DANISH GOVERNMENT SECURITIES 1993

DANMARKS NATIONALBANK

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Preface

This booklet deals with the domestic debt management of the Kingdom of Denmark, and the intention is to give foreign investors an introduction to the Danish securities market, the domestic government debt policy and the domestic debt instruments of the Kingdom of Denmark.

Since 1991 Danmarks Nationalbank has acted as agent to the Ministry of Finance in the area of government borrowing, including the formulation of strategies for both domestic and foreign borrowing. Previously, Danmarks Nationalbank's role as agent for the central government covered only the selling of domestic debt. The overall responsibility for the management of the government debt still rests with the Ministry of Finance, but within quarterly guidelines Danmarks Nationalbank is authorized to conduct the necessary debt transactions on behalf of the government.

Chapter 1 gives a general introduction to the Danish securities market, with special emphasis on the bond market and the institutional structure. In Chapter 2 the government debt instruments are presented, and in Chapter 3 the issue methods for the different instruments are discussed. Finally, the domestic debt policy and items relating to the outstanding domestic government debt are described in Chapter 4.

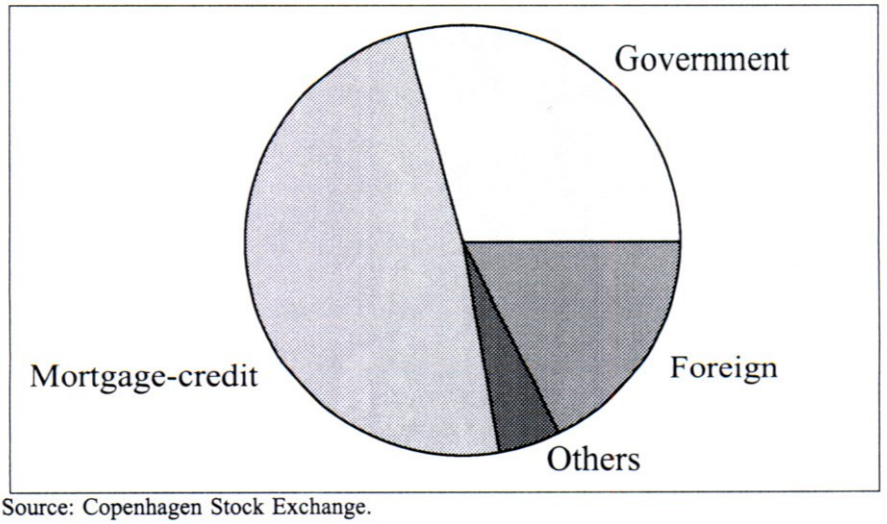
Chapter 1.
The Danish Securities Market

1.1. Overview

Measured by total market value as well as turnover the Danish securities market is among the largest in Europe, with mortgage-credit and government bonds as the dominant securities. At the end of 1993 the market value of listed bonds was DKK 1,996 billion (USD 295 billion) and the market value of listed shares was DKK 338 billion (USD 50 billion).

The main reason for this composition of the market is the long tradition in Denmark for financing residential and commercial construction as well as private housing by issuing mortgage-credit bonds. Mortgage-credit bonds account for the largest share of the Danish bond market, cf. Chart 1.1.1.

Chart 1.1.1.
The Danish Bond Market at the End of 1993. Nominal Value.



Source: Copenhagen Stock Exchange.

The bulk of the net issue of domestic securities in recent years has, however, been in government securities, cf. Table 1.1.1. As a conse-

quence of liberalization of the mortgage-credit sector and refinancing of callable loans as a result of the decline in interest rates the size of mortgage-credit issues has increased significantly in 1993.

Domestic corporate bond activity is still negligible. Most of the short-term and medium-term funding of the corporate sector is handled by the banks, while long-term financing of tangible assets is provided through mortgage-credit institutes.

In recent years the nominal value of foreign bonds, mainly issued by mortgage-credit institutes from other Nordic countries (denominated in SEK, NOK and FIM), has increased, cf. Table 1.1.1., and until 1993 foreign bonds have accounted for almost half of the annual net increase in the nominal value of the bond market.

Table 1.1.1.
Net Increase in the Nominal Value of the Bond Market 1989-93

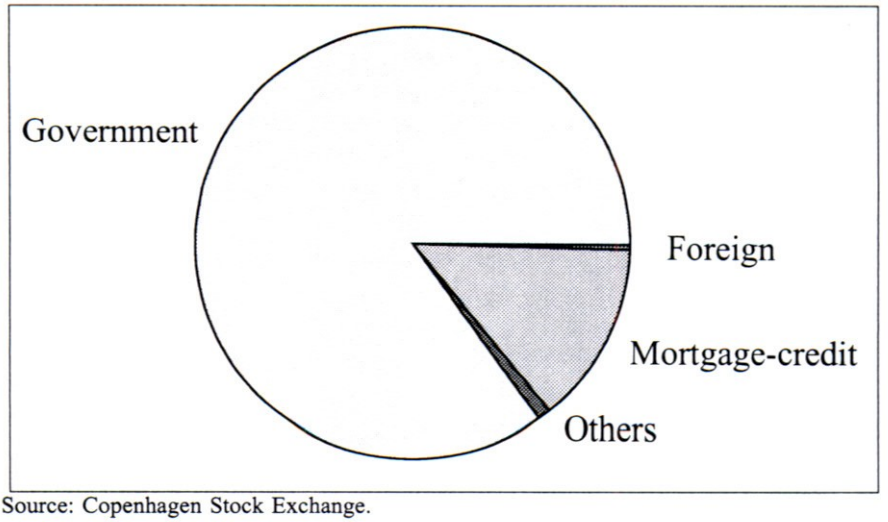
	1989	1990	1991	1992	1993
	- Per cent of total nominal net increase -				
Government securities . .	7.2	27.2	33.4	36.9	19.1
Mortgage credit	49.3	19.8	13.1	11.0	50.9
Foreign	47.2	51.7	51.4	40.4	25.9
Others	-3.6	1.3	2.1	11.7	4.1
Total	100.0	100.0	100.0	100.0	100.0
	---------- DKK billion ----------				
Total	96	136	188	119	302

Source: Copenhagen Stock Exchange.

In 1991 10-year government bullet-issue bonds replaced 20-year mortgage annuity bonds as the long benchmark. Since 1990 government bonds have been the most traded bonds, cf. Chart 1.1.2. A mortgage bond benchmark has, however, developed strongly in 1993, cf. the section below on mortgage-credit bonds.

The average daily turnover on the Danish bond market in 1993 was DKK 45 billion (USD 7 billion).

Chart 1.1.2.
Turnover on the Danish Bond Market 1993. Nominal Value.



Source: Copenhagen Stock Exchange.

Government Securities

Since public finances in the middle of the 1970s began to show a deficit, the central government has been a major issuer of bonds. Whereas mortgage-credit bonds have traditionally covered the very long end of the market, government securities have been mainly short-term and medium-term in the form of Treasury bills, Treasury notes and government bonds with maturities of up to 10 years. The bonds are now issued as bullet loans in relatively few series. The government securities are generally very liquid.

The market for government securities is described in more detail in Chapters 2, 3 and 4.

Mortgage-credit Bonds

The mortgage-credit system is dominated by specialized mortgage-credit institutes which offer mortgages on residential as well as agricultural, commercial and industrial properties. These institutes finance long, typically 10- to 30-year (until 1970 60-year), mortgages by issuing corresponding mortgage-credit bonds. The total market for mortgage-credit bonds comprises over 2000 different series.

The mortgage-credit market based on residential property comprises 6 institutes: Nykredit, Realkredit Danmark and BRFkredit are the three oldest institutes and have the largest market shares; Totalkredit, Danske Kredit and Unikredit have been established more recently and are owned by banks.

The non-residential mortgage market comprises the major mortgage-credit institutes and three other institutes: 'Danmarks Skibskreditfond' (The Ship Credit Fund of Denmark), which grants loans against ship mortgages; 'Kreditforeningen af Kommuner i Danmark' (The Credit Association of Local Authorities in Denmark), which mainly offers loans to municipalities; and 'Dansk Landbrugs Realkreditfond' (Mortgage Credit Fund of Danish Agriculture), which issues bonds against secondary mortgages on agricultural property.

Several types of mortgage bonds are issued, the most common being annuity bonds, but also serial bonds and index-linked bonds play an important role. The bonds are issued in series normally kept open from 1 to 3 years. Redemption payments are effected by drawing bonds for a nominal value corresponding to payments due from the debtors. The mortgage loans are typically callable at par value and the mortgage-credit bonds are called if the debtors repay their loans. Within most series all borrowers are jointly and severally liable for the payments due to bond holders.

Due to the drop in long-term mortgage interest rates from a level of over 10.5 per cent in 1992 to around 7.1 per cent at the end of 1993 it has become profitable for many property owners to use the call option to refinance old loans with new ones, with coupons of 5 or 6 per cent.

A huge volume of 6 per cent mortgage bonds has already been issued at the expense of bonds with 9, 10, 11, and 12 per cent coupon. Debtors have only recently begun to use the call option to a greater extent, and the new 30-year bonds (6% 2026) are expected to develop into a benchmark.

The Organization of the Danish Securities Market

The Danish securities market is organized as an integrated 'one entity'-system consisting of the Copenhagen Stock Exchange, the Guarantee Fund for Danish Options and Futures and the Danish Securities Centre, which are interconnected electronically and are under the supervision of one supervisory authority - the Danish Financial Supervisory Authority (Finanstilsynet).

The Copenhagen Stock Exchange (Københavns Fondsbørs) is the only stock exchange in Denmark and therefore the place where listed

securities are traded and to which trades are reported. The Copenhagen Stock Exchange covers trading in securities as well as in futures and options.

The Guarantee Fund for Danish Options and Futures (FUTOP) is the agency which registers, settles and guarantees trading in futures and options.

The Danish Securities Centre ('Værdipapircentralen', VP), which was established in 1983 as a non-profit self-governing institution, is the organization where listed securities are registered and settled. As physical securities have been abolished (it is not possible to acquire physical securities, cf. Section 1.4. below), the Securities Centre is the organization which registers the legal ownership rights to securities.

1.2. The Copenhagen Stock Exchange

Eligible for trading on the Copenhagen Stock Exchange, are Danmarks Nationalbank (the central bank), stockbroking companies and from September 1, 1993 also banks and mortgage-credit institutes. The largest stockbroking companies were already owned by the major banks.

Foreign-owned stockbroking companies or credit institutes are allowed the same opportunities as Danish companies, but with the requirement that they are established in Denmark.

There are no rules governing either the size or structure of commissions. Prices and fees are set entirely by competition. Large institutions usually deal with market makers on a net basis, reflecting professional price spreads. Normally round lots vis-à-vis clients have a bid-offer spread of 10 ticks for liquid issues in the government and mortgage sectors of the bond market.

Until a reform in 1986 the Copenhagen Stock Exchange used a system with order matching and one daily fixing of securities prices on the floor of the stock exchange based on an open outcry system. Only a small fraction of total trading was concluded on the stock exchange, however, and to improve the efficiency of the market, giving the stock exchange a more central trading role, a new electronic trading and information system with continuous trading from 9.00 a.m. to 3.30 p.m. was introduced in 1987. The electronic trading system was implemented gradually. The trading floor of the stock exchange has, however, now been abolished and the brokers trade from their own offices.

The information system distributes information about bids, offers and deals made via the electronic systems as well as deals reported to the system. The information is distributed on-line to the participants and to non-members linked to this system.

The trading system consists of the Match System, the Accept System and the Reporting System:

The *Match System* is an automatic trading system with continuous matching. A match is made every time a bid or an offer is registered which is better than or equals one or more offers or bids already registered in the system. The transaction is executed automatically. The bids and offers must be in round lots.

The *Accept System* is an electronic 'noticeboard' on which brokers can see all bids and offers. A transaction is concluded when a dealer accepts one of the bids or offers.

The *Reporting System* is a system to register deals made outside the trading system as brokers/banks are not obliged to trade via the electronic trading systems. However, they are obliged to report transactions in listed securities within 90 seconds during trading hours. Although the Reporting System covers trades between foreign banks/brokers and brokers based in Denmark, the trading of Danish securities outside Denmark between two foreign brokers is not included in the trading statistics.

Finally, a so-called *Interest System* has been established, which allows the members of the stock exchange to exchange information not accessible to outsiders. The Interest System is a trade supporting system which allows members of the stock exchange to indicate prices at which they are willing to trade.

Most of the trading in the trading systems takes place via the Match and Reporting Systems.

Normal settlement of trading in bonds and notes takes place three business days after the transaction. Other settlement periods than the standard one may be chosen. For each trading day, the Copenhagen Stock Exchange publishes an official quotation list with information on price quotations, turnover and other relevant information concerning the market on the preceding day.

Liquidity Segments

The Copenhagen Stock Exchange has divided the bond market into three market segments based on the degree of liquidity.

The *ultra-liquid* market covers the most actively traded securities, i.e. the most important Treasury notes and government bonds and the most important and liquid mortgage bonds. In 1993 the ultra-liquid market, which presently includes 16 different issues, amounting to 24 per cent of the total nominal market value, accounted for approximately 75 per cent of the total nominal turnover on the Danish bond market.

Securities in the ultra-liquid market are traded in the Match System in round lots of at least DKK 5 million. Selection of securities for the ultra-liquid quotation list is made on a discretionary basis.

The *liquid* bond market covers a number of bonds issued mainly by the mortgage-credit institutes, but some older government issues, foreign currency bonds and corporate bonds also fall under this market category. The bonds in this section are characterised by having a high turnover level but without being highly liquid.

The last part of the market covers the bonds with low liquidity and includes a vast number of series, including many very old mortgage-bond series with very low turnover.

Market Making in Government Securities

A voluntary market making arrangement has been established for the government benchmark bond '8% government bonds 2003' within the framework of the Copenhagen Stock Exchange. The stockbrokers participating in the market making arrangement are obliged to quote two-way prices in the Interest System with a maximum price spread of 0.10 in lots varying between DKK 5 and 50 million[1)].

Furthermore, a number of stockbrokers have established a so-called 'quote on request' arrangement outside the auspices of the CSE for the most traded government securities.

1.3. Derivatives on Danish Securities

The official trading place for futures and options on Danish government bonds is the CSE. Contracts entered into outside the CSE must be reported to the Guarantee Fund for Danish Options and Futures in order to be covered by its guarantee. The prime function of the Guarantee Fund is to guarantee the performance of clearing members, which represent all major banks, savings banks and stockbroking companies, in registering options and futures contracts until expiry.

[1)] The following stockbrokers participate in the market making arrangement for '8% government bonds 2003': A/S Arbejdernes Landsbank, A/S Jyske Bank, A/S Midtbank, ABN AMRO Børsmæglerselskab A/S, Aktivbanken A/S, Alfred Berg Børsmæglerselskab A/S, Amtssparekassen, BANQUE INDOSUEZ, Benzon & Benzon Børsmæglerselskab A/S, Carnigie Kreditinstitut A/S, Den Danske Bank, Samson Børsmæglerselskab A/S, Sankt Annæ Bank A/S, Sparekassen Bikuben A/S, Sparekassen Nordjylland A/S, Sydbank Sønderjylland, Unibørs Børsmæglerselskab A/S.

The value of the respective rights and commitments of the parties are cash settled. There is no physical delivery of securities. Futures are marked to market each day, and occasionally more than once a day.

Clearing members are obliged to deposit margins for their own account as well as for their clients. Margin can be posted in cash during the trading day or by pledging securities on a day-to-day basis. All margin accounts are held with Danmarks Nationalbank. Contracts will not be registered in the event of insufficient margin. For a futures contract initial margin must be posted by buyer and seller alike. Likewise the options writer is required to post premium as well as initial margin.

Danish options and futures contracts are non-terminable and non-tradeable, but can be sold back - or liquidated - via the member with whom the original contract was concluded. Prices of listed options and futures appear from the official list published by the CSE. Presently, all options contracts are of the European type.

Table 1.3.1.
Turnover in the Danish Futures and Options Market. DKK Billion.

	1992		1993	
	Turn-over	Open Interest (End 1992)	Turn-over	Open Interest (End 1993)
Futures based on government securities . .	462	20	528	18
Other	58	3	216	28
Sum	520	23	744	46
Futures (per cent)	78%	74%	89%	94%
Options based on government securities . .	134	7	79	3
Other	17	1	9	0
Sum	151	8	76	3
Options (per cent)	22%	26%	11%	6%

Source: Copenhagen Stock Exchange.

The bulk of the turnover in the Danish futures and options market is in instruments based on government securities. Presently, futures based on '9% government bonds 1998' and futures and options based on '8% government bonds 2003' are traded, all of which are covered by a special market maker arrangement. The contract unit is DKK 1 million for futures and 1 future for options.

Futures on 3-month CIBOR (Copenhagen Interbank Offered Rate) were introduced in September 1993, and futures on '6% mortgage-credit bonds 2026' in October 1993.

Futures are by far the most popular instrument, with approximately 89 per cent of the total turnover, cf. Table 1.3.1. The future on '8% government bonds 2003' is the most traded instrument.

1.4. Settlement

The Danish Securities Centre ('Værdipapircentralen', VP) is responsible for dematerialization of issues, and registration of ownership and other rights to securities listed on the Copenhagen Stock Exchange. VP is also responsible for settlement of securities trades. VP is a private non-profit organization based on the Securities Centre Act from 1980. This computer centre services the financial sector as a whole and about 300 banks, savings banks, stockbroking companies, mortgage-credit institutes, institutional investors, and Danmarks Nationalbank are connected to the centre. The costs are paid by the customers using the centre, i.e. issuers, investors and intermediaries.

Since 1983, all listed Danish bonds have been registered in dematerialized form in the VP system. In 1988 Danish shares, investment certificates etc. were dematerialized. From 1989, registration of securities denominated in foreign currency and listed on the Copenhagen Stock Exchange has been possible (with settlement in foreign currency).

The securities are registered in units of equal size (DKK 1,000 for most government securities) on VP accounts. Each bank (or stockbroking company) keeps a VP account on which it makes registrations concerning its own holdings. In addition, it keeps a number of VP accounts on which it makes registrations for each of its customers. Each VP account contains information concerning the securities, and ownership and other rights, and details a bank account to which VP can transfer payments of interest, dividend, etc. on the holdings with VP. The owner of the securities may register in his own name or in the name of a nominee. The latter registration implies that the name of the actual owner of the securities is known only to the nominee.

The information registered with VP is safeguarded by strict secrecy and safety measures as the VP computer system is the sole registration of ownership and other legal rights to bonds and shares. VP uses a netting procedure in the settlement of trades, and traders may simultaneously buy and sell the securities with normal settlement. With a recent change in the Securities Centre Act the legal basis has been provided for making settlements more than once a day, although technically this is not feasible today.

Payments are cleared through Danmarks Nationalbank. Settlement takes place on authorized institutions' accounts with Danmarks Nationalbank. Stockbroking companies and credit institutes having a special authorization hold non-interest-bearing securities-settlement accounts on which net debt positions are allowed only to the extent that satisfactory guarantee has been provided.

The settlement system ensures payment-against-delivery for all securities transactions among participants in the clearing and settlement process.

1.5. International Trading and Cross-border Settlement

The Danish financial market is open to foreign investors, issuers and intermediaries. The remaining foreign exchange restrictions were abolished in 1988. There is no withholding tax, turnover tax or other tax on Danish bonds purchased by foreign investors. It is possible for foreign financial institutions established in Denmark (including branches) to participate in trading on the Copenhagen Stock Exchange on the same terms as Danish financial institutions. It is furthermore possible for non-resident investors trading in Danish government securities outside Denmark to participate in the VP clearing system via Danish intermediaries or via foreign intermediaries established in Denmark. The technical obstacles to foreign access to the domestic systems are gradually being removed.

Danish government securities are eligible for clearing through Euroclear and CEDEL and it is possible to settle transactions in government bonds through these systems as well as VP on the normal Euromarket 7 *calendar day* basis. Other settlement periods may be chosen such as for example the normal Danish three-day settlement period.

To simplify international trading and cross-border settlement of Danish securities VP has established a link with Euroclear through a Danish intermediary, Den Danske Bank (Denmark's largest bank). It is expected that a direct link, making Euroclear a direct counterpart of VP, will be established in 1994.

The existing settlement procedures in Euroclear and VP do for technical reasons mean a loss of one disposal day when moving securities bought from a VP customer to a Euroclear account and up to two days when moving from Euroclear to VP. Securities bought from a VP account are therefore not at the disposal of the Euroclear customer until one day after the settlement date.

Until this technical problem has been solved, the Ministry of Finance, with Danmarks Nationalbank acting as its fiscal agent, has established a temporary location swap facility for certain government securities which enables movement of bonds from VP to Euroclear to take place without the loss of one disposal day[1]. At the end of January 1994 the location swap facility comprises the following government securities: '8% government bonds 2003', '7% government bonds 2004' and '5.25% Treasury notes 1996 II' with an amount of DKK 2 billion each, and '9% government bonds 1998', '9.25% Treasury notes 1995 II' and '6% Treasury notes 1996 I' with an amount of DKK 1 billion each.

1.6. Repurchase Agreements in Danish Government Securities

As an element of the monetary policy instruments it is possible for Danish banks, including branches in Denmark of foreign banks, to enter into repurchase agreements (sale and repurchase agreements) in government securities with Danmarks Nationalbank.[2]

In July 1993 Danmarks Nationalbank extended the range of eligible securities to all domestic government securities denominated in DKK issued as from 1975 and listed on the Copenhagen Stock Exchange, apart from government securities falling due before settlement of the repurchase agreements.

The possibility of entering into repurchase arrangements in Treasury bills was an important factor behind the establishment of an organized inter-bank market for collateralized lending based on Treasury bills.

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[1] Technically, when a location swap is executed, Danmarks Nationalbank simultaneously enters into two spot transactions on behalf of the Ministry of Finance: 1) Danmarks Nationalbank sells securities from a Euroclear account to the broker counterpart and 2) Danmarks Nationalbank buys securities from the broker counterpart in VP. Both trades are against payment.

[2] See Danmarks Nationalbank, Report and Accounts and the quarterly Monetary Review for a further description of the Danish monetary and liquidity policy instruments.

The opportunity of entering into repurchase agreements with Danmarks Nationalbank in all domestic government securities has meant that repurchase arrangements in government paper have become increasingly important. An organized market is evolving very rapidly.

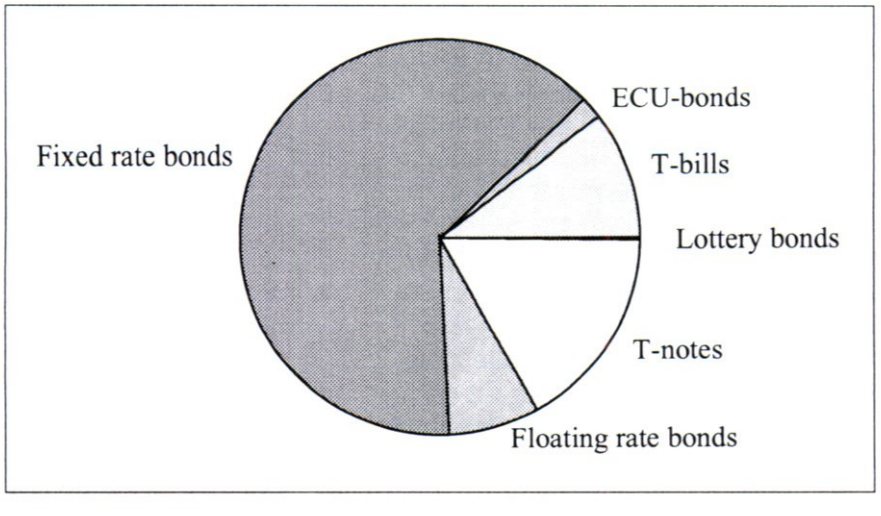
Chapter 2
Government Debt Instruments

2.1. Introduction

All domestic government debt instruments are marketable and listed on the Copenhagen Stock Exchange.

Medium-term and long-term fixed interest rate bonds are the most important securities, cf. Chart 2.1.1., but Treasury bills and Treasury notes also play a significant role. During the 1980s, bonds with floating/variable interest rates were introduced. These securities constituted 23 per cent of the total debt at the end of 1989 but the outstanding volume has decreased in recent years. The outstanding volume of lottery bonds has been constant at DKK 1.2 billion since 1980. Domestic 10-year ECU bonds were issued in April 1992. The Danish State also has foreign debt (Eurobonds) denominated in ECU.

Chart 2.1.1.
Domestic Government Debt at the End of 1993



2.2. Government Bonds

Fixed-rate government bonds account for more than 60 per cent of the total domestic government debt. The current issues are straight bullet bonds in denominations of DKK 1,000 with annual coupon payment. Neither the Ministry of Finance nor the holder is entitled to premature redemption.

For a number of years it has been the objective to create issues which can be traded efficiently, domestically as well as internationally, and the most recent benchmark issues, e.g. 8% 2003, have reached a size comparable to that of the benchmarks of the most important European government bond markets. The size of the issues has increased considerably during the last 5 years, and the increase in liquidity as a result of this development is witnessed by the turnover on the Copenhagen Stock Exchange. Since 1991 the 10-year government bonds have been the undisputed benchmarks of the Stock Exchange.

During 1992 and 1993 all new issues of bonds have been in 5- and 10-year maturities. The 8% 2003 (maturing on May 15, 2003) was first issued on January 2, 1992, and the volume was gradually increased. In January 1993 this series had reached a volume of more than DKK 50 billion and had achieved sufficient investor interest to become the new 10-year benchmark of the Copenhagen Stock Exchange.

On May 25, 1993 a new '10-year' bond, the 7% 2004, was introduced. The maturity was about 11 1/2 years, and on the basis of further sales expected in 1994, this series will be fit to become the 10-year benchmark at some time during 1994.

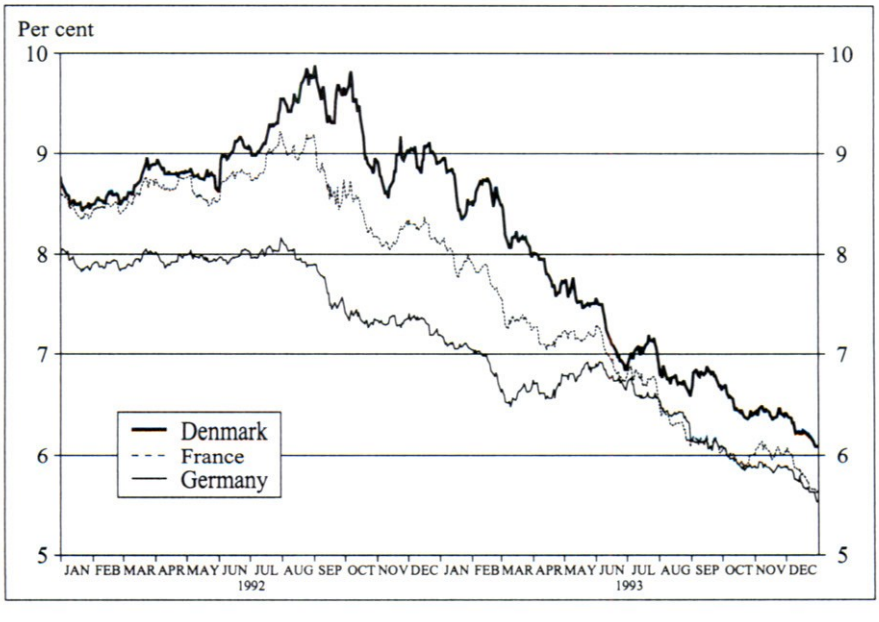
In recent years European domestic government bond markets have become more and more interdependent. The search for new investment opportunities has intensified and the result is a diversification of bond portfolios. Danish government bonds now constitute a basic share of many international portfolios, for example portfolios managed in accordance with the government bond indices published by some of the major international banks. These indices usually include Danish government bonds corresponding to 1-2 per cent of the total (world) index value. The indices typically comprise liquid domestic markets open for international investors.

Yield spreads between government bonds in the ERM countries have attracted immense attention. Market participants often focus on 10-year government bonds, but also 5-year government bonds and 2-year notes receive substantial attention. Investors, portfolio managers and bond dealers usually compare Danish government bonds with German and French bonds, and trading based on expected gains from a widening or

narrowing of the yield differential between Denmark and France or between Denmark and Germany has increased.

The interest rate differential to Germany and also to France widened substantially in 1992, cf. Chart 2.2.1. This widening was probably a consequence of the uncertainty following the Danish rejection of the Maastricht treaty in the referendum in June 1992 and the turmoil affecting the ERM system. The widening of the yield differential to Germany marked a change from the narrowing of the previous years. After the Danish referendum result on May 18, 1993 in favour of the Edinburgh agreement and the Maastricht treaty the yield spread on 10-year government bonds to Germany declined to a historic low of about 15 basis points in June. However, the spread widened to around 50 basis points after the suspension of the narrow ERM band on August 2. In January 1994 the spread declined to some 30 basis points.

Chart 2.2.1.
10-year Government Bond Yields



The most important fixed-rate government bonds are shown in Table 2.2.1. All the series, except the most recent one, have been sold over a period of 1-3 years. New issues of securities are continually added to

the existing line of stock and the newly issued securities in each series are fungible with - that is exactly equal to - the securities of the same series already traded in the secondary market.

Table 2.2.1.
Important Fixed-rate Government Bonds.

	Due date	First issued	Issue discon-tinued	Amount issued in 1993[1)]	Size of series
				---- DKK billion ----	
7% 2004	Dec.15	May 25,93	-	32.2	32.2
8% 2003	May 15	Jan.2,92	-	15.4	69.0
9% 2000	Nov.15	Jan.2,90	Dec.30,92	-	59.2
9% 1998	Nov.15	Jan.2,89	-	15.3	59.3
9% 1996	Nov.15	Jul.1,88	Jun.29,90	-	27.6
9% 1995	Nov.15	Jul.2,90	Dec.30,92	-	39.9

[1)] End of 1993. Excluding holdings of the Ministry of Finance in the location swap facility.

There are no rules concerning the length of the issue period and the Ministry of Finance may at any time discontinue issue in a particular series and start selling another one. Series that have been closed for a period may be reopened.

The coupon rate of the bonds has most often been fixed at the minimum coupon rate (see Box 2.3.1.) in force on the first issue. Due to the practice of adding to the series over quite a long period, the issue price may deviate significantly from par during the issue period.

2.3. Treasury Notes

Treasury notes have the same general characteristics (denominations of DKK 1,000, fixed interest rate and annual interest payment) as government bonds, but the maturity on issue is only 1 1/2 - 2 1/2 years.

Box 2.3.1.
The Minimum Coupon Rate

The coupon rate of the Danish government bonds and notes exceeds or equals a minimum coupon rate calculated according to the Danish Capital Gains Tax Act. As from January 1, 1994, the minimum coupon rate is 5 per cent.
Capital gains on securities which on issue have a nominal interest rate equal to or higher than the minimum rate are not subject to taxation of private individuals in Denmark. These tax rules are of no importance to non-resident investors. All interest-bearing government securities fulfil this condition when issued and are "blue-stamped". Changes in the minimum coupon rate may force the government to stop an issue before the desired volume is reached.
The minimum coupon rate is fixed biannually (January 1 and July 1) but may be changed extraordinarily. It is based on a reference yield calculated by the Copenhagen Stock Exchange over 20 trading days before June 15 and December 15 respectively. The minimum coupon rate is the integer of 7/8 of this average yield. If the reference yield during a 10-day period is more than 1 per cent lower or more than 2 per cent higher than the reference yield used in the calculation of the current minimum coupon rate, a new minimum coupon rate is fixed for the remaining period.

The Treasury notes form a separate programme characterized by the following:

- A new series is opened every January 1 and July 1.
- The issue period is normally 1 year.
- The coupon is fixed at approximately 1 percentage point below the average secondary market yield on government securities with residual maturity of 1 to 4 years, but at least equivalent to the minimum coupon rate.

The Treasury notes are the 2-year benchmark of the bond market, but under current conditions there is no need to reach the volume which is usual for the bonds. The most recent issues of Treasury notes are shown in Table 2.3.1.

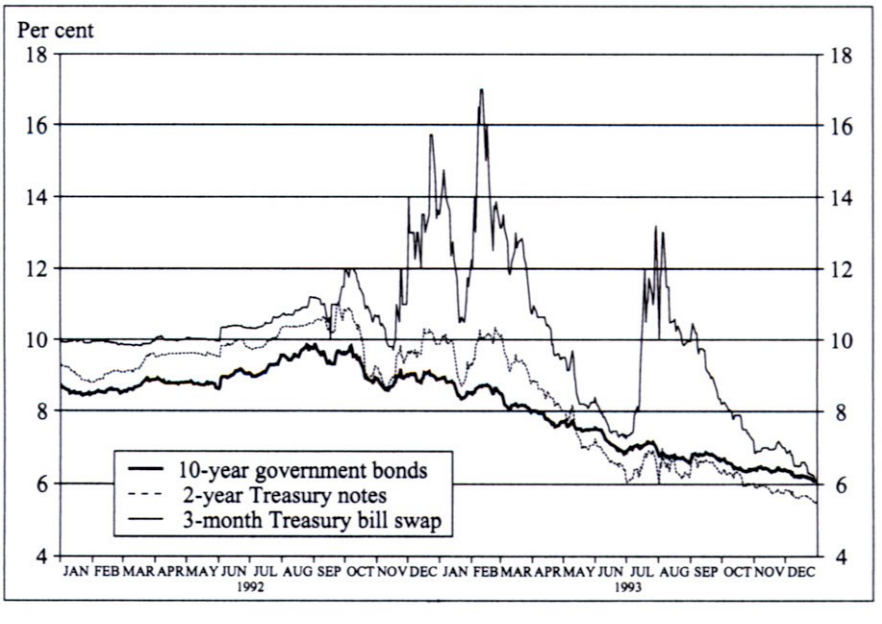
The Treasury note programme was amended in October 1992 because the old Treasury notes were relatively illiquid, small issues. After the changes the Treasury notes are much more suitable for wholesale trading.

The yield on Treasury notes has been rather volatile due to the repeated periods of foreign-exchange-rate unrest, cf. Chart 2.3.1.

Table 2.3.1.
Recent Treasury Notes.

	Due date	First issued	Issue discon-tinued	Amount issued in 1993	Size of series
				--- DKK billion ---	
6.00% 1996 I	Feb.10	Jul.1,93	-	18.0	18.0
9.25% 1995 II	Aug.10	Jan.4,93	-	31.1	31.1
9.75% 1995 I	Feb.10	Oct.1,92	Jun.30,93	10.2	28.9

Chart 2.3.1.
3-month Money Market Rates, Yields on 2-year Treasury Notes and 10-year Government Bonds.

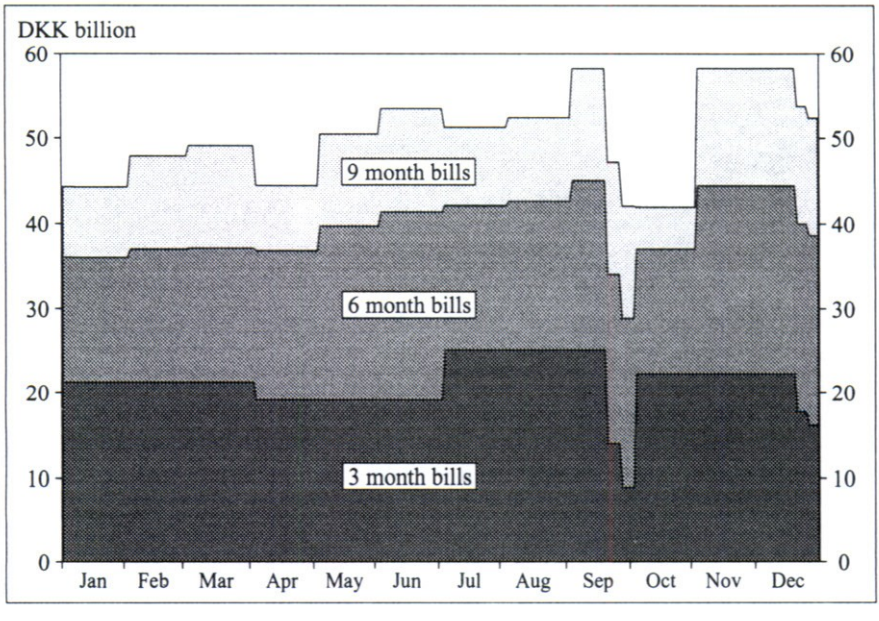


2.4. Treasury Bills

Issue of Treasury bills was resumed in April 1990 (after being discontinued in 1957). The bills are zero-coupon securities issued in

denominations of DKK 1 million in a regular programme. They are issued with maturities from 3 months to 9 months. A new series with a maturity of 9 months is opened at the beginning of January, April, July and October simultaneously with repayment dates. The issue of Treasury bills with 3-8-month maturities add to the existing series. No bills with shorter maturities than 3 months are issued. This calendar implies that there are always 3 issues in the market. The outstanding volume is shown in Chart 2.4.1.

Chart 2.4.1.
Volume of Treasury Bills. 1993.



Treasury bills are issued at monthly auctions. Auctions are scheduled for the penultimate banking day of each month with settlement on the first banking day of the following month. The auctions in March, June, September and December are settled on redemption dates for maturing issues and the number of bids submitted at these auctions is normally much larger than at the other auctions. All bids with lower yields than the cut-off yields fixed by Danmarks Nationalbank for each maturity are accepted. All bills are settled at the cut-off yield. In Table 2.4.1. the

results of the auctions with settlement in 1993 are summarized. The auction scheduled for November 26, 1993 was cancelled as the planned sale of government securities in 1993 was already completed.

Table 2.4.1.
Treasury Bill Auctions with Settlement in 1993

Auction held	Bids submitted	Bids accepted	Cut-off yield		
			3 m.	4-6 m.	7-9 m.
	-- DKK billion --		--------- Per cent ---------		
December 28, 1992	13.4	7.7	13.00	13.00	13.25
January 28 . . .	9.3	3.6	-	11.25	10.90
February 25 . .	4.6	1.2	-	13.25	12.75
March 30	28.2	16.6	11.20	10.60	10.35
April 29	8.7	6.0	-	9.60	9.30
May 27	11.1	3.1	-	8.00	7.65
June 29	26.1	16.9	7.50	7.25	7.00
July 29	7.5	1.2	-	10.00	9.10
August 30	6.8	5.8	-	9.70	8.60
September 29 .	22.7	8.8	8.50	8.00	7.75
October 28 . . .	28.1	16.3	-	7.25	7.05

2.5. Floating Rate Bonds

Bonds with a variable - or floating - nominal interest rate were introduced in 1984 and the floating rate bonds played a significant role in the 1980s. The nominal interest rate of these bonds, issued with maturities of 5 and 10 years, is reset every quarter in line with the average secondary market yield on all outstanding Treasury notes and fixed-rate government bonds with less than 3 years residual maturity. Interest is paid 4 times a year. Floating rate bonds have not been issued since 1990 when the Treasury bill programme was started.

After 1990 the floating rate bonds became less liquid. In March 1992, a reverse auction was held and the government purchased DKK 15 billion of the bonds with longer maturities. The purchase was refinanced by issue of Treasury bills and Treasury notes. After the reverse auction the government has purchased another DKK 7 billion of floating rate bonds in the market.

Annex
Yield Calculation for Danish Government Securities

Treasury Notes and Government Bonds

Definitions and Conventions

- No odd first or last coupon
- Price/yield method is AIBD
- 1 month = 30 days, 1 year = 360 days
- Calculation of accrued interest: See example below

Calculation of Accrued Interest

Danish government bonds and Treasury notes traded outside due dates are settled according to normal practice in the Danish bond market. These rules also apply on issue.

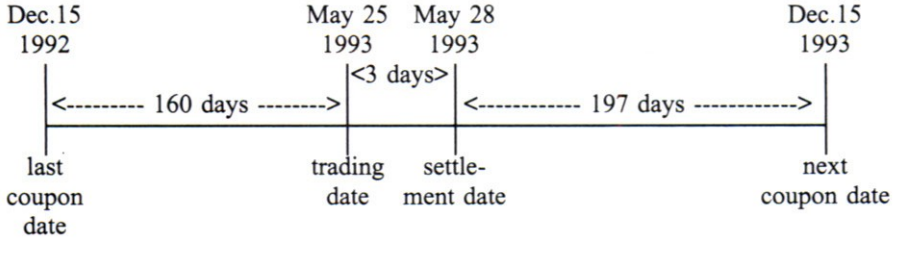
This means - in most of a coupon period - that bonds are issued on a cum-coupon basis, i.e. the buyer of the bond receives *full* payment of interest on the forthcoming due date. The seller (the government) is compensated for this by receiving accrued interest from the purchaser of the bond from the last coupon date to settlement of the trade. This also goes for a situation where the bond series was not open on the previous coupon date.

However, this rule does not apply when the bond enters the ex-coupon period 30 days before an interest payment date. For bonds sold in this period the seller receives the full coupon payment on the next interest payment date and the buyer is compensated (accrued interest is negative). In the period from 30 days before an interest payment date to the interest payment date, accrued interest is calculated backwards from the interest payment date to the settlement date.

Example:

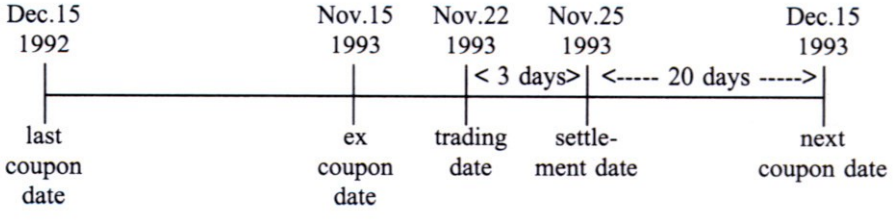
Issue: 7 per cent government bond 2004
Interest payment date: December 15
Maturity date: December 15, 2004
First issue date: May 25, 1993
Coupon: 7 per cent

Bond sold on May 25, 1993



The accrued interest for a bond sold on May 25 and settled on May 28 is: (163/360) x 7% = 3,17%.

Bond sold on November 22, 1993



Accrued interest for a bond sold on November 22 and settled on November 25 is: -(20/360) x 7% = -0,39%

Yield Calculation

The yield, or yield to maturity, is in principle found as the internal rate of return on the cash flow of the bond including the price paid, along with accrued interest. The specific calculation then depends on how the cash flow is calculated for different types of bonds.

The general formula is

$$\text{(A.1)} \quad P + A = \sum_{t_i} C \times (1+r)^{-t_i}$$

where
- r = Yield
- P = Clean price paid on value date
- A = Accrued interest
- C = Payment at time *t*
- t_i = Number of days to *i*th partial payment divided by number of days per year (360). i=1,..,N, where N is the number of due dates.

Since 1989 government bonds and Treasury notes have been bullet issues, where the cash flow is characterized by a flow of identical coupons and one final redemption payment.

Zero-Coupon Treasury Bills

The official conversion from price to yield and vice versa takes place according to money-market practice, according to which the yield per day is calculated by dividing the capital gain up to the maturity date by the actual number of calendar days remaining. The annual yield is arrived at by multiplying the yield per day by 360:

$$\text{(A.2)} \quad \text{Yield} = \frac{1 \text{ mill.} - \text{price}}{\text{price}} \times \frac{360}{\text{actual number of days}}$$

Conversion from yield to price:

$$\text{(A.3)} \quad \text{Price} = \frac{1 \text{ mill.}}{1 + \frac{\text{yield} \times \text{actual number of days}}{360}}$$

Chapter 3.
Issue Methods

3.1. The Tap System

Danmarks Nationalbank acts as fiscal agent to the Ministry of Finance and all domestic government securities are sold to the market by Danmarks Nationalbank on behalf of the Ministry of Finance.

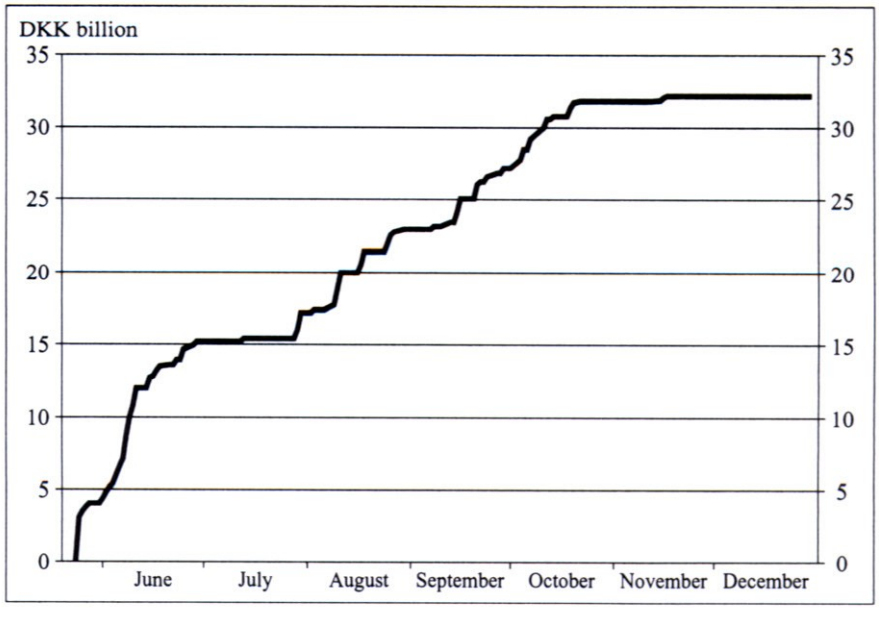
Danmarks Nationalbank participates as a 'trader' on the Copenhagen Stock Exchange. All stockbroking companies, banks and mortgage-credit institutes which are members of the Copenhagen Stock Exchange can buy government bonds and Treasury notes from Danmarks Nationalbank. The government securities are sold without a special 'primary dealer' arrangement, and no special financing facilities or special obligations on the part of the stockbrokers exist.

Government bonds and Treasury notes are issued 'on tap'. The tap system implies that each series of government bonds is issued over an extended period of time, sometimes several years. The amount issued on tap during a period is not fixed in advance and varies according to the desired sale and the demand from the market.

The tap method results in a gradual augmentation of the size of the issues, cf. Chart 3.1.1., which shows the build-up of the most recent '10-year' government bond. The series was opened on May 25, 1993. During the first weeks the outstanding volume is, of course, not substantial, but the market participants know that the new issue will become liquid and the new issues are most often traded at a yield very similar to that of comparable older and more liquid issues.

When a new series of fungible bonds or notes is opened (i.e. the initial sale started) Danmarks Nationalbank announces the characteristics (maturity, coupon, due date) of the new series and the time of the first sale to the market. The new series is listed on the Copenhagen Stock Exchange. From the announced date (the first day of trading) Danmarks Nationalbank starts quoting selling prices on the Stock Exchange's systems, and the exchange members, at least those active in government bonds, will normally quote two-way prices. Usually this will lead to a number of deals between Danmarks Nationalbank and the dealing community, thereby resulting in new bonds or notes being issued.

Chart 3.1.1. Outstanding Volume in 7% 2004



The size of the sales to the market on the first day varies greatly. On some occasions, e.g. the opening of 9.75% Treasury notes 1995 I on October 1, 1992 the prices quoted by the market participants can be lower than those acceptable to Danmarks Nationalbank and no bonds or notes are actually sold on the first day of issue. On other occasions the sale has been very large, e.g. DKK 11 billion on the opening of 6.00% Treasury notes 1966 I on July 1, 1993.

The selling price quoted by Danmarks Nationalbank on the first day of issue may change during the day. The prices are net prices and no commission is paid.

Earlier there was no specific goal or limit to the size of the sale on the first day. On the opening of a new series of Treasury notes on January 3, 1994 there was, however, a maximum amount of DKK 6 billion. The aim is to get the market going, and normally the size of the series reaches the threshold of a liquid market quite fast. The investors and intermediaries know that this is an important objective.

Danmarks Nationalbank continues the issue until the series has reached the desired size, or - for notes which are issued during a 1-year period - reached the time limit. Changes in the statutory minimum coupon rate, cf. Box 2.2.1., may, however, shorten the issue period.

The prices quoted by Danmarks Nationalbank are adjusted according to the development in the market, sometimes several times during a trading session.

The amount issued on tap during a day is not fixed in advance. There is no distinction between the primary and secondary markets.

Securities sold via the tap method are exactly equal to and fungible with the securities issued earlier in the same series. On issue, bonds and notes have the same settlement period and payment as secondary market trades. The first coupon after the issue is *normal*, and the ex-coupon period of 30 days applies on issue as well as for secondary market trades.

3.2. Treasury Bill Auctions

Treasury bills are sold at monthly auctions. The auctions are held by Danmarks Nationalbank on the penultimate trading day of each month. The trades are settled on the first trading day of the following month. Two trading days is the normal settlement period for Treasury bills against 3 trading days for other securities. Up to October 1, 1993 only banks and stockbrokers were allowed to submit bids, but thereafter mortgage-credit institutes were also granted this opportunity as a consequense of legal changes that made it possible for them to become members of the Copenhagen Stock Exchange. Bids may be submitted either on their own account or on the account of customers. There are no limits as to the size of the bids.

A cut-off yield is fixed on the basis of the bids received. Bids at this yield or below are accommodated at the cut-off yield. A pro rata accommodation of bids at the cut-off yield may be made.

Bids must be submitted to Danmarks Nationalbank by 10.30 a.m. on the auction day. The result of the auction is published at 1.00 p.m. on the auction day.

3.3. Timing of Sales

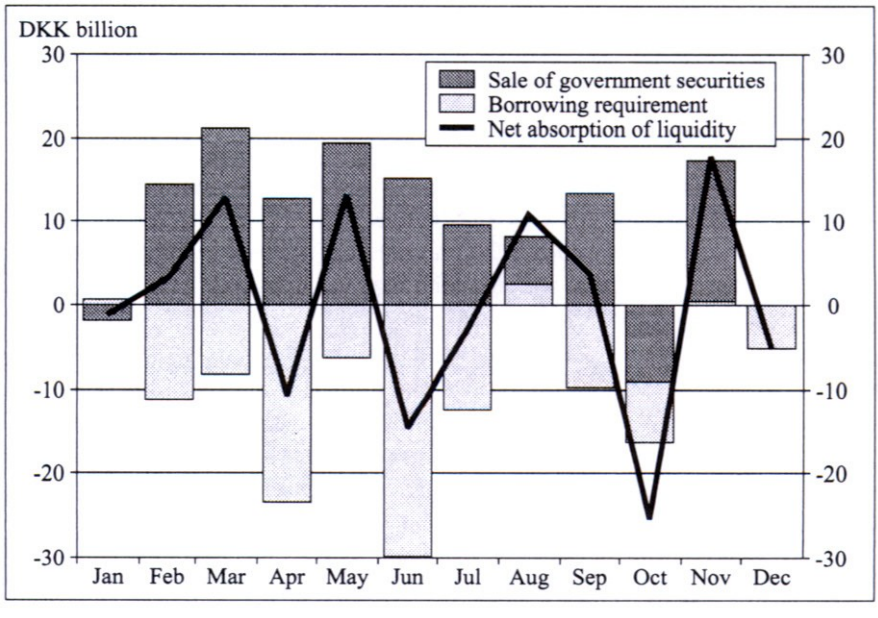
Over a year as a whole, cf. Chapter 4, the sale of government securities corresponds to the gross domestic borrowing requirement of that fiscal year.

The annual gross domestic borrowing requirement published by the Ministry of Finance is subdivided into monthly and daily figures by Danmarks Nationalbank. This information is supplied to the market by the Bank.

Seasonal variations are very pronounced, especially due to the payment dates for government debt, value added tax and certain other taxes. These variations result in alternate months with deficits and surpluses.

The monthly borrowing requirement and the sale of government securities are shown in Chart 3.3.1. During 1993 the monthly differences between the borrowing requirement and the sale were up to DKK 25 billion. In January and October the 'gross' issue of government securities was negative. This may be the case when a large amount of Treasury bills mature, and refinancing at the auction is less than the amount maturing. Treasury bills are included in the calculation of the gross borrowing requirement and the sale of government securities on a net basis.

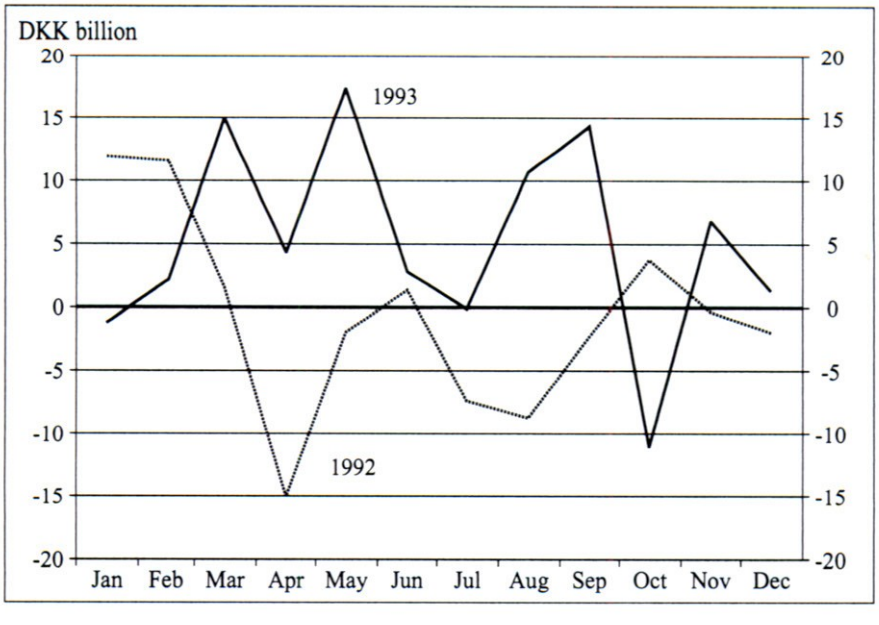
Chart 3.3.1. The Distribution of the Sale of Government Securities



The data underlying Chart 3.3.1. are accumulated in Chart 3.3.2. The accumulated differences approach zero at the end of the year. The chart shows that during the year rather large discrepancies are not unusual. The monthly gross borrowing requirement is naturally the basic figure in planning the issues of the month, but because of the seasonal pattern there is no point in very close tracking. There are several reasons for

this. First, it is the aim to sell the government securities at the lowest possible cost. This means that securities are issued steadily and at times when demand is high. The entrance of foreign investors to the market for Danish government securities on a large scale has diminished the correlation between the liquidity of the private sector and the timing of debt issues. Secondly, it is considered important that government securities are issued on a continuous basis. This means that securities are issued even in months with no borrowing requirement. Furthermore, experience shows that issue on a continuous basis supports the liquidity of the smaller series.

Chart 3.3.2. Accumulated Difference between Sale of Government Securities and the Gross Borrowing Requirement. End of Month.



Chapter 4.
Government Debt

4.1. Government Borrowing Requirement

With the exception of 1986 and 1987 the central government has been running budget deficits for the past 20 years. The result has been a growing government debt.

The central government deficit was DKK 50 billion in 1993 and is estimated at DKK 54 billion in 1994 (approx. 6 per cent of GDP). The gross domestic borrowing requirement equalled DKK 119 billion in 1993 and is estimated at DKK 113 billion in 1994. The gross domestic borrowing requirement has been relatively stable at DKK 100-125 billion since 1990, cf. Table 4.1.1.

Table 4.1.1.
Central Government Net and Gross Borrowing Requirement. DKK Billion.

	1990	1991	1992	1993	1994
Deficit on current, investment and lending account (CIL) .	23.2	38.3	35.3	50.1	54.4
Capital items	-5.3	17.9	-4.4	-5.2	0.5
Net borrowing requirement (cash basis)	17.9	56.2	30.8	44.8	54.9
Redemption of domestic debt:					
Bonds	45.2	26.2	56.0	38.0	41.9
Treasury notes	33.9	38.3	39.9	36.3	16.3
Gross domestic borrowing requirement	97.0	120.7	126.7	119.2	113.1
Redemption of foreign debt .	15.0	29.4	16.5	16.7	9.1
Total gross borrowing requirement	112.0	150.1	143.2	135.9	122.2

Note: 1994: Budget. 1993: Estimate. Earlier years: Accounts.
Includes early repayment of floating rate bonds of DKK 18 billion in 1992 and DKK 4 billion in 1993.

The government and Danmarks Nationalbank have agreed to neutralize the liquidity injection effects of government deficits by issuing domestic government debt instruments denominated in DKK in accordance with the central government deficit. This rule has been adhered to for 10 years. Stated in more precise terms, central government domestic borrowing equals the gross borrowing requirement less redemption of foreign loans. The repayments of foreign debt are excluded from the domestic borrowing requirement because the purpose of the central government's foreign borrowing has been to strengthen the foreign exchange reserves. The proceeds of foreign borrowing are added to the govern- ment's deposits with Danmarks Nationalbank and these loans do not have any domestic liquidity effects.

As the exact borrowing requirement is known only after the end of the year a small difference between actual borrowing and the borrowing requirement is almost unavoidable. Normally differences between the borrowing requirement and the issue of debt instruments in a given year are balanced in the following year. The discrepancy in 1991 was to a large extent a result of the restructuring of the National Post Giro from a government agency to a limited liability company. This led to calculatory effects on the government accounts which were not covered by debt issues.

Table 4.1.2.
Net Absorption of Liquidity Due to Central Government Finance. DKK Billion.

	1989	1990	1991	1992	1993
Central government domestic borrowing, market value	108.7	101.8	114.4	124.8	120.9
Gross domestic government borrowing requirement	108.5	97.0	120.7	126.7	119.2
Net absorption of liquidity . .	0.2	4.8	-6.4	-1.9	1.7

Note: 1993: Estimate. Earlier years: Accounts.

4.2. The Government Debt

At the end of 1993 the net central government debt equalled DKK 500 billion or 57 per cent of the gross domestic product (GDP), cf. Table 4.2.1. It increased by DKK 47 billion in 1993. The domestic debt in-

creased by DKK 51 billion, DKK 4 billion more than the net borrowing, due to discounts on issue. The foreign debt increased by DKK 61 billion. Government deposits with Danmarks Nationalbank increased by DKK 58 billion and the capital of the Social Pension Fund by DKK 6 billion.

Table 4.2.1.
Central Government Borrowing and Debt. DKK Billion.

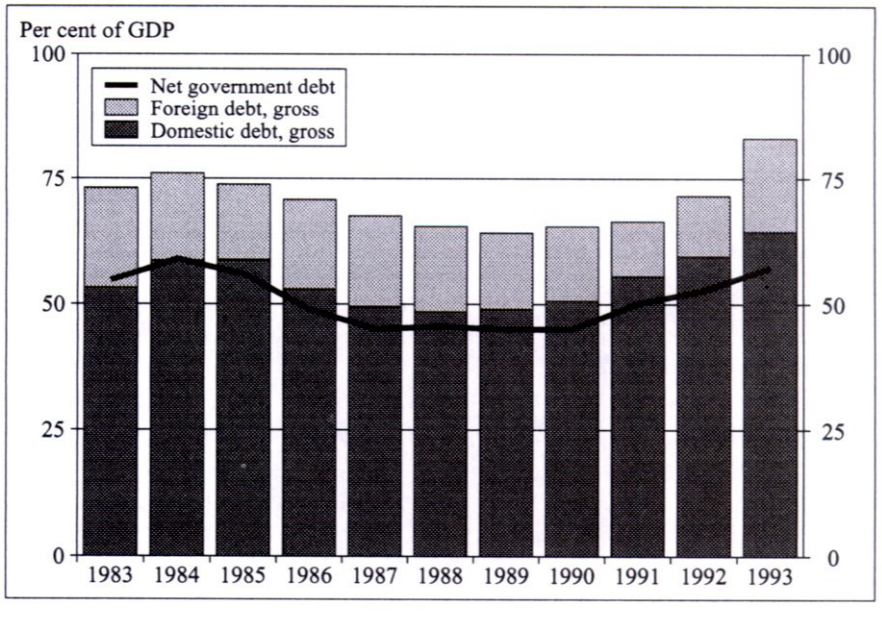
	1990	1991	1992	1993	1994
Net borrowing[1]:					
Domestic borrowing, net[3] . . .	22.8	49.8	39.1	46.6	54.8
Foreign borrowing, net	5.1	-27.2	11.0	56.6	-2.0
Net drawings on Danmarks Nationalbank	-10.0	33.6	-19.3	-58.3	2.1
Net borrowing requirement . .	17.9	56.2	30.8	44.8	54.9
Discounts on new issues:					
Domestic	6.6	6.0	10.5	4.1	2.5
Foreign	1.2	0.2	0.3	1.3	0.9
Revaluation of foreign loans .	-3.2	0.3	0.5	3.2	0.0
Total	4.6	6.5	11.3	8.5	3.4
Central government debt[2]:					
Domestic	406.5	462.4	511.5	562.2	619.5
Foreign	119.1	92.3	104.6	165.6	164.5
Net debt to Danmarks Nationalbank	-45.2	-11.6	-30.9	-89.6	-87.5
Total	480.4	543.1	585.2	638.2	696.5
Less:					
The Social Pension Fund . . .	118.4	125.7	132.2	138.4	144.8
Central government debt incl. the Social Pension Fund	361.9	417.4	453.0	499.8	551.7

Note: 1994: Budget. 1993: Estimate. Earlier years: Accounts.
[1] Market value.
[2] Nominal. End of year.
[3] Incl. repayment of compulsory savings.

The positive net borrowing abroad in 1992 and 1993 was due to the severe ERM crises in the autumn of 1992 and again in February and July 1993. As foreign borrowing increases the deposits with Danmarks Nationalbank it does not increase the net government debt.

The government deposits with the central bank and the capital of the Social Pension Fund are financial assets of the central government and are therefore deducted from the domestic and foreign central government debt in calculating the net debt. The capital of the Fund originates from tax payments in the 1970s. It holds a portfolio of Danish securities, including government bonds.

Chart 4.2.1.
Domestic Government Debt



4.3. Debt Policy and Duration

The main objective of the domestic government debt management is to finance the current net borrowing requirement and manage the existing debt at the lowest possible long-term cost. The cost minimization is subject to certain constraints. First, the aim is to ensure continuous access to efficient capital markets in the future, and secondly, it is ne-

Box 4.3.1.
Duration of the Domestic Government Debt

Duration is a concept that characterizes a cash flow. It can be interpreted as either the time until the average payment is made (interest and repayment) or as the sensitivity of the market value to interest rate changes. In the latter interpretation duration measures the time from a change in the interest rate until the market value calculated at the new interest rate is equal to the market value before the change.

To calculate the duration of the domestic government debt all future payments, i.e. both interest and redemption payments, are discounted at an average yield of government securities. The cash flows of fixed-rate bonds, Treasury notes and bills cause no problems. For floating rate bonds the future interest payments beyond the next coupon fixing are not known. The floating rate bonds are included in the calculation at a duration of 0.25 years, as the interest rate is fixed quarterly.

The duration of the domestic government debt denominated in DKK is calculated by the following formula:

$$\text{Duration} = \frac{GD_f}{(GD_f + GD_v)} \times \sum_{t_i} \frac{t_i \times C \times (1+r)^{-t_i}}{C \times (1+r)^{-t_i}} + \frac{GD_v}{(GD_f + GD_v)} \times 0{,}25$$

GD_f = Fixed-rate government debt
GD_v = Variable-rate government debt
C = Payment at time t
r = Average annual yield
t_i = Time in years to the i'th payment. i=1,...,N, where N is the number of payment dates

As the discount rate is assumed to be constant for all payments the duration is of the Macaulay type. Zero-coupon rates (Fisher-Weil duration) would change the result marginally.

Compared to the average time to maturity the duration offers a better expression of the length/interest sensitivity of the debt, as it includes interest payments and discounts future payments.

cessary to monitor and contain the risks. The shape of the yield curve is an indicator of the costs of the current borrowing, but changes in the yield curve in the future are more important. Such expectations influence decisions concerning new issues, but it is considered more important to issue regularly and transparently. This constraint implies continuous issue of a variety of government securities irrespective of the shape of the yield curve at any specific time. By limiting the supply of government securities to relatively few and simple products (benchmark issues) it is expected that the targets can be achieved simultaneously.

The most significant way to influence the costs of the debt is through the composition of the current borrowing. Ordinary redemptions

are so large that a relatively large part of the debt is 'rolled over' every year. This means that it is easy to influence the composition of the debt at any time.

By purchasing government securities in the market ahead of ordinary redemption and issuing new instruments, the debt structure can be changed even faster. In the last couple of years this latter instrument has been used actively by buying floating rate bonds ahead of redemption. Apart from changing the composition of the debt the extraordinary redemptions were considered to be a good deal.

Since 1982 the average time to maturity of the domestic debt has been fluctuating at around 4 years and the duration between 2 and 3 years, cf. Table 4.3.1. During the last couple of years the duration of the debt has increased from 2.3 years at the end of 1991 to 3.3 years at the end of 1993. To some extent the increase in duration can be attributed to falling interest rates.

The duration is the main statistic used in debt management. The duration is used to get an overall view of the current composition and the risk exposure of the debt, cf. Box 4.3.1. At the beginning of the year a planned duration for the end of that year is fixed, and alternative ways to achieve this duration are calculated. During the year the goal may be changed or adjusted. Because of the relatively large debt and the prospect of relatively large government deficits it was decided to aim for a slight increase in duration in 1993. The increase has been somewhat larger than planned due to the drop in interest rates. This 'technical' increase in duration has not influenced the issuing policy.

Apart from a planned duration a number of subtargets have to be fulfilled. The single issues must have characteristics that make them potential benchmarks, i.e. large and liquid series. Furthermore, it is preferred that the redemption profile is relatively smooth. These targets may point in opposite directions, and on such occasions liquidity has been the most important consideration.

Table 4.3.1.
Average Time to Maturity and Duration of the Domestic Government Debt. Years.

	Average remaining maturity	Duration	
		Fixed-rate debt	Total debt
1984	4.3	2.8	2.8
1985	4.2	3.0	2.8
1986	4.0	2.9	2.6
1987	3.6	2.4	2.1
1988	3.6	2.5	2.0
1989	4.0	2.8	2.2
1990[1)]	4.4	3.1	2.4
1991	3.6	2.8	2.3
1992	4.2	3.2	2.8
1993	4.2	3.5	3.3

[1)] Calculation method changed from 1990 and onwards.

Table 4.3.2.
The Distribution of Gross Borrowing. Per Cent.

	1989	1990	1991	1992	1993
Government bonds, fixed interest rate	50	41	41	78	52
Treasury notes	33	35	36	32	49
Government bonds, floating interest rate	17	4	9	-15	-3
Treasury bills[1)]	-	20	23	5	2
Total	100	100	100	100	100

Note: Includes early repayment of floating rate bonds in 1992 and 1993.
[1)] Net.

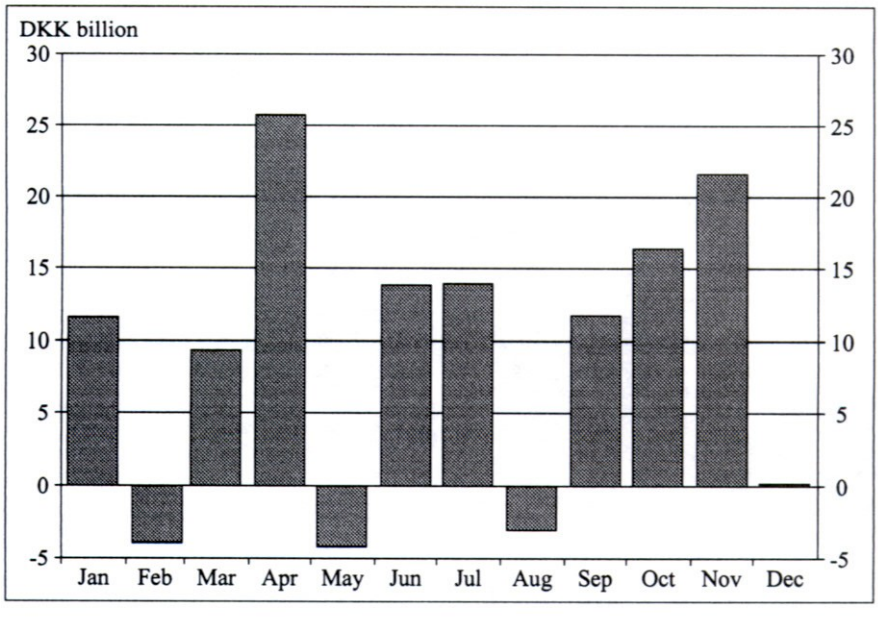
4.4. Prospects for 1994

The borrowing requirement is estimated at DKK 113 billion in 1994. The distribution of the estimated borrowing requirement on months is depicted in Chart 4.4.1.

Redemption of outstanding domestic debt equals DKK 58 billion in 1994 and DKK 115 billion in 1995. To avoid a very large borrowing requirement in 1995 it is the intention to level out the redemption payments by purchasing government securities due in 1995 and issuing new securities. Using this method will also make it possible to increase the duration of the debt, cf. below.

In the years to come purchasing securities ahead of ordinary redemption will probably become an integrated part of government debt management. Apart from levelling out the redemption profile of the debt purchasing 'own' securities in the market may be used to pursue other goals. First, purchasing undervalued securities and issuing benchmark loans will naturally lower the costs. Secondly, buying illiquid securities can support the overall efficiency of the government securities market.

Chart 4.4.1.
The Distribution of the Borrowing Requirement in 1994



The provisional goal for the duration of the domestic debt at the end of 1994 is 3.5 years. This goal, however, depends on the volume of purchase of 1995-securities in 1994. The reason for the increase of the duration is the relatively large domestic debt and the prospect of budget deficits in the years ahead.

The current issues open for sale are shown in Table 4.4.1.

It is presently considered whether to open government bonds with a maturity on opening of more than 10 years. The reason is that longer loans will increase flexibility with regard to the duration of the debt. Whether a new 5-year bond is opened will depend on whether a longer loan is considered appropriate and on the borrowing requirement.

The Treasury note programme continues with new series opened at the beginning of January and July. The series is open for sale for 1 year and the maturity at the opening is 2.5 years.

The Treasury bills are sold at monthly auctions. Prior to the auction held on January 28, 1994 a maximum amount of DKK 5 billion was announced. On some occasions such limits may be announced ahead of the auction. The purpose is to get a more continous issue of Treasury bills.

Table 4.4.1.
Current Issues Open for Sale. End of January 1994.

	Interest payable
Government bonds:	
7% government bonds 2004	December 15
9% government bonds 1998	November 15
Treasury notes:	
5.25% Treasury notes 1996 II	August 10
6.00% Treasury notes 1996 I	February 10
Treasury bills:	
Treasury bills 1994 IV	October 3
Treasury bills 1994 III	July 1

Appendices

Table 1.

Central Government Debt 1983-1993. DKK Million.

	1983	1984	1985
A. Domestic debt			
I. Domestic debt denominated in DKK			
1. Fixed-rate bonds	230,592	288,959	302,749
2 Floating-rate bonds	-	3,400	27,125
3. Treasury notes	40,700	37,800	28,760
4. Treasury bills	-	-	-
5. Lottery bonds	1,200	1,200	1,200
6. Compulsory savings	-	-	1,404
Domestic debt denominated in DKK, total	272,492	331,359	361,238
II. Domestic debt denominated in XEU	-	-	-
III. Foreign debt			
1. In USD	68,987	53,634	42,056
2. In DEM	13,610	14,995	15,778
3. In CHF	5,928	7,154	10,513
4. In XEU	-	600	2,588
5. In JPY	8,157	13,110	11,775
6. In other currencies	5,832	9,041	10,220
Foreign loans, total	102,514	98,534	92,930
Domestic and foreign debt, total	375,006	429,893	454,168
Domestic and foreign debt, per cent of GDP	73.2	76.0	73.8
B. Government deposits with the central bank	19,836	14,336	20,752
C. The Social Pension Fund	74,864	82,512	89.441
Net government debt (A-B-C)	280,306	333,045	344,005
Net government debt, per cent of GDP	54.7	58.9	55.9

[1] Excluding holdings of the Ministry of Finance in the location swap facility.

1986	1987	1988	1989	1990	1991	1992	1993[1)]
282,451	243,212	215,492	221,592	229,221	252,481	316,690	357,346
39,935	56,935	82,785	88,410	85,010	85,010	57,147	41,241
27,500	43,675	54,085	64,550	68,850	74,050	71,150	94,200
-	-	-	-	21,350	49,250	55,485	58,339
1,200	1,200	1,200	1,200	1,200	1,200	1,200	1,200
1,497	1,464	1,425	1,375	864	392	-	-
352,583	346,486	354,987	377,127	406,495	462,383	501,672	552,326
-	-	-	-	-	-	9,827	9,824
55,313	44,637	32,983	27,624	15,556	17,103	37,802	50,889
21,131	26,799	29,374	30,034	36,700	28,464	23,758	47,223
12,160	16,572	20,452	17,919	21,033	15,785	13,952	20,914
5,874	10,191	14,480	16,970	18,103	18,025	14,942	9,364
9,874	13,781	12,718	10,156	3,597	1,866	3,159	5,612
15,561	15,657	14,326	13,328	24,112	11,096	11,019	31,471
119,913	127,637	124,333	116,031	119,101	92,339	104,633	165,612
472,496	474,123	479,320	493,158	525,596	554,722	616,132	727,762
70.9	67.7	65.5	64.1	65.5	66.6	71.7	83.2
51,448	57,960	39,855	35,254	45,206	11,649	30,927	89,568
95,034	100,758	106,224	111,376	118,447	125,708	132,194	138,375
326,014	315,405	333,241	346,528	361,943	417,366	453,011	499,819
48.9	45.1	45.5	45.0	45.1	50.1	52.7	57.1

Table 2.

Domestic Government Securities Issued in 1993

No. 218, 9% government bonds 1998 (9 pct. stående lån 1998)

Issued in 1993, DKK million	15,300
Interest payable	November 15
Stock exchange code	0991554
Issue commenced	January 2, 1989
Redemption date	November 15, 1998

No. 246, 8% government bonds 2003 (8 pct. stående lån 2003)

Issued in 1993, DKK million	15,350
Interest payable	May 15
Stock exchange code	0991716
Issue commenced	January 2, 1992
Redemption date	May 15, 2003

No. 250, Treasury bills 1993 II (Skatkammerbevis 1993 II)

Issued in 1993, DKK million	83
Interest payable	-
Stock exchange code	0980420
Issue commenced	July 1, 1992
Redemption date	April 1, 1993

No. 252, Treasury bills 1993 III (Skatkammerbevis 1993 III)

Issued in 1993, DKK million	7,788
Interest payable	-
Stock exchange code	0980439
Issue commenced	October 1, 1992
Redemption date	July 1, 1993

No. 253, 9.75% Treasury notes 1995 I (9,75 pct. statsgældsbevis 1995 I)

Issued in 1993, DKK million	10,200
Interest payable	February 10
Stock exchange code	0991767
Issue commenced	October 1, 1992
Redemption date	February 10, 1995

No. 254, 9.25% Treasury notes 1995 II (9,25 pct. statsgældsbevis 1995 II)

Issued in 1993, DKK million	31,100
Interest payable	August 10
Stock exchange code	0991775
Issue commenced	January 4, 1993
Redemption date	August 10, 1995

No. 255, Treasury bills 1993 IV (Skatkammerbevis 1993 IV)

Issued in 1993, DKK million	25,071
Interest payable	-
Stock exchange code	0980447
Issue commenced	January 4, 1993
Redemption date	October 1, 1993

No. 256, Treasury bills 1994 I (Skatkammerbevis 1994 I)

Issued in 1993, DKK million	22,294
Interest payable	-
Stock exchange code	0980455
Issue commenced	April 1, 1993
Redemption date	January 3, 1994

No. 257, 7% government bonds 2004 (7 pct. stående lån 2004)

Issued in 1993, DKK million	32,150
Interest payable	December 15
Stock exchange code	0991783
Issue commenced	May 25, 1993
Redemption date	December 15, 2004

No. 258, Treasury bills 1994 II (Skatkammerbevis 1994 II)

Issued in 1993, DKK million	22,220
Interest payable	-
Stock exchange code	0980463
Issue commenced	July 1, 1993
Redemption date	April 5, 1994

Table 2 - continued

No. 259, 6.00% Treasury notes 1996 I (6,00 pct. statsgældsbevis 1996 I)

Issued in 1993, DKK million	18,000
Interest payable	February 10
Stock exchange code	0991791
Issue commenced	July 1, 1993
Redemption date	February 10, 1996

No. 260, Treasury bills 1994 III (Skatkammerbevis 1994 III)

Issued in 1993, DKK million	13,825
Interest payable	-
Stock exchange code	0980471
Issue commenced	October 1, 1993
Redemption date	July 1, 1994

Table 3.

Domestic Central Government Debt. End of 1993.

Stock exchange code	Coupon %	Name	Redemption date	Nominal amount (DKK million)
Government bonds, fixed interest rate				
Bullet loans				
0990914	10	Stående lån 1994	Mar.15, 1994	4,000.0
0991422	10	Stående lån 1996	Nov.15, 1996	4,200.0
0991511	9	Stående lån 1994	Nov.15, 1994	19,700.0
0991503	9	Stående lån 1996	Nov.15, 1996	27,600.0
0991554	9	Stående lån 1998	Nov.15, 1998	59,300.0
0091619	9	Stående lån 2000	Nov.15, 2000	59,150.0
0991643	9	Stående lån 1995	Nov.15, 1995	39,850.0
0991716	8	Stående lån 2003	May 15, 2003	69,000.0
0991783	7	Stående lån 2004	Dec.15, 2004	32,150.0
Government bonds, fixed interest rate				
Serial loans				
0990256	4	Dansk Statslån III 1994	Nov.13, 1994	1.6
0990302	4.5	S 1997	Oct.15, 1997	52.7
0990329	5	S 2007	Sep.15, 2007	77.1
0990272	4	S 2017	June 15, 2017	126.3
0990493	12	S 2001	Feb.15, 2001	21,420.0
0990736	10	S 1999	July 15, 1999	7,039.5
0990744	10	S 2004	Oct.15, 2004	10,428.0
0990825	10	S 1994	Apr.15, 1994	1,640.0
0990892	10	S 1995	Apr.15, 1995	1,560.0
0991015	10	S 2001	July 15, 2001	4.0
Government bonds, fixed interest rate				
Perpetuals				
0990159	3.5	Dansk Statslån 1886 Uamortisabelt	-	46.2
...	5	Dansk Islandsk Fond 1918 Uamortisabelt	-	1.0

Table 3 - continued

Stock exchange code	Coupon %	Name	Redemption date	Nominal amount (DKK million)
Government bonds, floating interest rate				
0990048	Var.	Stående lån 1995	Jan.15, 1995	9,623.0
0990064	Var.	Stående lån 1996	Jan.15, 1996	3,862.0
0990080	Var.	Stående lån 1997	Jan.15, 1997	6,462.0
0990102	Var.	Stående lån 1998	Jan.15, 1998	6,052.0
0990110	Var.	Stående lån 1994	Nov.20, 1994	10,896.0
0990129	Var.	Stående lån 1999	Nov.20, 1999	4,346.0
Treasury notes				
0991724	8	Statsgældsbevis 1994 I	Feb.20, 1994	4,700.0
0991732	8	Statsgældsbevis 1994 II	May 20, 1994	4,850.0
0991759	8	Statsgældsbevis 1994 III	Aug.20, 1994	6,700.0
0991767	9.75	Statsgældsbevis 1995 I	Feb.10, 1995	28,850.0
0991775	9.25	Statsgældsbevis 1995 II	Aug.10, 1995	31,100.0
0991791	6.00	Statsgældsbevis 1996 I	Feb.10, 1996	18,000.0
Treasury bills				
0980455	0	Skatkammerbevis 1994 I	Jan.3, 1994	22,294.0
0980463	0	Skatkammerbevis 1994 II	Apr.5, 1994	22,220.0
0980471	0	Skatkammerbevis 1994 III	July 1, 1994	13,825.0
Lottery bonds				
0990019	3.5	Præmieobligationslån 1948/98	June 20, 1998	100.0
0990027	4	Præmieobligationslån 1954/99	Oct.1, 1999	100.0
0990035	3.5	Præmieobligationslån 1959/98	Dec.1, 1998	100.0
0990043	7	Præmieobligationslån 1965/95	Sep.23, 1995	100.0
0990051	7	Præmieobligationslån 1969/94	Oct.1, 1994	100.0
	8	Præmieobligationslån 1977/2002:		
0990078		I	Feb.15, 2002	100.0
0990086		II	May 15, 2002	100.0
0990094		III	June 15, 2002	100.0
0990108		IV	July 15, 2002	100.0
0990116		V	Aug.15, 2002	100.0
0990124	10	Præmieobligationslån 1980/2005	July 1, 2005	200.0
Domestic central government debt denominated in DKK				**552,326.4**

Table 3 - continued

Stock exchange code	Coupon %	Name	Redemption date	Nominal amount (DKK million)
Domestic debt denominated in XEU				
0991740	8.5	Stående lån XEU 1.3 billion 2002	Apr. 24, 2002	9,823.8
Domestic central government debt				**562,150.2**

Glossary

Annuitetslån:	Annuity; loan redeemed in equal regular (e.g. annual) payments (interest plus repayment of principal).
Børs:	Stock exchange.
Børshandler (børsmægler):	Stockbroker.
Danske stat:	Kingdom of Denmark.
DKK:	Krone(r), Danish currency.
Emission:	Issue.
Fondshandler:	Stockbroker or bank authorized to trade securities.
Garantifonden for Danske Optioner og Futures (FUTOP):	Guarantee Fund for Danish Options and Futures.
Inkonverterbar obligation:	Non-callable bond.
Genkøbsforretning:	Repurchase agreement (repo).
Københavns Fondsbørs (KF):	Copenhagen Stock Exchange (CSE).
Konverterbar obligation:	Callable bond.
Kroneobligationer:	Bonds, notes etc. denominated in DKK.
Løbetid:	Maturity.
Mindsterente:	Minimum coupon rate.
Obligation:	Bond.

Præmieobligation:	Lottery bond.
Realkredit:	Mortgage.
Rente:	Interest.
Serie:	Series, issue; securities issued with identical characteristics. In the Danish VP system the securities in a series are indistinguishable, as they have no serial number.
Serielån:	Loan redeemed in equal regular (e.g. annual) instalments.
Skatkammerbevis:	Treasury bill.
Statsgældsbevis:	Treasury note.
Stående lån:	Bullet loan; total amount of the loan redeemed on the final due date.
Termin:	Due date.
Varighed:	Duration.
Værdipapircentralen (VP):	Danish Securities Centre.