Danmarks Nationalbank

Danish Government Borrowing and Debt

2010

Danish Government Borrowing and Debt 2011

The front cover shows cyclists passing Danmarks Nationalbank at road cycling world championship in September 2011

Danish Government Borrowing and Debt 2011 is available on www.governmentdebt.dk.

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Explanation of symbols:

-	Magnitude nil
0	Less than one half of unit employed
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na.	Numbers not available

Details may not add due to rounding.

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Contents

Highlights of Government Debt Policy

Demand for Danish government securities was high in 2011, and Danish borrowing costs declined to a historically low level. The yield spread to Germany became negative at the end of the year due to the extraordinarily large demand for Danish government bonds.

Since the European sovereign debt markets are still characterised by great uncertainty, the central government's issuance policy and risk management are aimed at maintaining low sensitivity to rising interest rates and sudden shifts in the financing requirement. This is achieved by:

- Initiating the financing of the 2013 issuance requirement this year.
- Maintaining a substantial liquidity reserve.
- Ensuring a broad investor base by means of a broad range of on-the-run issues.
- Issuing a larger share in the longer maturity segments and maintaining long duration for the central-government debt.

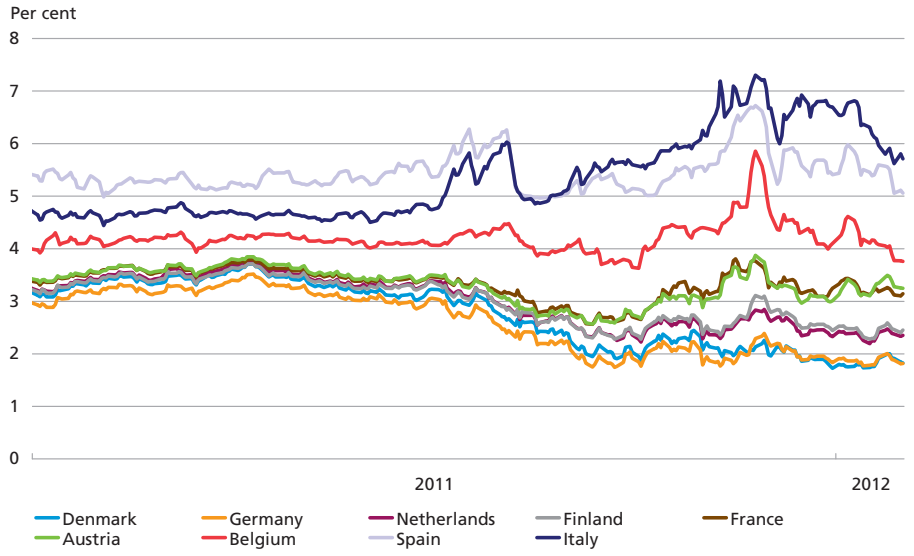
THE EUROPEAN SOVEREIGN DEBT MARKETS IN 2011

The European sovereign debt crisis intensified in 2011. Growing risk aversion, uncertainty as to the political willingness to implement reforms and deteriorated growth prospects contributed to a considerable increase in financing costs for some euro area member states, cf. Chart 1. Fears that major euro area member states could lose access to the lending markets caused significant turmoil in the capital markets. In light of the deterioration of the crisis the euro area member states and the ECB expanded their crisis measures.

The pronounced uncertainty and increased risk aversion boosted demand for government securities issued by countries with the highest credit ratings, causing interest rates to decline to historically low levels.

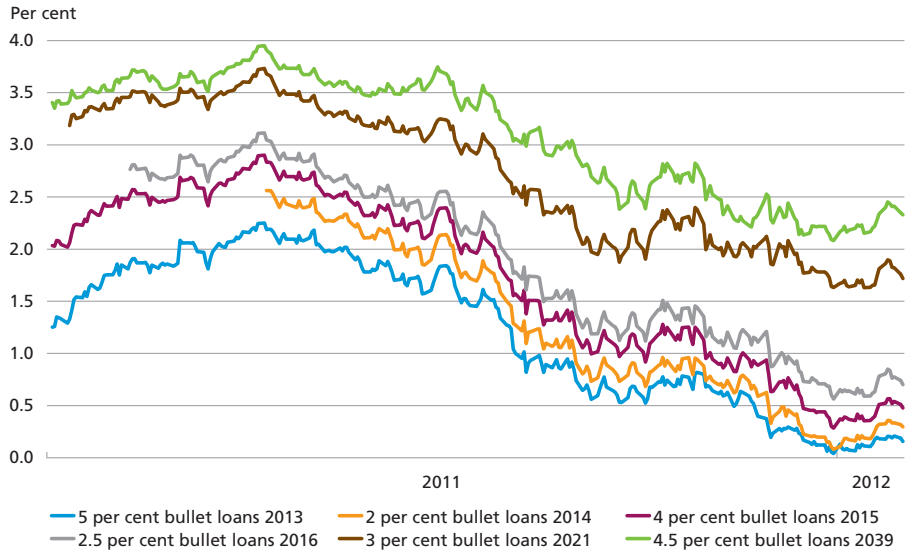
Danish government bond yields mirrored developments in Germany in 2011 and fell in all maturity segments, cf. Chart 2. Towards the end of the year, uncertainty over the implications of the debt crisis led to increased demand for government securities issued by non-euro area countries with the highest ratings, including Denmark. At year-end, Danish government yields were historically low, and the yield spread to Germany was negative.

10-YEAR GOVERNMENT YIELDS IN EUROPE Chart 1



Source: Bloomberg.

YIELDS TO MATURITY OF DANISH KEY ON-THE-RUN BONDS Chart 2



CENTRAL-GOVERNMENT DEBT

In 2011, the central-government deficit amounted to kr. 28 billion and the central-government debt rose to kr. 413 billion, i.e. kr. 74,000 per capita or 23 per cent of GDP, cf. Chart 3. Interest costs on the central-government debt were kr. 17 billion, corresponding to 1 per cent of GDP. Interest costs have been stable in recent years despite the increase in debt. This reflects low interest rates on new government issuance and low interest payments on the central government's interest-rate swaps.

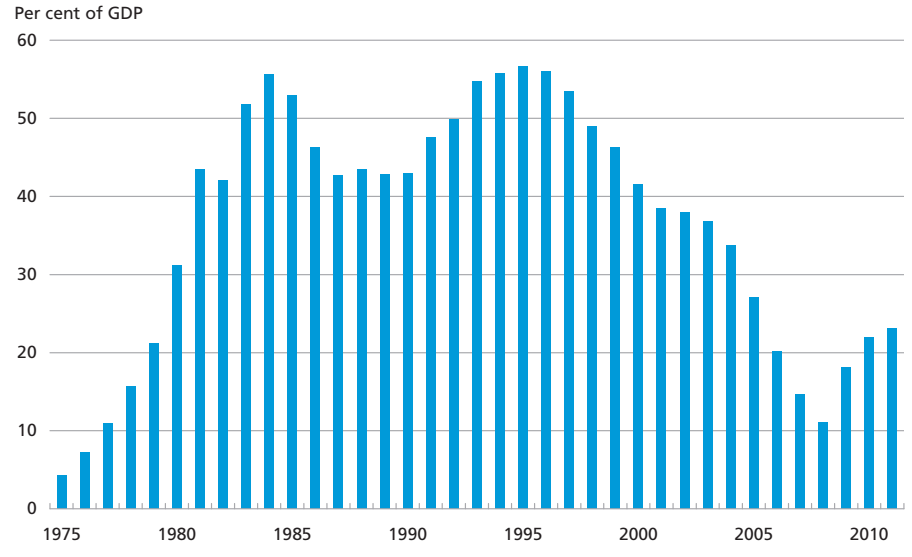
The central government's interest costs are robust to negative shocks

The sensitivity of the central government's interest costs to rising interest rates is very low. Even in a risk scenario with pronounced interest-rate increases and deterioration of economic growth and government finances, interest costs will account for only a modest share of GDP in the coming years, both in relation to previous years and compared with other countries, cf. Chart 4. The limited sensitivity reflects Denmark's low debt ratio and the long average interest rate re-fixing period for the central-government debt.

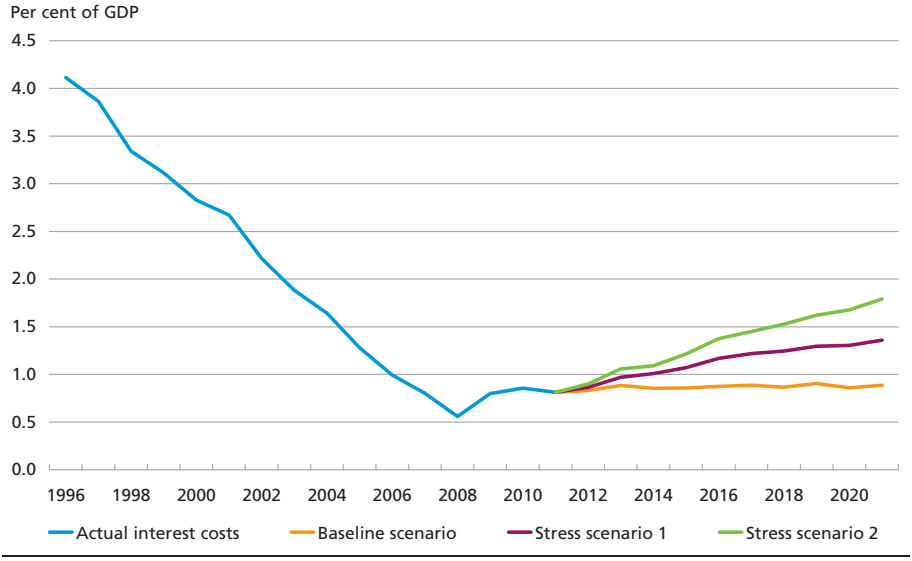
Low debt compared with other countries

In recent years, the balance on the central government's account has increased significantly. The increase has been financed by issuance of gov-

CENTRAL-GOVERNMENT DEBT — Chart 3



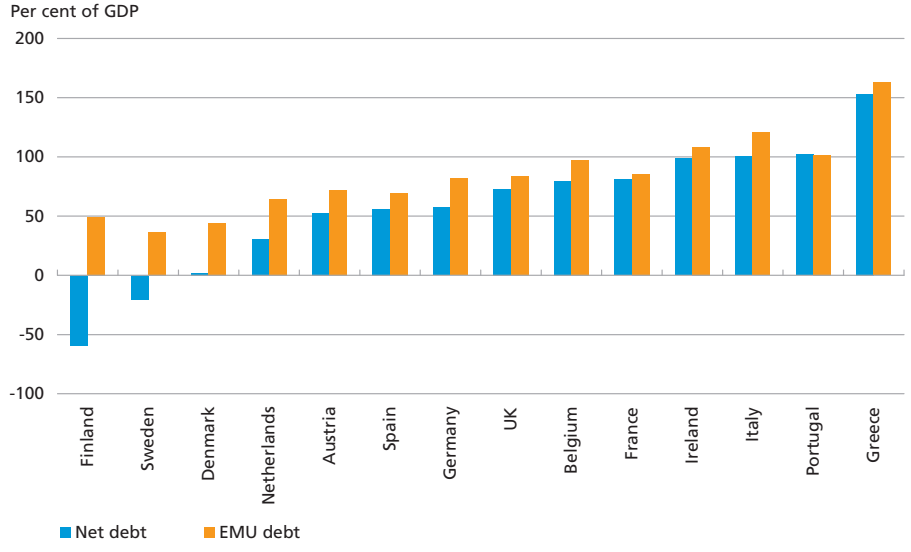
INTEREST COSTS IN BASELINE AND STRESS SCENARIOS Chart 4



Note: Interest costs adjusted for interest income from re-lending. The projection of interest costs in the baseline scenario is based on the government balance in *Budget Outlook 3*, December 2011 and *Reform Agenda 2020 – funding Danish welfare* (only in Danish), Ministry of Finance, 2011. Stress scenario 1 is based on the government balance in the stress scenario in the *Danish Economy*, Autumn 2011, The Economic Council. In the stress scenario, the average annual deterioration in the government balance relative to the baseline scenario amounts to 1.5 per cent of GDP. Stress scenario 2 is identical to stress scenario 1, but shows the 95th percentile for interest costs in the Cost-at-Risk model.

ernment securities, reflecting the strategy of maintaining a high liquidity reserve. This has increased the gross general-government debt, EMU debt, as the balance on the central government's account at Danmarks

EMU DEBT AND NET DEBT IN SELECTED EU MEMBER STATES, END-2011 Chart 5



Source: IMF World Economic Outlook, September 2011 and European Commission's autumn forecast, November 2011.

Nationalbank is not offset in the EMU debt. Despite the increase, Denmark's debt is still low compared with other EU member states, cf. Chart 5.

Estimates of the long-term sustainability of public finances are based on net general-government debt, comprising all financial assets and liabilities of the public sector, including the balance on the central government's account and shareholdings in government-owned companies. At end-2011, Denmark's net general-government debt was close to zero.

Denmark's central-government debt has the highest rating

The central government's domestic and foreign debt has the highest ratings from Fitch Ratings (AAA), Moody's (Aaa) and Standard & Poor's (AAA) with a stable outlook. The respective ratings were confirmed by Moody's in February 2012, Standard & Poor's in December 2011 and Fitch Ratings in July 2011.

GOVERNMENT BORROWING IN 2011

Issuance of domestic government bonds totalled kr. 124 billion in 2011, whereby the central government financed a large part of the 2012 issuance requirement. This reflects strong demand for Danish government bonds, low yields and the intention of maintaining a high liquidity reserve in order to reduce the central government's refinancing risk. The balance on the central government's account can fully cover the redemptions and the expected budget deficit in 2012. The average yield was 2.2 per cent on issuance of government bonds and less than 1 per cent on T-bills.

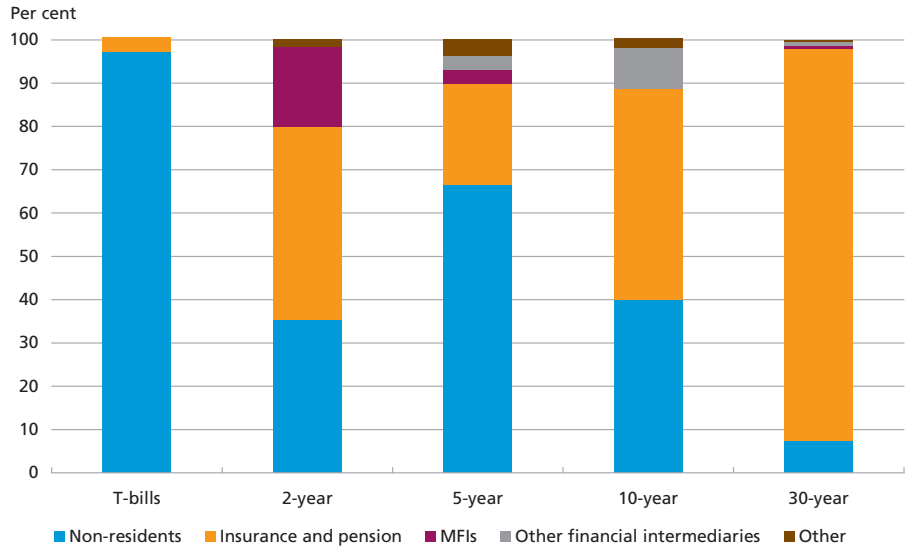
The T-bill programme was increased by kr. 19 billion to an outstanding volume of kr. 44 billion at the end of the year. At the auction at the end of December, T-bills were issued at negative interest rates.

Non-residents increased their holdings of Danish government securities

At end-2011, non-resident investors had increased their ownership share of domestic government securities to 40 per cent. The ownership shares were largest in T-bills and government bonds with maturities of up to five years, cf. Chart 6. The main reason is that foreign central banks often have a mandate to invest in maturities of up to five years.

The insurance and pension sector's ownership share was 50 per cent, primarily comprising bonds in the longer maturities. This reflects that Danish pension companies have a natural interest in long-term krone-denominated bonds as they have long-term commitments in kroner.

OWNERSHIP SHARES OF DOMESTIC SECURITIES, END-2011 Chart 6



Note: Ownership shares are calculated on the basis of nominal stocks excluding the portfolios of the government funds. MFIs primarily include banks and mortgage credit institutes. Insurance and pension includes restricted associations.
Source: Danmarks Nationalbank, *Securities Statistics.*

GOVERNMENT ISSUANCE STRATEGY FOR 2012

As a result of the excess sales in 2011, the central government's borrowing requirement in government bonds is kr. 28 billion this year. In order to reduce the refinancing risk, the strategy is to maintain a high balance on the central government's account and to initiate the financing of the 2013 borrowing requirement. This increases the target for issuance of government bonds in 2012 to around kr. 75 billion. The central government had issued for just under kr. 20 billion, mainly in the 10-year and 30-year maturity segments, until the beginning of February.[1]

Larger share of issuance in the longer maturity segments

In the past few years, the issuance strategy for government bonds has been to build up liquid series on the basis of a 40-20-40 percentage distribution on the 2-, 5- and 10-year maturity segments. In view of the low long-term yields and to maintain low interest-rate sensitivity and refinancing risk, the strategy is to issue a larger share in the longer maturity segments in 2012. The strategy for T-bills is to maintain the outstanding volume in the programme at around the level of kr. 44 billion.

[1] Sales up to and including 7 February 2012.

Opening of inflation-linked bond

In the 1st half of 2012 the central government will open an inflation-linked bond maturing in 2023. Supplementing the key on-the-run issues with an inflation-linked bond will enable the central government to expand its investor base. There is increasing demand from the Danish pension sector for inflation-linked assets, and Government Debt Management has received a number of indications of investor interest.

The bond will be linked to the Danish CPI, with characteristics corresponding to the international market standard. Issuance will take place via auctions supplemented with tap sales, and a price quotation scheme will be established. The strategy is to build up the series to at least kr. 20 billion over the coming years.

The central government's foreign borrowing

The central government raises foreign loans in order to maintain the foreign-exchange reserve. In 2012, the central government's foreign redemptions total 4.2 billion euro (kr. 31 billion). The strategy for foreign borrowing in 2012 is to raise loans for 1-1.5 billion euro. As a starting point, a 5-year euro loan will be issued.

The strategy of Government Debt Management is summarised in Box 1.

ISSUANCE STRATEGY AND MARKET RISK MANAGEMENT IN 2012 — Box 1

Domestic strategy

- In the past few years, the issuance strategy for government bonds has been based on a 40-20-40 percentage distribution on the 2-, 5- and 10-year maturity segments. In 2012 the intention is to issue a larger share in the longer maturity segments.
- The build-up of the existing securities in key on-the-run issues will continue in 2012. No new nominal government bonds are expected to be opened in the 1st half of 2012.
- An inflation-linked bond maturing in 2023 will be opened in the 1st half of 2012.
- The outstanding volume in the T-bill programme will be maintained at around kr. 44 billion.

Foreign strategy

- Foreign loans of 1-1.5 billion euro will be raised.
- As a starting point, a 5-year euro loan will be issued.
- Current limited issuance in Commercial Paper to retain investor interest and ensure access to the markets.

Market risk

- The target for the average duration of the central-government debt is maintained at 9 years +/- 1 year for 2012.

TRADING IN AND ISSUANCE OF DOMESTIC GOVERNMENT SECURITIES

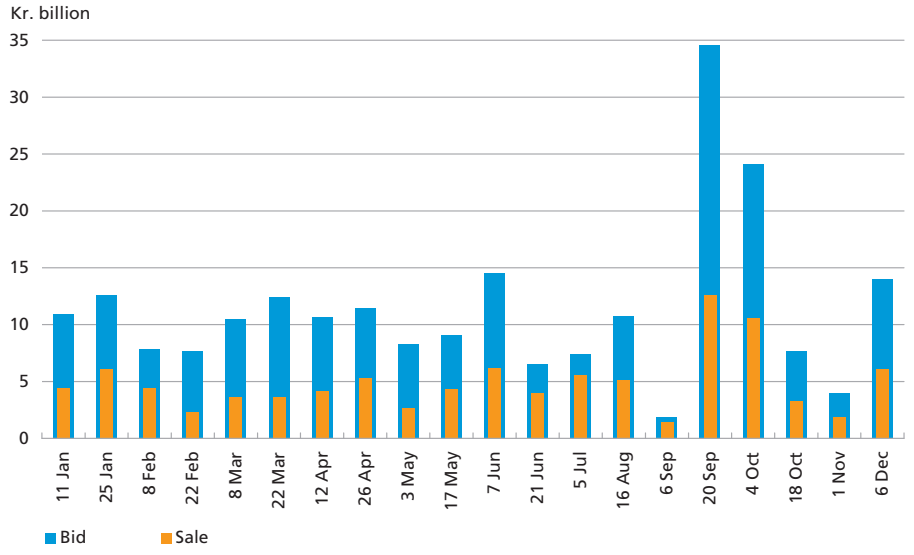
Demand was high in 2011 at the auctions of domestic government bonds, with bids totalling twice the amount sold, cf. Chart 7. The deterioration of the European sovereign debt crisis in the 2nd half of 2011 resulted in larger fluctuations in the demand for government securities also across maturity segments.

After the financial crisis, proposals for new regulation have been put forward both within and outside the EU. These regulatory initiatives may affect the markets for government securities. It is important to ensure that the new regulation will not impede liquidity in the capital markets and lead to higher financing costs.

CREDIT RISK MANAGEMENT

The swap counterparties have concluded unilateral collateral agreements with the central government. This means that the central government's swap counterparties pledge collateral if the market value of the swap portfolio is positive for the central government, but the central government does not pledge collateral to the counterparty if the market value is positive for the counterparty. The costs for the central government of transacting swaps with unilateral pledging of collateral have increased due to higher bank funding costs as a result of the financial

BID AND SALE OF GOVERNMENT BONDS AT THE AUCTIONS IN 2011 Chart 7



crisis. Moreover, regulatory initiatives impose stricter requirements on the banks' liquidity and capital. Government Debt Management is looking into the operational, liquidity and risk consequences of switching to bilateral pledging of collateral. The analysis is expected to be completed in 2012.

Report Section

CHAPTER 1

The European Sovereign Debt Markets in 2011

The European sovereign debt crisis intensified in 2011. Investors increasingly focused on sovereign creditworthiness and government securities were no longer considered risk-free. Lower liquidity in the sovereign debt markets and large fluctuations in investor demand contributed to higher interest-rate volatility. Consequently, many government debt management offices pursued flexible issuance policies.

Investor concerns over the sustainability of public finances in, for instance, Italy and Spain rose during the 2nd half of the year. Those countries' yield spreads to Germany widened considerably despite further crisis measures from the euro area member states and the ECB. The pronounced uncertainty and increased risk aversion boosted demand for government securities issued by countries with the highest credit ratings, causing interest rates to decline to historically low levels.

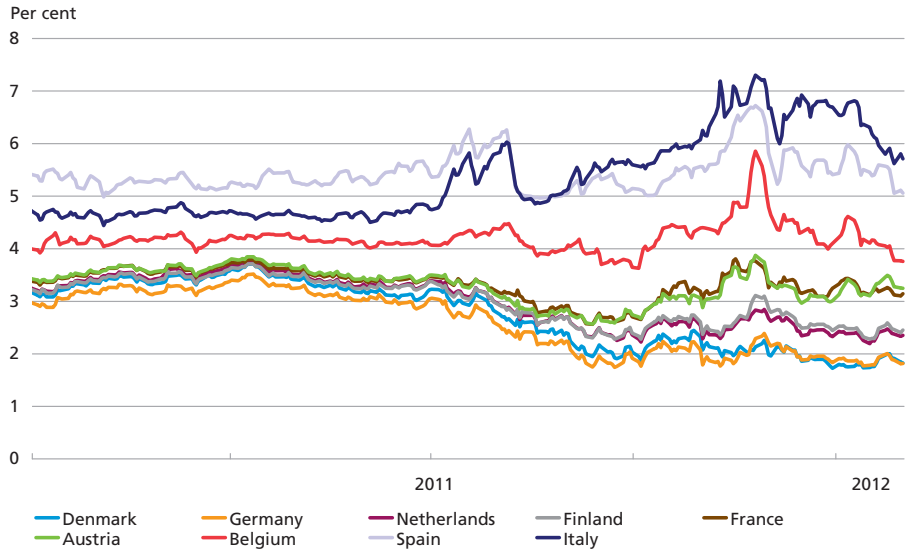
Towards the end of the year, the uncertainty over the implications of the debt crisis led to increased demand for government securities issued by countries with high ratings outside the euro area, including Denmark.

THE EUROPEAN SOVEREIGN DEBT CRISIS INTENSIFIED 1.1

At the beginning of 2011, signs of economic growth restored some optimism in the European government securities market. With an increasing market perception that the sovereign debt crisis could be confined to Greece, Ireland and Portugal, the other euro area member states' yield spreads to Germany narrowed.

Growing risk aversion among investors, uncertainty as to the willingness to implement reforms and deteriorated growth prospects contributed to a considerable increase in financing costs for some euro area member states in the 2nd half of 2011, cf. Chart 1.1.1. Government securities were no longer considered risk-free, and focus particularly centred on countries with substantial government debt, large budget and current-account deficits and an exposed banking sector.

10-YEAR GOVERNMENT YIELDS IN EUROPE Chart 1.1.1



Source: Bloomberg.

Rescue packages for Portugal and Greece

In the spring of 2011, Portugal became the third euro area member state to lose its capital market access. The euro area member states and the IMF agreed on a 78 billion euro rescue package contingent on the introduction of fiscal consolidation measures and a privatisation programme. The investor focus on sovereign creditworthiness was intensified by a new rescue package for Greece that was conditioned on private investors contributing through a voluntary debt haircut. It was emphasised that the expected debt haircut for Greece is a non-recurring event.

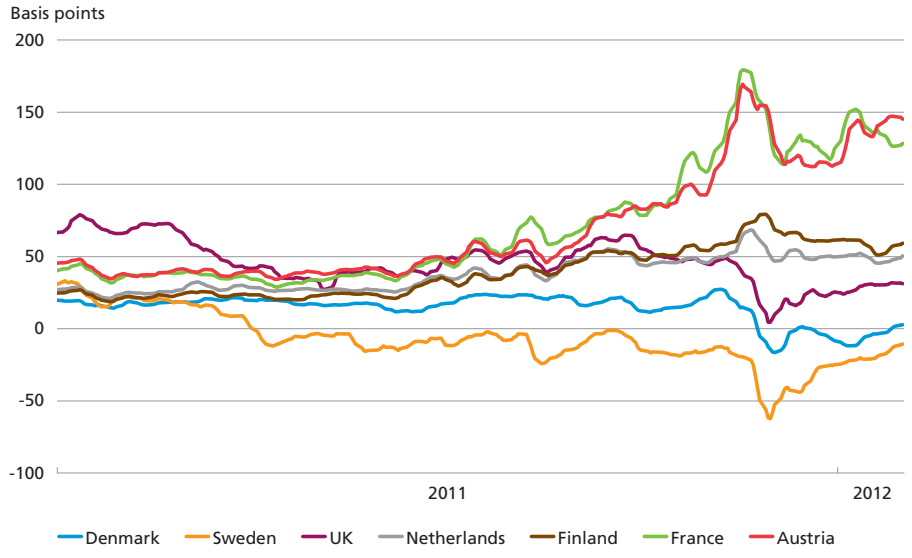
The sovereign debt crisis escalated in the 2nd half of 2011

Over the summer, the debt crisis spread to Spain and Italy, among others. The investor perception of sovereign creditworthiness changed, demand for government securities declined and interest rates rose, cf. Chart 1.1.1, in spite of repeated political measures to contain the crisis. The increase in financing costs had a self-reinforcing effect. Fears that major euro area member states could lose access to the lending markets caused significant turmoil in the capital markets, also outside Europe.

Strong demand for government securities issued by the countries with the highest credit ratings

The substantial uncertainty and increased risk aversion boosted demand for government securities issued by the countries with the highest credit ratings, causing interest rates to decline to historical lows in, for in-

HIGHLY-RATED COUNTRIES' 10-YEAR YIELD SPREADS TO GERMANY Chart 1.1.2



Note: 5-day moving average.
Source: Bloomberg.

stance, Germany, Finland and the Netherlands. Interest rates in France and Austria were also at low levels in 2011 although the yield spread between these two countries and Germany widened towards the end of the year, cf. Chart 1.1.2.

Moreover, the demand for government securities issued by countries with high ratings outside the euro area was exceptionally high, and the Danish, Swedish and UK yield spreads to Germany narrowed.

SEGMENTATION OF EUROPEAN SOVEREIGN DEBT MARKET 1.2

The introduction of the euro in 1999 largely eliminated yield spreads in the euro area despite considerable variations in debt levels. The elimina-

QUANTIFICATION OF THE DEGREE OF FINANCIAL INTEGRATION Box 1.1

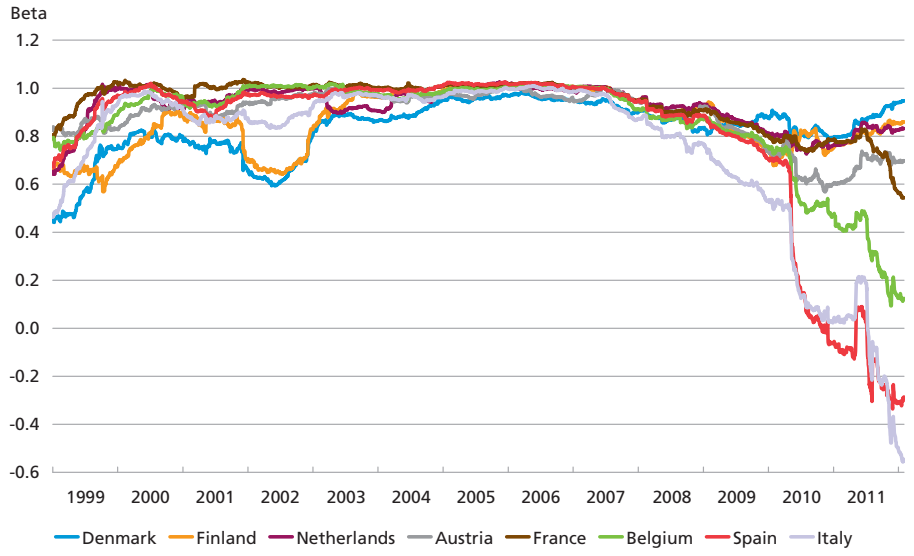
The degree of financial integration can be quantified by estimating the extent to which changes in German 10-year yields can explain changes in the individual countries' 10-year yields. This relation is estimated using the following regression:

$$\Delta R_{i,t} = \alpha_i + \beta_i \Delta R_{Germany,t} + \varepsilon_{i,t}$$

where $\Delta R_{i,t}$ is the change in 10-year yields in country i at time t, and $\Delta R_{Germany,t}$ is the change in German 10-year yields at time t. The regression is based on daily observations for one year (250-day moving estimation window).

With increased financial integration, the estimated slope (β) moves towards one, implying that changes in interest rates in the two countries correlate strongly.

THE DEGREE OF INTEGRATION OF THE GOVERNMENT SECURITIES MARKETS Chart 1.2.1



Note: Estimated β-values, cf. the relation in Box 1.1.
Source: Bloomberg and own calculations.

tion of the exchange-rate uncertainty resulted in close integration of the European sovereign debt markets measured by e.g. the correlation between changes in interest rates in Germany and other European countries, cf. Box 1.1.

The sovereign debt crisis meant that the European market for government securities again became more segmented. The increasing segmentation became obvious in the 2nd half of 2011, cf. Chart 1.2.1.

HIGH VOLATILITY AND FLEXIBLE ISSUANCE POLICY 1.3

In most euro area member states government deficits were lower in 2011 than the year before, but the financing requirements remained high. Meanwhile, volatility was high in the government securities markets, demand was low in some periods and fluctuated strongly across maturity segments. In consequence, many government debt management offices pursued flexible issuance policies. More auctions were held to avoid issuing large volumes on days when it was difficult to access the markets. Moreover, more government securities were offered for sale at each auction, and the government securities were selected to meet current investor demand to a greater extent than previously. Some countries chose to increase issuance in securities outside the key on-the-run issues.

Volatility intensified by banks' need to reduce risks

The higher financial market volatility and the banks' need to minimise their own risks meant that their capacity to buy and trade in government bonds was reduced. That lowered liquidity in the secondary markets and intensified volatility in the government securities markets.

FINANCIAL AND STRUCTURAL STABILITY MEASURES 1.4

The deterioration of the sovereign debt crisis in the 2nd half of 2011 resulted in new measures aimed at stabilising the government securities markets and strengthening confidence in the euro area. Financial rescue packages were stepped up to stabilise the markets in the short term. Meanwhile, agreements were made to strengthen economic and fiscal cooperation, including rules to ensure greater budgetary discipline.

The euro area member states raised the effective lending capacity of the temporary rescue fund, EFSF, from 250 billion euro to 440 billion euro and also increased its lending flexibility, cf. Box 1.2. Moreover, the expected launch of the EU's permanent stability mechanism, ESM, was brought forward by one year to 1 July 2012. In 2012 the IMF will be seeking to increase its lending capacity by 500 billion dollars, and the European countries have announced a contribution of around 200 billion dollars.

EFSF AND ESM Box 1.2

EFSF

The European Financial Stability Facility, EFSF, was established in June 2010 and its effective lending capacity totalled 440 billion euro at end-2011. The rescue fund, which is a temporary facility, offers loans to euro area member states financed by issuing bonds guaranteed by euro area member states. At the end of 2011, the euro area member states decided to allow the EFSF to make limited guarantees to investors in the primary government securities markets, corresponding to 20-30 per cent of the nominal value of the bonds. It was also agreed that special funds may be established under the EFSF, which on the basis of private and public contributors may purchase government securities issued by euro area member states. It was also decided to allow the EFSF to contribute to the recapitalisation of financial institutions in the euro area member states.

ESM

The European Stability Mechanism, ESM, is the permanent stability mechanism of the euro area member states and is expected to be launched on 1 July 2012. Loans provided by the EFSF are offset against the ESM's effective lending capacity of 500 billion euro. The total lending capacity of the EFSF and the ESM will be evaluated in the spring of 2012. The euro area member states will pay in capital of 80 billion euro to the ESM.

In August 2011, the European Central Bank, ECB, resumed its purchases of government bonds in the secondary market under the Securities Markets Programme, SMP, which was launched in May 2010. The ECB's holdings of government bonds purchased under the SMP were increased by 137 billion euro and at end-2011 totalled 212 billion euro.

At the end of the year, the ECB launched a new 3-year lending facility. By drawing on the facility, the banks contributed to improving their financing position which had positive spillover effects on the government securities markets. Italian and Spanish government yields declined sharply around the turn of the year, notably for bonds with shorter maturities.

In January 2011, 25 EU governments, including the Danish government, declared that they would sign up to the new fiscal compact. The compact involves stricter requirements for the structural deficit, which must, as a general rule, be lower than 0.5 per cent of GDP.

CHAPTER 2

Debt and Interest Costs

At end-2011, the central-government debt amounted to kr. 413 billion, corresponding to 23 per cent of GDP. The interest costs on the central-government debt totalled kr. 17 billion, or 1 per cent of GDP. Denmark's debt and interest costs are low compared with those of other EU member states.

In recent years, the balance on the central government's account at Danmarks Nationalbank has increased significantly due to the issuance of government securities, reflecting the strategy of maintaining a high liquidity reserve. This has contributed to the increase in the gross general-government debt, EMU debt, as the balance on the central government's account is not offset in the EMU debt.

GOVERNMENT DEBT AND INTEREST COSTS 2.1

The central-government debt is calculated as the nominal value of domestic and foreign debt less the balance on the central government's account at Danmarks Nationalbank and the assets of the three government funds.

In 2011, the government deficit amounted to kr. 28 billion.[1] The central-government debt amounted to kr. 413 billion by end-2011, cf. Table 2.1.1.[2] That corresponds to 23 per cent of GDP, or kr. 74,000 per capita.

Government surpluses reduced the government debt from the mid-1990s until 2008 when government debt amounted to 11 per cent of GDP, cf. Chart 2.1.1. Since 2008, the central-government debt has increased as a result of government deficits and re-lending to government-owned companies as well as financial packages.[3]

In Denmark, lending to government-owned companies and financial packages are financed primarily through the issuance of government securities. This ensures reduced borrowing costs, compared with government-guaranteed issuance, as investors are willing to pay a premium for liquid government bonds. To a small-scale borrower like Denmark,

[1] Deficit calculated as the central government's net financing requirement, cf. *Foreign Exchange and Liquidity and Monthly Balance Sheet,* December 2011.
[2] Central-government debt at market value was kr. 519 billion at end-2011.
[3] Capital injections into credit institutions in connection with Bank Package 2 and re-lending to the Financial Stability Company.

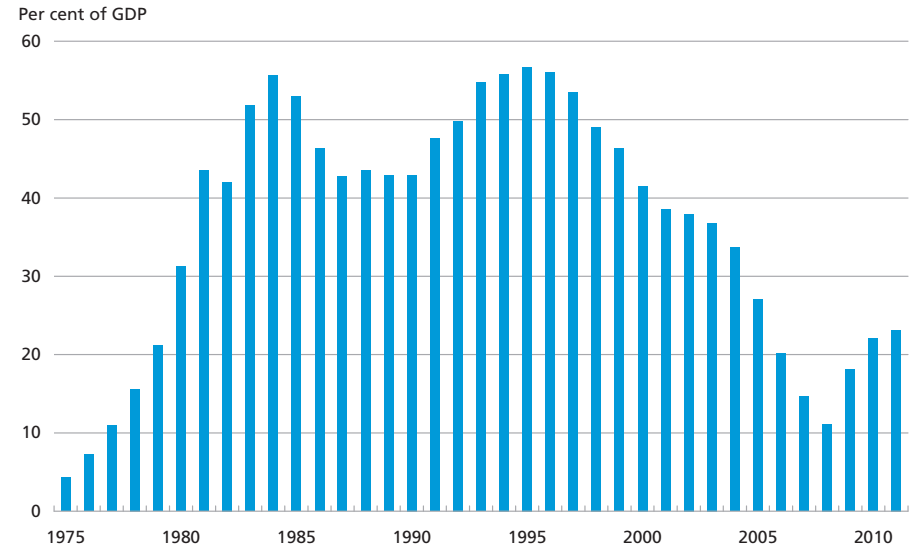
CENTRAL-GOVERNMENT DEBT — Table 2.1.1

Kr. billion, end of year, nominal value	2009	2010	2011
Domestic debt	487.9	576.4	645.9
Foreign debt	139.6	114.7	111.8
Central government's account	-210.9	-177.3	-223.5
Social Pension Fund[1]	-102.6	-113.5	-105.6
Advanced Technology Foundation	-10.4	-12.1	-13.4
Prevention Fund	-2.2	-2.0	-1.7
Central-government debt	301.5	386.3	413.5
Capital injections into credit institutes	-46.0	-45.9	-43.3
Re-lending to the Financial Stability Company	-29.0	-24.5	-13.9
Other re-lending	-53.3	-55.4	-62.5
Central-government debt adjusted for lending	173.2	260.5	293.8

Note: A positive figure indicates a liability; a negative figure indicates an asset.
Source: *Central-government accounts 2009* and *2010.* For 2011, figures are provisional.
[1] The value of The Social Pension Funds portfolio at end-2009 including mortgage bonds with settlement in January 2010 was kr. 118 billion.

centralised borrowing is therefore preferable. The calculation of the central-government debt includes only government issues to finance the loans, whereas the assets are not deducted from the central-government debt. At end-2011, the central-government debt including the above-mentioned loans amounted to 16 per cent of GDP.

CENTRAL-GOVERNMENT DEBT — Chart 2.1.1



INTEREST PAYMENTS ON THE CENTRAL-GOVERNMENT DEBT — Table 2.1.2

Kr. billion	2009	2010	2011
Domestic debt	22.5	23.0	23.7
Foreign debt	3.9	3.2	2.9
Interest-rate swaps, net payments	-1.9	-3.5	-2.6
Central government's account[1]	-1.9	0.0	-1.8
Social Pension Fund	-6.4	-4.4	-4.5
Advanced Technology Foundation	-0.4	-0.4	-0.5
Prevention Fund	-0.1	-0.1	-0.1
Interest costs on the central-government debt	15.7	18.0	17.2
Interest income from re-lending	-2.4	-2.9	-2.6
Interest income from capital injections	-2.4	-4.4	-4.3
Interest costs adjusted for lending	10.9	10.6	10.2

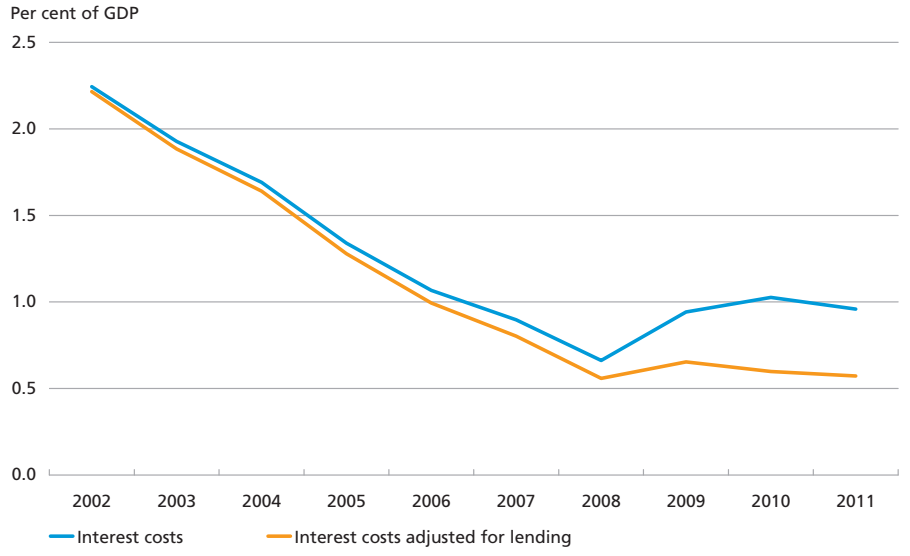
Note: A positive figure indicates interest costs; a negative figure interest income.
Source: *Central-governments accounts 2009* and *2010*. For 2011, figures are provisional.
[1] As of 11 May 2009 the interest on the account was lowered from the discount rate to the discount rate less 1 percentage point, but not less than 0 per cent. From 1 January 2011, the account accrues interest at the current-account rate.

Interest costs on central-government debt

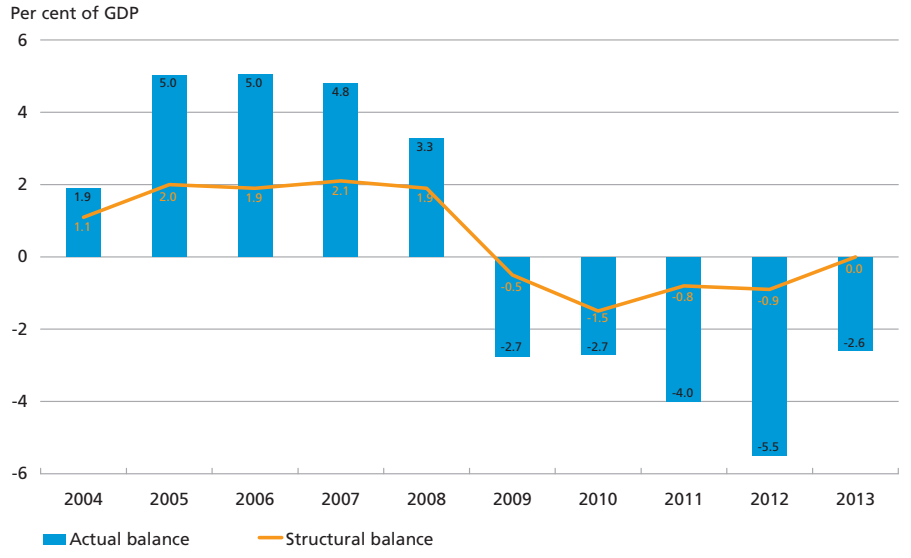
In 2011, interest costs on the central-government debt were kr. 17.2 billion, cf. Table 2.1.2. Interest costs excluding central-government lending amounted to kr. 10.2 billion.

Interest costs as a ratio of GDP have declined considerably for a number of years and amounted to 1 per cent in 2011, cf. Chart 2.1.2. Including interest income from central-government lending, interest costs have re-

INTEREST COSTS ON THE CENTRAL-GOVERNMENT DEBT — Chart 2.1.2



GENERAL GOVERNMENT BUDGET BALANCE AND STRUCTURAL BALANCE Chart 2.2.1



Note: For the period 2011-13 based on figures from *Economic Survey*, December 2011.
Source: Statistics Denmark and *Economic Survey*, December 2011.

mained fairly stable at around 0.6 per cent of GDP in recent years. Interest costs have been stable despite the increase in debt. This reflects lower interest rates on new government issuance and low interest payments on the central government's interest-rate swaps.

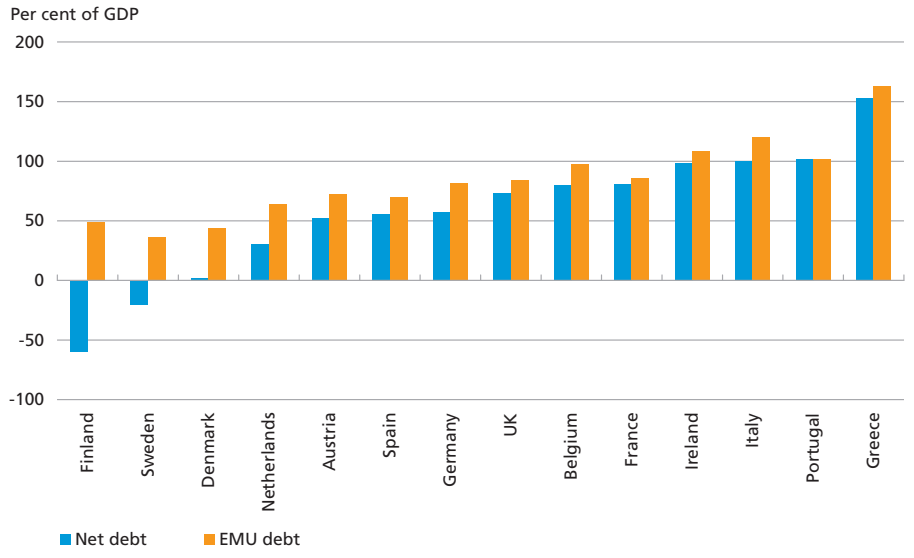
THE GENERAL GOVERNMENT BUDGET BALANCE AND DEBT 2.2

Following a number of years of government surpluses, there have been deficits since 2009. Despite the marked decline in economic activity as well as temporary measures to ease fiscal policy, the government deficit amounted to less than 3 per cent of GDP in 2009 and 2010.[1] In December 2011, the Ministry of Economic Affairs and the Interior estimated a deficit of 4 per cent of GDP for 2011, cf. Chart 2.2.1. However, the deficit is expected to be lower than 3 per cent of GDP, primarily due to higher-than-expected pension-yield tax revenue.

In 2012, the government balance is expected to deteriorate, which should be viewed against the background of bringing forward public investments, low pension-yield tax revenue and the one-off reimbursement of early retirement contributions in connection with the early re-

[1] Under the EU Treaty, as a general rule the government deficit of the member states may not exceed 3 per cent of GDP, and the EMU debt, as a general rule, may not exceed 60 per cent of GDP. The new fiscal compact imposes stricter requirements as to the structural balance, where the deficit, as a general rule, may not exceed 0.5 per cent of GDP.

EMU DEBT AND NET DEBT IN SELECTED EU MEMBER STATES, END-2011 Chart 2.2.2



Source: IMF World Economic Outlook, September 2011 and European Commission's autumn forecast, November 2011.

tirement reform. The government deficit is estimated to be reduced to 2.6 per cent of GDP in 2013.

The structural balance[1] is expected to improve from a deficit of 1.5 per cent of GDP in 2010 to structural equilibrium in 2013, reflecting the temporary suspension of indexation of income-tax brackets and higher taxes on energy, tobacco and unhealthy food. This means that the structural balance will improve by 1.5 per cent of GDP from 2010 to 2013 in line with the EU recommendation.[2]

EMU debt is considerably lower than 60 per cent of GDP

The EMU debt is calculated at nominal value and comprises the debt of the central, regional and local governments as well as social security funds. At end-2011, Denmark's EMU debt totalled 46.5 per cent of GDP.[3] Hence, the EMU debt is below the limit of 60 per cent of GDP as stipulated in the Stability and Growth Pact. The debt is low compared with that of other EU member states, cf. Chart 2.2.2.

The EMU debt is calculated on a gross basis, but the public sector may consolidate the debt with claims on itself. This means that the government securities portfolios of the government funds are subtracted from

[1] The structural balance has been adjusted for cyclical fluctuations and other temporary factors, so it is an expression of underlying trends in public finances.

[2] In July 2010, the European Commission recommended that the Danish government reduce the government deficit to less than 3 per cent of GDP by 2013 at the latest and that it consolidate its structural deficit by an average of no less than 0.5 per cent of GDP annually during the period 2011-13.

[3] *Budget Outlook 3*, December 2011.

THE CENTRAL GOVERNMENT'S ACCOUNT Box 2.1

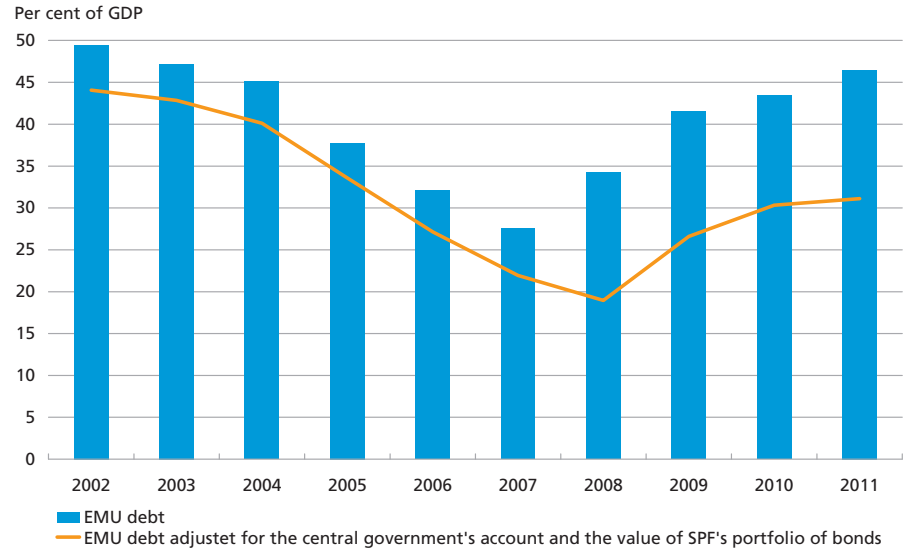
Since the beginning of 2008, the balance on the central government's account at Danmarks Nationalbank has increased from kr. 86 billion to kr. 223 billion at year-end 2011. The increase is primarily attributable to three factors:

- Due to significant investor interest, a 30-year government bond was opened at the end of 2008. The issue totalled kr. 90 billion which was deposited into the central government's account.
- In 2008 and 2009, the government raised foreign loans in excess of the year's maturing loans. This contributed to an increase in the foreign-exchange reserve and the central government's balance at Danmarks Nationalbank. Since the beginning of 2008, central-government loans for the foreign-exchange reserve have increased by kr. 43 billion.
- In 2010 as well as in 2011, the central government chose to continue the issuance of government securities even though the year's issuance requirement had been met.

the EMU debt. On the other hand, the Social Pension Fund's, SPF's, portfolio of other listed bonds and the balance on the central government's account at Danmarks Nationalbank are not subtracted.

In recent years, the balance on the central government's account at Danmarks Nationalbank has increased significantly due to the issuance of government bonds, cf. Box 2.1. This reflects the strategy of maintaining a high liquidity reserve. Furthermore, SPF has placed a larger share of its portfolio in mortgage bonds. Adjusted for the balance on the cen-

EMU DEBT ADJUSTED FOR THE CENTRAL GOVERNMENT'S ACCOUNT AND THE ENTIRE VALUE OF SPF'S PORTFOLIO OF BONDS Chart 2.2.3



tral government's account and SPF's entire bond portfolio, the EMU debt is reduced from 46 to 31 per cent of GDP, cf. Chart 2.2.3.

Net general-government debt

Estimates of the sustainability of public finances is based on net general-government debt, comprising all financial assets and liabilities of the central, regional and local governments as well as social security funds. The net general-government debt is calculated at market value and is thus affected by value adjustments of government assets and liabilities. The central government's asset side includes the account at Danmarks Nationalbank, all assets in government funds, re-lending to government-owned companies and the central government's equity portfolio, e.g. shareholdings in DONG Energy, Copenhagen Airports, Post Danmark (the Danish Postal Service) and Scandinavian Airlines, SAS. At end-2011, net general-government debt was close to zero, cf. Chart 2.2.2.

CENTRAL-GOVERNMENT RATING 2.3

The central-government domestic and foreign debt has the highest rating from Fitch Ratings (AAA), Moody's (Aaa) and Standard & Poor's (AAA).

In its July 2011 report, Fitch Ratings confirmed the central government's long-term AAA and short-term F1+ ratings. In December 2011, Standard & Poor's confirmed the central government's AAA rating, citing a stable outlook for domestic as well as foreign long-term debt. The A-1+ short-term debt rating remained unchanged. Moody's also maintained its long-term Aaa and short-term P-1 ratings in February 2012.

CHAPTER 3

Borrowing in 2011

The great uncertainty in the capital markets and increased risk aversion contributed to strong demand for Danish government bonds in 2011. In the 2nd half of the year, yields fell to a historically low level, and at the end of the year the yield spread to Germany became negative. 2011 saw considerable demand from non-resident investors, which led to a rise in their ownership share.

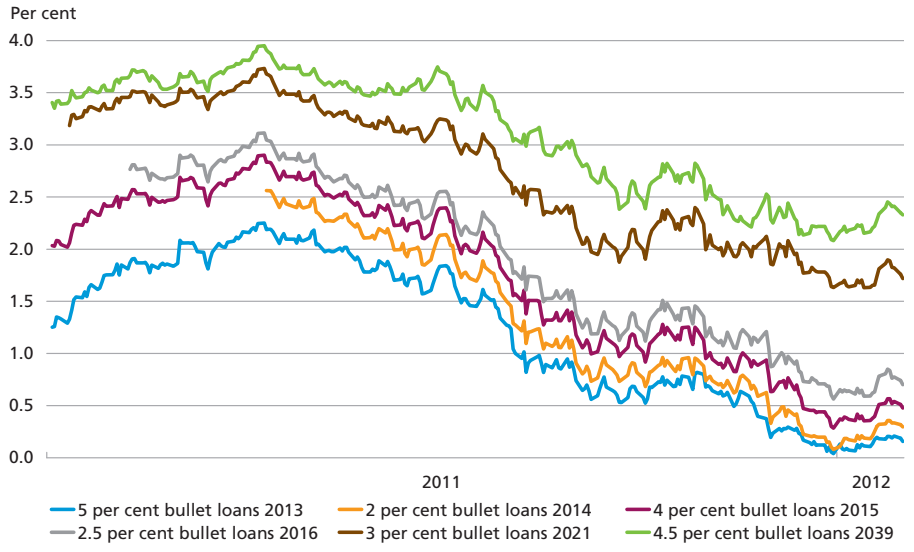
Issuance of domestic bonds totalled kr. 124 billion, thereby markedly exceeding the 2011 issuance requirement. This reflects high demand, low yields and the strategy to begin financing the following year's borrowing requirement well in advance. During the year, the T-bill programme was increased by kr. 19 billion to an outstanding volume of kr. 44 billion.

The Danish government raised foreign loans for 4.4 billion euro (kr. 32 billion), corresponding to the redemptions on the foreign debt.

MARKET DEVELOPMENTS IN DENMARK 3.1

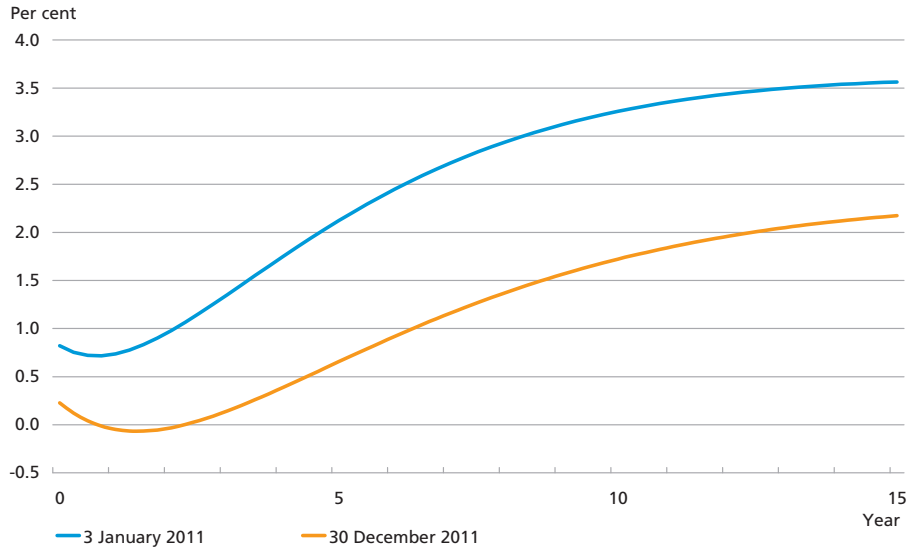
In the first few months of 2011, Danish government bond yields rose, but following the escalation of the sovereign debt crisis in the euro area, yields

YIELDS TO MATURITY OF KEY ON-THE-RUN BONDS Chart 3.1.1



Source: Bloomberg.

ZERO-COUPON YIELD CURVES Chart 3.1.2



dropped sharply in the 2nd half of the year, cf. Chart 3.1.1. The fall mirrored the development in Germany and reflected a deteriorating global economic situation and higher risk aversion, which increased demand for bonds with high ratings. Yields were historically low in all issuance segments at the end of the year.

The fall in yields in 2011 was strongest for the longer maturity segments. This caused the yield curve to flatten slightly towards the end of the year, cf. Chart 3.1.2.

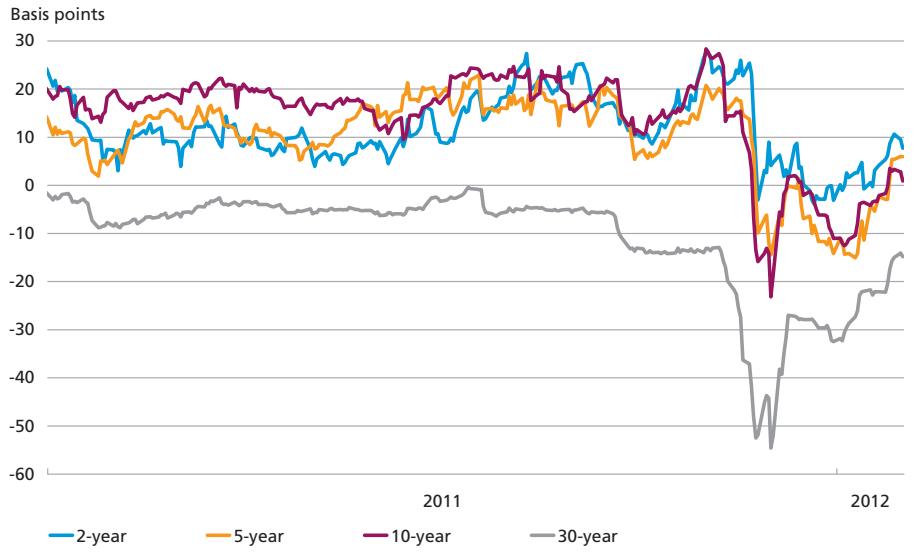
Negative yield spreads to Germany at the end of the year

The Danish yield spread to Germany was stable at around 10-20 basis points in the 2-10-year segments until late November, cf. Chart 3.1.3. The European sovereign debt crisis led to extraordinarily high demand, especially from non-residents, resulting in negative yield spreads since the end of November. The negative yield spread was reinforced by increased demand from the pension sector to hedge their commitments. As a result of these extraordinary conditions in early December a technical adjustment[1] was made to the method for calculating the value of the insurance and pension sector's commitments. This contributed to narrowing the negative yield spread to Germany.

The 30-year yield spread remained negative throughout the year, reflecting the insurance and pension sector's structural demand for long-term krone-denominated assets to hedge their long-term commitments in kroner.

[1] See the Danish Financial Supervisory Authority's press release of 5 December 2011 at www.finanstilsynet.dk.

DANISH GOVERNMENT YIELD SPREADS TO GERMANY Chart 3.1.3



Source: Bloomberg.

Increasing government CDS spreads

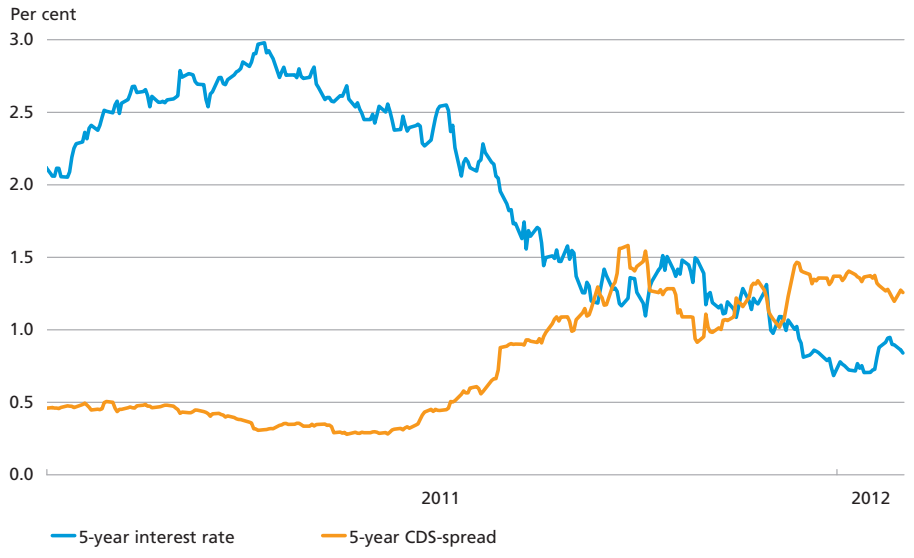
A credit default swap, CDS, on a government is a contract under which the notional value is payable if the government defaults on its payment obligations. CDSs can be used for hedging the credit risk on government bonds, among other things. The CDS spread is the annual premium paid by the buyer of a CDS over the term of the contract, expressed as a percentage of the contract's notional value.

In the 2nd half of the year, CDS spreads widened for a number of European countries with very high credit ratings, including Denmark. This was in stark contrast to the development seen in the bond market, where yields fell sharply for these countries. At the end of the year, the 5-year Danish CDS spread was higher than the yield on 5-year government bonds, cf. Chart 3.1.4. The price of hedging the credit risk thus exceeded the bond's yield to maturity. This indicates a sharper divide between players in the CDS and bond markets during 2011. Another factor pointing in the same direction is that CDS spreads are no longer used for pricing of government bonds, according to market participants.

DOMESTIC BORROWING 3.2

Due to excess sales of government bonds in 2010, the issuance requirement was low in 2011. Consequently, the issuance strategy for 2011 was based on the average annual issuance requirement in 2011 and 2012, which was approximately kr. 75 billion. Domestic government bond

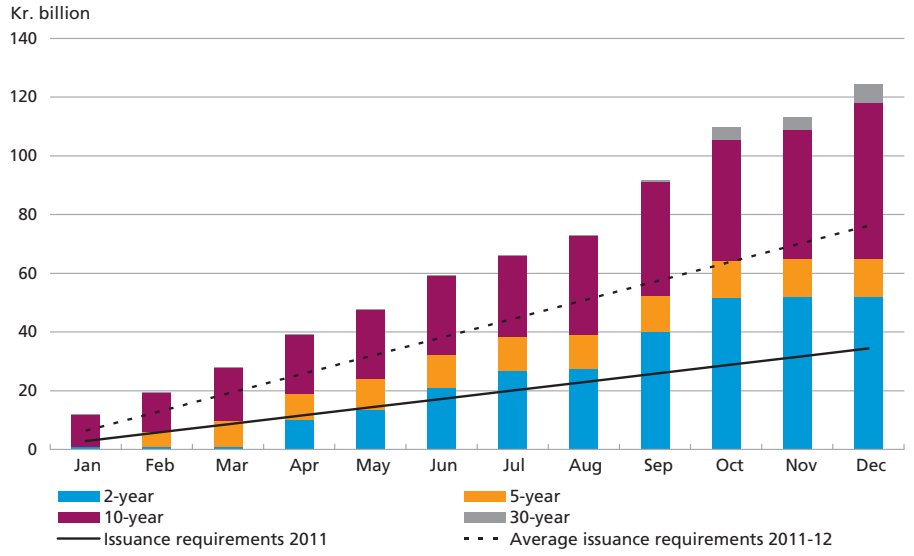
5-YEAR DANISH CDS-SPREAD AND 5-YEAR DANISH GOVERNMENT YIELD Chart 3.1.4



Source: Bloomberg.

issuances amounted to kr. 124 billion, cf. Chart 3.2.1. This reflects high demand for Danish government bonds, low yields and the aim to hold considerable liquidity reserves in order to reduce the central government's refinancing risk.

ISSUANCE OF GOVERNMENT BONDS IN 2011 BROKEN DOWN BY MATURITY SEGMENTS Chart 3.2.1



Note: Issuance and issuance requirement are accumulated over the months.

ISSUANCE OF DOMESTIC GOVERNMENT BONDS IN 2011 Table 3.2.1

	Sale, kr. million, market value	Effective interest-rate, per cent	Maturity, year
5 per cent bullet loans 2013	796	1.6	2.8
2 per cent bullet loans 2014	51,104	1.5	3.3
4 per cent bullet loans 2015	108	2.2	4.8
2.5 per cent bullet loans 2016 ...	12,986	2.6	5.6
3 per cent bullet loans 2021	53,069	2.8	10.4
4.5 per cent bullet loans 2039 ...	6,245	2.4	28.0
Total	124,309	2.2	7.5

Note: Effective interest rates are weighted by market value. Maturities are weighted by nominal value.

Issuance in the 2nd half of the year was at historically low yields

Issuance mainly took place in the 2-, 5- and 10-year series opened at the beginning of 2011. In addition, some issuance took place in the 30-year series. The average maturity of the bonds issued was 7.5 years, while the average yield was 2.2 per cent, cf. Table 3.2.1. The low average yield in the 30-year series reflects that issuance was concentrated towards the end of the year.

Government bond auctions

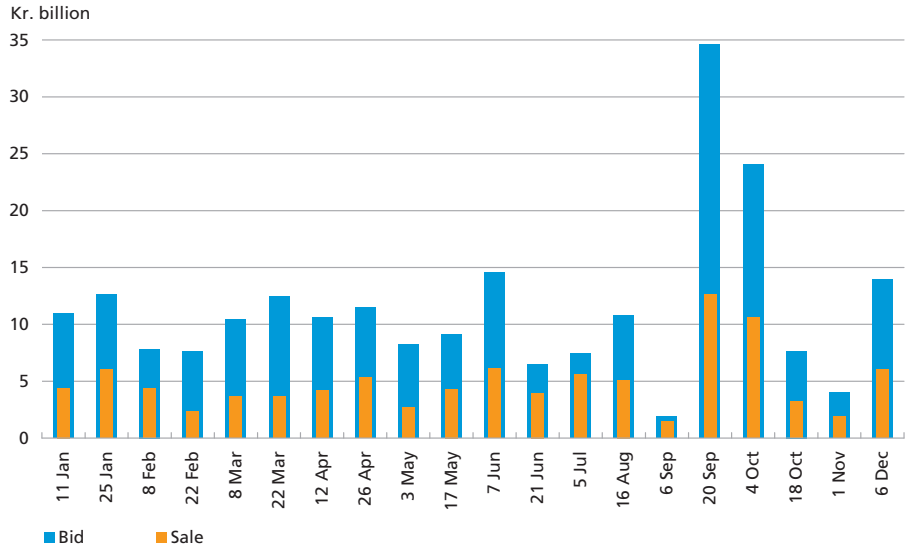
Most of the bonds were sold by auction. At each auction, two series were offered, since demand fluctuated substantially within the individual maturity segments.

Overall, demand at the auctions was high. However, in the 2nd half of the year the fluctuations in demand increased in response to the escalation of the European sovereign debt crisis, cf. Chart 3.2.2. At the auction on 6 September, bids were very limited due to considerable market turmoil in connection with an announcement from the Swiss National Bank about a lower limit for the exchange rate of 1.2 Swiss francs per euro. Demand was extraordinarily high at the following auctions. On average, bidding at the auctions was twice as high as sales (bid-to-cover ratio of 2.0).

T-bill programme built up to kr. 44 billion

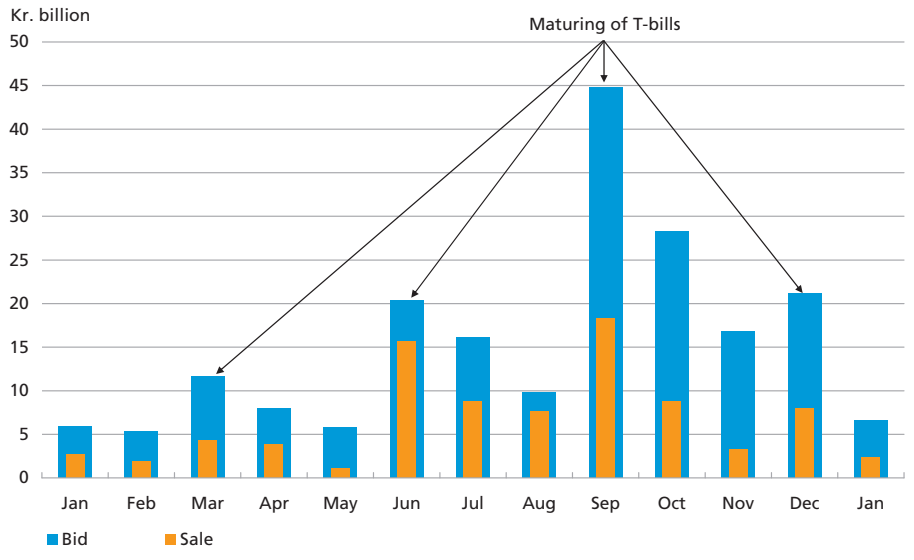
The T-bill programme was reopened in February 2010. Demand rose considerably during 2011, cf. Chart 3.2.3. The limited demand in the start-up phase shows that it takes time to build up liquidity and re-establish interest, especially among non-resident investors, in reopened issuance programmes. This is because investors typically have a lengthy internal approval process before they can invest in foreign government securities.

BID AND SALE OF GOVERNMENT BONDS AT THE AUCTIONS IN 2011 Chart 3.2.2



The strategy for the T-bill programme in 2011 was to build it up to an outstanding volume of around kr. 40 billion. The T-bill programme was increased by kr. 19 billion to an outstanding volume of kr. 44 billion. On average, the T-bills were issued at an interest rate of 0.95 per cent. At the auction with early January 2012 as the settlement date, T-bills with maturities of 2 and 5 months were sold at negative interest rates.

BID AND SALE OF T-BILLS IN 2011 Chart 3.2.3



Source: The auctions are indicated at value date.

BUY-BACKS BY THE CENTRAL GOVERNMENT AND THE GOVERNMENT FUNDS IN 2011 Table 3.2.2

Kr. million, nominal value	Central government	Government funds	Total buy backs from the market
6 per cent bullet loans 2011	7,744	-2,744	5,000
4 per cent bullet loans 2012	16,850	2,500	19,350
5 per cent bullet loans 2013	13,264	-13,264	-
4 per cent bullet loans 2015	-	1,300	1,300
4 per cent bullet loans 2017	-	2,600	2,600
4 per cent bullet loans 2019	-	6,470	6,470
7 per cent bullet loans 2024	-	200	200
Government securities, total	37,858	-2,938	34,920
Buy-backs at market value	39,467	-2,645	36,822

Note: A negative figure indicates net sale.

T-bills were mainly purchased by non-residents, whose ownership share rose to around 95 per cent. This high percentage indicates that many non-resident investors, especially central banks, demand AAA-rated short-term government securities. Danish investors tend to opt for other domestic investment alternatives, including short-term mortgage bonds.

Buy-backs

The buy-back strategy was focused on buying back securities maturing in the next few years. The buy-backs reduced the funding requirements in 2012 and 2013 by kr. 17 billion and 13 billion, respectively, cf. Table 3.2.2. The placement needs of the government funds were primarily met by buying back securities with longer maturities. In total, bonds worth kr. 37 billion were bought back at market value.

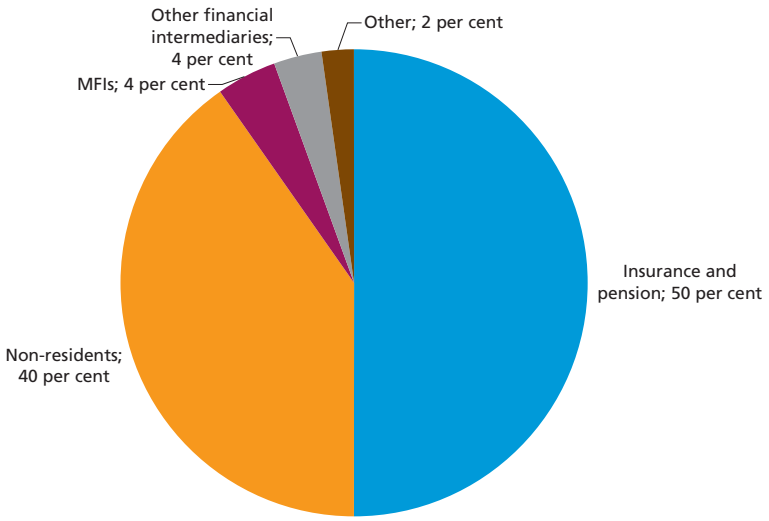
INVESTORS IN DOMESTIC GOVERNMENT SECURITIES 3.3

At year-end, the domestic insurance and pension sector owned 50 per cent of Danish government securities, while non-residents owned 40 per cent, cf. Chart 3.3.1. Danish banks and mortgage banks (MFIs) had a low ownership share.

2011 saw considerable demand from non-resident investors, leading to a kr. 74 billion increase in their holdings of Danish government securities, of which kr. 47 billion was invested in government bonds, cf. Chart 3.3.2.

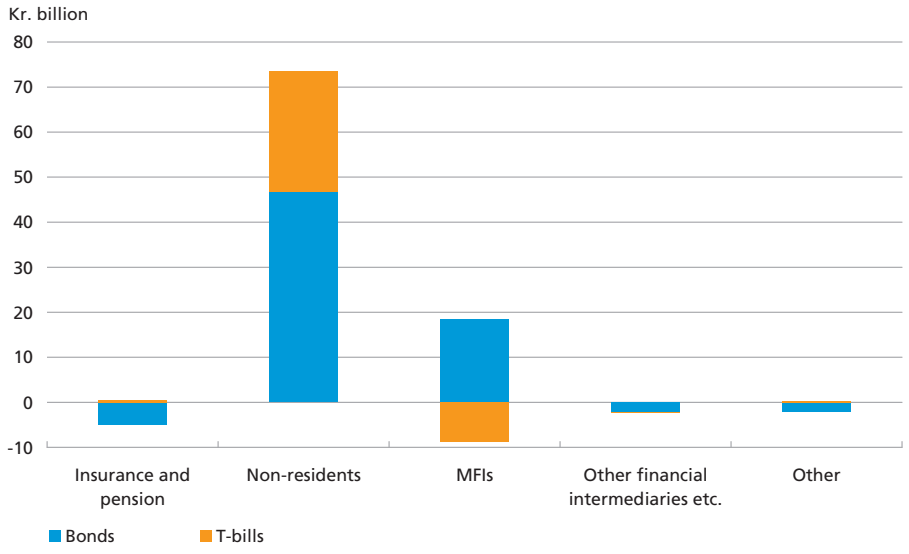
Non-resident investors mainly hold T-bills and bonds with maturities of up to 5 years. In recent years, the non-resident investor base has become more geographically diverse, with many investors from outside Europe.

OWNERSHIP SHARES OF DOMESTIC SECURITIES, END-2011 Chart 3.3.1



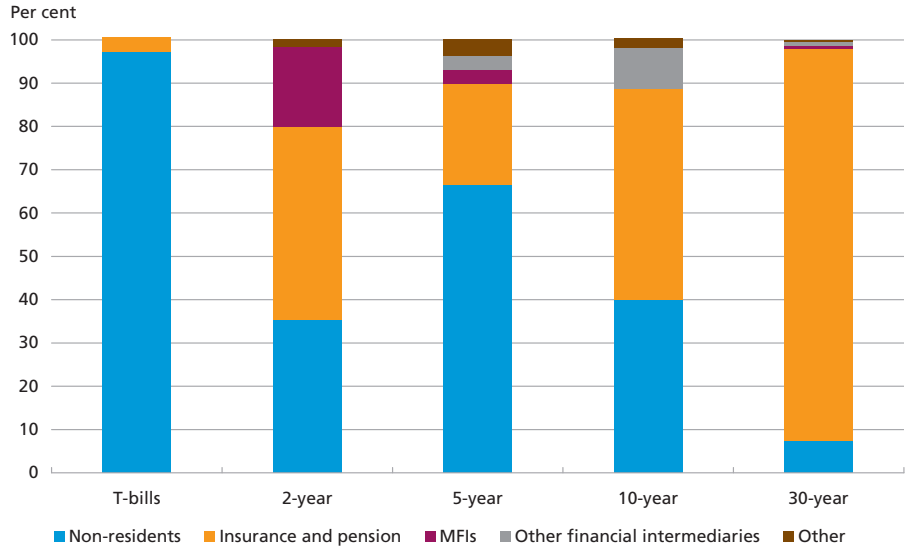
Note: Ownership shares are calculated on the basis of nominal stocks excluding the portfolios of the government funds. MFIs are primarily banks and mortgage institutions.
Source: Danmarks Nationalbank, *Securities Statistics*.

CHANGE IN HOLDING OF DOMESTIC GOVERNMENT SECURITIES IN 2011 Chart 3.3.2



Note: Changes in holding are calculated on the basis of nominal stocks excluding the portfolios of the government funds. MFIs primarily include banks and mortgage credit institutes. Insurance and pension includes restricted associations.
Source: Danmarks Nationalbank, *Securities Statistics*.

OWNERSHIP SHARES OF DOMESTIC SECURITIES, 2011 Chart 3.3.3



Note: Ownership shares are calculated on the basis of nominal stocks excluding the portfolios of the government funds.
Source: Danmarks Nationalbank, *Securities Statistics*.

The domestic insurance and pension sector holds a dominant ownership share in the longer maturity segments, cf. Chart 3.3.3. This is because the Danish insurance and pension sector has long-term commitments in kroner and hence has a natural interest in long-term krone-denominated bonds.

FOREIGN BORROWING 3.4

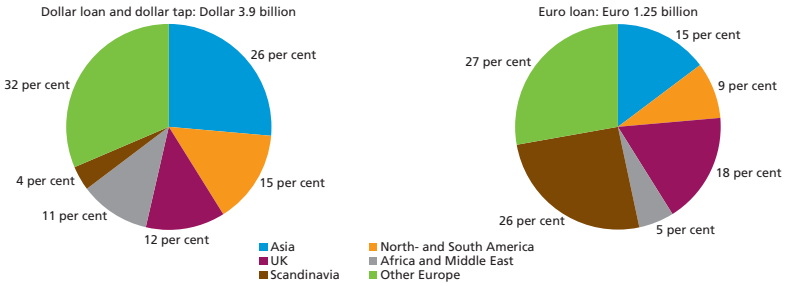
In 2011, the Danish government raised foreign loans for 4.4 billion euro (kr. 32 billion), corresponding to the redemptions on the foreign debt, cf. Table 3.4.1. The foreign loans are raised in order to maintain the foreign-exchange reserve.

The European sovereign debt crisis meant that the timing of issuance was particularly important. Syndicated loans were raised when there was investor interest and there was increased flexibility in terms of issuance

GOVERNMENT FOREIGN BORROWING 2011 Table 3.4.1

Issuance	Currency	Euro
2-year dollar loan, February	2.50 billion dollar	1.83 billion euro
5-year euro loan, March	1.25 billion euro	1.25 billion euro
5-year Swedish kronor loan, June	2.75 billion Swedish kronor	0.30 billion euro
2-year dollar loan, tap, August	1.40 billion dollar	0.98 billion euro
Foreign borrowing in 2011		4.36 billion euro

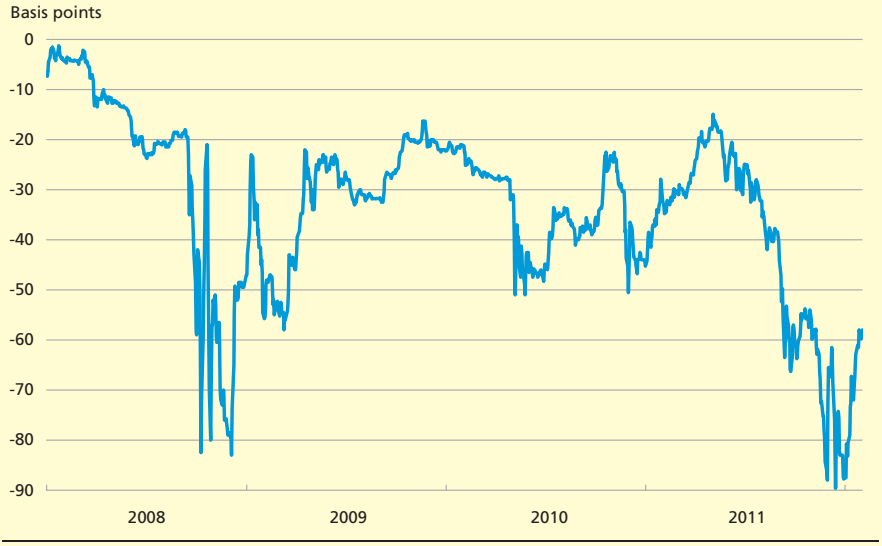
INVESTOR DISTRIBUTION AT DOLLAR AND EURO ISSUANCES Chart 3.4.1



DOLLAR ISSUANCE ATTRACTIVE IN 2011 Box 3.1

In 2011 it was cheaper for the Danish government to issue dollar-denominated loans and convert the exposure into euro than to issue directly in euro. The main reason was that the currency swap spread was favourable for the government, cf. the Chart. This reflected a strong need among European banks for funding in dollars, and that American hedge funds reduced their exposure to European banks. This has forced European banks to find dollar liquidity through other channels, which has made dollar-financing through cross-currency swaps more expensive. Furthermore, the supply of dollars via currency swaps was limited since only the European issuers with the highest ratings were able to issue in dollars. The Danish government was one of them and hence able to exploit its comparative advantage in the dollar market.

2-YEAR BASIS SWAP BETWEEN EURO AND DOLLAR



Source: Bloomberg.

currency and maturity. Despite its high credit rating, the central government was also affected by the volatile market conditions.

Against this background, the strategy was to supplement the annual issuance of a 5-year euro-denominated loan with issuance, primarily in euro and dollars, in the 2-5-year maturity segments. The concentration of redemption payments in November and uncertainty in the international lending markets meant that issuance took place well before the payments were due.

The Danish government issued loans in euro, dollars and Swedish kronor

As part of the announced strategy, the government issued a 5-year euro-denominated loan. It was a syndicated issue at a interest rate corresponding to those of other highly rated countries such as Finland and the Netherlands. Previously, the investor base in euro mainly comprised European institutional investors, but in 2011 there was broader global demand. Investors from outside Europe bought 30 per cent of the issue, cf. Chart 3.4.1.

In addition, a 2-year dollar-denominated loan totalling 3.9 billion dollars was issued. By issuing in dollars and swapping the exposure into euro, the government achieved attractive funding conditions, primarily due to the currency swap spread between dollars and euro, cf. Box 3.1. The government's issuance in dollars attracts fewer, but larger investors, mainly central banks. Geographically, the investor base in dollars is more diversified. Therefore, the dollar-denominated loan increased the investor base.

The loans in euro and dollars were supplemented with a small issue in Swedish kronor.

CP programmes increased to 24 billion dollars

Short-term foreign loans are raised via the central government's Commercial Paper programmes, cf. Box 3.2. The objective is to ensure a liquidity contingency for rapid adjustment of the foreign-exchange reserve or the central government's account at Danmarks Nationalbank.

In 2011 the maximum outstanding volume in the government's USCP programme was raised from 6 to 12 billion dollars, which is also the maximum outstanding volume in the central government's ECP programme. This brings the aggregate maximum for the government's CP programmes to 24 billion dollars.

The central government issued CP in order to retain investor interest and facilitate market access. At year-end the outstanding volume of CP was just under kr. 3 billion.

COMMERCIAL PAPER — Box 3.2

Commercial Paper, CP, is a short-term non-standardised instrument with a maturity of up to one year. CP is issued as zero-coupon bonds directly to investors via a number of banks acting as market makers for the central government, cf. the Table.

The central government's two CP programmes are aimed at the European market (ECP programme) and the US market (USCP programme), respectively. Under the USCP programme, all issuance is in dollars, while it is possible to issue in a number of currencies, including dollars and euro, under the ECP programme. Both programmes have a maximum of 12 billion dollars.

MARKET MAKERS IN THE CENTRAL GOVERNMENT'S TWO CP PROGRAMMES, BEGINNING OF 2012

ECP	USCP
Bank of America Merrill Lynch	Bank of America Merrill Lynch
Barclays Bank	Barclays Bank
Citigroup	JP Morgan
Credit Suisse	
Deutsche Bank	
UBS	

CHAPTER 4

Issuance Strategy 2012

The central government has a low issuance requirement in 2012 as a result of excess sales of government bonds in 2011. The central government intends to initiate the financing of the issuance requirement for 2013.

In the past few years, the issuance strategy for government bonds has been to build up liquid series on the basis of a 40-20-40 percentage distribution on the 2-, 5- and 10-year maturity segments. In view of the low long-term yields and to maintain low interest-rate sensitivity, the plan is to issue a larger share in the longer maturity segments in 2012.

The build-up of the existing securities in the key on-the-run issues will continue in 2012. Moreover, an inflation-linked government bond will be opened in the 10-year segment in the 1st half of the year. The new bond will widen the central government's investor base.

The foreign borrowing strategy is to raise foreign loans for 1-1.5 billion euro.

ISSUANCE STRATEGY IN 2012 4.1

Low domestic issuance requirement

The central government's domestic financing requirement in 2012 is kr. 179 billion, cf. Table 4.1.1. Due to the excess sales in 2011, the central

DOMESTIC ISSUANCE REQUIREMENT IN 2012 Table 4.1.1

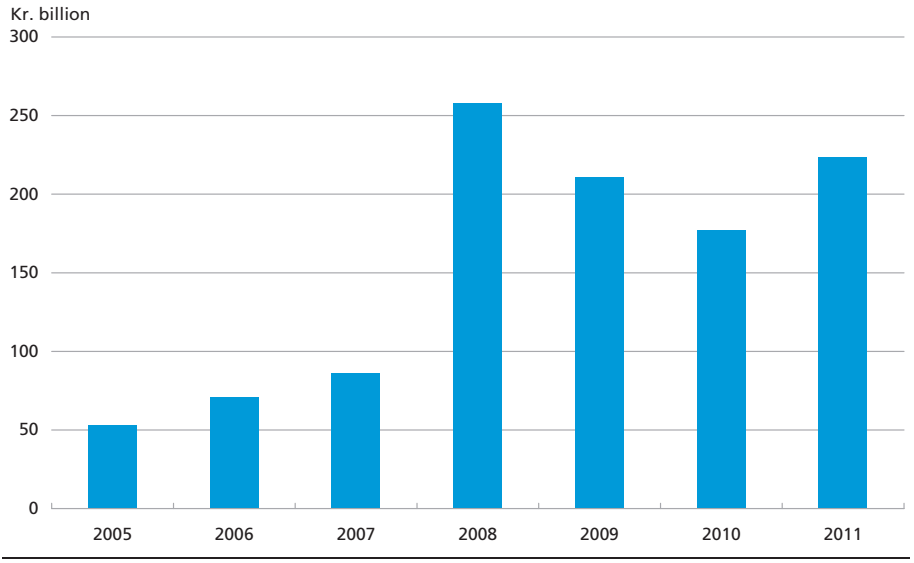
Kr. billion	
Domestic net financing requirement[1]	80
Redemption, long-term debt, etc.[2]	55
Outstanding Treasury bills, end-2011	44
Domestic financing requirement	179
Issuance of domestic government bonds	28
Treasury bills	44
Excess sales in 2011 and extraordinary drawing on the central government's account[3]	107

[1] *Budget Outlook 3*, December 2011.

[2] Redemptions on long-term debt include the net bond purchases of the three government funds and net payments from currency swaps.

[3] Excess sales in 2011 reflect domestic bond issuance of kr. 124 billion and an issuance requirement in domestic bonds of kr. 34 billion. An extraordinary drawing on the central government's account is planned in relation to the one-off reimbursement of early retirement contributions (expected kr. 17 billion).

CENTRAL-GOVERNMENT ACCOUNT, END-2011 Chart 4.1.1



government has a low issuance requirement in government bonds this year. In order to reduce the refinancing risk, the strategy is to maintain a high balance on the central government's account and to initiate the financing of the 2013 borrowing requirement. This increases the target for issuance of government bonds in 2012 to around kr. 75 billion. Until the beginning of February, the central government had issued for just under kr. 20 billion primarily in the 10-year and 30-year maturity segments.[1]

Since 2009 the central government has pursued a bond issuance strategy in the 2-, 5- and 10-year segments based on a 40-20-40 percentage distribution, cf. *Danish government borrowing and debt 2009*, Chapter 11. The strategy for 2012 is adjusted towards issuance in the longer maturity segments. This should be viewed in the light of:

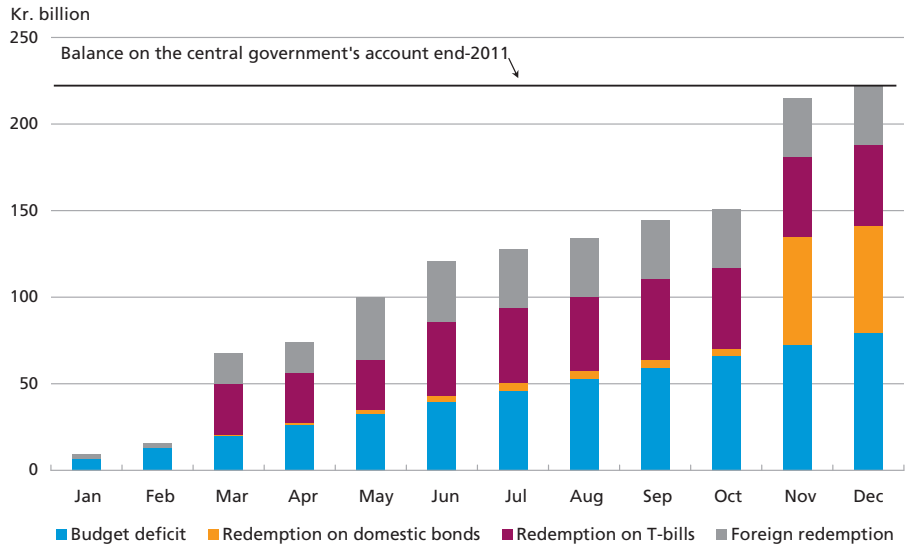
- An aim of reducing the refinancing risk resulting from uncertainty over international economic trends and market conditions.
- Historically low Danish long-term government yields.
- Expected low additional costs of issuing long-term rather than short-term bonds, cf. Chapter 8.

The central government's account

The balance on the central government's account increased as a result of the issuance of the 30-year bond in 2008, and the balance has subsequently been kept at a high level, cf. Chart 4.1.1. This reflects an aim to maintain a substantial liquidity buffer to reduce the refinancing risk and

[1] Sales up to and including 7 February 2012.

BUDGET DEFICIT AND REDEMPTIONS IN 2012 Chart 4.1.2



Note: Budget deficit and redemptions are accumulated over the year. Redemptions of domestic bonds and foreign redemptions include currency swaps. The expected deficit is evenly distributed over the year.

make the central government less vulnerable to sudden changes in the financing requirement.

At end-2011, the balance on the government's account was kr. 224 billion. The balance fully covers redemptions and the expected budget deficit in 2012, cf. Chart 4.1.2. This contributes to increasing the robustness of the government debt policy. The sovereign debt crisis and the growing market focus on refinancing risk emphasise the advantages of a high balance on the account.

Key on-the-run issues in 2012

Issuance in the existing key on-the-run securities will continue in 2012, cf. Table 4.1.2. The T-bill programme will be kept at the level of around kr. 44 billion, and a 10-year inflation-linked bond will be opened in the 1st half of the year, maturing in 2023.

KEY ON-THE-RUN ISSUES, 1ST HALF OF 2012 Table 4.1.2

Maturity segment	Issuance series
Maturity <1 year	Treasury bills
2-year segment	2 per cent bullet loan 2014
5-year segment	2.5 per cent bullet loan 2016
10-year segment	3 per cent bullet loan 2021
30-year segment	4.5 per cent bullet loan 2039
10-year inflation-linked bond	x per cent index loan 2023

Terms of borrowing for government bonds and T-bills can be viewed at www.governmentdebt.dk under Investor Relations.

Issuance of nominal bonds

Government bond issuance takes place via regular auctions, usually with issuance in two series. The auctions are supplemented with tap sales. Dates for the next three months' planned auctions are announced at www.governmentdebt.dk at the beginning of each month. The government bond(s) to be auctioned will be announced no later than three trading days prior to each auction. The auctions are subject to stable market conditions.

Opening of 10-year inflation-linked bond

An inflation-linked bond will be opened in the 1st half of 2012. The bond is a bullet loan maturing on 15 November 2023 and is linked to the Danish CPI while other characteristics are in line with international market standards, cf. Chapter 10. Like the nominal securities, issuance takes place via auctions supplemented with tap sales. The strategy is to build up the series to at least kr. 20 billion over the coming years.

The inflation-linked government bond contributes to increasing the central government's investor base. The insurance and pension sector's demand for bonds offering real return in Danish kroner is expected to grow in the future as a consequence of a gradual transition to pension commitments without nominal guarantees, among other factors.

To support liquidity, the bond will be covered by a price quotation scheme and will be included in the government's securities lending facility.

Issuance of Treasury bills

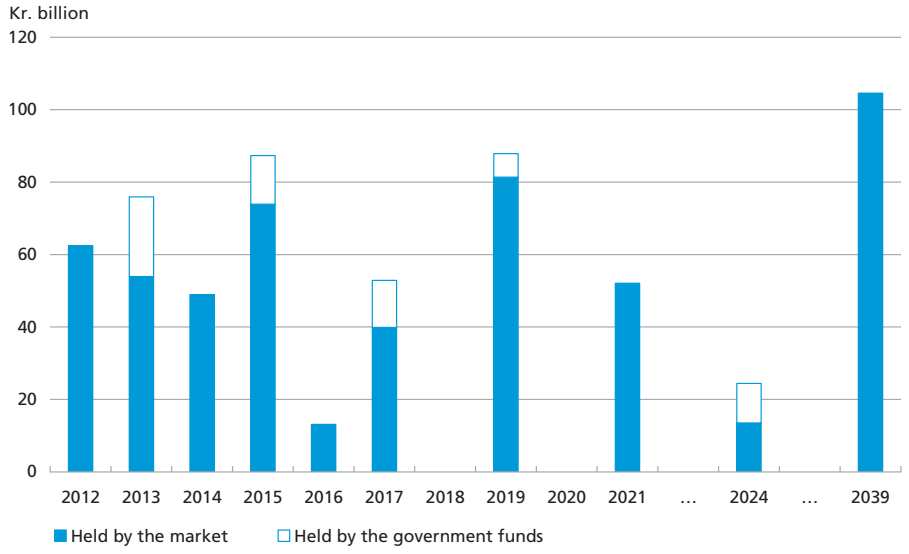
The demand for T-bills increased during 2011 and the programme was built up to kr. 44 billion. Based on a trade-off between the government's annual refinancing volume and the consideration for the liquidity of the securities, the strategy is to maintain the outstanding amount of the T-bill programme at around the current level of kr. 44 billion.

Monthly auctions are held over T-bills with the first banking day of the month as the settlement date. In the auctions with the first banking day in March, June, September and December 2012 as the settlement date, new 9-month T-bills will be opened.

Buy-backs reduce the central government's refinancing risk

The buy-back policy is aimed at securities maturing in the next few years to reduce the government's refinancing volume, cf. Chart 4.1.3. More-

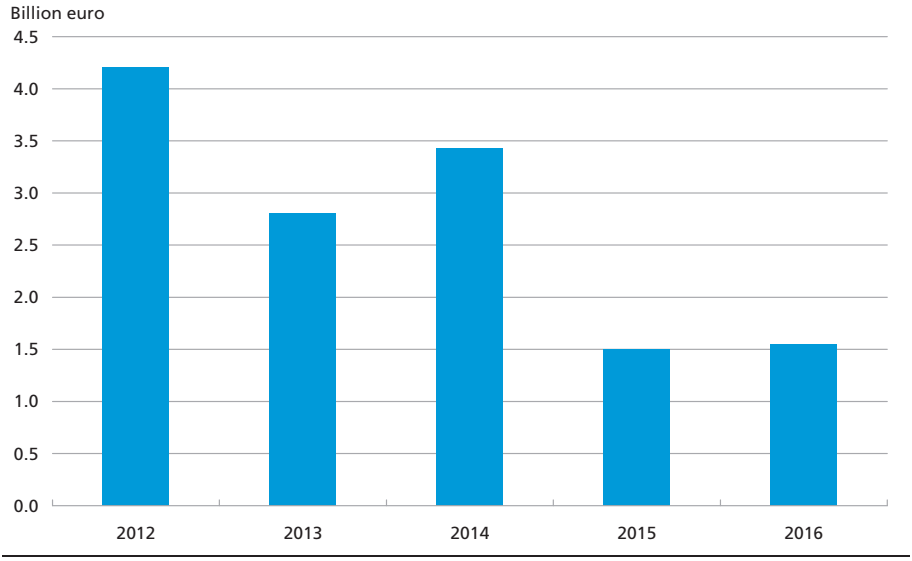
THE CENTRAL GOVERNMENT'S DOMESTIC REDEMPTION PROFILE Chart 4.1.3



Note: Redemption profile, end-2011, excluding T-bills and currency swaps concerning re-lending to Danish Ship finance.

over, buy-backs are made to cover the investment needs of government funds and to ensure a well-functioning government bond market. Buy-backs may take place in all domestic and foreign securities, but as a main rule not in key on-the-run issues.

THE CENTRAL GOVERNMENT'S FOREIGN REDEMPTION PROFILE Chart 4.1.4



Note: Redemption profile, end-2011, excluding Commercial Paper and currency swaps concerning re-lending to Danish Ship Finance.

Buy-back may take place on tap, via auctions or switch auctions. In 2012, regular buy-back auctions for 4 per cent bullet loans 2012 will be held on the third last banking day of each month.

Foreign borrowing

The central government raises foreign loans in order to maintain the foreign-exchange reserve. In 2012, the central government's foreign redemptions total 4.2 billion euro (kr. 31 billion), cf. Chart 4.1.4. The strategy for foreign borrowing is as follows:

- Raising foreign loans of 1-1.5 billion euro.
- As a starting point, a 5-year euro loan will be issued.
- Commercial Paper may be used in case there is a need for rapid or temporary adjustment of the foreign-exchange reserve.

CHAPTER 5

Issuance of and Trading in Danish Government Securities

PRIMARY DEALER SYSTEM FOR DANISH GOVERNMENT SECURITIES 5.1

Danish government securities are issued to a broad group of investors via banks that have concluded primary dealer contracts with the central government, cf. Box 5.1. The key obligation of the primary dealers is to ensure price discovery in government bonds for at least five hours a day (market making). Effective price discovery facilitates trading on the electronic trading platforms and in the OTC market.

The group of primary dealers in Danish government securities remains unchanged in 2012 and comprises 12 banks for government bonds and 5 banks for T-bills. The broad distribution channel enhances interest in Danish government securities and supports competition in connection with issuance and buy-backs by the central government.

PRIMARY DEALER CONTRACTS Box 5.1

Government Debt Management has concluded primary dealer contracts for government bonds and Treasury bills, respectively. The rights and obligations of primary dealers are determined in consultation with the group of primary dealers and are specified in the contracts, which can be found at www.governmentdebt.dk. Basically, the primary dealer contracts contain the same elements as equivalent contracts in other EU member states.

PRIMARY DEALERS, BEGINNING OF 2012

Primary dealers in government bonds	Primary dealers in T-bills
Barclays Bank	Danske Bank
BNP Paribas	Nordea
Danske Bank	Nykredit Bank
Deutsche Bank	SEB
HSBC	Sydbank
JP Morgan	
Morgan Stanley	
Nordea	
Nykredit Bank	
SEB	
Spar Nord Bank	
Sydbank	

AUCTION METHOD FOR DANISH GOVERNMENT BONDS Box 5.2

The central government's auctions take place via MTS Denmark's auction system with the primary dealers of government bonds as counterparties. Investors can submit bids for the auctions via the primary dealers. Auction stages are:

Announcement of auction calendar
An auction calendar is published regularly with preliminary auction dates for the next three months. At least three days before an auction the government bonds issued will be announced. Auctions and auction results are announced via DN News[1] and published at www.governmentdebt.dk. The auctions depend on stable market conditions.

Bids and allocation
The auction principle is uniform pricing, i.e. bids at the cut-off price or above are met at the cut-off price. Bonds can be allotted pro rata to bids at the cut-off price. An auction can be completed without allotment.

Each primary dealer may submit a broad range of bids. The deadline for submitting bids on the auction day is 10:15 am. A cut-off price is then fixed by Government Debt Management.

[1] Danmarks Nationalbank's system for dispersing information to connected news agencies.

ISSUANCE PRIMARILY TAKES PLACE VIA AUCTIONS 5.2

Danish government securities are sold via regular auctions supplemented with tap sales. Regular auctions of government bonds were introduced in 2009 and experience has been positive. At the auctions, investors are able to buy large quantities of government securities directly from the central government by placing bids via primary dealers. Supplementary issuance on tap makes it easier for banks to meet demand from investors outside the auction days, which supports liquidity.

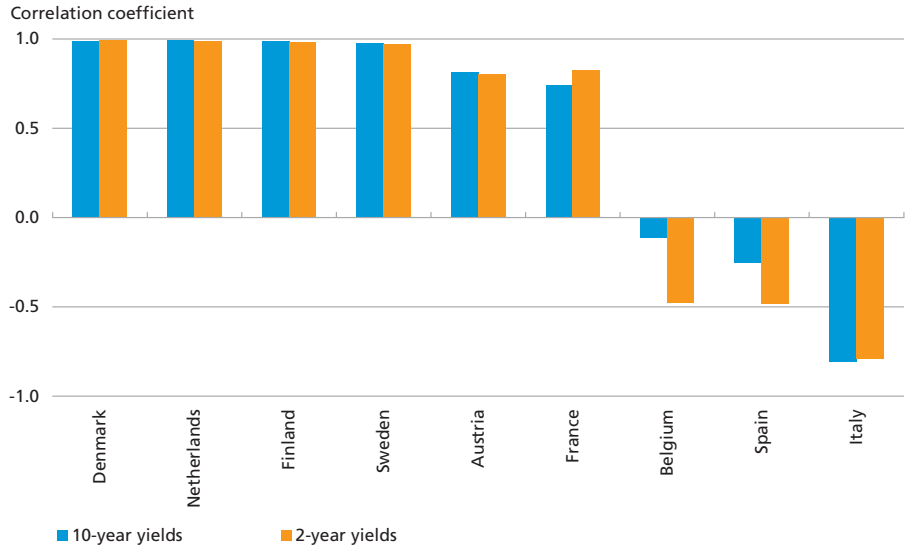
Government Debt Management regularly announces preliminary auction dates for domestic government bonds for the next three months, cf. Box 5.2. Since November 2010, two different series have generally been offered in each auction. This is because investor demand has fluctuated strongly across maturity segments. At the auctions, the cut-off price is determined on the basis of demand, the yield spread to other countries and the price in the secondary market. Monthly T-bill auctions are also held.

In 2011, more than 90 per cent of domestic bonds were issued at auctions. Four primary dealers bought up 80 per cent of bonds issued at the auctions.

THE SECONDARY MARKET IN 2011 5.3

Liquidity in the market for Danish government securities was supported by the fact that the primary dealers played an active role in relation to

INTEREST-RATE CORRELATION WITH GERMANY IN 2011 Chart 5.3.1



Note: Based on daily changes in 2- and 10-year yields.
Source: Bloomberg and own calculations.

pricing in the Danish market. Market making by primary dealers is supported by the opportunity to hedge positions in Danish bonds effectively via primarily German government securities or interest-rate futures. The reason is that Danish government securities, like e.g. their Dutch and Finnish counterparts, are highly correlated with German securities, cf. Chart 5.3.1.

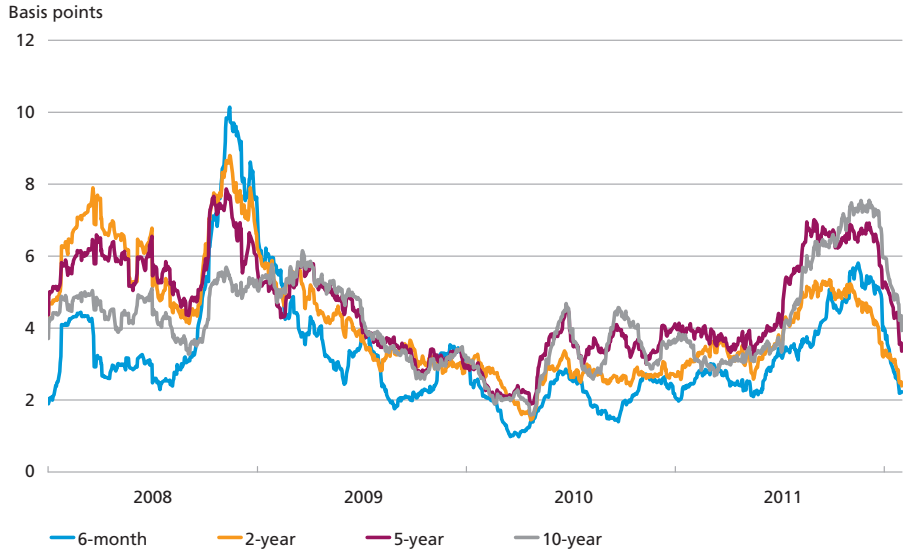
The escalation of the European sovereign debt crisis in the 2nd half of the year led to higher interest-rate volatility, also for Danish government securities, but in early 2012 the volatility decreased again, cf. Chart 5.3.2.

Market making

The primary dealers met their market making obligations in 2011. For five hours a day, each primary dealer must quote prices within a bid-ask spread that depends on the average bid-ask spread for all primary dealers, cf. *Danish government borrowing and debt 2009*, Chapter 12. Since market making obligations are defined relative to the prices quoted by the other primary dealers, requirements are adjusted to market conditions on a continuous basis.

Due to the increased volatility in the markets for government securities, the bid-ask spread on MTS Denmark widened in the 2nd half of the year, cf. Chart 5.3.3. The considerable widening of bid-ask spreads in December 2011 reflects factors such as greater fluctuation in the yield spread to Germany in connection with the extraordinary demand for Danish government securities. The lower degree of correlation between the two

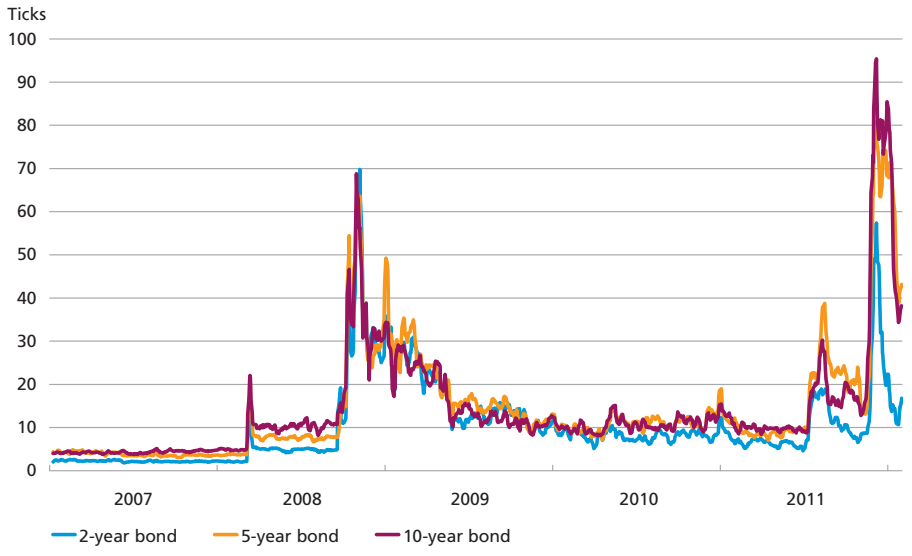
INTEREST-RATE VOLATILITY FOR BENCHMARK SECURITIES Chart 5.3.2



Note: 40-day moving average of daily changes in yields (absolute value).
Source: Bloomberg and own calculations.

markets made it more expensive for banks to hedge their transactions in Danish government securities via the German bond and futures markets. In the beginning of 2012, bid-ask spreads tightened again.

BID-ASK SPREADS FOR BENCHMARK SECURITIES Chart 5.3.3

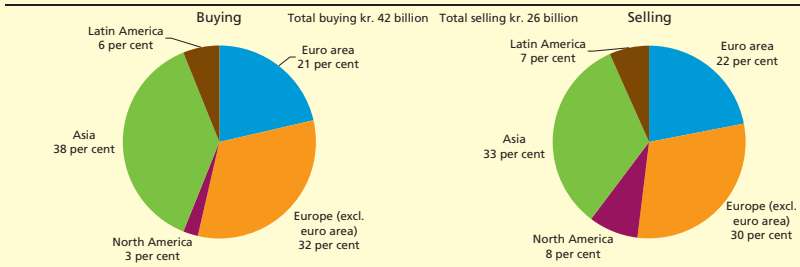


Note: Average of the day's bid-ask spreads based on best bid and ask prices. 1 tick corresponds to 0.01 price quotation points.
Source: MTS Denmark.

HRF REPORTS Box 5.3

HRF reports contain information on the primary dealers' purchases and sales of government securities broken down by counterparty investor type and geographical location. The investor type could be e.g. insurance and pension companies or central banks. The 4th quarter reports indicate considerable demand for Danish government bonds from Asian investors. Over time the HRF reports will provide a better overview of the investor types buying and selling Danish government bonds.

NON-RESIDENTS' BUYING AND SELLING BY GEOGRAPHY IN 4TH QUARTER



Note: Based on HRF reports from the 4th quarter 2011 for 8 of the central government's primary dealers. Charts only include trading with investors.

Every month the primary dealers receive a report on their compliance with the market making requirements. In addition, the banks are regularly assessed on the basis of all information that is available on trading and price quotation. Since the 4th quarter of 2011, most primary dealers have reported their turnover in more detail in accordance with the European Harmonised Reporting Format, HRF, cf. Box 5.3.

TRADING PLATFORMS FOR MARKET MAKING 5.4

Every year, the primary dealers evaluate the infrastructure of the Danish market for government securities, including the platforms chosen for market making. In the report[1] from the end of 2011 the recommendation was to retain a structure with market making on a single platform in the interdealer market. In view of the size of the market for Danish government securities, the assessment was that market making on several platforms would reduce liquidity and price transparency. Introducing market making on several trading platforms would also involve considerable costs.

In 2012, market making will take place on MTS Denmark, which was decided on the basis of the service and cost levels of the trading platforms.

[1] The key elements and conclusions can be found in *Infrastructure in Danish government securities market in 2012* at www.governmentdebt.dk.

Turnover on electronic trading platforms

In the interdealer market, Danish government securities are traded on, inter alia, MTS Denmark and ICAP/BrokerTec. Bid and ask prices on MTS Denmark are published at the website of MTS[1] with 15 minutes' delay, but can be received in real time for a fee. Besides the interdealer market, trading in Danish government securities takes place on a number of other electronic platforms such as Bloomberg, Bondvision, Nasdaq OMX and TradeWeb, which are primarily aimed at end-investors. In addition to electronic trading in government securities, there is considerable turnover in the OTC market.

Price-quoting system aimed at the retail market

Nasdaq OMX has a price-quoting system aimed at the retail market under which four banks have committed to quote bid and ask prices. Through the price-quoting system, investors have ongoing access to pre-trade information for Danish government securities. Members of the bond subsegment on Nasdaq OMX can trade directly with the price quoters. Via their banks, investors can place orders in the trading system.

NEW REGULATION WILL AFFECT TRADING IN GOVERNMENT SECURITIES 5.5

In response to the financial crisis, proposals for new regulation have been put forward both within and outside the EU with a view to reducing the risk of a new crisis. Several of these regulatory initiatives affect the markets for government securities, including the US Dodd-Frank Act[2] and the regulatory proposals at EU level outlined below. It is important that the new regulation does not impede liquidity in the capital markets and does not lead to higher financing costs. For example, it is important that the costs of government issuance do not rise.

In 2011, the European Commission proposed a tax on financial transactions, cf. Box 5.4. A tax on financial transactions will lead to reduced liquidity for the products subject to the regulation. As regards government securities, a tax would reduce liquidity in the markets and lead to higher volatility, thereby increasing government financing costs.[3] A tax on financial transactions in the EU entails a risk that financial activities relocate to countries outside the EU.

A regulation banning naked short selling was adopted by the EU in the autumn of 2011. Prior to its adoption, a number of member states,

[1] www.mtsdata.com/content/data/public/dkk/best/
[2] Cf. www.gpo.gov/fdsys/pkg/PLAW-111publ203/content-detail.html.
[3] Cf. Danmarks Nationalbank's consultation response of 3 November 2011 at www.nationalbanken.dk.

NEW EU REGULATION AFFECTING TRADING IN GOVERNMENT SECURITIES Box 5.4

Tax on financial transactions

In the autumn of 2011, the European Commission proposed the introduction of a tax on all financial transactions conducted by financial institutions if at least one of the parties is established in the EU. The Commission proposed that the market value of trades in bonds and equities is taxed at 0.1 per cent, and that the notional value of derivatives trades is taxed at 0.01 per cent. Under the proposal, the revenue from this tax will be split between the EU and the member states. The EU's revenue will to some extent reduce the national contributions to the EU budget.

Ban on short selling

A regulation to ban naked short selling was adopted by the EU in the autumn of 2011 and is expected to come into force towards the end of 2012. Naked short selling is banned for CDS contracts and government bonds. However, naked short selling will be permitted for government bonds if the purpose is to hedge the risk on another government debt security (proxy hedging), provided that the government securities of the two member states are highly correlated. Furthermore, special exemptions apply to primary dealers etc. in government securities, since they play a key role in ensuring liquidity in the financial markets.

MiFID

In the autumn of 2011, the European Commission proposed a revision of the Markets in Financial Instruments Directive, MiFID, which forms the basis for regulation of financial instruments trading in the EU. Among other things, the Commission's proposal entails publication of pre-trade and post-trade information on trading in government bonds. Today only equities are comprised by a trading information requirement. Pre-trade information comprises bid and ask quotes and the volumes that can be traded at these prices (market depth), while post-trade information comprises trading prices, volumes and times. This information must be published in as close to real time as technically possible. The Commission notes that certain instruments and transactions, e.g. over a certain size, may be exempted from the requirement in order to ensure liquidity in these instruments. The detailed rules for the various types of instruments and trades are to be prepared by the ESMA and adopted by the Commission.

including Denmark, had argued that government securities should not be comprised by the ban, as this may lead to lower liquidity, especially in the smaller markets for government securities, and hence higher financing costs for member states. In the final text, "proxy hedging" was permitted for government securities at the request of a group of member states. This enables investors to hedge Danish government securities using e.g. German government securities as these two markets are closely correlated. The ban on naked short selling may be lifted in special circumstances, including if the ban reduces liquidity in a market for government securities significantly.

In the autumn of 2011, the European Commission proposed a revision of the MiFID. The proposal entails a number of elements that may impede liquidity in the market for government securities, such as a requirement for rapid publication of pre-trade and post-trade information. Rapid publication of post-trade information in the market for government securities could mean that e.g. primary dealers will be more hesitant to trade in government bonds. When primary dealers have bought or sold large quantities of government securities, they typically settle these positions soon afterwards. If the primary dealers must publish their purchases and sales immediately, they risk that other market participants react to this information so that prices become less favourable. To compensate for the increased risk, primary dealers are likely to quote lower bid prices and higher ask prices. The requirement for rapid publication of post-trade information may therefore increase trading costs and lead to lower liquidity in the market for government bonds, which will make it more expensive for sovereign issuers to issue bonds.[1] However, the Commission does note in its proposal that certain instruments and transactions, e.g. over a certain size, may be exempted from the requirement in order to ensure liquidity in these instruments.

[1] Cf. Danmarks Nationalbank's consultation response of 30 November 2011 at www.nationalbanken.dk.

CHAPTER 6

Assets in the Government Funds

Government Debt Management manages the assets of the Social Pension Fund, the Advanced Technology Foundation and the Prevention Fund. The assets of the government funds are included in the total central-government debt and are managed on a consolidated basis.

THE SOCIAL PENSION FUND 6.1

The Social Pension Fund, SPF, was established in 1970. Payments to SPF ceased in 1982. SPF is managed by a committee with representatives from the Ministry of Finance, the Ministry of Employment and Government Debt Management. The day-to-day management of the assets is undertaken by Government Debt Management.

The principles for asset management are laid down in a set of regulations.[1] SPF's assets may be invested in Danish listed bonds – including inflation-linked bonds and mortgage bonds – in accordance with the government debt policy. The risk on SPF's assets is assessed separately, but is included in the consolidated risk management of the total central-government debt. The duration of SPF's portfolio was 4 years at the beginning of 2012, i.e. unchanged from the beginning of 2011.

The Finance Act stipulates the amount to be transferred annually to the Ministry of Employment to cover the cost of pension improvement measures. If the sum of the amount transferred to the Ministry and payments of pension-yield tax exceeds SPF's interest income, the core capital is reduced.

In 2011, kr. 11.2 billion was transferred from SPF to the Ministry of Employment, cf. Table 6.1.1. SPF's pension-yield tax for 2010 of almost kr. 1 billion was paid in 2011 due to a general rescheduling of payments of pension-yield tax. SPF's interest income totalled kr. 4.5 billion.

At the end of 2011, SPF's assets totalled kr. 105.6 billion, cf. Table 6.1.2.

[1] The regulations may be downloaded from the Government Debt Management website, www.governmentdebt.dk.

THE GOVERNMENT FUNDS' REVENUES AND EXPENDITURES IN 2011 Table 6.1.1

Kr. million	Social Pension Fund	Advanced Technology Foundation	Prevention Fund
Revenue			
Interest etc. [1]	4,492	468	80
Injection of capital	-	2,000	-
Expenditure			
Transfer to the relevant ministry	11,190	600	350
Pension-yield tax	978	•	•
Net revenue	-7,676	1,868	-270

[1] Net statement of interest received, interest receivable, and distributed capital losses on buy-backs.

THE ADVANCED TECHNOLOGY FOUNDATION 6.2

The Advanced Technology Foundation was established by Act of Parliament in 2004 to strengthen growth and employment by supporting Denmark's further development as an advanced technological society.

A total of kr. 2 billion was transferred from the central government to the Advanced Technology Foundation in January 2011 and an additional kr. 1 billion in February 2012. The Foundation is now fully financed.

In 2011, the interest income of the Advanced Technology Foundation was kr. 468 million, while kr. 600 million was transferred from the Foundation to the Ministry of Science, Innovation and Higher Education, cf. Table 6.1.1. At the end of 2011, the assets of the Foundation totalled kr. 13.8 billion, cf. Table 6.1.2.

THE GOVERNMENT FUNDS' ASSETS, END-2011 Table 6.1.2

Kr. billion, nominal value	Social Pension Fund	Advanced Technology Foundation	Prevention Fund	Share of total outstanding, per cent
4 per cent bullet loan 2012	2.5	-	-	4
5 per cent bullet loan 2013	18.2	3.7	0.9	30
4 per cent bullet loan 2015	9.5	3.9	0.9	16
4 per cent bullet loan 2017	9.6	2.8	-	23
4 per cent bullet loan 2019	3.9	2.6	-	7
7 per cent bullet loan 2024	10.5	0.4	-	45
Government bonds, total	54.2	13.4	1.7	
Mortgage bonds etc.[1]	45.6	•	•	
Index-linked bonds[2]	5.8	•	•	
Balance of account	0.0	0.4	0.1	
Total	105.6	13.8	1.8	

[1] Mortgage bonds, municipal, Ship Finance and Fisheries Bank bonds other than index-linked bonds.
[2] Indexed value.

It is a statutory provision that the assets of the Foundation may be invested in Danish government bonds only. The Foundation's investment strategy aims to achieve an equal distribution on short-, medium- and long-term Danish government bonds.

THE PREVENTION FUND 6.3

The Prevention Fund was established in 2007 with the objective of supporting projects to forestall and prevent physical and mental impairment. A total of kr. 3 billion was transferred to the Fund when it was established. There are no plans to build up further capital in the Fund.

In 2011, kr. 350 million was paid by the Fund to the Ministry of Employment. In 2011, the Fund's interest income amounted to kr. 80 million and net expenditure to kr. 270 million, cf. Table 6.1.1. At the end of 2011, the Fund's assets totalled kr. 1.8 billion, cf. Table 6.1.2.

It is a statutory provision that the assets of the Fund may be invested in Danish government bonds only. The investment strategy of the Prevention Fund aims to obtain revenue from interest and redemptions to match future transfers to the Ministry of Employment.

CHAPTER 7

Government Re-lending and Loan Guarantees

PURPOSE AND FRAMEWORK FOR RE-LENDING AND GUARANTEES 7.1

A number of government-owned companies have access to raise loans directly from the central government (re-lending) or raise government-guaranteed loans, cf. Table 7.1.1.[1] Re-lending and government-guaranteed loans derive from the political intention to support certain projects. The majority are issued to government-owned companies involved in large infrastructure projects. Purposes and frameworks for the companies' borrowing are laid down by law.

Re-lending and government-guaranteed loans offer cheaper funding for the companies than loans without guarantees. The lower borrowing costs reflect the central government's high credit standing. As the companies are owned by the government, cheap financing is an advantage to the government. The companies that have access to re-lending or government-guaranteed loans pay an annual commission of 0.15 per cent of the loan volume to the central government.

Guidelines for borrowing by the companies

Government Debt Management formulates the general guidelines for borrowing by the companies that have access to loan guarantees or re-lending. The aim is to ensure that the companies do not assume financial risks that the central government itself will not assume.

The guidelines for borrowing by the companies are stated in a set of agreements comprising two main elements:[2]

- An agreement between the ministry in question, the Ministry of Finance, Government Debt Management and the individual company
- A list of eligible loan types, which is specified and updated by Government Debt Management, cf. Box 7.1.

[1] In addition, Danish Ship Finance (Danmarks Skibskredit A/S) has access to a special re-lending facility, cf. *Danish government borrowing and debt 2003*, Chapter 10.

[2] As far as Øresundsbron is concerned, a tripartite agreement has also been concluded between Øresundsbron, Riksgäldskontoret (the Swedish National Debt Office) and Government Debt Management.

GOVERNMENT-OWNED COMPANIES WITH ACCESS TO RE-LENDING OR LOAN GUARANTEES Table 7.1.1

	Re-lending	Government-guaranteed loans
The Danish Broadcasting Corporation	X	-
The Danish State Railways	-	X
Eksport Kredit Fonden	X	-
Energinet.dk	X	-
Femern Belt	X	X
Femern Landworks	X	X
The Financial Stability Company	X	-
The Metro Company	X	-
The Danish North Sea Fund	X	-
Statens Serum Institut	X	-
The Great Belt Bridge	X	X
Sund & Bælt Holding	X	X
CPH City & Port Development	X	-
Øresund Landworks	X	X
The Øresund Bridge	-	X

Note: (X) indicates that the company has access, while (-) indicates that the company does not have access. The table includes public companies whose loan guarantee is administered by Government Debt Management.

GUIDELINES FOR BORROWING AND RISK MANAGEMENT Box 7.1

The list of eligible loan types sets out the general guidelines for borrowing by the companies that have access to re-lending or government-guaranteed loans.

The guidelines are based on the companies managing the risk on their assets and liabilities on a consolidated basis. It is the responsibility of the companies to lay down a financing strategy that contains rules for all financial transactions in relation to borrowing and risk-taking by the company.

The list of acceptable loan types is based on the following criteria:

Government loan guarantees

- Loan types must be customary, i.e. known and used in the market by reputed borrowers
- Loans must be built up from simple elements that make them transparent.

Re-lending operations

- Companies have access to re-lending on the basis of the re-lending list. As a starting point, the re-lending list comprises all fixed-rate government bonds denominated in Danish kroner in the maturity segments between 2 and 10 years[1]
- The companies may redeem re-lending in case of changes in their financing framework.

Risk-management requirements

- The swap counterparties are subject to minimum rating requirements
- Swaps are only transacted with counterparties who have concluded collateral agreements, CSA
- The currency exposure of the loan portfolio should, as a general rule, be limited to euro (or Swedish kronor in the case of Øresundsbron).

[1] The Financial Stability Company has access to re-lending in bullet loans with maturities ranging from 1 month to 10 years. Eksport Kredit Fonden has access not only to the re-lending list, but also to re-lending with a serial redemption profile of up to 18 years. Energinet.dk, Femern Belt and the Metro Company also have access to obtain re-lending by way of 30-year loans.

RE-LENDING 7.2

Re-lending means that loans are raised directly from the central government. Most re-lending mirrors loans in existing government bonds, so that coupon rates, interest-payment dates and redemption dates correspond to the characteristics of the underlying government bonds.

When a company requests re-lending, Government Debt Management sets the price of the loan on the basis of the current market conditions. The proceeds of the loan are paid from the central government's account. The resulting financing requirement is met via the key on-the-run issues. No specific issuance takes place to hedge the risk on individual re-lending transactions, but re-lending is part of the consolidated market risk management of the central-government debt.

Re-lending in 2011

In 2011 new re-lending amounted to kr. 18 billion. Due to redemptions on existing re-lending, the total outstanding volume fell by kr. 4 billion to kr. 76 billion, cf. Table 7.2.1. The main reason was that the Financial Stability Company reduced its re-lending portfolio by kr. 11 billion in 2011 following payment of the loss guarantee by the financial sector under Bank Package 1.

In 2011 Energinet.dk, Femern Belt and the Metro Company were given access to re-lending in the 30-year series on certain conditions. The companies are characterised by having long-term investments, so by raising 30-year loans they can achieve a better match between the duration of their

RE-LENDING Table 7.2.1

Kr. billion, nominal value	Portfolio end-2010	Portfolio end-2011
The Danish Broadcasting Corporation	3.6	3.6
Danish Ship Finance	10.2	9.6
Eksport Kredit Fonden	2.9	5.3
Energinet.dk	5.5	6.5
Femern Belt	0.5	0.5
Femern Landworks	-	0.1
The Financial Stability Company	24.5	13.9
Loan to Iceland	1.8	3.6
The Metro Company	-	1.8
The Danish North Sea Fund	0.3	0.3
Statens Serum Institut	0.3	0.4
The Great Belt Bridge	13.9	13.1
Sund & Bælt Holding	0.4	0.4
CPH City & Port Development	9.0	10.1
Øresund Landworks	7.0	7.4
Total	80.0	76.5

LOAN GUARANTEES ADMINISTERED BY GOVERNMENT DEBT MANAGEMENT Table 7.3.1

Kr. billion	Portfolio end-2010	Portfolio end-2011
The Danish Broadcasting Corporation	0.9	0.9
The Danish State Railways	8.0	7.1
Femern Belt	0.0	0.0
Femern Landworks	0.1	0.0
The Great Belt Bridge	14.8	14.4
Sund & Bælt Holding	0.0	0.0
Øresund Landworks	3.6	3.6
The Øresund Bridge[1]	20.2	17.8
Total	47.6	43.8

[1] Loans issued by The Øresund Bridge are guaranteed by the Danish and Swedish governments with joint and several liability.

Note: The numbers are inclusive of guaranteed swaps.

debt portfolios and their fixed assets. At the end of the year, Energinet.dk obtained re-lending in the 4.5 per cent bullet loans 2039 of kr. 0.5 billion.

Several companies' re-lending was based on forward-rate agreements with payment date on 15 November when the re-lending in 2011 securities matured. Re-lending combined with forward-rate agreements distributes pricing over several months without any impact on the companies' liquidity management.

The adoption of the Bank Package 2 in 2009 gave Eksport Kredit Fonden access to government re-lending of up to kr. 20 billion until end-2011. In 2011, the facility was extended until end-2015.

Bilateral loans to Ireland, Iceland and Latvia

To support the Icelandic and Latvian economic stabilisation programmes, Denmark, jointly with the other Nordic countries and the IMF, has committed itself to bilateral loans. The loan commitments expired in 2011. Latvia did not make use of its loan facility while Iceland has received 480 million euro, corresponding to the limit of the loan facility.

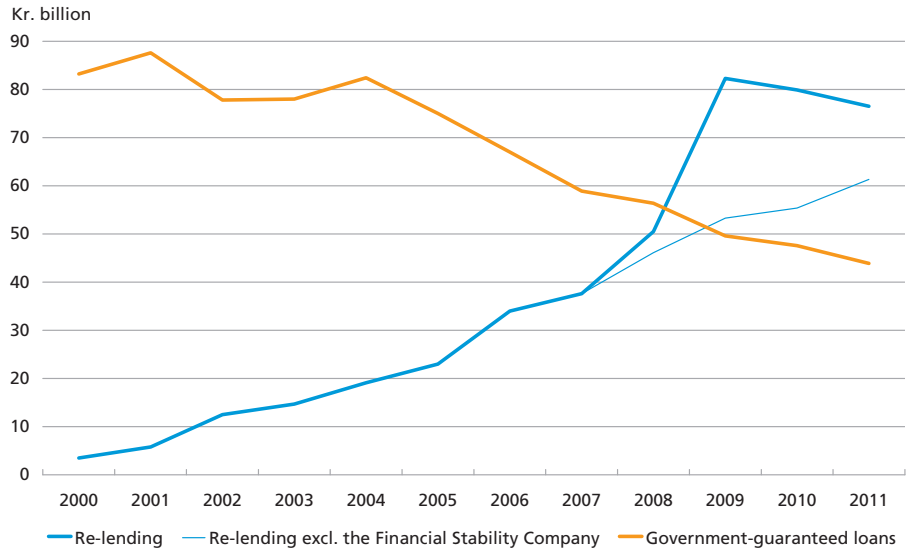
In November 2010, the EU member states and the IMF granted Ireland an 85 billion euro loan facility.[1] In that connection Denmark has committed itself to a bilateral loan facility of 400 million euro. The facility expires at end-2013 and has not yet been exercised.

GOVERNMENT LOAN GUARANTEES 7.3

In 2011, the outstanding government-guaranteed loans of government-owned companies whose loan guarantees are managed by Government Debt Management were reduced by kr. 3.7 billion, cf. Table 7.3.1. The

[1] The loan programme is described in more detail in *Economic Survey*, December 2010.

RE-LENDING AND GOVERNMENT LOAN GUARANTEES Chart 7.4.1



Note: Re-lending and loan guarantees administered by Government Debt Management.

individual government guarantees for loans raised by the financial sector under Bank Package 2 are managed by the Financial Stability Company[1].

COMPARISON OF RE-LENDING AND LOAN GUARANTEES 7.4

Loan guarantees and re-lending are, in principle, equivalent with regard to purpose and risk for the central government. However, their impact on the central government's financing requirement and debt diverge. As opposed to loan guarantees, re-lending increases the central government debt and the EMU debt. Re-lending is financed via issuance of government securities, leading to higher debt, while the asset (re-lending) is not offset against the debt.

In recent years, the government-owned companies have tended to prefer re-lending over government-guaranteed borrowing in the private market, cf. Chart 7.4.1. This reflects a trend towards companies refinancing government-guaranteed loans in the market into re-lending. Moreover, several new government-owned companies only have access to financing via re-lending. Re-lending normally means lower financing costs for the companies compared with government-guaranteed loans because investors are willing to pay a liquidity premium on government bonds.

[1] The Financial Stability Company, www.finansielstabilitet.dk.

CHAPTER 8

Market Risk

The central-government debt portfolio has been characterised by long duration since 2008, reflecting a number of strategic choices, such as a high balance in the central government's account financed by sales of long-term bonds in particular. These decisions have contributed to ensuring low interest-rate and refinancing risk.

The central government does not intend to conclude interest-rate swaps in 2012 since the expected savings on such swaps are found to be limited relative to the risk of rising interest rates. The target for the average duration of the government debt portfolio has been fixed at 9 years +/- 1 year for 2012.

As a result of the high average time to maturity of the liabilities and the central government's considerable holdings of short-term assets, any future interest-rate increases will be passed through to interest costs only slowly.

MARKET RISK MANAGEMENT IN 2011 8.1

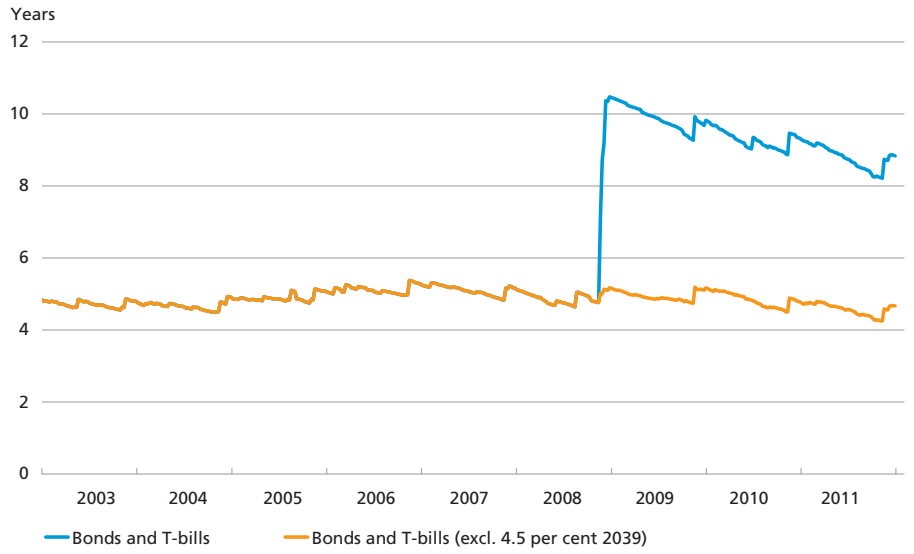
Long duration

The duration of the central-government debt portfolio remains long due to recent years' issuance of long-term bonds and the build-up of robust liquidity reserves in the form of the balance on the central government's account at Danmarks Nationalbank. As a result of these strategic choices, the central government has been able to keep its exposure to rising interest rates at a low level despite growing debt.

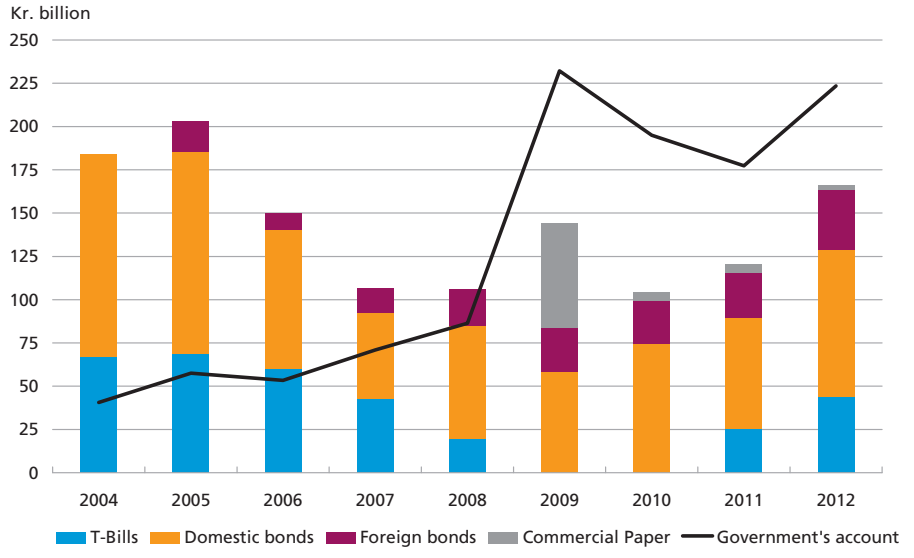
At the beginning of 2011, the aim of the risk management strategy was to reduce duration moderately by, inter alia, concluding interest-rate swaps. The target for average duration was set at 9 years +/- 1 year, calculated using a fixed discounting factor. The average duration for 2011, calculated using the fixed discounting factor, was 10.3 years.[1] In the light of the historically low long-term interest rates and widening money-market spreads, the conclusion of interest-rate swaps was put on hold in the 2nd half of the year, and it was decided not to address the deviation from the target band.

[1] The average Macaulay duration fell from 10.2 years in 2010 to 9.6 years in 2011.

AVERAGE TIME TO MATURITY FOR DOMESTIC BONDS AND T-BILLS — Chart 8.1.1



SHORT-TERM REFINANCING REQUIREMENT AND THE CENTRAL GOVERNMENT'S ACCOUNT — Chart 8.1.2



Note: The refinancing requirement is calculated as the sum of redemptions and interest payments in a given year, based on outstanding amounts at the end of the preceding year. The balance on the central government's account refers to the balance at the end of the preceding year. The balance has been adjusted at end-2008 and end-2009 by kr. 26 billion and kr. 16 billion, respectively, to reflect the Social Pension Fund's purchases of mortgage bonds in December, which were settled in early January the following year.

At the end of 2011, the average time to maturity of domestic government securities was 8.8 years, i.e. 0.5 years lower than in 2010, cf. Chart 8.1.1. The moderate reduction of the average time to maturity reflects the build-up of the T-bill programme and that issuance during the year predominantly took place in the 2-year, 5-year and 10-year maturities, implying a lower share of very long-term securities relative to the nominal outstanding volume. Excluding the 30-year bond from the calculation results in an almost unchanged average time to maturity compared to 2010.

Moderate increase in the refinancing requirement

The central government's refinancing requirement[1] has remained low as a result of the relatively large share of long-term issuance in recent years. This applies both in comparison with other countries and with historical levels in Denmark.

The central government's refinancing requirement rose moderately in 2011, cf. Chart 8.1.2. The increase over the last few years primarily reflects the build-up of the T-bill programme, with an outstanding volume of kr. 44 billion at end-2011. The maintenance of a certain outstanding volume in the T-bill programme should be viewed as an element of the central government's liquidity reserve. Other countries' experience in recent years has emphasised that T-bills are among the instruments in which issuance can continue during periods of strong market turmoil.

The moderate increase in the refinancing requirement should be viewed in the context of the considerable balance on the central government's account, which is still more than enough to cover all redemptions and interest payments for one year.

The central government's interest-rate swap portfolio is decreasing

Government Debt Management concluded portfolio interest-rate swaps for a notional amount of kr. 8.9 billion in 2011. The conclusion of interest-rate swaps was put on hold in the 2nd half of the year, as long-term interest rates fell and the spread between collateralised and uncollateralised money-market interest rates in the euro area widened.

Throughout 2011, the central government was able to issue long-term bonds at a yield that was considerably lower than the long-term swap rate. Viewed in isolation, this could warrant conclusion of interest-rate swaps. But the swap spread has predominantly reflected market expectations of high future credit risk premia in the money-market interest

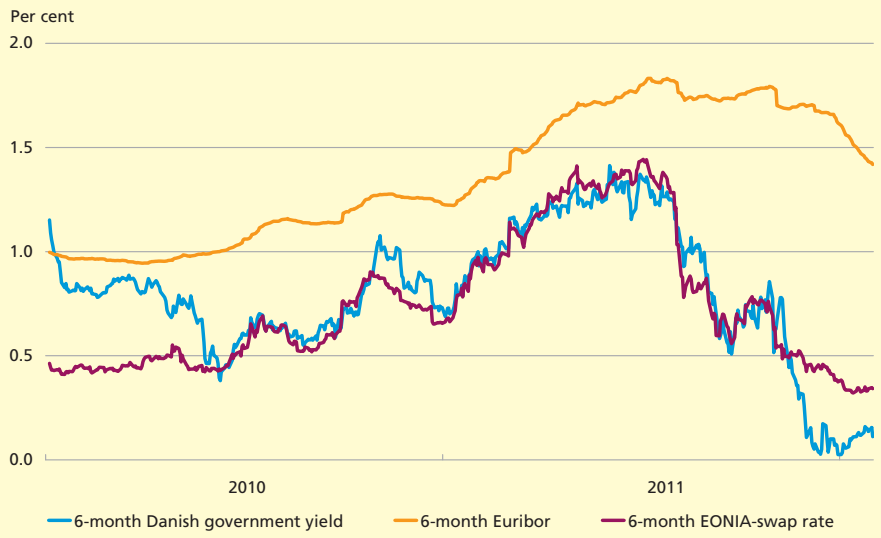
[1] The short-term refinancing requirement is calculated as the sum of redemptions and interest payments in the next 12 months.

ADVANTAGES OF EONIA-BASED INTEREST-RATE SWAPS Box 8.1

In 2011, the deteriorated funding situation for European banks entailed a strong widening of the spread between collateralised and uncollateralised euro money-market interest rates. Among other things, this means that the 6-month interest rate, Euribor, which determines the size of the variable payments on the central government's existing euro interest-rate swaps, has been high compared with government bond yields for the same maturity, cf. the Chart. Besides the higher level, the movements in Euribor have also been notably more sluggish relative to those of collateralised interest rates, especially in the 2nd half of 2011.

As a result of the pronounced credit element of the Euribor interest rates, Euribor interest-rate swaps are not particularly well-suited for the central government's risk management. An alternative instrument is interest-rate swaps for which the variable payments are, instead, determined by the euro overnight index average (EONIA). In principle, the variable interest rate in EONIA swaps is not affected by credit risk premia, and the EONIA swap interest rates have a considerably closer covariation with short-term Danish government yields.

SHORT-TERM INTEREST RATES

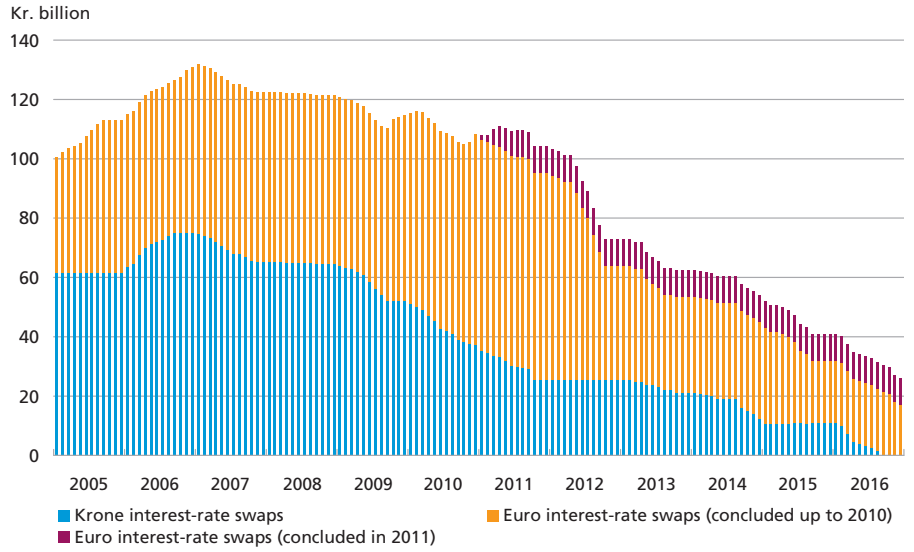


Source: Bloomberg.

rates that would be payable by the central government on the variable leg of the swap. As a result, Euribor-based interest-rate swaps are less suitable for the central government's risk management purposes. Consequently, in future the central government's instruments will include EONIA-based interest-rate swaps, cf. Box 8.1.

Given the modest volume of new swaps in recent years, the portfolio of interest-rate swaps has shown a slightly decreasing trend. Without conclusion of new interest-rate swaps, the decrease will be stronger in

CENTRAL GOVERNMENT INTEREST-RATE SWAPS, NOTIONALLY Chart 8.1.3



2012, when a considerable part of the central government's interest-rate swaps mature, cf. Chart 8.1.3.

STRATEGY FOR MARKET RISK MANAGEMENT IN 2012 8.2

The issuance strategy for 2012 aims at a certain overweight of long-term issuance in order to maintain a low refinancing risk. This section describes the background to the central government's decision not to address the duration effect of long-term issuance by concluding new portfolio interest-rate swaps in 2012.

The expected costs of long duration of the government debt are low

Historically, long duration has normally been associated with higher expected interest costs. The reason is that investors in the interest-rate markets have demanded an excess return for tying up their funds for extended periods. This expected excess return ("term premium") is associated with the credit-risk-free yield curve and applies to all issuers in a currency. For a number of years, it has been advantageous to issue long-term bonds and conclude interest-rate swaps in order to reduce the expected costs.[1]

[1] Government debt management offices normally transact interest-rate swaps in which the central government receives a fixed interest rate and pays a variable interest rate. This corresponds to buying a fixed-rate bond financed by a variable-rate loan. Consequently, the transaction implies an *expected* gain in so far as the market rates reflect an expected excess return for tying up funds in long-term claims. The actual *realised* gain depends on the subsequent development in short-term interest rates and may thus be either positive or negative.

MODEL ESTIMATES OF INTEREST SAVINGS FROM INTEREST-RATE SWAPS – CONTINUES Box 8.2

The expected savings from concluding interest-rate swaps in which the central government receives a fixed interest rate depend on the term premium.[1] The term premium can be defined as the annual excess return demanded by market participants to hold a long-term claim without credit risk, relative to a very short-term placement which is continuously reinvested. A positive term premium corresponds to market expectations of short-term interest rates – on average over the lifetime of the swap – remaining lower than the fixed interest rate accruing to the central government.

While the realised savings on a given swap are easy to calculate after the expiry of the swap, the forward-looking term premium – which is relevant to the decision to conclude new interest-rate swaps – is not directly observable. In practice, the term premium must be estimated using an interest-rate model with many parameters, meaning that such estimates are subject to considerable uncertainty. Government Debt Management's 2-factor Cox-Ingersoll-Ross, CIR, interest-rate model, which is used for Cost-at-Risk, CaR, analyses, is an example of a model allowing identification of term premia.

The CIR model is currently indicating low term premia for all maturities. The absolute levels depend on the model specification and the estimation period, but a robust result across models is that the levels are among the lowest in recent times, cf. the Chart. For example, the CIR model estimates the current term premia for medium-term and long-term maturities to around zero based on data for the last 25 years. This indicates that there are currently no expected savings to be obtained by the central government from concluding interest-rate swaps.

Recent analyses have pointed to a considerable decline in term premia over the last 20 years.[2] Already in connection with the "conundrum" period in 2004-06, when US long-term interest rates did not rise despite strong increases in monetary-policy interest rates, the consensus was that term premia in the interest-rate markets had fallen to unusually low levels. Long-term interest rates have fallen substantially since then, so the estimated term premia across models will tend to be even lower today.

Irrespective of model uncertainty, the current low levels of long-term interest rates set a relatively narrow upper limit for the savings to be achieved from concluding interest-rate swaps at the moment. The reason is that, in principle, short-term interest

[1] The analysis in this box assumes that the variable interest rate of the swap is not influenced by credit risk premia. The described swap can be viewed as an EONIA interest-rate swap, cf. Box 8.1.

[2] See e.g. D. H. Kim and A. Orphanides, *The bond market term premium: what is it, and how can we measure it?*, BIS Quarterly Review, June 2007.

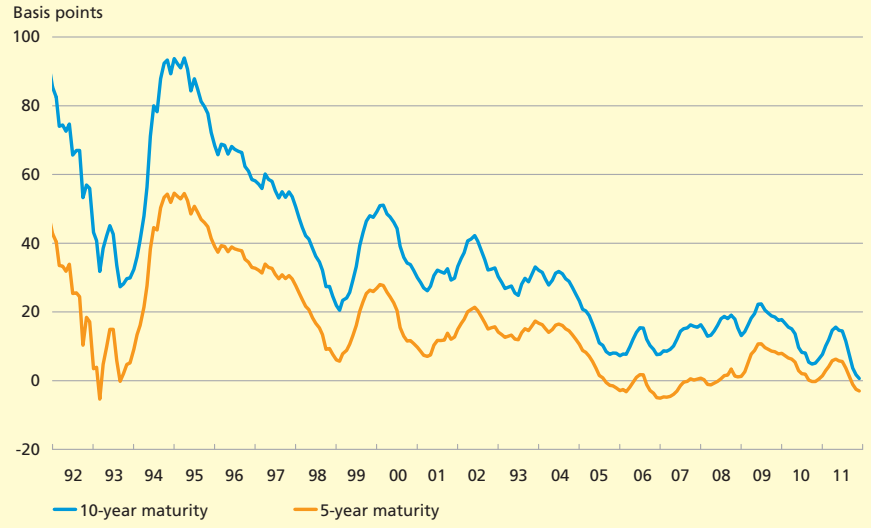
Based on this experience, it is often an implied assumption in analyses of the trade-off between cost and risk that the term premium will remain considerable also in future and that long duration is therefore associated with significant additional costs.

Recent decades' sustained strong declines in interest rates, cf. Chart 8.2.1, have now brought long-term interest rates close to zero. This reflects a lower term premium, among other things. Given the low level of interest rates, Government Debt Management finds that the expected savings from reducing the duration via interest-rate swaps are modest in the current situation, cf. Box 8.2.

MODEL ESTIMATES OF INTEREST SAVINGS FROM INTEREST-RATE SWAPS – CONTINUED Box 8.2

rates cannot fall notably below zero. For example, the 5-year EONIA swap rate at end-January 2012 was approximately 1.0 per cent. This means that the maximum saving from concluding such swaps is 1.0 per cent p.a. over the next five years. This maximum saving is realised if the overnight interest rate falls to zero immediately after the conclusion of the swap and remains there for the next five years. For comparison, the realised savings from transacting 5-year interest-rate swaps have been just under 150 basis points p.a. over the last 20 years. At the current level of long-term interest rates, the savings – even in the most favourable scenario – will be considerably lower than this historical average.

ESTIMATED TERM PREMIA



Note: Term premia have been calculated as the difference between zero-coupon yields for the given maturity and the expected average short rates over the same horizon implied by the term-structure model. In the model estimation one parameter determining the long-run level of the yield curve has been calibrated so as to obtain a better fit the current yield curve. This is achieved at the expense of a slightly less precise – albeit still good – fit to historical term structures. Without calibration, i.e. using the maximum-likelihood estimates for all parameters, the estimated term premia are currently negative for both maturities shown.

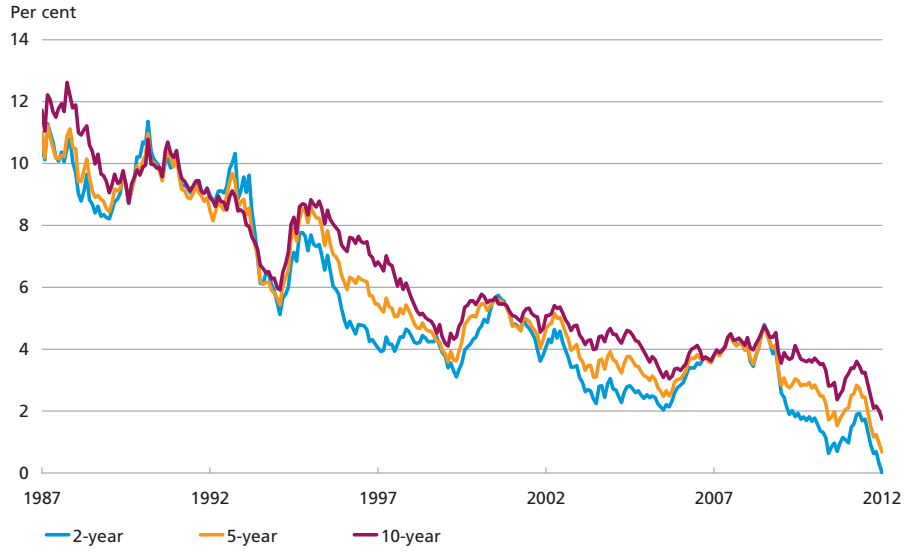
Swap strategy for 2012

The distribution of the central government's future interest costs is analysed by simulating 2,500 scenarios for the Danish government yield curve up to 2021.[1] In the baseline scenario, the central government's net interest costs account for a relatively constant share of 0.8-0.9 per cent of GDP in the coming years, cf. Chart 8.2.2.[2] The risk related to the interest costs, defined as the 95th percentile in the cost distribution, is very

[1] The projection of the central government's primary deficit is based on Budget Outlook 3, December 2011, for the years 2011-13 and on the data basis for *Reformpakken 2020 - Kontant sikring af Danmarks velfærd (Reform agenda 2020 – funding Danish welfare*, in Danish only), Ministry of Finance, April 2011, for the period 2014-21.

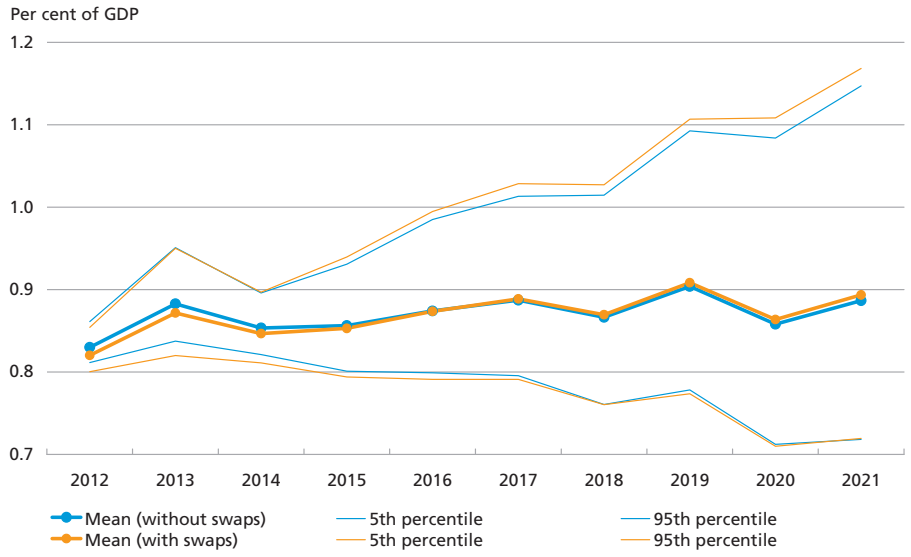
[2] Interest income from capital injections into banks is not included in this analysis.

DANISH GOVERNMENT BOND YIELDS — Chart 8.2.1



low in the next few years. The uncertainty will increase up to 2021, but interest costs will remain modest in all the years, even in scenarios with considerable interest-rate increases.

EXPECTED INTEREST COSTS AND INTEREST-RATE RISK WITH AND WITHOUT CONCLUSION OF NEW INTEREST-RATE SWAPS IN 2012 — Chart 8.2.2



Note: Distribution of net accrued interest costs for 2,500 interest-rate scenarios. The distribution depicted with yellow lines is based on the assumption that the government concludes 10-year EONIA-swaps for kr. 20 billion notionally in 2012. The interest costs are stated including interest income from re-lending. The projection of the budget balance is based on *Budget Outlook 3*, December 2011, for the years 2011-13 and on the data basis for *Reformpakken 2020 – Kontant sikring af Danmarks velfærd* (*Reform Agenda 2020 – funding Danish welfare, in Danish only*), Ministry of Finance, April 2011, for the period 2014-21.

The effect of swap conclusion on the central government's interest costs in the CaR model

The analyses in the Cost-at-Risk, CaR, model show that conclusion of new interest-rate swaps will increase the long-term risk without compensation in the form of lower expected interest costs. The yellow lines in Chart 8.2.2 show the effect of concluding 10-year EONIA interest-rate swaps for kr. 20 billion (notionally) in 2012. In the first years, the conclusion of interest-rate swaps will result in expected savings, mainly due to the projection of short-term interest rates to an initial level considerably below long-term interest rates. After some years, the annual savings are expected to turn into net costs due to higher short-term interest rates. In line with the results in Box 8.2, the total expected savings over the lifetime of the swap is around zero. The effect on the interest-rate risk of concluding swaps is negligible in the first years, rising moderately from 2014 onwards.

It should be emphasised that the cost distributions describe the uncertainty related to interest-rate developments only, reflecting neither the risk associated with developments in the primary balance nor economic growth.

Balanced short-term interest-rate fixing in the coming years

In the baseline scenario, the central government's short-term interest-rate fixing (less than 1 year, cf. Box 8.3) is expected roughly to balance in 2012, cf. Chart 8.2.3. Short-term interest-rate fixing on the government debt

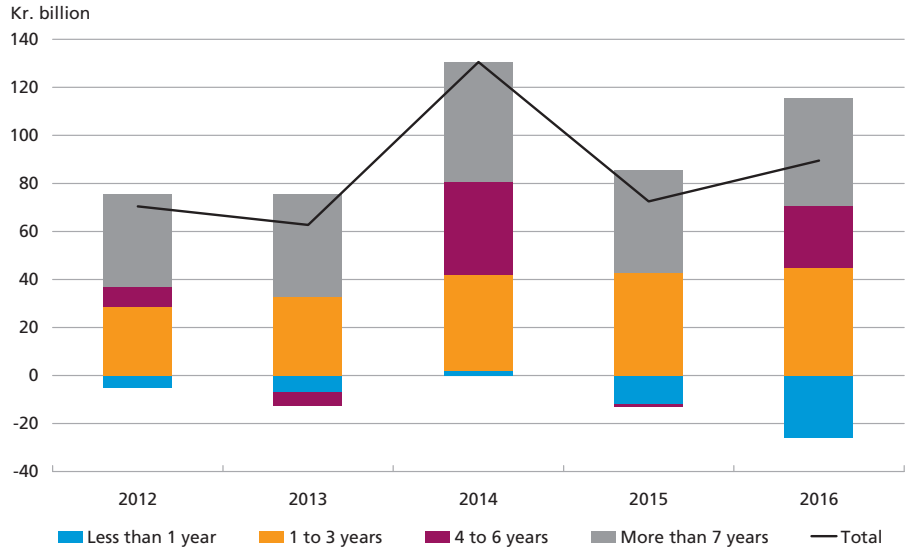
INTEREST-RATE FIXING — Box 8.3

Interest-rate fixing is the accrued amount in kroner on which a new, unknown rate of interest is to be fixed. Interest-rate fixing is calculated as interest-rate fixing for liabilities less interest-rate fixing for assets.

- Interest-rate fixing for liabilities comprises the year's issuance of government securities, conclusion of interest-rate swaps and holdings of interest-rate swaps at the beginning of the year
- Interest-rate fixing for assets comprises the year's buy-backs from the market, relending, interest-rate swaps transacted and the average balance of the central government's account at Danmarks Nationalbank.

Interest-rate fixing is broken down into different maturity segments. Government Debt Management's short-term interest-rate fixing applies to maturities of less than one year. It primarily includes the balance of the central government's account, issuance of T-bills and the notional principal of the total portfolio of interest-rate swaps. In addition, interest-rate fixing is divided into the maturity segments 1-3 years, 4-6 years and more than 7 years. This breakdown thus corresponds to the distribution of the central government's key on-the-run issues.

CENTRAL GOVERNMENT'S INTEREST-RATE FIXING ON MATURITY SEGMENTS Chart 8.2.3



Note: Interest-rate fixing is the accrued amount in kroner on which a new, unknown rate of interest is to be fixed. Interest-rate fixing is calculated as interest-rate fixing for liabilities less interest-rate fixing for assets. Based on same assumptions as Chart 8.2.2.

portfolio was previously decidedly negative due to the considerable balance on the central government's account. In this situation, conclusion of interest-rate swaps can contribute to reducing the short-term variation in interest costs. However, given the build-up of the T-bill programme the negative short-term interest-rate fixing is expected to be modest in the next few years. This means that conclusion of interest-rate swaps in order to reduce the short-term variation in interest costs is not relevant at the moment.

Moreover, conclusion of interest-rate swaps increases the central government's exposure to credit risk and to shifts in the spread between short-term government yields and swap rates.

No conclusion of portfolio interest-rate swaps in 2012

The strategy for 2012 is that the central government will not conclude any new portfolio interest-rate swaps. Consequently, in 2012 the duration of the portfolio will not be reduced faster than warranted by the issuance and buy-back policies. Even without conclusion of new interest-rate swaps, the duration is expected to fall in the coming years. This reflects that budget deficits and redemptions will generally be financed by issuance with shorter average duration than the existing debt.

The target for average duration in 2012 has been set at 9 years +/- 1 year, calculated using a fixed discounting factor.

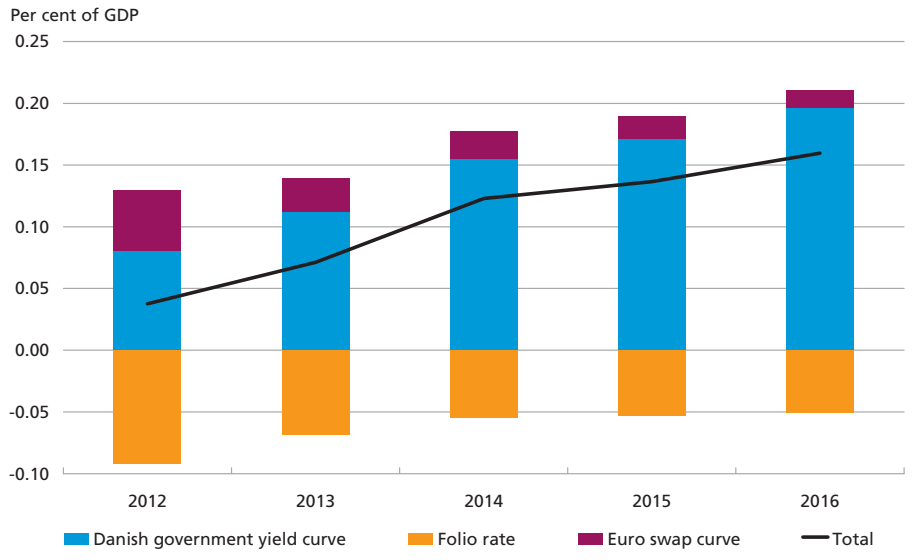
INTEREST COSTS ARE ROBUST TO NEGATIVE SHOCKS 8.3

Interest-rate increases are passed through to interest costs only slowly
The central government's sensitivity to interest-rate increases is low, cf. Chart 8.3.1. The chart illustrates the effects of a permanent increase in all interest rates from early 2012 on the central government's future interest costs. The bars show the breakdown of the total effect by the Danish government yield curve (loans in kroner and euro, T-bills and interest-rate swaps in kroner), the folio rate (interest on the central government account) and the euro swap curve (variable swap payments).

The height of the blue bars illustrates the effect of an isolated increase in Danish government yields of 100 basis points (given an unchanged current-account interest rate and euro swap curve). This corresponds to a scenario in which the credit standing of the Danish government comes under pressure, resulting in a widening of the Danish yield spread.

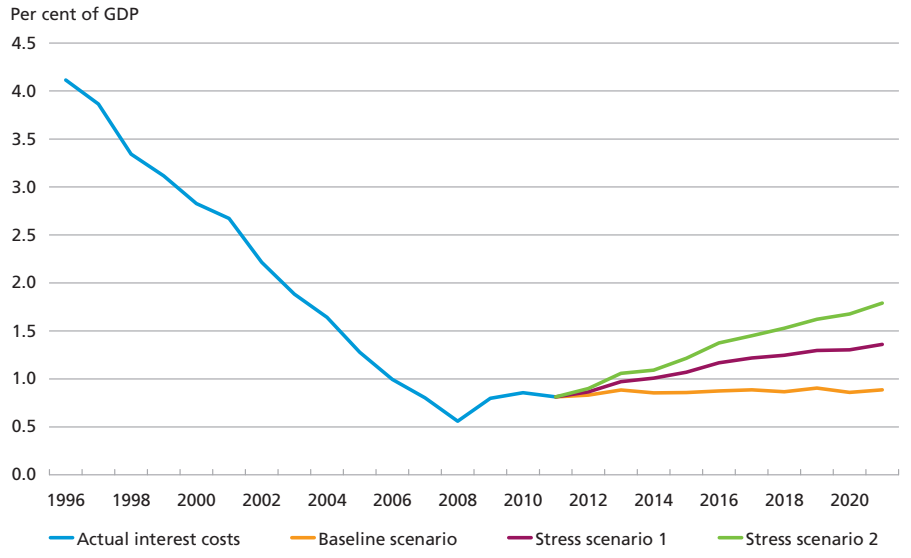
The effect of such an interest-rate shock is limited to around 0.08 per cent of GDP in 2012, rising to approximately 0.2 per cent of GDP in 2016. Hence, for given primary deficits, the central government's interest costs are extremely robust to rising interest rates. This reflects Denmark's low debt ratio and a strategic decision to hold relatively long-term liabilities.

PASS-THROUGH OF 1 PERCENTAGE POINT INCREASE IN INTEREST RATES BY FIXING TYPE Chart 8.3.1



Note: Based on same assumptions as Chart 8.2.2.

INTEREST COSTS IN BASELINE SCENARIO AND STRESS SCENARIO Chart 8.3.2



Note: Interest costs adjusted for interest income from re-lending. The projection of interest costs in the baseline scenario is based on the government balance in *Budget Outlook 3*, December 2011 and *Reform Agenda 2020 – funding Danish welfare* (only in Danish), Ministry of Finance, 2011. Stress scenario 1 is based on the government balance in the stress scenario in *Danish Economy, Autumn 2011*, The Economic Council. In the stress scenario, the average annual deterioration in the government balance relative to the base scenario amounts to 1.5 per cent of GDP. Stress scenario 2 is identical to stress scenario 1, but shows the 95th percentile for interest costs in the Cost-at-Risk model.

Moderately increasing interest costs in stress scenario

The above analyses are based on the assumptions in *Budget Outlook 3*, 2011, and *Reformpakken 2020 – kontant siking af Danmarks velfærd (Reform agenda 2020 – funding Danish welfare)* from 2011. A risk scenario assuming a considerably weaker development in government finances is described in *Danish Economy, Autumn 2011,* The Economic Council. Applying the assumptions for the primary balance from this stress scenario to the CaR model results in moderate increases in interest costs until 2021, cf. Chart 8.3.2.

In the baseline scenario, the expected interest costs account for less than 1 per cent of GDP throughout the period. In stress scenario 1, which is based on the government balance in the stress scenario in *Danish Economy, Autumn 2011*, The Economic Council, mean interest costs gradually increase to 1.4 per cent of GDP in 2021 as a result of increasing debt. Stress scenario 2 is identical to stress scenario 1, but shows the 95th percentile for interest costs in the Cost-at-Risk model. In this scenario interest costs increase from 0.9 per cent of GDP in 2012 to 1.8 per cent of GDP in 2021. Even in this stress scenario, interest costs account for only a

modest share of GDP both in an international comparison and relative to the previous situation in Denmark.

Together with the results for interest-rate pass-through in Chart 8.3.1, the stress analysis shows that the portfolio's relatively long time to maturity and the initially low debt ratio entail considerable robustness to both higher interest rates and a negative development in government finances.

CHAPTER 9

Credit Risk

At end-2011 the central government's swap portfolio consisted of 240 swaps with a total principal value of kr. 188 billion. A swap with a positive market value exposes the central government to the counterparty's ability to pay. At end-2011, the central government's credit exposure was kr. 2 billion, taking collateral pledged by counterparties into account.

Many of the central government's counterparties have been downgraded by the rating agencies in recent years, whereby they are required to pledge more collateral for a given market value of their swap portfolios. The reason is that the collateral requirement depends on the counterparty's credit rating.

The costs of concluding swaps with unilateral pledging of collateral have increased after the financial crisis and the new regulatory measures. Government Debt Management is currently investigating the consequences of switching from unilateral to bilateral pledging of collateral. The analysis is expected to be completed in 2012.

THE CENTRAL GOVERNMENT'S SWAP PORTFOLIO 9.1

Government Debt Management uses swaps for management of the central government's interest-rate and exchange-rate exposure. The swaps are either linked to specific loans or portfolio swaps.[1]

The central government concluded 15 swaps in 2011 with a total principal value of kr. 32 billion. At end-2011 the swap portfolio consisted of 240 swaps with a total principal value of kr. 188 billion, cf. Table 9.1.1.

2012 will see the maturing of swaps with a principal value of kr. 76 billion. As a starting point, no new portfolio interest-rate swaps will be concluded in 2012, and according to the plan the two foreign dollar loans that will mature will not be fully refinanced. Against this background, the swap portfolio is expected to be reduced considerably in 2012.

When a swap is concluded, its market value is zero, but over time the market value may become either positive or negative for the central government, depending on the development in interest and exchange rates, cf. Box 9.1. The market value of the central government's swap portfolio was kr. 11.9 billion at end-2011.

[1] The central government's use of swaps is described in more detail in *Danish Government Borrowing and Debt 2010*, Chapter 12.

CENTRAL-GOVERNMENT SWAP PORTFOLIO, END-2011 Table 9.1.1

	Number of swaps	Principal, kr. billion	Market value, kr. billion
Interest rate swaps for duration management			
Interest-rate swaps in kroner	93	25.6	2.8
Interest-rate swaps in euro	105	78.8	5.6
Swaps related to foreign loans			
Swaps in connection to foreign loans[1]	9	65.9	3.8
Other cross-currency swaps			
Kroner-euro and euro-kroner	10	8.9	0.0
Kroner-dollar [2]	23	8.7	-0.3
Total	240	187.8	11.9

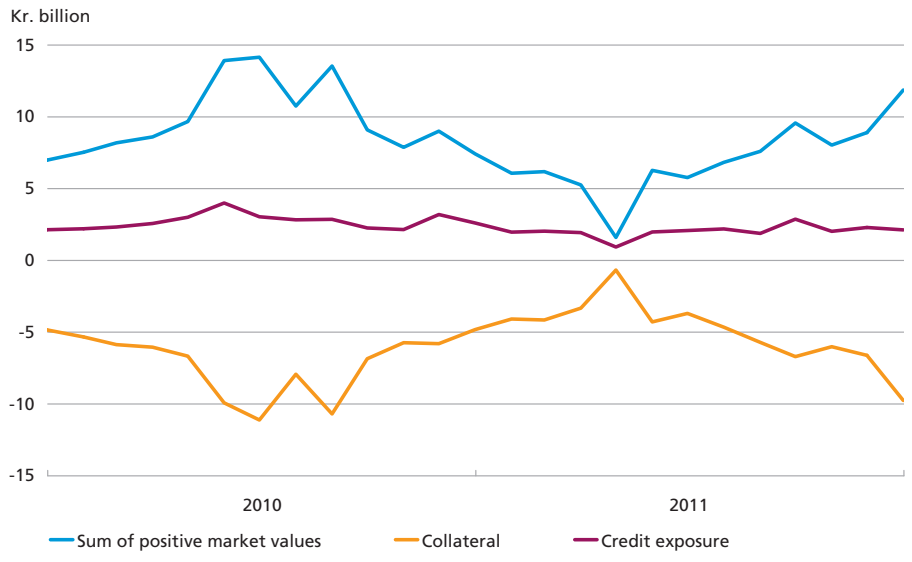
[1] For foreign loans in other currencies than euro, the loan proceeds are swapped to euro.
[2] In connection with re-lending to Danish Ship Finance.

MARKET VALUE OF THE CENTRAL GOVERNMENT'S SWAP PORTFOLIO Box 9.1

The central government uses interest-rate swaps to change the exposure from long to short duration. Consequently, the central government pays a short-term variable interest rate and receives a long-term fixed interest rate. The market value of the portfolio of interest-rate swaps thus increases when interest rates decline.

The central government uses cross-currency swaps for foreign loans in other currencies than euro in order to convert the exchange-rate risk on both interest payments and instalments to euro. As a result of the issuance of dollar loans, swaps where the government receives dollar and pays euro, account for a large share of the cross-currency swap portfolio. The market value of the portfolio of cross-currency swaps thus increases when the dollar rises.

CREDIT EXPOSURE ON THE CENTRAL-GOVERNMENT SWAP PORTFOLIO Chart 9.2.1



Note: The collateral value is indicated with a negative sign.

CREDIT EXPOSURE ON CENTRAL-GOVERNMENT COUNTERPARTIES 9.2

Credit risk is the risk of a financial loss as a consequence of a counterparty's default on its payment obligations. A swap with a positive market value is an asset for the central government and exposes it to the counterparty's ability to pay.

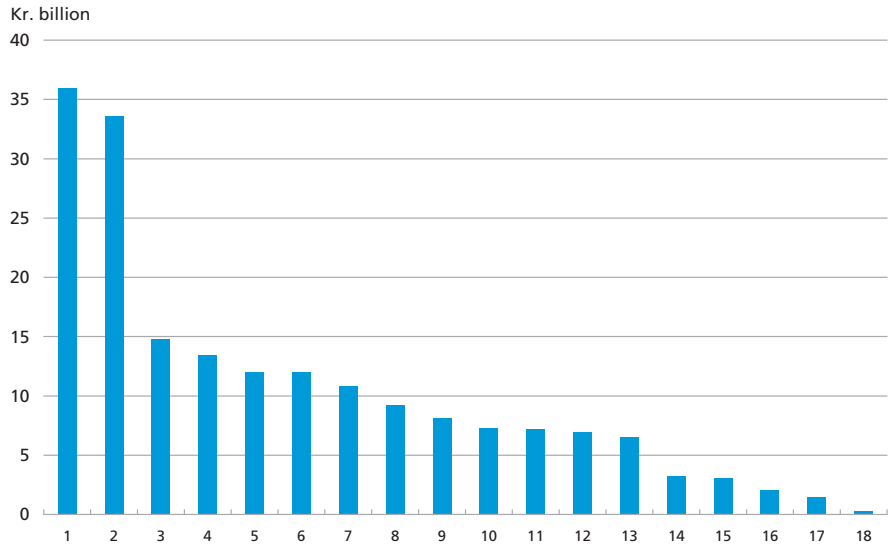
The credit risk is minimised by only concluding swaps with counterparties with high credit ratings. In order to limit any loss on default, swaps can only be transacted with counterparties that have concluded collateral agreements.[1]

Relatively constant credit exposure for the central government in 2011

The credit exposure on the swap portfolio is calculated as the sum of the market values for each counterparty with a positive market value, less the collateral pledged by the counterparties. Despite large fluctuations in the market value of the swap portfolio, the central government's credit exposure remained relatively constant over the year, cf. Chart 9.2.1. This reflects that the fluctuations in market value have been offset by changes in the collateral. The credit exposure was kr. 2 billion at end-2011.

[1] The central government's credit risk management principles are described in more detail on the Government Debt Management website, www.governmentdebt.dk.

THE SWAP PORTFOLIOS PRINCIPAL BROKEN DOWN BY COUNTERPARTIES, END-2011 Chart 9.2.2



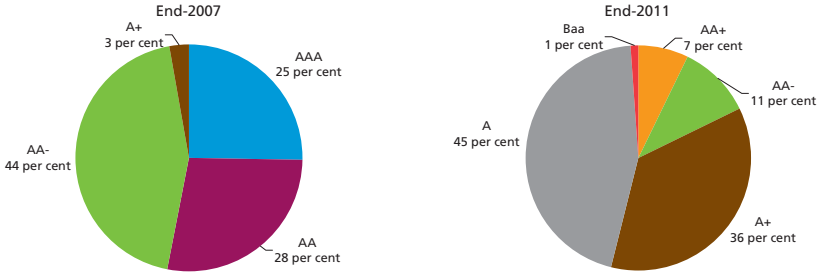
Note: The counterparties have been anonymised.

The credit quality of swap counterparties has decreased

The central government's swap portfolio is distributed on 18 counterparties, cf. Chart 9.2.2. While interest-rate swaps have been concluded with all counterparties, swaps related to foreign loans are concentrated on fewer counterparties. By making swap transactions with many counterparties, the exposure to the individual counterparty is reduced. The central government has an ongoing dialogue with prospective counterparties and expects to be able to conclude swaps with at least two new counterparties in 2012.

The rating agencies have downgraded many of the central government's counterparties in recent years. At the end of 2007, the predominant share of the swap portfolio had been concluded with counterparties with ratings of at least AA-, while this share had declined to only 18 per

THE SWAP PORTFOLIO PRINCIPAL BROKEN DOWN BY COUNTERPARTY RATING Chart 9.2.3



Note: The lowest rating at Fitch Ratings, Moody's or Standard & Poor's is used.

cent by end-2011, cf. Chart 9.2.3. Due to their lower ratings, the counterparties are required to pledge more collateral for a given market value, as the collateral requirement depends on the counterparty's credit rating.

CREDIT RISK MANAGEMENT IN THE NEAR TERM 9.3

The coming years will see the introduction of new international regulation aimed at reducing systemic risk in the banking system. The regulatory proposals contain e.g. requirements for clearing of standardised derivatives via a central counterparty, CCP[1], enhanced transparency via reporting of derivatives trades to trade repositories and higher capital requirements for trades not subject to CCP clearing. As a result of the upcoming regulation, central governments will need to reconsider their credit risk management principles, including the use of unilateral pledging of collateral and CCP clearing.[2]

The central government is considering bilateral collateral agreements

The central government's collateral agreements are unilateral. This means that the central government's swap counterparties pledge collateral if the market value of the swap portfolio is positive for the central government, but the central government does not pledge collateral to the counterparty if the market value is positive for the counterparty. Unilateral agreements have been the market standard for government debt offices for many years.

Swaps with unilateral pledging of collateral increase the counterparties' liquidity and capital requirement compared with bilateral pledging of collateral, cf. Box 9.2. Should the central government switch from unilateral to bilateral pledging of collateral, this could lead to better swap prices due to lower liquidity and capital costs for the counterparties.

Against this background, Government Debt Management is looking into the operational, liquidity and risk-related consequences of switching to bilateral pledging of collateral. The analysis is expected to be completed in 2012.

Clearing via central counterparties, CCPs

In both the USA and Europe there are proposals for financial institutions to apply CCP clearing to standardised derivatives.[3] The proposals do not

[1] CCPs and derivatives are described in more detail in Central counterparties in the derivatives markets, *Monetary Review*, 3rd Quarter 2010, Danmarks Nationalbank.

[2] Regulatory reform of OTC derivatives and its implications for sovereign debt management practices, *OECD*, November 2011.

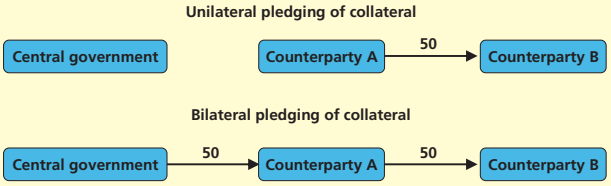
[3] Dodd-Frank Wall Street Reform and Consumer Protection Act (Dodd-Frank) in the USA and European Market Infrastructure Regulation, EMIR, in the EU.

LIQUIDITY AND CAPITAL CONDITIONS FOR BILATERAL AND UNILATERAL PLEDGING OF COLLATERAL — Box 9.2

A counterparty transacting a swap with the central government will often hedge its risk. The chart below illustrates an example where the central government has transacted a swap with counterparty A, which has simultaneously transacted an opposite swap with counterparty B. The swap transacted with the central government is positive for counterparty A at a value of 50.

If the swap with the central government is subject to unilateral pledging of collateral, counterparty A receives no collateral from the central government, but has to pledge collateral to counterparty B, cf. the chart. If counterparty A's swap with the central government is subject to bilateral pledging of collateral, counterparty A will be able to pledge the collateral received from the central government as collateral to counterparty B, cf. the chart.

The liquidity risk that counterparty A assumes by transacting a swap subject to unilateral pledging of collateral entails a higher liquidity requirement for counterparty A. Moreover, under Basel III, provisions must be made for uncollateralised sovereign exposures.



define standardised swaps. Central governments are not covered by the requirement for CCP clearing in the European Commission's regulation proposal from the autumn of 2010.

Central counterparties can contribute to reducing the systemic risk associated with derivatives trading by reducing the total credit exposure by increasing access to netting between counterparties. The reason is that all concluded swaps can be netted multilaterally at the CCP rather than bilaterally between the individual swap counterparties.

If it is not possible to settle all swaps at one CCP, CCP clearing can, in practice, increase the total exposure, for example if the central government has an interest-rate swap with a positive market value and a currency swap with a negative value with the same counterparty. The exposures may be offset in bilateral netting, while the two exposures cannot be netted out if only interest-swaps are settled at a CCP.

Special-Topic Section

CHAPTER 10

Inflation-Linked Bonds

In the 1st half of 2012, the Danish government will open an inflation-linked bond maturing in 2023 as a supplement to the nominal on-the-run issues. The new bond will be linked to the Danish consumer-price index and will have characteristics matching the international market standard.

This chapter elaborates on the background to expanding the on-the-run issues. In addition, the chapter describes the strong international growth in the market for inflation-linked government bonds and discusses how inflation-linked debt can contribute to a more diversified government debt portfolio. With the opening of the inflation-linked bond, it will be possible to calculate market-based inflation expectations for Denmark. This chapter explains why such indicators should be interpreted with caution.

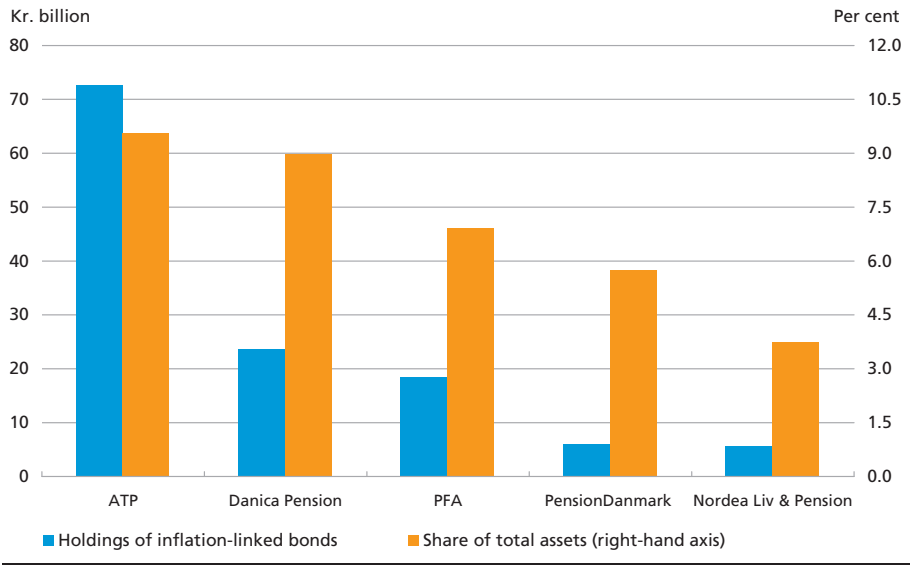
INFLATION-LINKED BONDS INCREASE THE INVESTOR BASE 10.1

By supplementing the on-the-run issues with an inflation-linked bond, the central government can expand its investor base. The reason is that institutional investors typically split up their investments into a number of separate asset classes. If the government issues instruments within several of these asset classes, the aggregate potential demand for Danish government securities will increase.

Institutional investors often see assets with a nominal return that is closely linked to changes in the price level as a separate asset class. Within this asset class, they invest in e.g. properties and infrastructure. Inflation-linked bonds are also a significant element of such portfolios.

The transition to pension schemes without nominal guarantees in parts of the Danish pension sector has, to some degree, changed the focus of investment strategies. Management of the pension sector's growing assets is now to a large extent aimed at ensuring the long-term purchasing power of pensions rather than achieving specific nominal returns. As a result, inflation-linked assets meet a rising structural demand from the Danish pension sector, among others, and Government Debt Management has received various indications of investor interest in krone-denominated inflation-linked bonds.

HOLDINGS OF INFLATION-LINKED BONDS BY DANISH PENSION FUNDS Chart 10.1.1



Note: End-2010 market values.
Source: Annual reports, The Danish Insurance Association and own calculations.

The largest Danish pension companies held inflation-linked bonds worth kr. 127 billion at end-2010, cf. Chart 10.1.1. For ATP (Labour Market Supplementary Pension Fund) and the three largest private-sector companies, inflation-linked bonds accounted for between 5 and 10 per cent of total assets. These companies' holdings include Danish inflation-linked mortgage bonds as well as foreign inflation-linked government bonds.

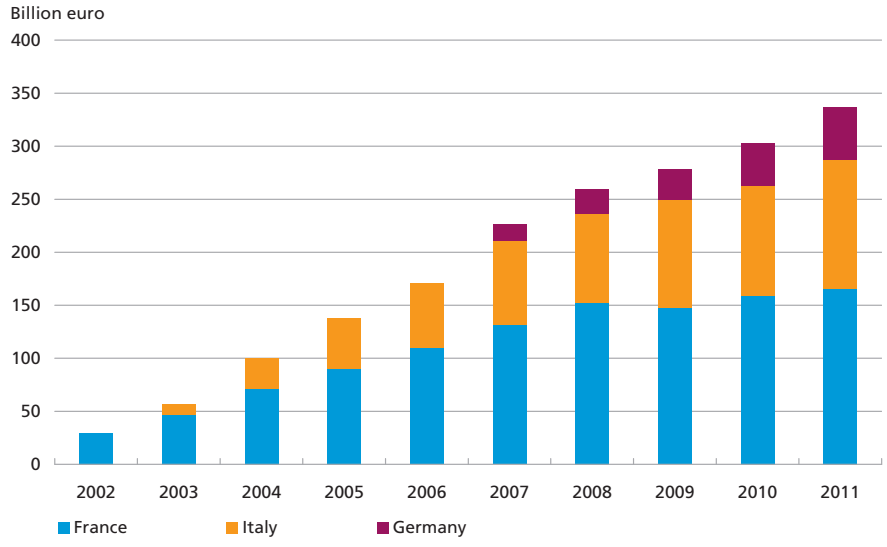
By issuing inflation-linked long-term bonds the central government can attract part of this increased structural demand from stable long-term investors. This contributes to the robustness of the government debt policy and helps to keep the government's long-term borrowing costs at a low level.

Pricing of inflation-linked bonds

The central government primarily issues inflation-linked bonds in order to secure a broad and stable investor base. Besides this, the advantages of inflation-linked bonds – seen from a narrow cost perspective – depend on two opposite factors. On the one hand, investors are typically willing to pay a certain inflation risk premium if they are guaranteed a real return. Viewed in isolation, this will reduce the government's interest costs relative to nominal issuance. On the other hand, lower liquidity in inflation-linked bonds will tend to increase interest costs.

Government Debt Management aims for regular issuance in the inflation-linked bond and establishment of a market-maker arrangement. This will help to reduce the spread between the liquidity premia on inflation-

INFLATION-LINKED GOVERNMENT BONDS OUTSTANDING Chart 10.2.1



Note: Includes inflation uplift.
Source: The countries' debt management offices.

linked bonds and nominal issues. Moreover, demand is expected predominantly to come from investors with a long-term horizon. This means that the required compensation for any lower liquidity is limited. The same pattern is seen in the pricing of the nominal 30-year government bond.

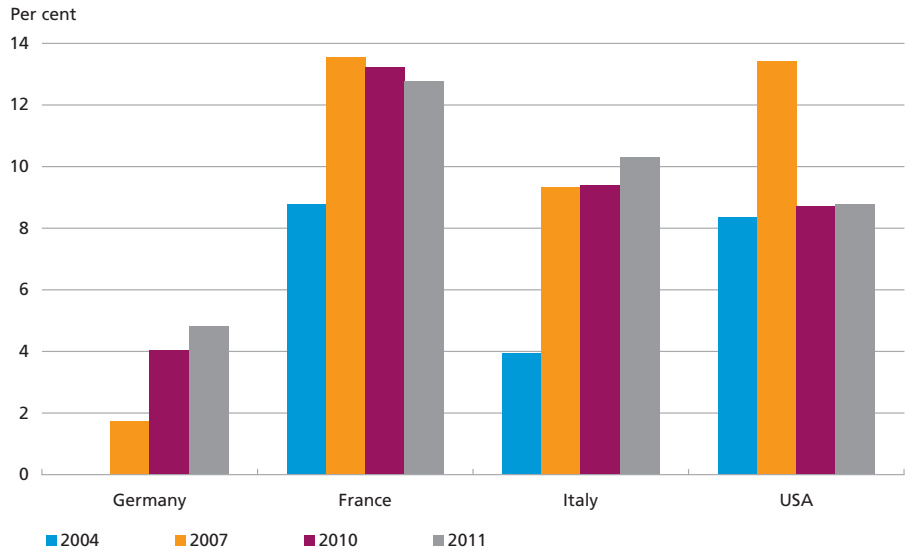
INFLATION-LINKED GOVERNMENT BONDS IN AN INTERNATIONAL PERSPECTIVE 10.2

Significant growth over the past decade

The outstanding volume of inflation-linked government bonds in the euro area has grown strongly in the last 10 years, cf. Chart 10.2.1. At end-2011, the total outstanding volume of inflation-linked government bonds in the largest three euro area member states was 337 billion euro, which is more than 10 times the volume at end-2002.[1] At end-2011, inflation-linked bonds made up 13 per cent of the total outstanding volume of domestic government bonds in France, 10 per cent in Italy and 5 per cent in Germany.[2] In a number of non-euro area member states inflation-linked issues also constitute a significant share of the government debt portfolios. Both in the UK and in Sweden, inflation-linked bonds make up around one fourth of the outstanding volume of government bonds. Outside Europe, especially the USA, Brazil, Japan, Canada and Israel have considerable outstanding volumes of inflation-linked government bonds.

[1] Previously, a fourth euro area member state, Greece, also issued inflation-linked government bonds.
[2] For the purpose of calculating shares, inflation-linked bonds have been compiled at indexed value.

INFLATION-LINKED BONDS' SHARE OF OUTSTANDING GOVERNMENT BONDS Chart 10.2.2



Note: End-year figures. Only domestic fixed-rate bonds are included. Shares are computed including inflation uplift.
Source: The countries' debt management offices.

The financial crisis has led to lower growth in the outstanding volume

In the years after the financial crisis peaked in 2008, growth in the outstanding volume of inflation-linked bonds has been lower despite the strong increase in government issuance in general. This has been particularly pronounced in the United States, while the share of total issuance has been more or less unchanged for the largest euro area issuers, cf. Chart 10.2.2.

The generally stagnant share of inflation-linked issues reflects that many issuers have concentrated issuance in the most liquid segments in view of the worsened market conditions. As a result, some issuers have increased their shares of short-term nominal instruments. Denmark has deviated from this general trend. The average time to maturity of the bond portfolio has in fact increased as a result of considerable issuance in the 30-year bond. This reflects that the Danish government can issue in all maturity segments on attractive terms.

Inflation-linked bonds are normally issued at long maturities since investors typically use them to hedge long-term liabilities. This means that the issuer's long-term credit rating is even more significant to pricing than it is for nominal bonds.[1] The larger budget deficits in the wake of

[1] Besides the long maturities per se, there is a shift of payments on inflation-linked bonds towards the maturity date. The reason is that nominal interest payments are always lower initially for an inflation-linked bond than for a nominal bond with the same maturity. Conversely, at maturity, payments are higher for an inflation-linked bond due to the inflation uplift of the principal.

the financial crisis have weakened the credit ratings of many sovereign issuers, which has made it relatively more expensive for some countries to issue long-term securities, including inflation-linked bonds.

The Danish market for inflation-linked bonds

In the 1980s and 1990s there was considerable issuance of inflation-linked mortgage bonds for financing e.g. subsidised housing in Denmark.[1] In 1998, the outstanding volume of inflation-linked bonds accounted for 9 per cent of the total Danish bond market. From 1999, inflation-linked bonds were no longer exempt from real-interest tax, and issuance ceased. Trading in the remaining outstanding volume of approximately kr. 94 billion[2] is very modest.

Issuance of an inflation-linked Danish government bond gives investors access to an instrument for hedging inflation risk which is more liquid and which observes the international market standard for inflation-linked bonds. Moreover, issuance of an inflation-linked government bond is expected to support market developments more broadly, including the market for krone-denominated inflation swaps.

THE MARKET STANDARD FOR INFLATION-LINKED BONDS 10.3

The Danish inflation-linked bond will observe the international market standard – known as the Canadian model. In Europe, countries such as Germany, France, Italy and the UK issue inflation-linked bonds observing this format. The main characteristics of the international standard are as follows:

- The bonds are bullet loans quoted without accrued interest and without inflation adjustment. The usual formula for conversion from price to yield to maturity as known from nominal bonds can be applied directly. This produces the real yield to maturity.
- On calculation of the daily reference index, a delay is applied relative to the calculation date, cf. Box 10.1. The delay, which for most issuers today is three months, ensures that the necessary statistical releases are always available well before the calculation of the reference index. The relatively short delay also ensures a close link between price developments during the maturity of the bond and the actual adjustment of the principal. The daily reference index is calculated by means of linear interpolation between the consumer-price index values published every month.

[1] See J. V. Andersen and J. Gyntelberg, Inflation-linked mortgage bonds, Danmarks Nationalbank, *Monetary Review*, 1st Quarter 1999.
[2] Market value, end-2011, cf. *Securities statistics*, Danmarks Nationalbank.

CALCULATION OF THE REFERENCE INDEX AND THE INFLATION-ADJUSTED PRINCIPAL — Box 10.1

Calculation of interest payments and redemptions on the Danish index-linked bond comply with the international market standard and are based on the inflation-adjusted principal. The interest accrual convention is actual/actual (ISMA). The inflation-adjusted principal for a given value date is calculated by multiplying the nominal principal by an "index coefficient". The latter is defined as the relationship between the value of a reference index on two days: the value date and the date when indexation commences (15 November 2011).

The reference index for a given value date is calculated using the following formula:

$$\text{Reference index} = CPI_{m-3} + \frac{(t-1)}{D_m} \times (CPI_{m-2} - CPI_{m-3}) \text{, where}$$

- m refers to the value date's month (e.g. Nov. if the value date is 15 Nov.).
- D_m indicates the number of days in month m (e.g. 30 if the value date is 15 Nov.)
- t indicates the day of the month for the value date (e.g. 15 for 15 Nov.)
- CPI_{m-2} is the consumer price index for month m-2 (Sep. if m is Nov.)
- CPI_{m-3} is the consumer price index for month m-3 (Aug. if m is Nov.)

Statistics Denmark publishes the consumer price index for a given month on the 10th (or the first business day after the 10th) of the next month.

Hence, the index coefficient for the value date is given by:

$$\text{Index coefficient}_{\text{value date}} = \frac{\text{Reference index}_{\text{value date}}}{\text{Reference index}_{15\text{ Nov. }2011}} = \frac{\text{Reference index}_{\text{value date}}}{126.08667}$$

Both $\text{Reference index}_{\text{value date}}$ and $\text{Reference index}_{15\text{ Nov. }2011}$ ("the base index") are rounded to 5 decimal places before the index coefficient is calculated. The index coefficient is also rounded to 5 decimal places before it is multiplied by the notional principal. Interest payments are calculated as the fixed (real) coupon rate multiplied by the inflation-adjusted principal. Redemption on maturity equals the inflation-adjusted principal unless the index coefficient is below 1 at this date. In that case the principal is repaid at par ("deflation floor").

Deflation floor

In keeping with the market standard, the Danish inflation-linked bond will have a deflation floor. This ensures that the principal repaid to the investor never falls below par. The deflation floor relates to repayment of the principal only, not to interest payments.

IMPLICATIONS FOR THE RISK PROFILE OF THE GOVERNMENT DEBT 10.4

Government Debt Management uses analyses based on the Cost-at-Risk model, among others, to quantify the exposure of the government debt

to changes in the nominal yield curve, cf. Chapter 8. The market risk on government debt is managed by using a band for its average duration. The introduction of inflation-linked bonds could, in principle, affect the risk profile of the government debt. In Denmark's case, with the inflation-linked bond being issued as a supplement to the nominal securities, the effect on the risk profile will be modest, however.

Inflation-linked bonds can reduce the government's aggregate interest-rate risk

The national accounts operate with a nominal definition of costs. Issuance of inflation-linked bonds increases the *nominal* interest-rate risk compared with issuing fixed-rate bonds with the same maturities. The reason is that the central government's interest costs on the inflation-linked part of the debt are variable in nominal terms – like variable-rate debt.

On the other hand, in a broader risk perspective with focus on interest costs relative to GDP, inflation-linked debt may contribute to reducing the government's total interest-rate risk. This is because inflation-linked debt dampens fluctuations in the debt ratio as nominal GDP and the inflation-linked part of the debt are affected symmetrically by price developments.

Risk properties of inflation-linked bonds depend on the type of shock

If the Cost-at-Risk analysis is generalised to include not only interest costs, but also the central government's other budget items ("Budget-at-Risk"), inflation-linked bonds may both dampen and amplify fluctuations in the government budget balance. The impact depends on whether the economy is hit by demand or supply shocks.

In the event of a negative demand shock, lower inflation – and hence reduced interest costs on the inflation-linked part of the debt – will go hand in hand with relatively low economic growth and thus deterioration of the primary budget balance. This means that interest costs on the inflation-linked bond are low when the government's ability to pay is low, and vice versa. In this way, inflation-linked bonds have a stabilising effect on the budget. In theory this has favourable macroeconomic effects, as the need for welfare-reducing fluctuations in tax rates, etc. diminishes.[1]

Supply shocks, such as an oil crisis, have the opposite effect. Negative supply shocks impede economic growth and have an adverse effect on public finances. At the same time, interest payments on inflation-linked bonds increase because prices rise. All other things being equal, this amplifies fluctuations in the government budget balance.

[1] See A. Missale, *The fiscal insurance approach to debt management, 2011*, for an overview of recent literature on the interaction between fiscal and government debt policy.

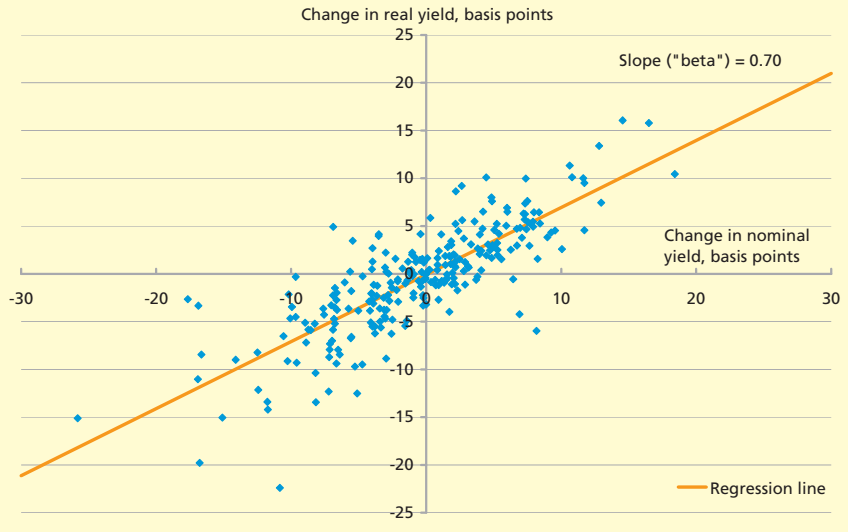
CALCULATION OF THE DURATION OF INDEX-LINKED BONDS — Box 10.2

The nominal duration of an inflation-linked bond cannot immediately be calculated. The reason is that the nominal duration indicates how much the market value of a bond declines if the nominal yield rises. A change in the nominal yield may reflect changes in both inflation expectations and real yields. Only changes to the real yield affect the price of the index-linked bond, and hence price sensitivity to changes in nominal yields is not well defined.

A frequently used solution to this problem is to estimate the empirical covariation between changes in real and nominal yields for a given maturity. In this way a measure is estimated (often referred to as "beta") indicating how much the real yield has changed historically for each basis point change in the nominal yield. An estimated nominal duration for the index-linked bond is then obtained by multiplying the real duration of the bond by the estimated value of beta. The real duration is calculated in the same way as the nominal duration of a nominal bond.

Using daily yield changes for German government securities on all trading days in 2011, an estimated beta value of 0.7 is obtained for the index-linked bond maturing in 2020. A value of less than 1 reflects that part of the change in the nominal yield is typically attributable to changes in inflation expectations. Since the duration for the real yield on the 2020 bond was 7.7 years at end-2011, the estimated nominal duration was 5.4 years. However, this method is sensitive to the choice of data period and frequency, so the estimated value of beta is subject to some uncertainty.

ESTIMATION OF BETA FOR THE GERMAN 2020 INFLATION-LINKED BOND



Note: Changes in yields are based on yield to maturity on the German inflation-linked government bond maturing in April 2020 and the German nominal government bond maturing in July 2020. R2=0.66.
Source: Barclays Capital and own calculations.

The relative strengths and frequencies of future demand and supply shocks are unknown. This suggests that a diversification gain can be achieved by issuing both nominal and inflation-linked government securities to the extent that the issuance requirement is sufficient to ensure liquidity in both instruments. A recent Canadian analysis finds that a certain share of inflation-linked bonds reduces the overall interest-rate risk.[1]

Calculation of the duration of inflation-linked bonds

In future, the government debt portfolio will comprise both nominal and inflation-linked bonds. In addition to the Cost-at-Risk analyses, a number of aggregated risk indicators are applied to the portfolio, including its overall duration.

In the coming years the Danish government debt portfolio will still predominantly comprise nominal bonds, so it is natural to continue to calculate the duration on the basis of a nominal concept of duration. In order to calculate an overall duration that also includes inflation-linked bonds, it is necessary to estimate the nominal duration of inflation-linked bonds, cf. Box 10.2.

MARKET-BASED INFLATION EXPECTATIONS 10.5

Interpretation of market-based indicators of inflation expectations

The yield on inflation-linked bonds is often used as input when deriving market-based indicators of inflation expectations. A frequently used indicator, the "break-even inflation rate", can be calculated by subtracting the yield to maturity for an inflation-linked bond from the yield to maturity for a nominal government bond with a comparable maturity, cf. Chart 10.5.1. In future it will also be possible to calculate such indicators for Denmark.

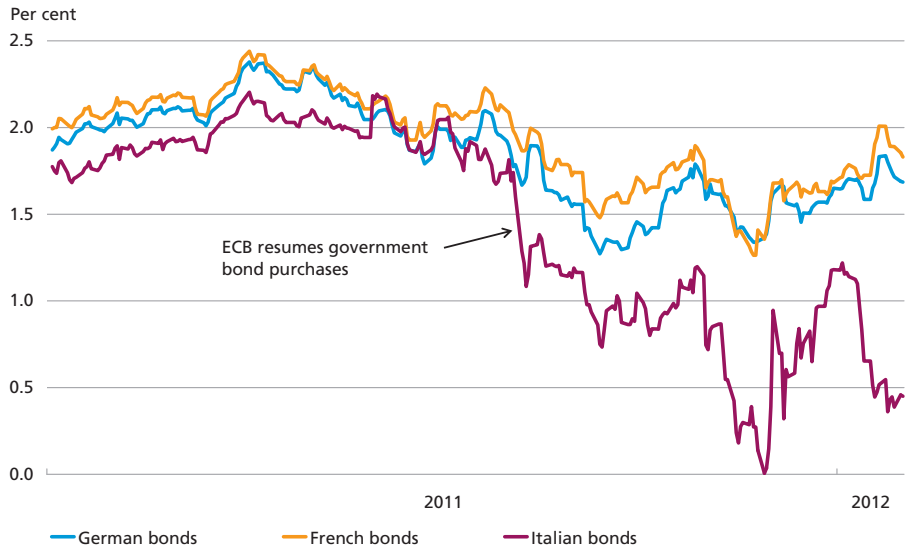
Indicators of inflation expectations are frequently used to decompose nominal yield changes into changes in real yields and inflation expectations, respectively. For example, the European Central Bank, ECB, and the Bank of England regularly report their own indicators for market-based inflation expectations derived from government bonds and inflation swaps.

Break-even inflation rates are affected by market distortions

However, there are a number of methodological complications linked to interpreting break-even inflation rates purely as inflation expectations.

[1] See D. Bolder and S. Deeley, *The Canadian debt-strategy model: an overview of the principal elements*, Bank of Canada discussion paper No. 3, 2011.

10-YEAR BREAK-EVEN INFLATION RATES FOR THE EURO AREA Chart 10.5.1



Note: Based on bonds maturing in 2020 (Germany and France) and 2021 (Italy). The inflation-linked bonds used are all indexed to the euro area HICP excl. tobacco.
Source: Barclays Capital and own calculations.

Firstly, the yield spread between nominal and inflation-linked bonds also includes an inflation risk premium. This is an excess return required by market participants in return for the exposure to fluctuations in the future purchasing power of a nominal claim.[1]

Secondly, temporary price distortions between nominal and inflation-linked bonds are also reflected in break-even inflation rates. This is most pronounced in periods of significant market stress. In such situations, strong demand for the most liquid benchmark bonds may contribute to sharp declines in nominal yields for the most creditworthy issuers. This may have contributed to the substantial decline in break-even inflation in Germany in the 3rd quarter of 2011. In such brief periods of extreme demand for nominal securities, it may be appropriate for the issuers to mainly issue nominal bonds.

An even stronger effect has been visible in the break-even inflation derived from Italian government securities, which fell strongly in the wake of the ECB's resumption of its purchases of (nominal) government bonds

[1] In North America the term "inflation compensation" is often used instead of break-even inflation. This terminology emphasises that the difference between nominal and real yields reflects the overall compensation for taking on inflation risk. The compensation includes both the expected inflation and a risk premium. Recent studies have generally indicated that the inflation risk premium has been positive, but relatively modest in the last few years. See e.g. J.-A. Gárcia and T. Werner, *Inflation risks and inflation risk premia*, ECB working paper No. 1162, 2010, and the references therein.

in August 2011.[1] The effect of distortions on break-even inflation is parallel in these two cases, even though the background to the "excessive demand" for nominal securities is not the same.

For countries that have issued sufficiently many inflation-linked bonds, a full inflation-linked zero-coupon curve can be estimated. Compared with break-even inflation derived from two individual bonds, a full curve can improve the precision of the estimates in terms of differences in maturities, credit risk premia and the seasonality of consumer prices.[2]

Since all three indicators of inflation expectations shown in Chart 10.5.1. refer to the same underlying price index (HICP for the euro area) and to comparable maturities (approximately 10 years), it is obvious that other factors than the fundamental inflation expectations influence break-even inflation rates. Indicators of inflation expectations derived from the bond market should therefore be interpreted with caution.

[1] Finally, rising government credit risk premia may contribute to lower break-even inflation. This is attributable to the backloaded nature of the payments on inflation-linked bonds, as described above. If the credit risk premium is rising over the maturity of the bond, the real yield on the inflation-linked bond is more strongly affected when the credit risk premium rises. This leads to lower break-even inflation. This effect can be eliminated by comparing nominal and real yield curves rather than yields to maturity for individual securities.

[2] See J. Ejsing, J.-A. Gárcia and T. Werner, The term structure of euro area break-even inflation rates: the role of seasonality, *ECB working paper No. 830*, 2007, and R. Gürkaynak, B. Sack and J. Wright The TIPS yield curve and inflation compensation, *American Economic Journal: Macroeconomics 2(1)*, January 2010, pp. 70-92.

Appendices

Main Principles of Government Debt Management

OBJECTIVES AND RESPONSIBILITIES A.1

Objectives

The overall objective of the government debt policy is to cover the central-government financing requirement at the lowest possible long-term borrowing costs, while taking the degree of risk into account. Furthermore, the aim is to support a well-functioning domestic financial market and to facilitate the central government's access to the financial markets in the longer term.

The crisis in the European sovereign debt markets has emphasised the importance of ensuring government access to the capital markets. Government Debt Management focuses on maintaining a low refinancing risk by meeting the financing requirement well in advance, ensuring a large investor base for government issues and by having substantial liquidity reserves.

Responsibilities

Government Debt Management manages the central-government borrowing within the following areas:

Preparation of issuance strategy and Issuance of government securities

- Preparation of issuance strategy on the basis of the government budget forecast from the Ministry of Finance.
- Issuance of domestic government securities to cover the central government's domestic financing requirement.
- Issuance of foreign government securities in order to maintain an adequate foreign-exchange reserve.
- Supporting a well-functioning market for government securities, e.g. through agreements with primary dealers in Danish government securities for ongoing price quotation (market making).

Risk management

- Analysis and management of risk on the central-government debt portfolio. The risk on central-government financial assets and liabilities is managed on a consolidated basis.

- Credit risk management in connection with interest-rate and currency swaps.

Management of government funds, re-lending and government guarantees
- Management of the assets of the three government funds.
- Management of government guarantees and re-lending to a number of government-owned companies.
- Management of bilateral loans to Iceland and Ireland.

Advisory services and international cooperation
- Advising the Ministry of Finance concerning the central government's other financial risks, e.g. interest-rate risk in relation to the financing of subsidised housing.
- Advising ministries and agencies concerning financial regulation.
- Advising other government debt management offices.
- Participation in international cooperation in the area of government debt management, including in the EU, OECD, IMF and the World Bank.

Contacts with credit rating agencies and investors
- Contacts with credit rating agencies.
- Information to investors on the government debt policy and financial and economic conditions.

STRUCTURE OF GOVERNMENT DEBT MANAGEMENT A.2

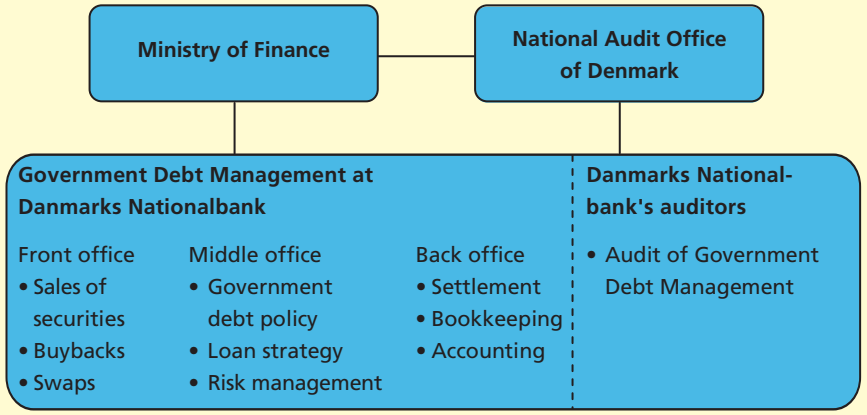
The Minister of Finance is authorised by law to raise government loans, cf. Box A.1. In addition, the Minister of Finance holds the overall political responsibility for central-government borrowing and debt, including relations with the Folketing (Parliament).

ACT ON THE AUTHORITY TO RAISE LOANS ON BEHALF OF THE CENTRAL GOVERNMENT Box A1

Under the Danish Constitution, debt can be issued by the central government on a statutory basis only. The statutory basis for central-government borrowing is set out in the *Act on the authority to raise loans on behalf of the central government*[1], which authorises the Minister of Finance to raise loans on behalf of the central government for a maximum of kr. 2,000 billion. This amount is the upper limit for domestic and foreign gross debt. In connection with current debt management, the Minister of Finance is moreover authorised to enter into swap agreements and other financial transactions. The central government's costs of borrowing, i.e. interest costs and capital losses on issues and buy-backs, must be appropriated under the annual finance acts.

[1] Act no. 1079 of 22/12/1993 as amended, www.governmentdebt.dk.

STRUCTURE OF GOVERNMENT DEBT MANAGEMENT Box A.2



In most countries, management of the central-government debt is organised under the ministry of finance or a separate government debt management office. In Denmark, the central-government debt is managed by Government Debt Management at Danmarks Nationalbank on behalf of the Ministry of Finance. Its tasks and organisation correspond to those of government debt management offices in other countries. The distribution of responsibilities is specified in the *Agreement on the division of work in the area of government debt between Danmarks Nationalbank and the Ministry of Finance*.[1]

The framework for management of the assets of the Social Pension Fund is laid down in the *Regulations governing the management of the Social Pension Fund*.[2] Tasks undertaken by Government Debt Management in relation to the management of the assets of the other two government funds and the management of re-lending and government guarantees are specified in separate agreements.

The internal structure of Government Debt Management reflects international standards and recommendations. Government Debt Management is divided into front, middle and back offices, cf. Box A.2. Separation of functions and clear procedures reduce operational risks and ensure a clear distribution of responsibilities. This facilitates internal control. A well-defined division of responsibilities also ensures that tasks related to the management of government debt are undertaken independently of other activities at Danmarks Nationalbank.[3]

[1] See the Agreement at www.governmentdebt.dk.
[2] See the Regulations at www.governmentdebt.dk
[3] Cf. Guiding principles for Managing Sovereign Risk and High Levels of Public Debt, www.imf.org/external/np/mcm/Stockholm/principles.htm.

The middle office formulates the general principles concerning government debt policy and prepares proposals for borrowing strategies and risk management. The middle office also lays down monthly guidelines for the front office with regard to issuance, buy-backs and swap transactions in accordance with the agreed strategies. In addition, the middle office undertakes the overall management of re-lending and government guarantees, participates on the Board of the Social Pension Fund and has an advisory role regarding the financing of subsidised housing.

The front office is responsible for the operational element of the government debt policy within the framework of the monthly guidelines. This applies to e.g. sale of government securities, buy-backs and swap transactions. It also determines market terms for re-lending.

The back office settles payments concerning central-government debt, including servicing of debt and swaps. It also prepares the national accounts together with the Danish Agency for Governmental Management under the Ministry of Finance.

Government Debt Management is audited by Danmarks Nationalbank's auditors on behalf of Rigsrevisionen (the national audit office of Denmark). Danmarks Nationalbank's auditors ascertain that the accounts of Government Debt Management give a true and fair view, i.e. that they are without significant errors and omissions. Rigsrevisionen may assess whether the funds received by Government Debt Management are applied in the best possible way. The results of its investigations are published at www.rigsrevisionen.dk.

GOVERNMENT DEBT MANAGEMENT STRATEGY A.3

The strategy for management of central-government debt is agreed at quarterly meetings between the Ministry of Finance and Government Debt Management on the basis of a strategy proposal prepared by Government Debt Management. The Ministry of Finance authorises Government Debt Management to implement the agreed strategy, including the central government's issuance strategy and risk management.

In December, the overall strategy for the following year is determined. At the three subsequent quarterly meetings, Government Debt Management reports on the implementation of the strategy and any adjustments of the overall strategy for the year are adopted.

The government debt strategy is announced to the market immediately after the government debt meetings in June and December. The strategy is assessed on an ongoing basis in order to ensure the best possible fulfilment of the objectives, and to ensure that Danish government debt policy

complies with international standards formulated by the OECD, the IMF and the World Bank.

DOMESTIC AND FOREIGN FUNDING RULES A.4

The Danish government and Danmarks Nationalbank have agreed on the framework for the distribution and magnitude of the central government's domestic and foreign borrowing. The domestic and foreign funding rules[1] support the separation of fiscal and monetary policy.

Domestic borrowing

Under the domestic funding rule, the central government borrows in kroner to cover its current deficit and redemptions on the domestic debt.

The central government may continue to issue government securities even though the issuance requirement for the year has been reached. In that case, it will begin to finance the following year's borrowing requirement so that the central government's refinancing risk for the coming year will be reduced.

Under the EU Treaty, the central government's account at Danmarks Nationalbank must never show a deficit, as this would be monetary financing of the central government's borrowing requirement. Borrowing is planned so as to ensure that there is always a sufficient balance to cover the central government's receipts and disbursements.

Foreign borrowing

The foreign debt is issued in order to maintain the foreign-exchange reserve. The foreign funding rule entails that, as a general rule, the central government issues debt denominated in foreign currency equivalent to the redemptions on the foreign debt. In situations where the foreign-exchange reserve decreases by more than is appropriate, it may be necessary for the central government – out of concern for the exchange-rate policy – to raise further loans in foreign exchange in order to strengthen the foreign-exchange reserve. In situations where the foreign-exchange reserve increases by more than necessary, the government's foreign debt may be reduced. As borrowing in foreign exchange is included directly in the foreign-exchange reserve, domestic liquidity is not affected by foreign borrowing.

The government may raise short-term foreign loans via its Commercial Paper programmes. This allows rapid build-up of the foreign-exchange

[1] The funding rules are formulated in *Agreement on the division of work in the area of government debt between Danmarks Nationalbank and the Ministry of Finance*, www.governmentdebt.dk.

SOURCES OF INFORMATION ON DANISH GOVERNMENT BORROWING AND DEBT — Box A.3

Strategy announcements and publications

- The annual publication Danish Government Borrowing and Debt (February)
- The semi-annual announcement Danish Government Debt Management Strategy (June and December).

News and announcements

- Danmarks Nationalbank's news service (DN News)
- Danish and international trading platforms and news agencies, e.g. Bloomberg, ICAP/BrokerTec, MTS Denmark, Nasdaq OMX, Reuters, Ritzau, etc.

Websites

- Government Debt Management's website: www.governmentdebt.dk[1]
- The Ministry of Finance: www.fm.dk.

Contacts

For more information, please e-mail Government Debt Management at: governmentdebt@nationalbanken.dk.

[1] Subscribers to the news service automatically receive e-mail notifications of news concerning Danish government borrowing and debt.

reserve or the balance on the central government's account. Issuance in the CP programmes takes place on an ongoing basis so as to keep the programmes liquid.

INFORMATION ON THE CENTRAL-GOVERNMENT DEBT A.5

An important element of government debt policy is to provide market participants and the public information on the central-government borrowing strategy, borrowing requirement, as well as information of a more general nature on the framework for government debt management.

At www.governmentdebt.dk information about government debt is available. In addition, information is published via other sources on an ongoing basis, cf. Box A.3.

Appendix of Tables

CENTRAL-GOVERNMENT DEBT, YEAR-END 2001-11 Table 1

Kr. million	2001	2002	2003
A. Debt			
Domestic debt			
- Fixed-rate bonds	494,875	497,938	480,874
- Fisheries Bank bonds	-	-	-
- Lottery bonds	900	400	400
- Treasury notes	70,788	79,371	78,532
- Treasury bills	49,224	63,404	67,347
- Index-linked loans and loan package[1]	-	-	-
- Currency swaps from kroner to euro (net)[2]	-4,800	-16,200	-16,200
- Currency swaps from kroner to dollar	-	-	-
Domestic debt, total	610,987	624,913	610,953
Foreign debt			
- in dollars	-	-	-
- in euro	83,753	83,689	83,861
- in other currencies and multi-currency	42	42	42
Foreign debt, total	83,795	83,730	83,903
Domestic and foreign debt, total	694,782	708,644	694,856
B. Government deposits with the central bank[3]	-39,627	-45,975	-40,621
C. The Social Pension Fund, The Prevention Fund and The Advanced Technology Foundation			
- Government Securities	-109,474	-113,132	-118,138
- Other Securities	-31,621	-28,230	-20,576
The three funds, nominal value, total[4]	-141,095	-141,362	-138,714
Central-government debt, total (A+B+C)	514,060	521,308	515,521
Central-government debt, per cent of GDP	38.5	38.0	36.8

Note: A positive sign indicates a liability, a negative sign an asset.

[1] Loans transferred from the Mortgage Bank of the Kingdom of Denmark.

[2] Currency swaps from kroner to euro less currency swaps from euro to kroner.

[3] For 2011, the central government's account is compiled in accordance with the monthly balance sheet of Danmarks Nationalbank.

[4] Index-linked bonds are compiled as indexed value.

CENTRAL-GOVERNMENT DEBT, YEAR-END 2001-11 Table 1

2004	2005	2006	2007	2008	2009	2010	2011
480,590	440,351	428,796	403,039	451,394	505,973	556,900	606,627
-	-	-	-	-	995	887	786
400	200	200	200	200	100	-	-
71,690	33,980	-	-	-	-	-	-
68,602	60,092	42,660	19,660	-	-	25,460	44,200
-	-	379	277	-	-	-	-
-16,200	-15,456	-12,755	-13,262	-11,662	-8,197	2,974	2,974
-524	-2,688	-4,862	-7,873	-10,423	-10,956	-9,808	-8,660
604,558	516,479	454,418	402,040	429,509	487,921	576,413	645,927
518	2,810	4,583	6,844	9,947	10,218	9,901	8,957
83,370	87,833	75,219	61,738	123,126	129,351	104,811	102,861
40	38	21	20	19	19	18	-
83,929	90,681	79,823	68,642	133,092	139,588	114,731	111,818
688,487	607,160	534,241	470,682	562,600	627,509	691,144	757,745
-57,559	-53,297	-70,958	-86,333	-258,131	-210,932	-177,282	-223,510
-120,799	-124,635	-125,111	-128,547	-98,604	-77,720	-75,511	-69,351
-16,065	-11,284	-9,535	-8,686	-9,643	-37,376	-52,075	-51,393
-136,864	-135,919	-134,646	-137,233	-108,247	-115,096	-127,587	-120,744
494,064	417,944	328,637	247,116	196,222	301,481	386,275	413,491
33.9	26.9	20.1	14.5	11.2	18.1	22.0	23.1

SERVICE ON CENTRAL-GOVERNMENT DOMESTIC DEBT[1] AS OF 31 DECEMBER 2011 Table 2.1

Kr. billion	Interest	Redemption	Total
2012	23.6	61.3	85.0
2013	21.3	74.9	96.2
2014	17.7	47.9	65.6
2015	16.9	86.2	103.2
2016	13.5	12.1	25.5
2017	13.5	51.9	65.4
2018	11.4	-0.8	10.7
2019	11.5	87.3	98.8
2020	8.0	-0.3	7.7
2021	8.0	52.1	60.1
2022	6.4	0.0	6.4
2023	6.4	0.0	6.4
2024	6.4	24.5	30.9
2025	4.7	0.0	4.7
2026	4.7	-	4.7
2027	4.7	-	4.7
2028	4.7	-	4.7
2029	4.7	-	4.7
2030	4.7	-	4.7
2031	4.7	-	4.7
2032	4.7	-	4.7
2033	4.7	-	4.7
2034	4.7	-	4.7
2035	4.7	-	4.7
2036	4.7	-	4.7
2037	4.7	-	4.7
2038	4.7	-	4.7
2039	4.7	104.6	109.3
Total	235.3	601.7	837.0

[1] Excluding T-bills. Including net interest payments on domestic interest-rate swaps. Krone payments to and from the central government in currency swaps are included in the redemptions.

SERVICE ON CENTRAL-GOVERNMENT FOREIGN DEBT[1] AS OF 31 DECEMBER 2011 Table 2.2

Kr. billion	Interest	Redemptions	Total
2012	0.7	32.5	33.2
2013	0.7	22.1	22.8
2014	0.7	26.7	27.4
2015	-0.1	12.3	12.3
2016	-0.1	12.7	12.6
2017	-0.3	1.1	0.8
2018	-0.3	0.9	0.6
2019	-0.4	0.7	0.3
2020	-0.3	0.4	0.0
2021	-0.2	0.1	-0.2
Total	0.4	109.3	109.7

[1] Excluding Commercial Paper. Including net interest payments on swaps. Payments in foreign currency to and from the central government in currency swaps are included in the redemptions.

THE CENTRAL GOVERNMENT'S CURRENT, INVESTMENT AND LENDING BALANCE, NET CASH BALANCE AND GROSS DEFICIT, 2001-11 Table 3

Kr. billion	2001	2002	2003
Current, invstement and lending budget	24.0	25.8	12.4
Re-lending of government loans	-2.4	-8.9	-0.8
Distributed capital losses on issue and due interest[1]	0.4	-0.1	-0.7
Other capital items[2]	0.9	-20.0	-4.1
Net cash balance	22.9	-3.2	6.9
Redemptions on domestic government debt[3]	101.2	112.4	106.3
Redemptions on foreign government debt	17.8	22.5	17.0
Gross deficit	-96.2	-138.1	-116.6
Gross deficit financing requirement	81.1	115.5	99.7

Source: *Central Government Accounts*. 2011 are based on Danmarks Nationalbank's end-year specification, which may differ from the accounting figures.

[1] Including capital losses on buy-back.

[2] Includes e.g. movements in the central government's holdings, cf. *Budget Outlook* from the Ministry of Finance.

[3] Including net purchases of bonds from the state funds administered by Government Debt Management.

THE CENTRAL GOVERNMENT'S CURRENT, INVESTMENT AND LENDING BALANCE, NET CASH BALANCE AND GROSS DEFICIT, 2001-11 Table 3

2004	2005	2006	2007	2008	2009	2010	2011
27.7	80.6	98.6	106.2	72.3	-29.8	-88.7	na.
-5.4	-3.2	-12.4	-8.5	-13.5	-82.0	1.1	na.
0.5	-0.7	-0.9	0.4	0.3	-1.3	-1.2	na.
0.9	-0.9	5.0	-15.3	-10.7	3.1	-4.9	na.
23.6	75.9	90.2	82.8	48.3	-110.0	-93.7	-27.9
100.0	119.5	78.6	58.5	39.7	67.9	74.8	66.1
16.1	9.3	13.0	20.7	23.0	21.7	36.5	32.1
-92.5	-52.9	-1.3	3.6	-14.4	-199.7	-205.0	-126.1
76.4	43.6	-11.7	-24.3	-8.6	177.9	168.5	94.0

ISSUANCE OF DOMESTIC CENTRAL-GOVERNMENT SECURITIES, 2011 Table 4.1

ISIN-code	Coupon, per cent	Name	Redemption date	Issuance, kr. million, nominal
Government bonds				
DK0009920894	5	Bullet loans 2013 Issued 19 Feb 2002-	15 Nov 2013	730
DK0009922833	2	Bullet loans 2014 Issued 12 April 2011-	15 Nov 2014	50,455
DK0009921439	4	Bullet loans 2015 Issued 12 Feb 2004-	15 Nov 2015	100
DK0009922759	2.5	Bullet loans 2016 Issued 8 Feb 2011-	15 Nov 2016	13,090
DK0009922676	3	Bullet loans 2021 Issued 11 Jan 2011-	15 Nov 2021	52,120
DK0009922320	4.5	Bullet loans 2039 Issued 11 Nov 2008-	15 Nov 2039	4,405
T-bills				
DK0009813545	0	T-bill 2011 I Issued 1 Jun 2010-1 Mar 2011	1 Mar 2011	1,020
DK0009813628	0	T-bill 2011 II Issued 1 Sep 2010-1 Jun 2011	1 Jun 2011	3,740
DK0009813701	0	T-bill 2011 III Issued 1 Dec 2010-1 Sep 2011	1 Sep 2011	11,740
DK0009813891	0	T-bill 2011 IV Issued 1 Mar 2011-1 Dec 2011	1 Dec 2011	23,460
DK0009813974	0	T-bill 2012 I Issued 1 Jun 2011-1 Mar 2012	1 Mar 2012	27,080
DK0009814006	0	T-bill 2012 II Issued 1 Sep 2011-1 Jun 2012	1 Jun 2012	14,040
DK0009814196	0	T-bill 2012 III Issued 1 Dec 2011-1 Sep 2012	1 sep 2012	3,080

ISSUANCE OF FOREIGN CENTRAL-GOVERNMENT SECURITIES, 2011 Table 4.2

ISIN-code	Coupon, per cent	Name	Redemption date	Issuance, kr. million, nominal[1]
Loan				
XS0592215239[2]	0.875	2,500 million dollar-loan Issued 16 Feb 2011	19 Feb 2013	13,627
XS0605536613	2.750	1,250 million euro-loan Issued 16 Mar 2011	16 Mar 2016	9,323
XS0642551773[3]	3.125	2,750 million Swedish kronor-loan Issued 29 Jun 2011	12 Jul 2016	2,242
XS0592215239[4]	0.875	1,400 million increase of dollar-loan Issued 18 Aug 2011	19 Feb 2013	7,263

[1] Loan amount after conclusion of swap to euro.
[2] The loan was swappet to 1,827 million euro with a floating interest-rate.
[3] The loan was swappet to 301 million euro with a floating interest-rate.
[4] The loan was swappet to 983 million euro with a floating interest-rate.

CENTRAL-GOVERNMENT INTEREST-RATE SWAP TRANSACTIONS, 2011 Table 5

Loan no.	Start date	Terminations date	Amount, million euro
Interest-rate swaps in euro			
1440	20-01-11	20-01-21	100
1444	26-01-11	26-01-21	100
1446	03-02-11	03-02-21	100
1454	08-03-11	08-03-21	100
1464	23-03-11	23-03-21	100
1465	28-03-11	28-03-21	100
1467	30-03-11	30-03-21	100
1468	05-04-11	05-04-21	100
1471	08-04-11	08-04-21	100
1476	23-05-11	23-05-21	100
1484	23-06-11	23-06-21	100
1490	01-07-11	01-07-21	100
Interest-rate swaps in euro, total			1,200

Note: The Kingdom of Denmark receives a fixed interest rate and pays 6-month Euribor on swaps transacted in 2011. No krone interest-rate swaps have been concluded in 2011.

CENTRAL-GOVERNMENT DOMESTIC DEBT AS OF 31 DECEMBER 2011 Table 6.1

Kr. million	Outstanding amount, end-2010	Issuances, 2011	Re-demptions, 2011	Outstanding amount, end-2011	Redemption date	ISIN-code
Government bonds, fixed interest-rate						
Bullet loans and amortised loans						
6 per cent bullet loans 2011	41,037	-	41,037	-	15 Nov 2011	DK0009919961
4 per cent bullet loans 2012	74,800	-	16,850	57,950	15 Nov 2012	DK0009922593
5 per cent bullet loans 2013	88,460	730	13,264	75,926	15 Nov 2013	DK0009920894
2 per cent bullet loans 2014	-	50,455	-	50,455	15 Nov 2014	DK0009922833
4 per cent bullet loans 2015	87,200	100	-	87,300	15 Nov 2015	DK0009921439
2.5 per cent bullet loans 2016	-	13,090	-	13,090	15 Nov 2016	DK0009922759
4 per cent amortised loans 2017	34	-	5	29	15 Jun 2017[1]	DK0009902728
4 per cent bullet loans 2017	52,870	-	-	52,870	15 Nov 2017	DK0009921942
4 per cent bullet loans 2019	87,870	-	-	87,870	15 Nov 2019	DK0009922403
3 per cent bullet loans 2021	-	52,120	-	52,120	15 Nov 2021	DK0009922676
7 per cent bullet loans 2024	24,431	-	-	24,431	10 Nov 2024	DK0009918138
4.5 per cent bullet loans 2039	100,180	4,405	-	104,585	15 Nov 2039	DK0009922320
Perpetuals						
3.5 per cent Dansk Statslån	17	-	17	-	Perpetuals[2]	DK0009901597
5 per cent Dansk-Islandsk Fond 1918	1	-	-	1	Perpetuals	•
Government bonds, fixed interest rate, total	556,900	120,900	71,173	606,627		
T-bills						
T-bill 2011 I	12,040	1,020	13,060	-	1 Mar 2011	DK0009813545
T-bill 2011 II	9,420	3,740	13,160	-	1 Jun 2011	DK0009813628
T-bill 2011 III	4,000	11,740	15,740	-	1 Sep 2011	DK0009813701
T-bill 2011 IV	-	23,460	23,460	-	1 Dec 2011	DK0009813891
T-bill 2012 I	-	27,080	-	27,080	1 Mar 2012	DK0009813974
T-bill 2012 II	-	14,040	-	14,040	1 Jun 2012	DK0009814006
T-bill 2012 III	-	3,080		3,080	1 Sep 2012	DK0009814196
T-bill, total	25,460	84,160	65,420	44,200		
Fisheries Bank of Denmark bonds						
6 per cent Fisheries Bank Bond 2011	3	-	3	-	1 May 2011	DK0009604118
7 per cent Fisheries Bank Bond 2011	4	-	4	-	1 May 2011	DK0009603730
9 per cent Fisheries Bank Bond 2011	1	-	1	-	1 Nov 2011	DK0009603490
8 per cent Fisheries Bank Bond 2014	33	-	10	23	1 May 2014	DK0009603573
6 per cent Fisheries Bank Bond 2016	17	-	3	14	1 May 2016	DK0009604035
7 per cent Fisheries Bank Bond 2016	29	-	5	23	1 May 2016	DK0009603656
5 per cent Fisheries Bank Bond 2019	473	-	54	419	1 Nov 2019	DK0009604621
5 per cent Fisheries Bank Bond 2025	328	-	22	306	1 Nov 2025	DK0009604894
Fisheries Bank Bond, total	887	-	101	786		
Domestic government securities, total	583,247	205,060	136,694	651,613		
Swap from kroner to euro	2,974	-	-	2,974		
Swap from kroner to dollar	-9,808	-	-1,148	-8,660		
Central-government domestic debt, total	576,413	205,060	135,546	645,927		

[1] May be redeemed by the central government at three months' notice.
[2] Are fully redeemed at 1 April 2011, cf. announcement as of 14 December 2010.

CENTRAL-GOVERNMENT FOREIGN DEBT AS OF 31 DECEMBER 2011 Table 6.2

ISIN-code/loan no.[1]	Coupon, per cent	Name	Redemption date	Outstanding amount, kr. million[2]
Loan				
XS0074733543	3.65	1997/12 yen loan	13 Mar 2012	37.1
1075	3.65	1997/12 swap from yen		-37.1
•	var.	1997/12 swap to euro		26.1
XS0408298494	1.875	2009/12 dollar loan	16 Mar 2012	17,236.8
1207	1.875	2009/12 swap from dollars		-17,236.8
•	2.854	2009/12 swap to euro		16,269.8
XS0428037823	2.25	2009/12 dollar loan	14 May 2012	20,109.6
1244	2.25	2009/12 swap from dollars		-20,109.6
•	2.2415	2009/12 swap to euro		19,468.5
XS0592215239	0.875	2011/13 dollar loan	19 Feb 2013	22,407.8
1450	0.875	2011/13 swap from dollars		-22,407.8
•	var.	2011/13 swap to euro		20,892.2
NO0010490899	3.50	2009/14 Norwegian kroner loan	17 Feb 2014	479.4
1215	3.50	2009/14 swap from Norwegian kroner		-479.4
•	var.	2009/14 swap to euro		414.9
XS0417728325	3.125	2009/14 euro loan	17 Mar 2014	20,815.8
XS0419327837	3.165	2009/14 Swedish kronor loan	31 Mar 2014	3,420.2
1229	3.165	2009/14 swap from Swedish kronor		-3,420.2
•	var.	2009/14 swap to euro		2,783.6
XS0546424077	1.75	2010/15 euro loan	05 Oct 2015	11,151.3
XS0605536613	2.75	2011/16 euro loan	16 Mar 2016	9,292.8
XS0642551773	3.125	2011/16 Swedish kronor loan	12 Jul 2016	2,294.1
1485	3.125	2011/16 swap from Swedish kronor		-2,294.1
•	var.	2011/16 swap to euro		2,234.4
Loan, total				103,349.3
Commercial Paper				
ECP-issuances in euro				594.7
ECP-issuances in dollar[3]				813.6
USCP-issuances in dollar[3]				1,077.1
Commercial Paper-issuances, total				2,485.4
Cross currency swaps in euro				
10036	var.	2007/12 swap from kroner	31 Jan 2012	743.4
10041	var.	2007/12 swap from kroner	27 Apr 2012	743.4
10045	var.	2009/14 swap from kroner	12 Mar 2014	1,486.8
10046	var.	2010/12 swap to kroner	29 Jan 2012	-743.4
10047	var.	2010/12 swap to kroner	27 Apr 2012	-743.4
10048	var.	2010/12 swap to kroner	28 May 2012	-743.4
10049	var.	2010/12 swap to kroner	17 Jun 2012	-743.4
10050	var.	2010/12 swap to kroner	24 Jun 2012	-743.4
10051	var.	2010/12 swap to kroner	28 Jul 2012	-1,115.1
10052	var.	2010/12 swap to kroner	16 Mar 2012	-1,115.1
Cross currency swaps in euro, total				-2,973.7
Debt in euro, total				102,861.1

CENTRAL-GOVERNMENT FOREIGN DEBT AS OF 31 DECEMBER 2011 Table 6.2

ISIN-code/loan no.[1]	Coupon, per cent	Name	Redemption date	Outstanding amount, kr. million[2]
Currency swaps in dollars				
20001	4.164	2004/16 swap from kroner	30 Jun 2016	106.5
20002	4.164	2004/16 swap from kroner	30 Jun 2016	106.6
20003	4.355	2005/17 swap from kroner	28 Jan 2017	124.9
20004	4.4875	2005/17 swap from kroner	10 Feb 2017	210.9
20005	4.497	2005/17 swap from kroner	11 Aug 2017	220.7
20006	4.66	2005/17 swap from kroner	20 Oct 2017	220.7
20007	4.7925	2005/17 swap from kroner	15 Dec 2017	235.4
20008	4.855	2006/17 swap from kroner	16 Nov 2017	245.7
20009	5.06	2006/18 swap from kroner	12 Apr 2018	255.0
20012	5.27	2006/18 swap from kroner	28 Aug 2018	413.5
20013	4.755	2006/18 swap from kroner	10 Nov 2018	413.5
20014	4.73875	2007/19 swap from kroner	10 Jan 2019	443.0
20015	4.671	2007/19 swap from kroner	26 Mar 2019	443.0
20016	5.1225	2007/19 swap from kroner	15 Jun 2019	465.4
20017	5.164	2007/19 swap from kroner	05 Sep 2019	496.4
20018	5.3875	2007/19 swap from kroner	14 Nov 2019	496.4
20020	5.315	2008/20 swap from kroner	29 Jan 2020	527.5
20021	3.745	2008/20 swap from kroner	25 Mar 2020	525.6
20022	3.78	2008/20 swap from kroner	05 May 2020	525.6
20023	4.18	2008/20 swap from kroner	22 Jul 2020	603.3
20024	4.144	2008/20 swap from kroner	14 Oct 2020	603.3
20028	2.539	2009/21 swap from kroner	23 Jan 2021	636.8
20029	3.585	2009/21 swap from kroner	17 Mar 2021	636.8
Debt in dollar, total				8,956.7
Central-government foreign debt, total				111,817.8

[1] ISIN-codes are used for loans and loan number for swaps and Commercial Paper issuances.

[2] The outstanding amount as of 31 December 2011 is calculated to kroner on the basis of the following exchange rates as pr. 30 December 2011: euro = 743.42, yen = 7.4194, Norwegian kroner = 95.88, Swedish kronor = 83.42, dollar = 574.56.

[3] A Forward Contract in Foreign-Exchange with Danmarks Nationalbank is attached to issues in dollars. At maturity the Kingdom of Denmark receives an amount in dollars, equivalent to the underlying loan, and pays the agreed amount in euro. The central-government's final exposure is therefore in euro.

CENTRAL-GOVERNMENT PORTFOLIO SWAPS AS OF 31 DECEMBER 2011 Table 7

	Krone interest-rate swaps	Euro interest-rate swaps	
Termination year	Notional amount, kr. million[1]	Notional amount, million euro[2]	Notional amount, kr. million[3]
2012	-	4,235	31,484
2013	4,400	810	6,022
2014	8,500	-	-
2015	1,800	1,500	11,151
2016	10,800	575	4,275
2017	-	175	1,301
2018	-	-	-
2019	-	800	5,947
2020	-	1,300	9,664
2021	-	1,200	8,921
Interest-rate swaps, total	25,500	10,595	78,765

Note: The Kingdom of Denmark receives fixed interest rate and pays 6-month Cibor on all krone interest-rate swaps. The Kingdom of Denmark receives fixed interest rate and pays 6-month Euribor on all euro interest-rate swaps.

[1] Moreover, the Mortgage Bank of the Kingdom of Denmark has transferred a kr. 50 million swap expiring in 2019 to the central-government.

[2] Moreover, the Mortgage Bank of the Kingdom of Denmark has transferred a 10 million euro swap expiring in 2021 to the central-government.

[3] Converted to kroner on the basis of the following exchange rate as of end-2011: Euro = 743.42.