

DANMARKS NATIONALBANK

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Danish Government Borrowing and Debt 2017

- Denmark's central government debt was 21 per cent of GDP at the end of 2017. This is a decrease from 2016, attributable to a government budget surplus.
- In 2017, the central government issued bonds at an average yield to maturity of 0.2 per cent and an average maturity of 7.5 years. Interest costs for the central government debt totalled 0.8 per cent of GDP.
- The yield spread to Germany narrowed, and liquidity improved further in the market for Danish government bonds in 2017, where the central government introduced a new primary dealer model.

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Lower Government Debt

The debt declined in 2017 due to a government budget surplus.

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Low interest costs

Interest costs for the debt totalled kr. 17 billion or 0.8 per cent of GDP.

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Improved liquidity

The liquidity in Danish government securities improved in 2017.

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Central Government Debt and Interest Costs

The central government debt decreased in 2017 as a result of a government budget surplus

The central government debt totalled kr. 449 billion, or 21 per cent of the gross domestic product, GDP, at the end of 2017, compared with 23 per cent of GDP at the end of 2016. The decline reflects a government budget surplus in 2017. The central government debt as a percentage of GDP has thus been reduced by 5 percentage points since its peak in 2012 after the financial crisis. During the last 20 years, the central government debt has more than halved, cf. Chart 1.

Part of the central government debt reflects borrowing on behalf of government-owned companies (on-lending). At the end of 2017, the central government debt adjusted for on-lending totalled kr. 345 billion or 16 per cent of GDP, cf. Table 1.

The Danish government debt is low compared with other countries

The net and gross general government debts are often used in international comparisons of sovereign debt, cf. Box 1. Denmark's general government debt is low by international comparison, cf. Chart 2.

The highest possible credit rating was maintained

The low debt level, healthy public finances and a robust economy contributed to maintaining the highest possible credit rating (AAA/Aaa) for the Danish central government debt in 2017 with a stable outlook from the largest international credit rating agencies.

Lower interest costs for the central government

In 2017, interest costs on the central government debt amounted to kr. 17 billion, corresponding to 0.8 per cent of GDP. This is a slightly lower level than in 2016, cf. Chart 3. Adjusted for interest income on on-lending, interest costs amounted to kr. 15 billion or 0.7 per cent of GDP. The decline in interest costs primarily reflects low interest rates on new issuance.

... even though interest costs were brought forward

The central government's buy-backs of own bonds entail a capital loss if the current market yield is lower than the coupon. The cost will be offset by lower interest costs in future years. In 2017, the central government bought back bonds maturing in subsequent years, entailing a total capital loss of kr. 5 billion, which is included in the interest costs.

Central government debt remains low Chart 1



Note: Year-end.

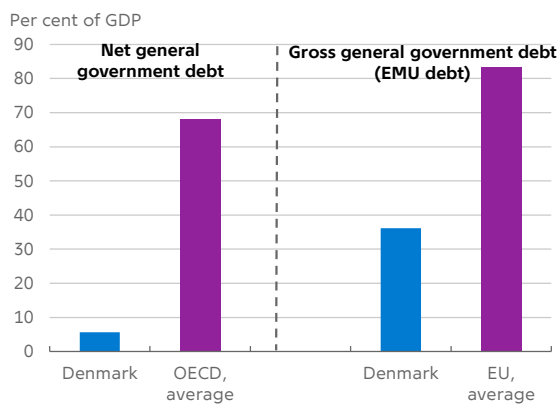
Central government debt end of 2017 Table 1

	Kr. billion	Per cent of GDP
Domestic debt	640	30
Foreign debt ¹	2	0
Collateral related to swaps	1	0
Government deposits ²	-135	-6
Government funds	-60	-3
Central-government debt	449	21
On-lending	104	5
Central-government debt adjusted for on-lending	345	16

- At the end of 2017, this comprised only commitments concerning swaps concluded for foreign exchange risk hedging purposes on on-lending in dollars to Danish Ship Finance.
- The balance on the central government's account at Danmarks Nationalbank.

Low Danish government debt

Chart 2

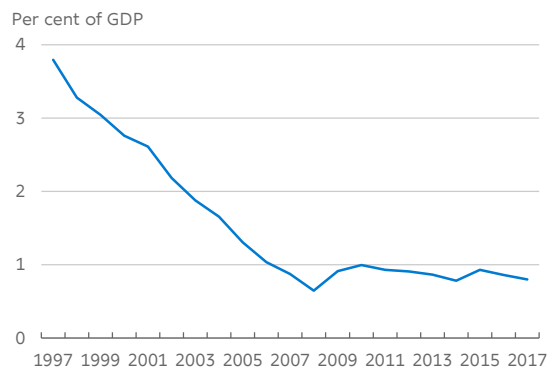


Note: Net general government financial debt, estimate for 2017 from OECD, *Economic Outlook*, November 2017. Gross general government debt (EMU debt), estimate for 2017 from European Commission, *European Economic Forecast*, autumn 2017.

Source: OECD and the European Commission.

The central government's interest costs remain below 1 per cent of GDP

Chart 3



Note: Figures for 2017 are provisional figures from the central government's accounting.

Source: Central government accounts.

Public debt measures

Box 1

The central government debt, the EMU debt or the net general government debt is often used when calculating central or general government debt.

The central-government debt is measured as the nominal value of the central government's domestic and foreign debt less the balance on the central government's account at Danmarks Nationalbank and the assets of the three government funds: the Social Pension Fund, The Innovation Fund Denmark and the Fund for Better Working Environment and Labour Retention. The central government debt is managed by Danmarks Nationalbank on behalf of the Ministry of Finance.

The EMU debt comprises the debt of the central, regional and local governments as well as social security funds and is calculated at nominal value. The debt is measured on a gross basis, but the public sector may consolidate the debt with claims on itself. This means that the government bond portfolios held by the government funds are subtracted

from the EMU debt. On the other hand, e.g. the Social Pension Fund's portfolio of other listed bonds and the balance on the central government's account at Danmarks Nationalbank cannot be subtracted. According to the EU Stability and Growth Pact, the EMU debt must not, as a general rule, exceed 60 per cent of GDP. Denmark meets this target and is well below the limit, cf. www.dst.dk or ec.europa.eu/eurostat.

The net general government debt comprises all financial assets and liabilities of the central, regional and local governments as well as social security funds. The central government's asset side includes the account at Danmarks Nationalbank, all assets in government funds, on-lending to government-owned companies and the central government's equity portfolio. The net general government debt is calculated at market value and is thus affected by value adjustments of government assets and liabilities. Internationally comparable calculations of net general government debt are made by the IMF, among others.

Government Finances in 2017

Strong development in the Danish economy ...

In 2017, the government budget surplus amounted to kr. 20 billion, reflecting a solid upswing in the Danish economy with GDP growth of around 2 per cent in 2017 and rising employment. Both economic developments and government finances turned out to be stronger in 2017 than expected at the beginning of the year.

... caused the balance on the central government's account to rise

The balance on the central government's account increased by kr. 24 billion in 2017 to kr. 135 billion, reflecting the improvement of government finances primarily towards the end of the year. At the same time, the issuance policy was maintained in order to build up the outstanding volume of the new bonds opened in 2017.

... but it is expected to be reduced in 2018

The strategy for 2018 is to cover part of the financing requirement by drawing on the account, cf. the Central Government Borrowing Strategy in 2018¹. This is expected to reduce the account balance to around kr. 100 billion, cf. Chart 4. An account balance of around kr. 75-100 billion is still assessed to be a sufficient liquidity reserve for the central government.

Government Borrowing

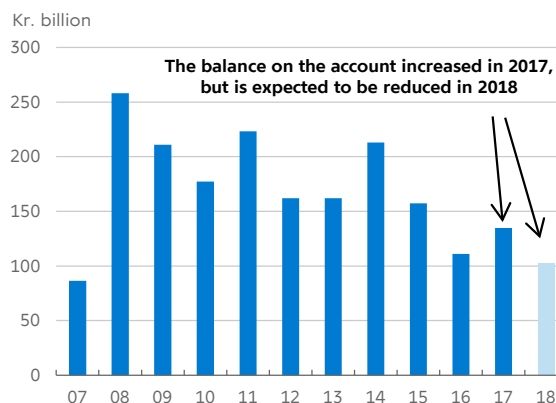
The central government issued bonds totalling kr. 67 billion via auctions and tap sales ...

In 2017, the central government sold bonds totalling kr. 67 billion at market value via auctions and tap sales, cf. Chart 5. This was in accordance with the target of kr. 65 billion.

The sales were evenly distributed over the year, averaging kr. 2.5 billion per auction. The central government's sales of bonds totalled kr. 57 billion via auctions and kr. 10 billion outside auctions (tap

The balance on the central government's account rose

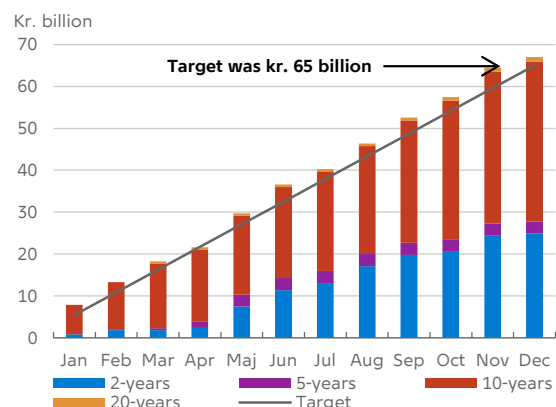
Chart 4



Note: Year-end.

Government bond sales were distributed evenly across the year

Chart 5



Note: Issuance of government bonds in 2017 via auctions and tap sales at market value.

¹ Cf. Danmarks Nationalbank, Central Government Borrowing Strategy in 2018, *Danmarks Nationalbank Analysis (Strategy Announcement)*, no. 27, December 2017. ([link](#))

sales). Demand for the bonds was good, as the bids totalled more than double the sales via auctions.

In accordance with its strategy, the central government mainly issued in the 2- and 10-year nominal bonds which were opened in 2017. A new 10-year bond with a coupon of 0.5 per cent, maturing in 2027, was opened in January. In May, a new 2-year bond with a coupon of 0.25 per cent, maturing in 2020, was opened. At both opening auctions, issuance amounted to the pre-announced maximum of kr. 5 billion.

The central government also issued in the 5- and 20-year maturity segments for smaller amounts, cf. Table 2. No issuance was made in the inflation-linked bond in 2017. The demand for this security was low, reflecting especially its relatively short time to maturity, according to market participants. On 7 February 2018, a new inflation-linked bond will be opened, maturing in 2030.

... and kr. 25 billion via switch operations

There were two switch operations per month in 2017, allowing banks and investors to switch off-the-run issues to more liquid on-the-run issues. This contributed to increasing the outstanding volume in the new securities and to improving liquidity. At the end of 2017, the outstanding volume of the new 2- and 10-year bonds had been built up to kr. 31 and 49 billion, respectively, around one-fourth via switch operations. The central government's buy-backs in connection with switch operations totalled around kr. 32 billion, cf. Table 3, and its issuance around 25 billion.²

The central government also bought back bonds outside the switch operations (tap). This makes it easier for the central government's primary dealers to quote prices on an ongoing basis, boosting liquidity. In 2017, buy-backs via tap from the market in securities maturing after 2017 totalled kr. 15 billion. This is around the same level as in 2016.

The central government borrowed at very low yields

In 2017, on average the central government issued bonds at a yield to maturity of 0.2 per cent and

Central government issuance in 2017

Table 2

Kr. million, market value	Auctions and tap	Switch operations
0.25 per cent 2018	2,326	20
0.25 per cent 2020	22,548	8,830
3.0 per cent 2021	2,892	-
1.5 per cent 2023	-	3,268
1.75 per cent 2025	2,140	-
0.5 per cent 2027	35,975	12,744
4.5 per cent 2039	1,107	-
Total	66,987	24,862

a maturity of 7.5 years. The yield level is slightly higher than the record-low level in 2016.

Yields on Danish government bonds were relatively stable in 2017 at around 0.5-0.75 per cent in the 10-year segment. In the 2-year segment, yields remained negative throughout the year, cf. Chart 6.

The yield spread to Germany narrowed

The spread between Danish and German government bond yields narrowed during 2017, especially for the long maturity segments. In the 10-year segment, the spread was approaching zero at the end of the year. This is a lower level than in Denmark's benchmark countries, cf. Chart 7.

The reduction of the yield spread reflected, inter alia, that foreign demand for mortgage bonds contributed to narrowing the spread between long-term government and mortgage bonds. This increased the demand for Danish government bonds and contributed to lower government bond yields. Market participants also emphasised better liquidity in Danish government securities as a factor contributing to the narrowing of the yield spread in 2017.

² The central government's switch operations are risk-neutral. When bonds are issued with higher duration than the buy-back securities, the buy-backs will typically exceed the issuance.

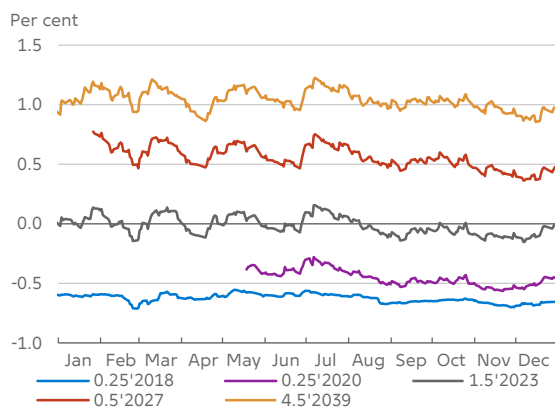
Buy-backs by the central bank and the funds' net purchases of government bonds in the market in 2017

Table 3

Kr. million, market value	Central government	SPF	The Fund for Better Working Environment and Labour Retention	Innovation Fund Denmark	Buy-backs in the market, total	Of which in relation to switch operations
4 per cent bullet loan 2017	5,664	-	-	-	5,664	-
0.25 per cent bullet loan 2018	4,610	-	-	-	4,610	3,446
4 per cent bullet loan 2019	4,512	-	106	-	4,618	1,883
3 per cent bullet loan 2021	13,891	-	-	-	13,891	9,439
1.5 per cent bullet loan 2023	2,194	-	-	-	2,194	1,563
7 per cent bullet loan 2024	3,145	-	-	855	4,000	1,832
1.75 per cent bullet loan 2025	16,006	-	-	2,099	18,106	13,660
Total	50,021	-	106	2,955	53,083	31,824

Stable government yields in 2017

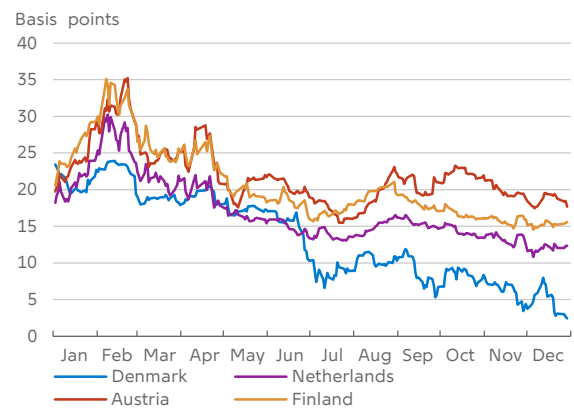
Chart 6



Note: Yields to maturity on Danish government bonds.
 Source: Nordea Analytics.

The yield spread to Germany narrowed

Chart 7



Note: Par yield spreads to Germany in the 10-year maturity segment for selected countries.
 Source: Nordea Analytics.

New primary dealer model boosted liquidity

In the spring of 2017, the central government introduced a new primary dealer model for a trial period.³

Several indicators point to improvement of liquidity in the Danish market for government securities after the announcement of the new model. In the interdealer market, where primary dealers quote prices to each other, the bid-ask spread narrowed, cf. Chart 8. After the announcement, the bid-ask spread for 10-year Danish government securities narrowed from around 0.35 price point to less than 0.1 price point, cf. Chart 8. This matches the most liquid markets for government securities in Europe. The spread for the other Danish government securities also narrowed. This enhanced price transparency and made trading in Danish government securities cheaper.

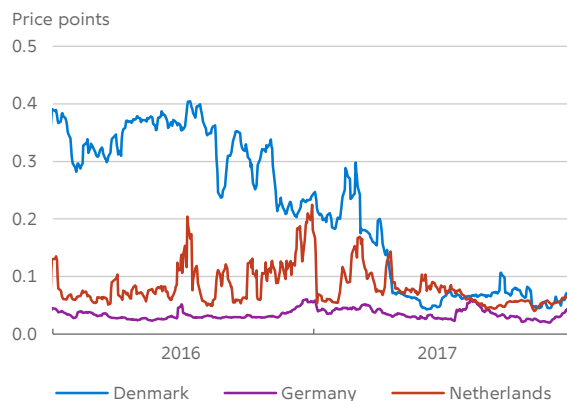
The sharper price quotation also reduced the costs of hedging customer transactions in the interdealer market, and turnover in this market rose, cf. Chart 9. In the light of the positive experience, the model will continue in 2018 with total payments to the central government's 11 primary dealers amounting to maximum kr. 25 million.⁴

According to market participants and investors, the market for Danish government securities is functioning better and there are more active banks to do business with. A broad group of actively trading banks intensifies competition for servicing investors and ensures a robust distribution channel for the central government.

The central government's last serial loan matured

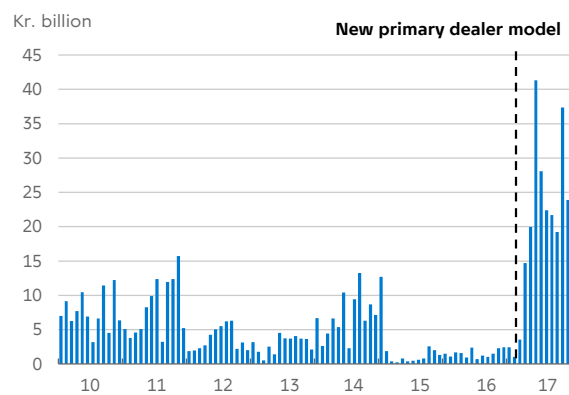
The central government's last serial loan, i.e. the 4 per cent Danish government loan S 2017, matured in June. Repayments on a serial loan are constant over the entire maturity period. The bond was opened in 1955, with issuance taking place until 1958. After the expiry of the serial loan, all circulating government bonds are bullet loans, i.e. loans with full repayment of the principal at maturity.

The bid-ask spread for Danish government securities narrowed Chart 8



Note: 5-day moving average of bid-ask spreads in 10-year government bonds.
 Source: MTS Denmark, MTS Netherlands and TradeWeb Germany.

Increased turnover in the interdealer market Chart 9



Note: Turnover for Danish government bonds excluding the transactions of the government.
 Source: MTS Denmark.

³ Cf. Johanne Dinesen Riishøj and Jonas Staghøj, Enhanced Requirements and Payments are to strengthen the Danish Government Securities Market, *Danmarks Nationalbank Analysis*, no 2, January 2017 ([link](#))

⁴ Cf. Jens Bang-Andersen, New Primary Dealer Model Continues in 2018, *Danmarks Nationalbank Analysis*, no 26, December 2017. ([link](#))

The outstanding volume of T-bills was kr. 33 billion at the end of the year

The outstanding volume of T-bills was kr. 33 billion at year-end 2017. This was close to the target (kr. 30 billion). Issuance of T-bills averaged a yield to maturity of -0.7 per cent and a maturity of 3.5 months.

The demand for T-bills fluctuated in 2017, especially depending on how attractive dollar investors found Danish T-bills relative to T-bills issued by other credit-worthy countries, considering prices in the currency swap market. In 2017, almost the entire outstanding volume of Danish T-bills was still owned by non-residents.

Ownership shares are virtually unchanged

Investors in Danish government securities remained broadly distributed across sectors, cf. Chart 10.

At end-2017, non-resident investors held a total of 40 per cent of all Danish government securities, largely unchanged from the previous year, cf. Chart 11. In 2017, Danish government securities were in particular demanded by investors in Asia and North America.

No foreign bonds issued in 2017

The central government issues foreign bonds in order to maintain the foreign exchange reserve. In recent years, the central government has not issued any foreign bonds.

The central government's last foreign bonds were redeemed in March. Given that the central government did not issue new foreign bonds in 2017, it did not have any foreign loans for the first time in at least 180 years, cf. Chart 12.

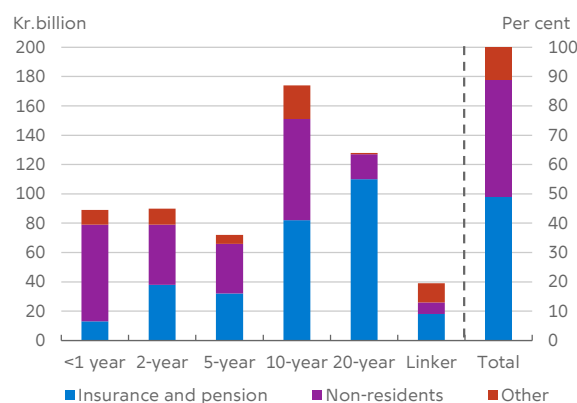
Testing of the central government's Commercial Paper (CP) programmes progressed according to plan in 2017

The central government may raise short-term foreign loans via two Commercial Paper programmes, one European and one US programme. They may be used both as part of the central government's liquidity reserves and to facilitate quick build-up of the foreign exchange reserve. The two programmes were routinely tested in February and October.

In order to test the depth of the programmes, October saw issuances in securities with maturities

The insurance and pension sector owns around half of all Danish government securities

Chart 10



Note: Ownership distribution of domestic government securities end-2017. Ownership shares are calculated excluding the portfolios of the government funds. Insurance and pension includes restricted associations to the sector.
 Source: Danmarks Nationalbank.

Non-resident ownership share of Danish government securities was stable

Chart 11



Note: Non-resident ownership share of Danish government securities. The most recent observation is from December 2017.
 Source: Danmarks Nationalbank.

of one to three weeks totalling 1.2 billion dollars. This is more than in previous tests. The depth of the programmes proved to be substantial. The securities were issued at slightly lower yields than comparable issuances from other countries with similar credit ratings.

Market Risk Management

The risk management of the central government debt is targeted primarily at risks associated with interest rate developments. This reflects that, at end-2017, the central government did not have any foreign exchange exposure. Moreover, the central government has virtually no counterparty credit exposure in connection with swaps. The reason is that the counterparties and the central government pledge collateral for the market value and that collateral is adjusted on a daily basis.

The central government's interest rate risk is the risk of higher interest costs as a result of the central government having to obtain financing at higher interest rates in the future. The risk depends on the debt composition of short-term and long-term bonds, among other factors. In risk management, the average fixed interest period – or duration – is used as a guide for management of the interest rate risk on the debt portfolio. High duration means that the interest rate is fixed for a long period of time for a large part of the debt. This limits the probability of sudden hikes in the central government's interest costs.

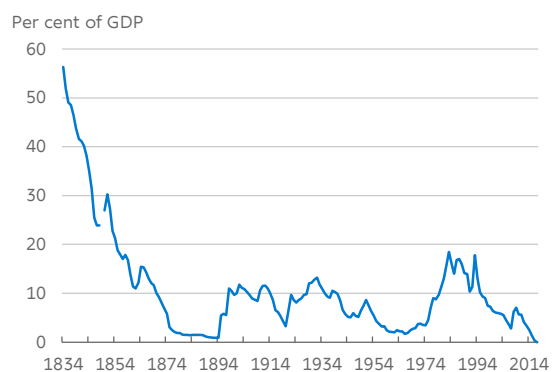
Central government maintained high duration in 2017

In 2017, the average duration of the central government debt was 11.6 years, cf. Chart 13. This is high by international standards and in the upper part of the strategic band (benchmark) for 2017, which was set at 11.25 +/- 0.5 year at the beginning of the 2nd half.

The expected cost of maintaining high duration was assessed to be low. One reason is that the 10-year term premium was estimated to be close to zero. With the composition of debt and the low debt level, the central government debt structure remains very robust.

For the first time in at least 180 years, the Danish central government has no foreign loans

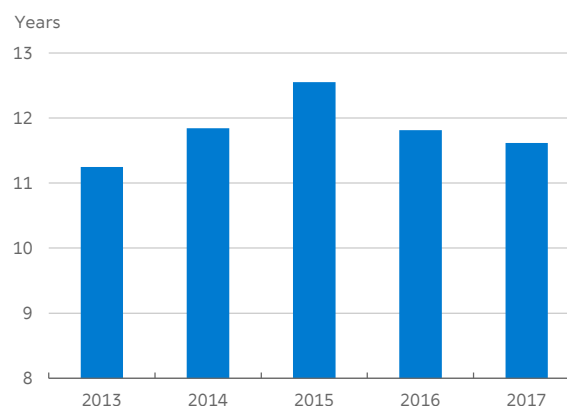
Chart 12



Source: Statistics Denmark and Danmarks Nationalbank.

Duration remained high in 2017

Chart 13



Note: The duration is calculated as an average and at a fixed discount rate of zero.

Source: Danmarks Nationalbank.

On-Lending and Government Guarantees

A number of government-owned companies may raise loans directly from the central government, on-lending, cf. Box 2.

In 2017, on-lending by the central government amounted to around kr. 21 billion at market value. In 2017, the largest borrowers were the Great Belt Bridge and CPH City & Port Development. At end-2017, the total outstanding volume of on-lending was kr. 104 billion, cf. Table 4, slightly less than the previous year.

On-lending was distributed more evenly across the year

Following dialogue between Danmarks Nationalbank and the Ministry of Finance and the government-owned companies at the beginning of the year, the companies spread on-lending more evenly across the year, cf. Chart 14.

This strengthened the risk management of the companies, as their interest rate risk was distributed across the year, and the risk management of the central government, as borrowing was distributed evenly across the year. Virtually all on-lending in 2017 was granted on auction days and in auction securities.

On-lending in 2017

Table 4

Kr. billion, nominal value	Portfolio end-2016	Borrowing in 2017	Redemptions in 2017	Portfolio end-2017
Infrastructure				
Femern Landworks	1.3	0.3	0.2	1.4
The Great Belt Bridge	15.7	5.6	6.2	15.1
Øresund Landworks	10.3	2.5	2.5	10.3
Energinet	20.9	3.5	1.5	23.0
Femern	2.4	0.2	0.0	2.6
Fjord Link Frederikssund	0.5	0.0	0.0	0.5
The Metro Company	15.0	3.3	0.8	17.6
Greater Copenhagen Light Rail	0.1	0.0	0.1	0.0
Sund & Bælt Holding	0.5	0.0	0.0	0.5
CPH City & Port Development	14.8	4.5	4.8	14.5
Other				
Danish Ship Finance	4.5	0.0	1.4	2.8
DR (Danish Broadcasting Corporation)	3.1	0.1	0.3	3.0
EKF (Danish Export Credit Agency)	14.9	0.1	1.8	13.2
Ireland	3.0	0.0	3.0	0.0
SSI (Statens Serum Institut)	0.4	0.0	0.4	0.0
Total	107.6	20.1	22.9	104.5

Note: On-lending to Danish Ship Finance is calculated without the hedge portfolio, and the sum of transactions during the year does not equal the change in the portfolio due to changes in the exchange rate between dollars and kroner. The difference is reflected in a similar change in the value of the central government's hedge portfolio. Since the Danish North Sea Fund and the Financial Stability Company had no on-lending in 2017, they are not included in the table.

On-lending

Box 2

On-lending means that loans are raised directly from the central government. The loan proceeds are paid from the central government's account, and the resulting financing requirement is met via the central government's current issuance of bonds. The companies pay interest and redemptions to the central government. The terms and conditions mirror those of government bonds.

When a company requests on-lending, the price of the loan is fixed based on the market price of the corresponding government bond. As a main rule, the companies pay annual commission of 0.15 per cent of the total loan volume to the government.

On-lending derives from the political intention of supporting selected projects through cheaper funding. Due to the central

government's high credit rating, on-lending – like government-guaranteed loans – gives the company access to cheaper funding than if it had to raise the loan itself in the market. Funding through on-lending is usually less expensive for the company than issuance of own government-guaranteed bonds, because liquidity is considerably higher in the central government's bond series. The company saves the liquidity premium that would otherwise be required by investors in the form of higher interest rates.

On-lending increases the central government debt because it increases the central government's borrowing or reduces the balance on the central government's account, while the asset in the form of the loan from the central government to the company is not offset.

Early redemption of loans to Ireland

In December, Ireland redeemed loans totalling 400 million euro, granted by the Danish central government in 2012-13. In 2010, the EU member states and the IMF granted Ireland an 85 billion euro loan facility. Together with Sweden and the UK, Denmark committed itself to a bilateral loan facility, the Danish part of which totalled 400 million euro. The rate of interest on the loan was 3-month Euribor + 100 basis points. Following the early redemption, the central government has no bilateral loans to other sovereign states.

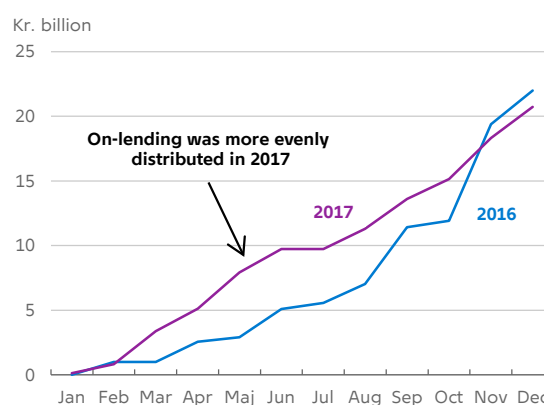
Fewer government loan guarantees

In recent years, government-owned companies have tended to opt for on-lending rather than government-guaranteed borrowing. This reflects that on-lending is usually the less expensive option as the loan is financed by issuing government bonds, which are typically more liquid than government-guaranteed issuances.

At the end of 2017, Danmarks Nationalbank administered government loan guarantees of kr. 24 billion, equivalent to 1 per cent of GDP, cf. Table 5. This represents a reduction of around kr. 1 billion relative to 2016. The largest guarantees have been issued to Øresundsbro Konsortiet and the Great Belt Bridge. Guarantees to these two companies account for most of the loan guarantees. The Danish and Swedish governments have joint and several liability for the debt of Øresundsbro Konsortiet.

Central government on-lending was distributed evenly across the year in 2017

Chart 14



Note: The government-owned companies' accumulated borrowing of on-lending at market value.
 Source: Danmarks Nationalbank.

The central government also issues guarantees not administered by Danmarks Nationalbank. These guarantees have primarily been given to international organisations and export credits. In 2016, the central government had issued guarantees amounting to kr. 314 billion, or 15 per cent of GDP.

Loan guarantees administered by Danmarks Nationalbank on behalf of the government

Table 5

End-2017	Kr. million	Per cent of GDP
The Great Belt Bridge	5,971	0.3
Øresund Landworks	495	0.0
Femern Landworks	4	0.0
Sund & Bælt Holding	100	0.0
Øresundsbro Konsortiet I/S	13,009	0.6
DSB (Danish State Railways)	3,526	0.2
DR (Danish Broadcasting Corporation)	776	0.0
Total	23,882	1.1

Note: The figures include guaranteed swaps. Loans raised by Øresundsbro Konsortiet are guaranteed by the Danish and Swedish governments subject to joint and several liability.

Government Funds

Danmark Nationalbank manages the assets of three government funds

Danmarks Nationalbank manages the following three government funds on behalf of the central government: the Social Pension Fund, SPF, Innovation Fund Denmark and the Fund for Better Working Environment and Labour Retention, cf. Box 3. The assets of the funds are set off against the total central government debt and are managed on a consolidated basis with other financial assets and liabilities of the central government related to the government debt. The risk of the funds' assets is assessed separately, but is included in the consolidated risk management of the central government debt.

At the end of 2017, the Social Pension Fund, SPF, had assets totalling kr. 47 billion, stated at nominal value,

The government funds' assets, end-2017

Table 6

Nominal value, kr. billion	SPF	Innovation Fund Denmark	Fund for Better Working Environment and Labour Retention	Share of outstanding, per cent ¹
0.25 per cent bullet loan 2018	0.0	0.0	0.0	0.0
4 per cent bullet loan 2019	16.1	4.0	0.6	26.0
0.25 per cent bullet loan 2020	0.0	0.0	0.0	0.0
3 per cent bullet loan 2021	7.4	3.0	0.0	12.4
1.5 per cent bullet loan 2023	8.3	2.7	0.0	21.8
0.1 per cent index-linked loan 2023	0.0	0.0	0.0	0.0
7 per cent bullet loan 2024	6.3	1.9	0.0	58.5
1.75 per cent bullet loan 2025	0.0	1.9	0.0	2.3
0.5 per cent bullet loan 2027	0.0	0.0	0.0	0.0
4.5 per cent bullet loan 2039	0.0	0.0	0.0	0.0
Mortgage bonds etc. ²	7.3	0.0	0.0	-
Index-linked bonds ³	0.2	0.0	0.0	-
Balance of account	1.8	0.2	0.0	-
Total	47.2	13.7	0.7	-

1. Indicates the funds' ownership share of the total outstanding value in the issue.
2. Mortgage, KommuneKredit, Fisheries Bank and Ship Finance bonds.
3. Indexed nominal value.

Government funds

Box 3

The Social Pension Fund, SPF

SPF was established in 1970 by the Social Pension Fund Act, whereby a special pension contribution was introduced. The contribution – and thus payments into SPF – ceased in 1982. Since then, the assets of SPF and the interest accrued less pension yield tax have been used for financing pension improvement measures.

SPF is managed by a committee comprising representatives of the Ministry of Finance, the Danish Agency for Labour Market and Recruitment and Danmarks Nationalbank. Day-to-day management of the assets is undertaken by Danmarks Nationalbank. The framework for management is laid down in the Regulations governing the management of the Social Pension Fund. According to these regulations, the assets of SPF can be invested in Danish listed bonds.

Innovation Fund Denmark

In March 2014, the Folketing (parliament) entered into an agreement to establish Innovation Fund Denmark. Each year,

the Fund allocates funding for new initiatives to promote growth and create jobs through knowledge. The assets of the Advanced Technology Foundation, the Danish Council for Strategic Research and the Danish Council for Technology and Innovation were concentrated in the new Fund.

Fund for Better Working Environment and Labour Retention

The Fund for Better Working Environment and Labour Retention was established in 2007 with a view to supporting measures to prevent physical and mental impairment, work-related accidents and occupational diseases. The central government transferred a total of kr. 3 billion to the Fund when it was established, and no further capital injections are planned.

cf. Table 6. SPF's nominal bond portfolio has been gradually reduced since 1995.

In 2017, kr. 13 billion was transferred from SPF to the Danish Agency for Labour Market and Recruitment, cf. Table 7. SPF's monthly transfers of just over kr. 1 billion were financed primarily by selling government securities maturing in 2017 to the central government. In addition, during the year SPF sold bonds maturing after 2021 when the fund is expected to cease operations.

SPF's market risk is managed using a band for the average Macaulay duration over the year. In 2017, the band was 3.75 years +/- 0.5 year. The average duration ended at 3.5 years. In 2018, the band is set at 3.0 years +/- 0.5 year. The lower duration reflects the shorter time to the expected expiry of the fund.

At end-2017, the assets of Innovation Fund Denmark amounted to just under kr. 14 billion, stated at nominal value. By agreement with the Ministry of Finance, the assets of the Fund may be invested in Danish government bonds only. The Fund's investment strategy aims to achieve an equal distribution on short-, medium- and long-term Danish government bonds. In 2017, the Fund transferred kr. 400 million to the Ministry of Higher Education and Science.

The government funds' revenue and expenditure in 2017

Table 7

Kr. million	Innovation Fund Denmark	Fund for Better Working Environment and Labour Retention
Revenue		
Interest etc. ¹	1,315	231
Expenditure		
Transfer to relevant ministry	13,310	400
Pension yield tax ²	298	-
Net revenue	-12,293	-169

1. Net statement of interest received, interest receivable, and distributed capital losses on buy-backs.
2. Pension yield tax is payable on the return for the preceding year.

At end-2017, the assets of the Fund for Better Working Environment and Labour Retention amounted to about kr. 700 million. Under a statutory provision, the assets of the Fund may be invested in Danish government bonds only. The Fund's revenue from interest and redemptions are invested to ensure that, as far as possible, future transfers from the Fund are matched by its revenue from interest and redemptions. In 2017, the Fund purchased just under kr. 100 million worth of government bonds maturing in 2019 at nominal value. The Fund transferred kr. 22.5 million to the Danish Agency for Labour Market and Recruitment in 2017.

ABOUT REPORT



Reports are periodical reports and accounts describing the activities and tasks of Danmarks Nationalbank.

Reports include e.g. Danmarks Nationalbank's annual report and the semi-annual report on monetary and financial trends.

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BANKING AND MARKETS

Danish government borrowing and debt 2017

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Central government debt year-end 2007-17 (continues next page)

Table 1

Kr. million	2007	2008	2009	2010	2011
A. Loan					
<i>Domestic debt</i>					
- Fixed-rate bonds, nominal	403,039	451,394	505,973	556,900	606,627
- Inflation-linked bonds ¹	-	-	-	-	-
- Fisheries Bank bonds	-	-	995	887	786
- Lottery bonds	200	200	100	-	-
- Treasury bills	19,660	-	-	25,460	44,200
- Index-linked loans and loan package ²	277	-	-	-	-
- Currency swaps from kroner to euro (net) ³	-13,262	-11,662	-8,197	2,974	2,974
- Currency swaps from kroner to dollars	-7,873	-10,423	-10,956	-9,808	-8,660
Domestic debt, total	402,040	429,509	487,915	576,413	645,927
<i>Foreign debt⁴</i>					
- in dollars	6,844	9,947	10,218	9,901	8,957
- in euro	61,738	123,126	129,351	104,811	102,861
- in other currencies and multi-currency	20	19	19	18	-
Foreign debt, total	68,642	133,092	139,588	114,731	111,818
Domestic and foreign debt, total	470,682	562,600	627,509	691,144	757,745
B. Collateral related to swaps ⁵	-	-	-	-	-
C. Government deposits with the central bank ⁶	-86,333	-258,131	-210,932	-177,282	-223,100
D. The Social Pension Fund, The Fund for Better Working Environment and Labour Retention and Innovation Fund Denmark					
- Government securities	-128,547	-98,604	-77,720	-75,511	-69,351
- Other securities	-8,686	-9,643	-37,376	-52,075	-51,393
The three funds, nominal value, total	-137,223	-108,247	-115,096	-127,587	-120,744
Central government debt, total (A+B+C+D)	247,116	196,222	301,481	386,275	413,901
Central government debt, per cent of GDP	14.2	10.9	17.5	21.3	22.4

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

1. Inflation-linked bonds are compiled as indexed value at end-year.

2. Loans transferred from the Mortgage Bank of the Kingdom of Denmark.

3. Currency swaps from kroner to euro less currency swaps from euro to kroner.

4. Foreign loans are compiled after end-exposure.

5. Cash-collateral for the market value of the swap portfolio. A positive number means the counterparties net have posted collateral.

6. Deposits include deposits of the government funds. For 2017, government deposit are measured as in Danmarks Nationalbank's balance sheet.

Central government debt year-end 2007-17 (continued)

Table 1

Kr. million	2012	2013	2014	2015	2016	2017
A. Loan						
<i>Domestic debt</i>						
- Fixed-rate bonds, nominal	620,695	615,907	637,617	584,356	572,020	570,222
- Inflation-linked bonds ¹	10,207	23,251	35,531	35,667	38,193	38,765
- Fisheries Bank bonds	684	594	507	424	343	272
- Lottery bonds	-	-	-	-	-	-
- Treasury bills	44,940	32,300	29,800	29,840	27,180	32,740
- Index-linked loans and loan package ²	-	-	-	-	-	-
- Currency swaps from kroner to euro (net) ³	-1,490	-1,490	-	-	-	-
- Currency swaps from kroner to dollars	-7,512	-6,364	-5,215	-4,067	-2,942	-1,872
Domestic debt, total	667,524	664,198	698,240	646,220	634,794	640,127
<i>Foreign debt⁴</i>						
- in dollars	7,662	6,219	5,778	5,047	3,795	2,152
- in euro	82,338	69,689	53,207	28,223	8,044	-
- in other currencies and multi-currency	-	-	-	-	-	-
Foreign debt, total	90,000	75,908	58,986	33,270	11,839	2,152
Domestic and foreign debt, total	757,524	740,106	757,225	679,490	646,633	642,279
B. Collateral related to swaps ⁵	-	3,596	3,804	2,859	1,610	1,005
C. Government deposits with the central bank ⁶	-161,991	-161,953	-213,099	-157,376	-110,928	-134,689
D. The Social Pension Fund, The Fund for Better Working Environment and Labour Retention and Innovation Fund Denmark						
- Government securities	-70,859	-65,550	-64,825	-62,399	-63,233	-52,084
- Other securities	-37,902	-32,352	-25,259	-17,172	-8,834	-7,432
The three funds, nominal value, total	-108,761	-94,902	-90,084	-79,571	-72,067	-59,516
Central government debt, total (A+B+C+D)	486,771	486,848	457,846	445,402	465,249	449,079
Central government debt, per cent of GDP	25.7	25.2	23.1	22.0	22.5	20.9

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

1. Inflation-linked bonds are compiled as indexed value at end-year.

2. Loans transferred from the Mortgage Bank of the Kingdom of Denmark.

3. Currency swaps from kroner to euro less currency swaps from euro to kroner.

4. Foreign loans are compiled after end-exposure.

5. Cash-collateral for the market value of the swap portfolio. A positive number means the counterparties net have posted collateral.

6. Deposits include deposits of the government funds. For 2017, government deposit are measured as in Danmarks Nationalbank's balance sheet.

Central government's financing requirement 2015-17

Table 2

Kr. billion	2015	2016	2017
Current, investment and lending budget	28.4	-8.5	na.
On-lending of government loans	-8.7	-11.4	na.
Distributed capital losses on issue and due interest ¹	1.6	2.6	na.
Other capital items ²	-8.1	-6.7	na.
Net cash balance	13.1	-23.9	20.0
Net financing requirement (=Net cash balance)	-13.1	23.9	-20.0
Redemption on long-term domestic government debt ³	91.5	78.7	84.5
Redemption on T-bills ⁴	29.8	29.8	27.2
Domestic financing requirement ⁵	108.2	132.4	91.7
Redemption on long-term foreign government debt ⁶	22.8	21.5	9.3
Redemption on Commercial Paper ⁴	3.7	0.0	0.0
Financing requirement	134.7	153.9	101.0

Source: Central Government Accounts. 2017 are based on Danmarks Nationalbank's end-year specification, which may differ from accounting figures.

1. Including capital losses on buy-backs.
2. Including e.g. movements in the central government's holdings, cf. Budget Outlook from the Ministry of Finance.
3. Including net purchases of bonds from the government funds and changes in collateral related to swaps.
4. Corresponds to the outstanding amount at the end of the year before.
5. Deviations from actual domestic financing requirement are possible due to inter alia foreign on-lending.
6. Including net payments on cross-currency swaps.

Interest payments on central-government debt

Table 3

Kr. billion	2013	2014	2015	2016	2017
Domestic debt	20.6	19.2	21.6	21.5	18.5
Foreign debt	-0.3	-1.0	-0.2	0.1	0.0
Central government's account at Danmarks Nationalbank	0.0	0.0	0.6	0.3	0.2
Government funds	-3.6	-2.8	-3.2	-4.1	-1.5
Central government debt	16.7	15.5	18.8	17.8	17.1
Central government debt, per cent of GDP	0.9	0.8	0.9	0.9	0.8
On-lending	-2.9	-2.5	-2.5	-2.1	-2.0
Central government debt, adjusted for on-lending	13.8	13.0	16.4	15.7	15.2
Central government debt, adjusted for on-lending, per cent of GDP	0.7	0.7	0.8	0.8	0.7

Note: A positive sign denotes interest costs. A negative sign denotes interest income.

Source: Central Government Accounts. Figures for 2017 are provisional figures from the central government's accounting.

Issuance of domestic central-government securities 2017

Table 4

ISIN code	Coupon, per cent	Name	Opened	Redemption date	Issuance, kr. million, nominal	Issuance, kr. million, market value
Government bonds						
DK0009923484	0.25	Bullet loan 2018	21 Oct 2015 -	15 Nov 2018	2,310	2,346
DK0009923641	0.25	Bullet loan 2020	17 May 2017 -	15 Nov 2020	30,685	31,379
DK0009922676	3.0	Bullet loan 2021	11 Jan 2011 -	15 Nov 2021	2,510	2,892
DK0009923054	1.5	Bullet loan 2023	4 Sep 2012 -	15 Nov 2023	3,000	3,268
DK0009923138	1.75	Bullet loan 2025	20 May 2014 -	15 Nov 2025	1,905	2,140
DK0009923567	0.5	Bullet loan 2027	25 Jan 2017 -	15 Nov 2027	49,100	48,719
DK0009922320	4.5	Bullet loan 2039	11 Nov 2008 -	15 Nov 2039	655	1,107
Government bonds, total					90,165	91,850
T-bills						
DK0009816050	0	T-bill 2017 I	30 Aug 2016 -	1 Mar 2017	2,000	2,002
DK0009816134	0	T-bill 2017 II	29 Nov 2016 -	1 Jun 2017	13,340	13,362
DK0009816217	0	T-bill 2017 III	27 Feb 2017 -	1 Sep 2017	16,080	16,116
DK0009816480	0	T-bill 2017 IV	30 May 2017 -	1 Dec 2017	18,620	18,654
DK0009816563	0	T-bill 2018 I	30 Aug 2017 -	1 Mar 2018	27,660	27,718
DK0009816647	0	T-bill 2018 II	29 Nov 2017 -	1 Jun 2018	5,080	5,097
T-bills, total					82,780	82,950
Domestic issuance, total					172,945	174,800

Note: Issuances related to switch operations are included.

Central-government domestic debt as of end-2017

Table 5.1

Kr. million, nominal value	Outstanding amount end-2016	Issuance 2017	Redemptions 2017	Outstanding amount end-2017	Redemption date	ISIN code
Government bonds, fixed interest-rate						
<i>Bullet loans</i>						
4 per cent bullet loan 2017	52,753	-	52,753	-	15 Nov 2017	DK0009921942
0,25 per cent bullet loan 2018	55,595	2,310	4,555	53,350	15 Nov 2018	DK0009923484
4 per cent bullet loan 2019	83,830	-	4,106	79,724	15 Nov 2019	DK0009922403
0,25 per cent bullet loan 2020	-	30,685	-	30,685	15 Nov 2020	DK0009923641
3 per cent bullet loan 2021	92,495	2,510	12,195	82,810	15 Nov 2021	DK0009922676
1,5 per cent bullet loan 2023	49,170	3,000	2,005	50,165	15 Nov 2023	DK0009923054
7 per cent bullet loan 2024	16,092	-	2,080	14,012	10 Nov 2024	DK0009918138
1,75 per cent bullet loan 2025	94,065	1,905	14,265	81,705	15 Nov 2025	DK0009923138
0,5 per cent bullet loan 2027	-	49,100	-	49,100	15 Nov 2027	DK0009923567
<i>Inflation-linked bonds</i>						
0.1 per cent inflation-linked 2023 ¹	38,193	-	-	38,765	15 Nov 2023	DK0009922916
<i>Amortised loans</i>						
4 per cent amortised loan 2017	5	-	5	-	15 Jun 2017 ²	DK0009902728
<i>Perpetual</i>						
5 per cent Dansk-Islandsk Fond 1918	1	-	-	1	Perpetual	•
Government bonds, fixed interest rate, total	610,213	90,165	91,963	608,987		
T-bills						
T-bill 2017 I	24,360	2,000	26,360	-	1 Mar 2017	DK0009816050
T-bill 2017 II	2,820	13,340	16,160	-	1 Jun 2017	DK0009816134
T-bill 2017 III	-	16,080	16,080	-	1 Sep 2017	DK0009816217
T-bill 2017 IV	-	18,620	18,620	-	1 Dec 2017	DK0009816480
T-bill 2018 I	-	27,660	-	27,660	1 Mar 2018	DK0009816563
T-bill 2018 II	-	5,080	-	5,080	1 Jun 2018	DK0009816647
T-bills total	27,180	82,780	77,220	32,740		
Fisheries Bank of Denmark Bonds						
5 per cent 2019	150	-	50	100	1 Nov 2019	DK0009604621
5 per cent 2025	194	-	22	172	1 Nov 2025	DK0009604894
Fisheries Bank Bond, total	343	-	71	272		
Domestic government securities, total	637,736	172,945	169,254	641,999		
Swaps from kroner to dollar	-2,942	-	-1,070	-1,872		
Central-government domestic debt, total	634,794	172,945	168,184	640,127		

1. Issuance in the inflation-linked bond includes the index revaluation. Outstanding amount in the inflation-linked bond is measured at indexed nominal value at year-end.

2. May be redeemed by the central government with three month's notice.

Central government foreign debt as of end-2017

Table 5.2

ISIN code/loan no.	Coupon, per cent	Name	Redemption date	Nominal value, kr. million ¹
Loan	-	-	-	-
Other foreign debt		Currency swaps in dollar ²		2,152.2
Foreign debt, total				2,152.2

1. The outstanding amount as of 31 December 2017 is calculated to kroner on the basis of the following exchange dollar rates as of 29 December 2017: 620,77.

2. The government's currency swaps are all concluded to hedge on-lending in dollar to Danish Ship Finance.

Concluded interest-rate swaps, 2017

Table 6.1

Issued	Redemption date	Government pays	Currency	Principal amount, kr. million
11 May 2017	11 May 2027	Floating rate	Danish kroner	200
16 May 2017	16 May 2027	Floating rate	Danish kroner	200
24 May 2017	24 May 2027	Floating rate	Danish kroner	200

Note: On all concluded interest-rate swaps in 2017 the central government pays the T/N rate.

Central government portfolio swaps as of end-2017

Table 6.2

Expiry year	Krone interest-rate swaps		Euro interest-rate swaps	
	Net exposure, kr. million	Net exposure, million euro	Net exposure, kr. million ¹	
2018	-	-	-	-
2019	-	-	-	-
2020	-	-	-	-
2021	-	-	-	-
2022	-	-	-	-
2023	-	-	-	-
2024	-	-	-	-
2025	-	-150	-1,117	-
2026	-	-650	-4,839	-
2027	600	-	-	-
Interest-rate swaps, total	600	-800	-5,956	

Note: Net exposure is calculated as the difference in principal between interest-rate swaps in which the central government receives a fixed rate and interest-rate swaps in which the central government pays a fixed interest rate.

1. Converted to kroner on the basis of the following exchange rate as of 29 December 2017: euro = 744,49.

**On-lending and government guarantees administered
by Danmarks Nationalbank, 2013-17**

Table 7

Kr. million	2013	2014	2015	2016	2017
On-lending					
CPH City & Port Development	11,775	11,775	15,500	14,800	14,450
Danish Ship Finance	7,304	6,748	5,902	4,534	2,775
DR (Danish Broadcasting Corporation)	3,322	3,241	3,140	3,140	3,002
EKF (Danish Export Credit Agency)	14,839	16,670	15,810	14,933	13,248
Energinet.dk	12,572	16,319	18,216	20,924	22,980
Femern	1,100	1,550	1,950	2,350	2,550
Femern Landworks	400	500	725	1,325	1,425
Fjord Link Frederikssund				530	530
Greater Copenhagen Light Rail			100	100	-
SSI (Statens Serum Institut)	387	387	387	387	-
Sund & Bælt Holding	450	400	400	500	500
The Danish North Sea Fund	-	-	-	-	-
The Financial Stability Company	12,862	5,328	800	-	-
The Great Belt Bridge	13,765	15,711	16,143	15,696	15,110
The Metro Company	5,240	7,090	10,140	15,035	17,585
Øresund Landworks	9,762	10,262	10,062	10,342	10,302
Ireland	2,984	2,977	2,985	2,974	-
Iceland	1,485	-	-	-	-
Total	98,247	98,959	102,260	107,569	104,457
Guarantees					
DR (Danish Broadcasting Corporation)	856	836	816	796	776
Femern	-	-	-	36	-
Femern Landworks	-	-	-	39	4
Sund og Bælt Holding	23	21	28	4	100
Fjord Link Frederikssund				-	-
DSB, The Danish State Railways	6,223	5,404	4,632	3,117	3,526
The Great Belt Bridge	11,249	8,905	7,176	6,239	5,971
The Øresund Bridge	16,425	15,905	15,011	14,202	13,009
Øresund Landworks	1,630	515	456	517	495
Total	36,406	31,586	28,120	24,950	23,882

Note: Guarantees are inclusive of guaranteed swaps.