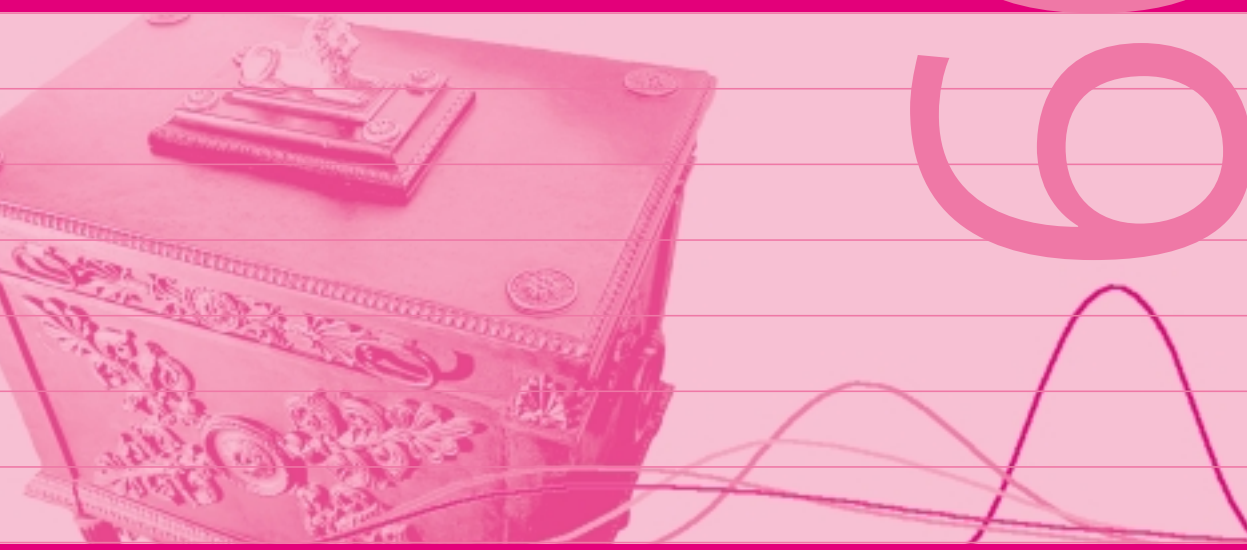
Danmarks Nationalbank

Danish Government Borrowing and Debt

1999



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In tables figures may not add because of rounding.

This publication is based on information available up to 3 February 2000.

Contents

Foreword

In connection with the management of the Danish central-government debt Danmarks Nationalbank issues the publication "Statens låntagning og gæld" (Danish Government Borrowing and Debt). The publication describes the borrowing during the preceding year and other issues of relevance to debt management.

The aim of the publication is to give all those interested in this area a deeper understanding of Denmark's government debt policy. *Key Elements of the Government Debt Policy in 1999 and the Strategy for the Next Years* highlights selected topics from this year's publication.

Chapter 1 gives a general presentation of the *key principles* for the government debt policy. The chapter does not include report topics.

Chapters 2-7 constitute the *report section*. They describe the considerations and factors governing borrowing and debt management during the past year. Domestic borrowing is described in Chapter 2, while foreign borrowing is presented in Chapter 3. Chapter 4 gives an account of the management of the assets of the Social Pension Fund, while Chapter 5 reports on the development in the government debt. Chapter 6 describes the management of the interest-rate, exchange-rate and credit risks on the government debt in 1999, while Chapter 7 presents the government-guaranteed entities and the guidelines to which their borrowing is subject.

The *special-topic section* comprises Chapters 8 and 9. Chapter 8 presents an overview of the management of the duration of the government debt. Chapter 9 describes the risk measure Cost-at-Risk which has been developed by Danmarks Nationalbank to support the weighing of the costs and the interest-rate risk on the government debt.

The *Appendix* presents the announcements during the preceding year relating to central-government borrowing and debt. In addition, there is a comprehensive Appendix of Tables with detailed central-government borrowing and debt statistics.

Key Elements of the Government Debt Policy in 1999 and the Strategy for the Next Years

DECREASE IN GOVERNMENT DEBT IN 1999

The central-government debt was DKK 560 billion at the close of 1999. This is DKK 10 billion less than the previous year. The central-government debt comprises the domestic and foreign debt after deduction of the assets of the Social Pension Fund and the balance of the central government's account with Danmarks Nationalbank.

In 1999 the interest expenditure on the government debt amounted to DKK 38 billion, which is around DKK 1 billion less than in 1998.

At the close of 1999 the debt of the general-government sector compiled in accordance with the EU Treaty was DKK 640 billion. This corresponds to 55 per cent of GDP. The threshold set out in the EU Treaty is 60 per cent of GDP. In addition to the central government the general-government sector comprises local government and social security funds.

GOVERNMENT BORROWS EVEN IF THE BUDGET SHOWS A SURPLUS

Even if the central-government budget shows a surplus, the central government still has a borrowing requirement. It arises because previously raised loans are to be refinanced on maturity.

In 1999 domestic government securities for an amount of DKK 69 billion were sold. In accordance with previous years, sale of government securities was planned in order to achieve an attractive range of current issues open for sale with emphasis on liquid fixed-rate securities in the 2-, 5- and 10-year segments.

In an international perspective, central-government issuers attach increasing importance to issues in a few standardised bond series. This accords well with the strategy pursued in Denmark for a number of years. Danish government securities are in demand among international investors. Non-residents thus hold more than 1/3 of the circulating amount of domestic government securities.

In 1999 the central government raised new foreign loans for DKK 21 billion. These loans were raised mainly in dollars and sterling and were swapped to euro.

DENMARK'S INTERNATIONAL RATING IMPROVED IN 1999

In August 1999 Danish government debt denominated in foreign currency achieved the best possible rating (Aaa) from Moody's, the international rating agency. Moody's thus gave the Kingdom of Denmark the same high rating of its foreign government debt as has been allocated to Denmark's domestic government debt since 1986.

POSITIVE EXPERIENCE WITH DOMESTIC INTEREST-RATE SWAPS

An interest-rate swap is an agreement between two parties to exchange interest payments. Normally, fixed-interest-rate payments are exchanged for floating-interest-rate payments.

In 1998 interest-rate swaps in Danish kroner were introduced as a new instrument in the management of the domestic government debt. This introduction period ended in 1999 and experience has been positive. By entering into interest-rate swaps the central government can continue to issue in liquid bond series and at the same time separately manage the duration of the central-government debt. The use of interest-rate swaps thus contributes to the greater flexibility of the government debt policy.

Domestic interest-rate swaps are now part of the normal set of instruments used in government debt policy. Since the central government does not wish to influence the market for krone-denominated swaps, the amounts involved will continue to be moderate.

GREATER FOCUS ON RISK MANAGEMENT

Via its borrowing and debt the central government is exposed to various borrowing risks, primarily the interest-rate, exchange-rate and credit risks. The management of these risks is part of the ongoing debt management.

Duration is an element of the management of the interest-rate risk on the central-government debt. In recent years, the starting point has been to evaluate the government debt on an overall basis when fixing the duration targets for the individual elements of the debt. As from 2000 the management of the duration of the government debt has been formalised via a duration target for the total central-government debt.

Another element of the management of the interest-rate risk on the government debt is Cost-at-Risk (CaR). CaR indicates the maximum cost of the debt with a probability of 95 per cent. CaR is used to weigh the costs of borrowing against the interest-rate risk on the domestic

government debt, which accounts for the major proportion of the government debt. CaR was developed by Danmarks Nationalbank in 1997 and is now part of the basis for decision when borrowing strategies and the duration target for the government debt are fixed.

In the light of the decreasing debt and an assessment of the relation between borrowing costs and interest-rate risk it was decided to reduce the duration of the government debt in 1999. At the close of the year the duration was 3.8 years, compared to 4.4 years at the beginning of the year. The objective is to reduce duration further to a level of around 3.5 years by the close of 2000. For the domestic debt the duration band for 2000 is 3.75 years +/- 0.5 year. This represents a downward adjustment of the centre of the duration band by 0.25 year compared to 1999.

When the central government enters into swap transactions, there is a risk of default by the counterparty. The central government thereby risks a loss. In order to reduce this credit risk, in 1999 the central government began to enter into agreements on the pledging of collateral by counterparties. It is expected that before the end of 2000 the central government will have concluded collateral agreements with at least 20 counterparties. Since mid-1999 the central government has only entered into new swap transactions with counterparties who have either signed, or are soon expected to be able to sign, a collateral agreement.

GOVERNMENT DEBT POLICY IN 2000

In the Budget Review of December 1999 the central government's gross domestic borrowing requirement for 2000 is estimated at DKK 57.2 billion. As in previous years, the borrowing requirement will be covered by issuing domestic government securities with emphasis on the 2-, 5- and 10-year segments.

The objective is an outstanding amount of at least DKK 60 billion in the 10-year securities, which is equivalent to the level in the smaller European countries. In spring 2000 a new paper in the 10-year segment will be opened. At the same time sale in 6 per cent government bonds 2009 will be discontinued. In the 2nd half of 2000 4 per cent Treasury notes 2002 is expected to be replaced by a new Treasury note.

As an element of the normal set of instruments used to implement the government debt policy it is possible to make buy-backs in a wide range of government securities which are not current issues open for sale. The purpose is to support the objective of liquid, market-conforming, current issues open for sale. Buy-backs also contribute to equalising redemptions during the year and between financing years. Buy-backs take place only if considered advantageous in overall government debt policy terms.

The objective is to reduce the norm for foreign borrowing in 2000. For the year as a whole loans denominated in foreign currency for almost DKK 15 billion will be raised.

REDENOMINATION REPORT

On 1 December 1999 the Ministry of Economic Affairs published a report called the "Outline National Changeover Plan – Changeover to The Euro in Case of Danish Participation".

In the light of the ministry's work on this report Danmarks Nationalbank established a working group to investigate the technical consequences for the Danish bond market if Denmark decides to adopt the euro. The working group comprised representatives from the Danish Securities Dealers Association, the Ministry of Finance, the Danish Bankers Association, the Financial Supervisory Authority, the Copenhagen Stock Exchange, Danmarks Nationalbank, the Association of Danish Mortgage Banks, the Danish Securities Centre and the Ministry of Economic Affairs.

The primary focus of the working group's deliberations was the redenomination of bonds. When a paper is redenominated the currency denomination is changed from krone to euro. The financial value of the bonds and other terms are not affected, but redenomination does require a number of changes to trading and registration systems.

In its report the working group recommends that government securities and mortgage-credit bonds be redenominated if Denmark decides to adopt the euro. Redenomination will ensure the rapid establishment of a large liquid market for Danish euro-denominated securities. The recommendation is redenomination by the "bottom-up" method whereby conversion from krone to euro is based on each bond holder's portfolio of a given bond. This is the method used by most of the present euro-area member states.

The report can be ordered from Danmarks Nationalbank on tel.: +45 3363 7000 or by e-mail: info@nationalbanken.dk. The report can also be viewed on Danmarks Nationalbank's Web site (www.nationalbanken.dk). The contents of the report are also described in an announcement dated 31 January 2000. This announcement is included as an Appendix to this publication.

Further Information on Government Borrowing and Debt

Danmarks Nationalbank regularly publishes information on Danish government borrowing and debt.

On a daily basis details of sale (screen no. 51) and buy-back (screen no. 58) of domestic government securities on the preceding trading day are issued via DN News. These pages are reproduced by e.g. Reuters (pages DKNA-51 and DKNA-58).

On the first banking day of each month an announcement is sent to the Copenhagen Stock Exchange and other interested parties on the sale and buy-back of domestic government securities during the preceding month.

On the second banking day of each month Danmarks Nationalbank issues a press release with details of e.g. the central government's actual borrowing requirement, etc. in the preceding month. The information on the gross domestic borrowing requirement is also issued via DN News (screen no. 54) and reproduced by e.g. Reuters (page DKNA-54).

After the monthly Treasury bill auctions announcements are issued to the Copenhagen Stock Exchange and via DN News (screen no. 53) on the progress of the auction, including cut-off interest rates and sales in the individual Treasury bill series. This information is reproduced by e.g. Reuters (page DKNA-53).

The estimated central-government borrowing requirement is presented in the budget reviews of the Ministry of Finance which are normally issued in May, August and December. After each budget review Danmarks Nationalbank issues a monthly breakdown of the estimated net and gross borrowing requirements to interested parties. Moreover, a day-to-day distribution of the liquidity impact of central-government payments is drawn up and issued to interested parties on the penultimate banking day of each month.

Every six months – normally in June and December – an announcement is sent to the Copenhagen Stock Exchange with details of current central-government issues open for sale concerning respectively July and January. The announcement also presents more general information on the plans for the central government's domestic borrowing.

Prior to the opening of new government securities series an announcement is sent to the Copenhagen Stock Exchange with details of the

coupon, maturity and opening day of the new loan. This information may be included in the announcement on current issues open for sale. On the actual opening day an announcement is sent to the Copenhagen Stock Exchange on the initial opening volume offered and the maximum sale on the opening day. This announcement is also issued via DN News (screen no. 55) and reproduced by e.g. Reuters (DKNA-55).

Once a year, normally in February, Danmarks Nationalbank issues the publication Danish Government Borrowing and Debt. This publication describes the management of the government debt during the preceding year and other issues of relevance to the debt management.

Most of the above information can also be viewed on Danmarks Nationalbank's Web site (www.nationalbanken.dk), which also presents further information on government debt.

Please direct any enquiries concerning Danish Government Borrowing and Debt to Danmarks Nationalbank, Financial Markets Department, by e-mail: kma@nationalbanken.dk.

Main Principles

CHAPTER 1

Main Principles of Government Borrowing

SUMMARY 1.1

The overall objective of the government debt policy is to achieve the lowest possible long-term borrowing costs, while taking various factors into account, including the risks associated with the debt.

The overall strategy for government borrowing is determined at quarterly meetings of the Ministry of Finance, the Ministry of Economic Affairs and Danmarks Nationalbank. The strategy is drawn up on the basis of proposals from Danmarks Nationalbank. The latter acts as agent to the Ministry of Finance in the management of the debt portfolio.

The distribution between domestic borrowing denominated in kroner and foreign borrowing denominated in foreign currency is determined by the "central-government borrowing norm". According to the norm the central government's current deficit and redemptions on the domestic debt are covered by issuing domestic krone-denominated securities. Foreign borrowing takes place if there is a need to increase the foreign-exchange reserve and to refinance redemptions on the foreign government debt.

Domestic borrowing takes place primarily as tap sales of government bonds and Treasury notes via the electronic trading system of the Copenhagen Stock Exchange. Moreover, Treasury bills are issued at monthly auctions via an electronic auction system at Danmarks Nationalbank. Interest-rate swaps in Danish kroner and buy-backs are supplementary instruments used in the domestic government debt policy.

It is sought to minimise the costs of borrowing by achieving liquidity premiums on the domestic government securities. Large liquid series are built up in the 2- and 5-year segments, and especially the 10-year segment.

Foreign borrowing predominantly consists of raising minor loans on advantageous terms.

In its debt management the central government undertakes a number of risks, primarily interest-rate, exchange-rate and credit risk. The management of these risks is an element of the ongoing debt management.

MANAGEMENT OF THE GOVERNMENT DEBT 1.2

The central objective of the government debt policy is to achieve the lowest possible long-term borrowing costs. This objective must be pursued while taking various factors into account, including the risks associated with the debt, cf. Box 1.1. There is a tendency for greater focus on the management of these risks among government-debt managers in a number of countries, Denmark included.

The legislative basis for government borrowing is set out in the Act on the authority to raise central-government loans. The Act empowers the Minister of Finance to raise loans on behalf of the central government up to a maximum of DKK 950 billion, which is the maximum limit for the total domestic and foreign government debt. At the close of 1999 the outstanding domestic and foreign debt totalled DKK 739 billion calculated at nominal value, cf. Chart 1.2.1.

Since 1991 Danmarks Nationalbank has acted as agent to the Ministry of Finance in the management of the government debt.

The overall strategy for government borrowing is determined at quarterly meetings of the Ministry of Finance, the Ministry of Economic Affairs and Danmarks Nationalbank. The strategy is drawn up on the basis of proposals from the Nationalbank. The latter handles the ongoing management of the debt portfolio in accordance with the adopted strategy, as authorised by the Ministry of Finance.

OBJECTIVES OF THE GOVERNMENT DEBT POLICY Box 1.1

The objective of the government debt policy is set out in the remarks to the bill for the Act on the authority to raise loans on behalf of the central government and in the agreement on division of work in the area of government debt between Danmarks Nationalbank and the Ministry of Finance. The Act on the authority to raise loans was adopted by the Folketing (Parliament) in December 1993 (Act No. 1079 of 22 December 1993).

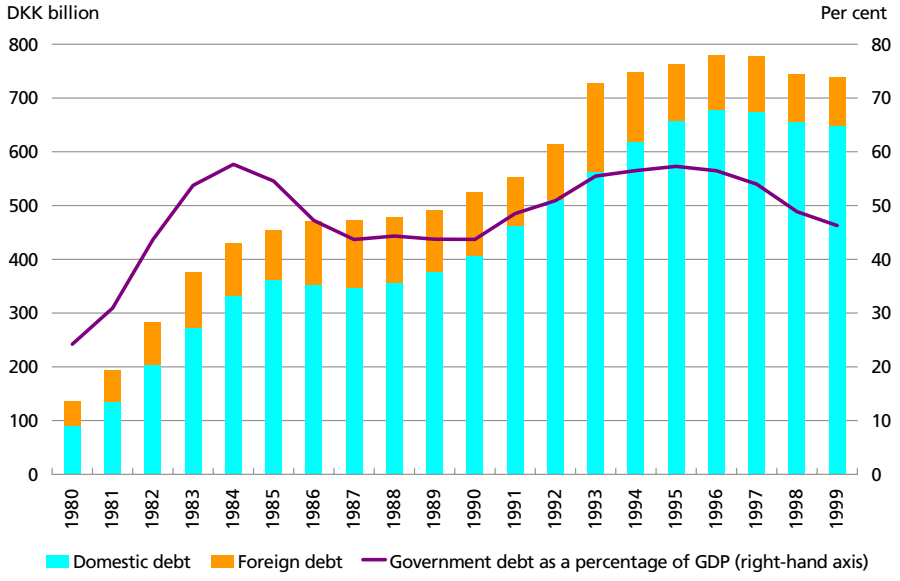
The overall objective of the government debt policy is to achieve the lowest possible long-term borrowing costs. The objective is supplemented by other considerations:

- To keep the risk at an acceptable level
- Overall to build up a well-functioning, effective financial market in Denmark
- To ease the central government's access to the financial markets in the longer term.

The risk elements pertaining to the debt are:

- Interest-rate risk
- Exchange-rate risk
- Credit risk
- Other risks, e.g. operational risk.

GOVERNMENT DEBT 1980-99 Chart 1.2.1



Note: The government debt is compiled as the central government's domestic and foreign debt after deduction of the assets of the Social Pension Fund and the balance of the central government's account with Danmarks Nationalbank.

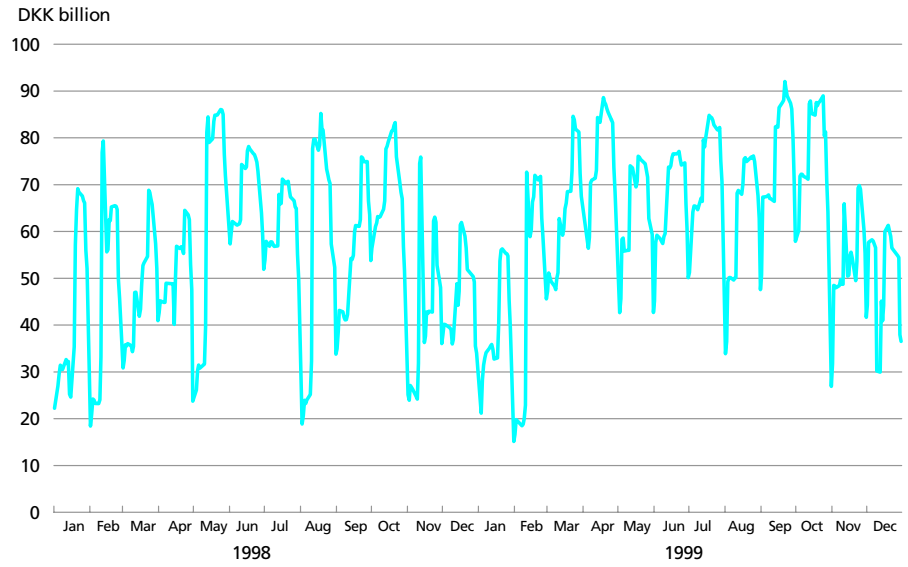
The Nationalbank's management of the government debt involves cooperation between three departments of the bank: the Financial Markets Department, the Market Operations Department and the Accounting Department.

The Financial Markets Department sets out the overall framework for borrowing and prepares analyses and borrowing strategy proposals. The Market Operations Department handles the practical aspects of the debt-management strategy such as sale of domestic government securities, raising of foreign loans, and transaction of buy-backs and swaps. The Accounting Department ensures the settlement and bookkeeping of the transactions. The Nationalbank's Audit Department assists the Auditor General in the auditing of the government debt management, including the Social Pension Fund.

THE NORM FOR DOMESTIC AND FOREIGN BORROWING 1.3

The central-government borrowing norm is used to manage the division between the central government's domestic and foreign borrowing. Both a norm for domestic borrowing and a norm for foreign borrowing are fixed, and together they ensure the separation of fiscal policy and monetary policy.

BALANCE OF THE CENTRAL GOVERNMENT'S ACCOUNT WITH DANMARKS NATIONALBANK, 1998-99 Chart 1.3.1



In overall terms, the norm for domestic borrowing states that the issuance of domestic krone-denominated securities shall match the gross domestic central-government borrowing requirement, i.e. the central government's current deficit and the redemptions on the domestic debt. The norm for foreign borrowing is based on the requirement to hold an adequate foreign-exchange reserve. The norm for foreign borrowing states that new foreign loans must be raised to refinance the redemptions on the foreign debt. The norm and the gross domestic borrowing requirement are described in more detail in Box 1.2 and Box 1.3 respectively.

In accordance with the EU Treaty's prohibition of monetary financing the central government's account with Danmarks Nationalbank may not show a deficit. The central government's borrowing is therefore planned to ensure an appropriate balance on the central government's account, which can absorb the substantial day-to-day fluctuations, cf. Chart 1.3.1. The very considerable day-to-day variations in central-government payments make fluctuations unavoidable.

STRATEGY FOR CENTRAL-GOVERNMENT BORROWING 1.4

The strategies for the central government's domestic and foreign borrowing differ considerably. This is due to the varying objectives of borrowing in respectively kroner and foreign currency. Moreover, the

THE CENTRAL-GOVERNMENT BORROWING NORM Box 1.2

For a number of years the scale of central-government borrowing has been subject to a norm. The norm is set out in an agreement between the government and Danmarks Nationalbank. The agreement consists of two parts: a norm for domestic borrowing and a norm for foreign borrowing.

The norm for domestic borrowing states that the issuance of domestic krone-denominated government securities for the year as a whole shall match the gross central-government borrowing requirement (the gross deficit on a cash basis) less redemptions on the foreign government debt, cf. Box 1.3.

The norm for domestic borrowing ensures that the central government's domestic payments generally do not affect the domestic liquidity (the monetary-policy counterparties' net position vis-à-vis the Nationalbank). The norm for domestic borrowing is thus an important element of the dividing line between fiscal policy and monetary policy.

The norm for domestic borrowing is used in combination with the Nationalbank's buy-backs of foreign currency in the market to cover the central government's current foreign-exchange expenditure, including the central government's interest payments on the foreign government debt. This is a precondition for the neutral liquidity impact of central-government payments. Although more domestic bonds are sold than correspond to the central government's domestic deficit, this reduction of liquidity is counteracted by the Nationalbank's purchases of foreign currency in the market to finance the central government's current interest payments on the foreign debt.

The norm for domestic borrowing must be fulfilled for the year as a whole. The timing of domestic issuance during the year takes account of the market situation and the balance of the central government's account with the Nationalbank. As a consequence of Article 101 of the EU Treaty which prohibits monetary financing the balance of the central government's account with the Nationalbank must be positive at all times.

The norm for foreign borrowing states that the central government's redemptions on the government debt in foreign currency (the foreign government debt), including buy-backs and premature redemptions, are normally refinanced by foreign borrowing.

The purpose of the central government's foreign borrowing is to maintain an adequate foreign-exchange reserve. Situations may arise where substantial amounts of foreign currency are required for intervention purposes, or conversely, where foreign-exchange receipts have swelled the foreign-exchange reserve. In these cases the norm for foreign borrowing may be waived. If the foreign-exchange reserve decreases more than required, the government will raise foreign loans. The Nationalbank purchases the foreign currency proceeds and the equivalent amount in Danish kroner is credited to the central government's account with the Nationalbank. If the foreign-exchange reserve increases by more than is required, the norm for foreign borrowing can be reduced, provided that the balance of the central government's account with the Nationalbank leaves scope for such a reduction.

THE GROSS DOMESTIC BORROWING REQUIREMENT Box 1.3

The gross domestic borrowing requirement is defined as:

– Receipts to the central government
+ Expenditures by the central government
= *(+) Net borrowing requirement / (–) Net placement requirement*
+ Redemptions on the domestic debt
+ Redemptions on the foreign debt
+ Net bond purchases by the Social Pension Fund at market value
= *Gross borrowing requirement (or gross deficit on a cash basis)*
– Redemptions on the foreign debt
= *Gross domestic borrowing requirement*

Expenditures by the central government include the value in kroner of the central government's current foreign-exchange expenditure on interest and transfers, but not exchange-rate adjustments of the debt.

Redemption and buy-back of Treasury bills are not included in the gross borrowing requirement. Sale of Treasury bills is calculated on a net basis, i.e. redemptions and buy-backs are deducted from gross sale. The gross domestic borrowing requirement is covered by sale of government bonds and Treasury notes, and net sale of Treasury bills.

Sale of government securities during the year is matched to the estimated gross borrowing requirement published in the budget reviews of the Ministry of Finance. The estimated payments to and disbursements by the government may deviate from the actual borrowing requirement. Sale up to the turn of the year is therefore determined on the basis of the development in the central government's account with the Nationalbank.

The Nationalbank's estimate of the monthly distribution of central-government payments can be found at www.nationalbanken.dk under "Markets".

framework conditions for central-government borrowing in the two markets differ significantly. The central government is a dominant issuer in the domestic market, while on foreign markets the Kingdom of Denmark is a minor borrower that can act without affecting market conditions.

The strategy for *domestic borrowing* is centred on building up large liquid bond series in the 2- and 5-year segments, and especially the 10-year segment. Since investors normally will be prepared to pay a premium for liquid bonds which can be traded without significantly affecting price formation, the central government may achieve a liquidity premium and thereby reduce borrowing costs.

Internationally the 2-, 5- and 10-year segments are the key maturity segments. This contributes to making government securities issues at-

tractive to foreign investors. Since foreign investors trade bonds more actively, a larger proportion held by non-residents leads to higher turnover and thereby greater liquidity. A large non-resident ownership element will contribute to reducing the central government's borrowing costs.

The credit assessment or rating of the central government also affects the borrowing costs. Moody's and Standard & Poor's have given the domestic debt the highest rating, respectively Aaa and AAA.

Foreign borrowing takes place primarily by raising small loans on advantageous terms for the "Kingdom of Denmark", the name used by the Danish central government on the international financial markets. The Kingdom of Denmark is a borrower that enjoys a very high rating. In 1999 Moody's upgraded the Kingdom of Denmark's foreign debt to the highest rating, Aaa. Standard & Poor's gives the Kingdom of Denmark's foreign debt the second-highest rating, AA+, with the comment "positive outlook".

Since the foreign borrowing requirement is moderate, the central government can wait for attractive borrowing opportunities to arise in the market before raising loans. Compiled including swap transactions, the central government's foreign loans are denominated mainly in euro. Should an attractive borrowing opportunity arise in another currency than euro, by linking a swap to the transaction the central government can achieve a loan denominated in euro. Often, attractive conditions in the swap market make it advantageous to borrow in a particular market. Evaluation of the borrowing terms must take into consideration that swap transactions impose a credit risk on the central government.

In recent years most loans have been raised as fixed-rate bullet issues. It is considered important that simple loan structures be applied to the foreign borrowing of the central government in order to reduce the borrowing risk.

In cases where the foreign-exchange reserve or the balance of the central government's account with the Nationalbank entail an immediate need to borrow foreign currency the central government may issue short-term Commercial Paper (CP). If necessary, the CP programmes can also be used as bridge financing of a redeemed loan until a new loan is raised. The CP programmes can be activated at short notice to raise loans with maturities typically ranging between one week and up to one month.

Government bonds and Treasury notes are issued by tap sale via the electronic trading system, ELECTRA, of the Copenhagen Stock Exchange. Treasury bills are issued at monthly auctions via an electronic auction system at Danmarks Nationalbank. All domestic government securities are listed on the Copenhagen Stock Exchange.

In a number of countries primary dealers are used. They hold the exclusive right to buy newly-issued government securities. Primary dealers are not used in Denmark. All licensed traders on the Copenhagen Stock Exchange may buy government bonds and Treasury notes directly from the Nationalbank via the systems of the Stock Exchange. Licensed Stock Exchange traders and the Nationalbank's monetary-policy counterparties may participate in the Treasury bill auctions.

HOW GOVERNMENT BONDS AND TREASURY NOTES ARE SOLD Box 1.4

Sale of government bonds and Treasury notes is undertaken by Danmarks Nationalbank on behalf of the central government via the Copenhagen Stock Exchange. All licensed traders on the Copenhagen Stock Exchange may purchase government securities directly from the Nationalbank via the Stock Exchange trading system.

Government bonds and Treasury notes are issued by tap sale in the market. Tap sale signifies that government securities are sold on tap when a borrowing requirement exists and the markets are favourable. The Nationalbank aims at conducting tap sale so as to avoid creating or amplifying market trends. Normally, the Nationalbank does not underbid itself within the same day or within a period of a few days. The objective is to avoid creating or stimulating negative trends in the market. It is also sought to ensure transparency in the tap sale. The sale of government securities on the preceding day is published on a day-to-day basis.

The procedure for the opening of new series of government bonds and Treasury notes is that 1-2 weeks before the issue opens information on the new loan is published via the Copenhagen Stock Exchange with details of coupon, maturity and opening day. Before the opening day an announcement is published on the initial opening amount and the maximum sale on the opening day. The opening price is fixed on the basis of the structure of zero-coupon yields, experience from previous openings of government-securities issues and the current market conditions. Fixing a maximum amount for sale on the opening day ensures that if demand is high, sale can be interrupted without it being necessary to raise the price to a level which could impede sale on the following days. The announcement maximum sale amount also gives market participants greater certainty of the course of sale on the opening day. The stated maximum is not a required target for sale on the opening day, but indicates the upper limit for sale.

Private individuals etc. may buy government bonds and Treasury notes by post order. This scheme is handled by Finansstyrelsen (the Financial Administration Agency). More information can be found at the Web site www.finansstyrelsen.dk.

TREASURY BILL AUCTIONS Box 1.5

Treasury bills are sold at monthly auctions via an electronic auction system at Danmarks Nationalbank. The short maturity of the Treasury bills ensures a short build-up period, so that auction is found to be the most appropriate method of sale.

All licensed traders on the Copenhagen Stock Exchange and Danmarks Nationalbank's monetary-policy counterparties may bid at the auctions. Bids are made for interest rates. All bids at or below the fixed cut-off interest rate are met at the cut-off interest rate. Bids at the cut-off interest rate may be subject to proportional allocation.

On fixing the cut-off interest rates price and volume are weighed against each other in relation to the sale requirement. Account is also taken of the current interest rates in the money market and Treasury bill market.

The sale of government bonds and Treasury notes, and of Treasury bills, are described in more detail in respectively Box 1.4 and Box 1.5.

There are two market-maker schemes for government securities under the auspices of respectively the Copenhagen Stock Exchange and the Danish Securities Dealers Association. Participants in these schemes are obliged to quote two-way prices for a certain amount of the appropriate bonds at any time. Under the Stock Exchange scheme prices are set only in the 10-year benchmark (currently 6 per cent government bonds 2009), while the scheme of the Danish Securities Dealers Association comprises other liquid government securities.

More information on the Copenhagen Stock Exchange is available at the Web site www.xcse.dk.

Government bonds, Treasury notes and Treasury bills are registered electronically in the Danish Securities Centre (VP). Danish government securities may also be registered in Euroclear and Clearstream (formerly CEDEL). To facilitate easy transfer of securities between VP and Euroclear, there is a direct link from Euroclear to VP.

Government securities trades are normally settled in VP, but may also be settled in Euroclear and Clearstream. The link between VP and Euroclear provides for automatic settlement of trades between VP and Euroclear customers or their safekeeping-account holders. The link entails that customers may settle securities trades with a counterparty in another system without a validation loss. More information is available at the Web site www.vp.dk.

Growing integration of the marketplaces for bond trading in Europe can be observed.

In 1998 the Copenhagen Stock Exchange (KF) and the Stockholm Stock Exchange concluded a cooperation agreement with the purpose of

establishing a joint Nordic securities market – NOREX – for all types of securities. In June 1999 KF transferred all share trading from the Danish stock-exchange trading system, ELECTRA, to the new joint trading system, SAXESS. The objective is also to transfer all bond trading to the joint trading system in autumn 2000.

Currently steps are being taken to include other Nordic and Baltic stock exchanges in this cooperation. The Oslo Stock Exchange has already stated its intention to participate. Negotiations have been initiated with the stock exchanges in the three Baltic countries.

At European level, an electronic trading system – EuroMTS – was launched in April 1999 for the most liquid European euro-denominated government bonds with an outstanding amount exceeding EUR 5 billion. Since then, a number of European countries have established national MTS systems.

RISK MANAGEMENT OF THE GOVERNMENT DEBT 1.6

The cost of borrowing to the central government is determined by the fluctuations in interest and exchange rates. The risk that the development in interest or exchange rates will lead to a higher cost of borrowing is called interest-rate risk or exchange-rate risk. The concept of interest-rate risk also covers the refinancing risk, which is the risk that existing debt has to be refinanced at a time when market conditions are unfavourable.

In addition to the interest-rate and exchange-rate risk the central government undertakes a credit risk when it enters into swap transactions. A swap is an agreement between two parties to exchange payments during a predetermined period. There is thus a risk that the counterparty will default on its obligations.

The central government is also exposed to other risks, such as the risk of error in the administration of the debt by itself or by counterparties. A more detailed account of the risk management is given in Chapter 6.

Interest-rate risk

The cost of central-government borrowing is determined by the future development in interest rates, since redemptions on the debt must be refinanced by borrowing on future dates at unknown market interest rates. The interest-rate risk is the risk related to the uncertainty of future interest rates. A short-term debt will normally entail a higher interest-rate risk than a debt with a longer term to maturity.

Three different measures are used to manage and calculate the interest-rate risk: duration, the shape of the redemption profile and

Cost-at-Risk (CaR). These measures supplement each other when the framework for the central government's interest-rate risk is determined.

The *duration* is the key measure for management of the government debt and its subcomponents. Duration expresses the average fixed interest period of the assets or liabilities. In other words, duration is a measure of how quickly changes in interest rates will affect the actual borrowing costs of the debt. Longer duration thereby entails a lower risk, since on average smaller proportions of the government debt are adjusted to the current level of interest rates. Since the term structure of interest rates is normally rising, longer duration will typically also lead to higher interest costs. On determining the duration target, cf. below, the level of costs is therefore weighed against the risk of cost increases.

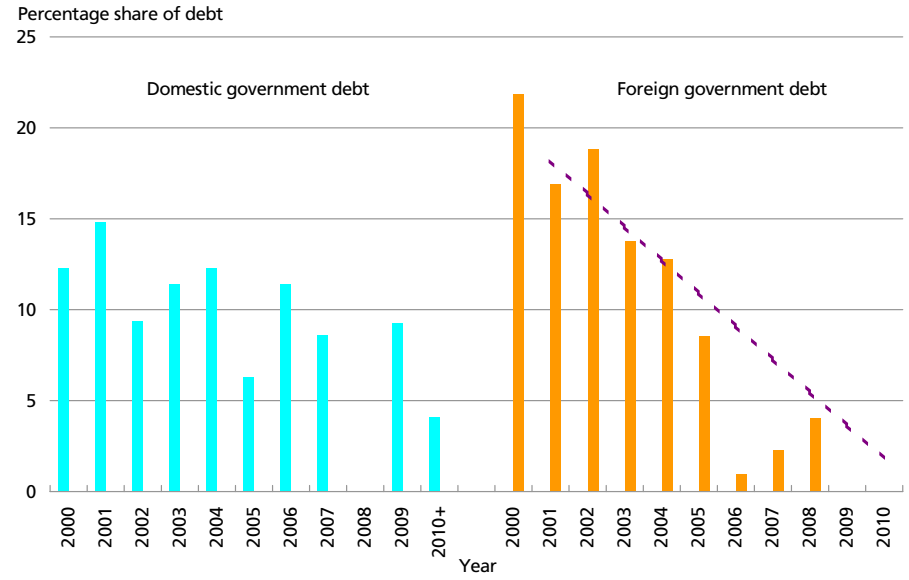
A duration target is determined as a duration band which sets the limits for duration. The targets for the duration of the subcomponents of the government debt are determined on the basis of the duration target for the total government debt. Chapter 8 presents a more detailed description of the management of the duration of the government debt.

The *redemption profile* is used to manage the domestic and foreign debt. By ensuring a smooth redemption profile, whereby a constant proportion of the debt is redeemed each year, the risk of being obliged to refinance the debt at a time when market conditions are unfavourable is reduced. Various strategies are used to manage the redemption profiles of the domestic and foreign debt, cf. Chart 1.6.1.

With regard to domestic debt, issues are mainly in the key maturity segments in which liquid benchmark series are built up. Over time, the gaps are filled up with issues in the maturities in which there is room. Buy-backs can also contribute to equalising the redemptions between financing years.

The foreign debt is managed by aiming at a target for the redemption profile of the debt, which declines with remaining maturity. The target aimed at for the redemption profile is determined so that the loans which are redeemed in a given year (2000 in Chart 1.6.1) are to be refinanced by issues in the maturity segments up to the 10-year segment in which there is room. If borrowing in certain maturity segments is particularly advantageous, the principle for the distribution of borrowing may be departed from. The determination of the target reflects that it is not possible to determine in advance in which maturity segments advantageous borrowing opportunities will arise.

REDEMPTION PROFILE OF THE DOMESTIC AND FOREIGN GOVERNMENT DEBT, END-1999 Chart 1.6.1



Cost-at-Risk (CaR) is used as a supplementary measure for the management of the interest-rate risk on the domestic debt. CaR quantifies the risk and can therefore ensure a more consistent weighing of costs against interest-rate risk on determining the duration of the government debt, cf. Box 1.6. As stated, a reduction of the duration will typically reduce costs, but on the other hand the risk of cost increases will be greater.

CaR is used qualitatively in risk management to e.g. assess the consequences of various issuing strategies for the risk on the debt. CaR statistics are reported at the quarterly meetings held by the Ministry of Finance, Danmarks Nationalbank and the Ministry of Economic Affairs. Chapter 9 presents a more detailed description of CaR.

Exchange-rate risk

The central government assumes an exchange-rate risk on its foreign borrowing. The exchange-rate risk is the risk that the value of the debt will increase as a consequence of the development in exchange rates.

Since 1992 the exchange-rate risk on the debt has been subject to coordinated management with Danmarks Nationalbank's foreign-exchange reserve. The background to the net management is as follows:

- Central-government foreign loans are raised to ensure an adequate foreign-exchange reserve. Exchange-rate losses and gains on the foreign-exchange reserve should therefore be related closely to the

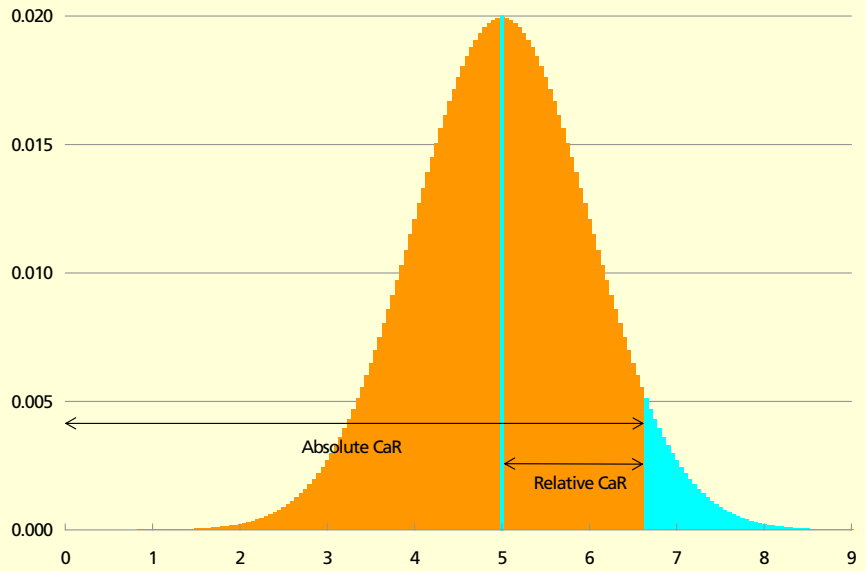
EXAMPLE OF CaR FOR A DEBT PORTFOLIO Box 1.6

The chart below presents an example of the distribution of the costs on a debt portfolio. In this example the costs are assumed to be distributed normally around a mean value of DKK 5 billion with a standard deviation of DKK 1 billion.

The marked part of the right-hand "tail" in the distribution indicates the level of the costs in the 5 per cent of cases where costs are highest. With a probability of 95 per cent the costs will not exceed DKK 6.7 billion, which is the absolute CaR for the debt.

Relative CaR measures the difference between absolute CaR and the average costs. Relative CaR thereby indicates the amount by which the costs will not increase, with a probability of 95 per cent. In the example, relative CaR is DKK 1.7 billion.

ABSOLUTE AND RELATIVE CaR, DKK BILLION Chart



equivalent gains and losses on the central government's currency-denominated debt.

- Exchange-rate gains and losses on the foreign-exchange reserve affect the size of the Nationalbank's surplus and thereby also the Nationalbank's transfer of profit to the central government.
- The work to prepare the assessment of the development in interest and exchange rates is identical. Net management therefore eliminates duplicate work.

With net liabilities or net assets which deviate from zero it is unavoidable that the central government and the Nationalbank taken as one will face an exchange-rate risk. This risk is managed on the basis of a

"neutral distribution" for the currency composition of the net foreign-exchange assets of the Nationalbank and the central government. The neutral distribution is determined at the quarterly government-debt meetings held by the Ministry of Finance, the Ministry of Economic Affairs and Danmarks Nationalbank.

When the neutral distribution is determined the expected risk is weighed against the return in relation to a benchmark. The benchmark is determined as the risk-minimising distribution which, in view of the fixed-exchange-rate policy vis-à-vis the euro, is determined as a placement solely in euro. The difference between the neutral distribution and the benchmark can be described as a strategic position taken at the government-debt meeting.

In its day-to-day administration the Nationalbank may take positions in relation to the neutral distribution within a fluctuation band of DKK +/- 2.5 billion in each currency. In the event of foreign-exchange unrest and considerable intervention in the currency market the management according to the neutral distribution may be suspended temporarily. The composition and performance of the neutral distribution are described in more detail in Chapter 6.

Credit risk

In relation to the government debt the central government is exposed to credit risk in connection with interest-rate and currency swap transactions.

A swap is an agreement between two parties to exchange payments during a specific period. When a swap is transacted, it normally has a market value of zero. After it is transacted, fluctuations in interest rates and exchange rates can cause the swap's market value to deviate from zero. So there is a risk of the counterparty's default on its obligations, and that the central government will sustain a loss equivalent to the market value of the swap. There have been no examples of the central government sustaining losses due to counterparty default on swaps related to the government debt.

The total credit exposure on swaps depends on the actual market value (the current credit exposure) and the future value of the swap (the potential credit exposure). This potential credit exposure is included in the management of the credit risk as soon as the swap is transacted.

In order to limit the credit risk the central government only transacts swaps with counterparties holding a rating of AA- or higher. However, for interest-rate swaps in Danish kroner the minimum requirement has been eased so that counterparties with a rating of A+, A or A- are also accepted.

In order to further reduce the credit risk the central government in 1999 began to sign agreements with the counterparties on the unilateral pledging of collateral to the central government. According to the agreements a counterparty must pledge collateral if the current counterparty exposure exceeds a certain limit. Collateral is furnished as securities with a value equivalent to the additional exposure. In the event of default on the original contract the securities can be sold by the central government to cover the counterparty's obligations. The current status for the conclusion of collateral agreements is described in Chapter 6.

Other risks

Besides the risks described above, the central government also undertakes other risks on the government debt. These include the risk of error in the management of the debt by itself or others, but also the risk that the legal basis for e.g. swap contracts proves to be unsound. Furthermore, the central government may wish to avoid participating in certain types of loan scheme on ethical or political grounds.

It is sought to minimise the risk of administrative errors by separation of the various functions and by using simple, well-known debt-management instruments.

The legal risk can be minimised by using standardised contracts. This principle is e.g. applied to swap contracts.

Report Section

CHAPTER 2

Domestic Borrowing

SUMMARY 2.1

Domestic borrowing by the central government takes place by issuing government bonds, Treasury notes and Treasury bills. In 1999 sale of government bonds and Treasury notes was concentrated in the 2-, 5- and 10-year segments, and this sales strategy is continued without changes in 2000. Sale of government securities totalled DKK 68.8 billion at market value in 1999. The borrowing requirement for the year was DKK 67.9 billion.

At the beginning of 1999 interest rates were low. This was followed by a rising interest-rate trend which continued throughout the year. Turnover of government securities on the Copenhagen Stock Exchange was lower in 1999 than in the preceding year.

In 1999 the central government transacted interest-rate swaps for a total notional amount of almost DKK 7.5 billion. For all transacted swaps the central government pays interest at a 6-month floating rate in return for receiving interest at a 10-year fixed rate. Interest-rate swaps were introduced in government debt policy in 1998 and the experience gained has been favourable. Interest-rate swaps enhance the flexibility of the government debt policy and will continue to be an important instrument in the management of the domestic debt in 2000.

SALE OF GOVERNMENT SECURITIES AND BORROWING REQUIREMENT 2.2

Sale of government securities is planned in order to achieve a relatively stable sale over the year. It is also the objective that sale be completed by the end of November. This avoids a substantial need for sale of securities in December, which is traditionally a quiet month on the bond markets.

Normally, the largest government securities series are redeemed towards the end of the year. The refinancing of these securities is distributed evenly throughout the year and buy-backs can be made in the relevant series prior to the redemption date. If government securities

THE CENTRAL GOVERNMENT'S CIL, NET AND GROSS DEFICIT (CASH BASIS), 1996-99 Table 2.2.1

DKK billion	1996	1997	1998	1999
Current, investment and lending budget	-21.5	7.6	31.4	4.6
Net bond purchases[1]	-4.4	7.4	-	-
Re-lending of government loans	-1.4	-0.8	0.3	-2.1
Distributed capital losses on issue and due interest	7.4	5.1	2.1	3.2
Other capital items	0.4	-6.6	0.1	1.8
Net cash balance	-19.5	12.7	34.0	7.5
Redemptions on domestic government debt				
Government bonds	38.7	28.1	57.8	60.4
Treasury notes	38.0	53.3	21.2	15.5
Redemptions on foreign government debt ...	30.8	31.4	37.4	20.0
Gross deficit (cash basis)	-126.9	-100.1	-82.5	-88.3
Gross domestic borrowing requirement[2]	94.7	73.8	64.4	67.9
Sale of government securities, market value .	96.0	73.0	68.0	68.8
Surplus sale, market value	1.2	-0.8	3.6	0.9

Source: 1996-98 are figures from the central-government accounts. Provisional figures are given for 1999 based on the forecast in the Budget Review 5-99, the Nationalbank's press release and the provisional central-government accounts.

[1] As from 1998 net bond purchases by the Social Pension Fund are no longer included in the net cash deficit. The Social Pension Fund's net bond purchases are included in the redemptions on the domestic government debt as from 1998.

[2] Based on the Nationalbank's statistics at year-end. The figures may therefore deviate from the accounting figures.

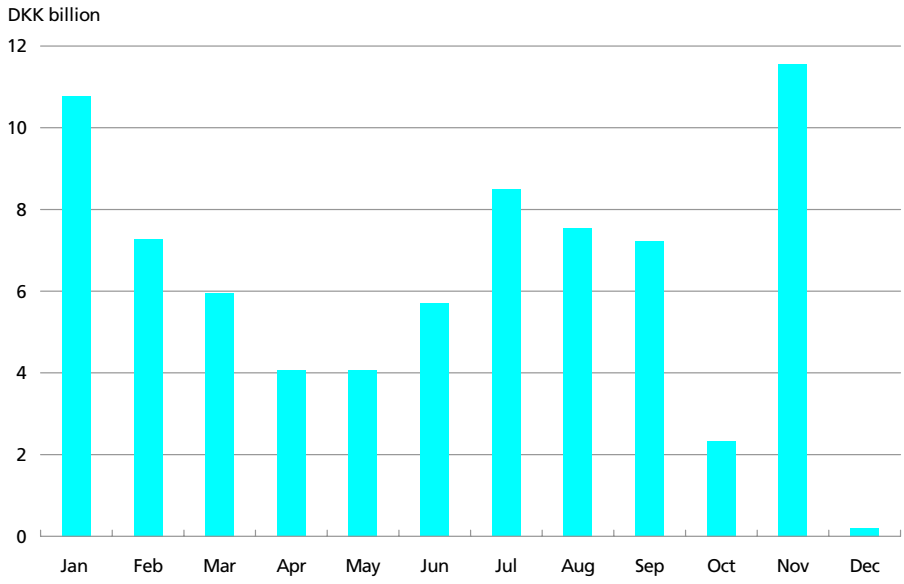
sales progress well, buy-backs can take place in securities which mature in a following year and are not current issues open for sale.

The gross domestic borrowing requirement in 1999 was DKK 67.9 billion. This was covered by sale of government securities for a total of DKK 68.8 billion at market value, and the surplus sale during the year was therefore DKK 0.9 billion, cf. Table 2.2.1. Sale of government bonds and Treasury notes was slightly uneven, with a high level of sale at the beginning and towards the end of the year, cf. Chart 2.2.1.

Apart from a minor amount in December the year's sale of government bonds and Treasury notes was concluded by the end of November. Sale in November was the highest for the year, which should be viewed in the light of the low sale of Treasury bills in the 2nd half-year and the moderate sale of government bonds and Treasury notes in October.

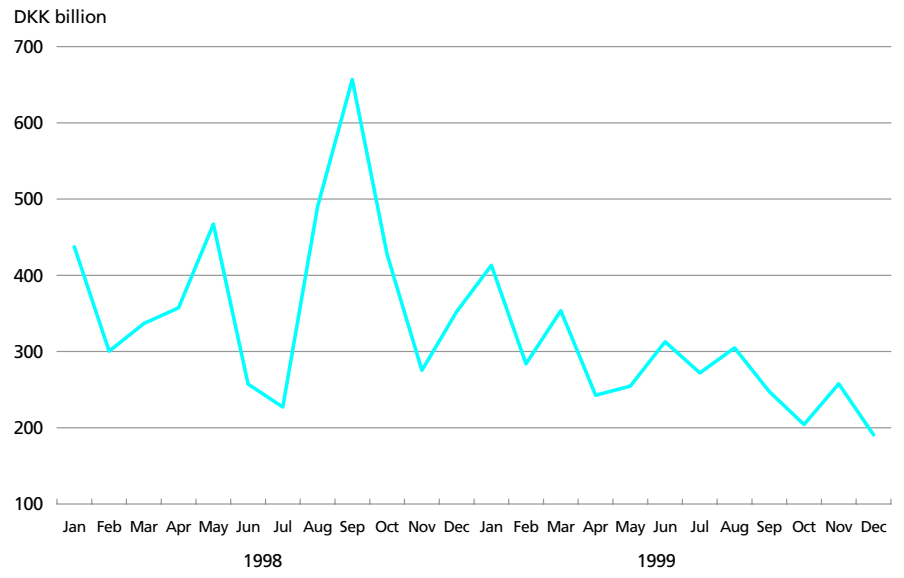
Turnover of government bonds on the Copenhagen Stock Exchange was relatively low in 1999. Considered for the year overall, the level was 30 per cent below 1998. Turnover declined during the year and in December was 50 per cent lower than the previous year, cf. Chart 2.2.2. The other European markets for government bonds took a similar course.

SALE OF GOVERNMENT BONDS AND TREASURY NOTES IN 1999 Chart 2.2.1



Note: Compiled at market value.

TURNOVER OF GOVERNMENT SECURITIES
ON THE COPENHAGEN STOCK EXCHANGE, 1998-99 Chart 2.2.2



Note: Turnover at nominal value on a monthly basis.

DEVELOPMENT IN INTEREST RATES 2.3

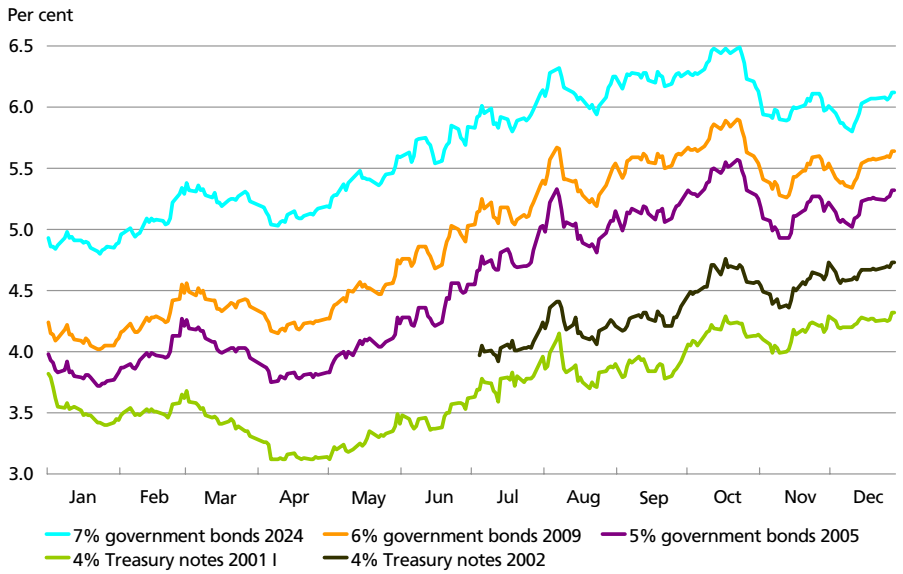
Interest rates were low at the beginning of the year. During the spring interest rates began to rise and the rising interest-rate trend continued for the rest of the year, cf. Chart 2.3.1.

The 10-year yield differentials to Germany of selected countries are presented in Chart 2.3.2. Denmark's 10-year yield differential to Germany was 30 basis points at the close of 1999. Viewed in a more long-term perspective the fluctuations during the year were moderate.

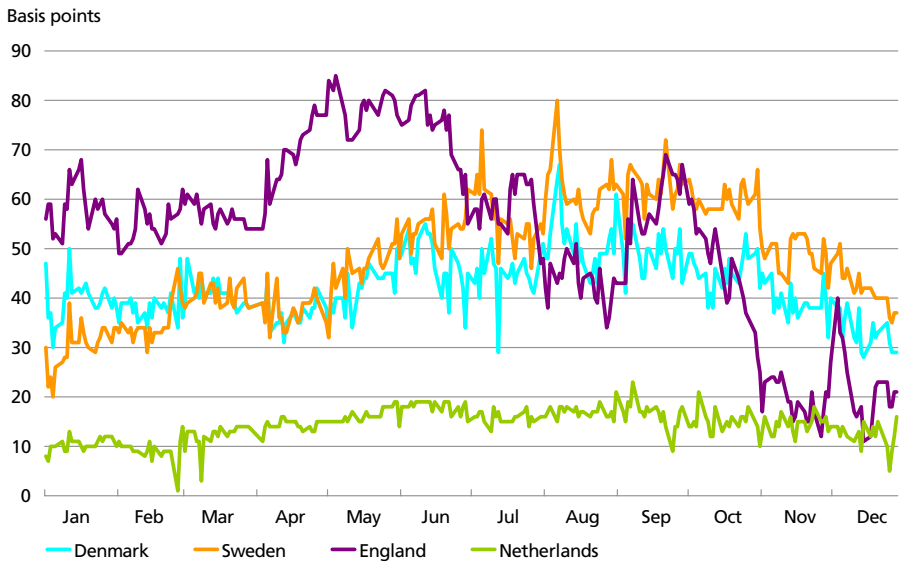
The UK's yield differential narrowed considerably in the 2nd half of 1999. This is among other things a consequence of high demand for long-term securities from institutional investors, primarily pension funds and life insurance companies. The high demand led to scarcity and lower interest rates for long-term securities.

The present interest-rate differentials among the euro-area member states can be related to such factors as varying liquidity premiums. The Netherlands, for example, has a positive yield differential to Germany even though it is a member of the euro area. This is related to the fact that German bonds are issued in far larger series than Dutch bonds and as benchmark bonds are more attractive to international investors, cf. Section 2.4.

YIELDS ON SELECTED DANISH GOVERNMENT SECURITIES IN 1999 Chart 2.3.1



10-YEAR YIELD DIFFERENTIALS TO GERMANY, 1999 Chart 2.3.2



CURRENT ISSUES OPEN FOR SALE AND ISSUING STRATEGY 2.4

Government borrowing takes place via the issue of government bonds, Treasury notes and Treasury bills. Issues of government bonds and Treasury notes are concentrated in the 2-, 5- and 10-year segments, while Treasury bills have a maturity of up to 9 months.

The issuing strategy aims at ensuring that the individual government bond series achieve a size which makes it possible to obtain a liquidity premium in order to reduce the borrowing costs to the central government. Liquidity is difficult to measure, but liquid bonds are typically characterised by a high circulating volume, high turnover and low transaction costs. Besides liquidity, the countries' credit standing is another factor determining the level of borrowing costs.

Today a considerable proportion of Danish government securities are held by non-residents who are thus a significant factor in the financing of Danish government debt, cf. Chart 2.4.2 under the next heading. It is important that Danish bonds do not deviate significantly from the standard on the European bond markets. This is ensured by focusing on few, relatively large series in the most important maturity segments.

Table 2.4.1 presents some countries grouped by series size within the 10-year segment. Countries such as Germany and France have the largest 10-year series, followed by the Netherlands and Belgium. The smallest series are issued by Finland and Austria. Denmark and Sweden are

10-YEAR BONDS AMONG CURRENT ISSUES OPEN FOR SALE IN SELECTED COUNTRIES — Table 2.4.1

EUR billion	Outstanding nominal amount
France	20.8
Germany	20.0
Netherlands	12.1
Belgium	11.3
Sweden[1]	8.3
Denmark	8.1
Finland	5.9
Austria	4.4

Note: For Germany and Denmark compiled as of 28 January 2000 and for Austria as of 14 January 2000. Other countries are compiled at end-1999.

[1] Parallel issue in SEK/EUR, of which 3 billion issued in EUR.

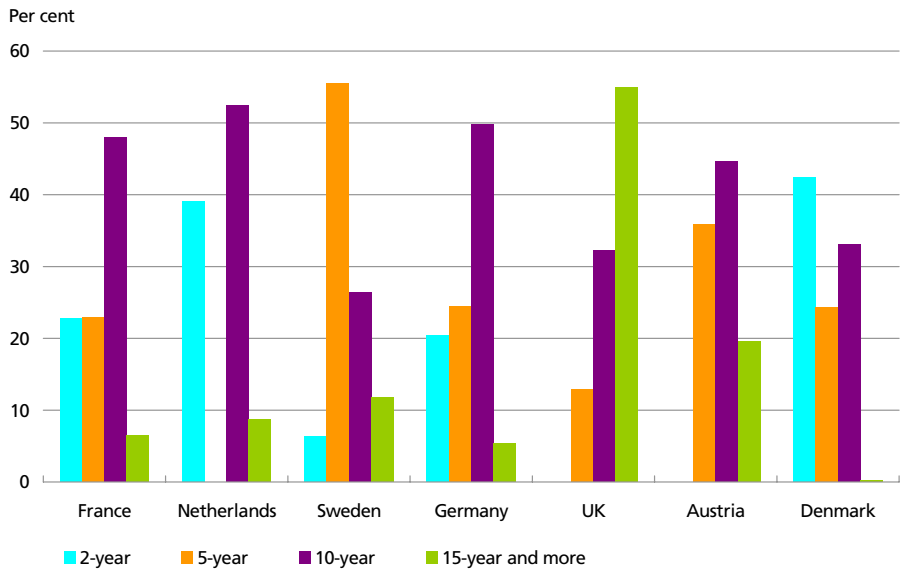
placed below the intermediate group, but approximately EUR 2-4 billion higher than Finland and Austria.

Despite gradual harmonisation of government debt strategies in the European countries there are still significant differences between the countries.

In the Danish current issues open for sale most weight is attached to the 2- and 10-year segments, followed by the 5-year segment, cf. Chart 2.4.1.

In the Netherlands, Germany and France the 10-year segment is the most important. In these countries it accounts for around 50 per cent of total sales. In Sweden around 55 per cent of sales are in the 5-year segment.

DISTRIBUTION OF SALE IN SELECTED COUNTRIES, 1999 — Chart 2.4.1



In Denmark issues are concentrated in the 2-, 5- and 10-year segments due to duration considerations and the fact that the funding requirement is not large enough for sales to take place in additional segments if liquid series are to be built up.

In addition to the choice of borrowing strategy and series size, transparency and openness vis-à-vis market participants are an important element of the Danish government debt policy. This aspect of the policy is implemented via ongoing announcements concerning current issues open for sale, sale and buy-back.

Government bonds and Treasury notes

In 1999 issues took place in five different securities, cf. Table 2.4.2. All securities are fixed-rate bullet loans. In the 10-year segment issues were in 6 per cent government bonds 2009, which opened on 14 January 1998. This paper now has benchmark status in the Danish bond market. In spring 2000 it is replaced by a new 10-year paper.

In the 5-year segment sales were in 5 per cent government bonds 2005. This series was opened in January 1997 and on the opening date

DOMESTIC GOVERNMENT SECURITIES IN 1999 — Table 2.4.2

DKK million	Issue			Nominal outstanding amount, end-1999
	Nominal	Market value	Capital loss	
7% government bonds 2024	125	164	-39	25,000
6% government bonds 2009	23,965	26,088	-2,132	56,690
5% government bonds 2005	17,670	18,172	-502	38,420
Fixed-interest-rate bonds, total	41,760	44,424	-2,664	
4% Treasury notes 2002	17,185	17,077	108	17,185
4% Treasury notes 2001 I	13,565	13,693	-128	44,455
Treasury notes, total	30,750	30,770	-20	
Bonds and Treasury notes, total	72,510	75,194	-2,684	
Treasury bills 2000 III	7,845	7,632	213	7,845
Treasury bills 2000 II	11,741	11,499	242	11,741
Treasury bills 2000 I	18,239	17,935	304	16,764
Treasury bills 1999 IV	26,207	25,732	475	
Treasury bills 1999 III	12,784	12,589	195	
Treasury bills 1999 II	4,275	4,230	45	
Redemptions[1]	85,996	85,988	-8	
Treasury bills, net	-4,905	-6,371	1,466	
Sales of government securities, total	67,605	68,823	-1,218	

[1] Including extraordinary redemptions in connection with buy-back.

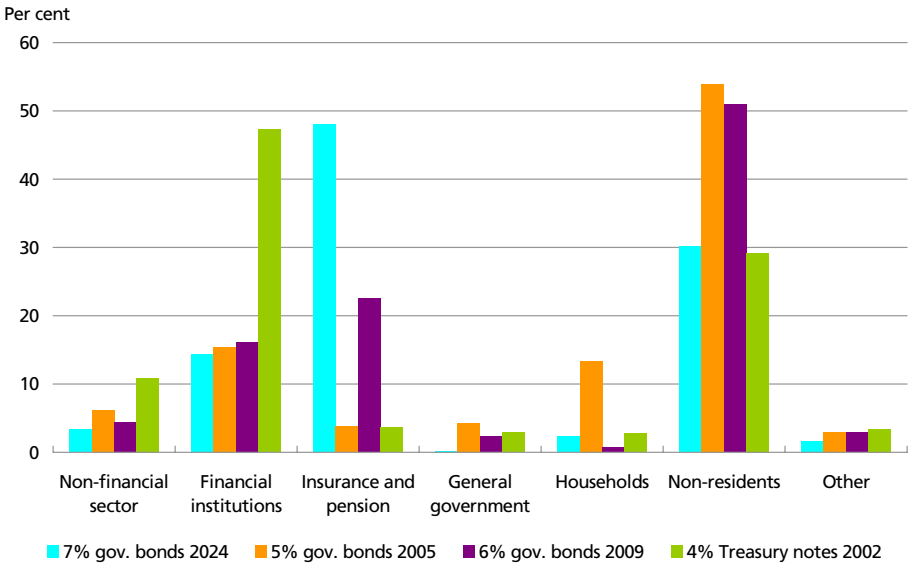
attractive among private Danish investors due to its coupon rate. This is reflected in the relatively high share of ownership by private investors, cf. Chart 2.4.2. It should be noted that more than 50 per cent of this paper is now held by non-residents. This paper continues to be part of the current issues open for sale in 2000.

In the 2-year segment, issues in spring 1999 were in 4 per cent Treasury notes 2001 I. Sale in this paper was discontinued at the beginning of July and replaced by 4 per cent Treasury notes 2002. Sale in this paper continues in the 1st half of 2000, after which it is replaced by a new Treasury note in the 2nd half-year.

Besides issues in the 2-, 5- and 10-year segments, in 1999 a minor amount was issued in 7 per cent government bonds 2024, which is part of the 30-year segment. This paper is retained among current issues open for sale in 2000, but issue is expected to continue to be moderate.

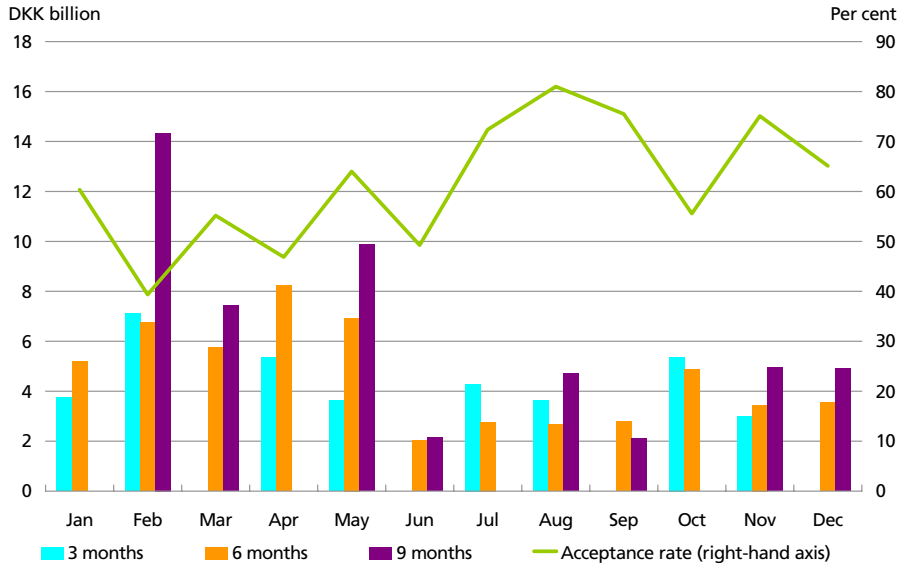
The distribution of sale in 1999 and the current issues open for sale in 2000 should be viewed in conjunction with the redemption profile, cf. Chapter 6. The sales strategy gives a smoother redemption profile as a larger outstanding amount is built up in securities maturing in respectively 2002, 2005 and 2009. The development in interest rates for bonds and Treasury notes in the current issues open for sale is presented in Chart 2.3.1.

OWNERSHIP DISTRIBUTION OF SECURITIES
AMONG CURRENT ISSUES OPEN FOR SALE, END-1999 Chart 2.4.2



Note: Compiled at market value. Adjusted for repurchase transactions between Danish banks and non-residents. In addition, estimated adjustment for residents' holdings in safekeeping accounts, e.g. Euroclear.

BID VOLUMES AND ACCEPTANCE RATES
AT TREASURY BILL AUCTIONS IN 1999 Chart 2.4.3



Treasury bills

Treasury bills are the most short-term domestic government securities. They are sold at monthly auctions and issued with an initial maturity of 9 months. Treasury bills are zero-coupon paper, i.e. the interest payments are not coupon-based, but included in the price at which the Treasury bills are issued.

In the first 5 months of the year, the amounts bid at the Treasury bill auctions were relatively high, after which the amounts decreased, cf. Chart 2.4.3. Despite an increase in the proportion of accepted bids, as from June it was not possible to maintain the level of sale. This led to a reduction in the nominal outstanding amount and a negative net borrowing contribution from the Treasury bill programme, cf. Table 2.4.2.

BUY-BACKS 2.5

Buy-back of domestic government securities is used in order to equalise the central government's domestic borrowing requirement within the year or between consecutive years. Moreover, the central government can make buy-backs in series maturing in a following year in order to maintain issues in large series and thus ensure an attractive range of current issues open for sale, cf. Section 2.4. The central government only undertakes buy-backs when this is considered advantageous on the basis

BUY-BACK OF DOMESTIC GOVERNMENT SECURITIES IN 1999 Table 2.5.1

	Buy-backs		Outstanding amount, end-1999
	Nominal	Market value	
6% government bonds 1999	21,900	22,187	0
Treasury bills 1999 IV	1,000	997	0
Buy-backs, redemption date in 1999, total	22,900	23,184	
4% Treasury notes 2000 I	2,565	2,571	12,400
8% government bonds 2001	1,350	1,488	42,785
Treasury bills 2000 I	1,475	1,470	16,764
Buy-backs, redemption date after 1999, total	5,390	5,529	

of an overall government-debt policy evaluation. Bonds which are bought back are cancelled immediately thereafter.

In 1999 buy-back was undertaken prior to the due date in December of 6 per cent government bonds 1999 for a total of DKK 21.9 billion at nominal value, cf. Table 2.5.1. At the beginning of 1999 the nominal outstanding amount in the series was DKK 49.3 billion.

Buy-back in securities due for ordinary redemption in a following year is not undertaken until the sale for the year has reached a certain level and it is certain that the overall borrowing requirement can be met.

Sale in 1999 was relatively moderate and there was no room for major buy-back of securities maturing after 1999. The total buy-back of securities expiring after 1999 was DKK 5.4 billion at nominal value.

DOMESTIC INTEREST-RATE SWAPS 2.6

In 1998 interest-rate swaps in Danish kroner were introduced as a new instrument in the management of the domestic government debt. The primary objective of using domestic interest-rate swaps as a government debt policy instrument is to enhance borrowing flexibility. Interest-rate swaps enable the central government to issue securities in long-term liquid bond series and separately manage the duration of and the interest-rate risk on the government debt.

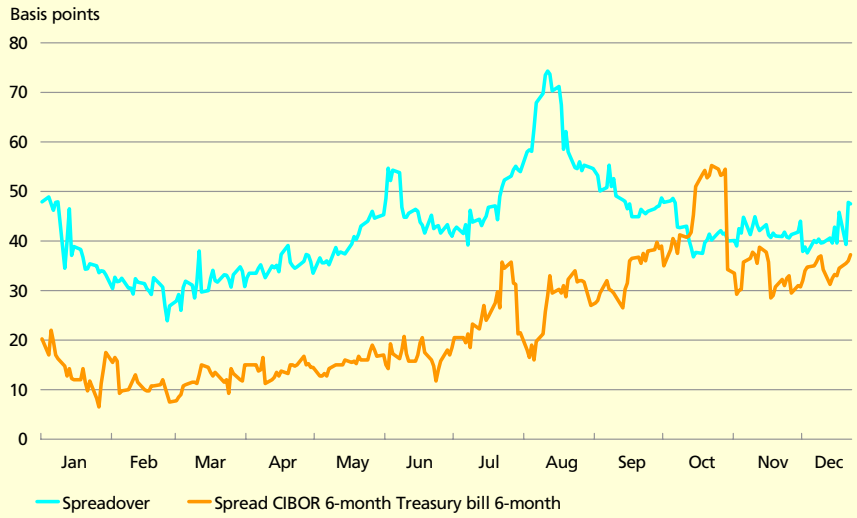
In the swaps transacted so far the central government has swapped long-term debt at fixed interest rates for short-term debt at floating interest rates. In isolated terms this has reduced the duration of the debt. The maturity of interest-rate swaps denominated in Danish kroner transacted as part of the management of the government debt may not exceed 10 years. "Plain-vanilla" interest-rate swaps are used. The central

EVALUATION OF THE ADVANTAGEOUSNESS OF DOMESTIC INTEREST-RATE SWAPS — Box 2.1

Whether long-term borrowing combined with the transaction of an interest-rate swap from a 10-year fixed rate to a 6-month floating rate (CIBOR) is advantageous can be illustrated by comparing with the costs of the alternative: issue of Treasury bills at 6 months' maturity. The interest rate on existing Treasury bills is only an approximation, since the interest rate will not necessarily apply if the alternative is achieved and the volume of Treasury bills is thereby increased. In the following fictive example the "saving" on concluding interest-rate swaps is illustrated as the difference between the costs of the two strategies:

The central government pays	+ yield on bond (A)	4.75
	+ floating interest rate in swap/CIBOR (B)	4.55
The central government receives	– fixed interest rate in swap (C)	5.20
Net borrowing costs	= (A+B-C)	4.10
Borrowing costs of alternative	interest rate on Treasury bill (D)	4.20
"Saving" on swap	= (C-A)-(B-D)	0.10

DEVELOPMENT IN SPREADOVER, ETC., 1999 — Chart



To illustrate the advantageousness of interest-rate swaps the above chart presents the development in respectively the difference between the swap interest rate and the 10-year bond yield, i.e. (C-A), called the spreadover, and the difference between the 6-month floating interest rate (CIBOR) and the interest rate on 6-month Treasury bills, i.e. (B-D). The difference between the two curves expresses the saving on a given day (and 6 months forward) from transacting an interest-rate swap, but does not describe the change in the advantageousness over time. Once the swap has been transacted, the development at the short end of the market (the variable "leg") is significant to the advantageousness. All else being equal, the greater the spreadover, the greater the relative advantage to the central government of transacting interest-rate swaps.

government does not wish to influence the market and transacts interest-rate swaps for only small amounts at a time.

Interest-rate swaps for almost DKK 7.5 billion were transacted during 1999. The total outstanding notional amount at the close of 1999 was DKK 8.0 billion. In 1999 swaps were still used whereby the central government pays the 6-month CIBOR interest rate in return for a 10-year fixed interest rate. The individual swaps have an outstanding notional amount of between DKK 100 and 500 million, cf. Table 4a of the Appendix of Tables.

In order to evaluate the gain on swap transactions the costs must be compared with the alternative, which is short-term borrowing. Then the net gain is found, cf. Box 2.1. The net gain must set off the credit risk undertaken by the central government vis-à-vis the banks which are counterparties in the transacted swaps, cf. Chapter 6.

Experience from the use of domestic interest-rate swaps has been favourable and again in 2000 interest-rate swaps will be an important instrument in the management of government debt. The amounts will continue to be moderate, as the central government does not wish to influence the swap market. For a detailed presentation of swaps please refer to Chapter 8 of Danish Government Borrowing and Debt 1998.

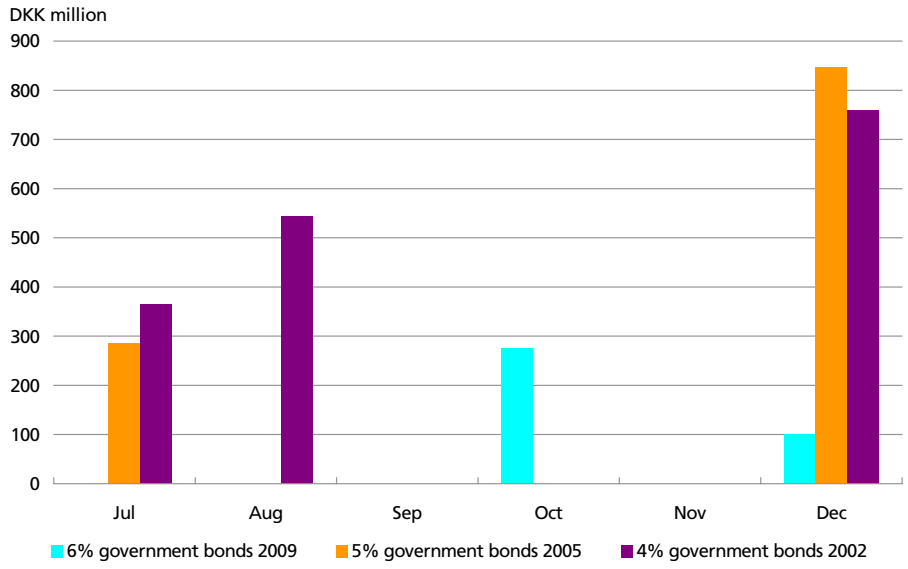
SECURITIES LENDING FACILITY 2.7

As a liquidity improvement measure, in January 1998 a lending facility for newly-opened government securities among current issues open for sale was established. The current securities lending facility came into force on 7 July 1999 and at present comprises all government bonds and Treasury notes among the central government's current issues open for sale, with the exception of 7 per cent government bonds 2024.

The principle behind the facility is that the market must function independently. Therefore use of the facility is subject to a fee. The size of the fee is an incentive to market participants to limit their use of the facility to special situations. Securities dealers who are licensed to trade on the Copenhagen Stock Exchange may borrow government securities for up to one week. They must pledge other government securities as collateral for the borrowed securities. These transactions are transacted as repurchase transactions.

In the 2nd half of 1999 lending took place primarily in the newly-opened 4 per cent government bonds 2002 and 5 per cent government bonds 2005. In addition, minor amounts were lent in 6 per cent government bonds 2009, cf. Chart 2.7.1. Lending in 4 per cent government bonds 2002 in July and August is close to the opening dates for the

CONCLUDED SECURITIES LENDING, 2ND HALF OF 1999 Chart 2.7.1



Note: Transacted lending agreements distributed by month. Nominal value of the securities lent.

securities. The lending facility has thus contributed to sustaining the liquidity of the securities at a time when the outstanding amount was very small. In December lending of government securities was considerable due to the limited propensity in the market to lend securities across the turn of the year. A further account of the securities lending facility is given in the announcement on the central government's domestic borrowing in 1999 dated 22 June 1999. This announcement is presented in the Appendix to this publication.

CHAPTER 3

Foreign Borrowing

SUMMARY 3.1

In 1999 the central government's net foreign borrowing was DKK 1.5 billion. Total redemptions were DKK 19.5 billion, and new loans were raised for DKK 21.0 billion. The loans were predominantly raised in dollar and sterling and swapped to euro.

In August Moody's upgraded the rating of the central government's foreign debt to the best possible (Aaa). This rating is of significance to the cost of borrowing to the central government.

Redemptions on the central government's foreign debt in 2000 are expected to be DKK 19.7 billion. The objective is a small reduction in the norm for foreign borrowing. The plan is to raise medium- and long-term loans for just under DKK 15 billion in 2000.

GUIDELINES FOR THE CENTRAL GOVERNMENT'S FOREIGN BORROWING 3.2

The purpose of raising loans in foreign currency is to ensure that Danmarks Nationalbank's foreign-exchange reserve is of an appropriate size. When the central government raises foreign loans, Danmarks Nationalbank purchases the foreign currency proceeds and the equivalent amount in Danish kroner is credited to the central government's account with the Nationalbank.

The main principle for the central government's foreign borrowing is that the redemptions for the year are refinanced via new borrowing, cf. the description of the norm for foreign borrowing in Chapter 1. The norm may be departed from if required out of consideration of the foreign-exchange reserve or the balance of the central government's account with the Nationalbank.

In connection with borrowing, guidelines are used to determine which categories of loan may be used when new loans are raised, cf. Box 3.1. The guidelines set out requirements of both the underlying loan and of the use of interest-rate and currency swaps.

GUIDELINES FOR CHOICE OF LOAN CATEGORIES Box 3.1

The borrowing strategy emphasises simple loan structures which are customary in the market. Simple loan structures are easy to price, and the related legal and operational risks are reduced to a minimum.

The guidelines for foreign borrowing can be summarised as follows:

- The loan structure must be known in the market and used by reputed market participants.
- The loan structure must be composed of simple elements which make the structure transparent.
- The loan structure may not lead to uncertainty concerning the central government's redemption payments or lead to the central government undertaking a disproportionally high credit risk in connection with related interest-rate and currency swaps.

The guidelines are also applied to the borrowing by government-guaranteed entities, cf. Chapter 7.

The central government's borrowing in recent years has been based on simple loan structures. The government has a small number of more complicated (structured) loans raised at the beginning of the 1990s.

BORROWING IN 1999 3.3

In 1999 redemptions on the central government's foreign debt amounted to DKK 19.5 billion. As an element of the management of duration the central government prematurely terminated interest-rate swaps with a total principal of DKK 7.5 billion. These transactions gave proceeds of DKK 0.5 billion to the central government. Medium- and long-term loans for a total of DKK 16.6 billion and short-term loans for a total of DKK 4.3 billion were raised. The central government's net foreign borrowing was thus DKK 1.5 billion, cf. Table 3.3.1.

FOREIGN BORROWING BY THE CENTRAL GOVERNMENT AT MARKET VALUE, 1998-99 Table 3.3.1

DKK billion	Short-term borrowing, net	Medium- and long-term borrowing	Redemptions[1]	Net borrowing
1998	0.0	15.8	37.4	-21.7
1999	4.3	16.6	19.5	1.5
1999 1st qtr.	0.0	1.7	0.3	1.5
1999 2nd qtr.	0.0	2.3	3.2	-0.9
1999 3rd qtr.	0.0	9.8	4.6	5.1
1999 4th qtr.	4.3	2.8	11.3	-4.2

Note: Totals may deviate due to rounding.

[1] Buy-back of own bonds and premature redemption (termination) of swaps are included under redemptions.

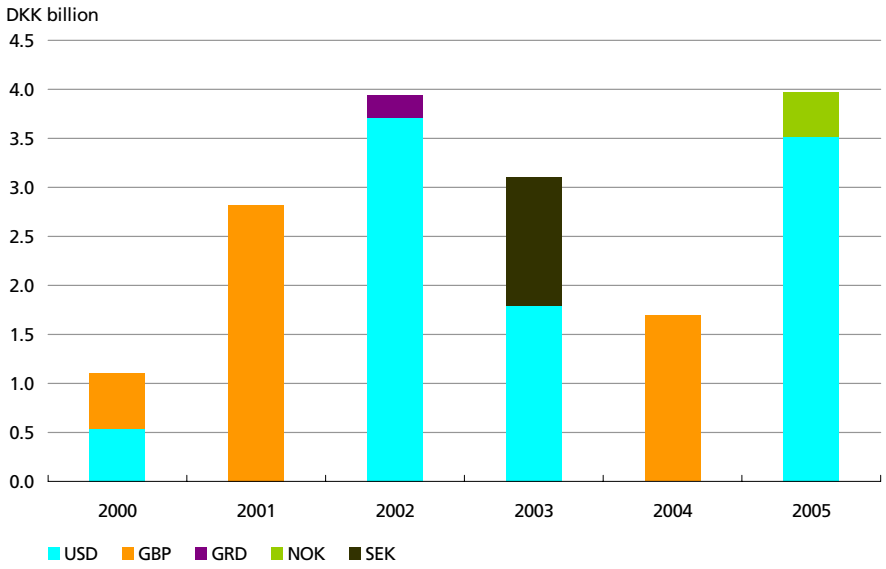
Medium- and long-term borrowing

The strategy for the central government's medium- and long-term borrowing is based on raising small loans on the international financial markets. The loans are normally established on the basis of concrete approaches from foreign investment banks who are in contact with investors with special placement requirements. The investment banks are continuously kept informed of the terms on which the central government is willing to raise loans.

The central government often transacts currency and interest-rate swaps in conjunction with actual borrowing. In this way the individual loan can be matched to the targets for duration and foreign currency exposure. At the same time, any special circumstances prevailing in the international financial and swap markets can be utilised, so as to improve the borrowing terms available to the central government compared to direct borrowing in the required currency and on the required interest terms.

Medium- and long-term borrowing was DKK 16.6 billion in 1999, distributed on 15 loans. All loans are fixed-rate bullet loans. As Chart 3.3.1 shows, the loans were raised mainly in dollars and sterling. The loans were all swapped to euro. Table 3 of the Appendix of Tables describes the individual loans.

MATURITY AND CURRENCY DISTRIBUTION OF MEDIUM- AND LONG-TERM BORROWING IN 1999 — Chart 3.3.1



Note: Borrowing compiled before swaps.

Chart 3.3.1 shows that borrowing is distributed on maturities ranging from 1 to 5 years. The maturity distribution of the borrowing reflects that the central government could achieve the best financing terms in the short- and medium-term sections of the scale. The management of the interest-rate and refinancing risk on the foreign debt imposes limits on the amount of borrowing within the individual maturity segments, cf. Chapter 6. The central government has no foreign loans with maturities exceeding 10 years.

Short-term borrowing

In recent years the redemptions on the government's foreign debt have been financed mainly by medium and long-term borrowing. Short-term borrowing is used primarily if there is a need to increase the foreign-exchange reserve quickly or to ensure a positive balance on the central government's account. Moreover, short-term borrowing can be used as bridge financing until medium- and long-term borrowing can be established. Short-term borrowing takes place mainly by drawing on the central government's Commercial Paper programmes. These programmes make it possible to raise considerable amounts quickly.

In November the central government issued Commercial Paper maturing in February 2000 for USD 200 million, equivalent to DKK 1.4 billion. The securities were issued at a time of uncertainty regarding the balance of the central government's account during the days just after the turn of the year, primarily as a consequence of uncertainty concerning demand at the Treasury bill auction in December.

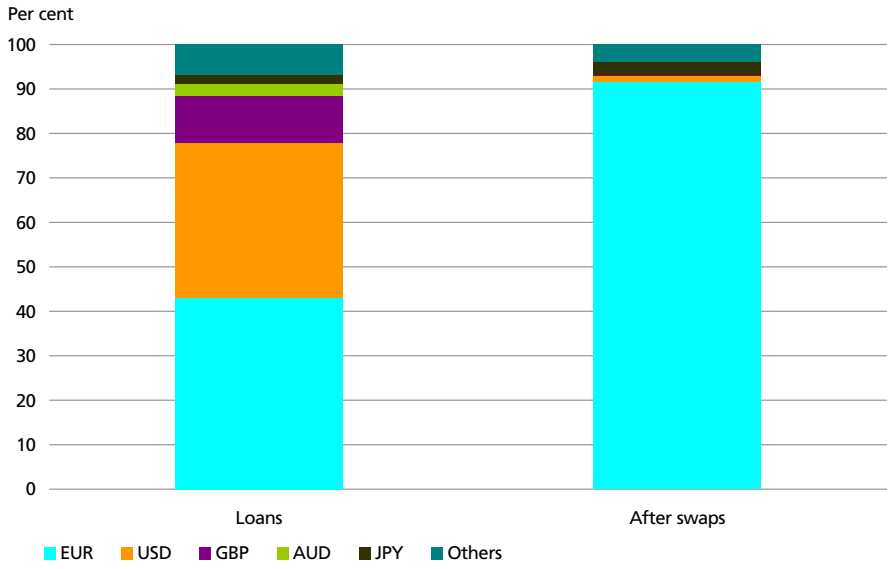
In October the central government raised a 3-month zero-coupon loan denominated in euro. Total proceeds were DKK 2.9 billion. Up to the turn of the year the level of activity in the international borrowing markets normally declines. The market also evaluated that the level of activity towards the end of year would be lower than normal as a consequence of the year 2000 situation.

CURRENCY DISTRIBUTION OF THE CENTRAL GOVERNMENT'S FOREIGN DEBT 3.4

The central government raises foreign loans in a number of different currencies. The loans are converted via currency swaps so that by far the greatest proportion of the central government's foreign debt is denominated in euro or in euro-area currencies. All borrowing in 1999 was in euro, either directly or via currency swap transactions.

The outstanding principal of the central government's swap portfolio is DKK 121 billion, which is greater than the debt itself. The background

CURRENCY DISTRIBUTION OF THE FOREIGN GOVERNMENT DEBT
BEFORE AND AFTER CURRENCY SWAPS, END-1999 Chart 3.4.1



Note: EUR represents all currencies which are part of the euro area.

is that often several swaps are linked to a single loan. Chart 3.4.1 illustrates the impact of currency swaps. Compiled including currency swaps 92 per cent of the debt at the close of 1999 was denominated in the currencies of euro-area member states. For comparison, the proportion of the debt is 43 per cent excluding currency swaps.

The exchange-rate risk on the central government's foreign debt is subject to coordinated management with Danmarks Nationalbank's foreign-exchange reserve. This means that the exchange-rate risk on the assets in the foreign-exchange reserve and the liabilities which constitute the central government's foreign debt are considered as one, cf. Chapter 6.

RATING 3.5

The credit standing of the Kingdom of Denmark is subject to ongoing assessment by the rating agencies Moody's and Standard & Poor's who visit Denmark at regular intervals and evaluate the Danish economy. The rating is of significance to the costs of borrowing to the central government.

In August 1999 Moody's upgraded the rating of the Kingdom of Denmark's foreign debt to highest possible (Aaa). The press release issued by Moody's in connection with this upgrading is presented in Box 3.2.

MOODY'S UPGRADES DENMARK'S
FOREIGN CURRENCY COUNTRY CEILING TO Aaa Box 3.2

New York, August 23, 1999.

Moody's Investors Services has upgraded Denmark's country ceilings for foreign currency debt and deposits to Aaa from Aa1. As a consequence, the rating on the foreign currency-denominated bonds issued by the Kingdom of Denmark has been raised to Aaa from Aa1. In addition, the ratings of foreign currency-denominated bonds of The Mortgage Bank of Denmark, Great Belt A/S and KommuneKredit were raised to Aaa. The outlook for the ratings is stable.

Moody's noted that Denmark has undergone a profound economic transition as a consequence of comprehensive structural reforms. These adjustments have considerably enhanced the government's financial health as well as the flexibility of the labor market. The unemployment rate has dropped to about 4%, less than half of the European average. By maintaining relatively sizeable fiscal surplusses, the authorities plan to eliminate the government debt over the longer term in order to accommodate the financial pressures stemming from the aging of the population. Although it exercised its opt-out from the single currency stage of European Monetary Union earlier this year, Denmark is likely to enter the euro zone within a few years. Even if Denmark were to stay outside the euro area, however, Moody's believes that the fundamental strengthening of the Danish economy warrants the upgrade of the country ceiling to Aaa.

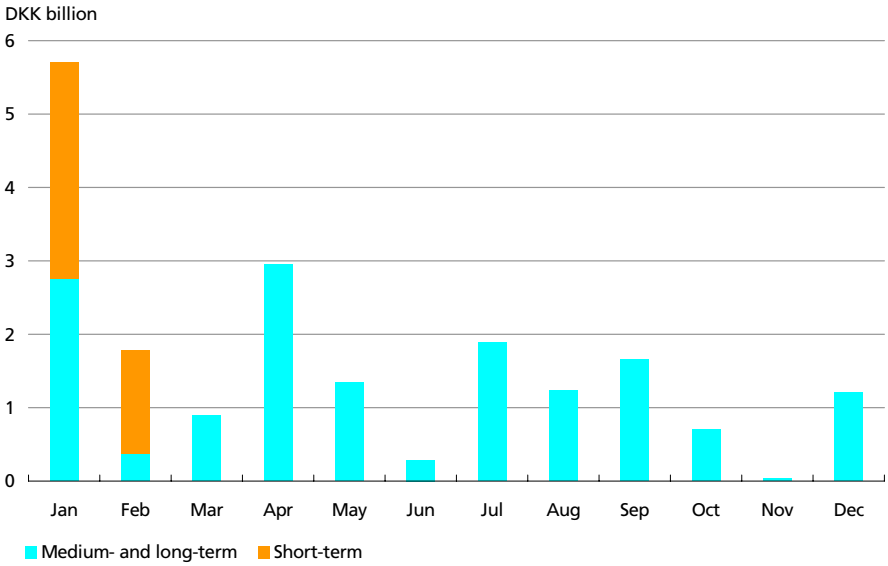
Moody's emphasized that additional measures to improve the functioning of the labor market and to reduce the tax wedge will be needed to activate the underutilized segments of the workforce and redress the deterioration in Danish competitiveness. The weakening of the trade and current account balances suggests that a new round of reform in these areas should be undertaken in the near term in order to consolidate the economic progress achieved over the last decade.

The Kingdom of Denmark's foreign debt is rated AA+ by Standard & Poor's, which is the second-highest rating given by that rating agency. Furthermore Standard & Poor's has added the comment "positive outlook" as an indicator of a possible upgrading to the highest category.

BORROWING IN 2000 3.6

The redemptions on the central government's foreign debt in 2000 are DKK 19.7 billion including redemptions on the central government's CP issue. The distribution of the redemptions over the year is presented in Chart 3.6.1. As the chart shows, the redemptions are concentrated in the first part of the year. In view of an expected substantial balance on the central government's account with the Nationalbank and an ample foreign-exchange reserve the aim is a small reduction of the foreign borrowing norm. It is expected that medium- and long-term loans for almost DKK 15 billion will be raised in 2000.

REDEMPTIONS ON FOREIGN GOVERNMENT DEBT IN 2000 Chart 3.6.1



CHAPTER 4

The Social Pension Fund

SUMMARY 4.1

At the close of 1999 the nominal value of the bond portfolio of the Social Pension Fund (SPF) was DKK 141.6 billion. Government bonds account for almost 75 per cent of the portfolio. The remainder is invested mainly in mortgage-credit bonds. SPF's income from interest totalled DKK 10.8 billion in 1999. An amount of DKK 7.4 billion was transferred to the Ministry of Social Affairs to cover pension improvement measures, while DKK 3.2 billion was repaid as pensionfund tax. The duration of the portfolio at the close of 1999 was 4.2 years.

With effect from 1 January 1999 the Social Pension Fund Act was amended. As a follow-up to this legislative amendment the regulations were revised in 1999. In this connection the management of the assets of SPF in relation to the government debt was further specified.

BACKGROUND 4.2

SPF was established by the Social Pension Fund Act in 1970 whereby a special national retirement pension contribution was introduced. The proceeds were allocated to SPF and were to be invested in bonds.

With effect from 1982 the Act was amended and the payments to SPF ceased. SPF was continued as an asset of the central government. It was also decided that the interest on SPF's bond portfolio would be used to finance pension improvement measures or allocated to SPF.

The Danish Finance Act stipulates the amount to be transferred from SPF to the Ministry of Social Affairs on a current basis to cover the costs of the pension improvement measures taken with reference to SPF. With effect from 1 January 1999 the Act was amended so that the Act states that the core capital of SPF may be used to finance pension improvement measures, should the costs of such measures exceed the income from interest. Since 1996 this principle for transfer to the Ministry of Social Affairs has been stipulated in a text note to the Finance Act.

Since the expenditure is expected to exceed the income from interest, the principle for transfer to the Ministry of Social Affairs implies a gradual reduction of SPF's core capital over a number of years. SPF's nominal bond portfolio is thus estimated to be in the range of DKK 125 billion at the close of 2005, compared to DKK 142 billion at the close of 1999.

MANAGEMENT OF SPF AND INVESTMENT POLICY 4.3

SPF is part of the remit of the Minister of Social Affairs and the Minister of Finance. The overall management of the bond portfolio of SPF is handled by a committee with representatives from the Ministry of Finance, the Ministry of Social Affairs and Danmarks Nationalbank. The day-to-day management of the assets of SPF is handled by Danmarks Nationalbank.

The principles for the management of SPF's capital are set out in regulations. The regulations state that the aim is to achieve a satisfactory return on SPF's assets while taking due account of the overall budgetary consequences of SPF's transactions.

The most recent adjustment of the regulations, which took place in the light of the aforementioned legislative amendments, further specifies the management of SPF's assets in relation to the government debt. At the quarterly government-debt meetings of the Ministry of Finance, the Ministry of Economic Affairs and Danmarks Nationalbank a duration band is determined for the central-government debt – including the bond portfolio of SPF – within which the duration is kept. The aforementioned committee to manage SPF approves the duration band for the Fund. The management of the duration of the government debt is described in more detail in Chapter 8.

SPF's capital is placed in stock-exchange-listed bonds. Within the last five years SPF's portfolio of government bonds has increased to almost 75 per cent. The revised regulations state that the funds are to be invested primarily in government bonds. It is sought to ensure that SPF's purchases are made without significantly affecting the formation of interest rates in the bond market, including the spread between yield on mortgage-credit and government bonds.

CURRENT PAYMENTS AND PORTFOLIO OF THE FUND 4.4

In 1999 income from interest was DKK 10.8 billion. Of this amount DKK 7.4 billion was transferred to the Ministry of Social Affairs to

BOND PORTFOLIO OF THE SOCIAL PENSION FUND, YEAR-END 1994-99 Table 4.4.1

DKK billion	1994	1995	1996	1997	1998	1999
Nominal value	146.9	151.5	148.8	146.8	143.6	141.6
Market value	138.3	153.5	156.6	157.4	159.8	150.7

Note: Index-linked bonds are included at indexed value in the calculation of nominal value.

finance pension improvement measures. Pension-fund tax of DKK 3.2 billion was paid. Bonds for a book value of DKK 17.8 billion were drawn and sold.

The remaining income from interest and the proceeds from drawings and sale were placed in government bonds.

At the close of the year the bond portfolio of SPF was DKK 141.6 billion at nominal value, cf. Table 4.4.1. The portfolio thus accounts for a good 7 per cent of the total outstanding amount of bonds listed on the Copenhagen Stock Exchange. During 1999 the nominal portfolio decreased by DKK 2.0 billion. This decline is related mainly to the reinvestment of the proceeds from drawn bonds in government bonds at prices above par. The market value fell by DKK 9.1 billion during 1999, especially as a consequence of the rising level of interest rates.

The bond portfolio mainly comprises government bonds, which constitute almost 75 per cent of the securities portfolio, cf. Table 4.4.2. The remainder of the portfolio is invested mainly in mortgage-credit bonds.

The distribution of SPF's portfolio by year of maturity is presented in Chart 4.4.1. The government securities in the portfolio all mature in 2007 or earlier, while most of the mortgage-credit, index-linked and Ship Credit Fund bonds in the portfolio mature after 2007.

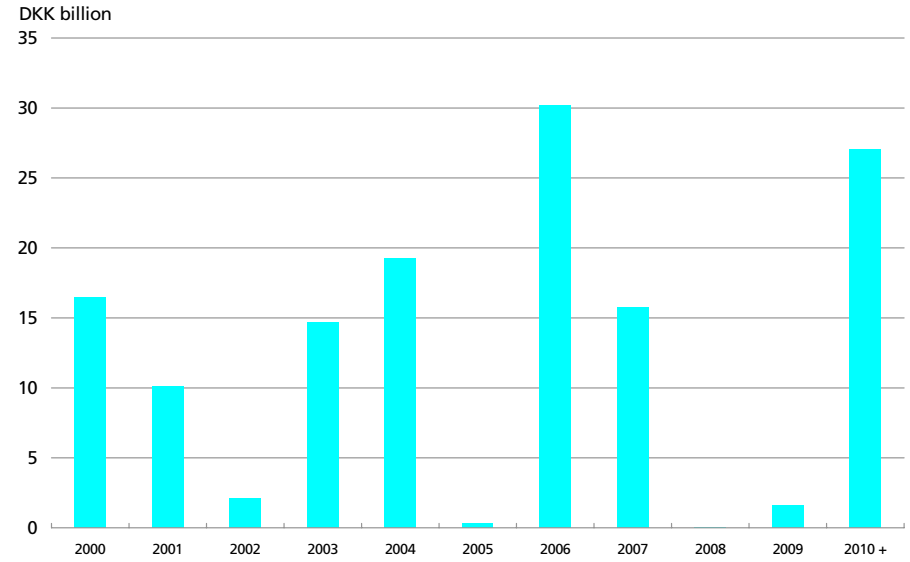
At the close of 1999 the option-adjusted duration of SPF's bond portfolio was 4.2 years, which is a good ½ year more than at the close of

BOND PORTFOLIO OF THE SOCIAL PENSION FUND
DISTRIBUTED BY TYPES OF BOND, YEAR-END 1998-99 Table 4.4.2

	1998		1999	
Nominal value	DKK billion	Per cent	DKK billion	Per cent
Government bonds	100.1	69.7	105.4	74.4
Mortgage-credit bonds[1]	34.4	23.9	27.6	19.5
Index-linked bonds[2]	8.6	6.0	8.2	5.8
Other bonds[1]	0.5	0.3	0.4	0.2
Total	143.6	100.0	141.6	100.0

[1] Excluding index-linked bonds.
[2] Indexed value.

BOND PORTFOLIO OF THE SOCIAL PENSION FUND
DISTRIBUTED BY YEAR OF MATURITY, END-1999, NOMINAL VALUE Chart 4.4.1



1998, cf. Table 4.4.3. The duration of the portfolio of government bonds is by and large unchanged, while the duration of the rest of the bond portfolio has increased. This increase is related to the rising level of interest rates, which reduces the conversion risk and thereby increases the duration of callable mortgage-credit bonds.

DURATION OF THE SOCIAL PENSION FUND'S BOND PORTFOLIO Table 4.4.3

Year	End-1998	End-1999
Government bonds	3.9	3.8
Other bonds	2.8	5.6
Total portfolio	3.6	4.2

Note: For callable mortgage-credit bonds an option-adjusted duration is used which takes the conversion element into account.

CHAPTER 5

Government Debt

SUMMARY 5.1

Central-government finances showed a surplus in 1999 and the debt decreased by just over DKK 10 billion. At the close of the year the central-government debt was DKK 560.5 billion.

Total interest expenditure in 1999 was DKK 37.8 billion, which is less than in 1998.

At the close of 1999 the debt of the general-government sector compiled in accordance with the EU Treaty was DKK 639.5 billion, or 55.0 per cent of GDP.

Non-residents held 36 per cent of Danish government securities at end-1999.

GOVERNMENT DEBT 5.2

The central-government debt is compiled as the nominal value of domestic and foreign debt less the balance of the central government's account with Danmarks Nationalbank and the Social Pension Fund. At the close of 1999 the central-government debt was DKK 560.5 billion, which is a decrease by DKK 10.3 billion from 1998, cf. Table 5.2.1. The decline in the government debt is a consequence of a surplus on central-government finances. The debt amounted to 46.3 per cent of GDP at the close of 1999.

Net government borrowing comprises respectively domestic and foreign net borrowing as well as drawings on the central government's account with the Nationalbank. Total net borrowing at market value was DKK -8.0 billion in 1999.

Net borrowing after value adjustments corresponds to the change in the nominal government debt. Value adjustments comprise capital losses on issue and exchange-rate adjustments. Capital losses on issue are compiled as the difference between the borrowing for the year at nominal value and market value. In 1999 the capital losses on issue for the domestic debt were DKK -0.8 billion while the total value adjustment for foreign borrowing was DKK 0.2 billion.

NET BORROWING AND CHANGES IN THE GOVERNMENT DEBT, 1996-2000 Table 5.2.1

DKK billion	1996	1997	1998	1999	2000
Net borrowing					
Domestic borrowing	19.3	-5.9	-10.2	-7.1	-19.3
Foreign borrowing[1]	-5.0	-0.2	-21.7	1.5	-1.4
Drawing on Danmarks Nationalbank	2.6	2.0	-1.3	-2.5	1.4
Net borrowing at market value	16.9	-4.1	-33.1	-8.0	-19.3
Value adjustment					
Domestic capital losses on issue[2]	1.6	1.8	-0.5	-0.8	2.7
Foreign capital losses on issue[2]	0.0	0.2	0.1	0.0	0.0
Exchange-rate adjustment (-gain), etc.	0.0	1.4	-0.3	0.2	0.0
Net borrowing at nominal value	18.6	-0.8	-32.5	-8.6	-16.6
Balance-sheet items, year-end, nominal value					
Domestic debt	677.7	673.7	656.4	648.6	632.0
Foreign debt	101.5	103.6	88.3	90.0	88.6
Central government's account with Danmarks Nationalbank[3]	31.1	29.0	30.4	36.5	35.1
The Social Pension Fund[4]	148.8	146.8	143.6	141.6	140.6
Government debt	599.4	601.5	570.8	560.5	544.9

Source: Central-government accounts 1996, 1997 and 1998. For 1999, the forecast in Budget Review 5-99 and provisional statistics from the central-government accounts. The forecast statistics for 2000 are based on Budget Review 5-99 and the Finance Bill for 2000.

Note: In 1998 the central government's 8.5 per cent government bonds EUR 2002 was reclassified from domestic to foreign debt. The Social Pension Fund's net bond purchases are not included in the domestic and total net borrowing.

[1] 1999, including proceeds of DKK 0.5 billion as a consequence of the early redemption of two foreign interest-rate swaps. The amount is counterbalanced under exchange-rate adjustments.

[2] Including capital losses on buy-backs.

[3] For 1999 the central government's account is compiled in accordance with the balance sheet of Danmarks Nationalbank.

[4] The Social Pension Fund's portfolio of index-linked bonds are compiled at indexed value.

OWNERSHIP STRUCTURE OF GOVERNMENT SECURITIES 5.3

The domestic debt constitutes by far the largest proportion of the government debt, cf. Table 5.2.1. The delineation of domestic and foreign debt is based on the currency in which the loan is denominated. Domestic debt is therefore loans in Danish kroner, while foreign debt is loans in foreign currency. The compilations of domestic and foreign debt do not refer to the home country of the investor.

Statistics Denmark compiles the ownership distribution of securities by sector on a quarterly basis. These statistics are based on information from the Danish Securities Centre. The investor distribution of Danish krone-denominated government securities can then be compiled, cf. Table 5.3.1. The table shows that non-residents are the largest investor group, with an ownership share of 36 per cent at the close of 1999.

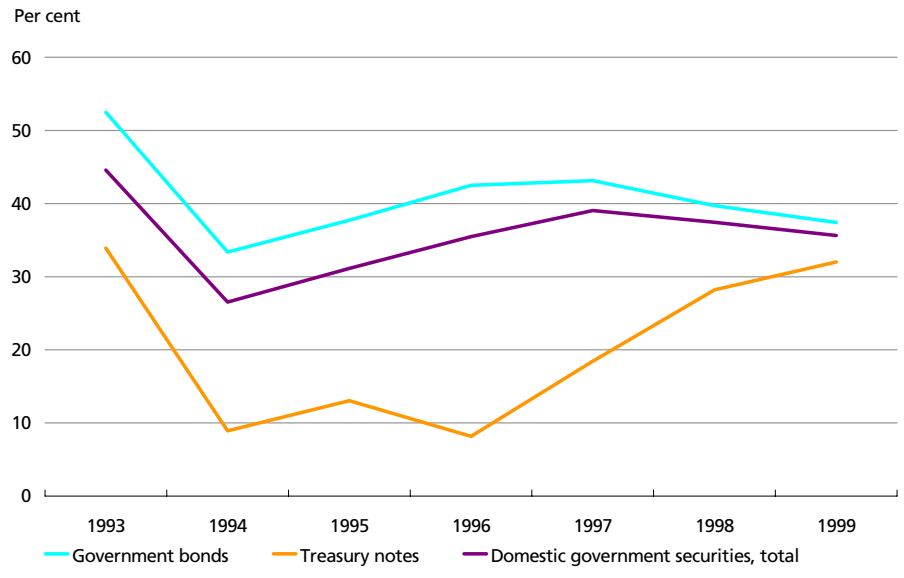
DISTRIBUTION BY SECTOR OF CIRCULATING
KRONE-DENOMINATED GOVERNMENT SECURITIES, 1998-99 Table 5.3.1

Per cent	End of 4th qtr. 98	End of 1st qtr. 99	End of 2nd qtr. 99	End of 3rd qtr. 99	End of 4th qtr. 99
Non-financial companies	5	4	4	5	5
Financial institutions including Danmarks Nationalbank	21	21	21	22	22
Insurance companies and pension funds	9	8	9	9	10
General-government sector	21	21	21	21	22
Private, non-dividend paying institutions	1	1	1	1	1
Households	4	3	3	3	3
Non-residents	37	40	95	38	36
Not stated	1	1	1	1	1
Total	100	100	100	100	100
Total market value, DKK billion	733.2	743.1	733.9	720.2	684.1

Note: Statistics Denmark's distribution by sector of krone-denominated government securities is adjusted for repo transactions between Danish banks and non-residents. Moreover, estimated adjustments are made for the safekeeping-account holdings of residents, e.g. Euroclear.

Foreign investors have shown particular interest in government bonds, and for a number years their ownership share has been around 35-40 per cent, cf. Chart 5.3.1. Non-resident ownership of Treasury notes has traditionally been lower, although the proportion has risen in recent

NON-RESIDENTS' OWNERSHIP SHARE OF
DOMESTIC GOVERNMENT SECURITIES, YEAR-END 1993-99 Chart 5.3.1



years. As a consequence, at the close of 1999 more than one in three Treasury notes were held by non-residents.

Issues of foreign loans are planned to accommodate foreign investors. The non-resident ownership share is estimated to be close to 100 per cent.

INTEREST EXPENDITURE 5.4

The costs related to the government debt consist of interest, distributed capital losses on issue and realised exchange-rate losses. According to the accounting policies applied as from 1 January 1998 interest and capital losses on issue are accrued as of time of earning.

Interest expenditure is calculated according to the interest debited for the year, equivalent to the number of days a loan has run in that year. The capital loss on issue, which is the difference between nominal value and market value on issue, is distributed by a straight-line principle across the maturity of the loan.

Total interest expenditure in 1999 was DKK 37.8 billion, which is DKK 1.1 billion less than in 1998. The interest expenditure for the domestic debt decreased by DKK 2.6 billion from 1998 to 1999. At the same time

INTEREST EXPENDITURE ON THE GOVERNMENT DEBT, 1996-2000 Table 5.4.1

DKK billion	1996	1997	1998	1999	2000
Domestic debt					
Interest	47.8	49.7	45.7	43.6	42.3
Distributed capital losses on issue	6.4	4.4	3.5	2.9	1.9
Interest expenditure	54.2	54.1	49.1	46.5	44.2
Foreign debt					
Interest	5.6	3.9	4.8	4.0	3.8
Realised exchange-rate losses on redemptions	-	-	-1.3	-0.3	0.0
Distributed capital losses on issue	1.0	0.7	0.1	0.1	0.0
Interest expenditure	6.6	4.6	3.6	3.8	3.9
Interest concerning					
Central government's account with Danmarks Nationalbank	-1.5	-1.2	-1.7	-1.8	-1.8
The Social Pension Fund	-15.3	-14.0	-12.2	-10.8	-11.0
Total	44.0	43.5	38.9	37.8	35.3

Source: Central-government accounts 1996, 1997 and 1998. For 1999 provisional statistics from the central-government accounts. For 2000 forecast statistics based on the Budget Review 5-99 and the Finance Bill for 2000.

Note: A new accounting policy as from 1 January 1998 changed the calculation of interest expenditure and distributed capital losses on issue. At the same time, the central government's euro-denominated loan was reclassified from domestic to foreign debt. The period 1998-2000 is therefore not directly comparable with the period 1996-97.

the interest revenue of the Social Pension Fund declined by DKK 1.4 billion, cf. Table 5.4.1.

The decrease in the central government's interest expenditure can be attributed to low market interest rates. Low market interest rates mean that debt at relatively high interest rates is refinanced with debt at lower interest rates. As the high-interest debt is replaced with low-interest debt, the interest expenditure is gradually reduced. The decreasing debt also contributes to lower interest expenditure for the central government.

THE GROSS DEBT OF THE GENERAL-GOVERNMENT SECTOR – EMU DEBT 5.5

The general-government sector's budget deficit and debt are compiled in accordance with the EU Treaty. Besides the central government the general-government sector includes local government and social security funds. The central government accounts for the largest proportion of the debt of the general-government sector.

The debt of the general-government sector is compiled on a gross basis, which further differentiates the compilation method from the debt compiled in Table 5.2.1. In the compilation of the gross debt the general-government sector may, however, consolidate the debt with claims on itself. This e.g. means that the portfolio of government securities of the Social Pension Fund may be deducted from the debt, but not its portfolio of mortgage-credit bonds, etc.

The European Commission monitors the development of the budgetary situation of the member states in order to assess whether budgetary discipline is maintained. This evaluation is based on two criteria which are set out directly in the EU Treaty. The first criterion is that the general-government deficit may not exceed 3 per cent of GDP, unless the deficit has declined substantially and continuously and reached a level that comes close to 3 per cent of GDP, or the excess over the reference value is only exceptional and temporary. The second criterion concerns the general-government debt, which may not exceed 60 per cent of GDP unless the ratio is sufficiently diminishing and approaching 60 per cent of GDP at a satisfactory pace, cf. Article 104 of the EU Treaty and the related protocol.

Twice a year the member states are required to report details of the budget deficit and debt of the general-government sector to the European Commission. The Commission then prepares a report concerning the countries which do not comply with the aforementioned criteria. On the basis of a recommendation from the Commission and having

GENERAL-GOVERNMENT SECTOR'S BUDGET BALANCE AND DEBT, 1995-99 Table 5.5.1

	1995	1996	1997	1998	1999
General-government balance in DKK billion	-23.4	-9.0	4.4	11.3	36.5
General-government balance as a percentage of GDP	-2.4	-0.9	0.4	1.0	3.1
Gross debt in DKK billion	699.7	690.6	682.8	649.7	639.5
Gross debt as a percentage of GDP	72.1	67.7	63.9	58.0	55.0

Source: Ministry of Economic Affairs, *Economic Survey*, December 1999.
Note: The statistics are based on the EU definitions according to ESA79.

considered any observations which the member state may wish to make, the Council then determines whether an excessive budget deficit exists.

Denmark has not had an excessive budget deficit since June 1996. This is due to a budget deficit of less than 3 per cent of GDP and a debt ratio which is falling at a sufficient pace, even though up to 1998 the debt exceeded 60 per cent of GDP, cf. Table 5.5.1.

At the close of 1999 the debt of the general-government sector compiled in accordance with the EU Treaty was DKK 639.5 billion, or 55.0 per cent of GDP. The debt ratio is thus 5 percentage points below the threshold of 60 per cent.

CHAPTER 6

Risk Management

SUMMARY 6.1

The central government's domestic and foreign borrowing entail a number of risks, including interest-rate, exchange-rate and credit risk.

To manage the interest-rate risk on the government debt targets for the duration and redemption profile of the debt are applied. Furthermore, Cost-at-Risk (CaR) is used for the management of the interest-rate risk on the domestic debt.

During 1999 the duration of the government debt was reduced gradually from 4.4 year to 3.8 years.

The exchange-rate risk on the foreign government debt and Danmarks Nationalbank's foreign-exchange reserve is subject to coordinated management according to a currency distribution (the neutral distribution) determined on a quarterly basis by the Ministry of Finance, the Ministry of Economic Affairs and Danmarks Nationalbank. The determination of the neutral distribution is based on expected risks and returns in relation to a currency-distribution benchmark which in view of the fixed-exchange-rate policy is determined as a placement solely in euro.

The performance of the neutral distribution in relation to the benchmark was negative in 1999 at an amount of approximately DKK 320 million. This in particular reflects the strengthening of the dollar and the yen vis-à-vis the euro. The accumulated performance for the period 1992-99 was positive at approximately DKK 500 million.

During 1999 the central government's credit exposure to swap counterparties increased by DKK 3.7 billion to DKK 11.7 billion in total. The increase is attributable in particular to the strengthening of the dollar against the euro, which entailed an increase in the market value of the portfolio by DKK 4.5 billion. In view of the high credit standing of the counterparties the credit risk on the swap portfolio is evaluated to be modest.

In 1999 the credit-risk management of swaps was extended. The central government began to sign collateral agreements with its counterparties. This led to a reduction in both the actual and the (future) potential credit exposure. The central government is expected to have

signed collateral agreements with around 20 counterparties before the end of 2000, after which 75 per cent of the portfolio will be covered by collateral agreements. Since mid-1999 the central government has only transacted new swaps with counterparties who have either signed, or are expected soon to sign, a collateral agreement.

INTEREST-RATE AND REFINANCING RISK 6.2

The overall management of the interest-rate and refinancing risk on the central-government debt is based on targets for the duration and redemption profile of the debt. As a supplement Cost-at-Risk (CaR) is applied.

Duration, redemption profile and CaR each in their own way illustrate different aspects of the exposure of the government debt to fluctuations in interest rates.

Duration

Duration is a measure of the average fixed interest period of the debt. The duration applied in government debt management is the Macaulay duration, cf. Box 6.1. The duration is managed to ensure that the interest expenditure on the government debt does not increase by a disproportional amount in the event of an increase in the general level of interest rates.

DEFINITION OF DURATION Box 6.1

The duration of the government debt is calculated as a Macaulay duration (V_{Mac}). This is defined as:

$$V_{Mac}(s, i_s) = \sum_t (t - s) \frac{C_t (1 + i_s)^{-(t-s)}}{\sum_u C_u (1 + i_s)^{-(u-s)}}$$

where s is today, i_s is a discount rate and t is the time of the future payment C_t.

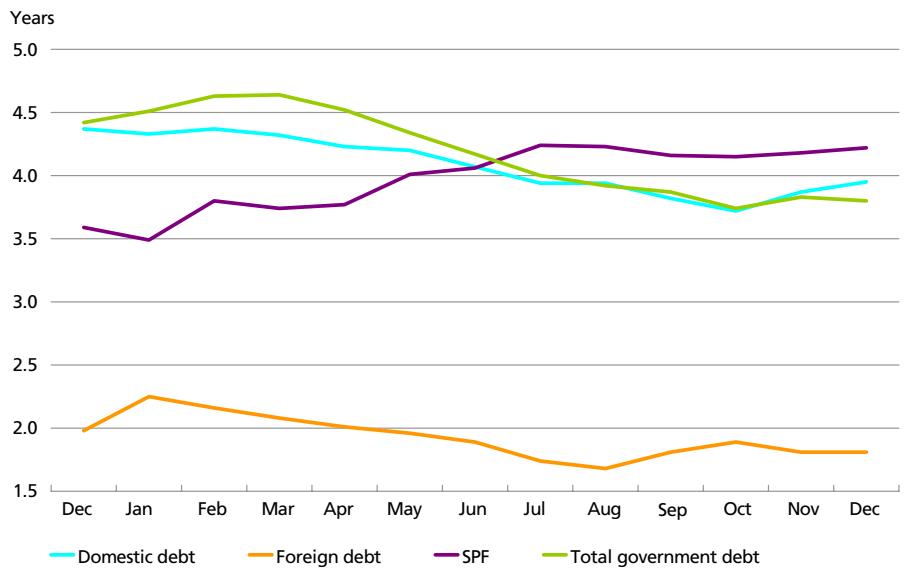
Duration indicates the average fixed interest period for the debt. The longer the duration, the longer the time it will take for the debt to adjust to the current level of interest rates. Longer duration thereby results in a lower risk on the debt, since on average smaller elements of the debt are adjusted to the current level of interest rates. Long duration thus typically entails a small variation in the annual interest costs on the debt.

Duration is an average measure of the interest-rate risk and does not describe the spread of the payments on the debt. A duration of 4 years can be achieved either via one single loan with a duration of 4 years, or via a combination of e.g. 75 per cent of the debt as loans with a duration of 2 years, and 25 per cent as loans with a duration of 10 years.

In view of the declining government debt and an evaluation of the relation between borrowing costs and interest-rate risk it was decided to reduce the duration. During 1999 the duration of the government debt was therefore reduced from 4.4 years to 3.8 years. The aim is to achieve a further reduction of duration in 2000 to around 3.5 years. On determining the duration target account is taken of the other objectives of government debt policy, first and foremost the necessity of an attractive range of current issues open for sale. The duration target for the domestic debt in 2000 is around 3.75 years.

The duration of the government debt is managed by determining targets for the duration of the subcomponents of the government debt. Independent duration targets are thus determined for the domestic debt, the foreign debt and the Social Pension Fund (SPF). The development in the duration of the subcomponents of the government debt during 1999 is presented in Chart 6.2.1. At the close of 1999 the duration of the domestic debt was 4.0 years, compared to 4.4 years at the close of 1998. The duration of the foreign debt was equivalently lowered from 2.0 years to 1.8 years. The duration of the securities portfolio of SPF rose from 3.6 years to 4.2 years. In isolated terms, an increase in SPF's duration contributes to a reduction in the duration of the government debt, since assets with a long duration neutralise the contribution to duration from liabilities with a long duration.

DURATION 1999, END OF MONTH — Chart 6.2.1



In recent years the determining of the duration target for the individual components of the debt has been considered on an overall basis. As from 2000, the management of the duration of the government debt will be further formalised. A duration target is thus determined for the total central-government debt. On this basis, targets are defined for the duration of the domestic debt, the foreign debt and SPF, cf. Chapter 8.

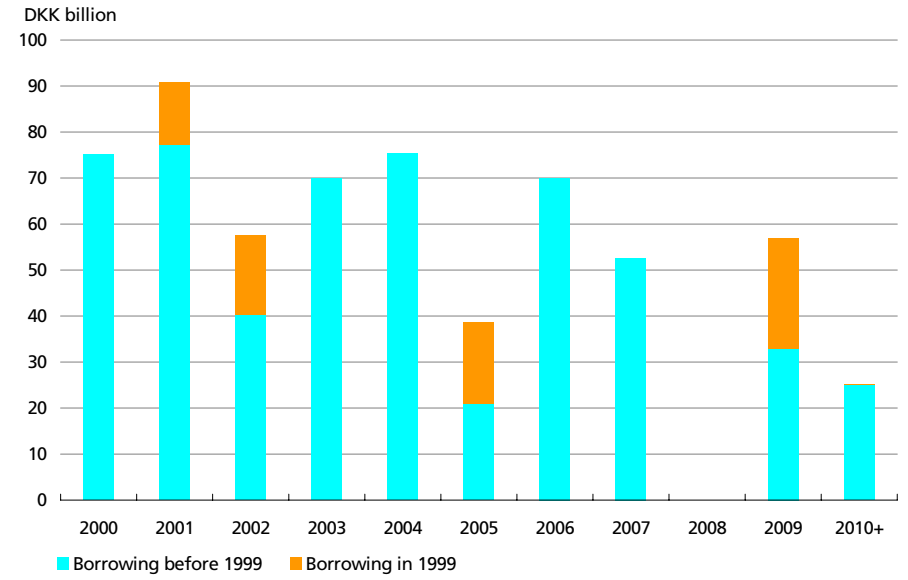
Redemption profile

The redemption profile of the government debt shows the distribution of the redemptions over time. To reduce the risk of the central government being disproportionally affected by unfavourable financing terms in a particular year, the aim is to equalise the refinancing requirement across the individual years.

Chart 6.2.2 presents the redemption profile for the domestic debt. The structure reflects the strategy of building up large liquid series in the 2-, 5- and 10-year maturity segments. Issues in the securities among current issues open for sale will further equalise the redemption profile in 2000.

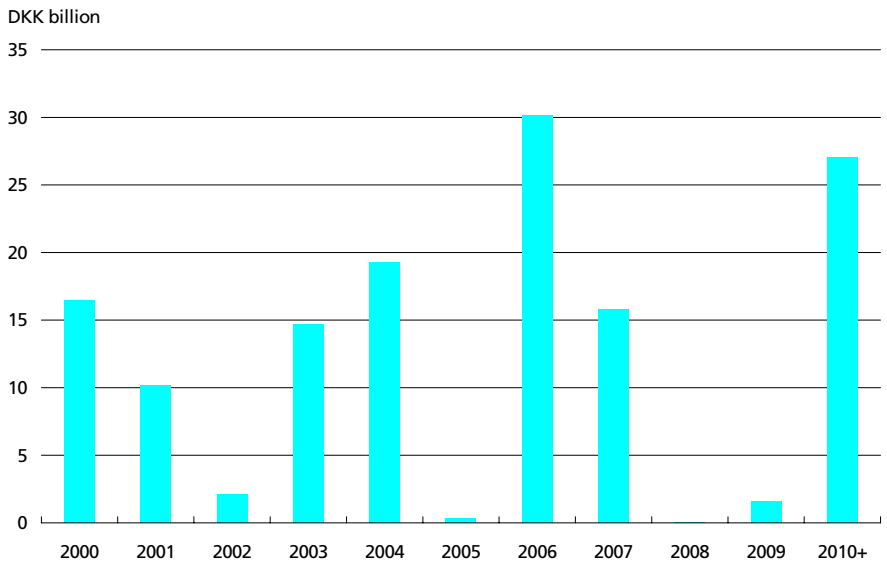
The maturity profile of SPF's bond portfolio is presented in Chart 6.2.3. The modest portfolio of bonds maturing in 2002, 2005 and 2009 reflects that SPF does not invest in government securities which are among the current issues open for sale.

REDEMPTION PROFILE – DOMESTIC GOVERNMENT DEBT, END-1999 Chart 6.2.2



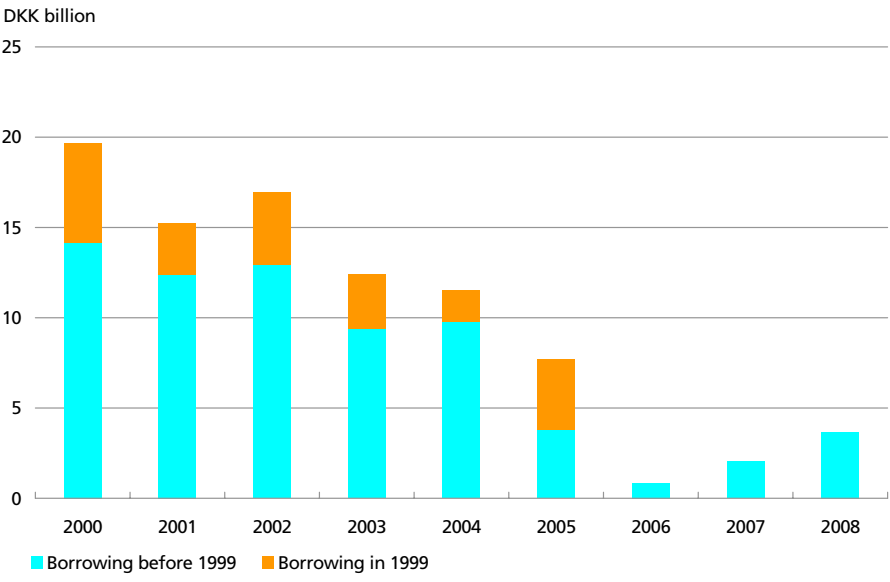
Note: Excluding Treasury bills.

MATURITY PROFILE – THE SOCIAL PENSION FUND, END-1999 Chart 6.2.3



As for the domestic debt, the objective for the foreign debt is a fairly constant refinancing requirement. Experience shows that there are no systematically determined maturity segments in which issue is more advantageous than in others. On average, equally large amounts are

REDEMPTION PROFILE – FOREIGN GOVERNMENT DEBT, END-1999 Chart 6.2.4



issued in all maturity segments from 1 to 10 years. The objective of a stable refinancing requirement is therefore reflected in a declining redemption profile. Chart 6.2.4 presents the redemption profile for the foreign government debt.

Cost-at-Risk

Cost-at-Risk (CaR) is used as a supplement to duration and redemption profile in the management of the interest-rate risk on the domestic government debt. CaR is a quantification of the interest-rate risk on the debt. The results of the CaR calculations are used to determine the composition of borrowing, cf. Chapter 9.

The long-term objective is to expand the CaR model to comprise the total central-government debt.

EXCHANGE-RATE RISK 6.3

Since 1992 the exchange-rate risk on the foreign government debt and the Nationalbank's foreign-exchange reserve, which together result in either net foreign assets or net foreign liabilities, have been subject to coordinated management, cf. Chapter 1.

Net foreign assets and currency distribution in 1999

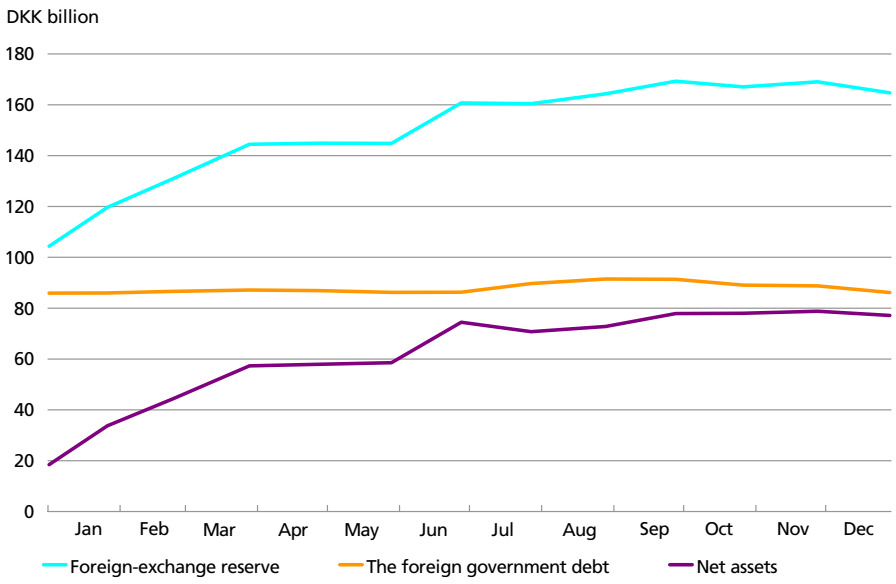
Throughout 1999 net foreign assets were held. The net assets increased from approximately DKK 20 billion at the beginning of the year to almost DKK 80 billion at the close of the year, cf. Chart 6.3.1. The increase was a result of the Nationalbank's purchases of foreign currency by intervention.[1]

The exchange-rate risk is managed on the basis of a neutral distribution for the currency composition. This neutral distribution is determined quarterly by the Ministry of Finance, the Ministry of Economic Affairs and Danmarks Nationalbank on the basis of proposals from the Nationalbank.

The neutral distribution is determined by weighing expected risks against returns relative to a benchmark which in view of the fixed-exchange-rate policy is determined as a placement solely in euro. The difference between the neutral distribution and the benchmark can be described as a strategic position. To support the determination of the position a portfolio model is applied which takes into account the long-

[1] The central government's raising of foreign loans does not in itself affect the amount of net assets/net liabilities, since the Nationalbank purchases the currency proceeds and credits an equivalent amount in kroner to the central government's account. The Nationalbank's foreign assets thereby merely increase in step with the foreign government debt.

DISTRIBUTION OF THE NET FOREIGN ASSETS IN 1999 Chart 6.3.1



Note: Observations at end-month.

term exchange-rate expectations, exchange-rate risks and interest-rate differential vis-à-vis the euro-area member states.

The exchange-rate risk is kept at a low level and is managed according to an absolute target. The latter entails that the neutral distribution is determined as an absolute distribution in kroner, and that fluctuations in net foreign assets solely affect the position in euro. This avoids the exchange-rate risk being influenced by fluctuations in the size of the net foreign assets.

Table 6.3.1 presents the neutral distribution for 1999. The distribution is characterised by debt positions in yen and Swiss francs, which are subject to lower interest rates than equivalent euro interest rates. The difference in size between the two debt positions reflects the significantly higher exchange-rate risk in yen. The positions in dollar and sterling must be viewed together since the two currencies show strong

NEUTRAL DISTRIBUTION FOR THE NET ASSETS, 1999 Table 6.3.1

DKK billion	USD	JPY	GBP	CHF	EUR	Total
1999 1st qtr.	0.0	-1.0	-0.5	-3.5	Remainder	57.3
1999 2nd qtr.	0.5	-1.0	-0.5	-3.5	Remainder	74.4
1999 3rd qtr.	1.0	-1.0	0.0	-3.5	Remainder	77.9
1999 4th qtr.	-2.0	-0.5	1.0	-3.5	Remainder	77.1

Note: Negative figures indicate a debt position. The size of the net assets "Total" is compiled at end of quarter.

correlation. The exchange-rate risk on the relatively large debt position in dollar in the 4th quarter is thus offset partly by the simultaneous asset position in sterling.

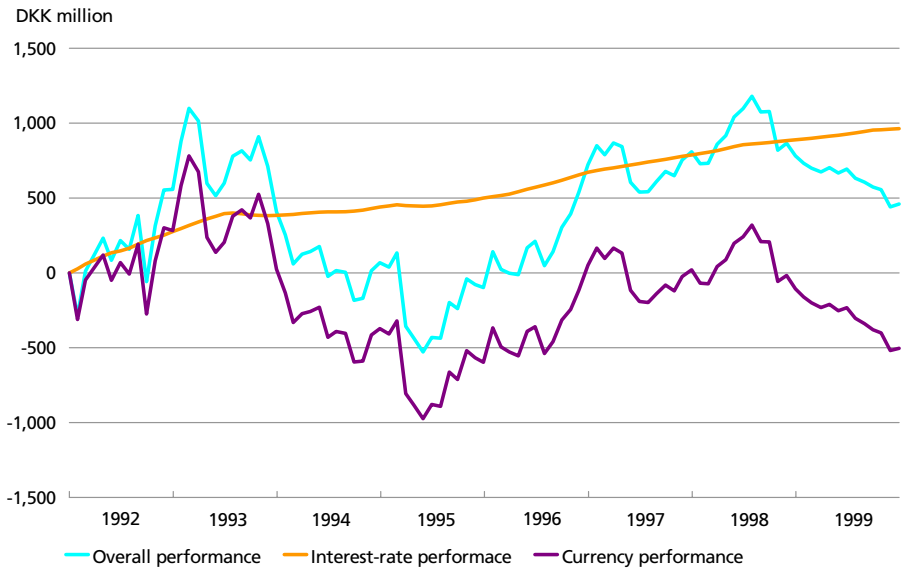
In recent years the Nationalbank has made only moderate use of the opportunity to take positions in relation to the neutral distribution on the basis of short-term exchange-rate expectations. This was also the case in 1999. The limited use of this opportunity should be seen in the light of the wish to exercise greater caution on taking short-term positions and to attach more weight to the adoption of strategic positions at the quarterly meetings.

Performance

The objective is for the active taking of positions to give a higher yield than the benchmark when viewed over a longer period of time. The performance is therefore calculated by compiling the difference in earnings between the neutral distribution and the benchmark. Performance is calculated on the basis of the development in exchange rates and the interest-rate differential to euro.

In 1999 performance was negative at approximately DKK 300 million in total. This is related in particular to the weakening of the euro vis-à-vis dollar and yen. The accumulated performance for the period 1992-99 was positive at approximately DKK 500 million. This reflects a positive

ACCUMULATED PERFORMANCE OF THE NEUTRAL DISTRIBUTION, 1992-99 Chart 6.3.2



Note: Observations at end of month. The calculations take into account the transition from management by a relative to an absolute risk measure; see Chapter 4 of *Danish Government Borrowing and Debt 1998*.

interest-rate performance of approximately DKK 1,000 million and a negative currency performance of approximately DKK 500 million, cf. Chart 6.3.2. To a high degree the positive interest-rate performance can be attributed to the fact that when the neutral distribution is determined debt positions are usually taken in Swiss francs and yen, for which the interest-rate levels are lower.

The Nationalbank's day-to-day positions in relation to the neutral distribution have, as stated, been very moderate and performance is therefore virtually zero.

CREDIT RISK 6.4

Swaps are used by the central government to alter the foreign-currency or interest-rate terms for existing loans.

In a swap two parties agree to make payments to each other which are equivalent to their each having raised a loan from the other party. For the central government payments received in a swap transaction can thereby set off the interest and redemptions on a loan, so that the payments made under the contract with the swap counterparty constitute the actual costs of the loan.

A swap transaction implies that the central government risks a loss if the counterparty defaults on the payment obligations under the contract. This risk of loss is called the credit risk and constitutes the possible positive market value of the contract to the central government. The market value is the difference in market value between the two (theoretical) loans which make up the swap contract.

Credit-risk management of the central government's swap portfolio

In order to limit the credit risk on the central government's swap portfolio principles have been laid down concerning which counterparties contracts may be transacted with, the size of the credit exposure on counterparties, etc. Significant elements of the credit-risk management are the required high rating for the counterparties and that credit exposures be held within relatively tight credit lines. Chapter 9 of Danish Government Borrowing and Debt 1998 presents a detailed description of the principles for the central government's credit-risk management of the swap portfolio.

In 1999 credit-risk management was extended when the central government began to sign collateral agreements with its counterparties. This has reduced the central government's credit exposure on these counterparties. This chapter concludes with a description of the status of the establishment of collateral agreements.

THE SWAP PORTFOLIO, YEAR-END 1997-99 Table 6.4.1

	1997	1998	1999
Number of counterparties	35	33	36
Number of swaps	174	162	182
		DKK billion	
Interest-rate swaps, Danish kroner	-	0.5	8.0
Interest-rate swaps, other currencies	67.4	61.5	54.2
Currency swaps	64.1	48.2	55.1
Structured swaps	3.8	3.9	3.5
Principal, total	135.4	114.1	120.7

The credit risk on the swap portfolio at the close of 1999

In 1999 the central government transacted 60 new swaps for a total principal of DKK 31.4 billion. Of these, 33 were interest-rate swaps in Danish kroner with a total principal of DKK 7.5 billion. During the year 38 swaps with a total principal of DKK 17.3 billion expired, while two swaps with a total principal of DKK 7.5 billion were terminated prematurely. The composition of the swap portfolio is presented in Table 6.4.1.

The swap portfolio's principal exceeds the foreign debt, primarily because often both an interest-rate and a currency swap are transacted when a new foreign loan is raised, cf. Chapter 3.

The market value of the central government's swap portfolio increased by DKK 4.5 billion during 1999, cf. Table 6.4.2. This is related primarily to the weakening of the euro vis-à-vis the dollar and other currencies.

The relatively strong fluctuations in the portfolio's market value over the years is a result of the fact that the swap portfolio's composition makes it rather sensitive to fluctuations in interest and exchange rates. In brief terms, this sensitivity to interest-rate and exchange-rate fluctuations is a consequence of the fact that in overall terms the central government's payments on swaps relate to floating-rate obligations in euro, while payments received are related to the fixed-rate claims in dollar, sterling, and to some extent other currencies.

MARKET VALUE OF THE SWAP PORTFOLIO (NET), 1997-99 Table 6.4.2

DKK billion	1997	1998	1999
Interest-rate swaps, Danish kroner	-	-0.0	-0.2
Interest-rate swaps, other currencies	0.1	-1.1	-0.4
Currency swaps	5.0	1.0	4.8
Structure swaps	0.3	0.0	0.3
Total	5.4	-0.1	4.4

EXCHANGE-RATE AND INTEREST-RATE SENSITIVITY
OF THE SWAP PORTFOLIO, END-1999 Table 6.4.3

DKK billion	Change in market value on appreciation by 1 per cent vis-à-vis DKK	Change in market value on a decrease in interest rates by 1 percentage point
DKK	-	0.65
EUR	-0.38	-0.62
USD	0.29	0.86
GBP	0.10	0.14
Other currencies (net)	0.03	0.27
All currencies (net)	0.04	1.29

Note: The stated measures exclude structured swaps.

This is illustrated in Table 6.4.3 which presents the impact on the market value of the swap portfolio (net) and thereby on the credit exposure should a currency appreciate by 1 per cent, or the interest rate decrease by 1 percentage point. This table shows that it is natural that the weakening of the euro against the dollar by 15 per cent during 1999 led to an increase in the portfolio's market value in the course of the year.

Table 6.4.3 also shows that on a general decline in interest rates the market value of the swap portfolio will increase since the duration of the liability leg of the swap portfolio is a good deal shorter than the duration of the asset leg of the portfolio.

In isolated terms the increasing use of interest-rate swaps in Danish kroner has increased the interest-rate sensitivity of the swap portfolio. At the close of 1999 a decrease in domestic interest rates by 1 percentage point would have led to an increase in the market value of the portfolio by DKK 646 million, compared to DKK 38 million at the beginning of the year. Another consequence of the increase in domestic interest rates in 1999 is therefore a negative impact on the market value of the portfolio, cf. Table 6.4.2.

The credit exposure on swaps transacted by the central government increased by DKK 3.7 billion to a total of DKK 11.7 billion at the close of 1999, cf. Table 6.4.4. As described above, the increase is related to an increase in the central government's favour in the market value of the portfolio. The fact that the increase in the credit exposure was less than the increase in market value is related mainly to the fact that the first collateral agreements with swap counterparties were concluded in 1999. The potential credit exposure on these counterparties therefore decreased. Moreover, the actual credit exposure on one of these counterparties has been reduced by hedging the market value in the central government's favour with collateralised securities.

CREDIT QUALITY OF THE SWAP PORTFOLIO Table 6.4.4

Rating	1997		1998		1999	
	Number of counter-parties	Credit exposure (DKK billion)	Number of counter-parties	Credit exposure (DKK billion)	Number of counter-parties	Credit exposure (DKK billion)
AAA	2	0.0	3	0.0	3	0.1
AA+	12	8.8	9	3.0	8	3.0
AA	8	3.8	6	2.4	6	3.6
AA-	7	0.6	13	2.3	13	4.5
A+	3	0.2	2	0.2	4	0.4
A	2	0.0	-	-	1	0.0
A-	1	0.3	-	-	1	0.0
Total	35	13.8	33	8,0	36	11.7

Note: The credit exposure on a counterparty comprises respectively the actual credit exposure and the potential credit exposure. The actual credit exposure consists of the market value of swaps transacted with the counterparty. The potential credit exposure is a supplement which takes into account that the development in the market value of a swap up to maturity can be in the central government's favour. The potential credit exposure depends on the exchange-rate and interest-rate risk on the swap contracts and will increase with the remaining maturity of the contracts. See Chapter 9 of *Danish Government Borrowing and Debt 1998* for a more detailed account of the calculation of the central government's credit exposure on swap counterparties.

The credit standing of the central government's swap counterparties weakened marginally during 1999. This weakening is a result partly of the downgrading of existing counterparties, partly of the fact that in 1999 the central government began to transact interest-rate swaps in kroner with counterparties with a lower rating than before. This easing of the selection criteria took place in order to increase the number of swap counterparties who can set satisfactory prices for interest-rate swaps in kroner.

Overall, the credit risk on the central government's swap counterparties is still modest.

Establishment of collateral agreements

In May 1999 the central government began negotiations on the establishment of collateral agreements. Under these agreements the counterparties must pledge collateral for market values in the central government's favour on transacted swaps which exceed the agreed maximum limit. The background to this initiative is the wish to impose the greatest possible limitation on the central government's credit risk on swap counterparties. This need should also be viewed in the light of the easing of the requirement of the counterparties' rating when the central government began to transact interest-rate swaps in Danish kroner. Chapter 9 of Danish Government Borrowing and Debt 1998 presents a more detailed description of the central government's basis for negotiation with the counterparties.

The actual agreements are concluded as a supplement – Credit Support Annex – to the ISDA Master Agreement which regulates the overall handling of all swaps transacted between the central government and the individual counterparties. This is a standard agreement, with the exception of two areas:

- The agreements are unilateral, since only the counterparty can be required to pledge collateral.
- The central government has delegated the administration of the pledged collateral to a third party (safekeeping account-holding bank).

At the close of 1999 4 agreements have been signed and implemented. Moreover, negotiation of almost 10 agreements is by and large completed and they are expected to be signed within the next couple of months. The most significant factor delaying the conclusion of collateral agreements is problems in finalising the related third-party agreements with the safekeeping account-holding banks on the administration of the pledged collateral. Before the close of 2000 the central government is expected to have a minimum of 20 signed collateral agreements with swap counterparties. This is considered to be sufficient to cover the central government's need for swap counterparties.

The central government transacts new swaps only with counterparties who have either signed, or are expected soon to be able to sign, a collateral agreement.

For reasons of principle certain counterparties have rejected the central government's proposal because it involves unilateral agreements whereby only the counterparties are required to pledge collateral. Moreover, negotiations with a few smaller counterparties were terminated because these are no longer active swap counterparties vis-à-vis the central government. The overall evaluation is that a minimum of 75 per cent of the swap portfolio will be subject to collateral agreements by the end of 2000. It will take several years for all swaps not covered by a collateral agreement to expire.

CHAPTER 7

Government-Guaranteed Entities

SUMMARY 7.1

As the central government undertakes a risk on providing government guarantees, the activities of a number of government-guaranteed entities in the financial markets must lie within a specific framework.

Towards the end of 1998 the Ministry of Finance and Danmarks Nationalbank concluded an agreement on new guidelines for the borrowing, etc. of the government-guaranteed entities. The agreement sets out the tasks and responsibility of Danmarks Nationalbank as agent to the Minister of Finance with regard to borrowing by the government-guaranteed entities. In 1999 the Nationalbank concluded a similar agreement with the Ministry of Transport.

At the close of 1999 the government-guaranteed entities subject to agreements between the Ministry of Finance and the Ministry of Transport on the one hand, and Danmarks Nationalbank on the other, held government-guaranteed debt totalling DKK 78 billion. The government-guaranteed entities are primarily companies engaged in infrastructure projects.

The guidelines for the borrowing, etc. of the government-guaranteed entities reflect that within specific guidelines the entities may act without prior authorisation of the individual transactions. It is also specified that the responsibility for borrowing and risk management is held by the board of directors and management of each company. Legal authorisation and provision of guarantees is still undertaken by the Nationalbank.

BACKGROUND 7.2

The central government guarantees the borrowing and the financial transactions related to the borrowing of a number of government-guaranteed entities. These entities are normally structured as limited liability companies which are wholly government owned. A further characteristic of the entities is that the tasks of the company are defined in an act or legal document which gives access to government guarantees within a specific framework.

The Ministry of Finance's publication "*Erfaringer med statslige aktieselskaber*" (Experience with government-guaranteed limited-liability companies) (in Danish) from 1993 states that a key reason for the choice of the limited-liability-company structure was a "wider scope to act and reduced political influence in order to ensure competitiveness with other companies".

A government guarantee is attractive to a borrower because it reduces the borrowing costs. The reason is that the lender's evaluation of the

GOVERNMENT-GUARANTEED ENTITIES SUBJECT TO DANMARKS NATIONALBANK'S AGREEMENTS WITH THE MINISTRY OF FINANCE OR THE MINISTRY OF TRANSPORT — Box 7.1

The following government-guaranteed entities are subject to the agreement between the Ministry of Finance and Danmarks Nationalbank:

- Hypotekbanken (The Mortgage Bank of the Kingdom of Denmark); The banking activities of Hypotekbanken are being phased out. The tasks related to the loan portfolio of Hypotekbanken are managed by Finansstyrelsen (the Financial Administration Agency). Finansstyrelsen is an institution under the Ministry of Finance and acts as the joint financial management agency of the central government.
- Storebæltsforbindelsen A/S (Great Belt A/S); the company constructed the fixed link between Funen and Zealand and is responsible for the day-to-day operation of the fixed link.
- A/S Øresundsforbindelsen; the company is undertaking the construction of the Danish facilities on land for the fixed link between Denmark and Sweden.
- Øresundskonsortiet; the company is undertaking the construction and operation of the fixed link between Denmark and Sweden. Borrowing, etc. is subject to government guarantees provided by both the Kingdom of Denmark and the Kingdom of Sweden.
- Danmarks Radio (The Danish Broadcasting Corporation) (DR); the government guarantees loans raised by Danmarks Radio for the purpose of financing a new DR domicile in Ørestaden.

The following government-guaranteed entities are subject to the agreement between the Ministry of Transport and Danmarks Nationalbank:

- DSB and DSB S-tog A/S (the Danish State Railways and suburban train company); these are investment projects which include acquisition of goods locomotives and trains for the suburban lines in Greater Copenhagen.
- Ørestadsselskabet I/S; the task of the company is to construct a metro railway line in Copenhagen and to develop the new quarter of Ørestad. Ørestadsselskabet is owned by the City of Copenhagen (55 per cent) and the central government (45 per cent). The company is joint owner of Frederiksbergbaneselskabet and Østamagerbaneselskabet. The financing of these companies is handled by Ørestadsselskabet. No guarantee is provided for the borrowing, etc. of Ørestadsselskabet since it is a general partnership, but the borrowing is still subject to the same guidelines as apply to the government-guaranteed entities.

credit risk is affected by the fact that the borrower is backed by the central government. It is difficult to quantify specifically by how much the government guarantee reduces borrowing costs.

The price of a government guarantee for the government-guaranteed entity is generally 15 basis points of the outstanding guaranteed amount per year. The payment for government guarantees is included as revenue to the central government under Interest in the central-government accounts (Section 37).

The entities which are subject to agreements on government guarantees for borrowing, etc. between the Ministry of Finance and the Ministry of Transport on the one hand, and Danmarks Nationalbank on the other, are set out in Box 7.1.

BASIS OF THE AGREEMENT ON BORROWING BY THE GOVERNMENT-GUARANTEED ENTITIES, ETC. 7.3

Until 1998 the role of Danmarks Nationalbank in relation to borrowing by the government-guaranteed entities was to authorise the commercial terms for the individual financial transactions. The Nationalbank also provided financial guidance, undertook legal authorisation of the documentation of the agreement and provided the government guarantee on behalf of the Minister of Finance.

During the 1990s the central government's influence on the government enterprise sector changed gradually from influence on current operational decisions to determining the overall framework for each company. At the same time, the government-guaranteed entities gradually built up expertise in their own finance departments. Against this background the Ministry of Finance and the Nationalbank agreed that new guidelines were needed for the borrowing, etc. of a number of government-guaranteed entities. The objective was to clarify the role of the Nationalbank. A further consideration was to make it clear that the responsibility for borrowing, risk management, etc. rests with the board of directors and management of each company.

Towards the end of 1998 an agreement was concluded between the Ministry of Finance and the Nationalbank on new guidelines for the borrowing, etc. of the government-guaranteed entities. The guidelines entail that within a specific framework the entities may act without obtaining prior authorisation of the individual transactions. Meetings are held twice a year with the ministry and the Nationalbank at which each entity presents details of current and planned borrowing and of risk management. A similar agreement was concluded between the Ministry of Transport and Danmarks Nationalbank in 1999.

AGREEMENTS CONCERNING THE BORROWING, ETC.
OF THE GOVERNMENT-GUARANTEED ENTITIES Box 7.2

The guidelines for the borrowing, etc. of the government-guaranteed entities comprise three elements:

1. Danmarks Nationalbank's agreement with the Ministry of Finance or the Ministry of Transport

The basis for the Nationalbank's issue of government guarantees on behalf of the Minister of Finance for the borrowing of a number of government-guaranteed entities is regulated by the agreement between the Ministry of Finance and the Nationalbank. The agreement between the Ministry of Transport and the Nationalbank corresponds to this agreement. The agreements state among other things that:

- The entities must provide the Nationalbank with current information on borrowing, etc.
- Meetings are held twice a year between the government-guaranteed entities and the Nationalbank and the relevant ministry. At the meetings the entities give details of current and planned borrowing and of risk management in relation to the loan portfolio.
- The Nationalbank must ensure that a risk management procedure is in place which has been approved by the entity's auditors.

2. The government-guaranteed entity's agreement with the Ministry of Finance or the Ministry of Transport

The agreements between the relevant ministry and the individual entity state among other things that:

- The board of directors and management of each government-guaranteed entity are responsible for the financial transactions of the entity.
- The entity is responsible for the general management of risks in relation to the loan portfolio, including that disproportionally high credit risks do not arise.
- The Nationalbank may order certain transactions to be concluded or reversed, should the entity's borrowing be estimated to be in conflict with monetary-policy considerations.

3. List of acceptable loan types

The list of acceptable loan types which is drawn up and updated by the Nationalbank is based on the internal guidelines applied to the management of the central government's foreign debt, cf. Chapter 3. The list of acceptable loan types is based on the following criteria:

- The transaction is known and used in the market by reputed borrowers.
- The transaction is built up from simple elements which make it transparent.
- It is emphasised that credit-risk management takes place on the basis of a rating-based limit system, just as the conclusion of agreements on the provision of collateral is recommended.

As under the previous guidelines, the legal authorisation of the documentation of the agreement and the granting of the government guarantee take place at the Nationalbank.

The role of the Nationalbank solely concerns the elements of the activities of the government-guaranteed entities related to borrowing, etc. These tasks are closely related to the responsibilities fulfilled by the Nationalbank on behalf of the central government in relation to the foreign government debt. On the other hand, the Nationalbank has no role to play with regard to e.g. operational credits, handling of project risks, etc.

The set of agreements concerning the borrowing of the government-guaranteed entities is described in Box 7.2. The set of agreements comprises three elements: an agreement between respectively the Ministry of Finance or the Ministry of Transport and Danmarks Nationalbank, an agreement between the ministry and each entity, and finally a list of acceptable loan types. This list is drawn up and updated by the Nationalbank.

RISKS TO THE CENTRAL GOVERNMENT IN RELATION TO THE PROVISION OF GUARANTEES 7.4

As the central government undertakes a risk on providing government guarantees, the activities of the government-guaranteed entities in the financial markets must lie within a certain framework. First of all, there is a direct credit risk, e.g. if a company defaults on loans which are backed by a government guarantee, the central government is required to bail out the entity. Secondly, more indirect risks might be involved, whereby e.g. a government-guaranteed entity's transactions in the financial markets are of a nature which might be detrimental to the reputation of the Kingdom of Denmark on the international financial markets.

The financial risks undertaken by the central government by providing guarantees can in principle be equated with the risks originating from the central government's direct borrowing in its own name. It must therefore be ensured that the government-guaranteed entities do not via their borrowing, etc. undertake risks which the central government would not undertake directly. It is important that standardised legal documentation is used and that simple financial products are used in borrowing, etc. It is also vital that the entities do not undertake transactions which the central government itself would not engage in.

The management of the risk to the central government in connection with government guarantees takes place according to the framework laid down in the set of agreements concerning the borrowing, etc. of the government-guaranteed entities. A key principle is that the board of directors and management of an entity is responsible for borrowing, and that appropriate risk management is exercised and appropriate procedures are in place.

There have been no examples in Denmark of the activation of a government guarantee.

THE DEBT OF THE GOVERNMENT-GUARANTEED ENTITIES 7.5

The government-guaranteed entities which are subject to agreements between the Ministry of Finance or the Ministry of Transport and the Nationalbank are dominated by companies which construct and operate infrastructure projects. In such companies debt is usually accumulated during the construction phase and the first stage of the operational phase, after which it is written down gradually. In several cases the expected repayment period for the total government-guaranteed debt exceeds 30 years.

Typically, small loans are raised in various markets and with varying maturities. The loans are swapped to the required currency. The borrowing strategies applied thus to a great extent resemble the strategy for the central government's foreign borrowing.

The debt of the entities is denominated primarily in foreign currency. From time to time, however, loans denominated in Danish kroner are raised. This was especially the case in 1998: after the lowering of the minimum coupon rate from 6 per cent to 4 per cent the government-guaranteed entities utilised the high demand from private investors for loans with a low coupon rate.

THE GOVERNMENT-GUARANTEED DEBT OF GOVERNMENT-GUARANTEED ENTITIES Table 7.5.1

DKK billion	End-1999
Hypotekbanken	10.3
Storebæltsforbindelsen A/S	39.1
Øresundsforbindelsen	8.1
Øresundskonsortiet	20.6
Total	78.2

Note: The debt of Øresundskonsortiet is guaranteed jointly by the Kingdom of Denmark and the Kingdom of Sweden.

Special-topic section

CHAPTER 8

Management of the Duration of the Government Debt

SUMMARY 8.1

The central-government debt is compiled as the domestic and foreign debt after deduction of the assets of the Social Pension Fund (SPF) and the balance of the central government's account with Danmarks Nationalbank.

The principle applied in recent years is to consider the central-government debt on an overall basis on determining the duration targets for the individual elements of the debt. As from 2000 the management of the duration of the government debt has been further formalised. On determining the duration targets for the individual elements of the debt the starting point is now an explicit duration target for the total central-government debt.

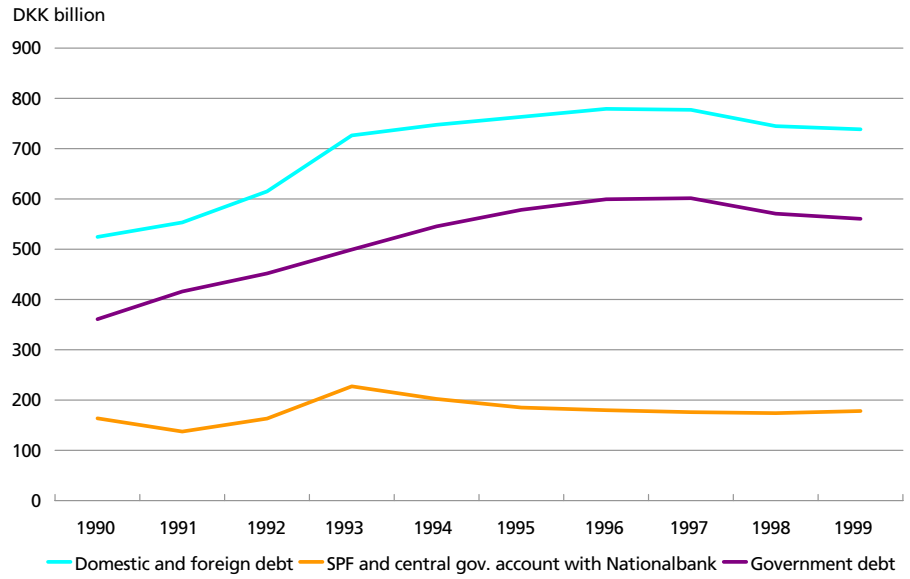
Besides duration the shape of the redemption profile and the risk measure Cost-at-Risk (CaR) are applied in relation to the management of the interest-rate risk on the central-government debt. So far, CaR solely covers the domestic debt. The long-term objective is to expand the CaR model to comprise the total central-government debt.

MANAGEMENT OF THE INTEREST-RATE RISK ON THE GOVERNMENT DEBT 8.2

At the close of 1999 the central government's domestic and foreign debt totalled DKK 739 billion. The central government also holds considerable financial assets. The assets of SPF and the balance of the central government's account with the Nationalbank totalled DKK 178 billion at the close of 1999. These assets are deducted on compiling the central-government debt, cf. Chapter 5. The central-government debt totalled DKK 560 billion at the close of 1999, cf. Chart 8.2.1.

Not all of the central government's financial assets and liabilities are included in the central-government debt. For example, a number of loans granted by the central government are not included. The payments of interest on the government debt do not reflect all of the

CENTRAL-GOVERNMENT DEBT 1990-99 Chart 8.2.1

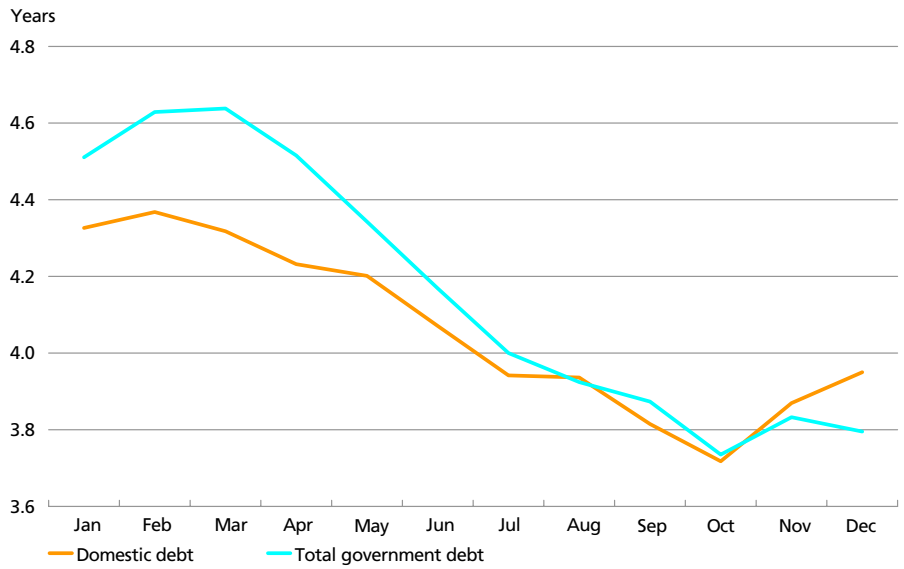


interest-rate risks undertaken by the central government either. The central government's interest-rate risk related to the financing of subsidised construction is not included, for example.

The four "subportfolios" comprising the government debt are all subject to management by the Nationalbank as agent to the central government. The management of duration is based on consideration of the government debt on an overall basis. Since the four subportfolios are closely related, this gives the most true and fair picture of the interest-rate exposure of the government debt.

One example is the relation between redemptions on the domestic debt and the balance of the central government's account with the Nationalbank. The duration of the domestic debt increased by 0.1 year from November to December 1999, cf. Chart 8.2.2. This was due to the maturity of 6 per cent government bonds 1999 on 10 December, which at the close of November had a short remaining maturity. This contributed to the low duration of the domestic debt at end-November compared to the subsequent month, when the loan had been redeemed. The total government debt does not show the same increase in duration. In this case, the settlement of the short-term liability (6 per cent government bonds 1999) in December was set off by the equivalent settlement of a short-term asset, since the balance of the central government's account was reduced as a consequence of the redemption of the loan.

DURATION OF THE CENTRAL-GOVERNMENT DEBT, END OF MONTH 1999 Chart 8.2.2



There is also a close relation between the foreign debt and the balance of the central government's account with the Nationalbank. When the central government raises a foreign loan, the Nationalbank purchases the foreign currency proceeds and the equivalent value in Danish kroner is credited to the central government's account with the Nationalbank. The central government's assets (balance with the Nationalbank) and liabilities (foreign debt) are thus increased by equal amounts. It is therefore necessary to include both the asset and the liability on assessing the impact on the duration of the government debt.

Finally, there is a close relation between SPF and the domestic government debt, since SPF owns around 1/6 of the outstanding amount of domestic government securities.

MANAGEMENT OF THE DURATION OF THE GOVERNMENT DEBT 8.3

Duration is a key concept in the management of the interest-rate risk on the government debt. Duration expresses the average fixed interest period of the assets or liabilities. The duration of the government debt is thus a measure of how quickly changes in interest rates have an impact on actual borrowing costs. The duration therefore illustrates the risk associated with uncertainty concerning the future level of interest rates.

For several years targets have been determined for the required level of duration of both the domestic and the foreign debt. In recent years

the duration level for the domestic and foreign debt taken as one has been included on a more informal basis in the deliberations concerning the fixing of the duration target for each of the two debt portfolios.

In concrete terms, the targets are set out as duration bands within which the actual durations of the debt portfolios are kept. The duration can be managed within the band by decisions to keep the actual duration at, for example, the upper or lower end of the band. Use of the duration band also makes it easier to handle the fluctuations in durations arising in connection with payments to and from the portfolios.

Duration has also been applied to the management of the assets of SPF. To some extent the management of SPF, and especially of the domestic debt, have been coordinated. For example, in practice government securities which are included in the central government's current issues open for sale have not been purchased for SPF.

As from 2000 the management of the duration of the government debt has been further formalised, since now an explicit target is determined for the duration level of the total government debt. In future, on setting the duration targets for the subportfolios of the debt the starting point is the duration target for the total government debt.

The overall objective for the duration of the government debt is determined on the basis of a weighing of borrowing costs against interest-rate risk in relation to the government-debt policy. On average, short-term borrowing entails lower borrowing costs than more long-term borrowing. On the other hand, for short-term borrowing there is greater variation in the annual interest expenditure compared to more long-term borrowing. This weighing also includes the absolute level of the debt. All else being equal a large government debt implies relatively long duration, since the refinancing of the debt can be spread over a number of years.

A given change in the duration of the government debt can be achieved by adjustments to both assets and liabilities. If the duration of the government debt is e.g. required to be reduced, in principle this can be achieved by reducing the duration of the liabilities (the domestic and/or foreign debt) or by increasing the duration of the assets (SPF).

The method of calculating the duration of the government debt is described in more detail in Box 8.1, while the actual durations at the close of 1999 are presented in Table 8.3.1.

Since the management of the duration of the individual elements of the government debt is subject to certain constraints a duration band is still applied to each of the subportfolios.

A central element of the domestic government-debt policy is an attractive range of current issues open for sale with fixed-rate securities

CALCULATION OF THE DURATION OF THE CENTRAL-GOVERNMENT DEBT Box 8.1

The total central-government debt is defined as:

Domestic debt
\+ Foreign debt
– Balance of the central government's account with the Nationalbank
– The assets of the Social Pension Fund
= *Total government debt*

The duration of the government debt is found by weighing together the durations from the asset and liability sides with the individual assets and liabilities' proportion of the total government debt (calculated with sign). Technically, durations are compiled as Macaulay durations.

A proportion of SPF's assets consists of callable mortgage-credit bonds which the borrower may opt to redeem early at par. This means that the precise maturity structure of a proportion of the payments in SPF's bond portfolio is subject to uncertainty. This must be accounted for in the calculation of duration. The duration for SPF is therefore calculated as the option-adjusted duration whereby the callable bonds are included with a lower duration than the duration of equivalent securities with no option for early redemption.

in the 2- and 5-year segments, and especially the 10-year segment. Short-term Treasury bills constitute only a minor proportion of the debt and floating-rate bonds are not included in current issues open for sale. The need to maintain a range of issues open for sale makes it difficult to make major adjustments to the duration of the domestic debt solely via new issues.

Domestic interest-rate swaps are used to supplement the management of the duration of the domestic debt. The amounts involved are limited, since the central government does not wish to influence the swap market. With regard to the foreign debt there are better opportunities to adjust the duration quickly by using interest-rate swaps, without market conditions being affected.

SIZE AND DURATION OF THE CENTRAL-GOVERNMENT DEBT, END-1999 Table 8.3.1

	Government debt, DKK billion	Duration, years
Domestic debt	649	4.0
Foreign debt	90	1.8
Balance with the Nationalbank	-36	0.0
The Social Pension Fund	-142	4.2
Total government debt	560	3.8

Investments on behalf of SPF are made primarily in government securities. When the Fund buys bonds, the timing of future payments from the Fund is also taken into consideration.

Overall, the aforementioned considerations impose certain constraints on the duration of the individual portfolios.

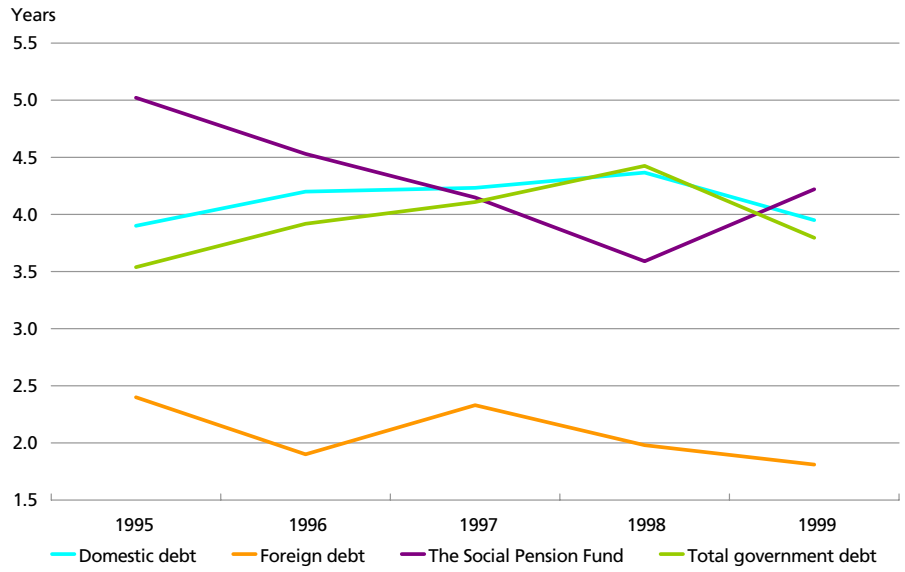
DEVELOPMENT IN THE DURATION OF THE GOVERNMENT DEBT 8.4

In 1994 it was decided to increase the duration of the domestic government debt in view of the considerable size of the debt and the prospect of a sustained central-government budget deficit. Up to 1998 the duration of the domestic debt increased, cf. Chart 8.4.1.

In recent years central-government finances have shown a surplus and the size of the domestic debt has been reduced. On this basis, together with an assessment of the relation between borrowing costs and interest-rate risk, it was decided to reduce the duration during 1999. The actual duration of the domestic debt had fallen to 4.0 years by the close of the year, equivalent to the middle of the duration band used. This strategy has been continued by determining the middle of the duration band for the domestic debt at 3.75 years for 2000.

The duration of the foreign debt has likewise been reduced during the last couple of years in order to contribute to reducing the duration of

DURATION OF THE CENTRAL-GOVERNMENT DEBT, YEAR-END 1995-99 Chart 8.4.1



the total government debt. The middle of the duration band for the foreign debt is reduced from 2.0 years in 1999 to 1.5 years in 2000.

The decline in duration for SPF since 1995 must be viewed in the light of the development in the distribution of the portfolio on government bonds and mortgage-credit bonds, etc., since for most of the period the duration of the Fund's portfolio of mortgage-credit bonds has been longer than the duration of the portfolio of government bonds. At the close of 1999 government bonds accounted for around 75 per cent of the portfolio, compared to 45 per cent at the end of 1995.

Overall, this development has increased the duration of the total government debt from 3.5 years at the close of 1995 to 4.4 years at the close of 1998. Duration fell to 3.8 years in 1999. The middle of the duration band for the total government debt is determined at 3.5 years for 2000, cf. Chapter 6.

CLOSING REMARKS 8.5

Management of the interest-rate risk on the government debt cannot be based on duration alone, since it is an average measure which does not indicate the spread of the maturity dates of the debt. A very uneven redemption profile means that gross borrowing is concentrated in certain years. The possibility that the general level of interest rates is especially high exposes the central government to a high interest-rate and refinancing risk. This includes the risk of particularly unfavourable borrowing terms for the central government in the same years that the central government’s gross borrowing requirement is substantial. Targets for the shape of the redemption profile are therefore applied to the domestic and foreign debt, cf. Chapter 1.

The maturity structure is also part of the basis for the management of SPF, so as to enable harmonisation of the future payments from the Fund and the redemptions on securities in SPF's portfolio. It should be noted that the actual remaining maturity of SPF's portfolio of mortgage-credit bonds is uncertain, due to the right of conversion held by the borrower.

Cost-at-Risk (CaR) is applied as supplementary information to support decisions related to the weighing of costs against risk in the management of the interest-rate risk on the domestic debt, cf. Chapter 9. The domestic debt constitutes the largest proportion of the total government debt. The long-term objective is to expand the CaR model to comprise the total central-government debt.

CHAPTER 9

Cost-at-Risk for the Domestic Debt

SUMMARY 9.1

Cost-at-Risk (CaR) is a supplementary measure used in the management of the interest-rate risk on the domestic central-government debt. CaR quantifies the risk on the debt and gives important input to the weighing of interest-rate risk against costs.

A distinction is made between absolute and relative CaR. Absolute CaR for a given year indicates the maximum costs with a probability of 95 per cent.

Relative CaR is the difference between absolute CaR and the average interest costs. Relative CaR thus indicates the maximum increase in the costs for a given year, with a probability of 95 per cent.

CaR is considered as a supplement to duration and the target for the shape of the redemption profile. CaR is used in risk management to e.g. assess the consequences of various issuing strategies for the risk on the debt.

BACKGROUND 9.2

The work on developing and incorporating CaR in the management of the domestic debt was initiated in 1997, cf. Chapter 7 of "Statens låntagning og gæld 1997" (available in English). The work on CaR reflects that a central element of government debt policy is to arrive at a suitable weighing of costs against risk, when the borrowing strategy is determined. The CaR definitions applied are set out in Box 9.1.

Simultaneously with this work a number of countries have initiated similar projects. In some countries the central government's total assets and liabilities are considered, rather than focusing exclusively on the debt. In Denmark, solely the risk and costs related to the government debt are considered.

Chart 9.2.1 presents an example of the distribution of the costs on a hypothetical debt portfolio. In the example, a normal distribution of costs is assumed around a mean value of DKK 5 billion, with a standard deviation of DKK 1 billion.

CaR DEFINITIONS Box 9.1

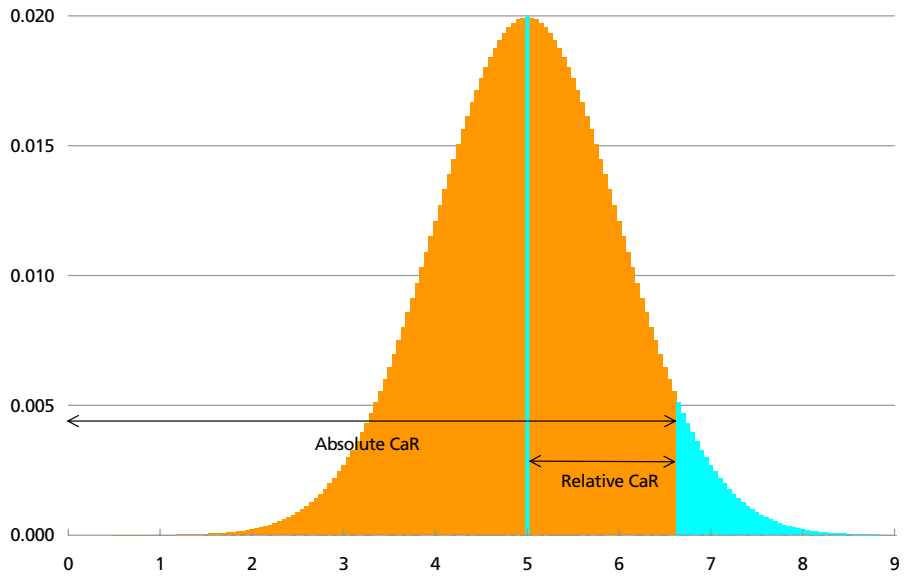
Absolute CaR for a given year indicates the maximum costs with a probability of 95 per cent. Relative CaR is the difference between absolute CaR and the average interest costs. Relative CaR thereby indicates the maximum increase in costs for a given year, with a probability of 95 per cent. The starting point may also be other percentiles than 95 per cent, e.g. the 99 per cent percentiles, when considering more extreme situations.

Methodologically CaR is related to Value-at-Risk (VaR), which expresses the maximum decline in a portfolio's market value with a given probability over a given, typically relatively short, period. For both VaR and CaR the calculations to a high degree depend on the model used and the assumptions made.

The marked part of the right-hand "tail" in the distribution indicates the size of the costs in the 5 per cent of cases where the costs are highest. In this case it is thus found that with a probability of 95 per cent the costs will not exceed DKK 6.7 billion, equivalent to an absolute CaR of DKK 6.7 billion. With a mean value of DKK 5 billion, relative CaR in this case is DKK 6.7 less DKK 5 billion = DKK 1.7 billion.

In the CaR calculations risk is defined as the risk of an increase in the annual cost of the central-government debt. Focus is on the nominal costs, and the risk is assessed in relation to the central-government budget. It must be emphasised that the overall weighing of costs against

ABSOLUTE AND RELATIVE CaR, DKK BILLION Chart 9.2.1



risk takes due account of the other objectives and considerations of government debt policy.

The choice of risk measure reflects that what is perceived as the relevant risk is the risk that the central government – in a year with a high level of interest rates – will have to refinance a large proportion of the debt, which will result in rising costs and deterioration in the central-government budget. As described in Chapter 1, the aim is to limit the interest-rate and refinancing risk by spreading borrowing and thereby the debt across maturities. Even if the debt is spread across maturities the impact on the central-government budget of a rising level of interest rates can be considerable.

The central government is exposed to this risk because the interest rates for future borrowing are unknown. It follows that the future costs of the government debt are also unknown. In practice, the focus will usually be on rising costs and their impact on the central-government budget.

CaR is used as a supplement to duration and the shape of the redemption profile. The primary difference between CaR and the other measures is that, since the risk is quantified, CaR makes it possible to weigh costs against risk.

METHOD 9.3

Calculation of CaR is based on the future costs of the existing debt. On the basis of scenarios for the future interest rates and borrowing strategies possible future cost profiles related to the domestic debt are calculated. On the basis of a number of scenarios for future costs a probability distribution of the costs is found.

The input used can be divided into three categories. The first is the future interest rates. A large number of future interest-rate scenarios are chosen. The large number of interest-rate scenarios makes it possible to set out probability distributions.

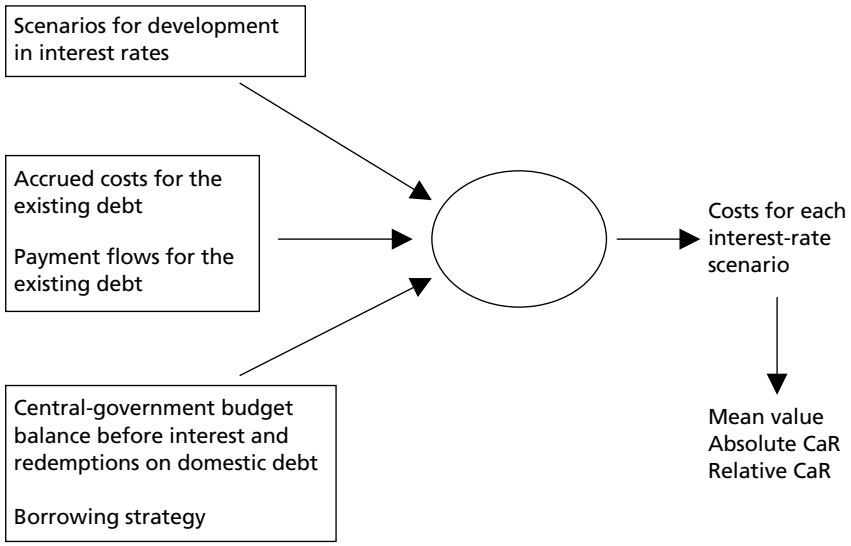
The second category concerns the existing government debt. These inputs are a full description of the accrued future costs on the existing debt and the future payments on the debt.

The third category is assumptions concerning the government budget before interest and redemptions on the domestic debt, and the future distribution of borrowing on maturities.

Box 9.2 presents the method of calculating the borrowing requirement.

On the basis of this input the annual costs for the selected period related to the chosen strategy are calculated for each of the interest-

STRUCTURE OF CaR CALCULATIONS Chart 9.3.1



rate scenarios. Then the mean value, and absolute and relative CaR are calculated for each year of the period considered. The structure of the procedure is presented in Chart 9.3.1.

By nature CaR is a concept which is particularly applicable to long-term strategic considerations. On the other hand, there is a natural requirement to consider the more short-term effect of a given borrowing strategy. The horizon for the calculations is therefore set at 5 years. It is assumed in the calculations that borrowing takes place 4 times a year, once every quarter.

BORROWING REQUIREMENT AND COST CONCEPTS Box 9.2

The calculations are based on the central-government budget balance before interest and redemptions on the domestic debt. After deducting the interest expenditure on the domestic debt from this figure, the net borrowing requirement is found. An increase in the level of interest rates and thereby in interest expenditure will increase the net borrowing requirement, leading to higher borrowing and thereby higher interest expenditure. On the other hand, a lower level of interest rates implies a decreasing net borrowing requirement, lower borrowing and thereby lower interest expenditure. Changes in the level of interest rates thus have an immediate impact on the net borrowing requirement and thereby on borrowing, which subsequently affects the interest costs in the following years.

In the CaR calculations accrued costs are applied, equivalent to the concept of costs used in the central-government accounts. When calculating the borrowing requirement the actual payments are used.

CREATION OF TERM STRUCTURES Box 9.3

The model used for simulation of the interest-rate input for the CaR calculations is based on Cox, J. C., Ingersoll, J. E., and Ross, S. A., 1985, A theory of the term structure of interest rates, *Econometrica*, Vol. 53, no. 2, p. 385-407. The stochastic element in the model is the spot interest rate. Changes in the spot interest rate are described using the following stochastic process:

$$dr(t) = \kappa \cdot (\theta - r(t)) \cdot dt + \sigma \cdot \sqrt{r(t)} \cdot dW(t)$$

where r(t) is the spot interest rate at time t, θ is the equilibrium value for the spot interest rate, σ is the volatility of the spot interest rate, κ is the speed at which the spot interest rate moves back to the equilibrium value θ, and W(t) is a stochastic process – a "Wiener process". If the development in the spot interest rate is described by this stochastic process, it can be shown that no negative spot interest rates are possible in the simulation and that the variation in the spot interest rate is greater, the higher the spot interest rate. In the calculations made θ=0.072, σ=0.167 and κ=0.099. The values for θ, σ and κ are based on estimation using quarterly observations of the spot interest rate from estimated zero-coupon interest rates. The method applied is presented in Overbeck, L., and Rydén, R., 1997, Estimation in the Cox-Ingersoll-Ross Model, *Econometric Theory*, Vol. 13, p. 430-461.

In the model the spot interest rate tomorrow depends on the spot interest rate today. Generally, if the spot interest rate is above the long-term level θ, this will draw towards a lower interest rate, and vice versa if the spot interest rate is below θ (mean reversion).

The yield to maturity for a zero-coupon bond with a given time to maturity is calculated on the basis of the value of the spot interest rate. The calculation is among other things based on an assumption concerning the investors' degree of risk aversion.

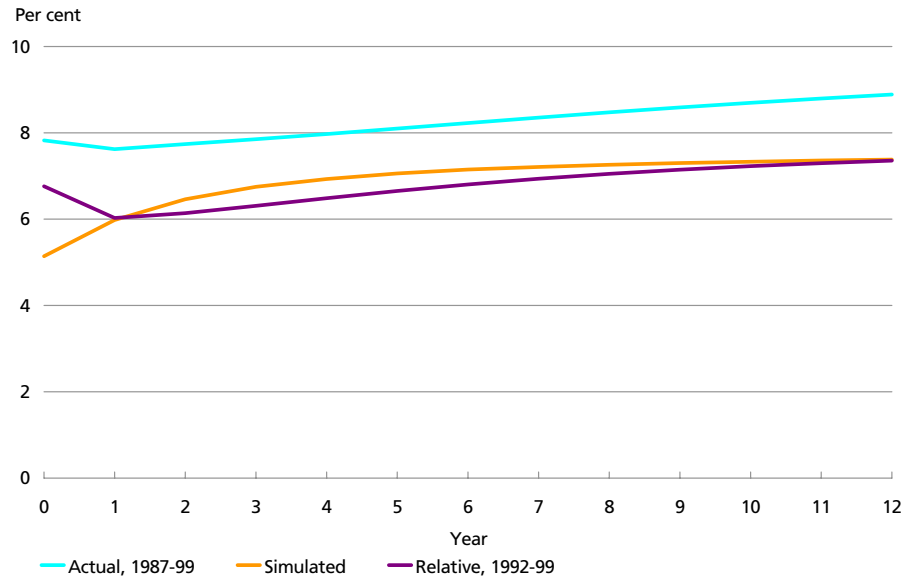
An interest-rate scenario thereby consists of 20 yield curves, 4 for each year. One interest-rate scenario results in one profile of future costs. 2,500 future cost profiles are calculated, with one cost profile for each interest-rate scenario. A term structure model is used to generate the future term structures. It is described in Box 9.3.

The output from the calculations is thus 2,500 future cost profiles for the domestic government debt. On the basis of these cost profiles the mean value, and absolute and relative CaR, are calculated.

Characteristics of the applied interest rates

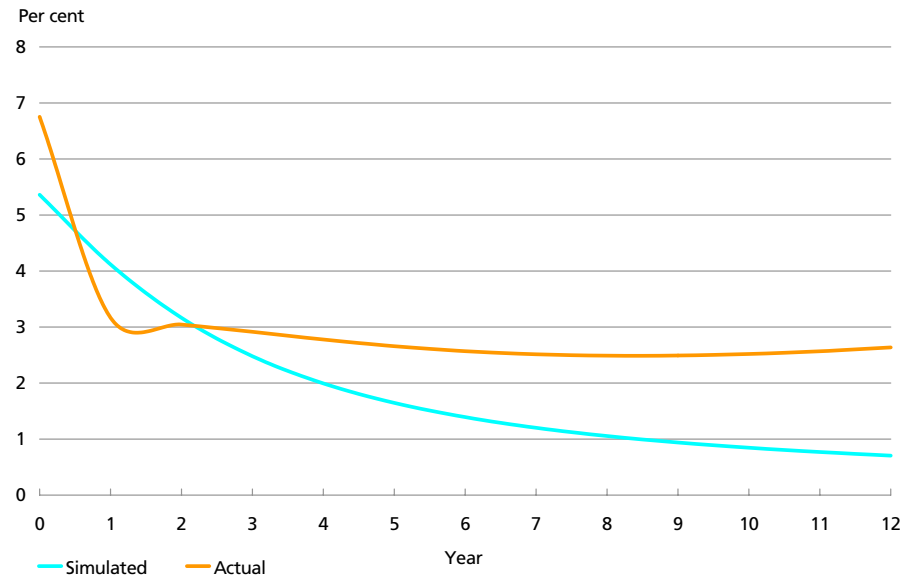
Chart 9.3.2 presents the average of the simulated yield curves and the average of the actual yield curves for the period 1987-99. The simulated interest rates are lower than the average of the actual interest rates for 1987-99. It is also seen that the level of the simulated interest rates corresponds to the average level of the actual interest rates for the period 1992-99, and that the slope of the curves is by and large the same.

AVERAGE ACTUAL AND SIMULATED YIELD CURVES Chart 9.3.2



The simulation is based on the spot interest rate at the beginning of January 2000. Chart 9.3.2 shows a rising yield curve, i.e. the yield for short maturities is lower than the yield for longer maturities. This indicates that on average it is less expensive to borrow at a short maturity.

QUARTERLY VOLATILITY CONVERTED TO ANNUAL RATES, 1987-99 Chart 9.3.3



On the other hand, however, the fluctuations in the short-term interest rates are normally greater than for longer maturities.

The fluctuations in interest rates, also called the volatility, can be measured by the standard deviation over time for the various maturities. Chart 9.3.3 shows that the volatility of the actual interest rates is higher than the volatility of the simulated interest rates for longer maturities. This probably means that the calculations shown slightly overestimate the difference in the various borrowing strategies. The historical observations thus show that borrowing in short-term securities on average takes place at lower, but more volatile, interest rates, while borrowing in long-term securities on average takes place at higher, but less volatile interest rates.

CaR FOR SELECTED BORROWING STRATEGIES 9.4

The following reviews a number of CaR calculations for various borrowing strategies. Calculations are made for 5 different borrowing strategies. Strategies are considered where borrowing is in various combinations of 2-, 5- and 10-year fixed-rate bullet loans, equivalent to the strategy applied today. Two of the scenarios whereby borrowing in respectively 100 per cent 10-year and 100 per cent 2-year securities is assumed are included to show the entire scope. The comments on the results below focus primarily on the three other scenarios.

In all scenarios a constant outstanding amount of Treasury bills of around DKK 45 billion is assumed, and all strategies are evaluated using the same simulated interest rates and the same assumptions regarding the balance of the central-government budget before interest and redemptions on the domestic debt during the period.

In all strategies the same distribution of borrowing is assumed across maturity segments during the period considered. Table 9.4.1 presents the distribution of borrowing in the various strategies.

For all scenarios it is assumed that the budget surplus before interest and redemptions on the domestic debt is DKK 60 billion in 2000 and DKK 45 billion in the following years.

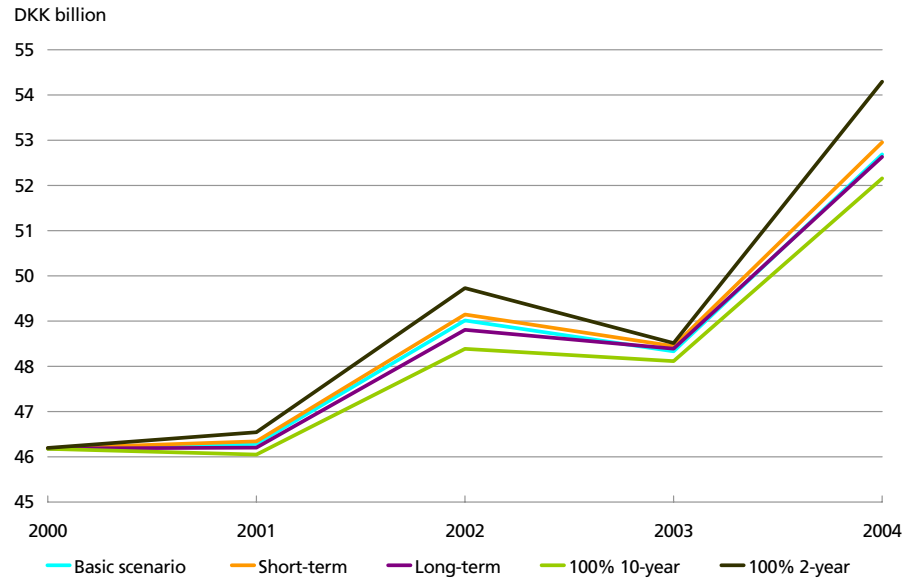
DISTRIBUTION OF BORROWING IN SCENARIOS Table 9.4.1

Per cent	10-year	5-year	2-year
Basic scenario	40	20	40
Short-term	20	35	45
Long-term	45	35	20
100% 10-year	100	0	0
100% 2-year	0	0	100

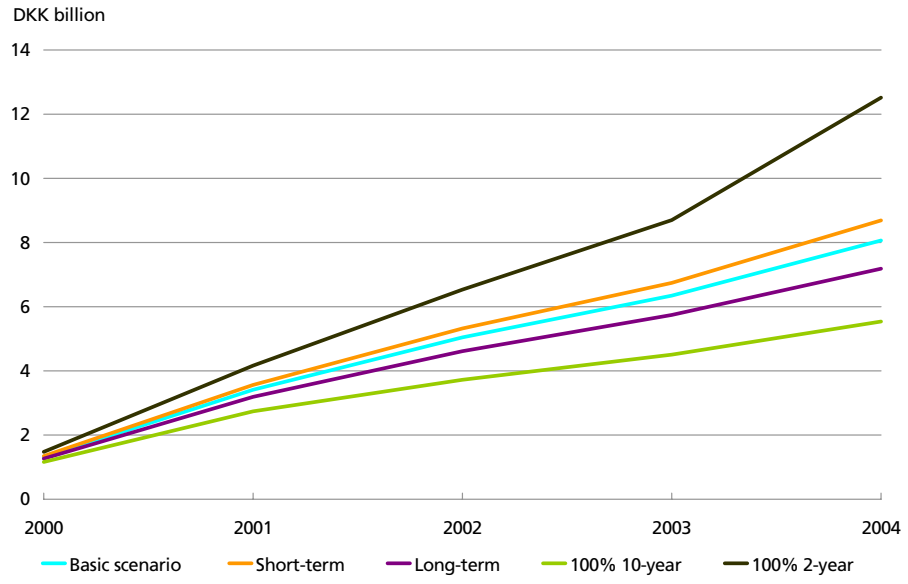
MEAN VALUE OF COSTS Chart 9.4.1

For comparison, the budget surplus before interest and redemptions on the domestic debt is expected to be almost DKK 55 billion in 1999, while in the last 4 years it has been between DKK 35 and DKK 75 billion. Section 9.6 presents the consequences of altering these budgetary as-

ABSOLUTE CaR Chart 9.4.2



RELATIVE CaR Chart 9.4.3



sumptions. No further use of interest-rate swaps or buy-backs is included in the scenarios.

The duration for the three scenarios in the longer term is around 3.75 years for the basic scenario, 3.25 years for the scenario with short-term borrowing, and 4 years for the scenario with long-term borrowing.

Chart 9.4.1 shows that, with the chosen assumptions, it is reasonable, by and large, to expect unchanged costs of almost DKK 45 billion per year up to 2004. It is also shown that the differences between the expected costs for the three scenarios increase over time.

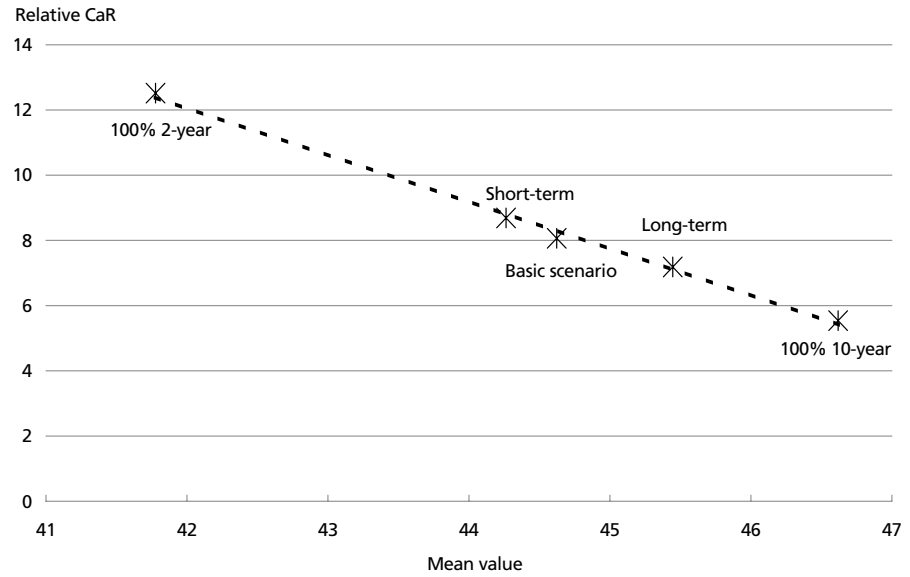
It is important to be aware that both the applied interest-rate input, the structure of borrowing and the assumptions concerning the central government's budget have an impact on the mean value of the costs.

Chart 9.4.2 shows that for all strategies absolute CaR is rising from just over DKK 46 billion in 2000 to almost DKK 57 billion in 2004. The absolute CaR shows that the increase in relative CaR dominates the decrease in the expected costs for all strategies. Chart 9.4.3 presents relative CaR. The detailed results for the basic scenario are shown in Table 9.4.2.

CaR VALUES FOR BASIC SCENARIO Table 9.4.2

DKK billion	2000	2001	2002	2003	2004
Mean value	44.9	42.9	44.0	42.0	44.6
Absolute CaR	46.2	46.3	49.0	48.3	52.7
Relative CaR	1.3	3.4	5.0	6.3	8.1

RELATIVE CaR AND MEAN VALUE IN 2004, DKK BILLION Chart 9.4.4



Assessment of results

The above results show clear differences in the values of both absolute and relative CaR for the three strategies. It is also seen that the risk of very high costs is small for all strategies. One underlying factor is that as a consequence of the conducted policy to equalise the redemption profile, the debt is spread across maturity segments. All else being equal, this entails a lower risk.

The differences in the expected costs for the three scenarios are modest in the first couple of years, but increase during the period. On the basis of the calculations made it must be assessed that for realistic borrowing strategies one can expect unchanged nominal costs of around DKK 45 billion in the period up to 2004.

On consideration of the weighing of costs against risk it is seen that a mean value which is DKK 1 billion lower on average during the period considered leads to an increase in relative CaR of around DKK 1.4 billion. Chart 9.4.4 presents the relation between relative CaR and the mean value for 2004.

STRESS TEST 9.5

To investigate the robustness of the results it is important to conduct a "stress test" based on extreme interest-rate input. Table 9.5.1 presents

MEAN VALUES FOR BASIC SCENARIO WITH VARYING INTEREST-RATE INPUT Table 9.5.1

DKK billion	2000	2001	2002	2003	2004
Simulated interest rates	44.9	42.9	44.0	42.0	44.6
1988-93	46.8	48.2	52.1	51.7	56.4
1990-94	47.9	49.1	52.7	51.7	51.5
1995-99	45.8	42.6	42.3	38.3	38.0

the costs of the aforementioned basic scenario with this type of interest-rate input.

To illustrate the sensitivity of the results, the future costs are calculated on the basis of historical interest-rate scenarios.

The course of interest rates for the period 1988-93 includes a currency crisis at the end of the period. Using the development in interest rates for this period as input, an impression is gained of the impact on borrowing costs of high interest rates in a given year, which is also reflected in significantly rising costs from 2003 to 2004, cf. Table 9.5.1.

The period 1990-94 was characterised by a general decrease in interest rates and a currency crisis. Using the development in interest rates for this period as input, a test is made of the impact on costs of a period with declining interest rates and general interest-rate unrest. When using this interest-rate input the calculated costs are at the same level as for the calculations where the interest rates for 1988-93 are used, although there is no marked increase from 2003 to 2004.

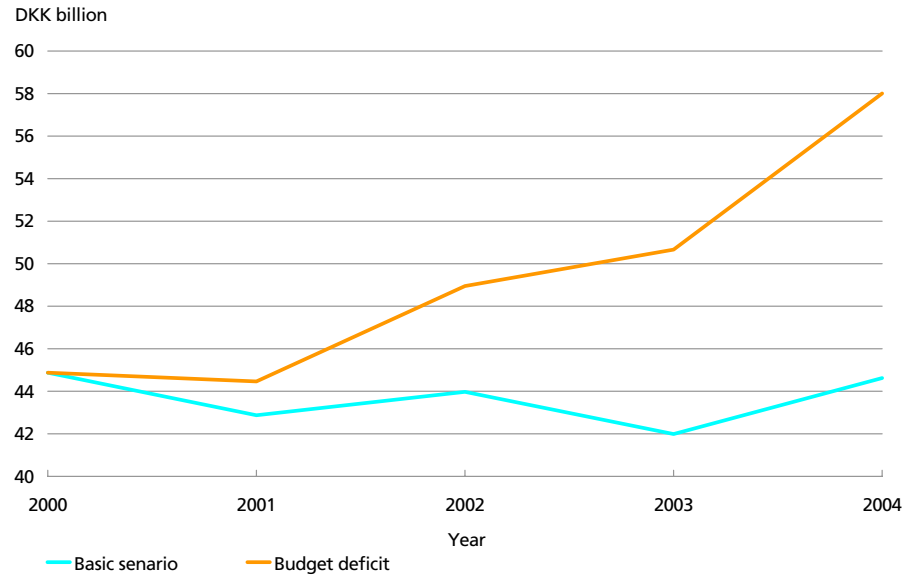
In 1995-99 interest rates were stable and showed a downward trend. Using this interest-rate development as input, an impression is gained of what the level of costs would be, given historically very low interest rates. It is – not surprisingly - seen that considerably lower costs are obtained with this interest-rate input in comparison to the other calculations.

BUDGET SENSITIVITY 9.6

Below, the sensitivity of the CaR calculations to changes in the size of the central government's budget balance is considered. Two different budget situations are compared, with a strategy for borrowing which is equivalent to the aforementioned basic scenario, i.e. a strategy whereby 40 per cent is borrowed in the 10-year segment, 20 per cent in the 5-year segment, and 40 per cent in the 2-year segment, while the outstanding amount of Treasury bills is kept constant at DKK 45 billion.

For the first budget situation a budget surplus before interest and redemptions on the domestic debt of DKK 60 billion is assumed in 2000,

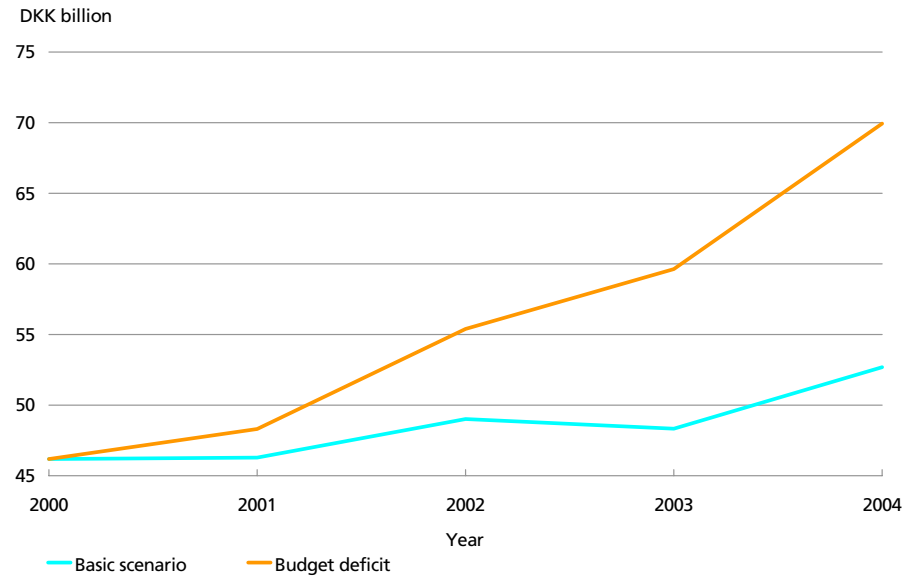
MEAN VALUE Chart 9.6.1



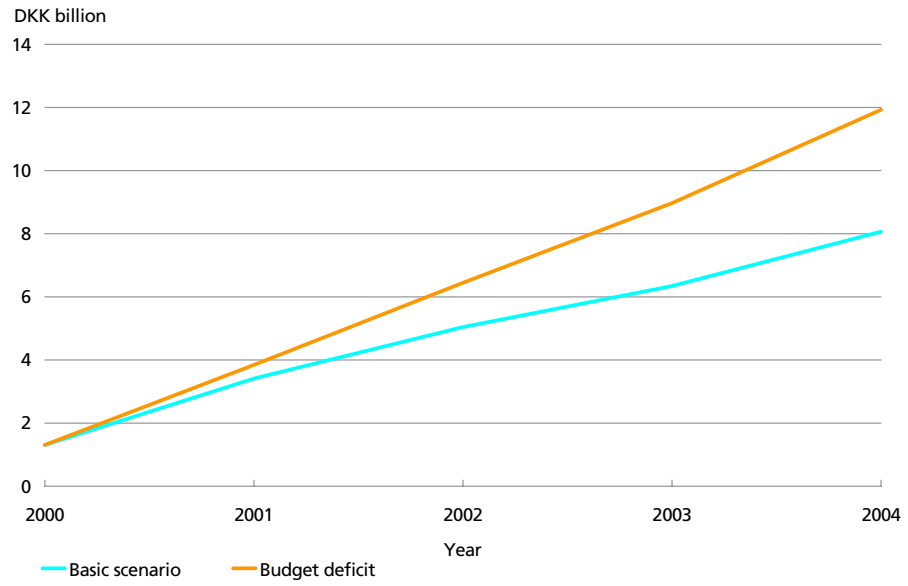
and thereafter DKK 45 billion for all subsequent years. This means that the same results are obtained as for the basic scenario described above.

For the second budget situation a budget surplus of DKK 60 billion in 2000 is assumed, and thereafter DKK 0 billion. This budget situation

ABSOLUTE CaR Chart 9.6.2



RELATIVE CaR Chart 9.6.3



generally corresponds to a situation with a deficit of 3 per cent of GDP on general-government finances, if the budget of local government and social security funds is at equilibrium. This corresponds to just fulfilling the EU Treaty's requirements of the general-government budget deficit. As stated above, the equivalent historical figures for the last 4 years have been in the range of DKK 35-75 billion, which clearly shows that the assumption of a value of 0 is a significant deviation from the level in recent years.

Chart 9.6.1 presents the development in costs for the two budget situations. It is seen that the results show significant differences. Chart 9.6.2 presents the development in absolute CaR. In the scenario with a low budget surplus absolute CaR increases to DKK 70 billion in 2004.

Chart 9.6.3 presents the development in relative CaR. The difference in relative CaR increases in step with the impact over time of the differences in the amount of borrowing.

APPLICATION OF CaR 9.7

The work in recent years on developing calculation methods and introducing CaR as a measure for the management of the interest-rate risk on the domestic debt has yielded a large body of experience.

The general assessment is that CaR is a valuable supplement to duration and redemption profile. In particular the CaR calculations have con-

tributed to valuable discussions with regard to the choice of borrowing strategy, where focus has been on weighing costs against risk.

Experience has shown that this type of calculation is particularly sensitive to the interest-rate input used. Moreover, the interest-rate input chosen implies implicit selection of expectations of the future development in interest rates. Therefore neither absolute nor relative CaR are objective risk measures.

The calculations performed show that a decrease in mean value by DKK 1 billion gives an increase in relative CaR in the range of DKK 1.0-2.0 billion. It is also the impression that absolute CaR for the domestic debt is relatively low, since for a number of years emphasis has been on a smooth redemption profile in view of the refinancing risk.

CaR statistics are reported at quarterly meetings of the Ministry of Finance, the Ministry of Economic Affairs and Danmarks Nationalbank.

At present the CaR calculations solely comprise the domestic debt of the central government. The long-term objective is to expand the CaR model to comprise the total central-government debt. Moreover, work will be continued on developing different types of interest-rate input as a supplement to that used today.

Appendix

Announcements on the Central Government's Borrowing and Debt (Translations)

CHANGE OF MARKET CONVENTIONS ON THE DANISH BOND MARKET, 18 MARCH 1999

In connection with the start of the third stage of the Economic and Monetary Union on 1 January 1999 the conditions for trading bonds were changed in nearly all of the EU member states. This was done in order to align the market conventions with the standards on the major international capital markets, including the US market. With the aim of also making Danish bonds more attractive for international investors, it has been decided that the Danish conventions for calculation of accrued interest on purchase and sale of bonds will be adjusted to the international standards.

The changes are valid for the entire bond market as of Thursday 8 February 2001, and apply to all trades with a value date of Thursday 8 February and later. This date has been chosen in order to limit the practical problems of adjusting IT-systems to the changes. The changes have been agreed unanimously among the Association of Danish Mortgage Banks, the Copenhagen Stock Exchange, the Danish Securities Dealers Association, the Danish Bankers Association, the Danish Securities Centre (VP) and Danmarks Nationalbank.

The changes in the market conventions consist of two elements:

- The present convention for calculation of accrued interest is changed from the day count basis 30/360 to Actual/Actual. This implies, that accrued interest is calculated according to the actual number of days which have passed between the settlement date for a trade and the latest coupon date. Thus the new convention is more precise than the old method of calculation.

  The change from the day count basis affects only the calculation of accrued interest in connection with the purchase and sale of bonds and in connection with raising of and redemption of mortgage-credit loans. The calculation of coupon rates is not affected by the changes. Thus borrowers will pay interest for an entire coupon period as before.
- The ex-coupon period is abolished. This entails, that payment of coupons in the future will always be made to the investor who holds the bond at the start of the coupon date.

  The abolition of the ex-coupon period is valid for bonds, which would go ex-coupon on 8 February 2001 or later. Bonds which go ex-coupon on 7 February 2001 or before will terminate the ex-coupon period as usual.

The above changes are only applicable to trading of bonds. Market conventions for the money market will not be changed, as these are already in line with international standards.

In connection with the changes the mortgage-credit sector together with the Danish Securities Centre (VP) will change the drawing procedures for redemptions on mortgage-credit bonds. This change is expected to occur simultaneously with the changes specified above.

The changes are specified in the enclosed technical supplement. Questions relating to the changes can be directed to:

Danmarks Nationalbank; Head of Department Mr. Ove Sten Jensen, phone: + 45 33 63 61 02.

The Danish Securities Dealers Association/The Danish Bankers Association; Division Manager in the Economics Department Ms. Vibeke Helle Christensen, phone + 45 33 11 02 00, ext. 55 33.

The Association of Danish Mortgage Banks; Deputy General Director Mr. Jan Knøsgaard, phone + 45 33 12 48 11.

Technical supplement.

The new market conventions for the Danish bond market

As of Thursday 8 February 2001 the market conventions are changed for the entire Danish bond market. The changes apply to bonds traded with value date on Thursday 8 February 2001 and later.

Day count basis Actual/Actual

Calculation of accrued interest according to the Actual/Actual principle is defined by the International Securities Markets Association (ISMA) in rule number 251 from January 1999. This entails that the day fraction is calculated according to the following principle:

$$t / (s * n)$$

where:

t = number of actual calendar days in the period from and including the date of the last paid interest coupon up to, but excluding, the value date of the transaction;

s = number of actual calendar days in the current coupon period, which is defined as the period from and including the date of the last paid interest coupon up to, but excluding the date of the next interest coupon payment;

n = number of coupon periods per year.

Abolition of the ex-coupon period

Until now it has been practice on the Danish bond market to use an ex-coupon period of 30 days. This means that bonds traded until 30 days before the date of the next coupon payment are sold with the next coupon payment, which is paid to the buyer of the bond. If a bond is traded

within 30 days of the date of the next coupon payment, the seller will still receive the next coupon payment, but has to pay accrued interest for the period until the next date of the next coupon payment.

The abolition of the ex-coupon period implies that the buyer of a bond will always receive the next coupon payment. In return, the buyer has to pay accrued interest for the period between the date of the latest coupon payment and up to, but excluding, the value date of the transaction.

Change of drawing procedure for redemptions on mortgage-credit bonds
Regular and early redemptions on mortgage-credit bonds have traditionally been returned to the bondholders via a lottery-based drawing procedure.

This procedure will be changed to a purely mathematical model in which drawings are made on øre/eurocent, and with regular rounding of marginal residual amounts. This implies that in the future all investors will have the same relative share of their bonds drawn in the event of redemptions by borrowers.

CENTRAL-GOVERNMENT DOMESTIC BORROWING IN 1999, 22 JUNE 1999

In Budget Review no. 1, 1999 the central government's domestic borrowing requirement for 1999 is estimated at DKK 76.5 billion. This reflects a gross domestic borrowing requirement excluding buy-backs of DKK 61.5 billion and buy-backs at market value set for calculation purposes at DKK 15 billion.

The government debt policy will be arranged according to the same general guidelines as in previous years. As before, the intention is for the individual series of government securities to be sufficiently large and liquid in order to provide a basis for effective trading on the bond market. A duration band of 4 years +/- ½ year will still be applied.

In order to support and improve the liquidity of government bonds a new securities lending facility is established, cf. below.

Opening of a new series of Treasury notes

On 7 July 1999 a new series of Treasury notes 2002 will open. The interest payment date will be 15 March and the coupon rate 4 per cent (ID Code DK000991988-8). The Treasury notes will be repaid in full on 15 March 2002.

The new Treasury notes will be issued with a maturity of just under 3 years. The maturity date has been determined in order to achieve an even spread of central-government payments.

Sale of 4 per cent Treasury notes 2002 will commence at 11.00 a.m. on 7 July via the Match System of Copenhagen Stock Exchange. Further details of the amounts offered on the first day will be announced at 9.00 a.m. on 7 July.

A description of terms of borrowing in Danish and English for 4 per cent Treasury notes 2002 has been prepared. It can be ordered on tel. (+45) 33 63 61 05 or viewed on the Danmarks Nationalbank's Web site (www.nationalbanken.dk).

Sale of 4.00 per cent Treasury notes 2001 I will be discontinued on 6 July 1999.

Buy-back

In connection with the announcement on central-government borrowing in 1999 issued on 17 December 1998 it was stated that the central government intended to buy back in 8 per cent bullet loans 2001.

In future the intention is to make use of buy-back in a wider range of securities as one of the normal instruments used in government debt policy. The objective is to support a range of current issues open for sale which comprise liquid market-conforming issues.

For 1999 it is the intention that buy-backs can be in the following securities:

4.00 per cent Treasury notes 2000 I
9 per cent bullet loans 2000
8 per cent bullet loans 2001
8 per cent bullet loans 2003
7 per cent bullet loans 2004
8 per cent bullet loans 2006
12 per cent serial loans S 2001
10 per cent serial loans S 2001
10 per cent serial loans S 2004
5 per cent serial loans S 2007
4 per cent serial loans S 2017

Buy-backs will also be used to equalise the refinancing of loans maturing during the year. In the second half of 1999 it will still be possible to buy back in 6 per cent bullet loans 1999 due on 10 December 1999.

Securities will only be bought back if this is deemed advantageous on the basis of an overall evaluation of government debt policy.

Starting on Wednesday 23 June 1999 information on buy-backs will be published on a daily basis via DN News.

Government securities lending

The existing securities lending facility for newly-opened government securities will lapse and will be replaced by a new arrangement which enters into force in connection with the opening of the new Treasury note series on 7 July 1999.

The new facility comprises government bonds and Treasury notes which are current issues open for sale. If deemed appropriate, no securities lending facility will be established for certain current issues open for sale. On the opening of the facility this is the case for 7 per cent bullet loans 2024.

Under normal circumstances the maximum lending in each paper is set at DKK 2 billion. However, this limit may be raised in the event of abnormal price formation on the private market for securities lending. The securities lending facility can be terminated at any time.

Lending in the individual government securities will cease when the securities cease to be current issues open for sale. In certain cases the facility may be extended for a few months after a paper has been withdrawn from the range of current issues.

The securities lending facility is described in further detail in the Annex to this announcement.

Adjustment of the drawing procedure for the central government's serial loans

The drawing procedure for the central government's serial loans is adjusted as of 8 February 2001. After this date, the central government's serial loans will be drawn according to a purely mathematical model rather than the present group drawing principle. The adjustment of the drawing procedure for the central government's serial loans should be viewed in the light of the changes in the drawing procedure for mortgage-credit bonds described in the announcement of adjustments to the market conventions on the Danish bond market of 18 March 1999.

In connection with the new drawing system the smallest denomination in the central government's serial loans is reduced to 1 øre. This is because in the mathematical drawing procedure the amount to be drawn in a given series is calculated as an amount in øre.

Central government issues open for sale in the 2nd half of 1999

Treasury notes

Sale of the newly opened 4 per cent Treasury notes 2002 will commence on 7 July 1999, cf. above. Sale of the 4.00 per cent Treasury notes 2001 I will be discontinued on 6 July 1999.

Government bonds

Sale of 5 per cent bullet loans 2005, 6 per cent bullet loans 2009 and 7 per cent bullet loans 2024 will continue in the 2nd half of 1999.

Treasury bills

The Treasury bill programme remains unchanged with monthly auctions. In the 2nd half of 1999 new 9-month Treasury bills will be opened at auctions with the settlement dates of 2 August and 1 November 1999.

Current issues open for sale July 1999

Series	Interest payment date
Government bonds	
7 per cent bullet loans 2024	10 November
6 per cent bullet loans 2009	15 November
5 per cent bullet loans 2005	15 August
Treasury notes	
4 per cent Treasury notes 2002 (opens on 7 July)	15 March
4.00 per cent Treasury notes 2001 I (discontinues on 6 July)	15 February
Treasury bills	
Treasury bills 1999 IV	1 November
Treasury bills 2000 I	1 February

Further information
For further information concerning the aforementioned please contact Danmarks Nationalbank, Ove Sten Jensen, Head of Department on tel. (+45) 33 63 61 02.

Annex
New securities lending facility for government securities which are current issues open for sale
A new lending facility, within the framework of the central government, is established for Treasury notes and government bonds which are current issues open for sale. The purpose of this facility is to increase the liquidity of current issues of government securities. As agent to the central government Danmarks Nationalbank undertakes the practical aspects of operation of the facility.

The existing lending facility in newly opened Treasury notes and government bonds will lapse in connection with the establishment of the new facility.

Principles for lending of government securities which are current issues open for sale

1. Lending is in government bonds and Treasury notes which are current central-government issues open for sale. The more specific terms for lending in the individual government securities series are announced in the central government's announcements concerning current issues open for sale. If deemed appropriate, no lending facility will be established for certain current issues of government securities.
2. Lending in government securities is to all members of Copenhagen Stock Exchange.
3. In normal circumstances the maximum lending in each paper is DKK 2 billion. However, this limit may be raised in the event of abnormal price formation on the private market for securities lending. The securities lending facility can be terminated at any time. Lending in individual government bond series will lapse when the bonds cease to be current issues open for sale. In certain cases the facility may continue for a few months after a paper has been withdrawn from current issues.
4. Securities lending transactions are settled on the following trading day. The securities may be borrowed for a period from 1 to 5 trading days. Transactions can be made during the day between 9.00 a.m. and 3.30 p.m., but as far as possible should be concluded before 2.00 p.m. Lending in securities is granted in the order that re-

quests to Danmarks Nationalbank are received from securities dealers on the relevant day. The right to make discretionary allocations is reserved if deemed appropriate.

5. Danish government securities (bullet loans) denominated in Danish kroner issued via the Danish Securities Centre (VP) in series with an outstanding amount of at least DKK 3 billion are accepted as collateral.
6. Collateral is provided by deducting 5 points from the market price of the securities provided as collateral by the borrower.
7. Transactions are settled as trading transactions in the VP system.
8. The fee is 0.5 per cent per year. The fee can be changed without further notice.
9. Transactions are reported as two or more separate repurchase agreements to Copenhagen Stock Exchange under code 30.
10. Any enquiries concerning securities lending transactions should be made to Danmarks Nationalbank, Market Operations Department on tel. (+45) 33 63 67 13 or (+45) 33 63 67 14.

Lending under the new securities lending facility as of 7 July 1999

On 7 July 1999 securities lending facilities will be established for the newly opened 4 per cent Treasury notes 2002 and 5 per cent bullet loans 2005 and 6 per cent bullet loans 2009. The maximum lending in each of the three government securities is set at DKK 2 billion.

CENTRAL-GOVERNMENT DOMESTIC BORROWING IN 2000, 16 DECEMBER 1999

In the Budget Review of December 1999, the central government's gross domestic borrowing requirement for 2000 is estimated at DKK 57.2 billion. The borrowing requirement will be covered by issuing domestic government securities.

As in previous years, the government debt policy will be designed to build up an attractive loan portfolio in the 2-, 5- and 10-year segments. The intention is for the individual series of government securities to be sufficiently large and liquid to provide a basis for effective trading on the bond market.

A duration band of 3.75 years +/- 0.5 year will be applied in 2000. This is a downward adjustment of the centre of the duration band by 0.25 year compared to 1999.

Central-government issues open for sale in 2000

Treasury notes and government bonds

Issues will still take place in 4 per cent Treasury notes 2002. In the 2nd half of 2000, the Treasury notes will be replaced by a new series of 2-year Treasury notes.

Sales of 5 per cent bullet loans 2005 will continue.

Issues of 6 per cent bullet loans 2009 will continue until spring when a new paper in the 10-year segment is opened. Before the opening a separate announcement specifying further conditions will be published. The aim is an outstanding amount of DKK 60 billion in 10-year securities, matching the level in other small European countries.

7 per cent bullet loans 2024 will still be open for sale. There will be only a moderate issue in this paper.

Treasury bills

The Treasury bill programme continues with monthly auctions. In the 1st half of 2000 new 9-month Treasury bills will be opened at auctions in January and April.

The intention is to achieve a neutral effect from the Treasury bill programme on the borrowing requirement for the year overall.

Current issues open for sale January 2000

Series	Interest payment date
Government bonds	
7 per cent bullet loans 2024	10 November
6 per cent bullet loans 2009	15 November
5 per cent bullet loans 2005	15 August
Treasury notes	
4 per cent Treasury notes 2002	15 March
Treasury bills	
Treasury bills 2000 I	1 February
Treasury bills 2000 II	1 May
Treasury bills 2000 III	1 August

Buy-backs

Buy-backs will be used to equalise the refinancing of loans maturing during 2000.

The intention is to buy back securities maturing during 2001 to equalise the borrowing requirement between 2000 and 2001.

Furthermore, there can be buy-backs in a wider range of securities. The objective is to support a range of current issues open for sale which comprise liquid market-conforming issues.

For 2000 there can be buy-backs in the following securities:

All securities maturing during 2000 and 2001
8 per cent bullet loans 2003
7 per cent bullet loans 2004
8 per cent bullet loans 2006
10 per cent serial loans S 2004
5 per cent serial loans S 2007
4 per cent serial loans S 2017

Securities will only be bought back if this is advantageous in view of the overall evaluation of government debt policy.

Domestic interest-rate swaps

Domestic interest-rate swaps are used as an instrument in the management of the interest-rate and refinancing risk on the government debt. It is still the intention to use interest-rate swaps for a limited amount.

Government securities lending

The securities lending facility continues in 2000.

Further information

For further information concerning the aforementioned please contact Danmarks Nationalbank, Ove Sten Jensen, Head of Department on tel. (+45) 33 63 61 02.

Information on the government debt management can be found on the Web site of Danmarks Nationalbank (www.nationalbanken.dk) or in Danish Government Borrowing and Debt 1999, which is expected to be published at the end of February 2000.

CONSEQUENCES FOR THE DANISH BOND MARKET IF DENMARK DECIDES TO ADOPT THE EURO. TECHNICAL CONSIDERATIONS. 31 JANUARY 2000

Today the report "Konsekvenser for det danske obligationsmarked i forbindelse med Danmarks eventuelle indførelse af euroen. Tekniske overvejelser" (Consequences for the Danish Bond Market if Denmark decides to adopt the euro. Technical considerations) is published. An English translation will be available from mid-February. The report is written by a working group with the participation of representatives of the Danish Securities Dealers Association, the Ministry of Finance, the Danish Bankers Association, the Danish Financial Supervisory Authority, the Copenhagen Stock Exchange, Danmarks Nationalbank, the Association of Danish Mortgage Banks, the Danish Securities Centre and the Ministry of Economic Affairs. The working group was set up in the summer of 1999 in the light of the Ministry of Economic Affairs' work on the report on the changeover to euro in the event of Danish participation.

The working group in particular discussed the issue of the redenomination of bonds should Denmark decide to adopt the euro. The deliberations and the conclusions drawn from these discussions are presented in this report.

Redenomination of securities entails that the currency denomination is changed from one currency to another. Redenomination does not change the financial value or other terms of the securities.

In the event of Denmark joining the euro area, redenomination of Danish bonds from kroner to euro implies the need for issuers, banks and the Danish Securities Centre to make a series of changes to their systems.

The working group recommends that redenomination of Danish government securities and mortgage bonds should take place immediately upon entry, should Denmark decide to adopt the euro. This should be done in order to quickly and effectively create a large liquid market for Danish euro-denominated bonds, for the benefit of borrowers and investors alike. The working group also recommends to provide for redenomination of other bonds within a specified period after joining the euro area.

As regards the method of redenomination the working group recommends the use of the "bottom-up" method with rounding to the nearest eurocent amount, if Denmark decides to join the euro area. The "bottom-up" method implies that the conversion from kroner to euro is made on the basis of each investor's holdings of a given bond. Most of the euro area member states have redenominated using the "bottom-up" method. In the euro area member states the redenomination process has progressed without significant problems.

Should Denmark join the euro area around a year-end, or at any other time when the number of days that the Danish Securities Centre is closed prevents the redenomination of the total volume of government securities and mortgage-credit bonds, the working group recommends the introduction of one or more extraordinary days of closing of the Danish Securities Centre system.

If it is not possible to redenominate the total volume of government securities and mortgage-credit bonds for example because the Danish Securities Centre cannot be closed extraordinarily, the working group recommends the immediate redenomination of government securities at the time of adopting the euro and redenomination of the total volume of mortgage-credit bonds soon afterwards.

For further information please contact the chairman of the working group, Mr Ove Sten Jensen, Head of Department, on tel. (+45) 3363 6102.

Extra copies of the report is available on request. Please address Danmarks Nationalbank on tel. (+45) 3363 7000 or e-mail info@nationalbanken.dk. The report is also available on the Nationalbank's Web site: www.nationalbanken.dk.

Appendix of Tables

CENTRAL-GOVERNMENT DEBT, YEAR-END 1989-99 Table 1

DKK million	1989	1990	1991
A. Debt			
Domestic debt denominated in DKK[1]			
- Fixed-rate bonds	221,592	229,221	252,481
- Floating-rate bonds	88,410	85,010	85,010
- Lottery bonds	1,200	1,200	1,200
- Compulsory savings	1,375	864	392
- Treasury notes	64,550	68,850	74,050
- Treasury bills	-	21,350	49,250
- Government securities held by the central government	-11	-5	-1
Domestic debt denominated in DKK, total	377,116	406,490	462,382
Domestic debt denominated in EUR[2 3]			
- Fixed-rate bonds	-	-	-
- Government securities held by the central government	-	-	-
Domestic debt, total	377,116	406,490	462,382
Foreign debt			
- in USD	27,624	15,556	17,103
- in CHF	17,919	21,033	15,785
- in DEM	30,034	36,700	28,464
- in EUR[3]	16,970	18,103	18,025
- in JPY	10,156	3,597	1,866
- in other currencies	13,328	24,112	11,096
- Government securities held by the central government[4]	-1,574	-1,126	-1,374
Foreign debt, total	114,457	117,975	90,965
Domestic and foreign debt, total	491,573	524,465	553,347
B. Government deposits with the central bank	-35,254	-45,206	-11,649
C. The Social Pension Fund			
- Government securities	-30,212	-36,193	-38,872
- Other securities	-81,164	-82,254	-86,836
The Social Pension Fund, nominal value, total[5]	-111,376	-118,447	-125,708
Government debt, total (A+B+C)	344,943	360,812	415,990
Government debt, per cent of GDP	43.7	43.7	48.5

Note: + denotes liabilities, - denotes assets.

[1] Does not include the holdings of the Ministry of Finance under the location-swap facility. The facility was established in July 1993 and ended in April 1998.

[2] In connection with the introduction of new accounting principles for the government debt, the 8.5 per cent euro bullet loan 2002 has been reclassified as foreign debt instead of domestic debt as of 1 January 1998.

[3] Up to and including 31 December 1998 XEU.

[4] Recorded at acquisition price. From 1993 exchange rate adjusted.

[5] Indexed bonds are at indexed value.

CENTRAL-GOVERNMENT DEBT, YEAR-END 1989-99 Table 1

1992	1993	1994	1995	1996	1997	1998	1999
316,690	357,346	409,565	466,608	516,812	556,874	550,989	537,289
57,147	41,241	30,345	20,722	16,760	9,848	4,346	-
1,200	1,200	1,200	1,200	1,200	1,200	1,000	900
-	-	-	-	-	-	-	-
71,150	94,200	111,705	102,697	84,499	49,140	58,830	74,040
55,485	58,339	56,238	58,385	51,234	50,001	41,255	36,350
0	-	-	-	-	-	-	-
501,672	552,326	609,053	649,612	670,505	667,063	656,420	648,579
9,827	9,824	9,697	9,244	9,597	6,634	-	-
-	-	-970	-1,138	-2,372	-	-	-
511,499	562,150	617,781	657,719	677,730	673,697	656,420	648,579
37,802	50,889	24,912	6,425	4,562	1,514	1,336	1,187
13,952	20,914	18,393	13,836	6,178	3,974	1,094	3,616
23,758	47,223	42,772	49,476	81,070	86,921	67,815	56,780
14,942	9,364	5,576	6,778	-2,934	-4,212	9,413	24,980
3,159	5,612	10,419	9,329	2,396	1,047	562	2,453
11,019	31,610	29,494	25,319	17,209	14,369	8,120	1,008
-1,151	-1,338	-1,784	-5,516	-6,986	-	-	-
103,482	164,274	129,782	105,647	101,495	103,613	88,338	90,025
614,981	726,424	747,563	763,366	779,225	777,310	744,758	738,604
-30,927	-88,781	-55,266	-33,677	-31,052	-29,024	-30,400	-36,490
-43,611	-45,270	-50,143	-68,889	-83,435	-92,453	-100,135	-105,432
-88,583	-93,105	-96,689	-82,517	-65,336	-54,368	-43,468	-36,207
-132,194	-138,375	-146,832	-151,406	-148,772	-146,821	-143,603	-141,640
451,860	499,268	545,465	578,283	599,401	601,465	570,755	560,474
50.9	55.5	56.5	57.3	56.5	54.0	48.9	46.3

DOMESTIC GOVERNMENT SECURITIES ISSUED IN 1999 — Table 2

No. 264, 7 per cent government bonds 2024 (7 pct. stående lån 2024)	
Issued in 1999, DKK million	125
Interest payable	10 Nov
Stock exchange code	0991813
Issue commenced	6 Apr 1994
Redemption date	10 Nov 2024
No. 291, 6 per cent government bonds 2009 (6 pct. stående lån 2009)	
Issued in 1999, DKK million	23.965
Interest payable	15 Nov
Stock exchange code	0991953
Issue commenced	14 Jan 1998
Redemption date	15 Nov 2009
No. 286, 5 per cent government bonds 2005 (5 pct. stående lån 2005)	
Issued in 1999, DKK million	17.670
Interest payable	15 Aug
Stock exchange code	0991945
Issue commenced	14 Jan 1997
Redemption date	15 Aug 2005
No. 290, 4 per cent Treasury notes 2001 I (4 pct. statsgældsbevis 2001 I)	
Issued in 1999, DKK million	13.565
Interest payable	15 Feb
Stock exchange code	0991961
Issue commenced	7 Jan 1998
Redemption date	15 Feb 2001
No. 319, 4 per cent Treasury notes 2002 (4 pct. statsgældsbevis 2002)	
Issued in 1999, DKK million	17.185
Interest payable	15 Mar
Stock exchange code	0991988
Issue commenced	7 Jul 1999
Redemption date	15 Mar 2002
No. 294, Treasury bills 1999 II (Skatkammerbevis 1999 II)	
Issued in 1999, DKK million	4.275
Interest payable	-
Stock exchange code	0980706
Issue commenced	1 Aug 1998
Redemption date	3 May 1999
No. 295, Treasury bills 1999 III (Skatkammerbevis 1999 III)	
Issued in 1999, DKK million	12.784
Interest payable	-
Stock exchange code	0980714
Issue commenced	1 Dec 1998
Redemption date	2 Aug 1999

DOMESTIC GOVERNMENT SECURITIES ISSUED IN 1999	Table 2
No. 300, Treasury bills 1999 IV (Skatkammerbevis 1999 IV)	
Issued in 1999, DKK million	26.207
Interest payable	-
Stock exchange code	0980722
Issue commenced	1 Feb 1999
Redemption date	1 Nov 1999
No. 309, Treasury bills 2000 I (Skatkammerbevis 2000 I)	
Issued in 1999, DKK million	18.239
Interest payable	-
Stock exchange code	0980730
Issue commenced	3 May 1999
Redemption date	1 Feb 2000
No. 321, Treasury bills 2000 II (Skatkammerbevis 2000 II)	
Issued in 1999, DKK million	11.741
Interest payable	-
Stock exchange code	0980749
Issue commenced	1 Aug 1999
Redemption date	1 May 2000
No. 334, Treasury bills 2000 III (Skatkammerbevis 2000 III)	
Issued in 1999, DKK million	7.845
Interest payable	-
Stock exchange code	0980757
Issue commenced	1 Nov 1999
Redemption date	1 Aug 2000

CENTRAL-GOVERNMENT FOREIGN BORROWING TRANSACTIONS IN 1999[1] Table 3

Loan no.	Accept-ance date	Issue date	Nominal rate of interest, per cent p.a.	Type of loan	Maturity date	Nominal amount in million	Lead manager/Lender
298	04-11-99	08-11-99	0	ECP	14-02-00	100 USD	Citibank Intl. plc
298	04-11-99	08-11-99	0	ECP	29-02-00	100 USD	Citibank Intl. plc
887	07-01-99	28-01-99	3.875	EMTN	28-01-02	100 USD	Commerzbank AG
-[2]	02-02-99	09-02-99	3.875	EMTN	28-01-02	50 USD	Commerzbank AG
896	05-02-99	18-02-99	6	EMTN	18-02-02	10,000 GRD	Deutsche Bank/EFG Eurobank
897	26-02-99	12-03-99	3.875	EMTN	13-03-00	50 USD	Greenwich NatWest
898	10-03-99	18-03-99	3.875	EMTN	20-03-00	30 USD	Greenwich NatWest
902	27-04-99	07-05-99	3.625	EMTN	08-05-00	25 GBP	Greenwich NatWest
905	08-06-99	15-06-99	3.875	EMTN	15-06-00	25 GBP	Greenwich NatWest
906	14-06-99	28-06-99	5.875	EMTN	28-06-04	150 GBP	Dresdner Bank AG
907	01-07-99	28-07-99	5.75	EMTN	28-07-05	500 NOK	Svenska Handelsbanken AB
908	16-07-99	29-07-99	5.75	EMTN	03-12-01	250 GBP	ABN AMRO Bank N.V.
909	30-07-99	26-08-99	6.375	EMTN	26-08-03	250 USD	ABN AMRO/Merrill Lynch
912	04-08-99	15-09-99	5.375	EMTN	15-09-03	1,000 SEK	Unibank A/S
-[3]	09-08-99	15-09-99	5.375	EMTN	15-09-03	500 SEK	Unibank A/S
913	01-09-99	14-09-99	6.625	EMTN	14-09-05	500 USD	Goldman Sachs International
916	08-10-99	13-10-99	0	EMTN	18-01-00	400 EUR	Credit Suisse First Boston
917	12-10-99	25-10-99	6.375	EMTN	25-10-02	400 USD	Lehman/Tokyo-Mitsubishi

[1] Including swaps, if any, in connection with new issues.
[2] Increase of loan no. 887. The Kingdom of Denmark received accrued interest of USD 59,201.39 on the issue date.
[3] Increase of loan no. 912.

CENTRAL-GOVERNMENT FOREIGN BORROWING TRANSACTIONS IN 1999[1] Table 3

Issue price	Total expenses per cent	Start date	Counterparty	Notional amount in million	Nominal rate of interest	Amount in DKK million
98.407						698.2
98.168						696.5
98.118	1.375	28-01-99	Commerzbank	85.50 EUR	3.105%	635.8
98.185	1.375	09-02-99	Commerzbank	44.00 EUR	3.00%	327.2
101.125	1.475	18-02-99	Deutsche Bank	31.03 EUR	2.985%	230.7
98.762	0	26-02-99	NatWest	45.39 EUR	6 month Euribor -0.22%	337.4
99.01	0.130	18-03-99	NatWest	27.38 EUR	6 month Euribor -0.24%	203.5
98.75	0.136	07-05-99	NatWest	37.97 EUR	6 month Euribor -0.24%	282.2
98.88	0.116	15-06-99	NatWest	38.53 EUR	6 month Euribor -0.24%	286.3
99.55	0.250	28-06-99	Dresdner Bank	231.66 EUR	6 month Euribor -0.22%	1,721.7
101.106	1.935	28-07-99	NatWest	61.73 EUR	6 month Euribor -0.22%	459.4
101.195	1.195	29-07-99	MSDP	384.50 EUR	6 month Euribor -0.22%	2,862.4
101.373	1.373	26-08-99	MSDP	233.70 EUR	6 month Euribor -0.22%	1,737.1
101.125	1.625	15-09-99	Chase	114.40 EUR	6 month Euribor -0.25%	850.4
99.80	1.625	15-09-99	Chase	56.95 EUR	6 month Euribor -0.28%	423.3
99.711	0.275	14-09-99	GSMMDP	465.00 EUR	6 month Euribor -0.24%	3,457.2
99.179	0					2,948.6
99.862	0.188	25-10-99	MSDP	375.59 EUR	6 month Euribor -0.22%	2,792.2

CENTRAL-GOVERNMENT DOMESTIC SWAPS, 1998-99 Table 4a

Loan no.	Accepted in	Amount in DKK million	Receiving	Paying	Terminates in
295	Sep 1998	200.0	10 year fixed	6 month Cibor	Sep 2008
296	Sep 1998	300.0	10 year fixed	6 month Cibor	Sep 2008
297	Jan 1999	300.0	10 year fixed	6 month Cibor	Jan 2009
298	Jan 1999	200.0	10 year fixed	6 month Cibor	Jan 2009
299	Feb 1999	300.0	10 year fixed	6 month Cibor	Feb 2009
301	Feb 1999	200.0	10 year fixed	6 month Cibor	Feb 2009
302	Mar 1999	200.0	10 year fixed	6 month Cibor	Mar 2009
303	Mar 1999	200.0	10 year fixed	6 month Cibor	Mar 2009
304	Apr 1999	300.0	10 year fixed	6 month Cibor	Apr 2009
305	Apr 1999	200.0	10 year fixed	6 month Cibor	Apr 2009
306	Apr 1999	200.0	10 year fixed	6 month Cibor	Apr 2009
307	Apr 1999	200.0	10 year fixed	6 month Cibor	Apr 2009
308	May 1999	200.0	10 year fixed	6 month Cibor	May 2009
310	May 1999	200.0	10 year fixed	6 month Cibor	May 2009
311	May 1999	200.0	10 year fixed	6 month Cibor	May 2009
312	May 1999	200.0	10 year fixed	6 month Cibor	May 2009
313	May 1999	200.0	10 year fixed	6 month Cibor	May 2009
314	Jun 1999	200.0	10 year fixed	6 month Cibor	Jun 2009
315	Jun 1999	200.0	10 year fixed	6 month Cibor	Jun 2009
316	Jun 1999	200.0	10 year fixed	6 month Cibor	Jun 2009
317	Jun 1999	200.0	10 year fixed	6 month Cibor	Jun 2009
318	Jul 1999	200.0	10 year fixed	6 month Cibor	Jul 2009
320	Jul 1999	250.0	10 year fixed	6 month Cibor	Jul 2009
322	Aug 1999	200.0	10 year fixed	6 month Cibor	Aug 2009
323	Aug 1999	200.0	10 year fixed	6 month Cibor	Aug 2009
324	Aug 1999	500.0	10 year fixed	6 month Cibor	Aug 2009
325	Aug 1999	300.0	10 year fixed	6 month Cibor	Aug 2009
326	Aug 1999	200.0	10 year fixed	6 month Cibor	Aug 2009
327	Sep 1999	200.0	10 year fixed	6 month Cibor	Sep 2009
328	Sep 1999	300.0	10 year fixed	6 month Cibor	Sep 2009
329	Sep 1999	100.0	10 year fixed	6 month Cibor	Sep 2009
330	Sep 1999	200.0	10 year fixed	6 month Cibor	Sep 2009
331	Sep 1999	300.0	10 year fixed	6 month Cibor	Sep 2009
332	Sep 1999	200.0	10 year fixed	6 month Cibor	Sep 2009
333	Sep 1999	200.0	10 year fixed	6 month Cibor	Sep 2009
Total		7,950.0			

CENTRAL-GOVERNMENT FOREIGN SWAPS UNCONNECTED TO NEW ISSUES, 1999 Table 4b

Loan no.	Start date	Receiving			Paying			Termination date	Amount in DKK million
		Currency	Million	Interest	Currency	Million	Interest		
893	22-01-99	EUR	209.0	6 month Euribor	CHF	335.0	6 month Libor -0.028	22-01-04	1,555.4
894[1]	28-01-99	EUR	21.4	6 month Euribor	CHF	34.3	0.0	17-02-02	159.2
895[1]	01-02-99	EUR	17.1	6 month Libor -0.02	USD	20.0	6.065	20-12-06	129.9
899	22-04-99	EUR	50.0	6 month Euribor	JPY	6,515.0	6 month Libor -0.15	22-04-04	384.8
900	28-04-99	EUR	80.0	6 month Euribor	JPY	10,424.0	6 month Libor -0.145	28-04-04	613.2
901	28-04-99	EUR	70.0	6 month Euribor	CHF	112.0	6 month Libor -0.01	29-04-02	519.6
903	13-07-99	EUR	70.0	6 month Euribor	CHF	112.0	6 month Libor -0.015	13-07-02	518.4
904	09-06-99	EUR	55.0	6 month Euribor	JPY	7,009.8	6 month Libor -0.14	09-06-04	417.6
910	25-08-99	EUR	40.0	6 month Euribor	CHF	64.0	6 month Libor +0.0025	25-08-03	298.0
911	26-08-99	EUR	45.0	6 month Euribor	CHF	72.0	6 month Libor +0.0025	26-08-03	334.2
914	07-10-99	EUR	100.0	6 month Euribor	EUR	100.0	5.125	07-10-05	743.2
915	12-10-99	EUR	100.0	6 month Euribor	EUR	100.0	5.1625	12-10-05	743.3

[1] Asset swap connected to buy-back of bonds.

CENTRAL-GOVERNMENT FOREIGN-EXCHANGE FORWARD TRANSACTIONS WITH DANMARKS NATIONALBANK, 1999[1] Table 4c

Loan no.	Start date	Receiving on the termination date USD million	Paying on the termination date EUR million	Termination date
918	08-11-99	100.0	94.8	14-02-00
919	08-11-99	100.0	94.7	29-02-00

[1] Foreign-exchange forward transactions connected to Commercial Paper issues.

CENTRAL-GOVERNMENT TERMINATED FOREIGN SWAPS, 1999 Table 4d

Loan no.	Settle-ment date	Received			Paid			Termina-tion date	Value in DKK million
		Cur-rency	Million	Interest	Cur-rency	Million	Interest		
879	28-01-99	EUR	500.0	4.625	EUR	500.0	6 month Libor -0.19	04-09-08	+238.7
865	23-09-99	DEM	1,000.0	5.25	DEM	1,000.0	6 month Libor -0.1475	28-10-04	+232.2

CENTRAL-GOVERNMENT DOMESTIC DEBT AS OF 31 DECEMBER 1999 Table 5

Serial no.	Coupon per cent	Name Issue Period[1]	Redemption date	Outstanding amount, DKK million
Government bonds, fixed interest rate				
Bullet loans				
226	9	Stående lån 2000 2 Jan 1990-30 Dec 1992	15 Nov 2000	59,150.0
246	8	Stående lån 2003 2 Jan 1992-30 Dec 1993	15 May 2003	69,000.0
257	7	Stående lån 2004 25 May 1993-5 Dec 1994	15 Dec 2004	74,450.0
264	7	Stående lån 2024 6 Apr 1994-	10 Nov 2024	25,000.0
269	8	Stående lån 2006 5 Dec 1994-10 Apr 1996	15 Mar 2006	70,000.0
272	8	Stående lån 2001 9 Jan 1995-18 Jun 1996	15 Nov 2001	42,785.0
279	7	Stående lån 2007 10 Apr 1996-30 Dec 1997	15 Nov 2007	52,605.0
280	6	Stående lån 2002 18 Jun 1996-30 Dec 1998	15 Nov 2002	38,907.0
286	5	Stående lån 2005 14 Jan 1997-	15 Aug 2005	38,420.0
291	6	Stående lån 2009 14 Jan 1998-	15 Nov 2009	56,690.0
Serial loans				
14	5	S 2007 20 Oct 1953-12 Sep 1958	15 Sep 2007[2]	44.0
16	4	S 2017 29 Nov 1955-12 Sep 1958	15 Jun 2017[2]	94.7
38	12	S 2001 6 Oct 1980-9 May 1983	15 Feb 2001	5,355.0
57	10	S 2004 10 May 1983-30 Aug 1985	15 Oct 2004	4,740.0
85	10	S 2001 15 Jul 1985-30 Aug 1985	15 Jul 2001	1.0
Perpetuals				
1	3.5	Dansk Statslån 11 Dec 1886	perpetuals[2]	46.2
80	5	Dansk-Islandsk Fond 1918 20 May 1919	perpetuals	1.0
Government bonds, fixed rate, total				537,288.9

CENTRAL-GOVERNMENT DOMESTIC DEBT AS OF 31 DECEMBER 1999 Table 5

Serial no.	Coupon per cent	Name Issue Period[1]	Redemption date	Outstanding amount, DKK million
Treasury notes				
285	4.00	Statsgældsbevis 2000 I 7 Jan 1997-30 Dec 1997	15 Feb 2000	12,400.0
290	4.00	Statsgældsbevis 2001 I 7 Jan 1998-6 Jul 1999	15 Feb 2001	44,455.0
319	4.00	Statsgældsbevis 2002 7 Jul 1999-	15 Mar 2002	17,185.0
Treasury notes, total				74,040.0
Treasury bills				
309	0	Skatkammerbevis 2000 I 3 May 1999-1 Nov 1999	1 Feb 2000	16,764.0
321	0	Skatkammerbevis 2000 II 2 Aug 1999-	1 May 2000	11,741.0
334	0	Skatkammerbevis 2000 III 1 Nov 1999-	1 Aug 2000	7,845.0
Treasury bills, total				36,350.0
Lottery bonds				
20	7	Præmieobligationslån af 1965/2010 22 Sep 1965	22 Sep 2010	100.0
21	7	Præmieobligationslån af 1969/2009 1 Oct 1969	31 Dec 2009	100.0
24	8	Præmieobligationslån af 1977/2002		
		I 14 Apr 1977	15 Feb 2002	100.0
		II 3 Jun 1977	15 May 2002	100.0
		III 24 Jun 1977	15 Jun 2002	100.0
		IV 28 Jul 1977	15 Jul 2002	100.0
		V 30 Aug 1977	15 Aug 2002	100.0
39	10	Præmieobligationslån af 1980/2005 28 Oct 1980	1 Jul 2005	200.0
Lottery bonds, total				900.0
Central-government domestic debt, total				648,578.9

[1] The issue period refers to the period the series has been open for issue. For Treasury bills the dates refer to settlement date. Series still open for issue are marked with "-" after the first day of issue. Certain securities are only sold on one single date. For these securities only this date is stated.

[2] May be redeemed by the central government at three months' notice.

CENTRAL-GOVERNMENT FOREIGN LOANS AS OF 31 DECEMBER 1999[1] Table 6

Loan no.	Rate of interest, per cent p.a.	Title	Outstanding amount, million of currency	Outstanding amount, DKK million (1)	Note
AUD loans					
749	0	1996/00 AUD(redemption)/JPY(interest)	230.4	1,113.6	
-	0	1996/00 swap to DEM with floating rate	-230.4	-1,113.6	
758	0	1996/00 AUD(redemption)/JPY(interest)	128.0	618.7	
-	0	1996/00 swap to DEM with floating rate	-128.0	-618.7	
764	0	1996/00 AUD(redemption)/JPY(interest)	79.2	382.7	
-	0	1996/00 swap to DEM with floating rate	-237.6	-1,148.2	
806	0	1997/00 swap from DEM with floating rate (Swap concerning buy-back (JPY 14,000 mn) of loan no. 764)	158.4	765.4	
838	3.46	1997/07 AUD(interest on 33.86 mn)/JPY (redemption)	0.0	0.0	
-	3.46	1997/07 swap to DEM with floating rate	-0.0	-0.0	
869	5.625	1998/03	100.0	483.3	
-	5.625	1998/03 swap to DEM with floating rate	-100.0	-483.3	
Total AUD			0.0	0.0	
BEF loans					
619	0	1995/03 swap to floating rate	-5,000.0	-922.6	(2)
-	float.	1995/03 swap from fixed rate	2,705.3	499.1	(2)
Total BEF			-2,294.8	-423.4	
CAD loans					
802	6	1997/02	100.0	508.5	
-	6	1997/02 swap to DEM with floating rate	-100.0	-508.5	
876	5.25	1998/03	100.0	508.5	
-	5.25	1998/03 swap to DEM with floating rate	-100.0	-508.5	
Total CAD			0.0	0.0	
CHF loans					
313	0	1987/02	50.8	235.6	
796	2.25	1997/04	200.0	927.0	
-	2.26688	1997/04 swap to DEM with floating rate	-200.0	-927.0	
893	float.	1999/04 swap from EUR with floating rate	335.0	1,552.8	
894	0	1999/02 swap from EUR with floating rate (Swap concerning buy-back (CHF 34.34 mn) of loan no. 313)	34.3	159.2	
901	float.	1999/02 swap from EUR with floating rate	112.0	519.1	
903	float.	1999/02 swap from EUR with floating rate	112.0	519.1	
910	float.	1999/03 swap from EUR with floating rate	64.0	296.7	
911	float.	1999/03 swap from EUR with floating rate	72.0	333.7	
Total CHF			780.2	3,616.2	

[1] All loans are repaid at maturity unless otherwise stated.
The outstanding amount of some loans has been reduced during the term of the loan through buy-backs to which asset swaps often have been connected.
The redemptions are in some cases structured, i.e. they are calculated according to a certain formula and can be bigger or smaller than the outstanding amounts registered in the table.

CENTRAL-GOVERNMENT FOREIGN LOANS AS OF 31 DECEMBER 1999[1] Table 6

Loan no.	Rate of interest, per cent p.a.	Title	Outstanding amount, million of currency	Outstanding amount, DKK million (1)	Note
CZK loans					
871	13.75	1998/02	1,000.0	206.9	
-	13.75	1998/02 swap to DEM with floating rate	-1,000.0	-206.9	
Total CZK			0.0	0.0	
DEM loans					
509	8.345	1992/02 swap from floating rate	100.0	380.6	
-	float.	1992/02 swap to fixed rate	-100.0	-380.6	
512	8.3	1992/02 swap from floating rate	100.0	380.6	
-	float.	1992/02 swap to fixed rate	-100.0	-380.6	
515	8.285	1992/02 swap from floating rate	50.0	190.3	
-	float.	1992/02 swap to fixed rate	-50.0	-190.3	
516	8.31	1992/02 swap from floating rate	50.0	190.3	
-	float.	1992/02 swap to fixed rate	-50.0	-190.3	
524	8.03	1992/02 swap from floating rate	100.0	380.6	
-	float.	1992/02 swap to fixed rate	-100.0	-380.6	
528	7.94	1992/01 swap from floating rate	100.0	380.6	
-	float.	1992/01 swap to fixed rate	-100.0	-380.6	
572	6.07	1993/00	9.7	37.0	
621	6.125	1995/00	495.0	1,883.8	
624	6.445	1995/00 swap from floating rate	100.0	380.6	
-	float.	1995/00 swap to fixed rate	-100.0	-380.6	
626	6.23	1995/00 swap from floating rate	100.0	380.6	
-	float.	1995/00 swap to fixed rate	-100.0	-380.6	
638	6.31	1995/00 swap from floating rate	100.0	380.6	
-	float.	1995/00 swap to fixed rate	-100.0	-380.6	
639	6.305	1995/00 swap from floating rate	200.0	761.1	
-	float.	1995/00 swap to fixed rate	-200.0	-761.1	
641	6.16	1995/00 swap from floating rate	100.0	380.6	
-	float.	1995/00 swap to fixed rate	-100.0	-380.6	
642	6.1675	1995/00 swap from floating rate	200.0	761.1	
-	float.	1995/00 swap to fixed rate	-200.0	-761.1	
643	6.33	1995/01 swap from floating rate	100.0	380.6	
-	float.	1995/01 swap to fixed rate	-100.0	-380.6	
644	6.31	1995/01 swap from floating rate	100.0	380.6	
-	float.	1995/01 swap to fixed rate	-100.0	-380.6	
645	0	1995/00	51.6	196.4	
646	6.46	1995/02 swap from floating rate	100.0	380.6	
-	float.	1995/02 swap to fixed rate	-100.0	-380.6	
647	6.44	1995/02 swap from floating rate	100.0	380.6	
-	float.	1995/02 swap to fixed rate	-100.0	-380.6	
648	6.4	1995/02 swap from floating rate	100.0	380.6	
-	float.	1995/02 swap to fixed rate	-100.0	-380.6	
649	6.39	1995/02 swap from floating rate	100.0	380.6	
-	float.	1995/02 swap to fixed rate	-100.0	-380.6	
650	5.73	1995/00 swap from floating rate	100.0	380.6	
-	float.	1995/00 swap to fixed rate	-100.0	-380.6	
652	5.63	1995/00 swap from floating rate	200.0	761.1	
-	float.	1995/00 swap to fixed rate	-200.0	-761.1	
653	5.645	1995/00 swap from floating rate	100.0	380.6	
-	float.	1995/00 swap to fixed rate	-100.0	-380.6	

CENTRAL-GOVERNMENT FOREIGN LOANS AS OF 31 DECEMBER 1999[1] Table 6

Loan no.	Rate of interest, per cent p.a.	Title	Outstanding amount, million of currency	Outstanding amount, DKK million (1)	Note
DEM loans – continued					
659	5.57	1995/00 swap from floating rate	100.0	380.6	
-	float.	1995/00 swap to fixed rate	-100.0	-380.6	
710	float.	1996/01 swap from LUF with fixed rate	48.6	185.0	
711	5.74	1996/01 swap from floating rate	48.6	185.0	
-	float.	1996/01 swap to fixed rate	-48.6	-185.0	
713	float.	1996/06 swap from FRF with floating rate	146.6	558.0	
714	float.	1996/02 swap from EUR with floating rate	94.0	357.6	
716	float.	1996/02 swap from EUR with floating rate	93.7	356.5	
717	float.	1996/02 swap from EUR with floating rate	188.0	715.6	
721	float.	1996/02 swap from EUR with floating rate	189.0	719.3	
723	8.05	1996/02 swap from EUR with fixed rate	283.2	1,077.9	
725	float.	1996/02 swap from EUR with floating rate	284.4	1,082.2	
734	0	1996/01 swapped to floating rate	12.0	45.7	
735	6.3875	1996/06 swap from floating rate	146.6	558.0	
-	float.	1996/06 swap to fixed rate	-146.6	-558.0	
749	float.	1996/00 swap from JPY(interest)/AUD (redemption) with fixed rate	275.6	1,048.8	
756	float.	1996/00 swap from EUR with fixed rate	189.3	720.2	
758	float.	1996/00 swap from JPY(interest)/AUD (redemption) with fixed rate	137.8	524.4	
760	5	1996/01	500.0	1,902.8	
762	4.61	1996/00 swap from EUR with fixed rate	47.8	181.7	
763	4.62	1996/00 swap from EUR with fixed rate	80.6	306.8	
764	float.	1996/00 swap from JPY(interest)/AUD (redemption) with fixed rate	283.5	1,078.9	
766	4.505	1996/00 swap from floating rate	189.3	720.2	
-	float.	1996/00 swap to fixed rate	-189.3	-720.2	
768	3.94	1996/00 swap from floating rate	275.6	1,048.8	
-	float.	1996/00 swap to fixed rate	-275.6	-1,048.8	
770	4.102	1996/00 swap from floating rate	283.5	1,078.9	
-	float.	1996/00 swap to fixed rate	-283.5	-1,078.9	
772	float.	1996/06 swap from USD with fixed rate	29.9	113.9	
777	4.56	1996/00 swap from GBP with fixed rate	254.0	966.6	
-	4.495	1996/00 swap from GBP with fixed rate	64.3	244.7	
780	4.75	1997/02	474.5	1,805.8	
788	3.88	1996/00 swap from floating rate	137.8	524.4	
-	float.	1996/00 swap to fixed rate	-137.8	-524.4	
790	5.925	1996/06 swap from floating rate	29.9	113.9	
-	float.	1996/06 swap to fixed rate	-29.9	-113.9	
793	float.	1997/02 swap from USD with fixed rate	326.6	1,242.7	
794	float.	1997/07 swap from JPY with structured interest rate	13.6	51.9	
795	4.75	1997/02	680.0	2,587.8	
796	float.	1997/04 swap from CHF with fixed rate	228.7	870.2	
797	float.	1997/00 swap from USD with fixed rate	333.3	1,268.3	
798	4.885	1997/02 swap from floating rate	326.6	1,242.7	
-	float.	1997/02 swap to fixed rate	-326.6	-1,242.7	
799	5.73	1997/07 swap from floating rate	13.6	51.9	
-	float.	1997/07 swap to fixed rate	-13.6	-51.9	
800	5.275	1997/04 swap from floating rate	228.7	870.2	
-	float.	1997/04 swap to fixed rate	-228.7	-870.2	

CENTRAL-GOVERNMENT FOREIGN LOANS AS OF 31 DECEMBER 1999[1] Table 6

Loan no.	Rate of interest, per cent p.a.	Title	Outstanding amount, million of currency	Outstanding amount, DKK million (1)	Note
DEM loans – continued					
802	float.	1997/02 swap from CAD with fixed rate	121.5	462.4	
806	float.	1997/00 swap to JPY(interest)/AUD (redemption) (Swap concerning buy-back (JPY 14,000 mn/ AUD 158.4 mn) of loan no. 764)	-191.4	-728.5	
807	3.895	1997/00 swap from floating rate	333.3	1,268.3	
-	float.	1997/00 swap to fixed rate	-333.3	-1,268.3	
810	float.	1997/00 swap from JPY(interest)/GBP (redemption) with fixed rate	95.7	364.2	
811	float.	1997/00 swap from USD with fixed rate	97.8	372.0	
812	4.748	1997/02 swap from floating rate	121.5	462.4	
-	float.	1997/02 swap to fixed rate	-121.5	-462.4	
817	3.875	1997/00 swap from floating rate	95.7	364.2	
-	float.	1997/00 swap to fixed rate	-95.7	-364.2	
824	float.	1997/00 swap from USD with fixed rate	676.0	2,572.6	
828	3.775	1997/00 swap from floating rate	97.8	372.0	
-	float.	1997/00 swap to fixed rate	-97.8	-372.0	
830	3.897	1997/00 swap from floating rate	676.0	2,572.6	
-	float.	1997/00 swap to fixed rate	-676.0	-2,572.6	
833	float.	1997/00 swap from GBP with fixed rate	277.0	1,054.2	
835	float.	1997/07 swap from JPY with fixed rate	69.4	264.2	
836	3.775	1997/00 swap from floating rate	277.0	1,054.2	
-	float.	1997/00 swap to fixed rate	-277.0	-1,054.2	
837	float.	1997/01 swap from USD with structured interest rate	166.1	631.9	
838	float.	1997/07 swap from AUD(interest)/JPY (redemption) with fixed rate	44.3	168.7	
841	float.	1997/03 swap from USD with fixed rate	862.5	3,282.3	
842	5.826	1997/07 swap from floating rate	69.4	264.2	
-	float.	1997/07 swap to fixed rate	-69.4	-264.2	
843	5.0625	1997/03 swap from floating rate	862.5	3,282.3	
-	float.	1997/03 swap to fixed rate	-862.5	-3,282.3	
844	5.6925	1997/07 swap from floating rate	44.3	168.7	
-	float.	1997/07 swap to fixed rate	-44.3	-168.7	
845	5	1997/03	500.0	1,902.8	
846	float.	1997/01 swap from USD with fixed rate	517.7	1,970.1	
847	3.992	1997/01 swap from floating rate	166.1	631.9	
-	float.	1997/01 swap to fixed rate	-166.1	-631.9	
848	4.224	1997/01 swap from floating rate	517.7	1,970.1	
-	float.	1997/01 swap to fixed rate	-517.7	-1,970.1	
849	float.	1997/04 swap from USD with fixed rate	926.0	3,524.0	
850	float.	1997/07 swap from JPY with structured interest rate	31.0	118.0	
851	float.	1997/01 swapped to fixed rate, 4.7425%	1,465.0	5,575.2	
852	5.4675	1997/04 swap from floating rate	926.0	3,524.0	
-	float.	1997/04 swap to fixed rate	-926.0	-3,524.0	
853	float.	1997/07 swap from JPY with structured interest rate	7.6	28.8	
854	5.25	1997/04	1,000.0	3,805.6	
855	float.	1997/07 swap from JPY with fixed rate	49.3	187.5	
862	float.	1997/07 swap from USD with fixed rate	43.5	165.6	

CENTRAL-GOVERNMENT FOREIGN LOANS AS OF 31 DECEMBER 1999[1] Table 6

Loan no.	Rate of interest, per cent p.a.	Title	Outstanding amount, million of currency	Outstanding amount, DKK million (1)	Note
DEM loans – continued					
863	float.	1997/04 swapped to floating rate	125.0	475.7	
864	5	1998/03	430.0	1,636.4	
869	float.	1998/03 swap from AUD with fixed rate	120.0	456.7	
870	float.	1998/05 swap from USD with fixed rate	908.6	3,457.8	
871	float.	1998/02 swap from CZK with fixed rate	53.2	202.3	
872	4.29	1998/01 swap from GBP with fixed rate	61.3	233.2	
873	float.	1998/03 swap from GRD with fixed rate	57.7	219.5	
874	float.	1998/00 swap to JPY(interest)/GBP (redemption) (Swap concerning buy-back (JPY 165.5 mn) of loan no. 810)	-2.2	-8.2	
875	float.	1998/01 swap from GRD with fixed rate	60.2	229.2	
876	float.	1998/03 swap from CAD with fixed rate	121.5	462.2	
880	float.	1998/00 swap from JPY(interest)/ZAR (redemption) with fixed rate	25.0	95.1	
881	float.	1998/07 swap from NOK with fixed rate	74.3	282.7	
882	float.	1998/00 swap from JPY(interest)/ZAR (redemption) with fixed rate	26.0	98.9	
888	float.	1998/07 swap from SEK with fixed rate	102.0	388.2	
890	float.	1998/07 swap from SEK with fixed rate	101.5	386.3	
891	float.	1998/06 swap from SEK with fixed rate	81.9	311.7	
Total DEM			14,920.0	56,779.7	
DKK loans					
1	3	1894 perpetual	55.6	55.6	(3)
2	3.5	1901 perpetual	29.2	29.2	(3)
3	3.5	1909 perpetual	38.4	38.4	(3)
Total DKK			123.3	123.3	
EUR loans					(4)
493	8.5	1992/02	880.8	6,556.3	
510	float.	1992/02 swap from fixed rate	50.0	372.2	
-	9.73	1992/02 swap to floating rate	-50.0	-372.2	
511	float.	1992/02 swap from fixed rate	50.0	372.2	
-	9.69	1992/02 swap to floating rate	-50.0	-372.2	
518	float.	1992/02 swap from fixed rate	50.0	372.2	
-	9.63	1992/02 swap to floating rate	-50.0	-372.2	
519	float.	1992/02 swap from fixed rate	50.0	372.2	
-	9.63	1992/02 swap to floating rate	-50.0	-372.2	
520	float.	1992/02 swap from fixed rate	50.0	372.2	
-	9.61	1992/02 swap to floating rate	-50.0	-372.2	
522	float.	1992/02 swap from fixed rate	100.0	744.3	
-	9.29	1992/02 swap to floating rate	-100.0	-744.3	
523	float.	1992/02 swap from fixed rate	50.0	372.2	
-	9.33	1992/02 swap to floating rate	-50.0	-372.2	
529	float.	1992/02 swap from fixed rate	25.0	186.1	
-	9.38	1992/02 swap to floating rate	-25.0	-186.1	
530	float.	1992/02 swap from fixed rate	25.0	186.1	
-	9.4	1992/02 swap to floating rate	-25.0	-186.1	

CENTRAL-GOVERNMENT FOREIGN LOANS AS OF 31 DECEMBER 1999[1] Table 6

Loan no.	Rate of interest, per cent p.a.	Title	Outstanding amount, million of currency	Outstanding amount, DKK million (1)	Note
EUR loans – continued					
714	float.	1996/02 swap to DEM with floating rate	-50.0	-372.2	
716	float.	1996/02 swap to DEM with floating rate	-50.0	-372.2	
717	float.	1996/02 swap to DEM with floating rate	-100.0	-744.3	
721	float.	1996/02 swap to DEM with floating rate	-100.0	-744.3	
723	8.5	1996/02 swap to DEM with fixed rate	-150.0	-1,116.5	
725	float.	1996/02 swap to DEM with floating rate	-150.0	-1,116.5	
756	5.4	1996/00 EIB loan, DSB Electrification III F	100.0	744.3	
-	5.4	1996/00 swap to DEM with floating rate	-100.0	-744.3	
762	5.01	1996/00 EIB loan, DSB Electrification III F	25.0	186.1	
-	5.01	1996/00 swap to DEM with fixed rate	-25.0	-186.1	
763	5.01	1996/00 EIB loan, Danish Road By-passes	42.3	314.5	
-	5.01	1996/00 swap to DEM with fixed rate	-42.3	-314.5	
877	4.05	1998/03 swapped to floating rate	124.0	923.0	
878	3.7	1998/01 swapped to floating rate	211.0	1,570.5	
879	4.625	1998/08 swapped to floating rate	475.0	3,535.5	
887	3.105	1999/02 swap from USD with fixed rate	85.5	636.4	
-	3	1999/02 swap from USD with fixed rate	44.0	327.5	
889	3.4	1998/04 swapped to floating rate	100.0	744.3	
893	float.	1999/04 swap to CHF with floating rate	-209.0	-1,555.6	
894	float.	1999/02 swap to CHF with fixed rate (Swap concerning buy-back (CHF 34.34 mn) of loan no. 313)	-21.4	-159.3	
895	float.	1999/06 swap to USD with fixed rate (Swap concerning buy-back (USD 20 mn) of loan no. 772)	-17.1	-127.1	
896	2.985	1999/02 swap from GRD with fixed rate	31.0	230.9	
897	float.	1999/00 swap from USD with fixed rate	45.4	337.9	
898	float.	1999/00 swap from USD with fixed rate	27.4	203.8	
899	float.	1999/04 swap to JPY with floating rate	-50.0	-372.2	
900	float.	1999/04 swap to JPY with floating rate	-80.0	-595.5	
901	float.	1999/02 swap to CHF with floating rate	-70.0	-521.0	
902	float.	1999/00 swap from GBP with fixed rate	38.0	282.6	
903	float.	1999/02 swap to CHF with floating rate	-70.0	-521.0	
904	float.	1999/04 swap to JPY with floating rate	-55.0	-409.4	
905	float.	1999/00 swap from GBP with fixed rate	38.5	286.7	
906	float.	1999/04 swap from GBP with fixed rate	231.7	1,724.3	
907	float.	1999/05 swap from NOK with fixed rate	61.7	459.5	
908	float.	1999/01 swap from GBP with fixed rate	384.5	2,861.9	
909	float.	1999/03 swap from USD with fixed rate	233.7	1,739.5	
910	float.	1999/03 swap to CHF with floating rate	-40.0	-297.7	
911	float.	1999/03 swap to CHF with floating rate	-45.0	-334.9	
912	float.	1999/03 swap from SEK with fixed rate	171.4	1,275.4	
913	float.	1999/05 swap from USD with fixed rate	465.0	3,461.1	
914	5.125	1999/05 swap from floating rate	100.0	744.3	
-	float.	1999/05 swap to fixed rate	-100.0	-744.3	
915	5.1625	1999/05 swap from floating rate	100.0	744.3	
-	float.	1999/05 swap to fixed rate	-100.0	-744.3	
916	0	1999/00	400.0	2,977.3	
917	float.	1999/02 swap from USD with fixed rate	375.6	2,795.6	

CENTRAL-GOVERNMENT FOREIGN LOANS AS OF 31 DECEMBER 1999[1] Table 6

Loan no.	Rate of interest, per cent p.a.	Title	Outstanding amount, million of currency	Outstanding amount, DKK million (1)	Note
EUR loans – continued					
918	0	1999/00 forward transaction from USD	94.8	705.4	
919	0	1999/00 forward transaction from USD	94.7	704.7	
Total EUR			3,356.1	24,980.4	
FRF loans					
514	float.	1992/02 swap from fixed rate	250.0	283.7	
-	9.43	1992/02 swap to floating rate	-250.0	-283.7	
713	float.	1996/06	500.0	567.4	
-	float.	1996/06 swap to DEM with floating rate	-500.0	-567.4	
Total FRF			0.0	0.0	
GBP loans					
120	13	1980/05	25.5	304.4	
247	11.55	1985/00 EIB loan, DSB Electrification I	1.3	15.0	(5)
407	11.625	1990/00	95.0	1,134.5	
-	11.625	1990/00 swap to USD with floating rate	-75.0	-895.6	
-	11.625	1990/00 swap to USD with floating rate	-25.0	-298.5	
777	7.25	1996/00	125.0	1,492.7	
-	7.25	1996/00 swap to DEM with fixed rate	-100.0	-1,194.2	
-	7.25	1996/00 swap to DEM with fixed rate	-25.0	-298.5	
810	0	1997/00 GBP(redemption)/JPY(interest)	33.9	405.0	
-	0	1997/00 swap to DEM with floating rate	-34.7	-414.8	
833	6.25	1997/00	100.0	1,194.2	
-	6.25	1997/00 swap to DEM with floating rate	-100.0	-1,194.2	
872	6.69	1998/01 EIB loan, Danish Motorways III	20.0	238.8	
-	6.69	1998/01 swap to DEM with fixed rate	-20.0	-238.8	
874	0	1998/00 swap from DEM with floating rate (Swap concerning buy-back (JPY 165.5 mn) of loan no. 810)	0.8	9.8	
902	3.625	1999/00	25.0	298.5	
-	3.625	1999/00 swap to EUR with floating rate	-25.0	-298.5	
905	3.875	1999/00	25.0	298.5	
-	3.875	1999/00 swap to EUR with floating rate	-25.0	-298.5	
906	5.875	1999/04	150.0	1,791.2	
-	5.875	1999/04 swap to EUR with floating rate	-150.0	-1,791.2	
908	5.75	1999/01	250.0	2,985.4	
-	5.75	1999/01 swap to EUR with floating rate	-250.0	-2,985.4	
Total GBP			21.7	259.7	
GRD loans					
873	7.5	1998/03	10,000.0	225.4	
-	7.5	1998/03 swap to DEM with floating rate	-10,000.0	-225.4	
875	8.5	1998/01	10,000.0	225.4	
-	8.5	1998/01 swap to DEM with floating rate	-10,000.0	-225.4	
896	6	1999/02	10,000.0	225.4	
-	6	1999/02 swap to EUR with fixed rate	-10,000.0	-225.4	
Total GRD			0.0	0.0	

CENTRAL-GOVERNMENT FOREIGN LOANS AS OF 31 DECEMBER 1999[1] Table 6

Loan no.	Rate of interest, per cent p.a.	Title	Outstanding amount, million of currency	Outstanding amount, DKK million (1)	Note
JPY loans					
560	float.	1993/00 (fixed-rate option sold in swap)	10,000.0	722.6	
749	5.8	1996/00 JPY(interest on 20,000 mn)/AUD (redemption)	0.0	0.0	
-	5.8	1996/00 swap to DEM with floating rate	-0.0	-0.0	
758	4.1	1996/00 JPY(interest on 10,000 mn)/AUD (redemption)	0.0	0.0	
-	4.1	1996/00 swap to DEM with floating rate	-0.0	-0.0	
764	5.6	1996/00 JPY(interest on 7,000 mn)/AUD (redemption)	0.0	0.0	
-	5.6	1996/00 swap (of 21,000 mn) to DEM with floating rate	-0.0	-0.0	
794	float.	1997/07	1,000.0	72.3	
-	float.	1997/07 swap to DEM with floating rate	-1,000.0	-72.3	
806	5.6	1997/00 swap from DEM with floating rate (Swap concerning buy-back (JPY 14,000 mn) of loan no. 764)	0.0	0.0	
810	5.4	1997/00 JPY(interest on 6,834.5 mn)/GBP (redemption)	0.0	0.0	
-	5.4	1997/00 swap (of 7,000 mn) to DEM with floating rate	-0.0	-0.0	
835	2.63	1997/07	5,000.0	361.3	
-	2.63	1997/07 swap to DEM with floating rate	-5,000.0	-361.3	
838	0	1997/07 JPY(redemption)/AUD(interest)	3,000.0	216.8	
-	0	1997/07 swap to DEM with floating rate	-3,000.0	-216.8	
850	float.	1997/07	2,000.0	144.5	
-	float.	1997/07 swap to DEM with floating rate	-2,000.0	-144.5	
853	float.	1997/07	500.0	36.1	
-	float.	1997/07 swap to DEM with floating rate	-500.0	-36.1	
855	2.02	1997/07 EIB loan, Danish Road By-passes B	3,400.0	245.7	
-	2.02	1997/07 swap to DEM with floating rate	-3,400.0	-245.7	
874	5.4	1998/00 swap from DEM with floating rate (Swap concerning buy-back (JPY 165.5 mn) of loan no. 810)	0.0	0.0	
880	11.85	1998/00 JPY(interest on 2,000 mn)/ZAR (redemption)	0.0	0.0	
-	11.85	1998/00 swap to DEM with floating rate	-0.0	-0.0	
882	11.85	1998/00 JPY(interest on 2,000 mn)/ZAR (redemption)	0.0	0.0	
-	11.85	1998/00 swap to DEM with floating rate	-0.0	-0.0	
899	float.	1999/04 swap from EUR with floating rate	6,515.0	470.8	
900	float.	1999/04 swap from EUR with floating rate	10,424.0	753.3	
904	float.	1999/04 swap from EUR with floating rate	7,009.8	506.6	
Total JPY			33,948.8	2,453.3	
LUF loans					
619	0	1995/03	5,000.0	922.6	
710	5.45	1996/01	1,000.0	184.5	
-	5.45	1996/01 swap to DEM with floating rate	-1,000.0	-184.5	
Total LUF			5,000.0	922.6	

CENTRAL-GOVERNMENT FOREIGN LOANS AS OF 31 DECEMBER 1999[1] Table 6

Loan no.	Rate of interest, per cent p.a.	Title	Outstanding amount, million of currency	Outstanding amount, DKK million (1)	Note
NLG loans					
211	9.5	1984/04	31.3	105.6	(6)
227	8.375	1985/00	6.1	20.6	(6)
Total NLG			37.4	126.2	
NOK loans					
881	6.25	1998/07	330.0	304.4	
-	6.25	1998/07 swap to DEM with floating rate	-330.0	-304.4	
907	5.75	1999/05	500.0	461.2	
-	5.75	1999/05 swap to EUR with floating rate	-500.0	-461.2	
Total NOK			0.0	0.0	
SEK loans					
888	5	1998/07	500.0	434.8	
-	5	1998/07 swap to DEM with floating rate	-500.0	-434.8	
890	5.12	1998/07	500.0	434.8	
-	5.12	1998/07 swap to DEM with floating rate	-500.0	-434.8	
891	5.065	1998/06	400.0	347.8	
-	5.065	1998/06 swap to DEM with floating rate	-400.0	-347.8	
912	5.375	1999/03	1,500.0	1,304.3	
-	5.375	1999/03 swap to EUR with floating rate	-1,500.0	-1,304.3	
Total SEK			0.0	0.0	
USD loans					
298	0	Commercial Paper (Europe)	200.0	1,479.8	
407	float.	1990/00 swap from GBP with fixed rate	123.3	912.0	
-	float.	1990/00 swap from GBP with fixed rate	41.1	304.0	
772	6.065	1996/06 swap to DEM with floating rate	-20.0	-148.0	
793	0	1997/02	300.0	2,219.6	
-	0	1997/02 swap to DEM with floating rate	-300.0	-2,219.6	
797	5.72	1997/00	206.1	1,524.5	
-	5.72	1997/00 swap to DEM with floating rate	-210.0	-1,553.7	
811	0	1997/00	57.0	421.7	
-	0	1997/00 swap to DEM with floating rate	-57.0	-421.7	
824	5.9	1997/00	400.0	2,959.5	
-	5.9	1997/00 swap to DEM with floating rate	-400.0	-2,959.5	
837	float.	1997/01	97.6	721.8	
-	float.	1997/01 swap to DEM with floating rate	-97.6	-721.8	
841	6.625	1997/03	500.0	3,699.4	
-	6.625	1997/03 swap to DEM with floating rate	-500.0	-3,699.4	
846	6.375	1997/01	300.0	2,219.6	
-	6.375	1997/01 swap to DEM with floating rate	-300.0	-2,219.6	
849	6.25	1997/04	500.0	3,699.4	
-	6.25	1997/04 swap to DEM with floating rate	-500.0	-3,699.4	
862	4	1997/07	30.0	222.0	
-	4	1997/07 swap to DEM with floating rate	-30.0	-222.0	
870	5.75	1998/05	500.0	3,699.4	
-	5.75	1998/05 swap to DEM with floating rate	-500.0	-3,699.4	

CENTRAL-GOVERNMENT FOREIGN LOANS AS OF 31 DECEMBER 1999[1] Table 6

Loan no.	Rate of interest, per cent p.a.	Title	Outstanding amount, million of currency	Outstanding amount, DKK million (1)	Note
USD loans – continued					
887	3.875	1999/02	150.0	1,109.8	
-	3.875	1999/02 swap to EUR with fixed rate	-100.0	-739.9	
-	3.875	1999/02 swap to EUR with fixed rate	-50.0	-369.9	
895	6.065	1999/06 swap from EUR with floating rate (Swap concerning buy-back (USD 20 mn) of loan no. 772)	20.0	148.0	
897	3.875	1999/00	50.0	369.9	
-	3.875	1999/00 swap to EUR with floating rate	-50.0	-369.9	
898	3.875	1999/00	30.0	222.0	
-	3.875	1999/00 swap to EUR with floating rate	-30.0	-222.0	
909	6.375	1999/03	250.0	1,849.7	
-	6.375	1999/03 swap to EUR with floating rate	-250.0	-1,849.7	
913	6.625	1999/05	500.0	3,699.4	
-	6.625	1999/05 swap to EUR with floating rate	-500.0	-3,699.4	
917	6.375	1999/02	400.0	2,959.5	
-	6.375	1999/02 swap to EUR with floating rate	-400.0	-2,959.5	
918	0	1999/00 forward transaction to EUR	-100.0	-739.9	
919	0	1999/00 forward transaction to EUR	-100.0	-739.9	
Total USD			160.4	1,186.8	
ZAR loans					
880	0	1998/00 ZAR(redemption)/JPY(interest)	91.1	109.6	
-	0	1998/00 swap to DEM with floating rate	-91.1	-109.6	
882	0	1998/00 ZAR(redemption)/JPY(interest)	91.7	110.3	
-	0	1998/00 swap to DEM with floating rate	-91.7	-110.3	
Total ZAR			0.0	0.0	
Central-government foreign debt, total				90,024.7	

(1) The outstanding amount as of 31 December 1999 is calculated on the basis of the following exchange rates as of 31 December 1999, expressed as the exchange rate per 100 units: AUD = 483.32, BEF = 18.451, CAD = 508.52, CHF = 463.52, CZK = 20.687, DEM = 380.56, EUR = 744.32, FRF = 113.47, GBP = 1,194.16, GRD = 2.254, JPY = 7.2264, LUF = 18.451, NLG = 337.76, NOK = 92.23, SEK = 86.95, USD = 739.88, ZAR = 120.24.

(2) Swap (in BEF) of LUF loan.

(3) Multi-currency loan. The creditor can choose which currency to make payments in, however at a fixed rate of exchange.

(4) Including XEU loans issued before 1 January 1999.

(5) Redeemable according to the principle of annuities. Semi-annual or annual payments, beginning after a grace period of at least one year.

(6) Semi-annual or annual equal instalments, beginning after a grace period of at least one year.

SERVICE ON CENTRAL-GOVERNMENT DOMESTIC DEBT[1], END-1999 Table 7

DKK billion	Interest	Redemptions	Total
2000	42.3	75.2	117.4
2001	36.0	90.9	126.9
2002	30.4	57.6	87.9
2003	27.3	70.0	97.2
2004	21.7	75.4	97.1
2005	16.4	38.6	55.0
2006	14.4	70.0	84.4
2007	8.8	52.6	61.5
2008	5.2	0.0	5.2
2009	5.2	56.8	62.0
2010	1.8	0.1	1.9
2011	1.8	0.0	1.8
2012	1.8	0.0	1.8
2013	1.8	0.0	1.8
2014	1.8	0.0	1.8
2015	1.8	0.0	1.8
2016	1.8	0.0	1.8
2017	1.8	0.0	1.8
2018	1.8	0.0	1.8
2019	1.8	0.0	1.8
2020	1.8	0.0	1.8
2021	1.8	0.0	1.8
2022	1.8	0.0	1.8
2023	1.8	0.0	1.8
2024	1.8	25.0	26.8
Total	233.8	612.2	846.1

[1] Excluding Treasury bills.

SERVICE ON CENTRAL-GOVERNMENT FOREIGN DEBT, END-1999 Table 8

DKK billion	Interest	Redemptions	Total
2000	3.8	19.7	23.4
2001	3.1	15.2	18.3
2002	2.4	16.9	19.3
2003	1.5	12.4	13.9
2004	1.0	11.5	12.5
2005	0.5	7.7	8.2
2006	0.3	0.9	1.1
2007	0.2	2.0	2.3
2008	0.2	3.7	3.8
Total	12.9	90.0	103.0

KINGDOM OF DENMARK'S RATING IN DOMESTIC CURRENCY — Table 9a

	Moody's	Standard & Poor's
1981, Mar		AAA
1986, Jul	Aa	
1986, Aug	Aa1	
1986, Nov	Aaa	
Current rating	Aaa	AAA

Note: The best known rating agencies use the following ratings for debt in general:
Moody's: Aaa, Aa, A, Baa, Ba, B, Caa, Ca og C.
For the categories Aa to B are used 1, 2 or 3 to indicate a status slightly better or worse within the category.
Standard & Poor's: AAA, AA, A, BBB, BB, B, CCC, CC, C and D.
For the categories AA to CCC are used + or – to indicate a status slightly better or worse within the category.

KINGDOM OF DENMARK'S RATING IN FOREIGN CURRENCY — Table 9b

	Moody's	Standard & Poor's
1981, Mar		AAA
1983, Jan		AA+
1985, Apr	Aa	
1986, Aug	Aa1	
1987, Mar		AA
1991, Oct		AA+
1999, Aug	Aaa	
Current rating	Aaa	AA+

Note: See the note in Table 9a for ranking of the rating categories.

RATING OF SELECTED COUNTRIES' CENTRAL-GOVERNMENT DEBT Table 10

	Moody's		Standard & Poor's	
	Domestic	Foreign	Domestic	Foreign
Australia	Aaa	Aa2	AAA	AA+
Belgium	Aa1	Aa1	AA+	AA+
Denmark	Aaa	Aaa	AAA	AA+
Finland	Aaa	Aaa	AA+	AA+
France	Aaa	Aaa	AAA	AAA
Netherlands	Aaa	Aaa	AAA	AAA
Ireland	Aaa	Aaa	AA+	AA+
Italy	Aa3	Aa3	AA	AA
Japan	Aa1	Aa1	AAA	AAA
New Zealand	Aaa	Aa2	AAA	AA+
Norway	Aaa	Aaa	AAA	AAA
Portugal	Aa2	Aa2	AA	AA
Spain	Aa2	Aa2	AA+	AA+
Great Britain	Aaa	Aaa	AAA	AAA
Sweden	Aaa	Aa1	AAA	AA+
South Africa	Baa1	Baa3	BBB+	BB+
Czech Republic	A1	Baa1[1]	AA-	A-
Germany	Aaa		AAA	AAA
USA	Aaa	Aaa	AAA	AAA
Austria	Aaa	Aaa	AAA	AAA

Source: Moody's Investors Service and Standard & Poor's.
Note: As published in January 2000. See the note in Table 9a for ranking of the rating categories.
[1] Rating of the central bank's foreign debt.

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