state treasury bills as collateral in total nominal value of EUR 4.1 billion were carried out in 2015. The average interest rate achieved when investing with the use of medium-term and long-term government bonds as collateral was 0.04% p.a. Short-term investments in form of deposit operations in total nominal value of EUR 8.9 billion were carried out as well. The average interest rate achieved when investing in form of deposit operations was 0.06% p.a. In 2015 the Ministry carried out foreign exchange swaps in the total nominal value of EUR 0.8 billion with maturity in 2016, and the average interest rate achieved in these operations was 1.9% p.a. The Ministry did trade with 18 counterparts in 2015, mainly the domestic and foreign banks. CZK 67.1 million of yields from operations with the EUR-denominated state treasury liquidity were transferred to the state budget. The situation on the European deposit market is characterized by the gradually reduced interest rates, particularly due to the monetary policy of the European Central Bank.

Table 9: State Budget Revenue from Investment and Issuance Operations with Negative Yields (CZK million)

Revenues	2013	2014	2015	2014/2013	2015/2014
CZK operations	93.0	87.1	40.2	0.9	0.5
EUR operations (in CZK)	15.3	151.7	67.1	9.9	0.4
Lending facilities	0.6	1.9	3.9	3.1	2.0
Issuance with negative yield[1]	0.0	0.0	413.7	-	-
Total	**108.9**	**240.8**	**524.9**	**2.2**	**2.2**

[1] Adjusted for future the expenditure in the form of coupon payments until the maturity of these bonds, unless they were zero-coupon bonds.
Source: MoF

3 - Funding Program and Issuance Activity in 2015

The funding program for the given year defines the space for borrowing operations and quantifies the value of cash resources acquired via borrowing operations on the financial market or from the international financial institutions in order to cover the financing needs of the government. Its structure consists of debt sources of the financing needs of the government, which are used for financing of the gross borrowing requirement of the central government, i.e. issuance and sale of government bonds on domestic and foreign markets and acceptance of loans and credits from international financial institutions.

Implementation of the Funding Program

The regular quarterly evaluation of the actual structure of the debt portfolio in relation the declared strategic objectives and limits that constitute the key parameters of the publicly defined strategic benchmark portfolio, communicated primarily through the Strategy and its potential revision, and the quarterly update of the gross borrowing requirement and funding program included in the Debt Portfolio Management Quarterly Reports, are the Ministry's main instruments to support the credibility and transparency of the entire process of management of the state debt and the related state financial assets and the execution of borrowing operations on financial markets in accordance with best international practice and recommended standards.

Medium-Term and Long-Term Government Bonds

The Strategy set the issuance plan for medium-term and long-term government bonds for 2015 in the range from CZK 130.0 to 180.0 billion. The actual gross issue of medium-term and long-term government bonds amounted to CZK 180.4 billion. The slight overrun of the plan was based on the development on financial markets in the second half of 2015, when the yields of Czech government bonds reached the all-time low and the bonds at the short end of the yield curve even reached the negative yields to maturity. The possibility to increase the total nominal value of the gross issue of the medium-term and long-term government bonds was presented in the Update of the Strategy for second half of 2015. The Ministry presented the possible issue of a zero-coupon bond with the maturity in 2017, which could replace part of the gross issue of state treasury bills in case of favourable market conditions and thus impact positively on the state budget and the risk parameters of the debt portfolio. The total nominal value of the state treasury bills outstanding would decrease in comparison to the plan to keep it on the level of at least CZK 100 billion. The Ministry responded flexibly to the development on financial markets and to the demand from the primary dealers and issued the first tranche of this bond on 11 September 2015. The total nominal value of the state treasury bills outstanding decreased by CZK 15.6 billion compared to originally planned balance to CZK 84.4 billion. The total nominal value of the zero bond with the maturity in 2017 amounted to CZK 59.7 billion in 2015 and enabled the extra state budget revenue of CZK 367.4 million. The total net state budget revenue resulting from the issue of medium-term and long-term government bonds with negative auction yield amounted to CZK 378.3 million, taking into account the future interest payments, unless they were zero bonds.

The theoretic yield curve of the Czech government bonds constructed on the basis of quotations on the secondary market of government bonds implemented by the electronic trading platform MTS Czech Republic was signalling negative yields for the remaining maturity up to 5 years, which was confirmed on the primary market by the auction of the Czech Republic Government Bond, 2005–2020, 3.75% executed on 25 November 2015. The Ministry placed the bond on the market in the total nominal value of CZK 2.6 billion with the average auction yield of -0.08% p.a.

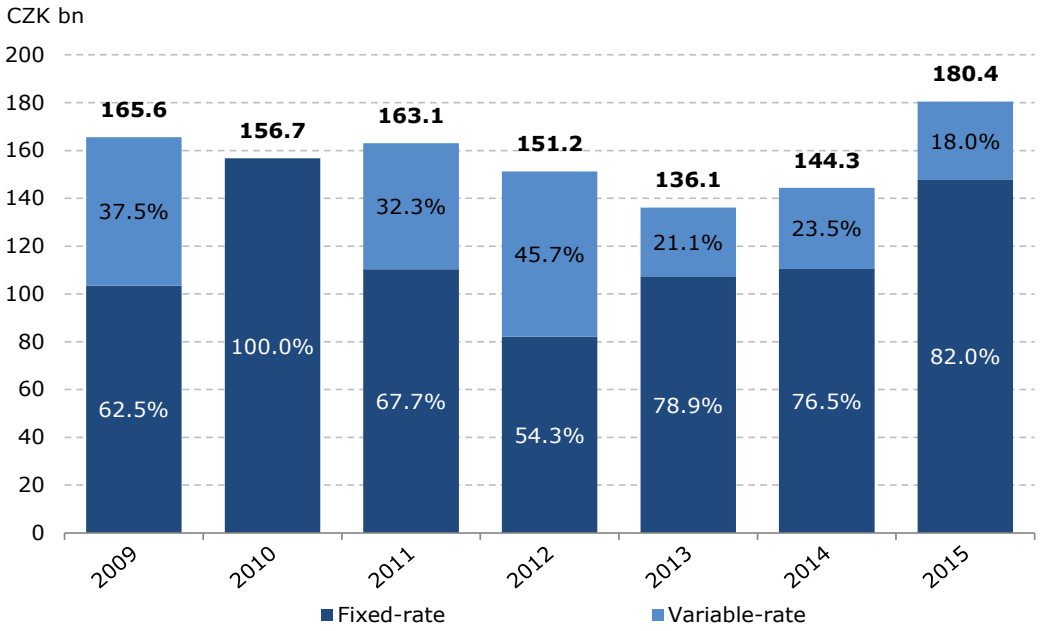
33 primary auctions of medium-term and long-term government bonds were carried out on the domestic market in 2015. Up to three instruments were offered in one auction day.

From September 2015 the Ministry has modified the procedure for publishing the issuance calendars for the following month by introducing the possibility to announce one or more alternative bonds in addition to the bond in the respective auction and choose the particular bond for the auction one working day before the competitive part of the auction at the latest. Another modification of the

announcement of issuance calendars concerned the possibility to publish the total nominal value of the medium-term and long-term government bonds to be offered in the competitive part of the auction as the indicative maximum value. By these modifications the Ministry made additional space for a flexible response to the market development and to the demand from the primary dealers.

Medium-term and long-term government bonds were sold solely via the primary auctions in 2015. In accordance with the Strategy fixed-rate and variable-rate medium-term and long-term government bonds were issued, in the share of 82.0% for fixed-rate bonds and 18.0% for variable-rate bonds.

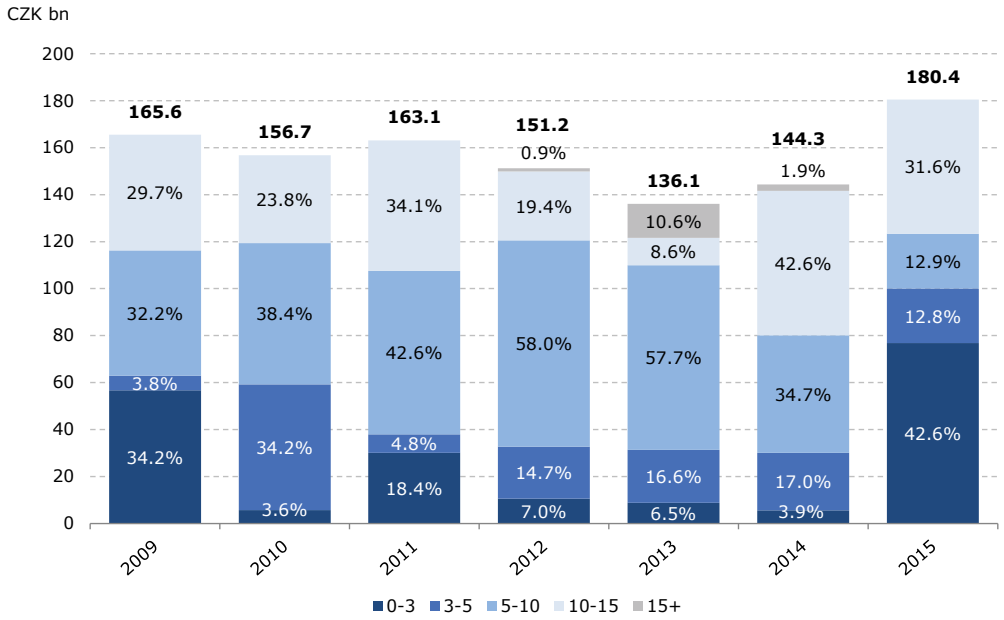
Figure 16: Interest Structure of T-Bonds Sold in Auctions



Source: MoF

Medium-term and long-term government bonds in various segments of time to maturity were issued in primary auctions in accordance with the declared limits for refinancing risk, whereas according to the issuance plan, three new benchmark issues of fixed-rate of government bonds with maturity in 2023, 2026 and 2030 were issued as well, more specifically Czech Republic Government Bond, 2015–2023, 0,45%, Czech Republic Government Bond, 2015–2026, 1,00% and Czech Republic Government Bond, 2015–2030, 0,95%, which were supplemented by Czech Republic Government Bond, 2015–2017, 0,00%. With regard to the decrease in yields of Czech government bonds, particularly at the shorter end of the yield curve, and the unprecedented interest of the primary dealers in these bonds, the gross issue in the segment of time to maturity of up to 3 years dominated the issuance activity. It concerned the tranches No. 1 – 5 of Czech Republic Government Bond 2015-2017, 0.00% issued in the total nominal value of CZK 59.7 billion, which represents 33.1% of the total nominal value of the gross issue of medium-term and long-term government bonds in the primary auctions, tranches No. 6 – 8 of the Czech Republic Government Bond 2014-2018, 0.85% issued in the total nominal value of CZK 17.2 billion, which represents 9.5% of the total nominal value of the gross issue of medium-term and long-term government bonds in the primary auctions. The total share of the gross issue of the government bonds in the segment of time to maturity of up to 3 years in the total gross issue of medium-term and long-term government bonds in the primary auctions amounts to 42.6%, which represents the increase by 38.7 percentage points in comparison to the previous year. Another dominant segment was the segment of time to maturity of 10 to 15 years with 31.6% share, the highest gross issue within this segment was achieved with the Czech Republic Government Bond 2014-2027, VAR% and it amounted to CZK 16.3 billion. It represents 9.1% of the total nominal value of the gross issue of medium-term and long-term government bonds in the primary auctions. The share of the segment of time to maturity of 5 to 10 years decreased in comparison with the previous year by 21.7 percentage points and represented 12.9% of the total nominal value of the gross issue of medium-term and long-term government bonds in the primary auctions.

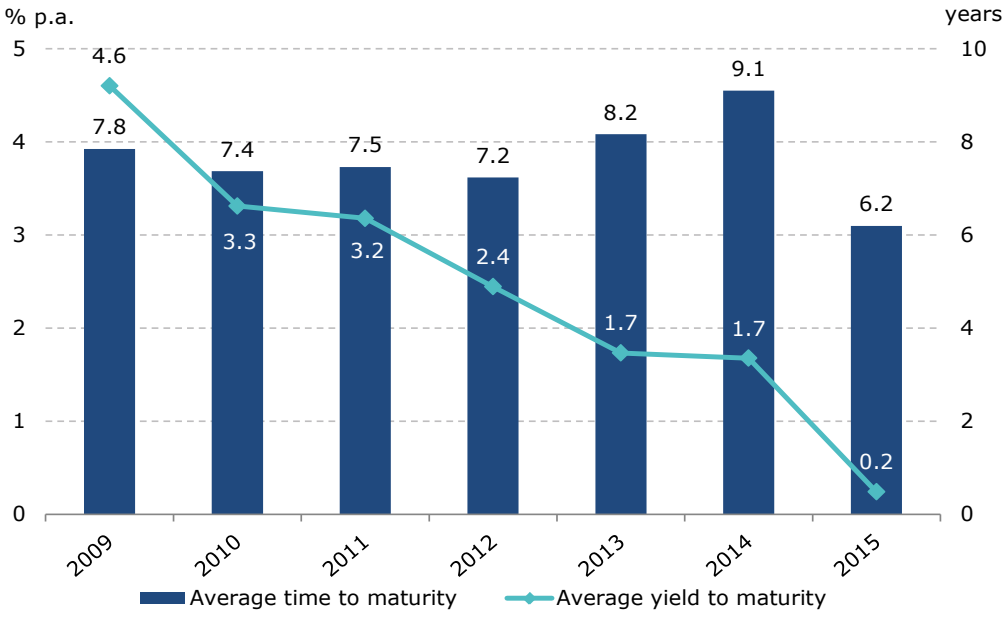
Figure 17: Maturity Structure of Government Bonds Sold in Auctions



Source: MoF

The average yield of medium-term and long-term government bonds sold in primary auctions in 2015 was 0.2% p.a. It is based on the drop in yields of Czech government bonds as well as the decrease in the average time to maturity of medium-term and long-term government bonds sold in primary auctions by 2.9 years in comparison to 2014 to 6.2 years. The decrease in the average time to maturity is based on the flexible response to the development on financial markets and on the demand from the primary dealers for the bonds at the shorter end of the yield curve.

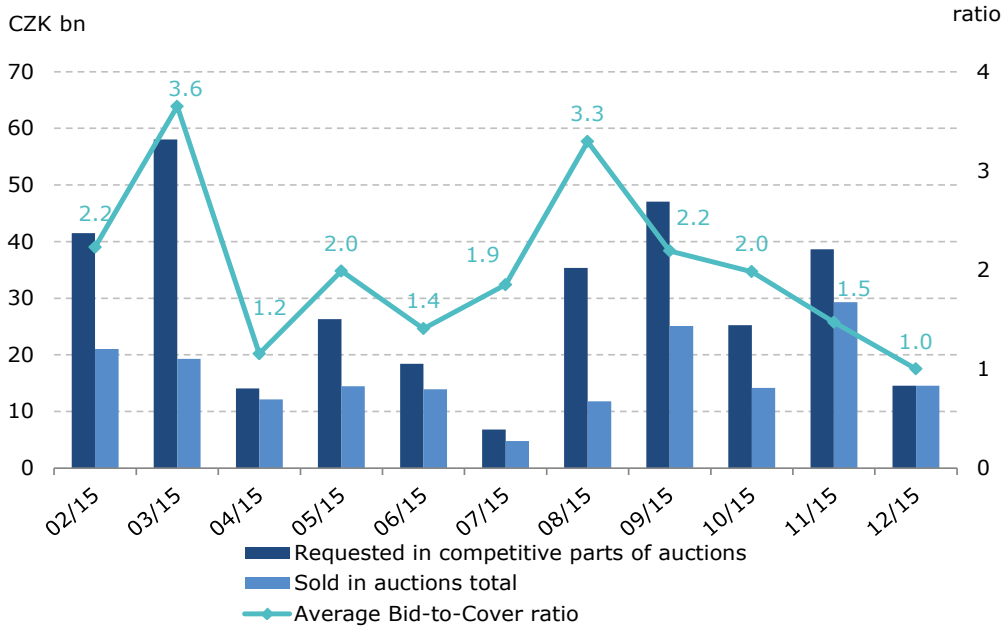
Figure 18: Average Yield and Time to Maturity of T-Bonds in Primary Auctions



Note: Average time to maturity is related to the issue date.
Source: MoF

The stable demand for CZK-denominated medium-term and long-term government bonds persisted in 2015, which is illustrated by the Bid-to-Cover Ratio. The average Bid-to-Cover Ratio at a value of 2.1 signalises a very high demand in auctions for medium-term and long-term government bonds on the domestic market.

Figure 19: Primary Auctions of T-Bonds in 2015



Source: MoF, CNB

No tap sales of medium-term and long-term government bonds were carried out in 2015 through the electronic trading platform MTS Czech Republic, primarily due to the high interest of the primary dealers in the government bonds sold in the primary auctions. The Ministry decided to sell the Czech Republic Government Bond, 2005-2020, 3.75%, from its own asset account in the auction. The success of the auction proved the decision to be right.

In 2015, the regular redemption of CZK-denominated Czech Republic Government Bond, 2005-2015, 3.80% in the total nominal value of CZK 56.4 billion was carried out, as well as the regular redemption of CZK-denominated Czech Republic Government Bond, 2010-2015, 3.40% at a total nominal value of CZK 56.7 billion.

No buybacks of medium-term and long-term government bonds were executed in 2015.

The total nominal value of the net issue of medium-term and long-term government bonds on the domestic market amounted to CZK 67.4 billion.

In the area of foreign issuance activity, the Ministry did not execute any borrowing operations in 2015 because of the high interest of the primary dealers in the government bonds on the domestic market and higher costs of the foreign issue in comparison to the domestic funding. In October 2015, the variable-rate foreign issue of EUR-denominated Czech government bond was redeemed in the total nominal value of EUR 0.3 billion.

Money Market Instruments

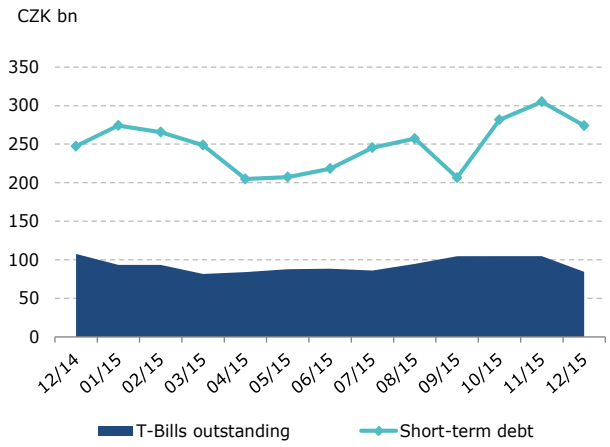
In 2015, the total nominal value of the gross issue of money market instruments excl. roll-over was CZK 86.6 billion, of which CZK 84.4 billion were issued state treasury bills and CZK 2.2 billion were received cash resources within the medium-term and long-term government bonds lending facilities in the form of repo operations with these bonds provided as collateral. Due to the partial replacement of the gross issue of the state treasury bills by the gross issue of the Czech Republic Government Bond, 2015–2017, 0,00%, the total nominal value of the net change in balance of money market instruments amounted to CZK -23.5 billion. The Ministry made the respective decision based on the negative yields reached in the auctions of this bond, the unprecedented interest of the primary dealers in this bond, as well as the positive impact on the risk indicators of the debt portfolio.

The gross issue of state treasury bills incl. roll-over amounted to CZK 99.3 billion in 2015. The average auction yield of state treasury bills in 2015 was -0.05% p.a. In response to the current development on financial markets, when the yields of Czech government bonds particularly at the short end of the yields curve dropped to the negative figures, and to the increased demand for the short-term government bonds from the primary dealers, the Ministry started selling state treasury bills with the maturity of 3 months or shorter. The issue of these bonds was not

executed in order to cover the financing needs of the government but to take the full advantage of the exceptionally favourable market conditions, which enabled to increase the state budget revenue in the form of auction premiums. Thanks to the efficient timing of the issuance activity and the selection of suitable maturities the sale of state treasury bills with remaining time to maturity in the range from 7 weeks to 1 year with the negative auction yield brought extraordinary state budget revenue of CZK 35.4 million, when the total nominal value of these state treasury bills amounted to CZK 32.3 billion.

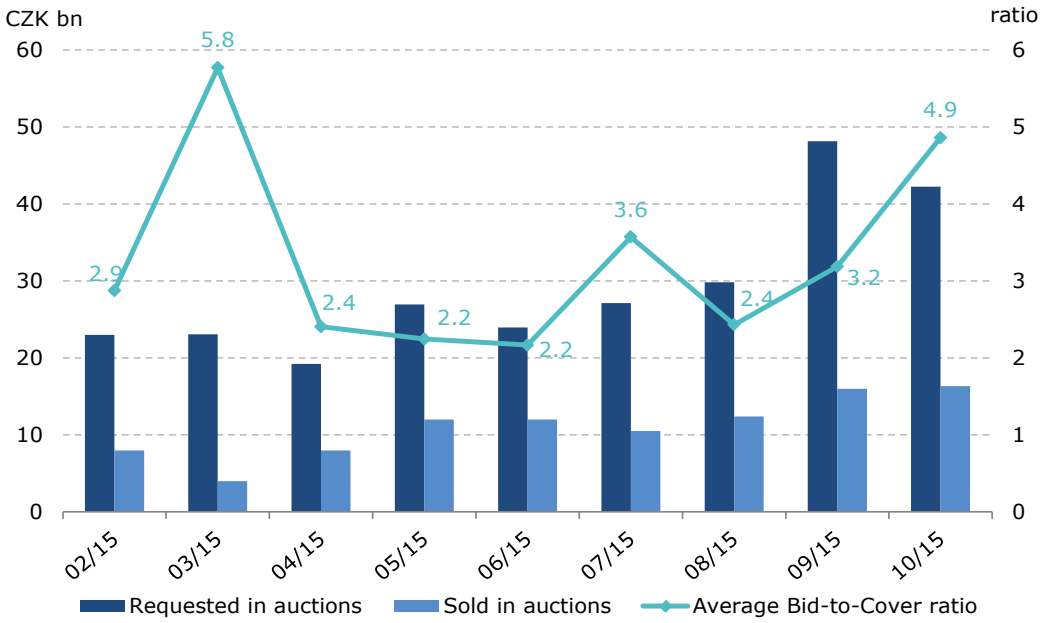
The relatively stable demand for state treasury bills from the primary dealers could be observed also in 2015, when the average ratio of requested and sold nominal value of state treasury bills in auctions came to 3.4.

Figure 20: State Treasury Bills Outstanding in 2015



Source: MoF

Figure 21: T-Bills Auctions in 2015



Source: MoF, CNB

In 2015, the primary dealers in Czech government bonds continued to use the lending facilities in the form of repo operations for the medium-term and long-term government bonds, the aim of which is to increase the liquidity of government bonds on the secondary market. In 2015, the medium-term and long-term government bonds in the total nominal value of CZK 141.4 billion were lent from the Ministry's own asset accounts against the cash resources amounting to CZK 172.8 billion. The cash resources were invested on the money market under the state treasury liquidity management and under the investment operations of state financial assets management within the nuclear portfolio. The average yield achieved in the lending facilities in form of repo operations amounted to -0.07% p.a. in 2015.

As a part of the additional support of the secondary market of medium-term and long-term government bonds the Ministry started using the lending facilities in the form of collateralized loans in the fourth quarter of the year, based on the demand from the primary dealers. The Ministry provided the Czech government bonds for the short period of time from its own asset account against other Czech government bonds or a CNB treasury bills for a fee. The facility could be used for the period of up to 90 days. The aim of these operations was to increase the liquidity of the government bonds on the secondary market, especially in case of short-term excess of demand over supply related to the respective bond. Medium-term and long-term government bonds in the total nominal value of CZK 10.4 billion were provided under these

operations in 2015. The average fee achieved in lending facilities in the form of collateralized loans amounted to -0.10% p.a. in 2015.

The increased interest from the primary dealers in the lending facilities could be observed also in 2015, when the total nominal value of provided medium-term and long-term government bonds increased by CZK 56.8 billion in comparison to 2014 to CZK 141.4 billion in case of the lending facilities in the form of repo operations, and additional medium-term and long-term government bonds in the total nominal value of CZK 10.4 billion were provided under the lending facilities in the form of collateralized loans.

Other Debt Instruments

In 2015, no tranches of the loans from the European Investment Bank were drawn. In the course of the year, the planned repayments of EIB loans tranches in a total amount of CZK 2.1 billion were carried out, as well as the early repayments of EIB loan tranches totalling CZK 0.4 billion. Overall, EIB loan tranches totalling CZK 2.5 billion were repaid in 2015.

In the area of savings government bonds, the total nominal value of the gross issue of savings government bonds amounted to CZK 1.0 billion issued solely in the form of reinvestment of yields.

In 2015, regular redemptions were carried out on the Czech Republic Premium Savings Government Bond, 2012 – 2015, FIX% in a total nominal value of CZK 11.5 billion. The issuance terms and conditions of savings government bonds allow the owners to request their redemption before the maturity date. However, the actual development of early redemption in 2015 indicates that the share of early redemptions is not significant and the owners of savings government bonds rarely request this service. Within all periods for submitting requests for early redemption in 2015, such early redemption was requested for a total nominal value of CZK 417.5 million, which is 0.6% of the total nominal value of savings government bonds outstanding as at the end of 2015. The total nominal value of regular and early redemptions of savings government bonds in 2015 amounted to CZK 11.9 billion.

At the end of 2015, the total nominal value of savings government bonds outstanding amounted to CZK 66.9 billion, which is 4.0% of the total state debt and 5.1% of CZK-denominated government bonds excluding state treasury bills.

Table 10: Issues and Redemptions on Savings Government Bonds

	2011	2012	2013	2014	2015
Total nominal value of savings government bonds issued (CZK bn)	20.4	45.3	38.8	1.4	0.0
Reinvestment of yields (CZK bn)	0.0	0.1	0.3	0.7	1.0
Early redemptions (CZK bn)	-	0.1	0.2	0.3	0.4
Early redemptions (% savings government bonds outstanding as at the end of the respective year)	0.0	0.2	0.2	0.4	0.6
Regular redemptions (CZK bn)	0.0	9.5	7.5	11.6	11.5
Total redemptions (CZK bn)	0.0	9.6	7.7	11.9	11.9
Savings government bonds outstanding (CZK bn)	20.4	56.2	87.6	77.8	66.9

Source: MoF

4 - Risk Management and Portfolio Strategy

Public definition of the strategy benchmark debt portfolio through the declaration of strategic goals is the main tool for increasing the transparency of the Ministry's debt policy in line with the best international practice. The objectives have been set up based on the requirements stemming from the cautious approach to the management of financial and credit risks while minimizing economic costs over the long term. The main risks to which the debt portfolio is subjected over the long term are refinancing, interest and currency risks. All of the objectives and limits defined below are being applied to the portfolio of the state debt as a whole, including derivative operations.

In connection with the sufficient liquidity of single treasury accounts and relatively stable balances of the accounts owners mandatorily included into single treasury accounts, improvement of the efficiency and modernization of state treasury liquidity management, the Ministry approaches new concept of risk management starting from 2016, as strategic targets and limits of refinancing and interest risk will be published in medium-term horizon. This concept allows the Ministry to flexibly react on short-term market conditions and interest of investors for instruments in particular segment of time to maturity or re-fixing.

Short-term deviation from established strategic medium-term limits and targets for risk parameters of debt portfolio for refinancing and interest risk is possible. However, the issuance in medium-term horizon will be planned so that the targets and limits defined in this Strategy will be fulfilled in medium-term 2018 horizon. The additional effect of this step may be the decrease in total net expenditure on state debt service with positive impact on state budget deficit and, in the end, the level of state debt.

Starting from 2016, the Ministry also changes the concept of refinancing risk management through the average time to maturity of state debt indicator and interest risk management through the average time to re-fixing of the state debt indicator, as it abandons the target band and establishes a medium-term target value of this indicator with a possibility of a short-term deviation from this value instead. The reason is the actual market condition, when the Ministry achieves extra savings on state debt service by issuing on short end of the yield curve and thus it is desirable to use this situation at maximally acceptable level. Maintaining a fixed target band would run counter to this intention. The actual financial market condition is also related among other things to the expansionary monetary policy of central banks and it is probable that it will persist even during 2016. The Ministry will monitor and evaluate the financial market conditions intensively.

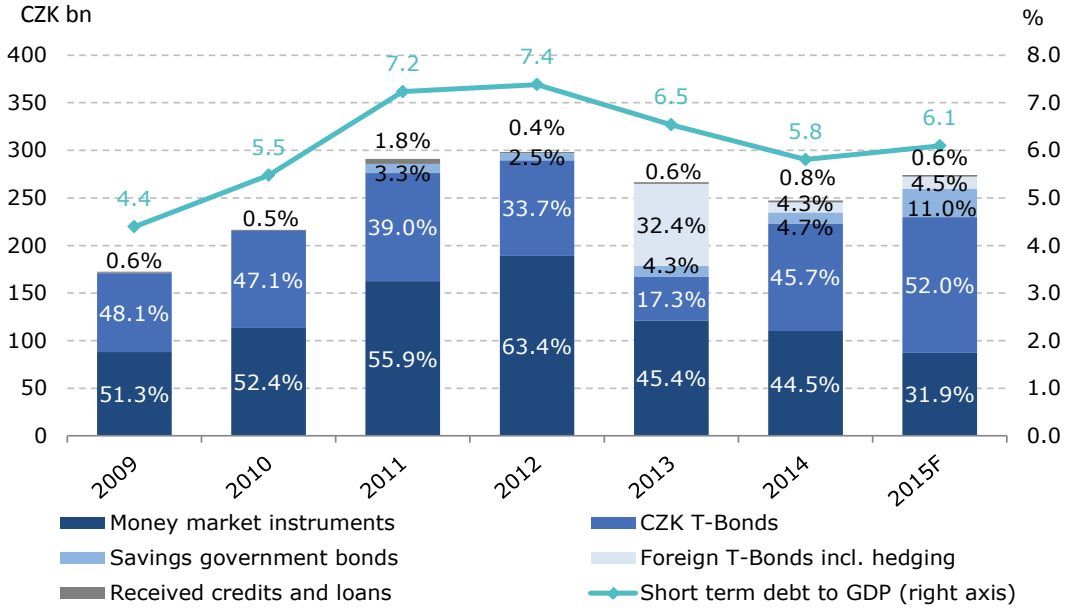
Medium-term targets and limits in the area of refinancing and interest risks will be evaluated against a 12-month moving average of the particular indicator starting from 2016. For the purpose of determining these averages, the values of these risk parameters as of the end of each calendar month will be recorded. Indicators constructed in this way will smooth out the fluctuations of the values of these indicators caused for example by the short-term fluctuations of markets or large redemption of medium-term and long-term government bonds in particular month.

Refinancing Risk

Refinancing risk is managed by a system of four indicators: share of short-term state debt, share of medium-term state debt, average time to maturity and the maturity profile. These four indicators must be considered as a self-contained system, whereas focussing on only one of them may pose a risk.

The share of short-term state debt (i.e. the share of debt due within one year out of the total state debt) is a key indicator of refinancing risk in the short-term horizon. Within the management of short-term refinancing risk management, the Ministry has applied limits to this indicator since 2006, which have not been exceeded in any year of their existence. In 2006 to 2012, the limit for this indicator was set at 20.0%. For 2012 and 2013, the limit was increased by 5 p.p. to 25.0% in relation to introducing a limit on the share of medium-term state debt. For 2014 the limit was reduced by 5 p.p. back to 20.0%, primarily due to the more effective available state treasury liquidity management. The limit for the share of the short-term debt is stipulated at 20.0% of the total state debt for tor the 2018 medium-term horizon. The share of the short-term state debt as at the end of 2015 amounted to 16.4% of the total state debt, which represents an increase of 1.5 p.p. compared to the end of 2014. The average monthly value of the share of the short-term state debt in 2015 amounted to 14.9% of the total state debt.

Figure 22: Structure of Short-Term State Debt by Instrument

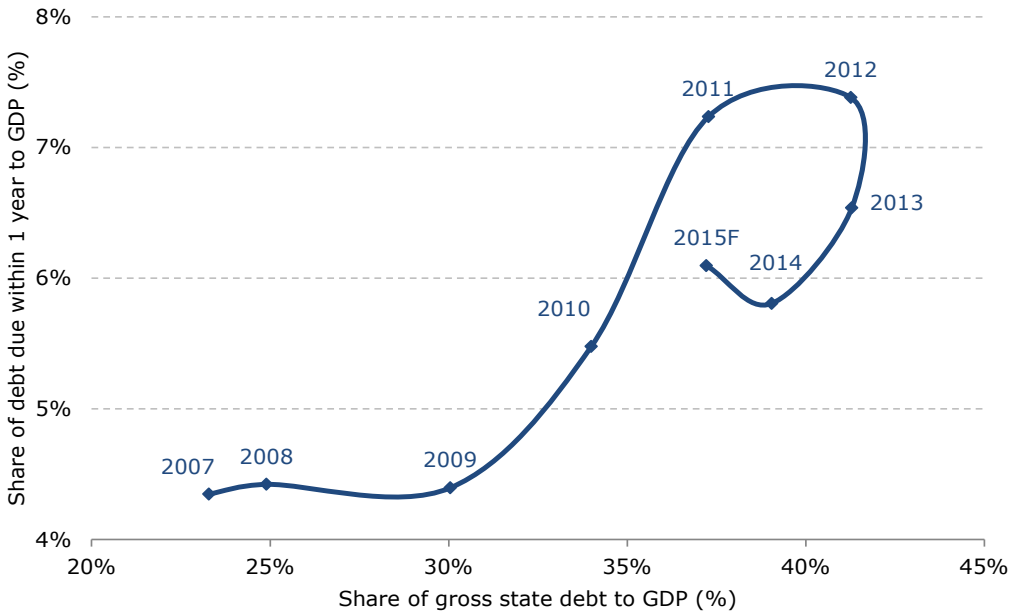


Note: As at the end of particular year. The source for GDP for 2009 to 2014 is the CZSO, for 2015 the Macroeconomic Forecast of the Czech Republic – January 2016.
Source: MoF, CZSO

Even at the end of 2015, it applies that the balance of medium-term and long-term government bonds issued on the domestic and foreign markets including savings government bonds due within one year, exceeds the balance of money market instruments outstanding. The share of money market instruments in short-term state debt as at the end of 2015 amounted to 31.9%, having decreased by 12.7 p.p. compared to the end of 2014. The share of money market instruments in total state debt as at the end of 2015 amounted to 5.2% and decreased by 1.4 p.p. compared to the end of 2014. In both cases, the decrease in the share is given mainly by the substitution of the part of state treasury bills outstanding as at the end of 2015 for the issue of the Government Bond of the Czech Republic, 2015–2017, 0.00 % with the positive impact on refinancing and interest risk.

In the course of 2015, there was an increase in the absolute value of short-term state debt by CZK 26.6 billion. In previous three years, the share of the state debt to GDP decreased from 41.3% as at the end of 2012 down to 37.2% as at the end of 2015. The share of the short-term state debt to GDP decreased from the end of 2012 until the end of 2014; in 2015, the year-on-year increase was 0.3 p.p. Compared to the end of 2014, there was a change in the structure of short-term debt, particularly as concerns the money market instruments. Their share decreased by 12.7 p.p., and this decrease is consistent with the decrease of its nominal value outstanding as at the end of 2015 and the substitution for the issue of Government Bond of the Czech Republic, 2015–2017, 0.00 %. Regarding the CZK-denominated medium-term and long-term government bonds due within one year, there has been an increase by 6.4 p.p. due to the redemption of three issues of medium-term and long-term government bonds in the total nominal value of CZK 142.6 billion in 2016 compared to the redemptions of two issues of medium-term and long-term government bonds in the total nominal value of CZK 113.0 billion in 2015. Also, regarding the savings government bonds due within one year, there was an increase by 6.3 p.p. due to the four regular redemptions of issues of savings government bonds in the total nominal value of CZK 30.0 billion in 2016 compared to the regular redemption of single issue of savings government bonds in the total nominal value of CZK 11.5 billion in 2015. Regarding the foreign issues due within one year, there has been a year-on-year increase by 0.3 p.p. primarily due to the redemption of a foreign issue in the total nominal value of CHF 500.0 million in 2016 compared to the redemption of a foreign issue in the total nominal value of EUR 300.0 million in 2015. There was also a year-on-year decrease in the share of EIB loans in the total short-term state debt of 0.2 p.p. due to the lower planned repayments about to be carried about in 2016 compared to the end of 2015.

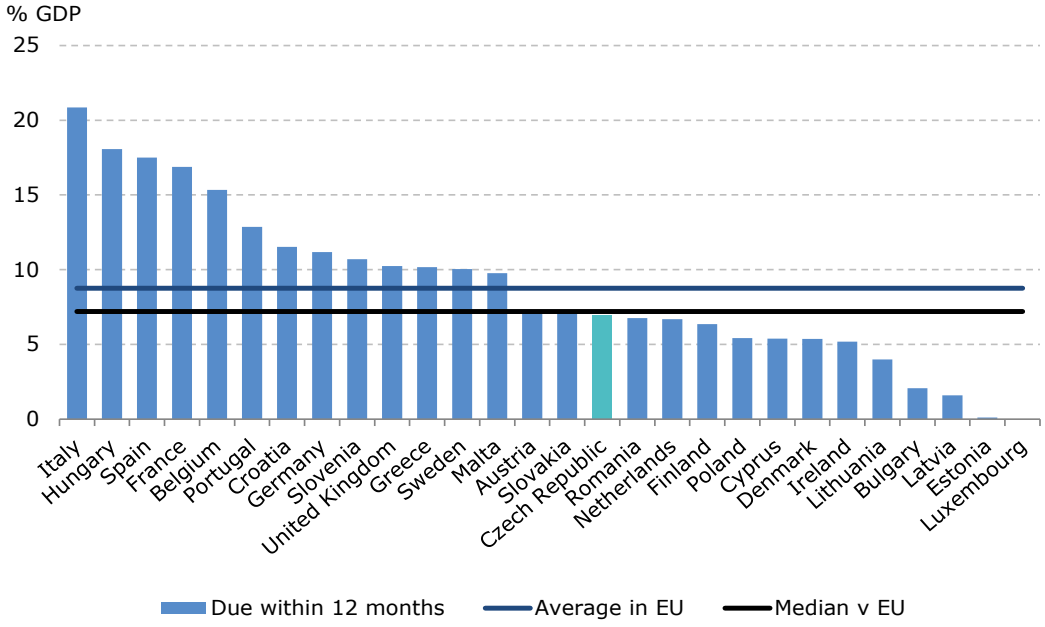
Figure 23: Gross State Debt and State Debt Due within One Year



Note: As at the end of each year. The source for GDP for 2007 to 2014 is the CZSO, for 2015 the Macroeconomic Forecast of the Czech Republic – January 2016.
Source: MoF, CZSO

The size of the short-term state debt of the Czech Republic is relatively low compared to the EU countries, with the share of short-term state debt to GDP far below the EU average and as well as below the EU median. However, this is also due to the relatively low indebtedness of the Czech Republic compared to other EU countries.

Figure 24: Short-Term State Debt in EU Countries



Note: As at the end of November 2015. Excludes non-marketable state debt, includes retail state debt. The predictions of the gross domestic product of individual economies are based on the predictions of the European Commission.
Source: ESRB Risk Dashboard

In connection with refinancing risk, it is also necessary to mention the early redemption of savings government bonds, the value of which is not yet significant in 2015, and thus does not represent any significant increase in refinancing risk, given that the total nominal value of early-redeemed savings government bonds in 2015 amounted to CZK 0.4 billion. Since the pilot series of issues in 2011 until the end of 2015, the redemption of savings government bonds before maturity has amounted to CZK 1.0 billion, which is 1.0% of all issued savings government bonds in this period, including the reinvestment of yields.

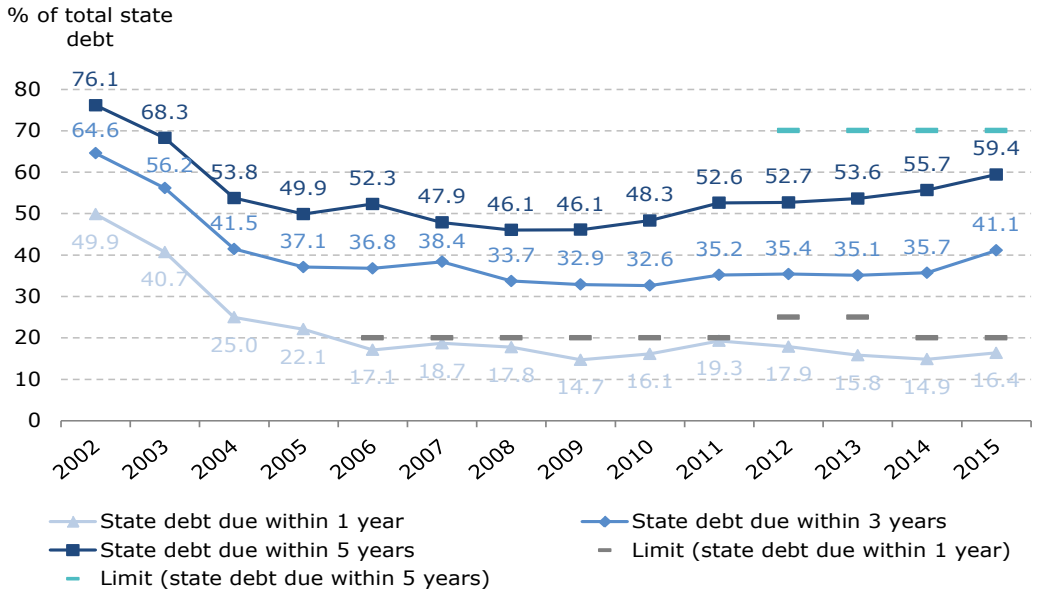
The Ministry monitors the situation, but at present does not expect any significant rise in the redemption of savings government bonds before maturity, among other because of the higher yields from these bonds compared to the current situation on bond markets.

In 2015, the Ministry also used a lending facility for providing loans of medium-term and long-term government bonds in the form of repo operations, in which the collateral consists of medium-term and long-term government bonds provided from the Ministry's asset account. Although the primary goal of these operations is to increase the liquidity of government bonds on secondary market, especially in case of the short-term excess of demand over the supply of the particular bond, due to the very low repo rates, the Ministry considers these operations as a preferred source in the segment of short-term financing. These operations thereby also contribute to savings on net interest expenditure on the state debt – but at the same time they increase refinancing risk and interest risk. Given the relatively low share of state treasury bills in total state debt and relatively low refinancing and interest risk of state debt, the lending facilities do not pose a significant risk for the state debt portfolio, despite a substantial increase of their use in 2015. The total value of repo operations carried out over the course of 2015 amounted to CZK 172.8 billion compared to CZK 99.3 billion in 2014. Within the framework of lending facilities, collateral for a total nominal value of CZK 141.4 billion was provided in 2015. As at the end of 2015, the total value of all received financial resources from unrepaid lending facilities amounted to CZK 2.9 billion.

Within the additional support of secondary market of medium-term and long-term government bonds, the Ministry has started to utilize the lending facilities in the form of collateralized loans since the fourth quarter of 2015 with the respect to the primary dealers' demand, when the Ministry provided for a fee government bonds of the Czech Republic from its asset account against another government bond of the Czech Republic or the CNB bill for a short period of time. These operations contribute to the savings on the net interest expenditure on the state debt, but in comparison with the lending facility in the form of repo operations, the collateralized loans do not affect the level of the gross state debt and thereby the refinancing and interest risk indicators of state debt portfolio. However, the Ministry monitors and evaluates these operations intensively. Within the collateralized lending facilities, the collateral for a total nominal value of CZK 10.4 billion was provided in 2015.

In terms of medium-term refinancing risk, the Ministry monitors and manages the share of debt due within three and five years. The debt due within five years is managed using the share of medium-term debt to total state debt indicator, for which the Ministry has been setting explicit limits, the value of which starting in 2012 was 70.0% of total state debt. The limit for the share of the medium-term debt is stipulated at 70.0% of the total state debt for tor the 2018 medium-term horizon. The value of the share of medium-term debt in total state debt as at the end of 2015 amounted to 59.4% and compared to the end of 2014 represents an increase of 3.7 p.p. Despite this, the indicator is still safely below the stipulated limit. The average monthly value of the share of the medium-term state debt in 2015 amounted to 56.2% of the total state debt. The share of state debt due within three years as at the end of 2015 amounted to 41.1%, which represents an increase in this indicator value by 5.4 p.p. compared to the end of 2014.

Figure 25: State Debt by Maturity Baskets



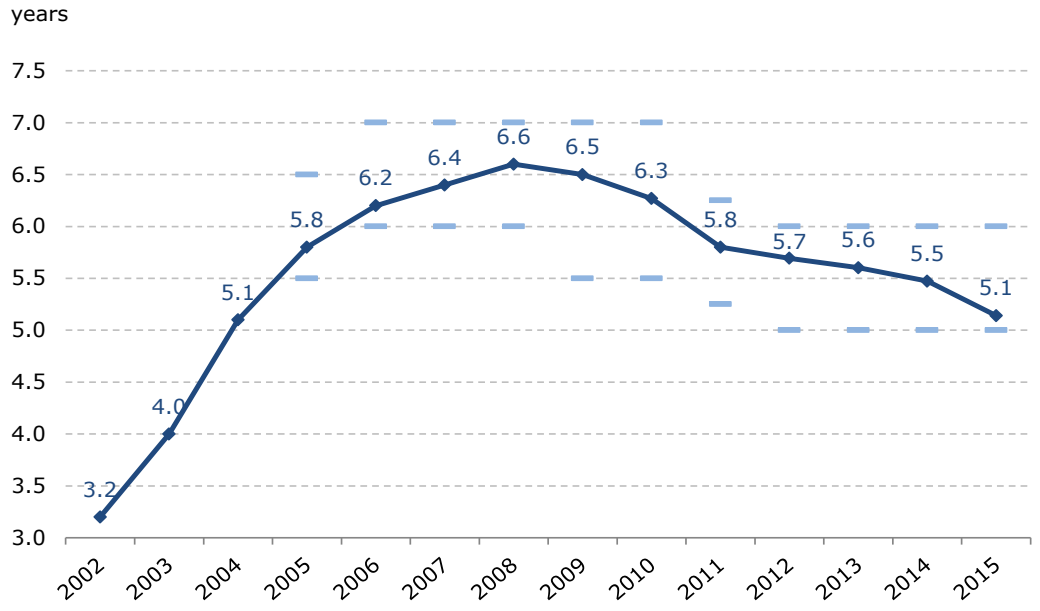
Note: As at the end of each year.
Source: MoF

Another indicator used in managing of the refinancing risk is the average time to maturity of the state debt. The goal for this indicator was first explicitly declared for 2005 in the form of an interval. Starting in 2012, the target for the average time to maturity is 5.0 to 6.0 years. The declared targets were fulfilled in all years of their validity. The target value for the average time to maturity of the state debt is stipulated at 6.0 year with the possibility of deviation of 0.25 years tor the 2018 medium-term horizon. The Ministry will consider achieving this medium-term target if favourable market conditions remain. Maintaining the average time to maturity within the target band and a smooth maturity profile of the debt portfolio are among the fundamental indicators that determine the time and volume structure of government bond issues on the domestic and foreign market, and the setting of repayment schedules for drawn EIB loans.

The average time to maturity of the state debt as at the end of 2015 amounted to 5.1 years, which represents a decrease in the indicator by 0.3 years compared to the end of 2014. In case the Ministry wouldn't have utilized the market conditions by issuing the Government Bond of the Czech Republic, 2015–2017, 0.00 % for a negative yield to maturity in order to achieve an extra revenue to the state budget and would have replaced this government bond issue partly with the issuance of state treasury bills in total nominal value of CZK 15.6 billion, so its balance outstanding as at the end of 2015 would have amounted to CZK 100.0 billion, and the rest amounting to CZK 44.1 billion would have been replaced with commonly issued medium-term and long-term government bonds in this year, the estimated average time to maturity would amount to 5.3 years. The average monthly value of the average time to maturity of the state debt in 2015 amounted to 5.3 years.

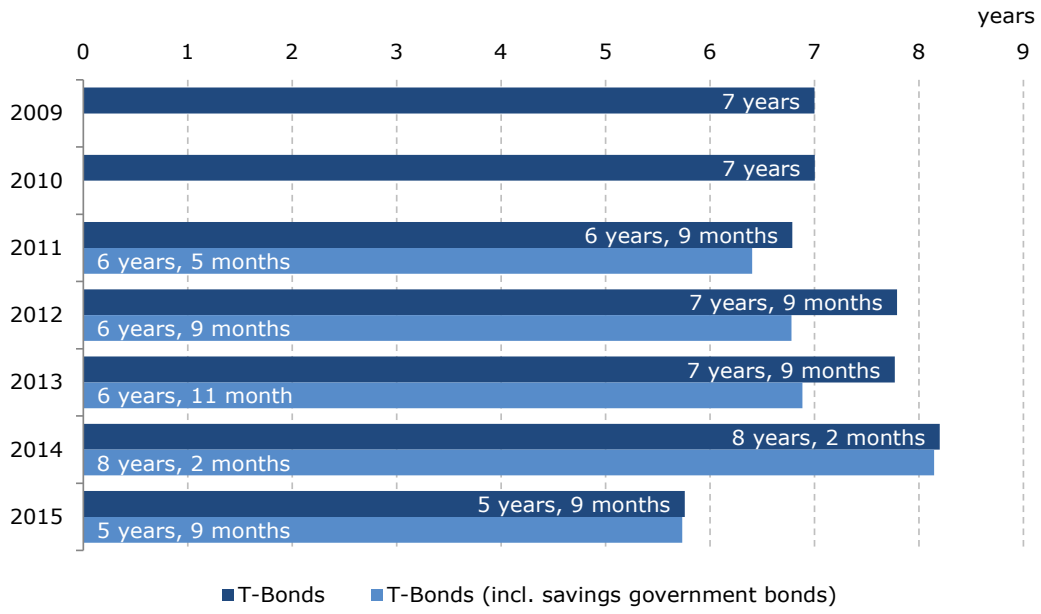
The decrease in the average time to maturity of the state debt is caused mainly by the decrease in the average time to maturity of the gross issue of medium-term and long-term government bonds in 2015 by 2 years and 5 months compared to 2014 (relative to the end of the year) as a flexible reaction of the Ministry to market conditions and increased issuance of medium-term and long-term government bonds on the shorter end of the yield curve and also by substituting of the part of the state treasury bills issuance for the medium-term and long-term government bonds issuance. This fact is due mainly to the structure and size of the debt portfolio and the relatively low gross issue of medium-term and long-term government bonds, where the average maturity of the part of the state debt that was not due in 2015, totalling approximately CZK 1.4 trillion, decreased by 1 year and is compensated by the gross issue of medium-term and long-term government bonds in the total nominal value of approximately CZK 180 billion, i.e. about one eighth of the lasting debt portfolio, with an average maturity of 5.8 years, i.e. 5 years and 9 months relative to the end of the year.

Figure 26: Average Maturity of State Debt and Declared Goals



Note: As at the end of each year.
Source: MoF

Figure 27: Average Time to Maturity of CZK-Denominated T-Bonds and Savings Government Bonds on the Domestic Market



Note: Average time to maturity of sold CZK-denominated medium-term and long-term government bonds and savings government bonds during the respective calendar year calculated relative to the end of the year.
Source: MoF

The Ministry monitors not only the average time to maturity of the total state debt portfolio, but also the average time to maturity of its individual components. The average time to maturity of money market instruments stabilized at 0.4 years since 2009. The average time to maturity of foreign issues as at the end of 2015 decreased by 0.7 year to 5.0 years compared to the end of 2014, as the Ministry did not carry out any borrowing operations on foreign markets during 2015. The average time to maturity of savings government bonds as at the end of 2015 decreased by 0.7 year to a value of 1.7 years compared to the end of 2014, as no new series of issues of savings government bonds were carried out during 2015, the gross issue of saving government bonds in total nominal value of CZK 1.0 billion was carried out solely in the form of reinvestment of the yields. The average time to maturity of the non-marketable state debt decreased by 0.6 year as no new EIB loan tranches were drawn in 2015, and due to the repayments during the year. The average time to maturity of CZK-denominated medium-term and long-term government bonds as at the end of 2015 decreased by 0.4 year to a value of 5.5 years compared to the end of 2014. The reason is in particular the discrepancy described above between the total nominal value of the existing portfolio of CZK-denominated medium-term and long-term government bonds and the total nominal value of newly sold CZK-denominated medium-term and long-term government bonds, of which average time to maturity relative to the end of the year 2015 amounted to 5.8 years.

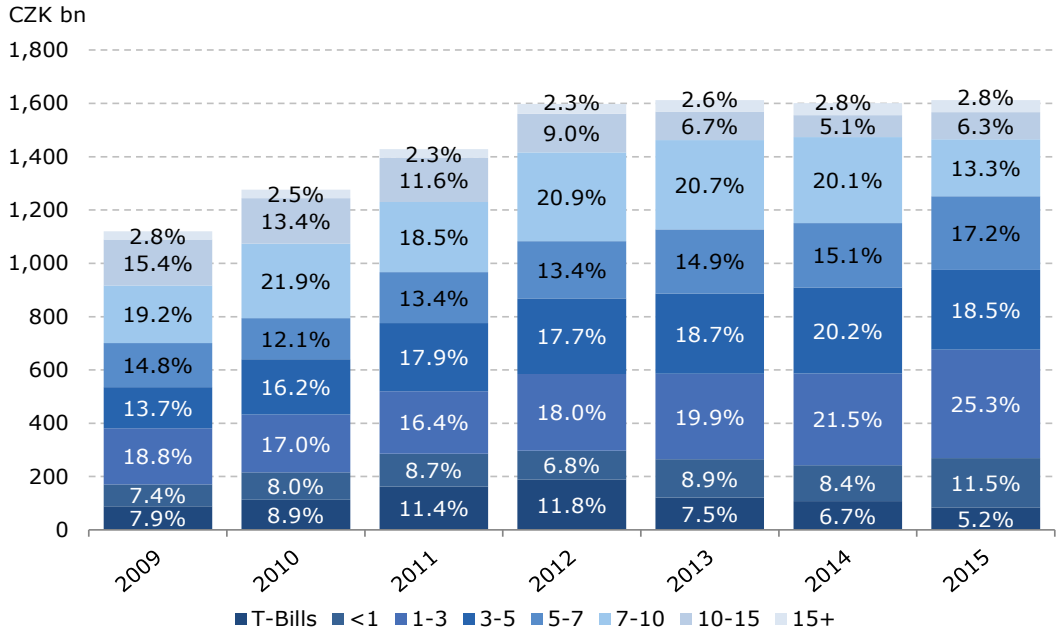
Table 11: Average Time to Maturity of Individual Components of the State Debt

years	2009	2010	2011	2012	2013	2014	2015
CZK T-Bonds	6.6	6.3	6.2	6.3	6.2	5.8	5.5
Savings government bonds	-	-	3.0	3.3	3.1	2.5	1.7
Foreign T-Bonds	7.3	7.1	6.2	6.1	5.1	5.8	5.0
Money market instruments	0.4	0.4	0.4	0.4	0.4	0.4	0.4
Non-marketable state debt	12.2	12.5	11.5	11.8	11.4	10.4	9.8

Note: As at the end of each year. Non-marketable state debt does not include savings government bonds. Foreign issues incl. hedging of the foreign-currency principal.
Source: MoF

In 2015, the decreasing trend in the average time to maturity of government bonds lasting since 2009 is partly caused by the increase of the total nominal value of government bonds in the segment with a remaining maturity of up to 3 years, of which the share on total nominal value of all government bonds outstanding as at the end of 2015 amounted to 42.0% and thus increased by 5.3 p.p. compared to the end of 2014, and also by the decrease in the segment of 7 to 10 years by 6.9 p.p. to 13.3% of all government bonds outstanding. The share of government bonds in the segments of remaining time to maturity of 5 to 7 years and 10 to 15 years also increased compared to 2014, the share of government bonds in the segment of remaining time to maturity of 3 to 5 years decreased.

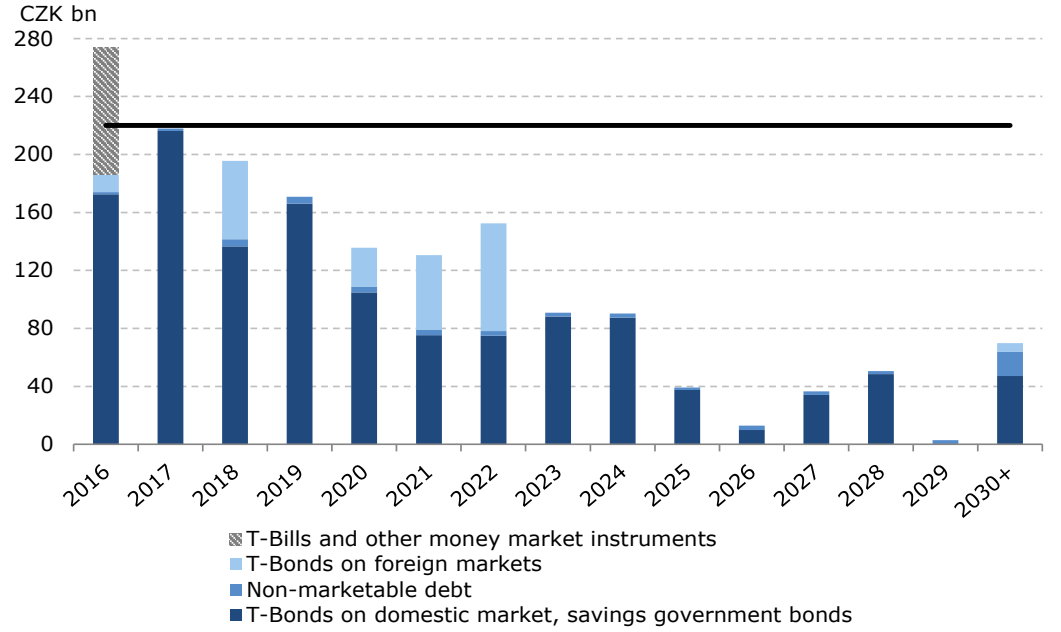
Figure 28: Structure of Government Bonds by Time to Maturity



Note: As at the end of each year. Includes CZK-denominated T-Bonds, foreign issues, savings government bonds and state treasury bills.
Source: MoF

Issuance calendars of government bonds, sales of government bonds on the secondary market, possible foreign issues, and drawing of long-term loans from EIB will continue to be managed in accordance with the fulfilment of another key goal, namely the stabilisation and smoothing of the maturity profile of the state debt over time. The medium-term outlook shows the maximum annual redemption on the current debt portfolio, without taking into account the impact of planned buy-backs or exchanges and not considering redemptions of money market instruments, at the level of CZK 220 billion, namely in 2017. Due to the plan of additional substitution of the part of state treasury bills outstanding for medium-term and long-term government bonds bearing an interest on the shorter end of the yield curve in 2016, and due to the planned decrease of state budget deficit in this year, no significant increase of financing needs in 2017 compared to 2016 is expected.

Figure 29: Maturity Profile of State Debt as at the End of 2015

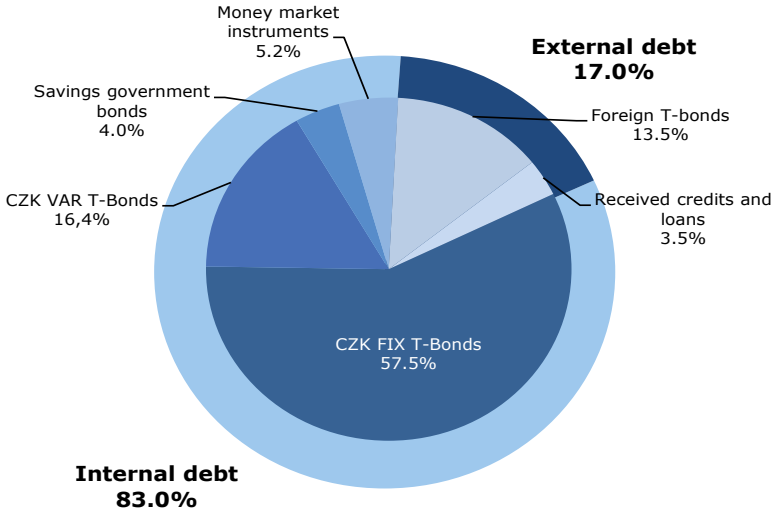


Note: Non-marketable state debt does not include savings government bonds. Foreign issues incl. hedging of the foreign-currency principal.
Source: MoF

With regard to refinancing risk, the Ministry monitors the structure of the debt portfolio according to the individual instruments. Over the long term, fixed-rate CZK-denominated medium-term and long-term government bonds account for the greatest share, with a share of 57.5% of total state debt as at the end of 2015, which represents an increase of 1.4 p.p. compared to the end of 2014. The share of variable-rate CZK-denominated medium-term and long-term government bonds in state debt as at the end of 2015 is 16.4%, which represents an increase of 1.8 p.p. compared to the end of 2014.

The total nominal value of foreign issues including hedging of principal in total state debt as at the end of 2015 equals 13.5%, which represents a decrease of 0.9 p.p. compared to the end of 2014. This decrease was caused by the redemption of a variable-rate foreign issue of medium-term and long-term government bonds denominated in the single European currency in the total nominal value of EUR 0.3 billion and no foreign issue carried out in 2015. The share of money market instruments in the total state debt as at the end of 2015 is 5.2% of the total state debt, which represents a decrease of 1.4 p.p. compared to the end of 2014. The share of savings government bonds in total debt as at the end of 2015 is 4.0%, which represents a decrease of 0.7 p.p. compared to the end of 2014.

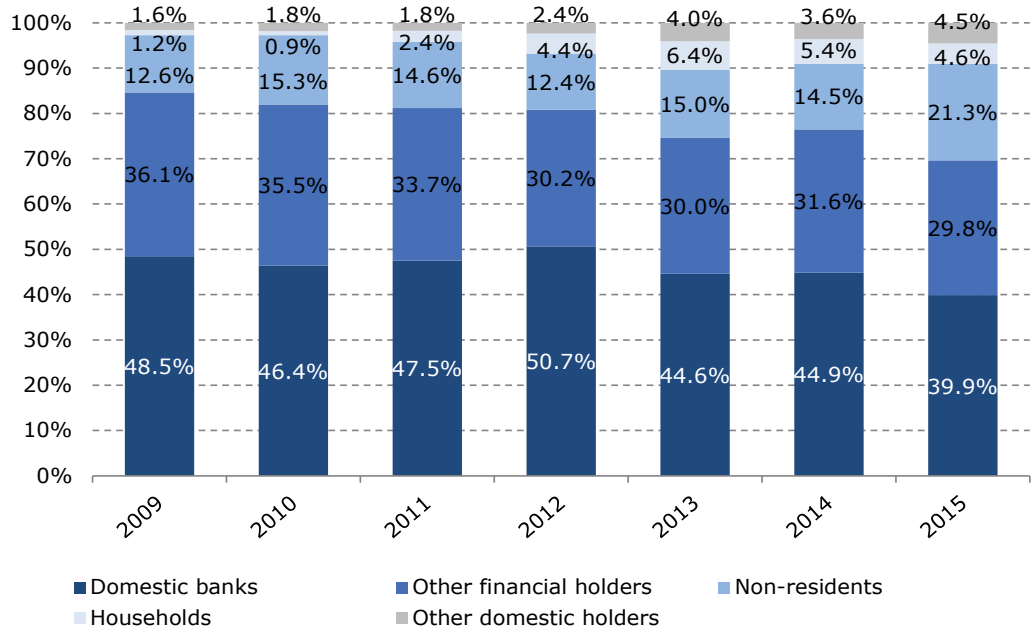
Figure 30: Structure of State Debt by Instrument at the End of 2015



Source: MoF

The structure of holders of CZK-denominated government bonds has been relatively stable in recent years. The share of non-resident in holding of domestic government bonds as at the end of 2015 amounted to 21.3% having increased by 6.8 p.p. compared to 2014; the share of domestic banks in holding of domestic government bonds as at the end of 2015 amounted to 39.9% having decreased by 5.0 p.p. compared to 2014. This fact is given mainly by the higher attractiveness of short-term government bonds of the Czech Republic for the investors, in particular the Government Bond of the Czech Republic, 2015–2017, 0.00 %, which replaced a part of state treasury bills gross issue in 2015. However, this represents a relatively low risk due to its short residual time to maturity and also due to the fact that no relatively higher share of non-resident in holding of government bonds with longer residual time to maturity was observed. In the course of 2015, the decreasing trend of the share of households in holding of government bonds continued, declining by 0.9 p.p. as no issuance of savings government bonds was carried out, with the exception of reinvestment of the yields. In the medium term, the Ministry does not expect any major changes in the structure of domestic bond holders.

Figure 31: Structure of Domestic Bonds by Holder Type

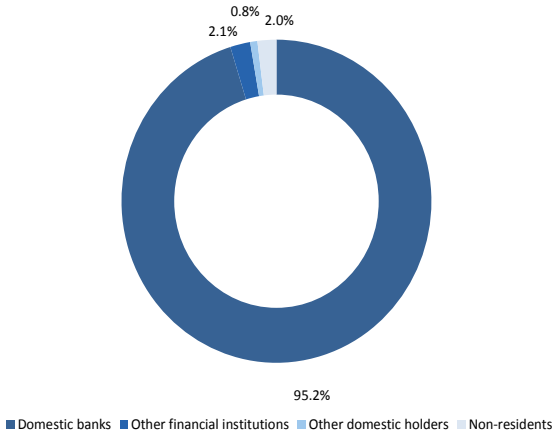


Note: As at the end of each year.
Source: MoF, CDCP

The majority of state treasury bills holders are domestic banks, which held 95.2% of state treasury bills outstanding as at the end of 2015. In other sectors, the nominal value of held state treasury bills is in the order of CZK billions.

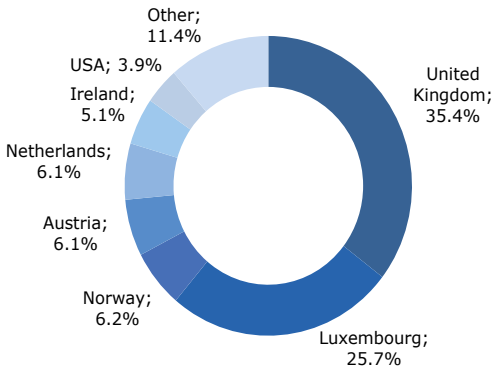
In terms of geographical structure of non-residents holding domestic government bonds, non-residents from United Kingdom and Luxembourg dominate, accounting for more than 60% of all non-resident holders of domestic government bonds as at the end of 2015. As at the end of 2015, 86.4% of domestic government bonds held by the non-residents were held by non-residents from European Union countries, with 13.6% of domestic government bonds held by non-residents from other countries.

Figure 32: Structure of T-Bills Holders at the End of 2015



Source: MoF, CDCP

Figure 33: Structure of Non-Resident Holders of CZK T-Bonds at the End of 2015



Source: MoF, CDCP

Interest Rate Risk

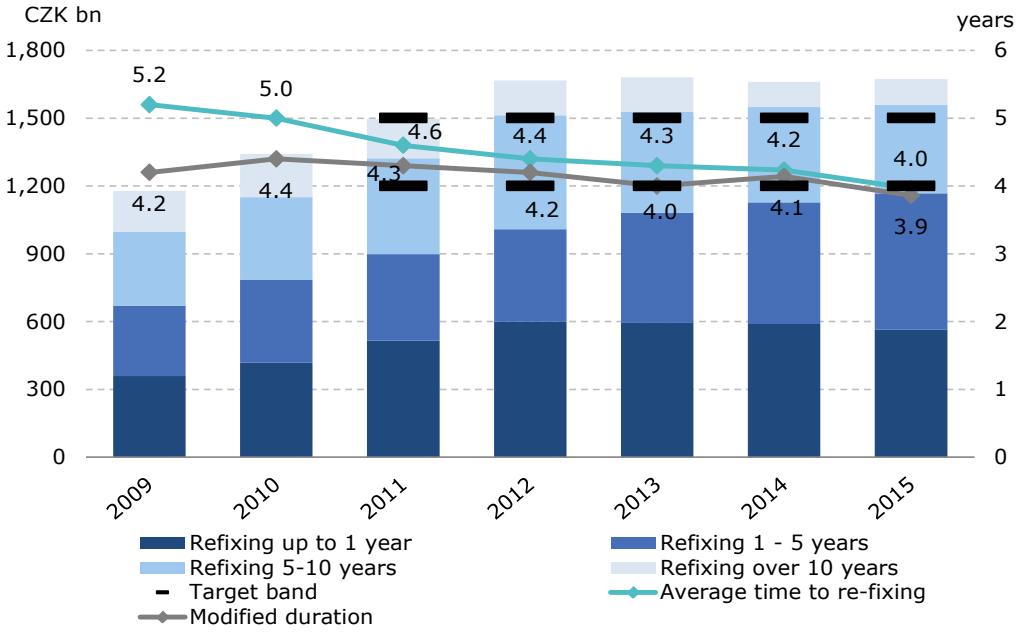
Interest rate risk remains the most important market risk affecting the management of state debt. The Ministry manages interest rate risk using the strategic indicator - average time to re-fixing of state debt. Starting in 2011, the Ministry has set an explicit target band for this indicator to interval of 4.0 to 5.0 years with the respect to the optimization of costs on the state debt and risk stemming from interest rate re-fixing. Starting in 2016, the Ministry stipulates the medium-term target value of average time to re-fixing at 4.0 years in accordance with the new concept of interest rate risk management.

The average time to re-fixing of state debt as at the end of 2015 amounted to 4.0 years, and is thus at the lower bound of the target band stipulated for this year. Compared to the end of 2014, there was a decrease in this indicator by 0.3 year. The decrease in the average time to re-fixing corresponds to the decrease in the average time to maturity of the debt portfolio in the course of 2015. The average monthly value of the average time to re-fixing of the state debt in 2015 amounted to 4.1 years. In the segment of instruments bearing an interest at the short end of the yield curve, variable-rate medium-term and long-term government bonds were issued on the primary market in a total nominal value of 32.5 CZK billion in 2015, which represents 18.0% of the total gross issue of CZK-denominated medium-term and long-term government bonds in 2015. The share of newly issued variable-rate medium-term and long-term government bonds in the total gross issue in 2015 decreased by 7.4 p.p. compared to 2014, when this share was 25.4%. In the segment of instruments bearing an interest at the short end of the yield curve, fixed-rate medium-term and long-term government bonds and zero-coupon medium-term and long-term government bonds due within 3 years were issued on the primary market in a total nominal value of 76.8 CZK billion in 2015, which represents 42.6% of the total gross issue of CZK-denominated medium-term and long-term government bonds in 2015. The share of fixed-rate medium-term and long-term government bonds and zero-coupon medium-term and long-term government bonds due within 3 years in the total gross issue of CZK-denominated medium-term and long-term government bonds in 2015 increased by 37.4 p.p. compared to 2014, when this share amounted to 5.2%.The share of state treasury bills outstanding in the total state debt as at the end of 2015 amounted to 5.0%, having decreased by 1.4 p.p. from 6.5% compared to the end of 2014. The share of money market instruments in the total state debt as at the end of 2015 amounted to 5.2% and thus decreased by 1.4 p.p. from 6.6% as at the end of 2014.

The decrease of average time to re-fixing of state debt causes the interest expenditure of state debt to be generated on average on the shorter end of the yield curve, which should result in savings in interest expenditure in medium term. The price of this possibility to generate these savings is a higher risk of interest rates increase which could lead to achieving negative savings in coming years. In case of issuance of variable-rate medium-term and long-term government bonds in 2008 to 2015, the accrual savings in interest costs of approx. CZK 18 billion were achieved. To express realized savings, it is necessary to know the coupon payments, i.e. expressing the realized savings by issuing particular variable-rate note government bond is possible after the last coupon payment has been fixed. Total realized savings in state budget expenditure can be expressed only in connection with the issue of Czech Republic Treasury Bond, 2009-2012, VAR %, i.e. already redeemed government bond, and it amounted to CZK 1.0 billion in comparison to the situation, when fixed-rate government bond with equal maturity was issued instead of this government bond.

The Ministry's benchmark model compares accrued interest costs generated by the government bonds sold in auctions of medium-term and long-term government bonds with the benchmark portfolio containing only fixed-rate government bonds issued on the same day the auction is carried out and in the same nominal value as the real government bond and with the time to maturity ensuring achieving the average time to maturity of synthetic benchmark and debt portfolio corresponding to the average time to maturity of real debt portfolio as of the end of 2015. The benchmark model shows that regarding issuance activity on primary market of medium-term and long-term government bonds the average annual savings expressed on accrual basis amounted to CZK 0.1 billion due to the shape of the yield curve. Detailed information can be found in the chapter Benchmark Portfolio.

Figure 34: Interest Re-fixing of State Debt



Note: As at the end of each year.
Source: MoF

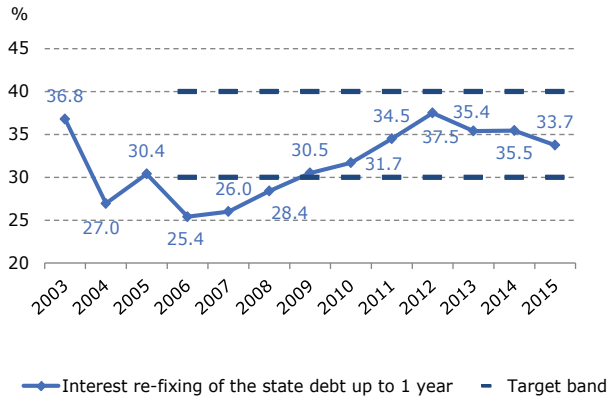
Another indicator monitored by the Ministry in connection with interest rate risk management, for which the Ministry also sets a strategic goal for each year, is the interest re-fixing of the debt portfolio within one year, this being the share of debt that is sensitive to fluctuations in interest rates on the financial market in the following year. Since 2006, this indicator has been set at the level of 30.0 to 40.0% of the total state debt, the similar target band is stipulated for the 2018 medium-term horizon. This goal is in line with the average time to re-fixing in the target band of 4.0 to 5.0 years. Starting in 2009, the interest re-fixing of the debt portfolio within one year has remained within the target band. As at the end of 2015, the decrease in this indicator amounted to 1.7 p.p. compared to the end of 2014, when the share of interest re-fixing within one year to the total state debt amounted to 33.7%, thus remaining within the target band valid for 2015. The average monthly value of the interest re-fixing of the debt portfolio within one year in 2015 amounted to 35.4%. The development of interest re-fixing within one year is thus developing in accordance with the average time to re-fixing.

The structure of interest re-fixing of the debt portfolio within one year is important not only for the expression of short-term interest rate risk, but also affects long-term interest rate risk expressed by the indicator average time to re-fixing. The debt portfolio sensitive to interest rate fluctuation in the financial market in 2016 consists mainly of CZK-denominated variable-rate medium-term and long-term government bonds (48.5%), state treasury bills and other money market instruments (15.5%), and CZK-denominated fixed-rate medium-term and long-term government bonds (11.1%). Received credits and loans account for 9.6% of this portfolio, and government bonds issued on foreign markets including hedging account or 9.3%, while savings government bonds account for 6.1%.

Compared to 2014 there was a change in the structure of interest re-fixing of state debt, particularly in CZK-denominated fixed-rate medium-term and long-term government bonds, where the share decreased by 8.1 p.p. due to the two redemptions of CZK-denominated fixed-rate medium-term and long-term government bonds in total nominal value of CZK 62.6 billion in 2016 compared to two redemptions of CZK-denominated fixed-rate medium-term and long-term government bonds in total nominal value of CZK 113.0 billion in 2015. The gross issue of variable-rate medium-term and long-term government bonds in total nominal value of CZK 32.5 billion caused an increase in the share of variable-rate medium-term and long-term government in interest re-fixing of the debt portfolio within one year by 7.4 p.p. compared to the end of 2014. Regarding the savings government bonds there was an increase by 3.4 p.p. due to four regular redemptions in the total nominal value of CZK 30.0 billion in 2016 compared to single regular redemption in the total nominal value of CZK 11.5 billion in 2015. The decrease of the share of money market instruments in the interest re-fixing of state debt within one year is consistent with the decrease of their nominal value outstanding at the end of 2015, and is equal to 3.2 p.p. compared to the end of 2014. Regarding the government bonds issued on foreign markets, there was an increase of 0.7 p.p. mainly due to the redemption of single foreign

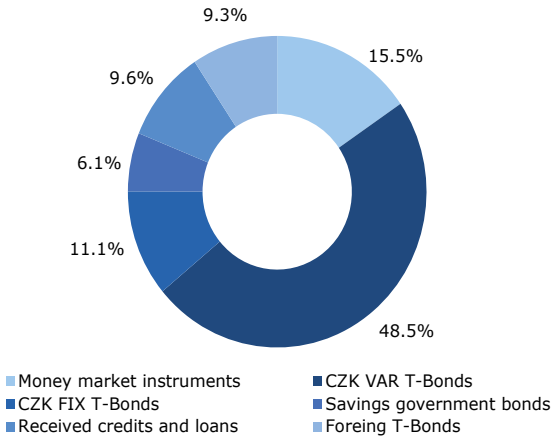
issue in the total nominal value of CHF 500.0 million in 2016 compared to the redemption of single foreign issue in the total nominal value of EUR 300.0 million in 2015. Due to the planned repayments of EIB loans carried out in 2015, there was a year-on-year decrease in the share of this received credits and loans in interest re-fixing of the debt portfolio within one year amounting 0.1 p.p.

Figure 35: Interest Re-fixing of State Debt within 1 Year



Note: As at the end of each year.
Source: MoF

Figure 36: Structure of Interest Re-fixing of State Debt within 1 Year



Note: Balance as at the end of 2015.
Source: MoF

The Ministry also monitors the structure of CZK-denominated medium-term and long-term government bonds based on the current time to maturity, the original time to maturity and coupon rate. Thus constructed structure of bonds allows a detailed breakdown of interest expenditure on state debt service generated by CZK-denominated fixed-rate medium-term and long-term government bonds. As at the end of 2015, these bonds have an average coupon rate of 3.51% p.a. These government bonds maturing in 2016 have an average coupon rate of 4.06% p.a. In the segment of original maturity of 2 to 4 years these government bonds have an average coupon rate of 0.40% p.a., in the segment of original maturity of 4 to 6 years there is no such government bond outstanding, in the segment of original maturity of 6 to 8 years these government bonds have an average coupon rate of 1.50% p.a., in the segment of original maturity of 8 to 10 years these government bonds have an average coupon rate of 3.74% p.a., in the segment of original maturity of 10 to 15 years these government bonds have an average coupon rate of 4.49% p.a., and in the segment of original maturity over 15 years these government bonds have an average coupon rate of 3.97% p.a.

The discount on state treasury bills and discounted savings bonds is a expenditure for the state budget at the moment of the sale of the bond, and therefore does not affect interest expenditure on state debt service in future years. In 2015 the Ministry opened three new benchmark issues of CZK-denominated fixed-rate medium-term and long-term government bonds maturing in 2023, 2026 and 2030, and one new issue of CZK-denominated zero-coupon medium-term and long-term government bonds maturing in 2017, the gross issue of which accounted for approximately 47.1% of the total gross issue of CZK-denominated medium-term and long-term government bonds on the primary market in 2015. Given the fact, that this new issue does not bear any interest, the indicator of average coupon rate for maturity in 2017 decreased by 1.59 p.p. There were no fixed-rate medium-term and long-term government bonds with maturity in 2023, 2026 and 2030 as at the end of 2014.

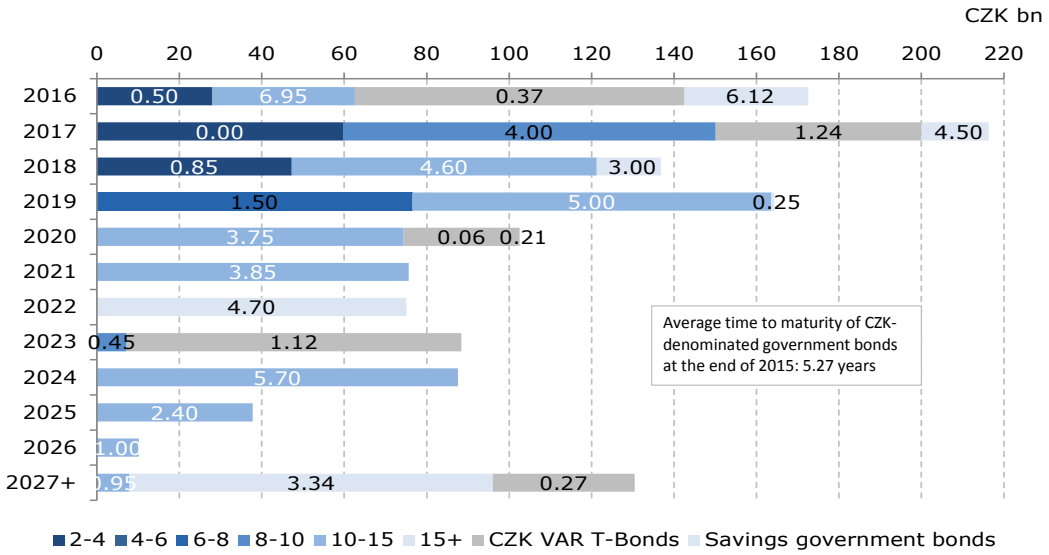
Table 12: Average Coupon Rates and Costs of CZK-denominated T-Bonds by Year of Maturity

% p.a.	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027+	Average
Average coupon rate[1]	4.06	2.41	3.14	3.36	3.75	3.85	4.70	0.45	5.70	2.40	1.00	3.15	3.51
Average costs[1]	3.33	2.28	2.56	3.16	3.79	3.08	4.34	0.30	4.50	1.54	1.12	2.98	3.09

[1] Incl. only fixed-rate medium-term and long-term government bonds.
Note: Balance as at the end of 2015.
Source: MoF

The Ministry also monitors the structure of CZK-denominated fixed-rate medium-term and long-term government bonds based on the current time to maturity, time to maturity at the moment of the sale of the bonds and achieved yield to maturity at the moment of sale. Thus constructed structure of bonds indicates the average annual costs of these bonds in the individual segments of the current time to maturity and time to maturity at the moment of the bond sale. As at the end of 2015 the average annual costs of the CZK-denominated fixed-rate medium-term and long-term government bonds amount to 3.09% p.a. The buy-backs of bonds due in 2016 carried out in 2014 have reached an average yield to maturity of 0.05% p.a. In 2016, government bonds with average annual costs of 3.33% p.a. will mature in the following structure: bonds issued as 0- to 2-year bonds with average annual costs of 0.11% p.a., bonds issued as 2- to 4-year bonds with average annual costs of 0.61% p.a., and bonds issued as 10- to 15-year bonds with average annual costs of 5.54% p.a.

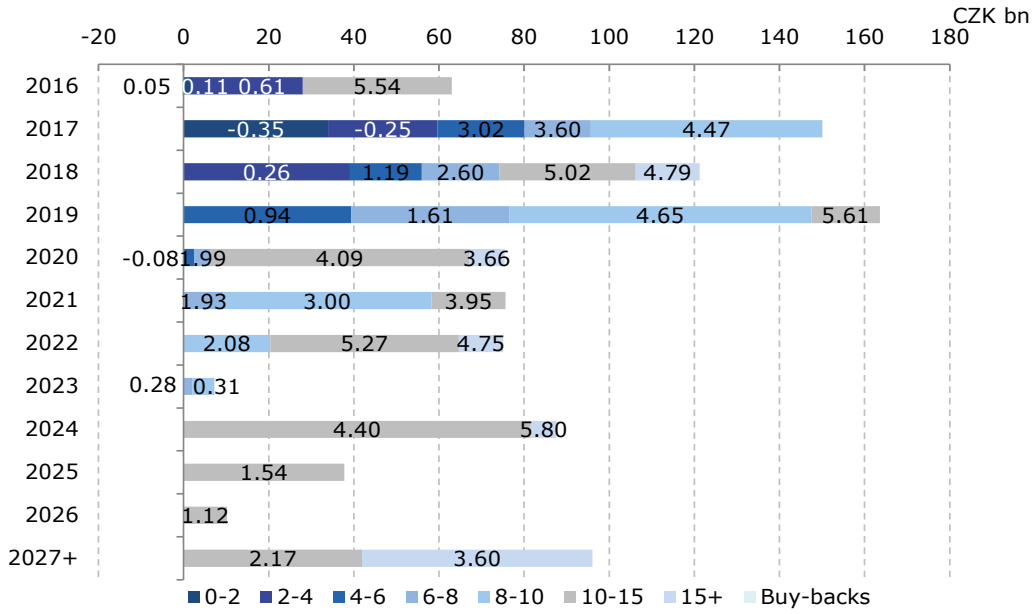
Figure 37: Maturity Profile of CZK-Denominated T-Bonds by Time to Maturity and Coupon Rate (% p.a.)



Note: Maturity profile as at the end of 2015. Segments represent original maturity. Data in individual segments represents the average coupon rate in % p.a. Excl. inflation-linked savings government bonds.
Source: MoF

The decreasing yields achieved in auctions of medium-term and long-term government bonds in 2015 across the maturity profile caused the decrease of the average annual costs in all maturities in comparison to the average annual costs as at the end of 2014. The average annual costs decreased the most for medium-term and long-term government bonds maturing in 2017 (decrease of 1.73 p.p.) due to the achieved negative yields to maturity during the sale of the Government Bond of the Czech Republic, 2015–2017, 0.00 %. Relatively low or negative yields to maturity were achieved during the re-openings of fixed-rate government bonds with the time to maturity up to 5 year - Czech Republic Government Bond, 2014–2018, 0.85 %, Czech Republic Government Bond, 2013–2019, 1,50 % and Czech Republic Treasury Bond, 2005 - 2020, 3.75 % resulting in the decrease of average annual costs of medium-term and long-term government bonds maturing in 2018 by 0.55 p.p., the decrease of average annual costs of medium-term and long-term government bonds maturing in 2019 by 0.34 p.p. and the decrease of average annual costs of medium-term and long-term government bonds maturing in 2020 by 0.14 p.p. Due to the new benchmark issue maturing in 2023, 2026 and 2030, the average annual costs of medium-term and long-term government bonds maturing in 2023 amounts to 0.30% p.a., the average annual costs of medium-term and long-term government bonds maturing in 2026 amounts to 1.12% p.a. and the average annual costs of medium-term and long-term government bonds maturing in 2030 amounts to 1.26% p.a. No fixed-rate government bond maturing in 2023, 2026 and 2030 was outstanding as at the end of 2014.

Figure 38: Maturity Profile of CZK T-Bonds By Achieved Yield to Maturity (% p.a.)



Note: Maturity profile of CZK-denominated fixed-rate T-Bonds by time to maturity at the moment of sale as of the end 2015. Data in the individual segments represents the average yield to maturity at the moment of the sale of the medium-term and long-term government bonds in % p.a. Excl. savings government bonds.
Source: MoF

Currency Risk

Currency risk is another market risk to which the state debt portfolio is exposed. In connection to currency risk, the Ministry monitors the development of the net foreign-currency exposure that measures the market risk to which the foreign-currency state debt is exposed in term of foreign-currency exchange rate movement after being adjusted for the foreign-currency exposure of state financial assets, where the foreign-currency debt represents the total nominal value of the debt portfolio denominated in the foreign currency. The Ministry also distinguishes between net foreign-currency exposure of state debt with the impact on state debt level and net foreign-currency exposure with the impact on the level of interest expenditure on state debt service. The value of net foreign-currency exposure of the state debt is affected also by derivative operations, which hedge a part of the foreign-currency debt against the negative development of currency exchange rates. The key indicator implemented in connection to managing currency risk is the share of net foreign-currency exposure of state debt with the impact on state debt level to the total state debt, for which a strategic limit of 15% + 2 p.p. was introduced at the beginning of 2012 and the share of net foreign-currency exposure of state debt with the impact on the level of interest expenditure on state debt service with a strategic limit of 15% + 2 p.p. whereas it applies that the long-term exceeding of the 15% limit is not possible; overstepping by 2 p.p. serves only for the short-term overcoming of unexpected deprecation of the domestic currency. The level of thus stipulated limits is subjected to persisting situation on FX market in situation that there will be no significant depreciation of Czech crown to Euro against current commitment of the CNB close to the level of 27 EURCZK, compared to the average development in November 2013.

At the end of 2015, the value of the share of net foreign-currency exposure to state debt with the impact on state debt level amounted to 10.9% and is therefore safely below the limit. Compared to the end of 2014, there was an increase in the indicator by 0.5 p.p. The monthly average value of the share of the net foreign-currency exposure to state debt with the impact on state debt level amounted to 10.8%. The value of the share of net foreign-currency exposure to state debt with the impact on the level of interest expenditure on state debt amounted to 10.2% and is therefore safely below the limit at the end of 2015. Compared to the end of 2014, there was an increase in the indicator by 0.8 p.p. The monthly average value of the share of the net foreign-currency exposure to state debt with the impact on the level of interest expenditure on state debt amounted to 9.8%.

The sensitivity of the interest expenditure on state debt to the change in foreign-currency exchange rate is relatively low even in comparison with the sensitivity of the interest expenditure on the shift of the yield curve. As at the end of 2015, the net foreign-currency exposure of the state debt with the

impact on state debt service is denominated solely in EUR. If the EURCZK foreign-currency exchange rate depreciated at the beginning of 2016 by 1% against the value as of the end of 2015, i.e. from 27.025 to 27.295, and this rate would remain the same during 2016, the expected net interest expenditure on state debt service would increase by CZK 86 million. More information is contained in chapter Cost-at-Risk of State Debt. The dominant part of net foreign-currency exposure is comprised of EUR currency in the long term.

The share of foreign-currency state debt in total state debt as at the end of 2015 is 13.6%, where compared to the end of 2014 there was a decrease of the indicator by 0.8 p.p. due to the redemption of foreign issue of medium-term and long-term government bonds of the Czech Republic denominated in the single European currency, with a total nominal value of EUR 0.3 billion. In 2015, the Ministry did not carry out any foreign issues on foreign financial markets due to the relatively low gross borrowing requirement and also higher expenditure related to issuing government bonds on the foreign market, as compared to a similar issue of government bonds on the domestic market after taking into account the expenditure of hedging against currency risk.

Benchmark Portfolio

In order to assess the structure of issuance calendars and the ability to profit from the development of government bond yields during the year and the shape of the yield curve, the Ministry created the synthetic benchmark portfolio consisting of the fixed-rate CZK-denominated bonds only.

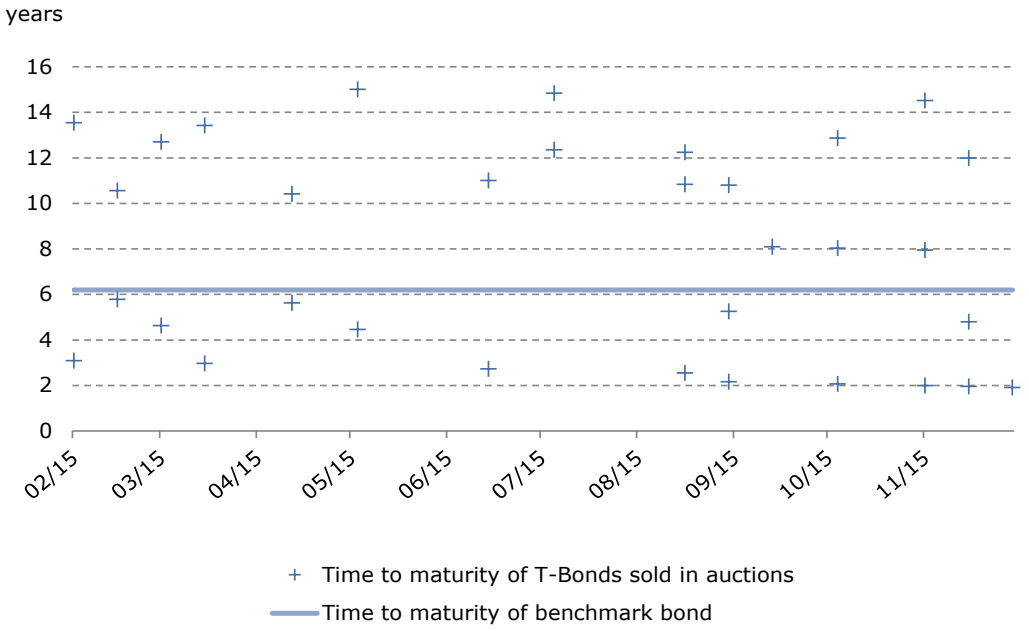
The bonds contained in the benchmark portfolio are always issued on the auction day at the same nominal value as the real issued bonds. All bonds within the benchmark portfolio are issued with the same time to maturity, whereas this time to maturity guarantees the same average time to maturity of the synthetic portfolio of state debt containing the benchmark portfolio as the average time to maturity of the real portfolio as of at the end of the year. The average time to maturity of the state debt as of at the end of 2015 is 5.1 years. Provided the real issuance of CZK-denominated medium-term and long-term government bonds is substituted by the fixed-rate benchmark portfolio bonds with maturity of 6.2 years at the time of auction, the required average maturity of the synthetic portfolio of state debt will be 5.1 years as at the end of 2015.

The average weighted yield of the portfolio of CZK-denominated medium-term and long-term government bonds sold at auctions during 2015 using the average auction yield to maturity in case of fixed-rate government bonds and average spread to reference interest rate achieved in auctions and respective forward values of PRIBOR reference interest rate in case of variable-rate government bonds amounted to 0.17% p.a. The average weighted yield to maturity of benchmark portfolio achieved in 2015 amounted to 0.22% p.a., i.e. is 5 basis points higher, then the yield of the real portfolio.

To assess the actual savings achieved in 2015, it is essential to express accrued interest costs of each issued bonds in the real and benchmark portfolio and then compare these two total accrued costs. Total annual accrued costs on all actually sold CZK-denominated medium-term and long-term government bonds in auctions during 2015 amounted to CZK 0.3 billion. Total annual accrued costs generated in benchmark portfolio amounted to CZK 0.4 billion.

It is necessary to pointed out that the achieved savings of CZK 0.1 billion on accrual basis is generated solely by the adjustment of issuance calendar and is given by the shape of the yield curve. It is also necessary to note, that the savings are expressed based on forward values of PRIBOR reference interest rate, the actual achieved savings can be calculated based on the actual future values of PRIBOR reference interest rate.

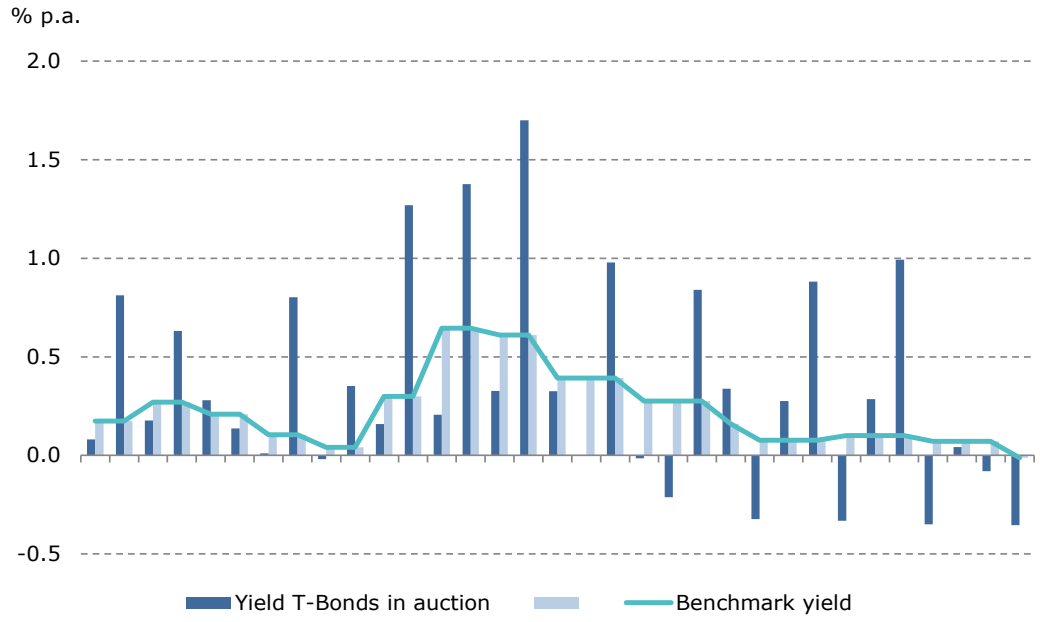
Figure 39: Time to Maturity of T-Bonds Sold in Auctions in 2015 and Benchmark Bond



Source: MoF

Over the course of 2015, 26 auctions of fixed-rate CZK-denominated medium-term and long-term government bonds at the total nominal value of CZK 147.9 billion and 7 auctions with variable-rate CZK-denominated medium-term and long-term government bonds at the total nominal value of CZK 32.5 billion were held on the primary market. The average weighted time to maturity of all CZK-denominated medium-term and long-term government bonds sold at auctions on the primary market in 2015 reached 6.2 years and is identical to the time to maturity of the benchmark bond.

Figure 40: Yields of CZK-Denominated T-Bonds Achieved and Yields of Benchmark Bond in 2015



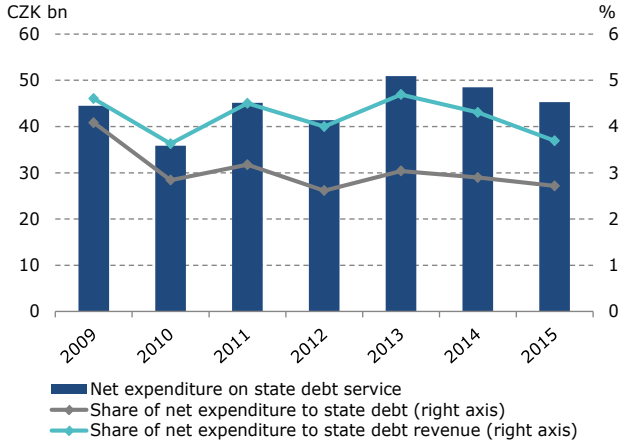
Source: MoF

5 – State Debt Service Expenditure

Cash and Accrued Expression

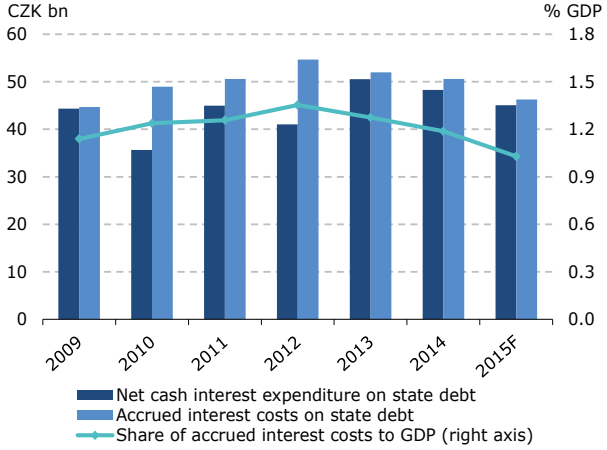
The net expenditure on state debt service are represented by the difference of gross expenditure on state debt service and revenue, which are cash-based (like the entire state budget); hence, it is not accrued according to the ESA2010 methodology, which takes place while preparing data for the notification. The share of net expenditure on state debt service in revenue of state budget and also in the GDP has been relatively stable over the past years and since 2014, there has been an apparent downward trend.

Figure 41: Net Expenditure on State Debt Service



Note: The revenue of state budget is adjusted of the revenue of chapter 396 – State Debt.
Source: MoF

Figure 42: Net Cash Expenditure and Accrued Costs on State Debt Service



Note: The source of GDP in the ESA 2010 methodology in 2009 through 2014 is the CZSO, for 2015 the Macroeconomic Forecast of the Czech Republic – January 2016.
Source: MoF, CZSO

Monitoring the development of revenue and expenditure, or net expenditure on state debt service, does not always provide accurate information on which costs are really associated with state debt in the given period. For these purposes, the accrued-based expression of costs, based on the accumulation of interest costs on a daily basis, is more appropriate. The development of accrued interest costs has a tendency to show much lower volatility than the development of interest on a cash basis, because it is not influenced by time disproportions between the time of creation of given interest costs and the date of realization of related expenditure or revenue. Until 2012, accrued costs grew continuously and their share in GDP developed similarly. The decrease of accrued costs in 2013 to 2015 is due to the concurrence of very moderate growth, respectively stagnation of the balance of state debt and a decrease of yields of government bonds to historical lows.

The development of the balance of individual debt instruments is one of the factors affecting the relation between cash expenditure and accrued costs. When the balance increases, at first, the interest payments paid at the end of calculation period (i.e. mainly coupon of domestic medium-term and long-term government bonds, EIB loans interest, and swap interest) have an impact on costs on accrued basis, and then on cash basis at the end of this period. When the state debt increases, the accrued costs in the given period outweighs cash expenditure for this reason. On the contrary, for discounted instruments (state treasury bills), interest is settled with the state budget on the issue date, i.e. at first, discounts have an impact on expenditure on cash basis, and then have gradual impact on costs on accrued basis throughout the duration of the instrument. A similar principle applies to discounts and premiums on medium-term and long-term government bonds.

A key role in the proportion between cash expenditure and accrued costs is also played by the development of interest rates. In case of their growth, there is a prevalence of accrued costs over cash expenditure for payments made at the end of the calculation period, and in the case of interest expenditure at the beginning of the instrument's duration, cash expenditure prevails over accrued costs. The similar principles apply in opposite sense in case of the interest rates decline.

Similarly, there may be a significant disproportion between cash expenditure and accrued costs in the given period, if an instrument with a high interest rate is due in the period, which is fully projected in cash interest but only partly in accrued interest, and is replaced with an instrument with a low interest rate, whose accrued costs starts being continually accounted from the issue or acceptance date, which may not be reflected in cash interest at all in the given period.

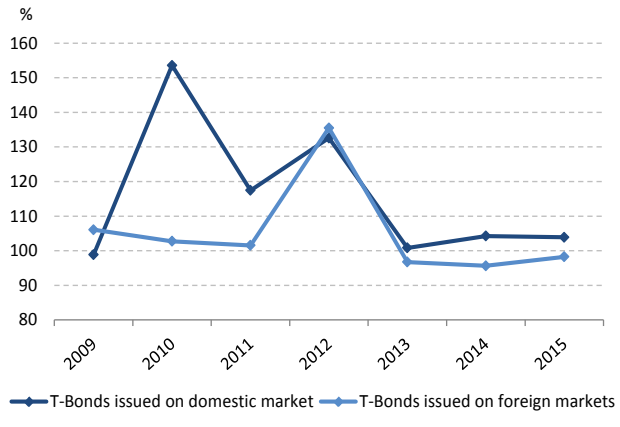
Table 13: Difference Between Cash Discounts and Premiums and Cash and Accrued Costs of T-Bonds

CZK bn	2009	2010	2011	2012	2013	2014	2015
T-Bonds cash premiums	2.0	9.4	7.4	11.8	5.8	6.0	7.1
T-Bonds cash discounts	6.3	0.0	0.7	0.8	1.4	1.3	0.6
Difference between T-Bonds cash discounts and premiums	4.3	-9.3	-6.8	-11.0	-4.4	-4.7	-6.5
Difference between T-Bonds cash and accrued interest	0.4	-13.1	-5.7	-9.7	-0.3	-1.5	-1.3

Note: T-Bonds issued on the domestic market.
Source: MoF

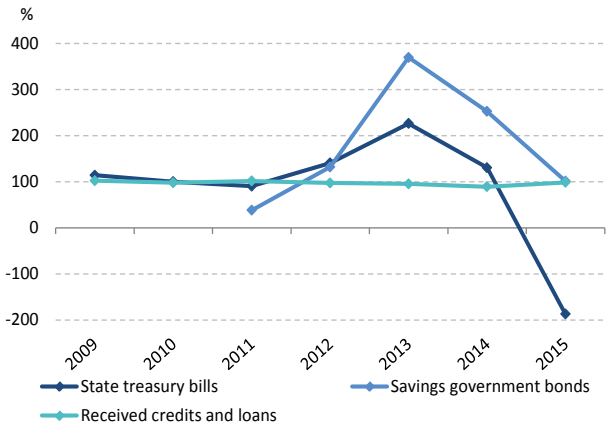
The basic development trends of cash expenditure and accrued costs is largely based on the development of these indicators for medium-term and long-term government bonds issued on the domestic market, which constitute a dominant part of the state debt, and in 2015 accounted for more than three fourths of the total accrued costs on the state debt. The ratio between accrued costs and cash expenditure on medium-term and long-term government bonds issued on the domestic market is relatively balanced in 2015. In the case of medium-term and long-term government bonds issued on the foreign market, which accounted for almost one fifth of total accrued costs in 2015, the ratio between accrual costs and cash expenditure is approximately balanced. In case of the state treasury bills, there was a strong prevalence of accrued costs over cash expenditure. With regard to the short maturity period of most provided loans in a form of lending facilities, the difference between cash and accrued interest is not very significant. The same applies to short-term loans received, and with regard to the usually short period of re-fixing, in most cases also loans received from the European Investment Bank. Regarding the savings government bonds, the ratio between accrued costs and cash expenditure is approximately balanced.

Figure 43: Percentage Share of Accrued Costs in Net Cash Interest Expenditure of T-Bonds



Source: MoF

Figure 44: Percentage Share of Accrued Costs in Net Cash Interest Expenditure of Other Components of State Debt



Source: MoF

Budget for the Chapter 396 – State Debt in 2015

The budget for the Chapter 396 – State debt is composed annually based on Cost-at-Risk analysis, and for 2015 was based on a 95% percentile of division of net interest expenditure, which means that these expenditure will not be exceeded with 95% probability.

The expected net expenditure amounted to CZK 48.7 billion. The actual net expenditure on the Chapter in 2015 amounted to CZK 45.3 billion, i.e. about 1.0% of GDP and 3.7% to total state budget revenue excluding the revenue of the Chapter. The difference between real expenditure compared to the originally approved budget of CZK 57.3 billion was CZK 12.0 billion, which partially contributed to the better-than-expected general government deficit in 2015. The difference between the real and budgeted net expenditure is mainly due to the lower gross expenditure, while the revenue achieved higher level than the approved budget. Compared to 2014, there was a decrease of net interest expenditure of about 6.6%.

In the course of 2015, a total of CZK 7.1 billion was transferred to other budget chapters from the State debt chapter via budgetary transfers. The resulting difference in actual net expenditure adjusted for the budgetary transfers compared to the final budget was CZK 4.9 billion.

Table 14: Budget Expenditure and Revenue of the State Debt Chapter in 2015

CZK mil.	Actual 2014	Budget 2015		Actual 2015	% Execution	Index 2015/2014 (%)
		Approved	After changer			
1. Total interest expenditure and revenue	55,694	64,016	56,924	52,995	93.1	95.2
	(-) 7,402	(-) 7,200	(-) 7,200	(-) 7,914	109.9	106.9
Internal debt	42,537	53,340	46,247	42,779	92.5	100.6
	(-) 7,207	(-) 7,164	(-) 7,164	(-) 7,900	110.3	109.6
Money market instruments	77	931	931	18	2.0	23.9
	(-) 241	(-) 60	(-) 60	(-) 146	244.0	60.8
Savings government bonds	909	2,236	2,236	2,111	94.4	232.1
	0	-	-	-	-	-
T-Bonds on domestic market	41,551	50,173	43,080	40,649	94.4	97.8
	(-) 6,966	(-) 7,104	(-) 7,104	(-) 7,753	109.1	111.3
External debt	13,156	10,672	10,672	10,216	95.7	77.7
	(-) 195	(-) 36	(-) 36	(-) 14	38.2	7.1
T-Bonds on foreing markets	12,596	10,067	10,067	9,822	97.6	78.0
	(-) 195	(-) 36	(-) 36	(-) 14	38.2	7.1
Received credits and loans	560	604	604	394	65.2	70.3
Bank accounts	1	5	5	-	-	-
	0	-	-	0	-	678.2
Revenue (-) and expenditure (+) from account deposits	1	5	5	-	-	-
	0	-	-	0	-	678.2
2. Fees	**201**	**450**	**450**	**199**	**44.2**	**99.2**
	0	**-**	**-**	**0**	**-**	**1,226.7**
Total chapter balance	**48,493**	**57,266**	**50,174**	**45,280**	**90.2**	**93.4**

Note: (-) means revenue (gains).
Source: MoF

The difference between actual and budgeted expenditure is given by several factors. The main factor is particularly the character of chapter's budgeted expenditure construction. The budgeted expenditure represents a boundary of expenditure, which will be exceeded with certain probability. This probability is usually between 1% and 5%. Thanks to higher budgeted expenditure compared to expected expenditure it is possible to hold a part of the state debt in the form of variable-rate instruments, which bear interest usually lower than fixed-interest government bonds on average, and thus achieve savings on state budget expenditure. The next factor is then significant and during preparation of state budget for 2015 unexpected decrease in yields of government bonds to new historical lows particularly in the second half of 2015, while the yields of government bonds bearing an interest on short end of the yield curve reached even negative values. The Ministry reacted flexibly to this situation and issued zero-coupon government bond of the Czech Republic with maturity in November 2017 in the total nominal value of CZK 59.7 billion. The total extra revenue of the state budget due to the issuance of government bonds and state treasury bills with a negative yield to maturity amounted to CZK 413.7 million.

The total savings on state budget due to the sales of variable-rate government bonds instead of selling fixed-rate government bonds with equal time to maturity, i.e. maintaining equal refinancing risk, between 2008 and 2015 amounted to approximately CZK 18 billion. In order to express the realized savings, it is necessary to know the values of all coupon payments, i.e. the realized savings as a result of issuing particular variable-rate government bond is possible to express after the fixing of the last coupon rate. The realized savings on state budget expenditure so far can be expressed only in connection with Czech Republic Treasury Bond, 2009-2012, VAR %, i.e. already redeemed government bond, where the total savings amounted to approx. CZK 1.0 billion compared to situation, when the fixed-rated government bond with equal time to maturity would have been sold.

The interest costs on state debt service in 2015 in accrued expression reached CZK 46.3 billion, of which net interest costs for state debt issued in 2015 account for approximately CZK 0.3 billion. The total nominal value of state debt issued in 2015 is CZK 279.7 billion including state treasury bills roll-over. Due to the time heterogeneity of individual borrowing operations in 2015, the accrued costs on this debt will gradually increase to CZK 0.5 billion in 2018 due to the achieved negative yields in state treasury bills auctions and medium-term and long-term government bonds with relatively short time to maturity, as the individual instruments, which are parts of this debt issued in 2015, will be redeemed.

Table 15: Interest Expenditure and Accrued Costs of the Newly Issued State Debt

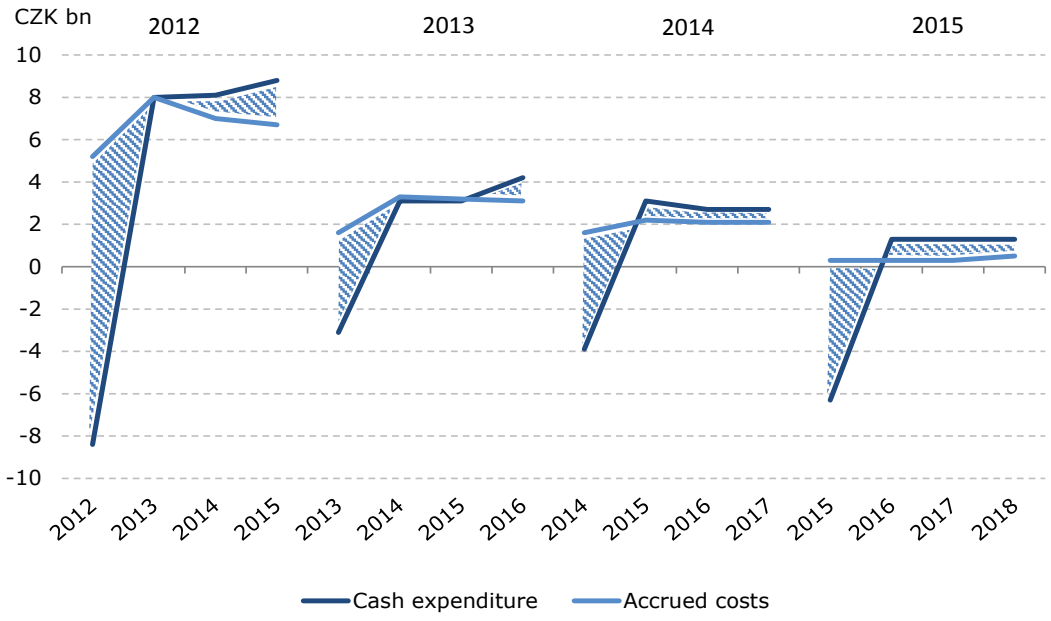
CZK bn	Nominal value	Net interest expenditure / accrued costs			
		2015	2016F	2017F	2018F
Cash basis expression	279.7	-6.3	1.3	1.3	1.3
Accrued basis expression	279.7	0.3	0.3	0.3	0.5
Gross issuance of T-Bonds	180.4	0.3	0.3	0.3	0.5
Gross issuance of state treasury bills	99.3	0.0	0.0	-	-

Source: MoF

The completely different development of net expenditure on the same debt can be seen when expressed in cash basis, where the value of these expenditure in 2015 is CZK -6.3 billion. In 2016 to 2018 the net interest expenditure on state debt are expected to amount to approx. CZK 1.3 billion. Newly generated state debt in 2015 brought state budget cash revenue in total amount of CZK 6.3 billion due to the re-openings of issues with high coupon rate, which together with low market yields generated auction premiums in 2015. State budget revenue from state debt issued in 2015 will be compensated in the following years by higher cash expenditure compared to accrued costs. It applies, that the net cash expenditure and accrued costs on the new state debt are equal for the whole existence of this debt. The following figure shows that in 2012 to 2015 the debt issued in each of those years generated cash revenue in the year of issue, which was mainly caused by the consistent decrease in market yields. If only new issues of government bonds with market coupon rates were issued in each year and the coupon payments were made at the end of the year, the accrued costs and cash expenditure would be identical in the year of issue. For this reason, the accrued expression of costs on state debt is more accurate and revealing, since it is not affected by the re-opening of issues with other than market coupon rate, which, however, cannot be avoided in the

real world, because small volumes of government bond issues cause illiquidity of these bonds and ultimately may cause an increase in costs due to the illiquidity premium. The figure below shows the further decrease in current accrued interest costs for newly issued state debt, which is related firstly to the reduction of the total issue of debt instruments and secondly to the lasting decrease of yields from government bonds.

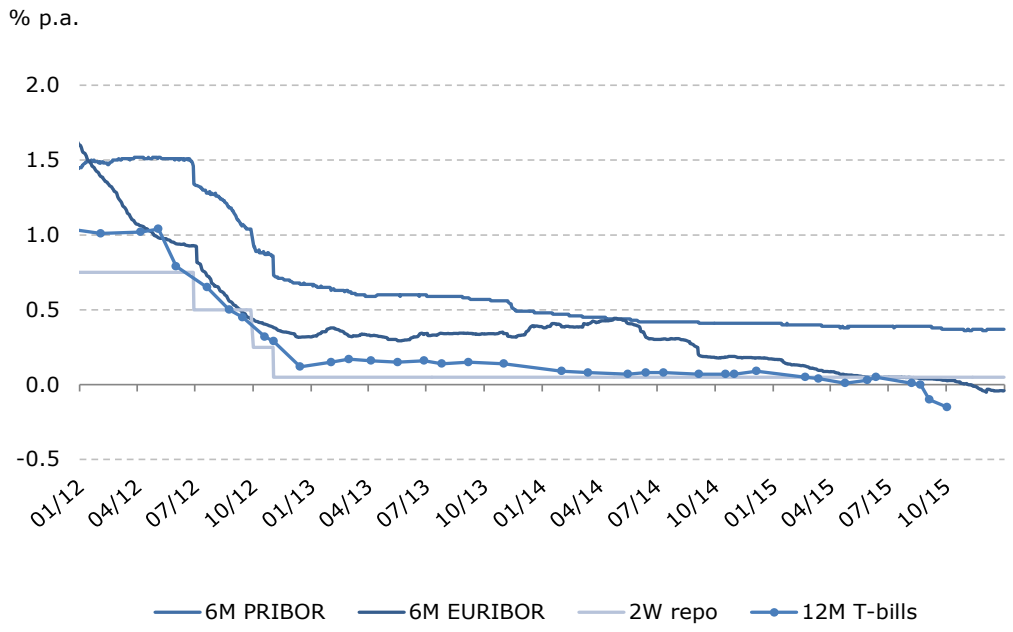
Figure 45: Net Cash Interest Expenditure and Accrued Interest Costs of Newly Issued Debt



Source: MoF

In 2015, the additional decrease of yield curves on the CZK and EUR money market was observed. The 6-month PRIBOR rate continued to decrease in 2015 with very low volatility. 6-month EURIBOR rate has decreased too, but showed significantly higher volatility in 2015. The Czech National Bank kept the basic interest rate (2-week repo rate) at a historical low at 0.05% p.a. during the whole 2015.

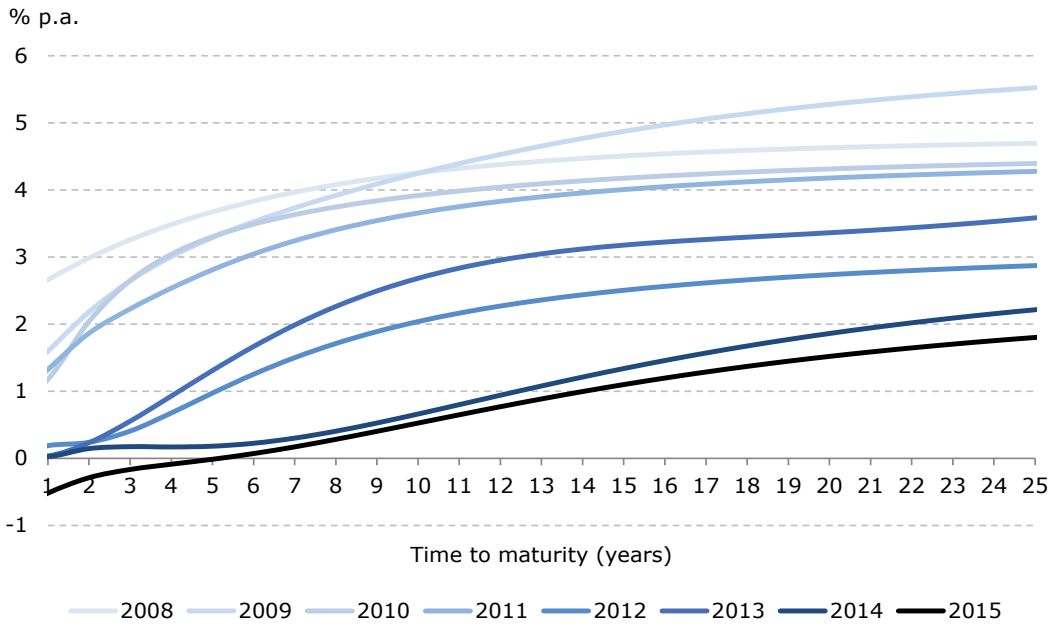
Figure 46: Development of Rates: 6M PRIBOR, 6M EURIBOR and 2W Repo and 12M T-Bills Yields



Note: As at 31 December 2015
Source: Bloomberg, CNB

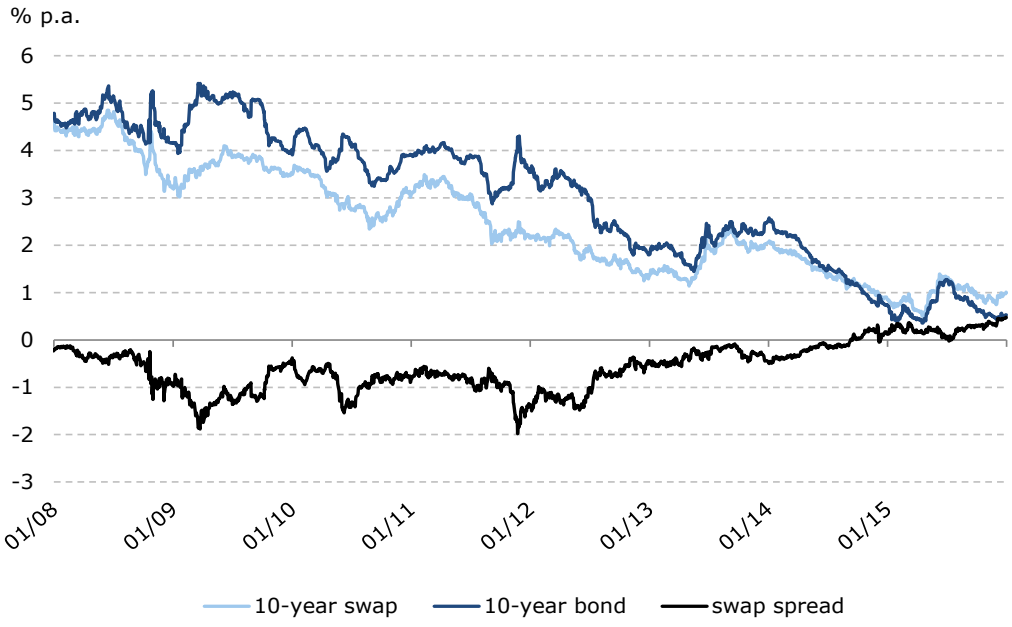
At first, the yields of CZK-denominated government bonds slowly decreased during the first quarter of 2015 across the whole yield curve, and then they slightly increased, and then began to slowly decrease. During the second quarter of 2015 they gradually increased to their maximum in in this year. In second half of 2015, they slowly decreased, while the yields of CZK-denominated government bonds with relatively short time to maturity decreased to their historical lows down to negative values at the end of the year. The difference between swap rate and yield of government bonds, i.e. the swap spread, was positive during 2015 for the 10-year maturity. The positive values of swap spread confirms the attractiveness of the Czech Republic as an issuer of government bonds for investors and concurrently confirms the correctness of Ministry's decision to model risk premium of government bonds in less conservative manner. The value of swap spread was approx. 10 basis points on the beginning of 2015 in case of 10-year maturity, while at the end of December 2015 it reached the value of 50 basis points. The average value of swap spread in case of 10-year swap was approx. 20 basis points in 2015.

Figure 47: Yield Curve of CZK-Denominated Government Bond



Note: "Par" yield curve of CZK-denominated government bonds is constructed on the basis the extended Nelson-Siegel model, called Svensson model.
Source: MoF, Bloomberg, MTS

Figure 48: Swap Rate, Yield to Maturity of CZK and Swap Spread



Source: MoF, Bloomberg

Cost-at-Risk of State Debt

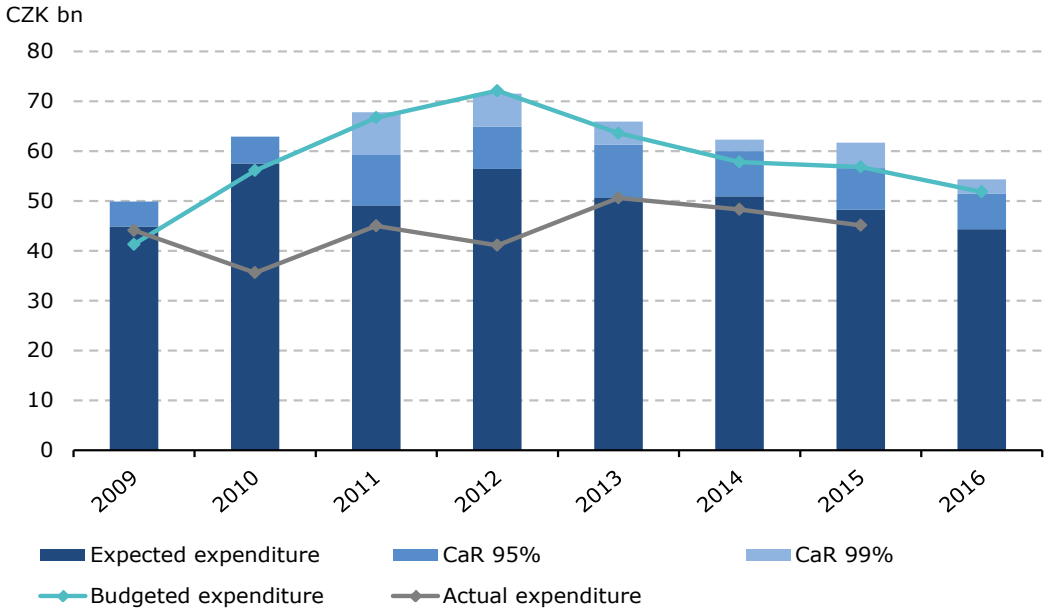
In measuring and managing interest rate risk, the Ministry applies a sophisticated model framework known as Cost-at-risk (CaR) for measuring and managing interest risk since 2005, which is based on Value-at-Risk methodology and simulates future expected and maximum interest expenditure for a particular degree of risk, which is derived from the volatility of the time structure of interest rates. The stochastic element of the CaR model is the yield curve, and the deterministic element is the dynamic structure of the state debt portfolio, which is based on the basic scenario of the funding program while respecting the set strategic goals for managing financial risks.

The primary goal of the model is to determine the maximum interest expenditure on state debt, which with 95% or 99% probability will not be exceeded (CaR 95% and CaR 99%). The secondary goal of the model is to estimate the actual interest expenditure on state debt. The outcomes of the applied CaR analysis are not just the values of CaR 95% and CaR 99% percentiles, but also whole probabilistic distributions of interest expenditure in any moment of time, which makes this analysis a powerful tool for analysis of state budget expenditure in relation to the issuance and the financial market conditions.

The simulation framework operates separately with interest expenditure and interest revenue. The outcome of aggregation of interest expenditure and interest revenue is the net interest expenditure on state debt. Interest expenditure do not include fees related to state debt service, which are of a deterministic nature.

Over all the years in which the CaR methodology has been applied, the model has fulfilled the primary goal, since the predicted maximum interest expenditure was not exceeded in any of those years.

Figure 49: Net Interest Expenditure and Cost-at-Risk



Note: In 2009 through 2015 original budgeted net interest expenditure, in 2016 budgeted net interest expenditure included in the State Budget Act of the Czech Republic for 2016.
Source: MoF

Table 16: Net Interest Expenditure and Cost-at-Risk

CZK bn	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Budgeted expenditure[1]	41.3	56.1	66.7	72.1	63.6	57.8	56.8	51.8	53.2	58.1
Actual expenditure	44.1	35.6	45.0	41.1	50.6	48.3	45.1			
Expected expenditure	44.9	57.5	49.1	56.4	50.6	50.9	48.2	44.3	45.9	48.0
CaR 95%	49.9	62.9	59.2	64.9	61.3	60.0	56.6	51.4	56.0	59.6
CaR 99%	-	-	67.8	71.5	65.9	62.3	61.7	54.3	60.3	66.4

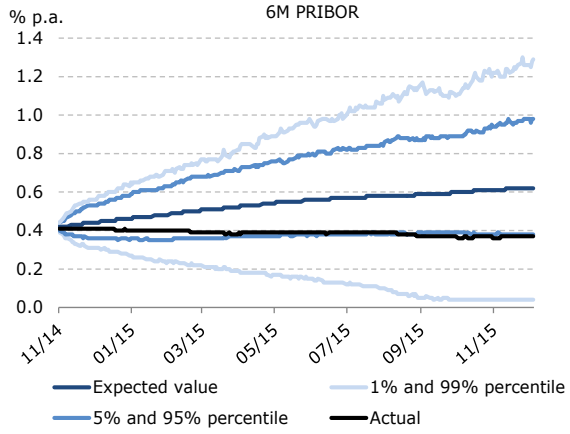
[1] In 2009 through 2015, the original budgeted net interest expenditure. In 2016 budgeted net interest expenditure included in the State Budget Act of the Czech Republic for 2016. In 2017 and 2018 medium-term outlook.
Source: MoF

Cost-at-Risk for 2015

In The Czech Republic Government Debt Management Annual Report 2014, the Cost-at-Risk of state debt for 2015 was published. Calculation of the CaR indicator is based on simulations of the time structure of interest rates as at 28 November 2014.

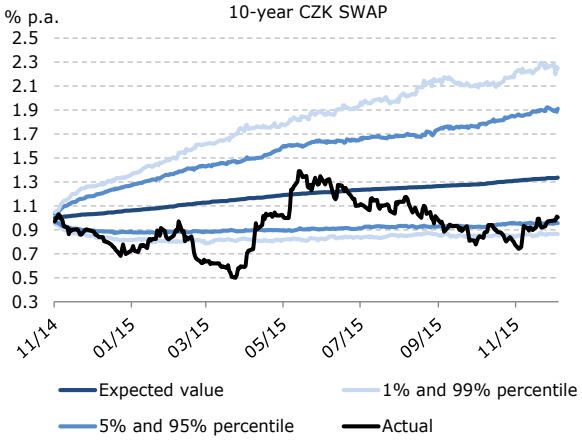
A comparison of the real development of the 6-month PRIBOR and ten-year swap interest rates with their simulations for the period from 28 November 2014 to 31 December 2015 is shown in the following figures.

Figure 50: Actual vs. Simulated 6M PRIBOR Rates



Source: MoF

Figure 51: Actual vs. Simulated 10-year CZK Swap Rates



Source: MoF

A comparison of the actual net interest expenditure on state debt service with the simulated values of expected expenditure (simulation average) and interest expenditure in CaR (95% and 99% percentile of simulations) in 2014 and 2015 is shown in the following table.

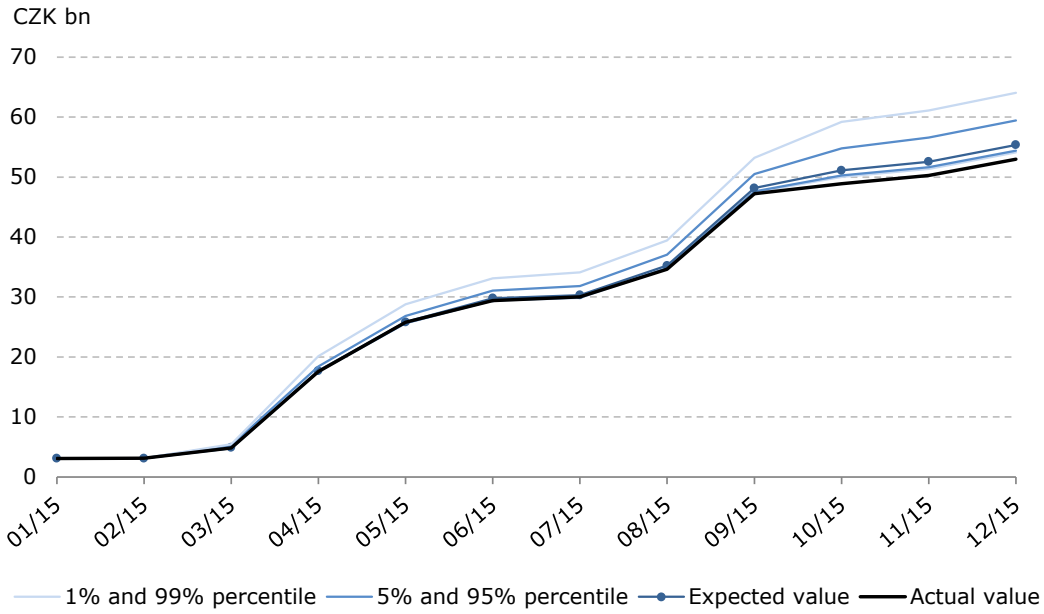
Table 17: Expected vs. Actual Net Interest Expenditure in 2014 and 2015

CZK bn	2014	2015
Actual expenditure	48.3	45.1
Expected expenditure	50.9	48.2
CaR 95%	60.0	56.6
CaR 99%	62.3	61.7
Difference between expectation and reality	2.6	3.1

Source: MoF

In 2015, the gross interest expenditure amounted to CZK 53.0 billion, while the expected gross interest expenditure in 2015 predicted by the model were at CZK 55.4 CZK billion. The actual interest revenue of state debt in 2015 amounted to CZK 7.9 billion and thus are CZK 0.7 billion higher than the expected revenue predicted by the model. The net interest expenditure on state debt in 2015 were CZK 45.1 billion, while the net interest expenditure predicted by the model were CZK 48.2 CZK billion.

Figure 52: Actual vs. Simulated Gross Interest Expenditure in 2015



Note: Interest expenditure are calculated using the cash principle according to the current state budget methodology.
Source: MoF

The net interest expenditure in 2015 remained below the CaR 95% and CaR 99% level, having been estimated at CZK 56.6 billion and CZK 61.7 billion, respectively. The primary goal of the model was thus achieved, as the actual interest expenditure on the state debt remained below the CaR 99% level and the fulfilment of the state budget balance for 2015 approved by the Chamber of Deputies from the title of State debt chapter budget was not jeopardized. The expected gross interest expenditure predicted by the model are CZK 2.4 billion higher compared to the actuality and the expected net interest expenditure predicted by the model are CZK 3.1 billion higher compared to the actuality.

The difference in expected gross interest expenditure is given primarily by the decrease of yields of CZK-denominated medium-term and long-term government bonds compared to the model-given expectations, which latest practically throughout whole 2015. In particular, the government bonds yields reached their historically minimal values in the second half of 2015, while the yields of government bonds bearing an interest on the short end of the yield curve reached negative values. The Ministry flexibly reacted to the situation on financial market and increased the issuance on short end of the yield curve. The difference stemming from this reaction amounted to CZK 1.7 billion and is given by the change in the structure of issuance calendar of medium-term and long-term government bonds. The next significant factors were the lower levels of PRIBOR and EURIBOR reference interest rates. The difference amounted to approx. CZK 0.4 billion due to the lower-than-expected values of reference rate. The difference of approx. CZK 0.2 billion is caused by lower-than-expected yields of state treasury bills, as in the second half of the year, the yields of state treasury bills reached negative values. The difference of expected revenue amounting CZK 0.7 billion is given mainly due to the decrease in yields of CZK-denominated medium-term and long-term government bonds compared to the expectations given by the model. The total extra revenue of state budget given by issuance of government bonds and state treasury bills with negative yields to maturity amounted to CZK 0.4 billion.

Cost-at-Risk for 2016 to 2018

Due to the relative stabilisation of the financial and economic situation in the Eurozone and EU, the government's rational fiscal policy and the CNB's zero interest rate policy, it was possible to reduce the expenditure on state debt service in the state budget for 2015 by CZK 5.0 billion compared to the approved budget for 2016, and by CZK 11.6 billion compared to the medium-term outlook for the state budget for 2016 and 2017, which The Czech Republic Funding and Debt Management Strategy for 2015 operated with. The current forecast of expenditure on state debt service for 2017 was reduced by CZK 19.7 billion compared to the previous outlook.

The net interest expenditure in 2016 predicted by the model amounts to CZK 44.3 billion. Net interest expenditure at risk, i.e. CaR 99% amounts to CZK 54.3 billion (CaR 95% CZK 51.4 billion). The actual net interest expenditure in 2016 will not be more than CZK 10.0 billion higher compared to expected

expenditure with 99% probability. The budgeted net interest expenditure of the state debt service in 2016 are CZK 51.8 billion and are thus between 95% and 99% percentile of CaR indicator, and will not be exceeded with more than 95% probability.

The following table shows in detail the development of cumulative net interest expenditure on state debt in 2016 predicted by the model always at the end of the month. It also contains the respective critical values of CaR 95% and CaR 99%.

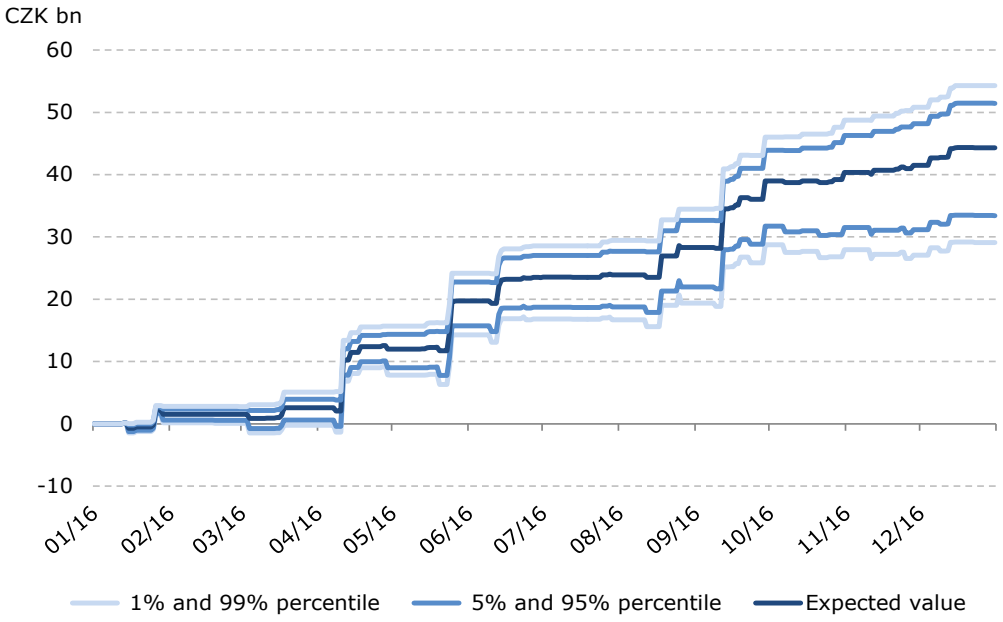
Table 18: Monthly Development of Cumulative Net Interest Expenditure in 2016

CZK bn	1	2	3	4	5	6	7	8	9	10	11	12
Expected expenditure	1.5	1.5	2.6	12.0	19.7	23.5	23.9	28.3	39.0	40.3	41.5	44.3
CaR 95%	2.4	2.4	3.9	14.4	22.8	27.0	27.7	32.6	43.9	46.3	48.2	51.4
CaR 99%	2.8	2.8	5.1	15.7	24.2	28.6	29.4	34.5	46.0	48.7	50.8	54.3

Source: MoF

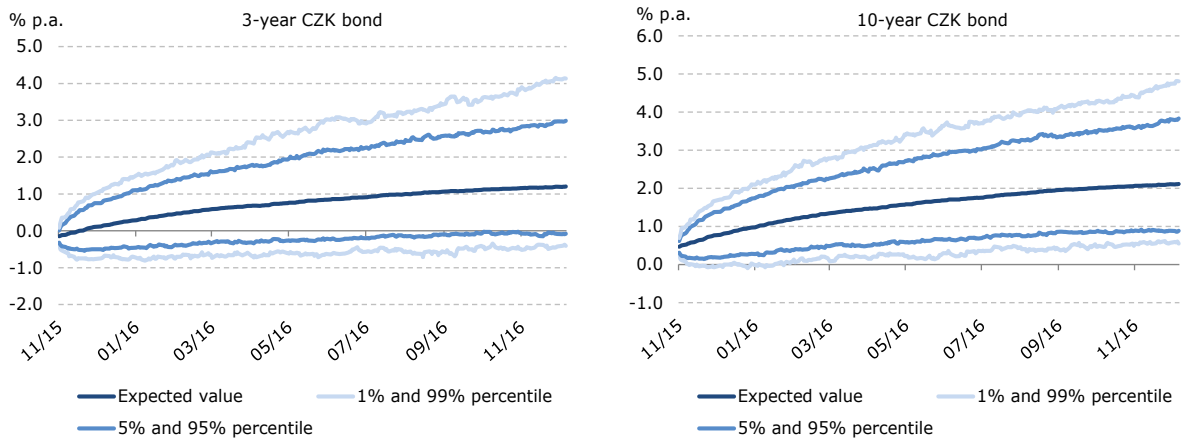
The graphic presentation of simulations of cumulative net interest expenditure on the state debt service in 2016 stipulated on a daily basis is shown in the following figure. The figure also shows the expected values of net expenditure and the respective 5% and 95%, 1% and 99% percentiles of simulated values.

Figure 53: Simulation of Net Interest Expenditure of State Debt during 2016



Note: Development of net nterest expenditure on a daily basis
Source: MoF

Figure 54: Simulation of CZK-Denominated Interest Rates in 2016



Source: MoF

The Ministry is also concerned with the problem of interest rates hikes, which could occur e.g. via a sharp increase in the Czech National Bank basic rate, sudden deterioration of the economic situation in the euro area, a sharp increase of the risk premium for the Czech Republic, etc. The Ministry strives to quantify the impact of these circumstances on net interest expenditure on the state debt service. Each economic event has an effect on a certain part of the yield curve, which is why it is important for the Ministry to observe the shift in the individual parts of the yield curves separately. The following table quantifies the consequences of a potential increase in interest rates at the short end of the yield curve, at the long end of the yield curve and along the entire curve evenly, all over the course of 2016. This analysis also enables the uneven shifting of the short and long end of the yield curve and arbitrary selection of the date of this shift.

Table 19: Development of Net Interest Expenditure in Case of Sudden Interest Hikes

CZK bn	Current model	Shift of rates at the short end of the yield curve		Shift of rates at the long end of the yield curve		Shift of the whole yield curve	
		by 1 p.p.	by 5 p.p.	by 1 p.p.	by 5 p.p.	by 1 p.p.	by 5 p.p.
Expected expenditure	44.3	46.5	55.1	51.1	72.3	53.3	83.0
CaR 95%	51.4	53.5	61.7	57.5	76.3	59.6	86.5
CaR 99%	54.3	56.3	64.5	60.0	77.6	62.0	87.9

Note: The shock in the form of a one-time shift in the yield curve will occur at the start of 2016.
Source: MoF

The shift of the yield curve for CZK-denominated government bonds at the short end by 1 p.p. upwards in 2016 would bring an increase in the expected net interest expenditure by CZK 2.2 billion. If the rates increased at the long end of the yield curve by 1 p.p., the expected net interest expenditure would increase by CZK 6.8 billion. The shift of the entire yield curve of CZK-denominated government bonds by 1 p.p. upwards would result in an increase in expected net interest expenditure by approximately CZK 9.0 billion.

The Ministry also quantifies the sensitivity of net interest expenditure on the state debt service in connection with the change of FX rate of Czech crown. This sensitivity is relatively low even in comparison with the sensitivity of interest expenditure in connection with the shift of the yield curve. As at the end of 2015, the net foreing-currency exposure of the state debt with the impact on the state debt service is denominated solely in EUR.

Table 20: The Increase of Net Interest Expenditure in Case of EURCZK FX Rate Hike

CZK bn	EUR/CZK FX rate shift	
	by 1%	by 10%
Expected expenditure	0.086	0.856
CaR 95%	0.087	0.869
CaR 99%	0.088	0.875

Note: The shock in form of a one-off depreciation of CZK FX rate will occur in the beginning of 2016
Source: MoF

If the EURCZK FX rate depreciated by 1% at the beginning of 2016 compared to the level as at the end of 2015, i.e. from 27.025 to 27.295 and remained during the whole 2016, then the expected net interest expenditure on state debt service would increase approx. by CZK 86 million.

The Ministry also quantifies the impact of an unplanned increase of the state budget deficit on the interest expenditure on the state debt service. If the state budget deficit of the Czech Republic were to increase by CZK 10.0 billion in 2016, and assuming the financing of this increase by means of the equal increase of nominal values of medium-term and long-term government bonds sold in auctions according to the current issue calendar, this change would result in an decrease of expected net interest expenditure on the state debt service by CZK 0.2 billion, but in following years the net state budget expenditure would amount to approximately CZK 0.1 billion. The impact on the state budget on a cash basis is very sensitive to selected methods of financing the deficit increase. If a bond with a premium is issued, the increased gross issue may not be reflected in a growth of net expenditure with regard to the cash principle, and will cause a reduction of net interest expenditure, the expense will be apparent only in later years in the form of increased coupon payments. If the accrued approach is applied, the increase of the gross issue would be apparent immediately.

Within three-year simulation horizon, the Ministry also constructs CaR indicators for 2017 and 2018. The expected value of net interest expenditure is CZK 45.9 billion in 2017 and CZK 48.0 billion in 2018,

which is due primarily to the use of a less conservative model for the risk premium of government bonds and the current historically lowest yields of government bonds.

In the medium-term outlook of the Czech Republic's budget for 2017 and 2018, the expenditure frameworks for the chapter 396 - State debt are under CaR 95% percentile. For 2017, the expenditure framework is CZK 53.2 billion and is CZK 2.8 billion below 95% percentile of interest expenditure. For 2018, the expenditure framework is CZK 58.1 CZK billion and is CZK 1.5 billion below 95% percentile of interest expenditure. The rising trend of medium-term outlook for budgeted and predicted interest expenditure is due mainly to the volatility of interest rates, which increases with the rising scope of the prediction. Given that the state budget is always compiled only for the following year, the prediction horizon of interest rates when compiling the budget for the following year will be shorter, and assuming that market conditions remain unchanged, it may be expected that the value of CaR 95% and CaR 99% indicators will decline due to the lower volatility of the interest rate prediction.

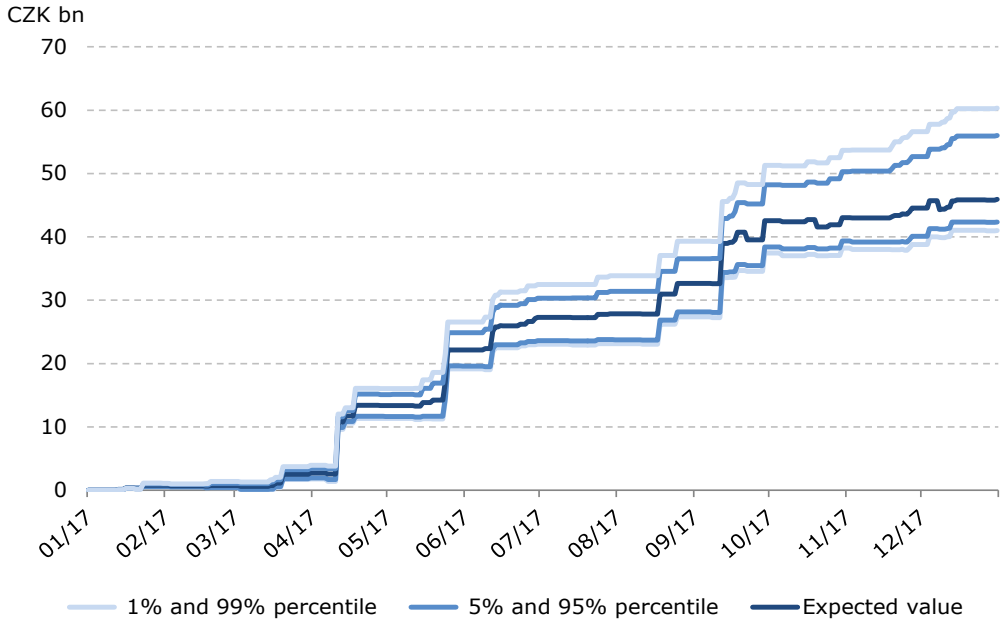
The expected net interest expenditure on state debt in 2017 predicted by the model amount to CZK 45.9 billion. The following table shows in detail the development of cumulative net interest expenditure on state debt in 2017 predicted by the model always at the end of the month. It also contains the respective critical values of CaR 95% and CaR 99% indicators. The difference between the CaR 99% indicator and expected costs in 2017 is higher than the same difference in 2016. The reason for this difference is higher uncertainty with longer yield curve prediction horizon, which increases the volatility of rates.

Table 21: Monthly Development of Cumulative Net Interest Expenditure in 2017

CZK bn	1	2	3	4	5	6	7	8	9	10	11	12
Expected expenditure	0.8	0.8	2.7	13.4	22.2	27.3	27.8	32.7	42.5	43.0	44.5	45.9
CaR 95%	1.0	1.1	3.5	15.1	24.9	30.3	31.4	36.5	48.2	50.3	52.7	56.0
CaR 99%	1.1	1.4	3.9	16.0	26.6	32.5	33.9	39.3	51.3	53.7	56.6	60.3

Source: MoF

Figure 55: Simulation of Net Interest Expenditure on State Debt during 2017



Note: Development of net interest expenditure on a daily basis
Source: MoF

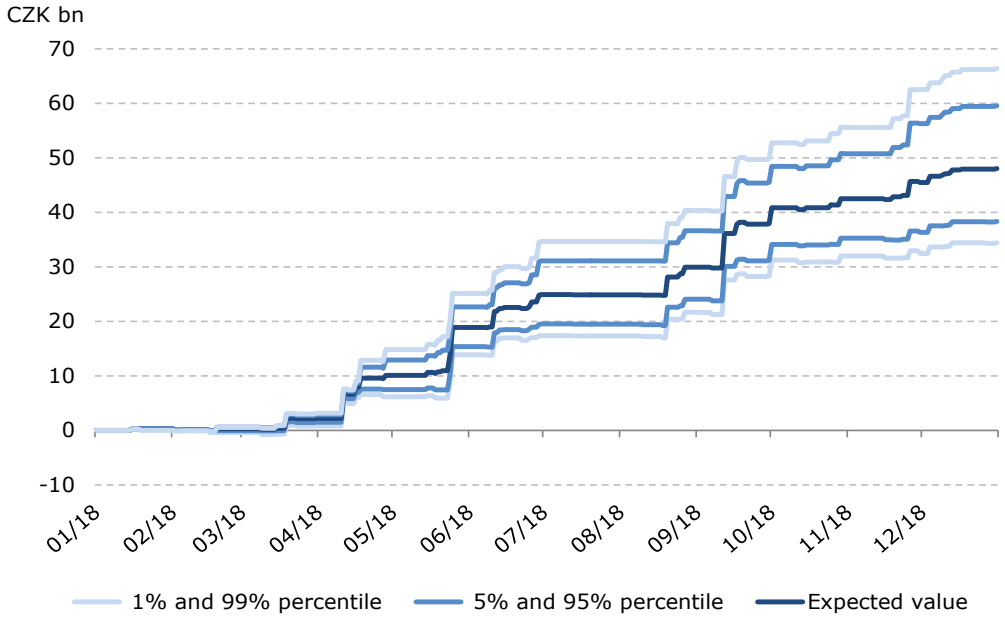
Expected net interest expenditure on state debt in 2018 predicted by the model amount to CZK 48.0 billion. The following table shows in detail the development of cumulative net interest expenditure on state debt in 2018 predicted by the model always at the end of the month. It also contains the respective critical values of CaR 95% and CaR 99%. The difference between the CaR 99% indicator and expected expenditure in 2018 is higher than the same difference in 2016 and 2017. The reason for this difference is higher uncertainty with longer yield curve prediction horizon, which increases the volatility of rates.

Table 22: Monthly Development of Cumulative Net Interest Expenditure in 2018

CZK bn	1	2	3	4	5	6	7	8	9	10	11	12
Expected expenditure	0.3	0.3	2.2	10.1	18.9	24.9	24.9	30.0	37.9	42.5	45.5	48.0
CaR 95%	0.2	0.6	2.9	12.9	22.7	31.1	31.1	36.6	45.5	50.8	56.3	59.6
CaR 99%	0.0	0.6	3.2	14.8	25.1	34.7	34.7	40.3	49.8	55.6	62.6	66.4

Source: MoF

Figure 56: Simulation of Net Interest Expenditure on State Debt during 2018



Note: Development of net interest expenditure on a daily basis
Source: MoF

Efficient Frontier and Alternative Debt Portfolios

The Ministry's primary goal is always the problem-free financing of the central government's gross borrowing requirement at minimal costs related to the specific level of risk. Due to the fact that the gross borrowing requirement in 2016 consists mainly of government bonds, it is crucial to issue bonds with parameters that will satisfy investors' demand. Another important factor that the Ministry must monitor is the liquidity of the secondary bond market. To maintain a certain level of liquidity of the secondary government bond market, it is necessary to ensure a relatively high total nominal value outstanding for every bond issue. According to the portfolio theory, situations may occur where the issuance of bonds according to the issuance calendar so as to satisfy investor demands and guarantee the liquidity of the secondary government bond market may create certain inefficiency in the management of the debt portfolio. This inefficiency may theoretically be eliminated by concluding swap operations, but this involves additional costs and the need to manage credit risk.

To compare the real funding strategy with other alternative strategies in terms of costs and risks, the Ministry has conducted an analysis based on the CaR method as from 2012, the aim of which is the construction of an efficient frontier.

In classic portfolio management, the yields and risks of individual potential investments within the given portfolio are compared directly among each other. On the contrary, the main factor influencing the portfolio structure in debt portfolio management is the time to maturity of the individual instruments. Fluctuations in yield curves and the need for refinancing (re-fixing) cause every refinancing (re-fixing) bear the risk of increased costs. Portfolios with a higher share of instruments bearing an interest at the short end of the yield curve are exposed to the risk of higher costs compared to portfolios with a higher share of instruments that bear an interest at the long end of the yield curve.

The efficient frontier depicts a curve that combines the risk and expected costs of alternative debt portfolios, which contain only bonds with one specific constant time to maturity. The bonds in this portfolio are issued always with a constant time to maturity, i.e.

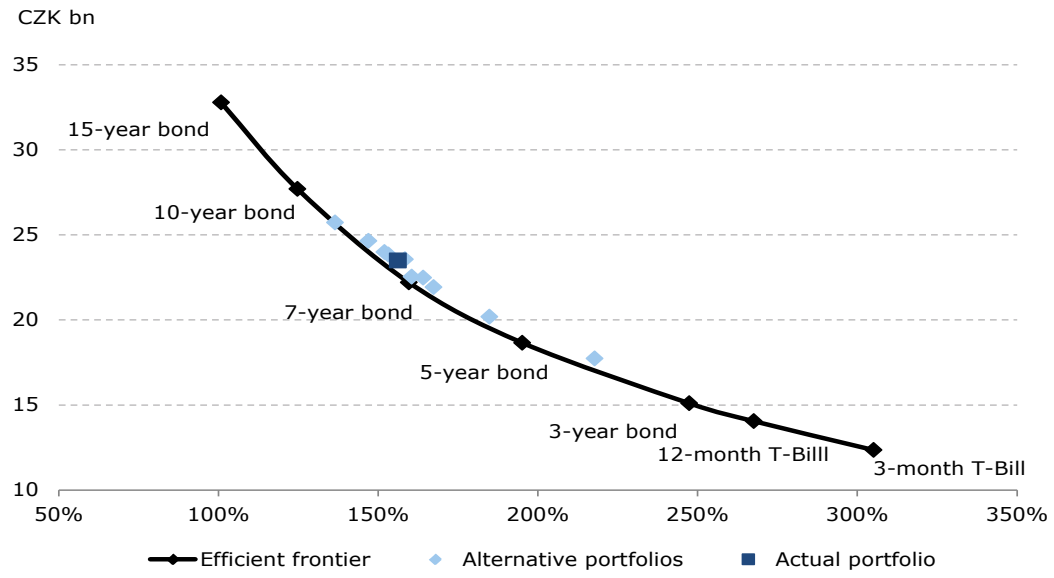
re-openings are not considered, and on its maturity date it is replaced with a bond with the same constant time to maturity. The efficient frontier represents a frontier of risk and expected costs combinations, which cannot be exceeded by any alternative debt portfolio. Hence, there is no debt portfolio that would enable the reduction of risk and simultaneously expected costs below the risk and expected costs of the portfolios containing only bonds with a constant time to maturity.

For all alternative debt portfolios in the conducted analysis, all financing of gross borrowing requirement in following years is carried out on the dates of actually planned auctions using only the bonds according to the definition of alternative portfolio (without considered reopening of the issue). The efficient frontier consists of seven alternative debt portfolios containing only newly issued bonds with a constant time until maturity. These bonds are: 3-month and 12-month state treasury bills and 3-year, 5-year, 7-year, 10-year and 15-year medium-term and long-term government bonds. Compared to the efficient frontier constructed in the previous year, there is an evident increase of yields of government bonds in three-year simulation horizon, which is reflected in the increase of expected costs in coming years. Furthermore, very low yields at the short end of the yield curve are apparent, where the expected costs in the case of the issue of 3-year government bonds do not differ significantly from the expected costs in the case of state treasury bills.

In addition to the seven alternative portfolios lying on the efficient frontier, the Ministry also analysed ten more alternative portfolios with instruments, which correspond more to the real demand of investors. These ten alternative portfolios are created analogically as portfolios lying on the efficient frontier, a mix of government bonds with various maturities, through which the central gross borrowing requirement in forthcoming years is funded.

Two alternative portfolios consider zero net issue of state treasury bills in all years, whereas in the first portfolio government bonds with a maturity of 3, 5, 7, 10 and 15 years are equally issued. In the second portfolio, bonds with various times to maturity are also issued, whereas the average time to maturity of the entire debt portfolio is secured at 6.0 years in 2018 medium-term horizon. A third to sixth alternative portfolios finance the gross borrowing requirement evenly always with two instruments; these are 15-year government bonds and 3-month state treasury bills; 10-year government bonds and 12-month state treasury bills; 10-year government bonds and 3-month treasury bills; 5-year government bonds and 12-month state treasury bills. The seventh and eighth alternative portfolios are consider evenly issuing state treasury bills with a maturity of 3 and 12 months and government bonds with a maturity of 10 and 15 years, whereas the chosen instruments are issued equally in case of the former alternative portfolio and the time to maturity of 5.5 year of the whole newly issued debt is maintained at the end of each year in the latter alternative portfolio. The ninth and tenth alternative portfolios consider issuing 3-, 5-, 7-, 10- and 15-year government bonds and 3- and 12-month state treasury bills, whereas the debt instruments are issued equally in on strategy and in the other, one half consists of issuing state treasury bills and the other half of issuing medium-term and long-term government bonds, whereas the proportion of maturities within the individual groups is equal.

Figure 57: Efficient Frontier and Alternative Debt Portfolios



Source: MoF

The expected costs of the individual debt portfolios are represented by the cumulated expected costs of state debt service in 2016 to 2018. In all cases, the costs are expressed on an accrued basis. Thereby the comparable position of each alternative portfolio is achieved. In the case of the real portfolio, this results in the clearing of impacts of reopened issues, which in the short-term simulation scope lead to over-valuation of the risk and expected cost. To determine the degree of risk of the individual debt portfolios, the cumulative CaR 99% indicator is used in 2016 to 2018; particularly, the horizontal axis shows the maximum possible percentage change of expected costs, at which the cumulative CaR 99% indicator is achieved.

The figure shows that no alternative or actual debt portfolio, which includes the mix of government bonds with various times to maturity, lies on the efficient frontier. The actual debt portfolio containing the current actual gross borrowing requirement funding strategy is very close to the efficient frontier. The actual debt portfolio lies near a cluster of alternative portfolios, which consist of the mix of government bonds with similar average time to maturity. The cumulated expected accrued costs of newly issued debt according to the actual issue calendars amount to CZK 23.5 billion with a risk of approximately 156.0%. There is therefore a risk that the actual realized costs for next 3 years will exceed the expected costs by 156.0%, or in absolute terms CZK 36.7 billion. Compared to the previous year expected costs increased significantly and the risk decreased. If the average time to maturity of the newly issued actual debt decreased, the position of the real portfolio would be closer to the x-axis and move away from y-axis, i.e. the expected interest costs would decrease and the risk that they would be exceeded, would increase.

In the context of the efficient frontier analysis, it should be noted that there is no optimal portfolio that can be obtained by quantitative optimization. In the real world, where it’s not possible to issue only new issues of government bonds in each auction and not take into account the needs of investors, only the portfolios approaching the efficient frontier can be chosen. The choice of the part of the efficient frontier, where this approach of the portfolio to the efficient frontier occurs, primarily depends on the risk preference or aversion of the management.

6 - Primary and Secondary Market for Government Bonds

Primary Dealers of Czech Government Bonds

The status of a primary dealer in Czech government bonds was contractually formalised on 1 October 2011, when the Primary Dealer Agreement for Czech Republic Government Securities (hereinafter the Agreement), became valid. According to best international practice, the Agreement specifies the rights and obligations of individual members of the group of primary dealers, and provides an institutional framework for cooperation between the Ministry and financial institutions in funding and state debt management. Only a primary dealer who has entered into this Agreement with the Ministry has the right as of 1 January 2012 to participate in auctions according to the Rules for Primary Sale of Government Bonds organised by the Czech National Bank.

A Primary Dealer is granted exclusive access to primary auctions of government bonds and the Ministry's operations on the secondary market, such as buybacks and exchanges of government bonds, tap sales, lending facilities (in the form of repo operations and since December 2015 also in the form of collateralized loans of medium-term and long-term government bonds) or reverse repo operations. Primary dealers are also the Ministry's counterparties for foreign issues, private placements and other state's financial operations. Primary dealers also have an exclusive right to participate in regular meetings with the representatives of the Ministry, at least once per quarter, and to be involved among others in the preparation of issuance calendars for government bonds as well as to propose alternative instruments for financing the borrowing requirement, including follow-up operations for risk management.

A primary dealer's obligation is to purchase at least 3% of the total nominal value of medium-term and long-term government bonds sold in the primary auctions (including non-competitive parts) during four consecutive quarters. Another important obligation is for the participant to fulfil the quoting obligations on a secondary market through the Designated Electronic Trading System (DETS) with the aim of achieving a highly liquid secondary market of government bonds. For 2016 and 2017, MTS Czech Republic was chosen as this platform once again based on the decision taken by the Primary Dealers Committee on 16 October 2015. The system of notifications sent in the case of failure to meet one of the two basic obligations has proven to be useful and the Ministry will continue to apply this practice.

The group of primary dealers of Czech government bonds is confirmed by the Ministry for every calendar year. In 2015, the Czech Republic had a total of 13 primary dealers, the number and composition of which is identical to 2014.

Table 23: List of Primary Dealers of Czech Government Bonds in 2015

Year 2015	
Barclays Bank PLC	ING Bank N. V.
Citibank Europe plc	J. P. Morgan Securities plc
Erste Group Bank AG / Česká spořitelna, a.s.	Morgan Stanley & Co International PLC
KBC Bank NV / Československá obchodní banka, a. s.	PPF banka, a.s.
Deutsche Bank AG	Société Générale / Komerční banka, a.s.
Goldman Sachs International	UniCredit Bank Czech Republic and Slovakia, a.s.
HSBC Bank plc	

Source: MoF

Evaluation Results of the Primary Dealers for 2015

The modification of evaluation of the primary dealers maintains the three primary evaluation criteria and their weights. The importance of a functional and liquid secondary market is demonstrated by the allocation of high weight to this criterion, which allows the appraisal of active market-makers in relation to their performance in government bond auctions on the primary market. The maximum evaluation of each primary dealer is 100 points, calculated on a relative basis. The activity of primary dealers is thus evaluated on a quarterly basis always for the last four consecutive quarters of the year.

The method of evaluating primary dealers is described in detail in the appendix to this document. The maximum evaluation that can be achieved by any primary dealer is 100 points, whereas this score is counted on a relative basis. The activity of the primary dealers is thus evaluated every quarter based on the Aggregate Performance Evaluation Index (APEI) defined in Annex I to the Agreement, always for four consecutive evaluation periods. The evaluation period according to Article 1 of the Agreement is every calendar quarter.

Table 24: Overall Evaluation of Primary Delarers in 2015

Ranking	Primary Dealer	Points
1	**Citibank Europe plc**	**75.0**
2	KBC Bank NV / Československá obchodní banka, a.s.	66.5
3	PPF banka a.s.	54.7
4	Erste Group Bank AG / Česká spořitelna, a.s.	52.3
5	Société Générale / Komerční banka, a.s.	49.5
6	J.P.Morgan Securities Ltd.	43.0
7	ING Bank N.V.	38.6

Note: Maximum possible number of points in overall evaluation is 100.
Source: MoF

Table 25: Primary Market in 2015

Ranking	Primary Dealer	Points
1	**Citibank Europe plc**	**35.2**
2	KBC Bank NV / Československá obchodní banka, a.s.	26.5
3	Erste Group Bank AG / Česká spořitelna, a.s.	24.4
4	PPF banka a.s.	22.8
5	Société Générale / Komerční banka, a.s.	20.9
6	J.P.Morgan Securities Ltd.	17.0
7	ING Bank N.V.	16.1

Note: Maximum possible number of points in this criterion is 45.
Source: MoF

Table 26: Secondary Market in 2015

Ranking	Primary Dealer	Points
1	**Citibank Europe plc**	**26.7**
2	KBC Bank NV / Československá obchodní banka, a.s.	26.6
3	PPF banka a.s.	21.1
4	Société Générale / Komerční banka, a.s.	16.9
5	Erste Group Bank AG / Česká spořitelna, a.s.	15.0
6	J.P.Morgan Securities Ltd.	14.2
7	UniCredit Bank Czech Republic and Slovakia, a.s.	12.9

Note: Maximum possible number of points in this criterion is 40.
Source: MoF

Secondary Government Bond Market and MTS Czech Republic

One of the long-term objectives for state debt management is to support the maximum possible liquidity of issues of Czech government bonds on the secondary market, which the Czech Republic aimed to fulfil through the implementation of the MTS Czech Republic electronic trading platform for the secondary market of CZK-denominated government bonds. Pilot operation was launched on 11 July 2011, continuing with live operation after three months. The MTS Czech Republic electronic trading platform enables clear monitoring of the behaviour of market participants and compliance with the set rules in real time as a basis for the subsequent evaluation of their performance and point awarding. Implementation of this platform also enabled expansion of the group of primary dealers by new foreign market-makers of the domestic market.

An effective secondary market in terms of minimising transaction costs and maintaining market depth and price stability is a necessary condition for

the issuing activity of the state and smooth and cost-effective funding over the long term. In order to meet this task, the Ministry gradually expanded the list of benchmark issues from 1 January 2016, based on a previous discussion with primary dealers at the Primary Dealer Committee, as well as the MTS Czech Republic Committee (composed of the representatives of the Ministry and the primary dealers), to include newly issued government bonds in 2015 with maturity in 2023, 2026 and 2030, whose nominal value outstanding was sufficient to allow the fulfilment of quoting obligations of the market maker. Further, the issue maturing in 2036 was removed from the list based on the agreement with the primary dealers, due to the significant shortage of bonds available for trading, which did not allow primary dealers to cover short positions. The issue of government bonds with maturity in 2036 was replaced by the issue with maturity in 2030 that still enables the Ministry to construct the long end of the yield curve of Czech Republic government bonds. From 1 January 2016, Czech Republic Government Bonds, 2013-2016, 0.50% and 2008-2016, VAR% were removed from the list of benchmark issues due to the time to maturity of less than 1.25 years. With the changes in benchmark issues the total number of listed bonds subjected to quoting obligation remains 13.

Table 27: Benchmark Issues of Government Bonds as at 1 January 2016

Issue No.	Issue	ISIN	Coupon	Maturity Date	Maturity Basket
51st issue	ČR, 4,00 %,17	CZ0001001903	4.00%	11/04/2017	A
88th issue	ČR, 0,85 %, 18	CZ0001004246	0.85%	17/03/2018	A
41st issue	ČR, 4,60 %,18	CZ0001000822	4.60%	18/08/2018	A
56th issue	ČR, 5,00 %,19	CZ0001002471	5.00%	11/04/2019	A
76th issue	ČR, 1,50 %,19	CZ0001003834	1.50%	29/10/2019	B
61st issue	ČR, 3,85 %,21	CZ0001002851	3.75%	29/09/2021	B
52nd issue	ČR, 4,70 %,22	CZ0001001945	4.70%	12/09/2022	C
97th issue[1]	**ČR, 0,45 %,23**	**CZ0001004600**	**0.45%**	**25/10/2023**	**C**
58th issue	ČR, 5,70 %,24	CZ0001002547	5.70%	25/05/2024	C
89th issue[1]	ČR, 2,40 %,25	CZ0001004253	2.40%	17/09/2025	C
95th issue[1]	**ČR, 1,00 %,26**	**CZ0001004469**	**1.00%**	**26/06/2026**	**C**
78th issue	ČR, 2,50 %,28	CZ0001003859	2.50%	25/08/2028	C
94th issue[1]	**ČR, 0,95 %, 30**	**CZ0001004477**	**0.95%**	**15/05/2030**	**D**

[1] Issue was included among benchmark issues from 1 January 2016.
Source: MoF

The primary dealer who fulfils the role of market-maker on the secondary market quotes the bid and offer prices for all bonds subject to quoting obligations in the minimum quoted total nominal value, which varies depending on the time to maturity, and at least 5 hours during a single trading day.

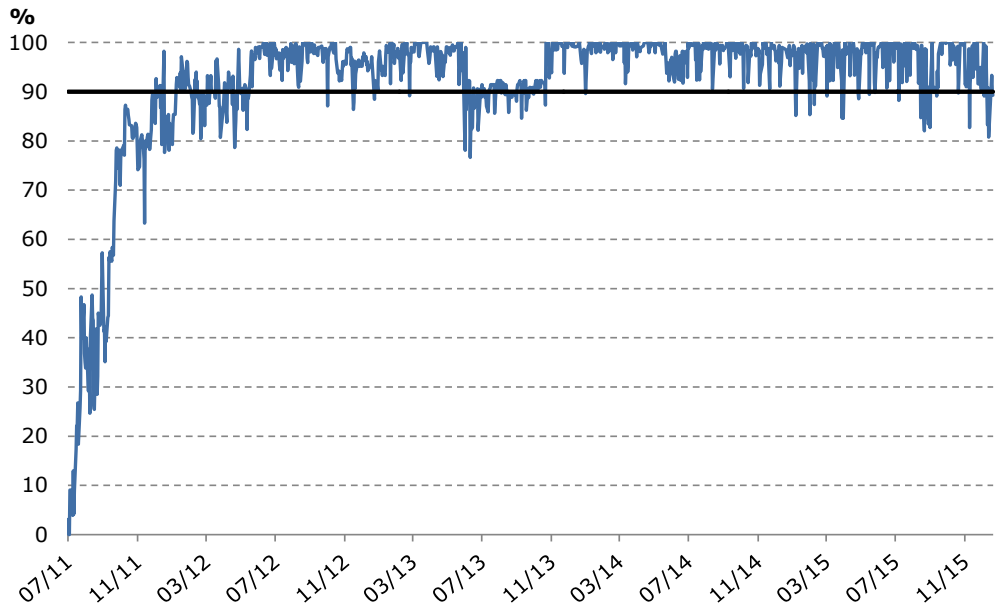
Table 28: Maturity Baskets Based on the Minimum Traded Volume on the MTS Czech Republic

A	**Bonds maturing within 1.25 to 3.5 years**	CZK 50 million
B	**Bonds maturing within 3.5 to 6.5 years**	CZK 50 million
C	**Bonds maturing within 6.5 to 13.5 years**	CZK 40 million
D	**Bonds maturing within 13.5 years and more**	CZK 30 million

Source: MoF

However, the quoted prices must be within the competitive spread, which is set on a daily basis for each government bond subject to quoting obligations as the weighted average of the quoted spreads of all primary dealers multiplied by the coefficient of k = 1.5. This method and the quantitative criteria were set up following mutual discussion in the MTS Czech Republic Committee, and the respective calculations are available to all participants in the system. The Ministry monitors compliance with quoting obligation on a daily basis, the evaluation of the performance and activity of participants takes place on a monthly basis. In 2015, primary dealers successfully managed to fulfill their quoting obligations on average.

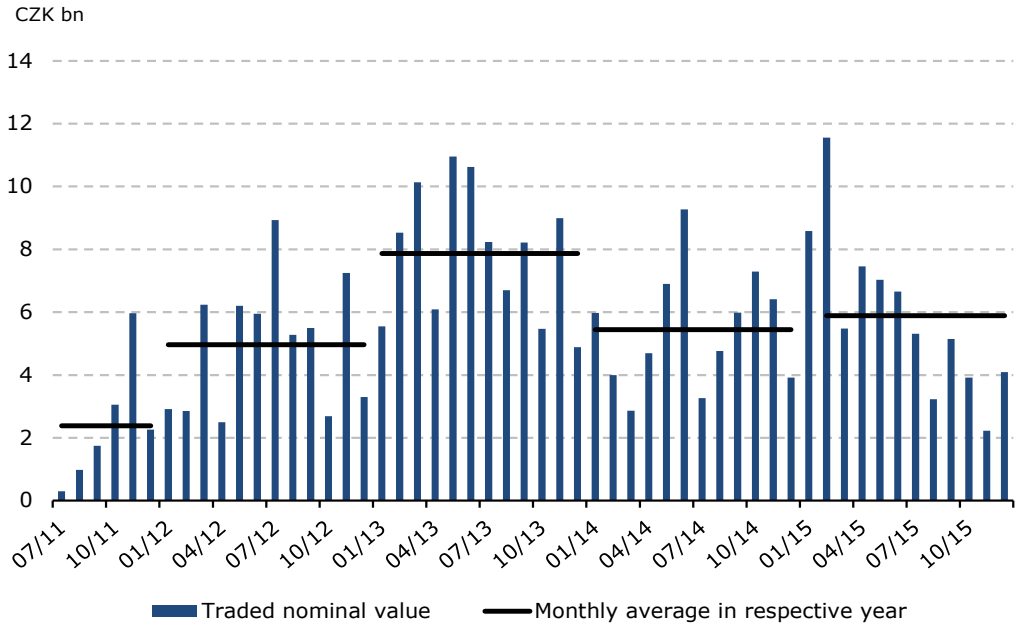
Figure 58: Average Daily Compliance Ratio on MTS Czech Republic



Source: Mof, MTS

Following the growth of the traded nominal value of CZK-denominated government bonds in the first three quarters of 2013 on the domestic secondary market carried out between primary dealers through the MTS Czech Republic electronic trading platform, there was an overall decrease of the traded nominal value from November 2013 to March 2014. From March 2014, the traded nominal value began to rise substantially, reaching its peak in June at CZK 9.275 billion. In 2014, the traded nominal value stabilised at an average monthly value of CZK 5.5 billion. In February 2015 the traded nominal value reached its historic high since the launch of MTS Czech Republic in July 2011 of CZK 11.552 billion, when the monthly average traded was nearly CZK 6 billion.

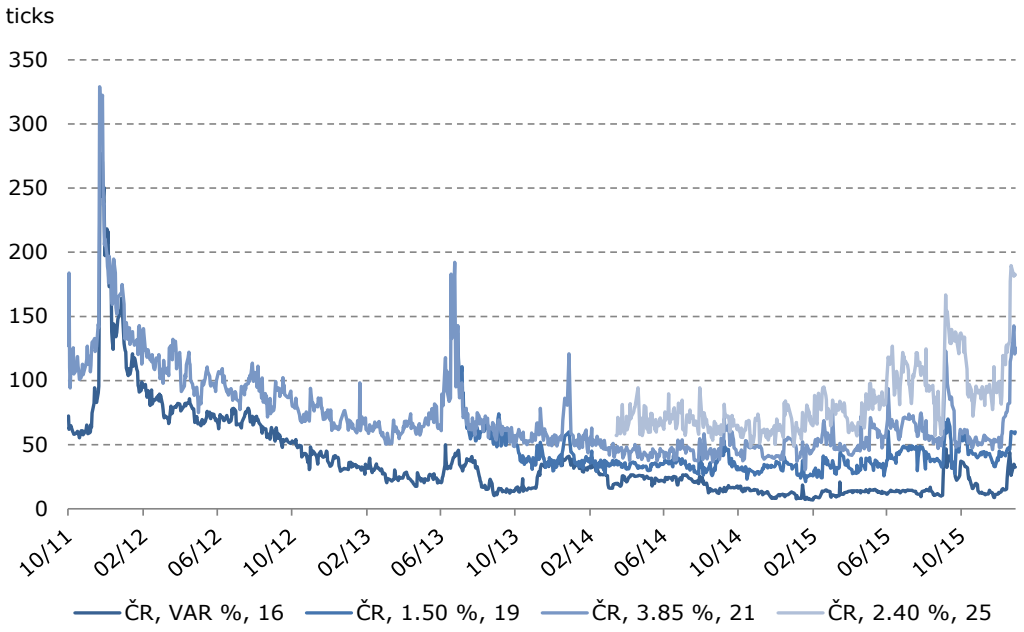
Figure 59: Traded Nominal Value on MTS Czech Republic



Note: Excl. trades of the Ministry on the secondary market.
Source: Mof, MTS

The spread of the bid and offer prices went through an unstable period from June to September 2015, particularly as concerns higher maturities. With decreasing uncertainty on financial markets, the former stable trend was also restored in the quotation spread. Market stabilization and the long-term low levels of price spreads are also supported by the fact that the mandatory bid-offer spread is built on a relative basis compared to the market average of all primary dealers. This enables significant flexibility and adaptation to the continually changing and poorly predictable market environment as opposed to the fixed spreads.

Figure 60: Bid-Offer Spreads of Selected Bonds Quoted on MTS Czech Republic



Source: Mof, MTS

The strategy in relation to the development of the secondary market via MTS Czech Republic primarily focuses on the flexible use of all available MTS Czech Republic electronic platform instruments and smooth running of the system. The Ministry considers the developments related to the fulfilment of quoting obligations very promising, particularly with regard to the significant volatility on the financial markets and due to the limited offer of government bonds on the primary and secondary markets in 2015. Lending facilities in the form of repo operations and now also in the form of collateralized loans will continue to be the tools actively used by the Ministry for its direct impact on the secondary market liquidity in 2016.

Ministry's Operations on the Secondary Market

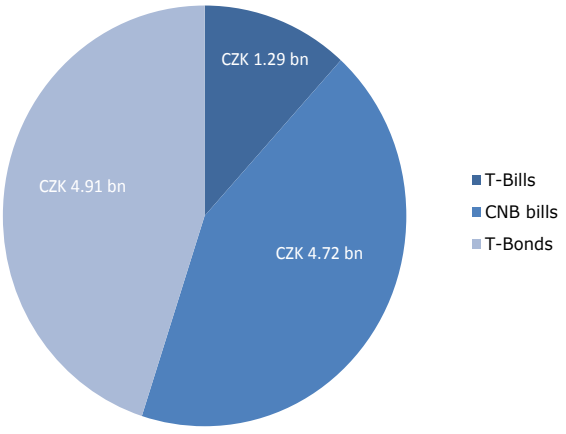
Since December 2011, the Ministry has been operating actively on the secondary market, primarily through the MTS Czech Republic electronic trading platform. In order to ensure maximum transparency, the Ministry informs all primary dealers about the intention to conduct a buyback, exchange or a tap sale on the secondary market (type of transaction, government bond, the maximum nominal value of transactions, time limit, the conversion rate for exchanges, settlement date, contact person) at least one business day prior to the date on which the transaction is to occur. The Ministry publishes the result of the transactions (total nominal value of the transactions carried out within one buyback or tap sale, number of transactions and weighted average price) on its website on the settlement date of the transactions.

All operations on the secondary market are executed flexibly depending on the Ministry's needs and the situation on the financial markets. In the course of 2015, the Ministry did not carry out any buybacks or tap sales on the secondary market. The Ministry continued the extensive execution of the short-term lending facilities of medium-term and long-term government bonds for primary dealers in the form of repo operations and since December 2015 also in the form of loans of securities. Loans of securities, which are standard financial instrument in the world, will be supported by the Ministry also in the next period.

Similar to repo operations a primary dealer can borrow securities from Ministry's asset accounts for a fee for a period of 90 days against the non-cash collateral in the form of state treasury bills, CNB bills or medium-term and long-term government bonds. The advantage of loans of securities is the bidirectional support of liquidity on the secondary market with no impact on the gross borrowing requirement of the Ministry and the debt portfolio indicators. Parallel market in the form of loans of securities has its importance when the repo market freezes or CNB introduces negative rates, which would have resulted in an increase in bid-offer spreads. Loans of securities are fully covered by the standard contractual documentation, i.e. the Master agreement for financial transactions and the international Global Master Securities Lending Agreement. Loans of securities also help primary dealers to optimize their business portfolio irrespective of their liquidity position as well as significantly reduce their dependence on the repo market.

In September 2015, the total volume of the lending facility expressed as the nominal value of provided collateral reached CZK 16.69 billion. This is the highest volume of government bonds in the form of repo operations since their introduction. In December 2015 total provided nominal value of lending facilities rose to a level of over CZK 20 billion. This was influenced by the support provided by the Ministry and the primary dealers to the newly created market of collateralized loans of securities. In December the Ministry provided bonds in the total nominal amount of CZK 10.36 billion in the form of loans of securities. At the same time the Ministry accepted collateral in a nominal value of CZK 10.92 billion.

Figure 61: Accepted Collateral within Loans of Securities in 2015



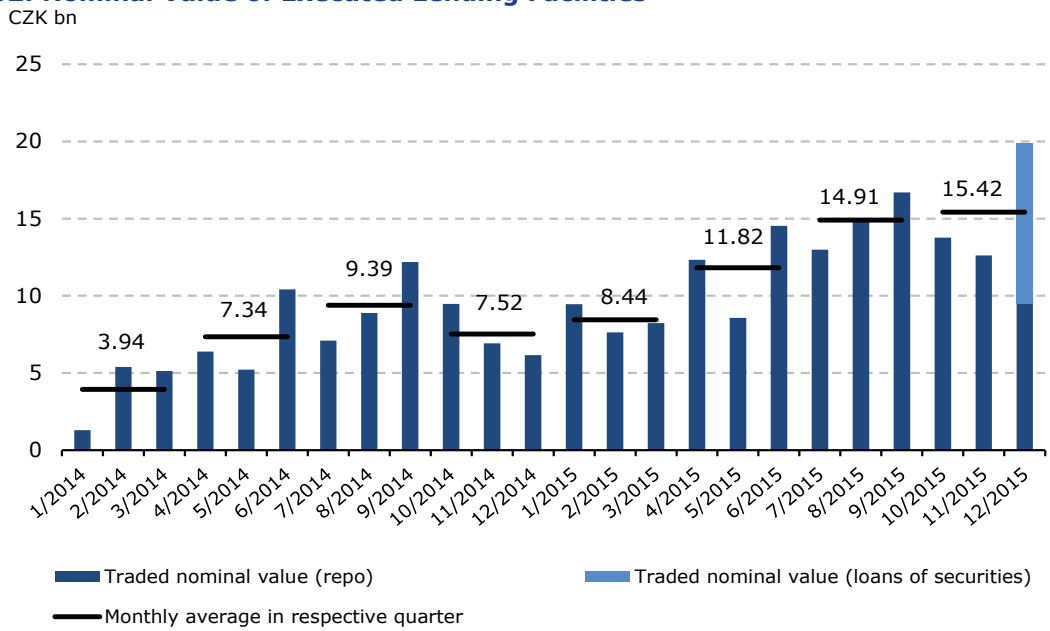
Source: MoF

Interest in the short-term lending facilities in 2015 was high despite the long-term declines in yields of government bonds and the volatility on financial markets. The total size of received cash resources from short-term lending facilities in 2015 compared to 2014 increased by CZK 73.5 billion. From the side of primary dealers, the short-term lending facility allows the Ministry to cover their short positions and thus contribute to the smooth fulfilment of quoting obligations, maintain sufficient depth of market and liquidity of government bonds even at times of fluctuations on financial markets. The difference between the nominal value of trades on the MTS Czech Republic electronic trading platform and demand of primary dealers for government bonds may thus be filled through short-term lending facilities. Lending facilities thus form an important alternative for obtaining government bonds in the case of worsened conditions on the secondary market and contribute significantly to the business activity of primary dealers. It enables stabilisation of the market spread of quoted bonds, which is directly reflected in a reduction of the illiquidity premium as well as the demand for Czech government bonds by the side of end-investors.

Although the primary goal of these operations is to increase the liquidity of government bonds on secondary market, especially in case of the short-term excess of demand over the supply of the particular bond, income from lending facilities have a positive impact on increasing revenue of State debt budgetary chapter. The funds obtained from the repo operations are invested for higher return on the money market within the efficient state treasury liquidity management. This enables further increase in the investment income of the Ministry. In 2015, the contribution of the lending facilities to the total revenue from the investment activity amounted CZK 4.3 million.

Regarding the providing of lending facilities, the Ministry actively manages the balance of government bonds in its asset accounts with respect to the demand of primary dealers. In 2015, the largest part of lending facilities was comprised of Czech Republic Government Bond, 2013–2019, 1.50%, Czech Republic Government Bond, 2011-2023, VAR%, Czech Republic Government Bond, 2010-2021, 3.85%, Czech Republic Government Bond, 2009-2024, 5.70% and Czech Republic Government Bond, 2006-2036, 4.20%. For other bonds, the demand was evenly distributed along the entire yield curve.

Figure 62: Nominal Value of Executed Lending Facilities



Note: The medium-term and long-term government bonds lending facilities are stated in the nominal value of collateral from the Ministry's asset account.
Source: MoF

Appendix I

Evaluation Methodology for Primary Dealers Valid for 2015

As part of criterion A. Evaluation of activities on the primary market, the share of the particular primary dealer in the primary market of government bonds, meaning the share of accepted bids at auctions of government bonds for the evaluated period, is monitored. Using the ratio of the accepted bids to the total nominal value of the submitted bids, the Ministry monitors the willingness of investors to hold medium-term and long-term government bonds. The important aspects of evaluating participation on the primary market include the auction pricing strategy, in which the Ministry evaluates the willingness of primary dealers to pay the highest price weighted by the nominal value of a government bond auction. In another sub-criterion, a Primary Dealer is evaluated with more points should that dealer be a regular participant at auctions, regardless of the evaluation period. The maximum number of points in the final sub-criterion is received by the Primary Dealer who subscribes the largest share of state treasury bills sold by the Ministry during the particular period.

The quantitative evaluation within criterion B. Secondary market and liquidity operations, which is primarily based on available statistics and the monitoring tools of the MTS Czech Republic electronic trading platform, focuses on quotation activity, its quality, traded volumes and transactions with the Ministry. The evaluation of the fulfilment of the quoting obligations also forms the subject of the first sub-criterion. The quality of quotation activity is understood as an evaluation of the average quoted spread weighed by time and total nominal value, which is further taken into account in the time to maturity of the given bond. Similarly also in relation to other sub-criterion, the traded volumes are weighted based on the time to maturity of the bond. For the next sub-criterion, Primary Dealer is evaluated based on the ratio of the total nominal value of the transactions carried out (type of repo operation, buy/sell back operation, depo operation, medium-term and long-term government bonds lending facilities, tap sale of government bonds on the secondary market or buy-backs and exchanges of government bonds before their maturity date) to the total nominal value of transactions carried out for the evaluated period.

In accordance with the 12th Primary Dealer Committee held on 16 October 2015, there is an adjustment in this sub-criterion valid as from Q4 2015, as three groups of instruments types traded on secondary market are distinguished and each primary dealer is then evaluated based on the share of total nominal value of executed trades with relevant instruments within the given group, when the primary dealer acted as a counterparty, in total nominal value of all executed trades with relevant instruments within given group executed with all primary dealers. Total evaluation for given sub-criterion is then determined by the weighted average of these shares for all three distinguished groups.

Table 29: Groups of Instrument Types Evaluated within Sub-Criterion B.4.

Group	Types of Instruments Included in Given Group	Weight of Given Group
1	Depo, repo, reverse repo operation within liquidity management, and FX swaps	70%
2	Lending facilities	15%
3	Tap sales, buy-backs and Exchanges of T-Bonds	15%

Source: MoF

The fifth sub-criterion, added in 2013, evaluates the willingness of a Primary Dealer to pay the highest price or obtain the lowest price weighted by the nominal value and duration within tap sales, buy-backs of government bonds or exchanges of government bonds on the secondary market.

The qualitative evaluation under criterion C focuses on derivative operations, marketing, consulting and credibility. The Primary Dealers are evaluated in ascending order depending on the prices they provide for various derivative instruments. The Ministry further evaluates the quality of consulting activities, cooperation and sharing of information, human and technical resources related to risk management and optimization of the debt portfolio. Sub-criterion C.2 also includes an evaluation of analytical output and economic analyses, which primary dealers may send to a specially created e-mail box of the Ministry.

Table 30: Criteria for Evaluation of Primary Dealers Valid for 2015

A. Primary market	45 p	B. Secondary market and liquidity operations	40 p	C. Qualitative criterion	15 p
A.1. Share on the primary T-Bonds market	25 p	B.1. Quoting obligations on DETS	9 p	C.1. Derivative operations	8 p
A.2. Dependability of auction demand	5 p	B.2. Qualitative of quoting performance on DETS	9 p	C.2. Marketing, consultancy and credibility	7 p
A.3. Auction pricing strategy	5 p	B.3. Traded Volume on DETS	9 p		
A.4. Regularity of auction participation	2,5 p	B.4. Ministry of Finance's operations on the secondary market and liquidity operations	9 p		
A.5. Share on the primary T-Bills market	7,5 p	B.5. Pricing strategy for tap sales, buy-backs and exchanges	4 p		

Source: MoF

Evaluation Methodology for Primary Dealers Valid for 2016

According to the new Primary Dealer Agreement for Czech Government Securities valid as from 1 January 2016 there was a change in the evaluation methodology for primary dealers. Starting in 2016, the Ministry stopped evaluating the qualitative criterion C and instead of that it increased the maximum score achievable in criteria A and B and increased the maximum score for related sub-criteria. The Ministry will assess the active and more quality making of primary and secondary market of Czech Republic government bonds and also their participations in both of them.

There was also an additional change in the sub-criterion B.4. Ministry of Finance's operations on the secondary market and liquidity operations, as each operation will be newly weighted by its duration, which would secure their greater comparability within given instrument types group.

Table 31: Criteria for Evaluation of Primary Dealers Valid as from 1 January 2016

A. Primary market	55 p	B. Secondary market and liquidity operations	45 p
A.1. Share on the primary T-Bonds market	30 p	B.1. Quoting obligations on DETS	10 p
A.2. Dependability of auction demand	5 p	B.2. Qualitative of quoting performance on DETS	10 p
A.3. Auction pricing strategy	5 p	B.3. Traded Volume on DETS	10 p
A.4. Regularity of auction participation	5 p	B.4. Ministry of Finance's operations on the secondary market and liquidity operations	10 p
A.5. Share on the primary T-Bills market	10 p	B.5. Pricing strategy for tap sales, buy-backs and exchanges	5 p

Source: MoF

Appendix II

Table 32: State Debt and Liquid State Financial Assets Parameters

	31/12/2014	31/3/2015	30/6/2015	30/9/2015	31/12/2015
Total state debt (CZK bn)	**1,663.7**	**1,663.1**	**1,663.0**	**1,663.0**	**1,673.0**
Market value of state debt (CZK bn)[1]	1,925.0	1,943.1	1,884.5	1,901.6	1,913.5
Short-term state debt (%)	14.9	15.0	13.1	12.4	16.4
Medium-term state debt (%)	55.7	56.0	54.9	58.1	59.4
State treasury bills (%)	6.5	4.9	5.3	6.3	5.0
Other money market instruments (%)	0.2	0.3	0.7	0.6	0.2
Average time to maturity (years)	5.5	5.4	5.4	5.3	5.1
Interest rate re-fixing up to 1 year (%)	35.5	36.1	34.7	34.5	33.7
Average time to re-fixing (years)	4.2	4.1	4.2	4.1	4.0
Variable-rate state debt (%)	18.7	19.3	19.7	20.3	19.9
Modified duration (years)	4.1	4.1	4.0	4.0	3.9
State debt level net foreign currency exposure (%)	10.4	10.7	11.0	11.0	10.9
Interest expenditure on state debt net foreign currency exposure (%)	9.4	9.5	9.8	9.8	10.2
Foreign currency state debt (%)	14.5	14.5	14.3	14.3	13.6
Share of € in state debt level net foreign currency exposure (%)	90.1	89.0	89.6	89.9	89.8
Share of € in interest expenditure on state debt net foreign currency exposure (%)	100.0	100.0	100.0	100.0	100.0
Non-marketable state debt (%)[2]	3.6	3.6	3.6	3.5	3.5
Share of savings government bonds in state debt (%)	4.7	4.7	4.7	4.7	4.0
Marketable state debt (CZK bn)	**1,525.4**	**1,525.6**	**1,525.7**	**1,527.1**	**1,548.1**
Market value of marketable state debt (CZK bn)[1]	1,778.3	1,796.9	1,739.1	1,757.4	1,782.2
Short-term marketable state debt (%)	15.3	15.4	12.9	12.2	15.7
Medium-term marketable state debt (%)	54.8	55.1	53.8	57.2	58.8
State treasury bills (%)	7.1	5.4	5.8	6.9	5.5
Other money market instruments (%)	0.2	0.3	0.8	0.7	0.2
Average time to maturity (years)	5.4	5.4	5.3	5.3	5.1
Interest rate re-fixing up to 1 year (%)	33.9	34.6	32.6	32.5	30.8
Average time to re-fixing (years)	4.5	4.4	4.4	4.3	4.2
Variable-rate marketable state debt (%)	16.4	17.1	17.6	18.3	17.7
Modified duration (years)	4.3	4.3	4.2	4.2	4.1
Marketable state debt level net foreign currency exposure (%)	11.4	11.6	12.0	11.9	11.8
Interest expenditure on marketable state debt net foreign currency exposure (%)	10.2	10.3	10.7	10.7	11.0
Foreign-currency marketable state debt (%)	15.8	15.8	15.6	15.5	14.7
Share of € in marketable state debt level net foreign currency exposure (%)	90.1	89.0	89.6	89.9	89.8
Share of € in interest expenditure on marketable state debt net foreign currency exposure (%)	100.0	100.0	100.0	100.0	100.0
Investment portfolios (CZK bn)	**45.4**	**45.8**	**46.7**	**47.1**	**47.4**
Share of assets up to one year on total state debt (%)	2.2	2.3	2.3	2.3	2.4
Average yield (%)	1.2	1.2	0.8	0.7	0.8
Average time to maturity (years)	1.0	0.9	0.8	0.8	0.6
Modified duration (years)	0.7	0.6	0.6	0.6	0.4

[1] *Incl. derivatives*
[2] *Excl.savings government bonds.*
Source: MoF

Table 33: Medium-Term and Long-Term Government Bonds Issued on Domestic Market as at 31/12/2015

Issue name	Issue no.	ISIN	Maturity date	Nominal value outstanding	Nominal value booked on MoF's asset accounts
ČR, 6.95 %, 16	34	CZ0001000749	26/1/2016	34,573,000,000	0
ČR, 0.50 %, 16	77	CZ0001003842	28/7/2016	28,000,000,000	0
ČR, VAR %, 16	55	CZ0001002331	27/10/2016	80,000,000,000	0
ČR, 4.00 %, 17	51	CZ0001001903	11/4/2017	90,400,000,000	3,600,000,000
ČR, VAR %, 17	67	CZ0001003438	23/7/2017	50,000,000,000	0
ČR, 0.00 %, 17	96	CZ0001004592	9/11/2017	59,670,540,000	10,329,460,000
ČR, 0.85 %, 18	88	CZ0001004246	17/3/2018	47,236,220,000	2,763,780,000
ČR, 4.60 %, 18	41	CZ0001000822	18/8/2018	74,000,000,000	1,000,000,000
ČR, 5.00 %, 19	56	CZ0001002471	11/4/2019	87,120,000,000	1,980,000,000
ČR, 1.50 %, 19	76	CZ0001003834	29/10/2019	76,471,370,000	3,528,630,000
ČR, 3.75 %, 20	46	CZ0001001317	12/9/2020	74,402,040,000	597,960,000
ČR, VAR %, 20	91	CZ0001004113	9/12/2020	28,158,750,000	1,000,000,000
ČR, 3.85 %, 21	61	CZ0001002851	29/9/2021	75,635,000,000	2,000,000,000
ČR, 4.70 %, 22	52	CZ0001001945	12/9/2022	75,116,740,000	2,000,000,000
ČR, VAR %, 23	63	CZ0001003123	18/4/2023	81,207,870,000	5,792,130,000
ČR, 0.45 %, 23	97	CZ0001004600	25/10/2023	7,197,450,000	1,000,000,000
ČR, 5.70 %, 24	58	CZ0001002547	25/5/2024	87,600,000,000	2,400,000,000
ČR, 2.40 %, 25	89	CZ0001004253	17/9/2025	37,757,970,000	2,242,030,000
ČR, 1.00 %, 26	95	CZ0001004469	26/6/2026	10,193,760,000	1,000,000,000
ČR, VAR %, 27	90	CZ0001004105	19/11/2027	34,419,550,000	2,000,000,000
ČR, 2.50 %, 28	78	CZ0001003859	25/8/2028	48,696,540,000	0
ČR, 0.95 %, 30	94	CZ0001004477	15/5/2030	7,890,940,000	1,000,000,000
ČR, 4.20 %, 36	49	CZ0001001796	4/12/2036	28,428,970,000	1,417,620,000
ČR, 4.85 %, 57	53	CZ0001002059	26/11/2057	11,020,000,000	6,980,000,000
Total				**1,235,196,710,000**	**52,631,610,000**

Note: Excl. nominal values of government bonds provided and/or received by the Ministry as collateral when realizing repo operations under treasury single accounts liquidity management and/or under lending facilities.
Source: MoF

Table 34: Medium-Term and Long-Term Government Bonds Issued on Foreign Markets as at 31/12/2015

ISIN	Currency	Maturity date	Nominal value outstanding	Nominal value booked on MoF's asset accounts
CH0106812362	CHF	23/11/2016	500,000,000	0
XS0368800073	EUR	11/6/2018	2,000,000,000	0
XS0215153296	EUR	18/3/2020	1,000,000,000	0
XS0541140793	EUR	14/4/2021	2,000,000,000	0
XS0750894577	EUR	24/5/2022	2,750,000,000	0
XS0240954361	JPY	16/1/2036	30,000,000,000	0
Total EUR			**7,750,000,000**	**0**
Total CHF			**500,000,000**	**0**
Total JPY			**30,000,000,000**	**0**

Note: Excl. nominal values of government bonds provided and/or received by the Ministry as collateral when realizing repo operations under treasury single accounts liquidity management and/or under lending facilities.
Source: MoF

Table 35: Issued State Treasury Bills as at 31/12/2015

Issue no.	Maturity (weeks)	ISIN	Maturity date	Nominal value outstanding	Nominal value booked on MoF's asset accounts
708	39	CZ0001004501	12/2/2016	6,000,000,000	0
705	52	CZ0001004444	19/2/2016	8,000,000,000	0
706	52	CZ0001004485	11/3/2016	4,000,000,000	0
711	39	CZ0001004535	25/3/2016	4,000,000,000	0
713	39	CZ0001004550	15/4/2016	8,000,000,000	0
707	52	CZ0001004493	22/4/2016	8,000,000,000	30,000,000,000
709	52	CZ0001004519	27/5/2016	6,000,000,000	0
710	52	CZ0001004527	10/6/2016	8,000,000,000	0
714	52	CZ0001004576	5/8/2016	5,707,000,000	0
715	52	CZ0001004584	19/8/2016	6,705,000,000	0
716	52	CZ0001004618	2/9/2016	8,520,000,000	0
720	52	CZ0001004659	30/9/2016	11,500,000,000	0
Total				**84,432,000,000**	**30,000,000,000**

Note: Excl. nominal values of government bonds provided and/or received by the Ministry as collateral when realizing repo operations under treasury single accounts liquidity management and/or under lending facilities.
Source: MoF

Table 36: Issued Savings Government Bonds as at 31/12/2015

Bond	Issue no.	ISIN	Maturity date	Nominal value outstanding	Nominal value booked on MoF's asset accounts
Premium savings government bond	80	CZ0001003982	12/6/2016	7,383,546,416	0
Coupon savings government bond	65	CZ0001003305	11/11/2016	1,924,295,835	0
Reinvestment savings government bond	66	CZ0001003297	11/11/2016	9,675,827,002	0
Premium savings government bond	84	CZ0001004170	12/12/2016	11,029,236,195	0
Coupon savings government bond	68	CZ0001003560	12/6/2017	1,128,022,732	0
Reinvestment savings government bond	69	CZ0001003578	12/6/2017	5,614,712,362	0
Coupon savings government bond	74	CZ0001003784	12/12/2017	1,764,237,241	0
Reinvestment savings government bond	75	CZ0001003792	12/12/2017	7,739,604,099	0
Coupon savings government bond	81	CZ0001004014	12/6/2018	817,370,434	0
Reinvestment savings government bond	82	CZ0001004006	12/6/2018	5,798,752,155	0
Coupon savings government bond	85	CZ0001004188	12/12/2018	1,355,771,518	0
Reinvestment savings government bond	86	CZ0001004196	12/12/2018	7,618,676,749	0
Inflation-linked savings government bond	70	CZ0001003586	12/6/2019	1,899,784,083	0
Reinvestment savings government bond	92	CZ0001004303	12/6/2019	743,497,966	0
Inflation-linked savings government bond	83	CZ0001003990	12/6/2020	380,869,192	0
Inflation-linked savings government bond	87	CZ0001004204	12/12/2020	2,016,688,991	0
Variable-rate savings government bond	93	CZ0001004311	12/12/2020	31,286,157	0
Total				**66,922,179,127**	**0**

Source: MoF

Table 37a: Medium-Term and Long-Term Government Bonds Issued in 2015

Issue name	Issue/ tranch no.		Auction date	Settlement date	Maturity date	CCY	Max. nominal value offered in the competitive part of auction	Total nominal value sold
ČR, 0.85 %, 18	88	5	11/2	13/2	17/3/2018	CZK	6,000,000,000	5,087,090,000
ČR, 2.50 %, 28	78	11	11/2	13/2	25/8/2028	CZK	7,000,000,000	4,993,570,000
ČR, VAR %, 20	91	3	25/2	27/2	9/12/2020	CZK	7,000,000,000	5,957,540,000
ČR, 2.40 %, 25	89	5	25/2	27/2	17/9/2025	CZK	7,000,000,000	5,010,570,000
ČR, 1.50 %, 19	76	13	11/3	13/3	29/10/2019	CZK	7,000,000,000	5,553,760,000
ČR, VAR %, 27	90	4	11/3	13/3	19/11/2027	CZK	7,000,000,000	5,473,800,000
ČR, 0.85 %, 18	88	6	25/3	27/3	17/3/2018	CZK	6,000,000,000	3,447,940,000
ČR, 2.50 %, 28	78	12	25/3	27/3	25/8/2028	CZK	7,000,000,000	4,799,650,000
ČR, 2.40 %, 25	89	6	22/4	24/4	17/9/2025	CZK	7,000,000,000	5,041,000,000
ČR, VAR %, 20	91	4	22/4	24/4	9/12/2020	CZK	7,000,000,000	7,089,980,000
ČR, 1.50 %, 19	76	14	13/5	15/5	29/10/2019	CZK	10,000,000,000	9,980,000,000
ČR, 0.95 %, 30	94	1	13/5	15/5	15/5/2030	CZK	8,000,000,000	4,469,000,000
ČR, 0.85 %, 18	88	7	24/6	26/6	17/3/2018	CZK	10,000,000,000	9,550,100,000
ČR, 1.00 %, 26	95	1	24/6	26/6	26/6/2026	CZK	8,000,000,000	4,345,320,000
ČR, VAR %, 27	90	5	15/7	17/7	19/11/2027	CZK	8,000,000,000	3,566,510,000
ČR, 0.95 %, 30	94	2	15/7	17/7	15/5/2030	CZK	3,000,000,000	1,219,180,000
ČR, VAR %, 27	90	6	26/8	28/8	19/11/2027	CZK	7,000,000,000	4,125,180,000
ČR, 0.85 %, 18	88	8	26/8	28/8	17/3/2018	CZK	6,000,000,000	4,172,200,000
ČR, 1.00 %, 26	95	2	26/8	28/8	26/6/2026	CZK	7,000,000,000	3,470,860,000
ČR, VAR %, 20	91	5	9/9	11/9	9/12/2020	CZK	7,000,000,000	3,098,670,000
ČR, 1.00 %, 26	95	3	9/9	11/9	26/6/2026	CZK	8,000,000,000	2,377,580,000
ČR, 0.00 %, 17	96	1	9/9	11/9	9/11/2017	CZK	15,000,000,000	16,587,330,000
ČR, 0.45 %, 23	97	1	23/9	25/9	25/10/2023	CZK	3,000,000,000	3,013,540,000
ČR, 0.00 %, 17	96	2	14/10	16/10	9/11/2017	CZK	8,000,000,000	9,157,990,000
ČR, 0.45 %, 23	97	2	14/10	16/10	25/10/2023	CZK	8,000,000,000	2,176,910,000
ČR, 2.50 %, 28	78	13	14/10	16/10	25/8/2028	CZK	4,000,000,000	2,805,680,000
ČR, 0.00 %, 17	96	3	11/11	13/11	9/11/2017	CZK	10,000,000,000	11,000,000,000
ČR, 0.45 %, 23	97	3	11/11	13/11	25/10/2023	CZK	5,000,000,000	2,007,000,000
ČR, 0.95 %, 30	94	3	11/11	13/11	15/5/2030	CZK	4,000,000,000	2,202,760,000
ČR, 0.00 %, 17	96	4	25/11	27/11	9/11/2017	CZK	8,000,000,000	8,385,210,000
ČR, VAR %, 27	90	7	25/11	27/11	19/11/2027	CZK	3,000,000,000	3,177,050,000
ČR, 3.75 %, 20	46	13	25/11	27/11	12/9/2020	CZK	3,000,000,000	2,552,040,000
ČR, 0.00 %, 17	96	5	9/12	11/12	9/11/2017	CZK	8,000,000,000	14,540,010,000
			Total					**180,435,020,000**

Source: MoF

Table 37b: Medium-Term and Long-Term Government Bonds Issued in 2015

Issue name	Issue / Tranche no.		Coupon	Average net price	Average yield to maturity (% p. a.)	Bid-to-cover ratio	Sold in competitive part of the auction / max. nominal value offered (%)	Sold in the non-competitive part of the auction / max. nominal value offered (%)
ČR, 0.85 %, 18	88	5	0.85%	102.370	0.081	3.30	75.83	8.95
ČR, 2.50 %, 28	78	11	2.50%	121.550	0.812	1.46	64.09	7.25
ČR, VAR %, 20	91	3	VAR%	99.479	-21.012[1]	2.40	74.66	10.45
ČR, 2.40 %, 25	89	5	2.40%	118.004	0.631	1.77	59.89	11.69
ČR, 1.50 %, 19	76	13	1.50%	106.284	0.137	3.35	66.29	13.05
ČR, VAR %, 27	90	4	VAR%	100.159	-11.245[1]	3.47	67.14	11.05
ČR, 0.85 %, 18	88	6	0.85%	102.493	0.011	5.21	50.85	6.62
ČR, 2.50 %, 28	78	12	2.50%	121.503	0.802	2.57	57.14	11.42
ČR, 2.40 %, 25	89	6	2.40%	120.873	0.352	1.08	72.01	0.00
ČR, VAR %, 20	91	4	VAR%	100.308	-35.333[1]	1.23	100.00	1.29
ČR, 1.50 %, 19	76	14	1.50%	105.947	0.159	1.55	99.80	0.00
ČR, 0.95 %, 30	94	1	0.95%	95.662	1.269	2.43	55.86	0.00
ČR, 0.85 %, 18	88	7	0.85%	101.748	0.206	1.26	95.50	0.00
ČR, 1.00 %, 26	95	1	1.00%	96.186	1.376	1.56	51.68	2.64
ČR, VAR %, 27	90	5	VAR%	99.320	-4.447[1]	1.15	44.58	0.00
ČR, 0.95 %, 30	94	2	0.95%	90.247	1.700	2.55	35.00	5.64
ČR, VAR %, 27	90	6	VAR%	99.546	-6.263[1]	4.81	50.33	8.60
ČR, 0.85 %, 18	88	8	0.85%	102.171	-0.001	3.75	62.50	7.04
ČR, 1.00 %, 26	95	2	1.00%	100.218	0.979	1.33	46.57	3.01
ČR, 0.00 %, 17	91	5	0.00%	100.460	-0.212	1.92	99.33	11.25
ČR, VAR %, 20	95	3	VAR%	100.467	-38.730[1]	2.14	42.86	1.41
ČR, 1.00 %, 26	96	1	1.00%	101.647	0.840	2.61	27.25	2.47
ČR, 0.45 %, 23	97	1	0.45%	100.895	0.338	2.10	100.00	0.45
ČR, 0.00 %, 17	96	2	0.00%	100.671	-0.323	1.90	103.28	11.20
ČR, 0.45 %, 23	97	2	0.45%	101.389	0.275	2.00	26.25	0.96
ČR, 2.50 %, 28	78	13	2.50%	119.581	0.882	2.04	65.00	5.14
ČR, 0.00 %, 17	96	3	0.00%	100.664	-0.332	1.03	110.00	0.00
ČR, 0.45 %, 23	97	3	0.45%	101.297	0.285	1.17	40.14	0.00
ČR, 0.95 %, 30	94	3	0.95%	99.428	0.992	1.46	52.35	2.72
ČR, 0.00 %, 17	96	4	0.00%	100.685	-0.349	1.50	100.00	4.82
ČR, 3.75 %, 20	90	7	3.75%	118.395	-0.080	1.91	80.67	4.40
ČR, VAR %, 27	46	13	VAR%	102.659	-31.953[1]	1.75	100.00	5.90
ČR, 0.00 %, 17	96	5	0.00%	100.682	-0.354	1.00	181.75	0.00
Average						**2.14**	**71.74**	**4.83**

[1] Average spread to PRIBOR in basis points (discount margin)
Source: MoF, CNB

Table 38: State Treasury Bills Issued in 2015

Issue No.	Maturity (Weeks)	Auction Date	Issue Date	Maturity Date	Max. Offered Nominal Amount	Total Placed Nominal Amount	Yield to Maturity (% p.a.)
705	52	19/2	20/2	19/2/2016	8,000,000,000	8,000,000,000	0.05
706	52	12/3	13/3	11/3/2016	8,000,000,000	4,000,000,000	0.04
707	52	23/4	24/4	22/4/2016	8,000,000,000	8,000,000,000	0.01
708	39	14/5	15/5	12/2/2016	8,000,000,000	6,000,000,000	0.02
709	52	28/5	29/5	27/5/2016	8,000,000,000	6,000,000,000	0.03
710	52	11/6	12/6	10/6/2016	8,000,000,000	8,000,000,000	0.05
711	39	25/6	26/6	25/3/2016	8,000,000,000	4,000,000,000	0.05
712	13	2/7	3/7	2/10/2015	8,000,000,000	2,510,000,000	0.01
713	39	16/7	17/7	15/4/2016	8,000,000,000	8,000,000,000	0.05
714	52	6/8	7/8	5/8/2016	8,000,000,000	5,707,000,000	0.01
715	52	20/8	21/8	19/8/2016	8,000,000,000	6,705,000,000	0.00
716	52	3/9	4/9	2/9/2016	8,000,000,000	8,520,000,000	-0.10
717	13	10/9	11/9	11/12/2015	4,000,000,000	3,100,000,000	-0.55
718	13	17/9	18/9	18/12/2015	4,000,000,000	2,960,000,000	-0.41
719	12	24/9	25/9	18/12/2015	4,000,000,000	1,400,000,000	-0.25
720	52	1/10	2/10	30/9/2016	8,000,000,000	11,500,000,000	-0.15
721	9	15/10	16/10	18/12/2016	10,000,000,000	1,330,000,000	-0.12
722	8	22/10	23/10	18/12/2015	10,000,000,000	1,500,000,000	-0.18
723	7	29/10	30/10	18/12/2016	10,000,000,000	2,030,000,000	-0.15
		Total			**146,000,000,000**	**99,262,000,000**	**-0.05**[1]

[1] *Average weighted yield to maturity of state treasury bills issued in 2015.*
Source: MoF

Table 39: Issues of Savings Government Bonds in 2015

Bond	Issue no.	Settlement date	Maturity date	Original maturity (years)	Nominal value
Reinvestment savings government bond[1]	69	12/6	12/06/2017	5	163,899,484
Inflation-linked savings government bond[1]	70	12/6	12/06/2019	7	6,314,422
Premium savings government bond[1]	80	12/6	12/06/2016	3	32,075,030
Reinvestment savings government bond[1]	82	12/6	12/06/2018	5	50,159,632
Inflation-linked savings government bond[1]	83	12/6	12/06/2020	7	1,884,179
Inflation-linked savings government bond[1]	87	12/6	12/12/2020	7	10,030,443
Reinvestment savings government bond[1]	92	12/6	12/06/2019	5	1,581,362
Variable-rate savings government bond[1]	93	12/6	12/12/2020	6.5	22,105
Reinvestment savings government bond[1]	66	11/11	11/11/2016	5.0	416,782,282
Reinvestment savings government bond[1]	75	12/12	12/12/2017	5.0	225,797,411
Inflation-linked savings government bond[1]	83	12/12	12/6/2020	7.0	815,375
Premium savings government bond[1]	84	12/12	12/12/2016	3.0	47,125,488
Reinvestment savings government bond[1]	86	12/12	12/12/2018	5.0	64,501,538
Inflation-linked savings government bond[1]	87	12/12	12/12/2020	7.0	4,350,843
Variable-rate savings government bond[1]	93	12/12	12/12/2020	6.5	26,037
	Total				**1,025,365,631**

[1] *Incl. tranches issued in the form of reinvestment of yields.*
Source: MoF

Table 40: Realized Lending Facilities in the Form of Repo Operations in 2015

Issue name	ISIN	Collateral amount	Financial resources received	Financial resources paid[1]
ČR, 0.50 %, 16	CZ0001003842	1,386,000,000	1,401,732,583.33	1,401,705,522.26
ČR, VAR %, 16	CZ0001002331	206,000,000	207,539,635.56	207,539,276.12
ČR, VAR %, 17	CZ0001003438	978,000,000	1,006,555,467.50	1,006,553,222.97
ČR, 4.00 %, 17	CZ0001001903	6,973,000,000	7,560,133,702.35	7,560,034,732.86
ČR, 0.00 %, 17	CZ0001004592	1,499,000,000	1,507,937,500.00	1,507,896,833.11
ČR, 0.85 %, 18	CZ0001004246	3,011,000,000	3,094,181,691.80	3,094,138,882.78
ČR, 4.60 %, 18	CZ0001000822	6,514,000,000	7,579,964,977.78	7,579,800,365.53
ČR, 1.50 %, 19	CZ0001003834	19,499,030,000	20,812,874,856.18	20,812,314,711.27
ČR, 5.00 %, 19	CZ0001002471	2,084,000,000	2,515,433,500.01	2,515,377,839.38
ČR, 3.75 %, 20	CZ0001001317	706,000,000	855,974,745.84	855,963,474.61
ČR, VAR %, 20	CZ0001004113	3,328,000,000	3,339,345,617.22	3,339,248,973.13
ČR, 3.85 %, 21	CZ0001002851	19,458,000,000	24,152,247,029.12	24,151,671,191.64
ČR, 4.70 %, 22	CZ0001001945	6,410,400,000	8,532,410,413.90	8,532,234,617.51
ČR, VAR %, 23	CZ0001003123	12,807,000,000	13,845,949,684.45	13,845,246,168.50
ČR, 0.45 %, 23	CZ0001004600	770,000,000	782,230,394.23	782,208,355.15
ČR, 5.70 %, 24	CZ0001002547	25,713,000,000	38,065,963,825.04	38,063,249,743.75
ČR, 2.40 %, 25	CZ0001004253	9,673,000,000	11,517,314,436.13	11,516,508,486.71
ČR, 1.00 %, 26	CZ0001004469	2,769,000,000	2,860,011,683.06	2,859,923,047.45
ČR, VAR %, 27	CZ0001004105	2,900,000,000	2,954,498,325.00	2,954,414,936.62
ČR, 2.50 %, 28	CZ0001003859	100,000,000	120,408,333.33	120,406,928.57
ČR, 0.95 %, 30	CZ0001004477	2,957,000,000	2,849,380,472.68	2,849,292,946.79
ČR, 4.20 %, 36	CZ0001001796	11,647,240,000	17,234,485,792.34	17,231,950,697.61
Total		**141,388,670,000**	**172,796,574,666.85**	**172,787,680,954.32**

[1] Incl. financial resources from lending facilities realized in 2015, which has not been paid during this period.
Note: The average interest rate achieved under lending facilities during 2015 amounted to -0.07% p.a.
Source: MoF

Table 41: Nominal Value of Ministry's Operations on Secondary Market in 2015

CZK bn	1Q	2Q	3Q	4Q	2015
Buy-backs	**0**	**0**	**0**	**0**	**0**
Tap sales	**0**	**0**	**0**	**0**	**0**
Lending facilities – loans of securities	**-**	**-**	**-**	**10.38**	**10.38**
ČR, 4.00 %, 17	-	-	-	2.00	2.00
ČR, 0.00 %, 17	-	-	-	0.39	0.39
ČR, 4.60 %, 18	-	-	-	0.02	0.02
ČR, 1.50 %, 19	-	-	-	0.84	0.84
ČR, 3.85 %, 21	-	-	-	1.82	1.82
ČR, VAR %, 23	-	-	-	0.98	0.98
ČR, 0.45 %, 23	-	-	-	0.27	0.27
ČR, 5.70 %, 24	-	-	-	1.79	1.79
ČR, 1.00 %, 26	-	-	-	1.00	1.00
ČR, VAR %, 27	-	-	-	0.04	0.04
ČR, 0.95 %, 30	-	-	-	0.97	0.97
ČR, 4.20 %, 36	-	-	-	0.27	0.27
Lending facilities – repo operations	**25.33**	**35.46**	**44.72**	**35.87**	**141.39**
ČR, 0.50 %, 16	0.00	1.39	0.00	0.00	1.39
ČR, VAR %, 16	0.00	0.00	0.00	0.20	0.21
ČR, 4.00 %, 17	0.00	2.45	1.56	2.96	6.97
ČR, VAR %, 17	0.00	0.00	0.98	0.00	0.98
ČR, 0.00 %, 17	0.00	0.00	0.00	1.50	1.50
ČR, 0.85 %, 18	0.00	0.97	2.04	0.00	3.01
ČR, 4.60 %, 18	0.49	2.45	2.37	1.21	6.51
ČR, 1.50 %, 19	4.20	4.16	7.83	3.31	19.50
ČR, 5.00 %, 19	0.40	0.32	0.97	0.39	2.08
ČR, 3.75 %, 20	0.65	0.05	0.00	0.01	0.71
ČR, VAR %, 20	0.00	1.21	1.42	0.70	3.33
ČR, 3.85 %, 21	4.56	4.37	5.99	4.54	19.46
ČR, 4.70 %, 22	1.37	2.12	2.44	0.49	6.41
ČR, VAR %, 23	4.36	3.05	4.10	1.30	12.81
ČR, 0.45 %, 23	0.00	0.00	0.00	0.77	0.77
ČR, 5.70 %, 24	6.79	8.76	6.32	3.84	25.71
ČR, 2.40 %, 25	2.38	1.65	1.85	3.79	9.67
ČR, 1.00 %, 26	0.00	0.00	0.93	1.84	2.77
ČR, VAR %, 27	0.00	0.00	0.60	2.30	2.90
ČR, 2.50 %, 28	0.10	0.00	0.00	0.00	0.10
ČR, 0.95 %, 30	0.00	0.00	1.46	1.50	2.96
ČR, 4.20 %, 36	0.04	2.51	3.86	5.24	11.65
Total	**25.33**	**35.46**	**44.72**	**46.75**	**151.77**

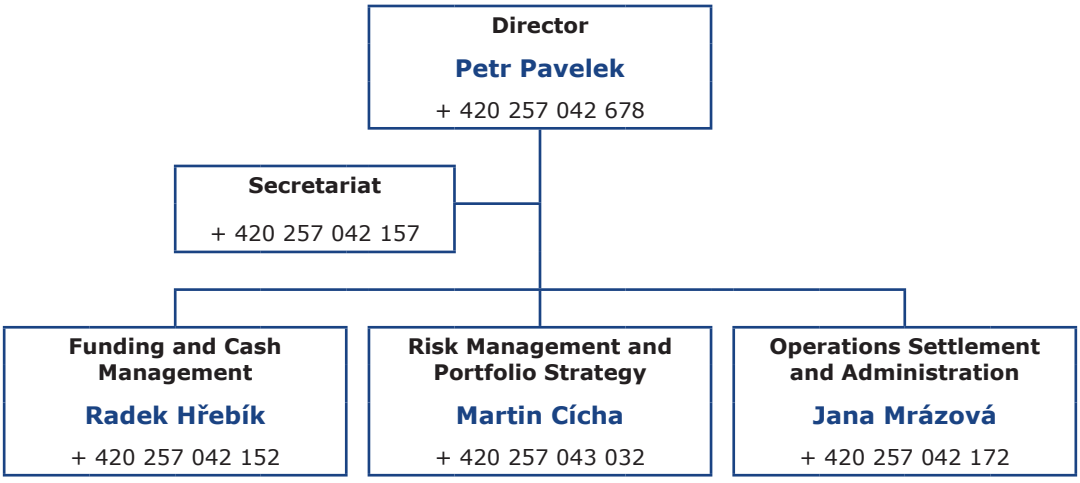
Note: Tap sales and buy-backs of medium-term and long-term government bonds include only operations carried out on the MTS Czech Republic electronic trading platform and via Thomson Reuters Dealing. Medium-term and long-term government bonds lending facilities are presented in the nominal value of collateral from the Ministry's asset accounts. These are closed transactions according to the settlement date. Cumulative lines may not equal due to the rounding.
Source: MoF

Key Information 2015

- Year-on-year state debt to GDP decrease by 1.8 p.p. to 37.2%
- Financing needs: CZK 311.2 billion
- Gross borrowing requirement: CZK 268.1 billion
- Gross issue of T-Bonds on domestic market: CZK 180.4 billion
- Gross issue of T-Bonds on foreign markets: CZK 0.0 billion
- Gross issue of T-Bills incl. roll-over: CZK 99.3 billion
- Gross issue of savings government bonds: CZK 1.0 billion
- T-Bonds on domestic markert and savings government bonds redemptions: CZK 124.9 billion
- Foreign-currency T-Bonds redemptions: EUR 0.3 billion
- Year-on-year decrease in net cash expenditure on state debt service: CZK 3.2 billion
- Average weighted time to maturity of CZK-denominated T-Bonds sold in primary auctions: 6.2 years
- Average weighted yield to maturity of CZK-denominated T-Bonds: 0.24% p.a.
- Average weighted yield to maturity of T-Bills: -0.05% p.a.
- Gross issue of T-Bonds incl. T-Bills incl. roll-over for zero or negative yield: CZK 105.4 billion
- Revenue of state budget from investment operations and issuance with negative yield: CZK 524.9 million
- Average time to maturity of state debt: 5.1 years
- Short-term state debt: 16.4%
- Average time to re-fixing of state debt: 4.0 years
- Interest re-fixing of the debt portfolio within 1 year: 33.7%

Contacts

Debt and Financial Assets Management Department



***

The publication was prepared based on the information available 12 February 2016
and is available also on the following website:
www.mfcr.cz/statedebt

Debt and Financial Assets Management Department
Letenská 15, 118 10 Praha 1 – Malá Strana, Czech Republic
E-mail: pd@mfcr.cz, Reuters <MFCR>