

DANMARKS NATIONALBANK

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Central government borrowing and debt 2021

- A government budget surplus led to a decrease in central government debt by approximately kr. 100 billion to kr. 438 billion at the end of 2021, equal to just under 18 per cent of GDP. Central government debt, as a share of GDP, has thus fallen to its lowest level since 2009.
- Again in 2021, borrowing flexibility was crucial to the central government. The flexibility made it possible gradually to reduce issuances by the central government in line with improvements in government finances.
- The average yield on government issuances remained negative. In 2021, the yield to maturity was -0.20 per cent p.a., and the issuances had an average remaining maturity of 10.5 years.

Low central government debt

**18 per cent
of GDP**

was the percentage of Danish central government debt at the end of 2021. Central government debt fell to kr. 438 billion as a result of a government budget surplus.

[Read more](#)

Continued negative government yields

**-0.20
per cent p.a.**

was the average yield to maturity for nominal bonds issued by the central government in 2021.

[Read more](#)

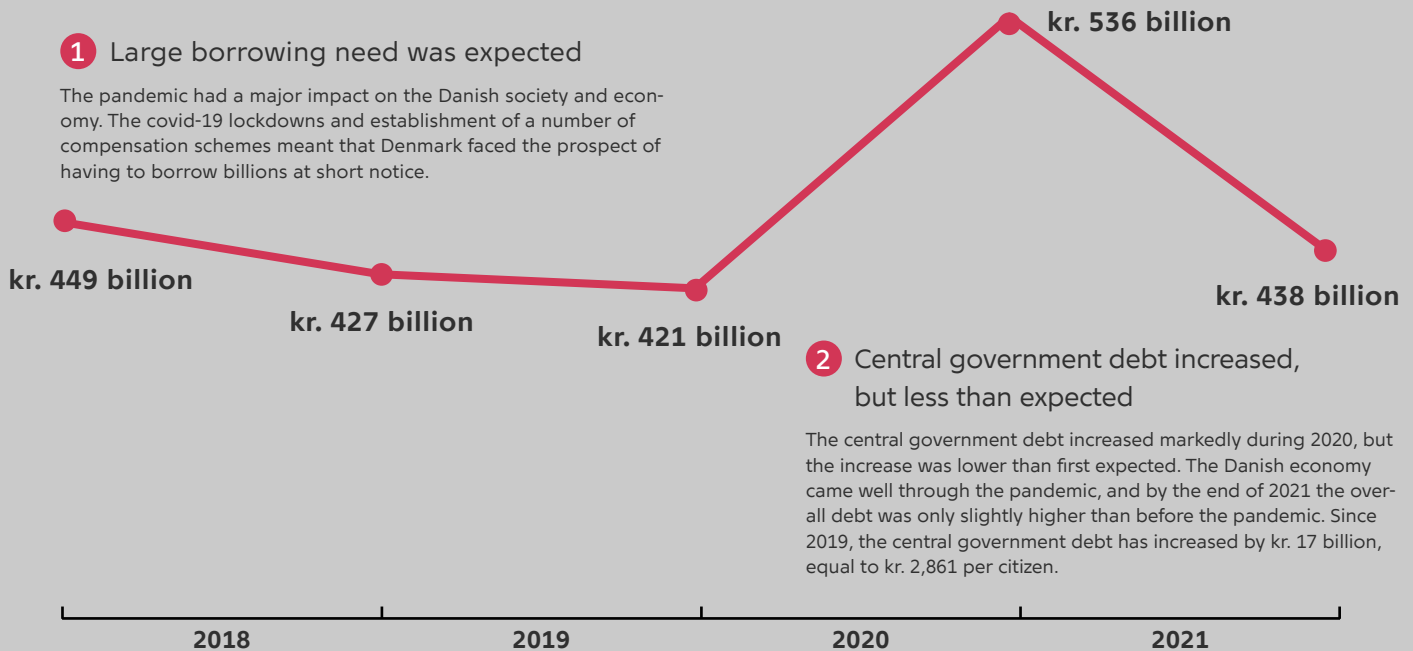
CONTENTS

- 3** SUMMARY OF THE YEAR IN REVIEW
- 5** CENTRAL GOVERNMENT DEBT AND INTEREST COSTS
- 9** CENTRAL GOVERNMENT BORROWING
- 13** TRADING AND LIQUIDITY IN THE SECONDARY MARKET
- 15** GREEN BONDS
- 16** RISK MANAGEMENT
- 18** ON-LENDING AND CENTRAL GOVERNMENT GUARANTEES
- 19** SOCIAL HOUSING
- 21** GOVERNMENT FUNDS
- 24** APPENDIX

How did covid-19 affect Denmark's central government debt?

1 Large borrowing need was expected

The pandemic had a major impact on the Danish society and economy. The covid-19 lockdowns and establishment of a number of compensation schemes meant that Denmark faced the prospect of having to borrow billions at short notice.



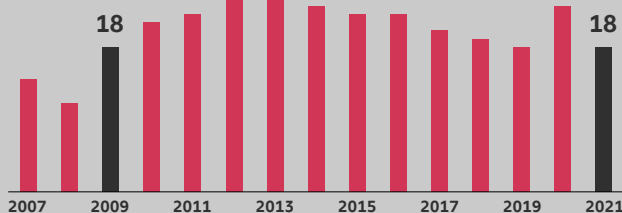
2 Central government debt increased, but less than expected

The central government debt increased markedly during 2020, but the increase was lower than first expected. The Danish economy came well through the pandemic, and by the end of 2021 the overall debt was only slightly higher than before the pandemic. Since 2019, the central government debt has increased by kr. 17 billion, equal to kr. 2,861 per citizen.

3 Low debt in relation to the economy

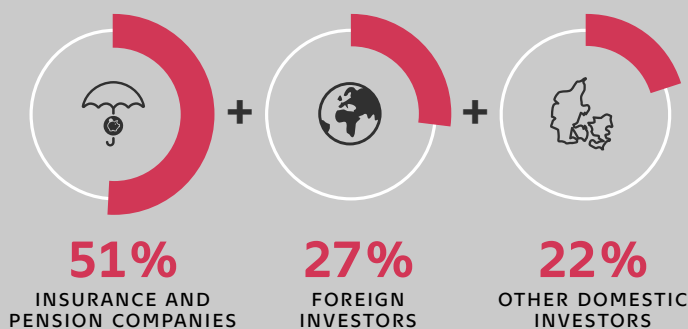
The central government debt can also be looked at by comparing it with the size of the economy. Although the debt has increased slightly, it has decreased relative to the gross domestic product (GDP), and it was at its lowest level since 2009 at the end of 2021.

Central government debt, per cent of GDP



5 From whom does Denmark borrow money?

Denmark borrows money by issuing various types of debt instruments such as government bonds. The debt instruments are bought by different investors – especially by Danish pension funds.



4 Denmark borrows funds at a low interest rate

There is great international confidence in the Danish economy. This means that Denmark can borrow funds at some of the world's lowest interest rates. Interest rates have actually been negative over the past three years, and Denmark therefore has to pay back a little less than the original loan.



6 Denmark had a robust starting point for borrowing at short notice

Denmark's central government debt was low relative to many other countries already before the pandemic. This gave Denmark a robust starting point, which made it possible to borrow billions at short notice. Denmark is one of just nine countries in the world with the highest credit rating. This means that investors are willing to lend Denmark money at a low interest rate.

- Sound public finances ✓
- Low government debt ✓
- Other domestic investors ✓

Summary of the year in review

Better government finances than expected

At the beginning of 2021, Denmark was in the middle of its second covid-19 lockdown. With a number of relief packages still activated, the central government faced the prospect of a large financing need in 2021. There was a solid foundation for handling this financing need. The government budget developed better than estimated in 2020, which meant that the central government entered 2021 with a significant positive balance on its account with Danmarks Nationalbank. At the same time, central government debt remained low in an international context, and Denmark is one of the few countries in the world with the highest credit rating, AAA.

During 2021, government finances developed much better than expected. The expected government budget deficit was reversed to a surplus of kr. 111 billion, see chart 1. The main reasons for this were less use of the relief packages¹ and that Danish companies have repaid central government outlays for frozen holiday allowances faster than expected. Concurrently, the Danish economy developed better than expected, which contributed positively to the government budget surplus.

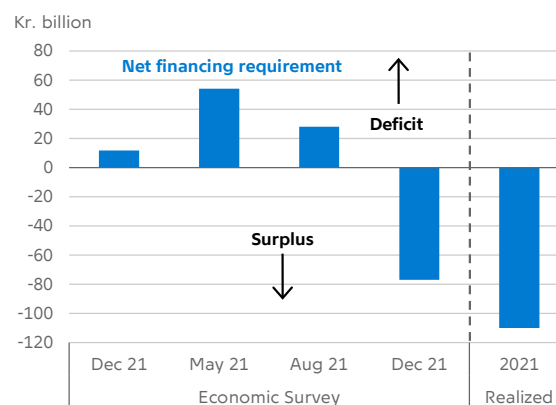
The government budget surplus resulted in a decrease in central government debt to kr. 438 billion at the end of 2021, equal to just under 18 per cent of GDP. Central government debt, as a share of GDP, has thus fallen to its lowest level since 2009.

Flexible issuance strategy made rapid adjustment of issuances possible

Government finances began to develop more favourably than expected in early summer 2021, and during the autumn the positive trends intensified concurrently with the expansion of the Danish economy. The improvement in government finances was significant, necessitating a rapid downscaling of issuances to avoid building up an unnecessarily large account buffer. Therefore, especially the central government's short-term loan programmes, T-bills and commercial

Expected government budget deficit was reversed to a large surplus

Chart 1



Note: The central government's net financing need is the sum of the central government's current income and expenses in relation with the central government's operations. A negative net financing requirement corresponds to a surplus for the government.

Source: The Danish Ministry of Finance and Danmarks Nationalbank.

papers, were reduced, see chart 2. The target for the issuance of bonds was also reduced, but to a lower extent. This is due to a separate objective for continuity and predictability in the bond issuances.

The central government has a relatively flexible loan strategy with access to a wide range of issuance channels. Especially the short-term loan programmes can be flexibly adjusted on an ongoing basis, both upwards and downwards. The short-term loan programmes are therefore an important part of the central government's liquidity reserves.

The central government account balance with Danmarks Nationalbank ended at kr. 152 billion. This is significantly above the account balance target of kr. 50-75 billion. The reason for the increase is that a significant part of the improvement in government

¹ The relief packages partly consisted of wage compensation, compensation for fixed expenses and deferral of payment deadlines for certain tax items.

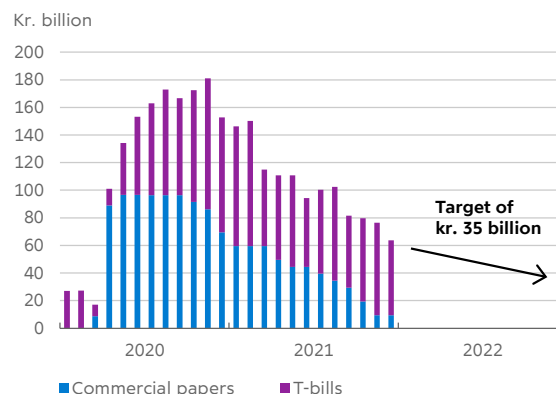
finances was only finally confirmed late in the year, when most of the bond issuances for the year had already been made.

Completion of the central government's Green Bond Framework

The central government's Green Bond Framework was published in the 4th quarter of 2021. It describes the framework for the central government's green bonds, including the criteria for which central government expenditure can be financed with green bonds. The green expenditures under the central government's Green Bond Framework have been evaluated and selected on the basis of the definitions and criteria in the EU's classification system for sustainable economic activities (the EU taxonomy) and follow the highest standard for green bonds. The first issuances under the central government's Green Bond Framework were made in January 2022.

The central government downscaled the short-term loan programmes

Chart 2



Source: Danmarks Nationalbank.

Central government debt and interest costs

Large government budget surplus

At the beginning of 2021, there was still uncertainty about the Danish economy in relation to the effects of covid-19. The expectation was that the central government was facing a large financing need. It became clear during the year that the Danish economy was developing much better than expected. This meant that the expected government budget deficit was reversed to a surplus of kr. 111 billion, see chart 3, which is equal to 4.5 per cent of GDP.

The government budget surplus was a result of high tax revenues and low underlying public consumption, partly as a result of the strong economic recovery. The payment of deferred taxes also contributed to the surplus as a number of payment deadlines were postponed from 2020 to 2021. In addition, Danish companies have repaid central government outlays for frozen holiday allowance faster than expected. Finally, Danish companies' extended access to the tax account contributed to the government budget surplus.²

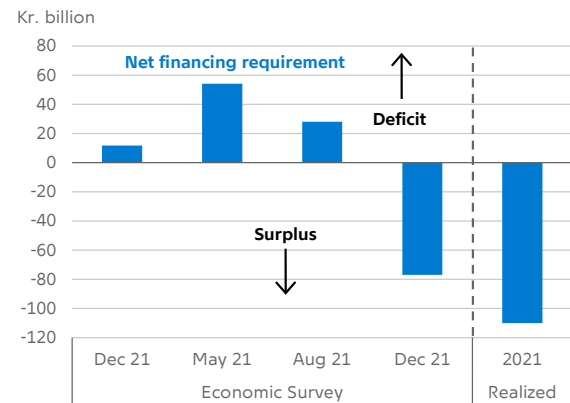
Central government debt fell significantly in 2021

In 2021, central government debt was reduced by approximately kr. 100 billion to kr. 438 billion, equal to 18 per cent of GDP at the end of 2021. This is the lowest level since 2009, see chart 4 (left).

The decrease in central government debt is mainly due to redemption of central government debt and a high account balance with Danmarks Nationalbank. The central government debt is a net statement of the assets and liabilities managed by the central government debt management office. A number of the central government's assets are thus deducted from the total debt, see box 1.

Large government budget surplus in 2021

Chart 3



Note.: The central government's net financing need is the sum of the central government's current income and expenses in relation with the central government's operations. A negative net financing requirement corresponds to a surplus for the government.

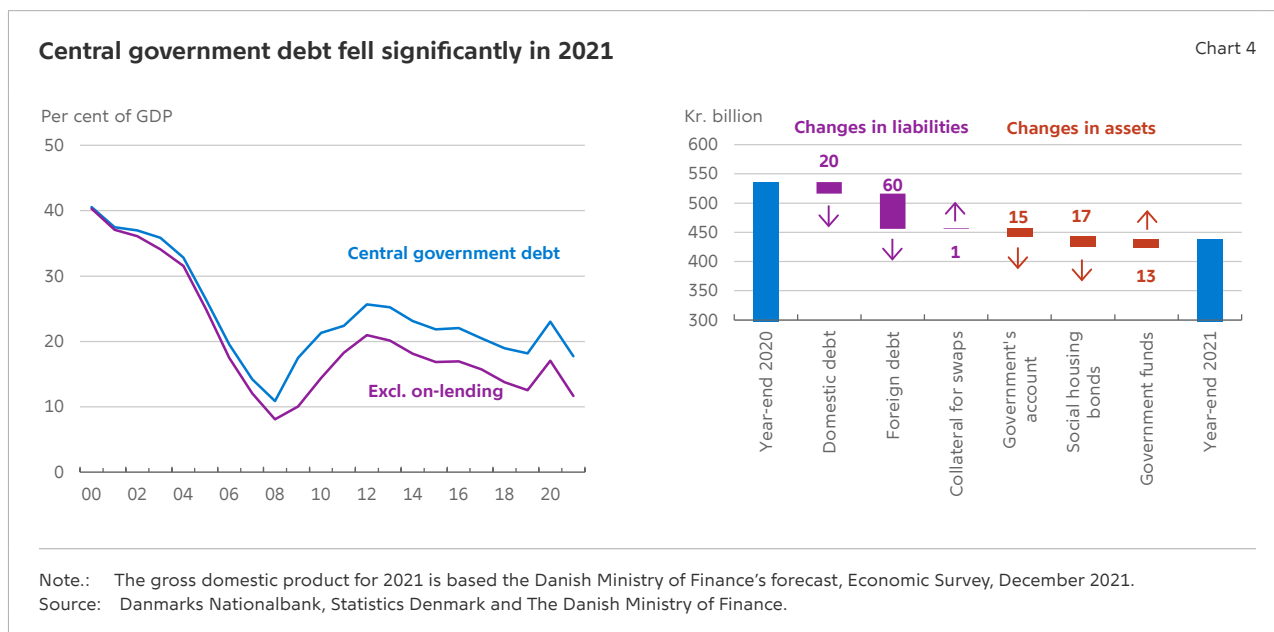
Source: The Danish Ministry of Finance and Danmarks Nationalbank.

In 2021, the central government has redeemed debt amounting to approx. kr. 81 billion. A significant proportion of this consisted of redemptions on short-term foreign debt, see chart 4 (right). At the same time, there was an increase in central government assets, especially the central government account balance with Danmarks Nationalbank and the portfolio of mortgage bonds for financing of social housing.

Denmark's EMU debt remains among the lowest in Europe

In 2021, Denmark's EMU debt is expected to fall by 1 percentage point to approx. 41 per cent of GDP, see chart 5. The EMU debt decreased by less than the central government debt, one reason being that

² All Danish companies have one tax account per CVR no. or SE no. The tax account is used for a number of purposes, including payment of VAT, A-tax, labour market contributions etc. A positive balance above the disbursement limit of normally maximum kr. 200,000 is disbursed to the company within five working days. In May 2020, the disbursement limit was increased to kr. 100 billion, and it was fixed at kr. 350 million from 1 February 2021. The increased disbursement limit has made it possible for Danish companies to pay taxes at the original payment deadline.

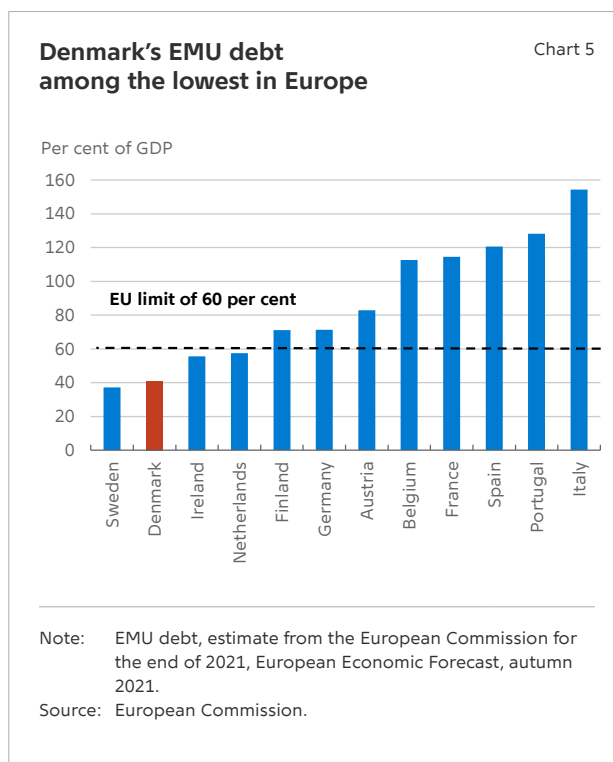


the EMU debt is not affected by the increase in the value of central government assets. The EMU debt is a gross statement, which means that the central government's account and holdings of mortgage bonds are not offset. Denmark continues to meet the debt criterion in the Stability and Growth Pact, under which the limit is 60 per cent of GDP.

The low debt and sound public finances contributed to Denmark maintaining the highest possible credit rating with stable outlook with the largest international credit rating agencies. Denmark is thus still among the nine countries in the world with a AAA credit rating.³

On-lending and social housing support the government bond market

In recent times, there has been focus on maintaining an adequate outstanding volume in Danish government bonds to ensure liquidity and maintain a broad list of on-the-run issues. This contributes to low borrowing costs. To achieve this, the central government has consolidated the majority of its borrowing in government bonds, in particular through on-lending to state-owned companies and financing of social



³ The nine countries are Australia, Denmark, Germany, Luxembourg, the Netherlands, Norway, Singapore, Sweden and Switzerland. All the countries have an AAA credit rating with Fitch, Moody's and Standard and Poor's.

housing through purchases of government-guaranteed mortgage bonds.

At the end of 2021, there was a total of kr. 274 billion in the two schemes, equal to approx. 40 per cent of outstanding government securities, see chart 6. Both schemes are expected to continue to contribute significantly to the central government's financing need in the coming years.

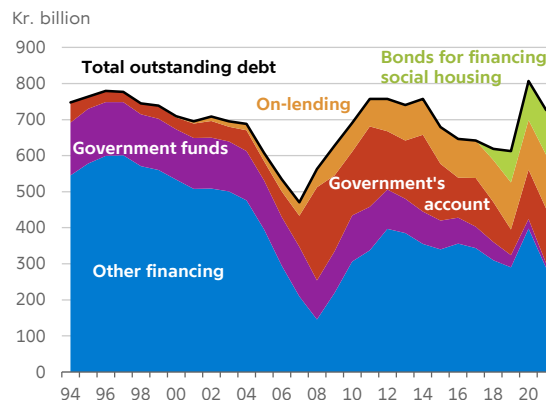
Low central government financing costs

In 2021, interest expenditures on central government debt amounted to approx. kr. 15 billion, equal to 0.6 per cent of GDP, see chart 7. Capital losses on purchases of government securities accounted for nearly half of the total interest expenditures. On purchases of government bonds, future interest costs are brought forward. This increases the central government's interest expenditures in the year of purchase, but, conversely, it reduces the interest expenditures in the subsequent years (read more in box 2).

The central government also receives interest income from on-lending to government-owned companies. The central government received kr. 1.1 billion in interest income in 2021. Adjusted for capital losses on buy-backs and interest income on on-lending, the underlying interest expenditures on central government debt fell by approx. kr. 300 million since 2020 to approx. kr. 6 billion, equal to 0.25 per cent of GDP, see chart 7. The decrease is a consequence of falling central government debt and refinancing of debt at very low interest rates.

Stable outstanding debt supports a liquid government securities market

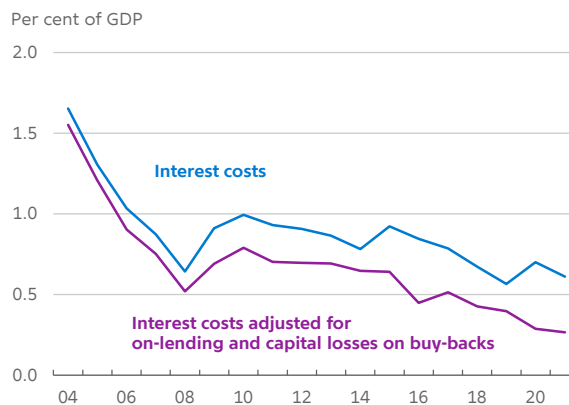
Chart 6



Note: *Other financing* can be regarded as the government's accumulated financing needs less on-lending to state-owned companies and financing of social housing.
Source: Danmarks Nationalbank.

The central government's underlying interest expenditures continues to fall

Chart 7



Note: The gross domestic product for 2021 is based the Danish Ministry of Finance's forecast, Economic Survey, December 2021.
Source: Danmarks Nationalbank and The Danish Ministry of Finance.

Statements of public debt

Box 1

Central government debt, EMU debt and net public debt are often used in statements of national debt.

Central government debt is stated as the nominal value of the central government's domestic and foreign debt less the balance on the central government's account with Danmarks Nationalbank, bonds for financing subsidised construction and the assets of the three government funds: the Social Pension Fund, 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 Danish Ministry of Finance.

EMU debt comprises debt in the central government, regions and municipalities as well as social security funds and government funds and is stated at nominal value. The debt is stated gross, but the public sector can consolidate the debt with claims against itself. This means, for example, that the central government's and central government-owned companies' holdings of bonds issued by public entities are deducted from the statement of the EMU debt. However, for

example, the Social Pension Fund's holdings of other listed bonds as well as the balance on the central government's account with Danmarks Nationalbank cannot be deducted. According to the EU Stability and Growth Pact, the EMU debt share of GDP must, as a general rule, not exceed 60 per cent.

Net public debt comprises all financial assets and liabilities in the central government, regions, municipalities as well as social security funds and government-owned funds. The central government's assets include the account with Danmarks Nationalbank, assets in government funds, on-lending to government-owned companies and the central government's portfolio of equities and other securities. The net public debt is stated at market value and is thus affected by value adjustments of public assets and liabilities. International calculations of net public debt are made by, for example, the Organisation for Economic Co-operation and Development (OECD) and the International Monetary Fund (IMF).

Change in the central government's interest rate profile on buy-backs of own bonds

Box 2

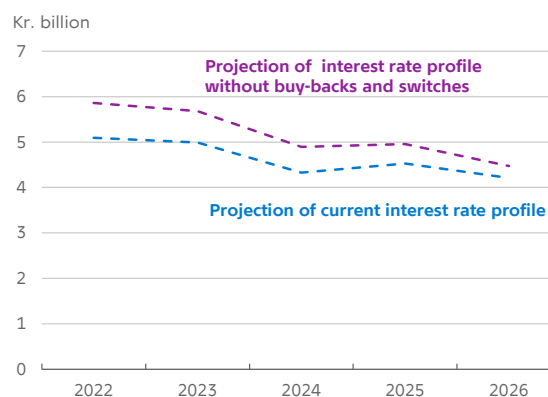
The central government makes buy-backs from the market to support the liquidity of Danish government securities. Which thereby makes it easier and cheaper to trade Danish government securities. The bonds bought back are redeemed prematurely – and a predetermined replacement paper is issued in connection with switches – which overall changes the central government's interest rate profile.

On buy-backs of bonds with maturity outside the year, future interest costs are brought forward to the current year. The interest cost is realised as a capital loss on buy-backs.

Conversely, the additional cost of early redemption is cancelled out by corresponding lower interest expenditures going forward. Furthermore, the government has issued new bonds with yields of around zero in connection with switches.

The chart below shows a counterfactual projection of what the interest rate profile would look like if the central government had not made buy-backs and switches during 2021 against the projection for the current interest rate profile.

The government had a good foundation for supporting the market with buy-backs in 2021. A large account balance has made it possible to bear the additional costs of early redemptions. Some future interest expenditures have consequently been realised in 2021 against an expected decrease in annual interest expenditures by approx. kr. 0.5 billion in the coming years.



1. The projection calculation is based on the central government's interest expenditures on accounting basis. This means that the calculation considers accrued capital gains (losses) on bonds issued at a premium (discount) and interest costs on the central government's account. It is assumed in the projections that future financing needs will only consist of refinancing of maturing debt. The projection will therefore deviate from the actual interest rate profile.

Central government borrowing

The central government sold government bonds for kr. 97 billion

In 2021, the central government issued domestic government bonds via auction and tap sales for kr. 97 billion at market value, see chart 8. The issuance target for 2021 was adjusted downwards from kr. 125 billion to kr. 110 billion in June as a result of better than expected underlying government finances. Issuances in 2021, thus, ended approx. kr. 13 billion below the issuance target, which must be seen in the light of improving government finances during the autumn and declining demand for Danish government bonds. Bond sales were evenly distributed over the year with a slight overweight of issuances in the 1st half of 2021, where the target was still kr. 125 billion.

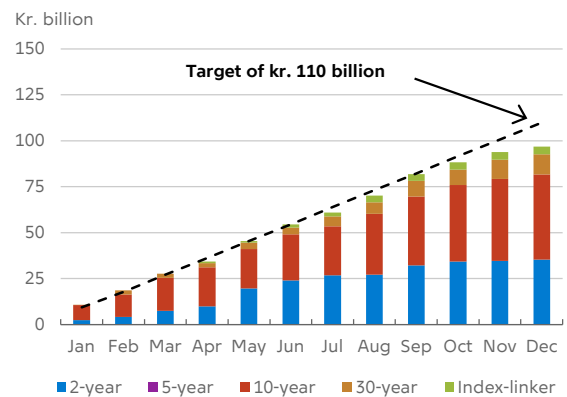
Primarily issuances in 2- and 10-year series

In line with the strategy, the central government's issuances in 2021 focused on building up new 2- and 10-year on-the-run issues⁴, both of which were opened in the 1st half of 2021. More than 70 per cent of the issuances in 2021 were made in the two new series. Rapid build-up of outstanding volume to levels for liquid benchmark bonds increases the liquidity of the new bonds. This makes it possible for market participants to trade quickly and at low costs.

Demand in the individual maturity segments fluctuated over the year, but was generally highest in the 1st half of 2021, see chart 9. Following an improving global economy, and thus increasing expectations of higher inflation and rising interest rates, demand for long-term government bonds declined in most countries over the year.

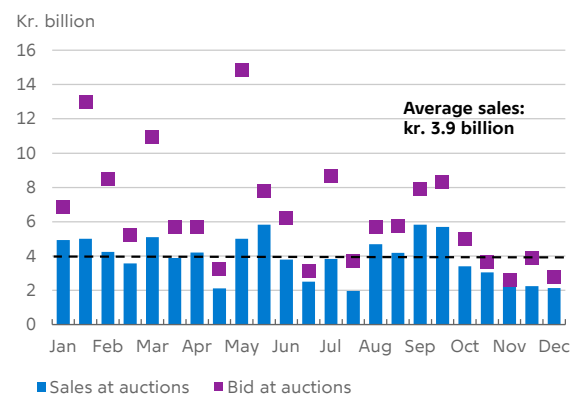
Investor interest in the 10-year inflation-indexed paper increased in 2021. Sales amounted to kr. 4.2 billion at market value, equal to the largest annual sales since the opening in 2018, see table 1. The total outstanding volume was kr. 21 billion at the end of the year. The increased interest must be seen on the basis of a number of factors, including higher inflation expectations resulting in increased demand for insurance against inflation.

Sales of government bonds for almost kr. 100 billion in 2021 Chart 8



Note: Sales at market value excl. switches.
Source: Danmarks Nationalbank

Demand for government bonds was highest in 1st half of 2021 Chart 9



Note: Bid and sales at nominal value.
Source: Danmarks Nationalbank

⁴ On-the-run issues are the central government's primary issuance papers in which the issuances for the year are expected to be made.

Continued low yields on issuances

In 2021, the central government's issuance of bonds remained at very low yields. The average yield to maturity on nominal bond issuances was -0.20 per cent p.a. against -0.33 per cent p.a. in 2020, see table 1.

Danish government yields generally followed international yields with an interest rate increase of 0.4 percentage points in the 10-year segment, see chart 10 (left). In turn, short-term interest rates remained unchanged over the year. The development in interest rates especially reflected an improving global economy and expectations of higher inflation in the longer term, which led to expectations of an earlier tightening of monetary policy by, for example, the ECB and the Fed.

The yield spread to Germany widened during 2021 and was 0.24 percentage points in the 10-year maturity segment at the end of the year, see chart 10 (right). The widening of the yield spread to Germany occurred on an equal footing with most other European countries. This reflects that German interest rates fell particularly sharply, and it must especially be seen in the light of the significant role of German government securities as collateral in many financial contracts, one reason being Germany's high creditworthiness.⁵

Central government issuances in 2021

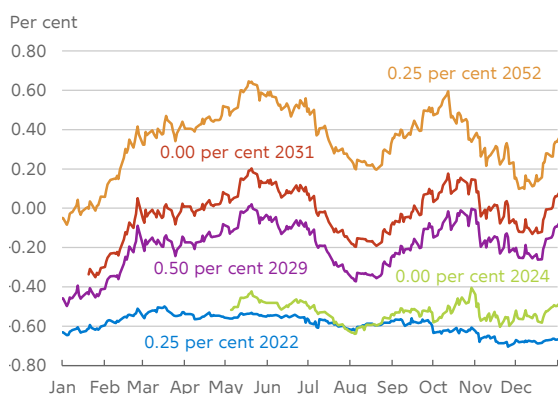
Table 1

| Kr. million, market value | Auction and tap sales | Switch operations |
|---------------------------|-----------------------|-------------------|
| 0.25 per cent 2022 | 9,836 | - |
| 0.00 per cent 2024 | 25,536 | 14,993 |
| 0.50 per cent 2027 | - | 2,000 |
| 0.50 per cent 2029 | 2,976 | - |
| 0.00 per cent 2031 | 43,223 | 17,424 |
| 0.25 per cent 2052 | 10,991 | 7,440 |
| 0.10 per cent 2030i | 4,174 | 2,438 |
| Total | 96,740 | 44,300 |

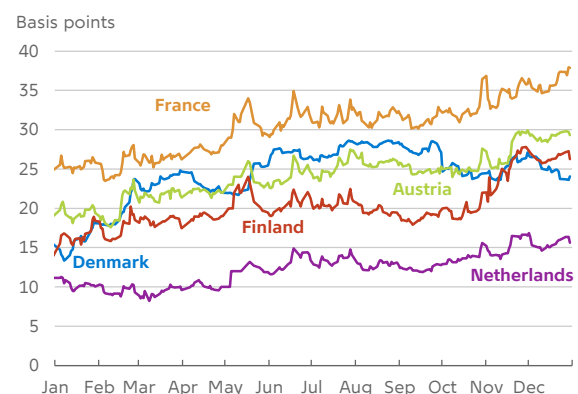
Rising long-term government yields and broad European increasing to Germany

Chart 10

Danish government yields in 2021



Yield spreads to Germany in 2021



Note: Effective yields (left) and 10-year par yield spreads to Germany (right).
Source: Bloomberg and Nordea Analytics.

⁵ See, for example, ECB, Economic Bulletin, Issue 8/2021.

In 2021, interest rates in Denmark were also affected by sharp increases in duration in the Danish mortgage bond market. This meant that the Danish yield spread to Germany within the year saw a relatively higher increase than for comparable countries, such as Finland and Austria. In particular, the duration of callable mortgage bonds with high negative convexity rose sharply in spring 2021 as a result of the interest rate increases. This reduced Danish pension and insurance companies' demand for duration and thus also long-term Danish government securities.⁶ The widening of the Danish spread was reversed during the 4th quarter, partly as a result of the Danish interest rate reduction on 1 October. At the end of the year, the Danish yield spread to Germany was again below the spread in Finland and Austria.

Short-term central government financing was reduced

In 2021, the outstanding volume in both T-bills and commercial papers was gradually reduced, see chart 11. This occurred in step with the phasing-out of covid-19-related relief packages introduced in 2020, and the ongoing downward adjustment of the expected use of the relief packages.

The central government's loan programmes in T-bills and commercial papers provide access to short-term financing, which can be scaled up and down flexibly at short notice. The loan programmes are therefore an important part of the central government's liquidity reserves. This became particularly clear in 2020, when the outstanding volume in the two programmes increased significantly as a result of large government covid-19 relief packages to the Danish corporate sector.

At the end of 2021, there was nominally kr. 54 billion in outstanding T-bills against kr. 83 billion in the previous year. The outstanding volume of commercial papers was reduced from kr. 70 billion at the end of 2020 to kr. 9 billion at the end of 2021. In 2022, the aim is a further reduction of short-term financing to a total outstanding volume of kr. 35 billion in T-bills and commercial papers.

Yield to maturity on central government issuances

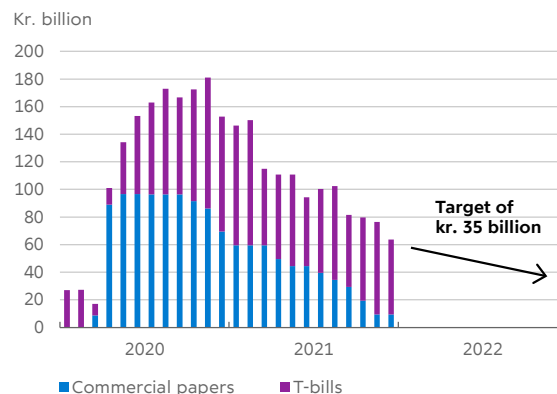
Table 2

| | Average maturity, years | Average yield, per cent p.a. |
|------|-------------------------|------------------------------|
| 2015 | 6.8 | 0.32 |
| 2016 | 7.4 | 0.04 |
| 2017 | 7.5 | 0.15 |
| 2018 | 7.5 | 0.14 |
| 2019 | 8.3 | -0.32 |
| 2020 | 11.1 | -0.33 |
| 2021 | 10.0 | -0.20 |

Note: Yield to maturity is weighted by market value and excl. index-linked bonds. The average yield to maturity has been calculated on the basis of the central government's issuances via auction and tap sales.

The central government downscaled the short-term loan programmes

Chart 11



Note: Outstanding at nominal value calculated per trading day.
Source: Danmark Nationalbank.

⁶ For an elaboration on this, see, for example, Samuel Achord et al., Domestic bond portfolio adjustments during duration jumps, *Danmarks Nationalbank Economic Memo*, no. 10, December 2021 ([link](#)).

The demand for T-bills varied significantly during 2021, see chart 12. After a long period with relatively stable demand in the 1st half of the year, growing speculation in an imminent Danish interest rate cut over the summer meant that the demand for T-bills increased significantly. In addition, dollar-based investors could again this year achieve an excess return by lending out dollars against Danish kroner and placing the proceeds in T-bills, which increased foreign demand.

T-bills were sold at an average yield to maturity of -0.56 per cent p.a. in 2021.

Central government account maintained at high level

The reduction in the central government's financing need has contributed to maintaining the central government account at a high level of approx. kr. 150 billion, see chart 13. This is significantly above the target for the central government's account of kr. 50-75 billion. The reason for the increase is that a significant part of the improvement in government finances was only finally confirmed late in the year, when most of the bond issuances for the year had already been made. The strategy remains to reduce the account balance to a level of kr. 50-75 billion in the long term.

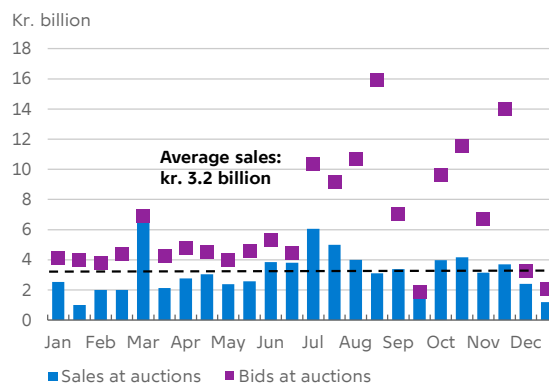
Broad investor base in domestic government bonds

In 2021, Danish government bonds were owned by a broad circle of investors distributed on sectors and geographical locations, see chart 14 (left). The largest investor group consisted of the Danish insurance and pension sector, F&P, with an ownership share of approx. 45 per cent. F&P has a high ownership share of especially the longer maturity segments, in which they have a natural interest. This group of investors particularly demands government securities with a long term to maturity to cover long-term pension commitments.

The ownership shares of Danish government bonds were largely unchanged across investor groups in 2021, see chart 14 (right). Among foreign investors, especially American, Asian and Northern European investors demanded Danish government bonds in 2021.

Bids and sales at auctions of T-bills in 2021

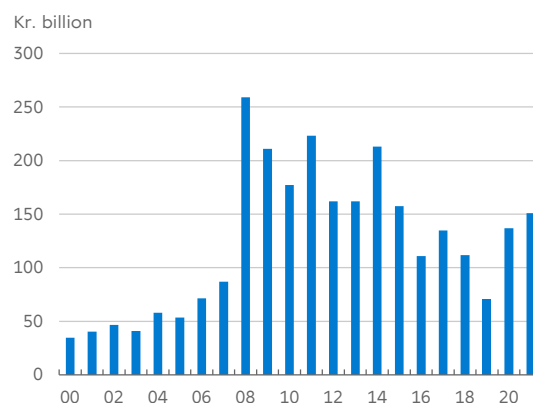
Chart 12



Note: Bids and sales at nominal value.
Source: Danmarks Nationalbank.

Government's account ended up at a high level

Chart 13

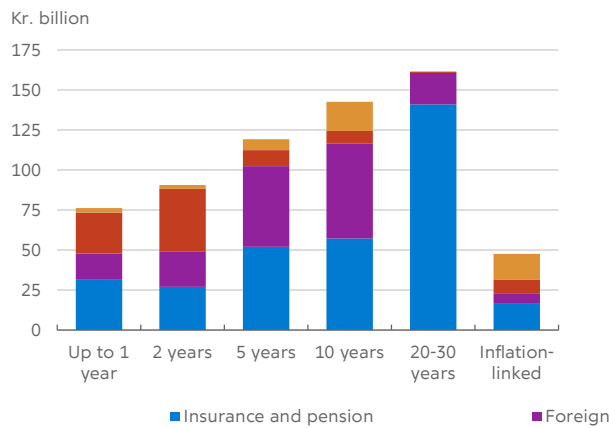


Note: End of the year.
Source: Danmarks Nationalbank.

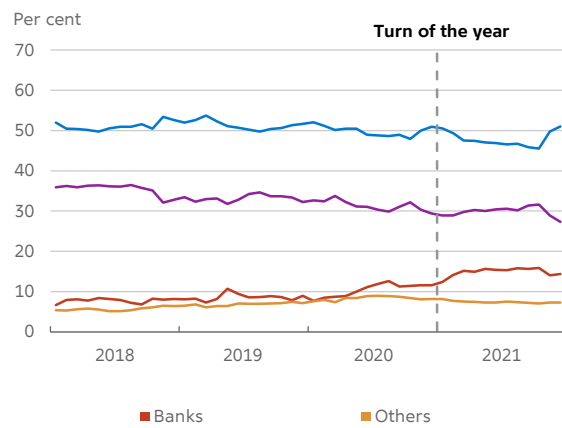
Stable ownership of Danish government bonds across investor segments in 2021

Chart 14

Ownership distribution of Danish government bonds



Investorshare by investor group



Note: Ownership distribution and investorshares are computed at nominal value. Ownership distribution is by maturity segments and computed at the end of 2021.

Source: Danmarks Nationalbank.

Trading and liquidity in the secondary market

The central government supported liquidity in secondary market

The central government's activities in the secondary market in 2021 supported a liquid and well-functioning market for government bonds through purchases, switches and tap sales, see chart 15. The activities support the central government's primary dealers in making liquidity available to investors on a continuous basis, which makes it easier and cheaper to trade Danish government securities.

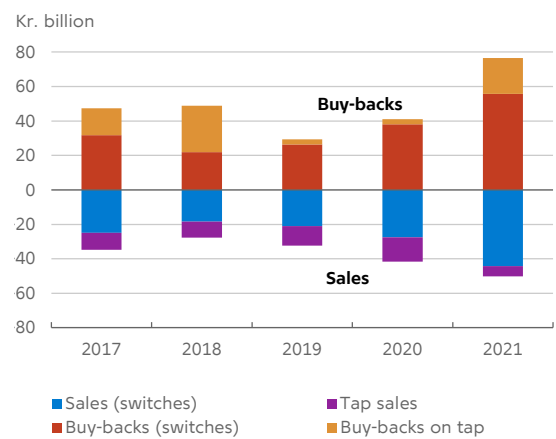
Switches contributed to building up the two new bonds

In 2021, the central government sold and purchased bonds via switches for kr. 56 billion and kr. 44 billion, respectively, at market value, see table 3. Switches enable the market participants to exchange off-the-run issues with more liquid on-the-run papers.

The switches contributed to a rapid build-up of the outstanding volume of the new 2-year and 10-year bonds. At the end of 2021, the outstanding volume of the new bonds had been built up to approx. kr.

Central government supported liquidity in secondary market

Chart 15



Note: Buy-backs of bonds with maturity within the year are not included.

Source: Danmarks Nationalbank.

40 billion and kr. 60 billion, respectively, of which around a third were issued via switches.

Introduction of switch operations via the central government's auction system

After a trial period in early 2021, the central government began making switches in line with the regular auctions via the central government's auction system, MTS PAF. The initiative helped align the central government's trading activities and was received positively by the market participants.

Switches via auction make it easier for the market participants to participate, as they now can bid on different quantities and prices. This increased the interest of switches in 2021.

Trading in government securities was supported by the primary dealer model

The central government's primary dealer model gives the participating banks an increased incentive to set tight prices on the interdealer platform MTS Denmark.⁷ This strengthens price transparency and makes Danish government securities more attractive to investors.

During the first months of the year, the spread widened between purchase and sale prices (the bid-ask spread) in long Danish government securities, see chart 16. This was mainly driven by increasing volatility and increased demand for liquidity in the interdealer market as a result of sharp interest rate increases. As the markets calmed again, the spread narrowed once more. The rapid narrowing of the spread underlines that the central government's primary dealer model functions well.

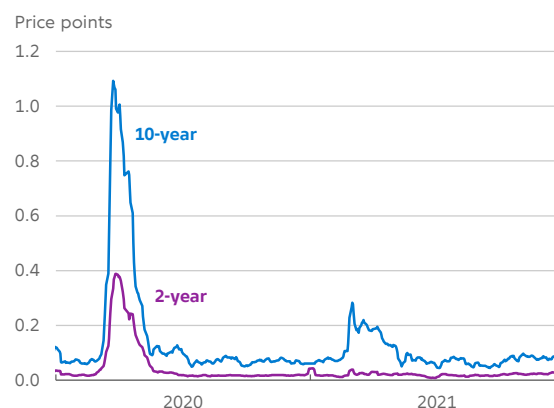
Switches in 2021

Table 3

| Kr. million, market value | Purchases | Issuances |
|---------------------------|---------------|---------------|
| 0.25 per cent 2022 | 1,710 | - |
| 0.10 per cent 2023i | 2,286 | - |
| 0.00 per cent 2024 | - | 14,994 |
| 1.75 per cent 2025 | 14,299 | - |
| 0.50 per cent 2027 | - | 2,000 |
| 0.50 per cent 2029 | 21,903 | - |
| 0.10 per cent 2030i | - | 2,438 |
| 0.00 per cent 2031 | - | 17,424 |
| 4.50 per cent 2039 | 15,531 | - |
| 0.25 per cent 2052 | - | 7,440 |
| Total | 55,729 | 44,296 |

Tight bid-ask spreads in 2021

Chart 16



Note: Bid-ask spreads are calculated as a five-day moving average of the daily time-weighted spreads and ask volumes for the best bid and ask prices on MTS.

Source: MTS Denmark.

⁷ Current market prices on MTS Denmark calculated as best purchase and sales prices for aggregate quantities are publicly available with a delay of 15 minutes (*link*). Market participants can gain access to real-time prices against a small fee.

Green bonds

In December 2021, it was announced that the central government will issue its first green government bond in 2022, see box 3. In the period leading up to the announcement, thorough work has been done to work out the specific details of a green government bond programme.

A significant part of the work with the green bonds has focused on the evaluation and selection of suitable green government expenditures. From the outset, it has been a priority to ensure a high quality of green expenditures, including that they are in compliance with international requirements and criteria. On this background, the selection of green expenditures has been made on the basis of the EU taxonomy for sustainable economic activities.⁸ Basing the selection of green investments and expenditures on the EU taxonomy ensures that the expenditures are chosen in accordance with a set of internationally recognised criteria. This helps increase transparency and means that investors can have confidence in their investments.

The EU taxonomy has strict requirements for division, which has required the involvement of a large number of experts and ministries. Going forward, the current green expenditures under the central government's green bond programme will be evaluated on an annual basis in connection with the preparation of the Finance Act for the coming year. Here, a decision will also be made as to whether new green expenditures are to be included.

To ensure high credibility of the central government's green bonds, the central government has obtained an independent, external assessment of its green bond programme from Cicero⁹. Here, the bond programme has been given a *dark green* rating ([link](#)). This is the highest climate and environmental accreditation that an issuer can be granted.

The market for green bonds is still under development – also when it comes to regulation. The central

Green bonds

Box 3

Green government bonds are any type of bond instrument where an amount corresponding to the proceeds is exclusively used for full or partial financing or refinancing of new and/or existing suitable green projects/expenditures.

With the issuance of the central government's green bond, an amount corresponding to the proceeds from the sale will be allocated to green government expenditures which support the production of renewable energy in the form of wind and solar energy and the green transition of the transport sector.

government's green bond programme aims to be at the forefront of developments and has therefore been adjusted to the EU Commission's proposal for an EU Green Bond Standard from June 2021. The development in this area will be monitored on an ongoing basis, and, if necessary, the green bond programme will be adjusted continuously to ensure that it meets the best market practices in the area at any given time.

More information can be found on Danmarks Nationalbank's website, including in the central government's *Green Bond Framework*, which describes the framework for the green government bonds ([link](#)).

Issuance based on twin bond model

In the work with the green bonds, Danmarks Nationalbank has explored various issuance models in parallel with the design of the central government's Green Bond Framework. Here, the choice has fallen on the so-called twin bond model, which Germany introduced in 2020.

For example, the model entails that a 10-year green government bond is issued with the same maturity, coupon and repayment profile as the conventional 10-year benchmark government bond, for example 0.00 per cent 2031.

⁸ See ([link](#)) for more information about the EU taxonomy, EU Green Bond Standard etc.

⁹ Cicero is an independent and research-based provider of second party opinions on green bonds. Read more on Cicero's website ([link](#)).

The advantage of the twin bond model is that it supports the liquidity of the green bond. It does so by allowing investors to make a one-on-one exchange of the 10-year green twin bond to the corresponding and more liquid conventional 10-year twin bond. The exchange facility is only one way, and the investors thus does not have the option of exchanging the conventional twin bond for the corresponding green twin bond.

Risk management

The purpose of the central government's risk management is to identify and manage risks related to central government borrowing and debt. The risk management generally supports the overall objective of the central government debt policy: to cover the central government financing requirement at the lowest possible long-term costs, while taking the degree of risk into account.

The risk management of the central government's debt is particularly aimed at risks connected with the development in interest rates, as the central government only has limited exchange rate and credit risks. The duration of central government debt is the overall management guide for interest rate risk, but it is also supplemented by scenario calculations for interest costs and other risk measures, see box 4.

The central government has maintained low interest rate risk

In 2021, the average duration of the central government debt was 9.7 years, calculated without discounting, see chart 17. This is in line with the target set at 9.5 years \pm 0.5 years at the beginning of the year.

In 2020 and 2021, the average maturity of the domestic bond issuances has been slightly higher than in previous years, see table 1 under *Central government borrowing* ([link](#)). However, the duration of the central government debt has not increased in the same period and is on a par with 2019. One reason for this is that the outstanding volume in the short-term loan programmes has been at a relatively high level periodically during the year. At the same time, there has been on-lending with long maturity, which is included as an asset in the consolidated risk management.

Risk measures

Box 4

Several different risk measures are monitored in connection with risk management. Some of these risk measures are described below.

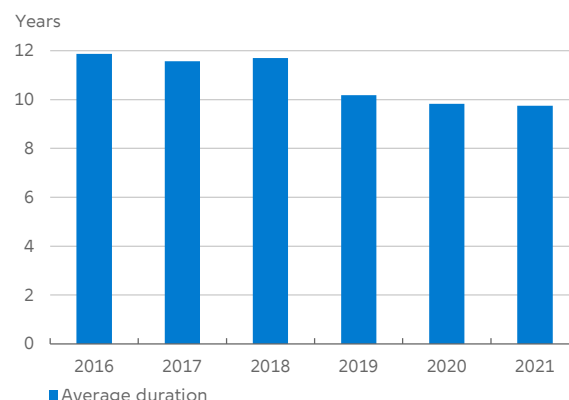
The average time to refixing is defined as the average time until the debt portfolio, incl. derivatives, become subject to a new interest rate. Thus it provides a measure of how long it takes on average before changes in market interest rates have an effect on the interest charges on the debt.

The short-term refinancing volume is calculated as redemptions of existing debt over the next 12 months, and thus expresses repayments payable by the central government in the short term. The refinancing volume is measured both in absolute terms, relative to the debt and as a share of GDP.

The duration calculated without discounting measures the average fixed interest period on all the cash flows of the portfolio calculated at nominal value. The calculation of the duration includes both financial liabilities and assets managed by Danmarks Nationalbank. In practice, this means that payments from the bond holdings in central government funds, the account balance at Danmarks Nationalbank and on-lending to the state-owned companies are set off against the payments on the central government's domestic and foreign debt.

The central government has maintained a robust debt structure with a duration of just below 10 years

Chart 17

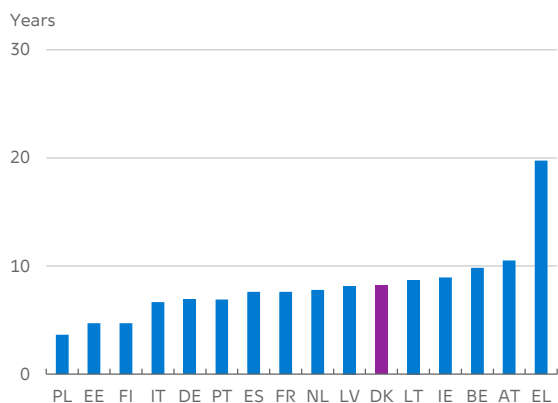


Note: Average duration calculated without discounting.
Source: Danmarks Nationalbank.

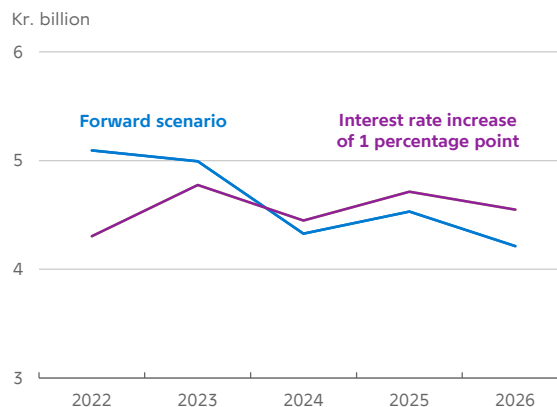
The interest rate risk on the central government debt is low

Chart 18

The average time to refixing is on a par with comparable countries



The Cost-at-Risk model projects stable interest costs



Note: Left: The average time to refixing of the debt portfolio, including derivatives. The measure is reported to the committee on EU Sovereign Debt Markets, ESDM. Calculated year-end 2021. Right: Projection of the central government's interest rate costs in two different interest rate scenarios. In the *forward scenario*, it is assumed that the current forward interest rate structure is realized. In the second scenario, it is assumed that there is a permanent upward parallel shift of the term structure of 1 percentage point. The calculations are based on a number of simplifying assumptions.

Source: ESDM and Danmarks Nationalbank.

Debt profile is resilient to interest rate increases

At the end of 2021, the average time to refixing on the central government debt was 8.2 years, which is on a par with other comparable countries, see chart 18 (left). The relatively high average time to refixing contributes to ensuring that any interest rate increases only make themselves felt gradually on the central government's interest costs. For example, an upward parallel shift in the yield curve of 1 percentage point at the beginning of 2022 will result in an increase in the expected interest costs of less than kr. 0.5 billion annually after five years, see chart 18 (right). To begin with, the total interest costs will actually decrease. The reason for this is that higher interest rates have an immediate effect on the interest accrual on the central government's account, while the debt costs increase concurrently with new debt being issued or existing debt being refinanced.

The central government's short refinancing volume is largely back to the level from before the covid-19 crisis

At the end of 2021, the central government's short-term refinancing volume, i.e. debt maturing within the coming 12 months, was just over kr. 150 billion, equal to 21 per cent of the total debt¹⁰. This is kr. 66 billion down on the previous year. The reduction in 2021 primarily reflects that the outstanding volume in commercial papers and T-bills has been reduced, see chart 19 (left).

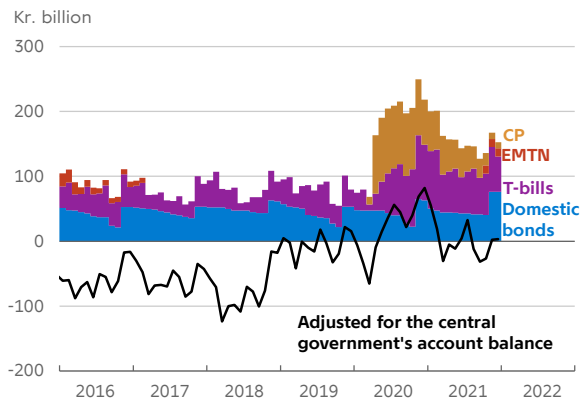
The central government's short-term refinancing volume is still at an increased level relative to previous years, but this must be seen in the light of a high balance in the central government's account. If the refinancing volume is adjusted for the balance in the central government's account, the short-term refinancing risk is on a par with 2019, see chart 19

¹⁰ The refinancing volume has been calculated for the central government's total liabilities. Assets such as account balances, on-lending and bonds for financing social housing are not offset.

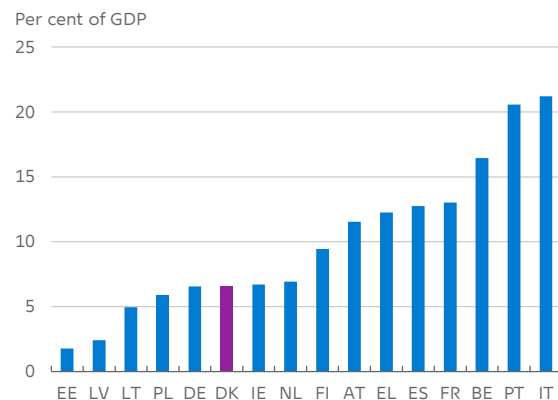
The central government's refinancing risk is low

Chart 19

The short refinancing volume was reduced by kr. 66 billion



The refinancing volume in per cent of GDP is low compared to other countries



Note: Left: Each column shows the next 12 months of maturity of domestic bonds, T-bills, bonds in foreign currency (EMTN), and commercial papers (CP). Right: The amount of debt maturing within the next 12 months as a share of GDP. The refinancing volume is calculated at year-end 2021, while GDP figures are from 2020.

Source: ESDM, Eurostat and Danmarks Nationalbank.

(left). Internationally, Denmark has a relatively low refinancing risk and is in line with other countries with a low debt burden, see chart 19 (right).

On-lending and central government guarantees

On-lending and central government guarantees enable state-owned companies to finance their operations at a low cost, see box 4. On-lending is preferred in the vast majority of cases as it both ensures the cheapest source of financing and consolidates government borrowing on its bond series. At the end of 2021, on-lending amounted kr. 150 billion, which is an increase of kr. 22 billion. Central government guarantees managed by Danmarks Nationalbank amounted to kr. 9.7 billion against kr. 11 billion in 2020.

Several new companies with access to on-lending

In 2021, six new companies received on-lending for the first time. These companies were Evida, Naviair, Vækstfonden – the Danish Growth Fund, Danmarks Grønne Fremtidsfond (The Danish Green Future

Loan guarantees managed by Danmarks Nationalbank on behalf of the central government

Table 4

| End of 2021 | Kr. million | Per cent of GDP |
|---|--------------|-----------------|
| A/S Storebælt | 828 | 0.0 |
| A/S Øresund | 528 | 0.0 |
| Fjord Link Frederikssund | 27 | 0.0 |
| A/S Femern Landworks | 86 | 0.0 |
| Øresundsbro Konsortiet I/S | 6,767 | 0.3 |
| DSB (the Danish State Railways) | 245 | 0.0 |
| DR (Danish Broadcasting Corporation) | 436 | 0.0 |
| The Danish Guarantee Fund for Non-life Insurers | 746 | 0.0 |
| Total | 9,664 | 0.4 |

Note: The figures include guaranteed swaps. Details may not add due to of rounding.

Source: Reporting from the state-owned companies.

Fund), Danmarks Grønne Investeringsfond (The Danish Green Investment Fund) and Kalaallit Airports International. The number of companies with central government on-lending has thus grown from 15 to 21. Among the new counterparties, only Kalaallit Airports International and Evida are classic infrastructure companies, while the others have either received on-lending as part of the central government's aim to promote the green agenda, as a result of covid-19 relief packages or other growth-promoting initiatives. Despite the increase in the number of companies, the infrastructure companies still receive by far the largest part of the on-lending.

On-lending to state-owned companies will continue to make up a significant part of the central government issuances in the years to come. Especially Femern Landworks contributes significantly to the on-lending volume and is expected to account for a third of the on-lending granted in the coming years.

Social housing

The central government supports social housing and independent nursing homes through debt service support, guarantees and purchases of bonds to finance subsidised construction. The debt service support makes up the difference between the resident's payments and the total debt service. The central government thus bears the interest rate risk on the loans. By purchasing bonds for financing social housing, it is ensured that the financing takes place on the same terms as the central government's own financing.

In 2021, the central government purchased bonds to finance social housing for kr. 19 billion excl. early redemptions equal to 20 per cent of the central government's bond issuances, see chart 20. Since 2018 the central government has purchased bonds to finance social housing totalling kr. 136 billion, 17 per cent of the total domestic debt has been put toward financing social housing.

On-lending

Box 5

In connection with on-lending, the state-owned company takes out a loan directly from the central government. The loan proceeds are disbursed from the central government's account, and the derived financing need is met by the central government issuing bonds on an ongoing basis. The companies pay interest and make amortisations to the central government corresponding to the terms for 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.

On-lending is based on a political wish to support selected projects through cheaper financing. As a result of the central government's high creditworthiness, on-lending means, just like government-guaranteed loans, that the company can obtain financing at a lower cost than if it had to raise the loan itself in the market. Financing via on-lending will normally be cheaper for the company than the issue of government-guaranteed bonds because the liquidity is significantly higher in the government bond series. The company saves the liquidity premium that investors would otherwise demand in the form of a higher interest rate.

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 to the company from the central government is not offset.

A number of schemes have also been set up that are not managed by Danmarks Nationalbank. In addition to on-lending to internal government agencies and the National Building Foundation, on-lending is also granted to Udbetaling Danmark – Public Benefits Administration and to LD Pensions. The latter scheme has been set up to finance early disbursement of holiday allowances in 2020 and 2021. In 2020, on-lending to LD Pensions amounted kr. 51 billion out of the total on-lending volume of kr. 65 billion. The loans are not managed by Danmarks Nationalbank, as the loans are granted on terms that deviate from the central government's borrowing. For example, no interest is charged on on-lending to LD Pensions, but it is indexed at the rate of wage increase.

On-lending in 2021

Table 5

| Kr. billion, nominal value | Holding, end of 2020 | Gross borrowing in 2021 | Amortisations and early redemptions in 2021 | Holding, end of 2021 |
|--|-------------------------|----------------------------|---|-------------------------|
| Infrastructure | | | | |
| A/S Femern Landworks | 5.4 | 5.9 | 0.3 | 11.2 |
| A/S Storebælt | 18.3 | 1.9 | 2.1 | 18.2 |
| A/S Øresund | 10.8 | 1.0 | 0.7 | 11.1 |
| Energinet | 31.0 | 2.5 | 4.2 | 29.5 |
| Evida Holding | - | 2.7 | 0.0 | 2.5 |
| Femern Belt A/S | 11.8 | 1.8 | 6.8 | 7.2 |
| Fjord Link Frederikssund | 0.8 | 0.0 | 0.0 | 0.8 |
| Kalaallit Airports International | - | 0.2 | 0.0 | 0.2 |
| Metroselskabet I/S | 31.9 | 4.8 | 4.7 | 32.0 |
| Greater Copenhagen Light Rail | 1.3 | 0.6 | 0.0 | 1.9 |
| Sund & Bælt Holding A/S | 0.7 | 0.0 | 0.0 | 0.7 |
| CPH City & Port Development | 12.3 | 2.2 | 2.0 | 12.5 |
| Other | | | | |
| The Danish Green Future Fund | - | 0.1 | 0.0 | 0.1 |
| Danish Ship Finance | 0.3 | 0.0 | 0.1 | 0.2 |
| The Danish Green Investment Fund | - | 2.8 | 0.9 | 1.9 |
| DR (Danish Broadcasting Corporation) | 2.8 | 0.8 | 0.7 | 2.8 |
| EKF (Danish Export Credit Agency) | 10.3 | 0.0 | 1.7 | 8.6 |
| Investment Fund for Developing Countries | 0.2 | 0.1 | 0.0 | 0.3 |
| Naviair | - | 0.5 | 0.0 | 0.5 |
| Nordsøfonden (Danish State's oil and gas company) | 0.5 | 0.5 | 0.0 | 1.0 |
| Vækstfonden | - | 21.6 | 15.6 | 6.0 |
| Total | 138.3 | 49.9 | 39.6 | 149.2 |

Note: On-lending to Danish Ship Finance has been stated without the hedging portfolio. The sum of movements for the company during the year does not equal the change in the portfolio due to changes in the exchange rate between dollar and krone. The difference is matched by a corresponding change in the central government's hedging portfolio. Details may not add due to rounding.

Government funds

On behalf of the central government, Danmarks Nationalbank manages the assets of the Social Pension Fund (SPF), Innovation Fund Denmark and the Fund for Better Working Environment and Labour Retention. The assets of the funds are set off in the statement of the central government debt and are managed together with the central government's other financial assets and liabilities in the central government debt area.

The last funds from SPF were disbursed in 2021

In 2021, kr. 13.5 billion was disbursed from SPF to the Danish Agency for Labour Market and Recruitment. SPF's last funds have thus been disbursed, and the fund is expected to be wound up after its financial reporting in the 1st half of 2022. SPF was established by an act in 1970, where a special old-age state pension contribution was introduced, see box 5.

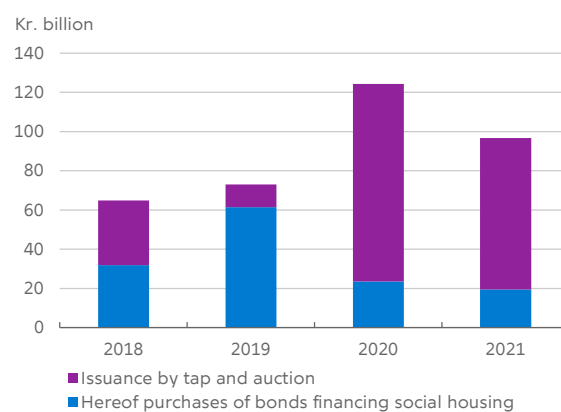
Innovation Fund Denmark

The assets of Innovation Fund Denmark amounted to kr. 14 billion at the end of 2021. In line with the strategy, the fund's portfolio of government securities is distributed roughly evenly between short-term, medium-term and long-term Danish government bonds. Kr. 400 million was transferred from the fund to the Danish Ministry of Higher Education and Science in 2021. The transfers were primarily financed by divestments and to a lesser extent by interest income in the fund totalling kr. 32 million.

Fund for Better Working Environment and Labour Retention

The assets of the Fund for Better Working Environment and Labour Retention amounted to kr. 0.7 billion at the end of 2021. According to the legislation, the fund's assets may only be invested in Danish government bonds. At the end of the year, all funds were deposited in the central government's account with Danmarks Nationalbank. There were no transfers from the fund in 2021.

Financing of social housing underpins government issuance Chart 20



Note.: Purchase of bonds financing social housing, less redemptions for the year.

Source: Danmarks Nationalbank.

The funds' income and expenses in 2021 Table 6

| Kr. million | Innovation Fund SPF | Innovation Fund Denmark | Fund for Better Working Environment and Labour Retention |
|--------------------------------|---------------------|-------------------------|--|
| Revenues | | | |
| Interest etc. ¹ | 255 | 57 | -5 |
| Expenses | | | |
| Transfer to Ministry | 13,538 | 400 | - |
| Pension yield tax ² | 0 | - | - |
| Net revenues | -13,283 | -343 | -5 |

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

2. Pension yield tax is paid on yields for the previous year.

The Social Pension Fund

Box 6

The Social Pension Fund (SPF) was established by an act in 1970. The act introduced a special retirement pension contribution of 1 per cent in the years 1971-73 and of 2 per cent in the following years. The proceeds were allocated to SPF and invested in bonds.

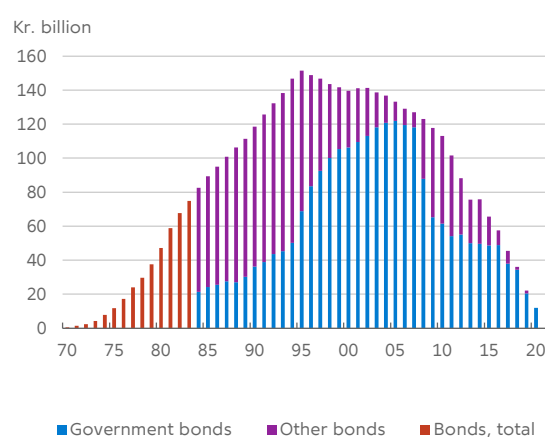
With effect from 1 January 1982, the act was amended to the effect that the pension contributions – and thus the contributions to the fund – ceased. It was decided that the interest from the fund's bond portfolio was to be used for pension improvements.

In the years 1986-1995, an annual amount corresponding to 1.5 per cent of the fund's assets was transferred. In 1996, the principles were changed, so that the base capital could also be used for pension improvements. Following the change, there has been a gradual reduction of the fund's base capital as a result of the annual transfers having been higher than the interest income on the fund's bond portfolio.

SPF's funds were invested in listed bonds. From 1995, it was decided gradually to convert the portfolio to government bonds. This meant simpler risk management, as part of the interest rate risk on the central government debt could be hedged via SPF's investments. From 2007, investments were again made in other listed bonds. The declining central gov-

ernment debt limited the supply of government bonds, but the consideration for hedging of the central government's interest rate risk in financing of social housing was also part of the basis for the decision. In 2018, the financing of social housing and other subsidised construction was reorganised, making hedging via SPF superfluous.

SPF's portfolio of bonds



Note: Calculated at nominal indexed value. From 1970 to 1983, a division between government bonds and mortgage bonds is not possible. The figures have been adjusted for adjustable-rate bonds with value after the turn of the year.
Source: Danmarks Nationalbank.

The government funds' assets, end of 2021

Table 7

| Nominal value, kr. billion | SPF | Innovation Fund Denmark | Fund for Better Working Environment and Labour Retention | Share of outstanding amount, per cent ¹ |
|--------------------------------|-----|----------------------------|--|--|
| 1.5 per cent bullet loan 2023 | - | 2.8 | - | 5.2 |
| 7 per cent bullet loan 2024 | - | 1.4 | - | 37.9 |
| 1.75 per cent bullet loan 2025 | - | 2.2 | - | 4.2 |
| 0.5 per cent bullet loan 2027 | - | 3.9 | - | 4.9 |
| 0.5 per cent bullet loan 2029 | - | 2.6 | - | 2.9 |
| 4.5 per cent bullet loan 2039 | - | 1.4 | - | 0.4 |
| Government bonds, total | - | 13.8 | - | 1.9 |
| Account balance | - | 0.4 | 0.7 | - |
| Total | - | 14.2 | 0.7 | - |

¹ States the funds' ownership share of the total outstanding volume of the security.

Note: Details may not add due to rounding.

PUBLICATIONS



NEWS

News offers quick and accessible insight into an Analysis, an Economic Memo, a Working Paper or a Report from Danmarks Nationalbank. News is published continuously.



ANALYSIS

Analyses from Danmarks Nationalbank focus on economic and financial matters. Some Analyses are published at regular intervals, e.g. *Outlook for the Danish economy* and *Financial stability*. Other Analyses are published continuously.



REPORT

Reports comprise recurring reports and reviews of the functioning of Danmarks Nationalbank and include, for instance, the *Annual report* and the annual publication *Danish government borrowing and debt*.



ECONOMIC MEMO

An Economic Memo is a cross between an Analysis and a Working Paper and often shows the ongoing study of the authors. The publication series is primarily aimed at professionals. Economic Memos are published continuously.



WORKING PAPER

Working Papers present research projects by economists in Danmarks Nationalbank and their associates. The series is primarily targeted at professionals and people with an interest in academia. Working Papers are published continuously.

The report consists of a Danish and an English version. In case of doubt regarding the correctness of the translation the Danish version is considered to be binding.

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BANKING AND MARKETS

Danish Government Borrowing and Debt 2021

- 1 CENTRAL-GOVERNMENT DEBT YEAR-END 2011-21
- 2 CENTRAL GOVERNMENT'S FINANCING REQUIREMENT 2019-21
- 3 INTEREST PAYMENTS ON CENTRAL-GOVERNMENT DEBT 2017-21
- 4 ISSUANCE OF DOMESTIC CENTRAL-GOVERNMENT SECURITIES IN 2021
- 5 CENTRAL-GOVERNMENT DOMESTIC DEBT AS OF END-2021
CENTRAL-GOVERNMENT FOREIGN DEBT AS OF END-2021
- 6 CENTRAL-GOVERNMENT PORTFOLIO SWAPS AS OF END-2021
- 7 ON-LENDING AND GOVERNMENT GUARANTEES ADMINISTERED
-BY DANMARKS NATIONALBANK 2017-21
- 8 BUY-BACKS FROM THE MARKET BY THE GOVERNMENT
AND THE GOVERNMENT FUNDS IN 2021

Central-Government Debt year-end 2011-21 (continues next page)

Table 1

| Kr. million | 2011 | 2012 | 2013 | 2014 | 2015 |
|--|----------|----------|----------|----------|----------|
| A. Loan | | | | | |
| <i>Domestic debt</i> | | | | | |
| - Fixed-rate bonds, nominal | 606,627 | 620,695 | 615,907 | 637,617 | 584,356 |
| - Inflation-linked bonds ¹ | - | 10,207 | 23,251 | 35,531 | 35,667 |
| - Fisheries Bank bonds | 786 | 684 | 594 | 507 | 424 |
| - Treasury bills | 44,200 | 44,940 | 32,300 | 29,800 | 29,840 |
| - Currency swaps from kroner to euro (net) ² | 2,974 | -1,490 | -1,490 | - | - |
| - Currency swaps from kroner to US dollars | -8,660 | -7,512 | -6,364 | -5,215 | -4,067 |
| Domestic debt, total | 645,927 | 667,524 | 664,198 | 698,240 | 646,220 |
| <i>Foreign debt³</i> | | | | | |
| - in US dollars | 8,957 | 7,662 | 6,219 | 5,778 | 5,047 |
| - in euros | 102,861 | 82,338 | 69,689 | 53,207 | 28,223 |
| - in other currencies and multi-currency | - | - | - | - | - |
| Foreign debt, total | 111,818 | 90,000 | 75,908 | 58,986 | 33,270 |
| Domestic and foreign debt, total | 757,745 | 757,524 | 740,106 | 757,225 | 679,490 |
| B. Collateral related to swaps ⁴ | - | - | 3,596 | 3,804 | 2,859 |
| C. Government deposits with Danmarks Nationalbank ⁵ | -223,100 | -161,991 | -161,953 | -213,099 | -157,376 |
| D. The Social Pension Fund, The Fund for Better Working Environment and Labour Retention and The Danish National Innovation Fund | | | | | |
| - Government securities | -69,351 | -70,859 | -65,550 | -64,825 | -62,399 |
| - Other securities | -51,393 | -37,902 | -32,352 | -25,259 | -17,172 |
| The three funds, nominal value, total | -120,744 | -108,761 | -94,902 | -90,084 | -79,571 |
| E. Bonds to finance social housing | - | - | - | - | - |
| Central-government debt, total (A+B+C+D+E) | 413,901 | 486,771 | 486,848 | 457,846 | 445,402 |
| Central-government debt, per cent of GDP | 22.4 | 25.7 | 25.2 | 23.1 | 21.9 |

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

3. Foreign loans are compiled after end-exposure.

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

5. Deposits include deposits of the government funds. Government deposit are measured as in Danmarks Nationalbank's balance sheet.

Central-Government Debt year-end 2011-21 (continued)

Table 1

| Kr. billion | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 |
|--|----------|----------|----------|---------|----------|----------|
| A. Loan | | | | | | |
| <i>Domestic debt</i> | | | | | | |
| - Fixed-rate bonds, nominal | 572,020 | 570,222 | 543,732 | 543,075 | 597,153 | 602,728 |
| - Inflation-linked bonds ¹ | 38,193 | 38,765 | 43,897 | 44,957 | 44,223 | 47,602 |
| - Fisheries Bank bonds | 343 | 272 | 200 | 129 | 108 | 86 |
| - Treasury bills | 27,180 | 32,740 | 30,400 | 23,980 | 83,180 | 54,200 |
| - Currency swaps from kroner to euro (net) ² | - | - | - | - | - | - |
| - Currency swaps from kroner to US dollars | -2,942 | -1,872 | -1,022 | -400 | -67 | - |
| Domestic debt, total | 634,794 | 640,127 | 617,207 | 611,741 | 724,596 | 704,616 |
| <i>Foreign debt³</i> | | | | | | |
| US dollar | 3,795 | 2,152 | 1,244 | 497 | 71 | - |
| euros | 8,044 | - | - | - | 82,132 | 22,012 |
| other currencies and multi-currency | - | - | - | - | - | - |
| Foreign debt, total | 11,839 | 2,152 | 1,244 | 497 | 82,202 | 22,012 |
| Domestic and foreign debt, total | 646,633 | 642,279 | 618,450 | 612,239 | 806,798 | 726,628 |
| B. Collateral related to swaps ⁴ | 1,610 | 1,005 | 690 | 267 | -370 | 573 |
| C. Government deposits with Danmarks Nationalbank ⁵ | -110,928 | -134,689 | -111,674 | -70,411 | -136,875 | -151,533 |
| D. The Social Pension Fund, The Fund for Better Working Environment and Labour Retention and The Danish National Innovation Fund | | | | | | |
| - Government securities | -63,233 | -52,084 | -48,454 | -32,267 | -25,851 | -12,555 |
| - Other securities | -8,834 | -7,432 | -1,675 | -1,675 | - | - |
| The three funds, nominal value, total | -72,067 | -59,516 | -50,129 | -33,942 | -25,851 | -12,555 |
| E. Bonds to finance social housing | - | - | -30,298 | -86,784 | -107,689 | -124,960 |
| Central-government debt, total (A+B+C+D+E) | 465,249 | 449,079 | 427,039 | 421,368 | 536,014 | 438,153 |
| Central-government debt, per cent of GDP | 22.1 | 20.5 | 19.0 | 18.2 | 23.0 | 17.7 |

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

3. Foreign loans are compiled after end-exposure.

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

5. Deposits include deposits of the government funds. Government deposit are measured as in Danmarks Nationalbank's balance sheet.

Central government's financing requirement 2019-21

Table 2

| Kr. billion | 2019 | 2020 | 2021 |
|---|-------|--------|--------|
| Current, investment and lending budget | 61.2 | -14.5 | na. |
| On-lending of government loans | -18.5 | -65.8 | na. |
| Distributed capital losses on issue and due interest ¹ | 2.3 | 7.8 | na. |
| Other capital items ² | -37.3 | -38.2 | na. |
| Net cash balance | 7.7 | -110.7 | 110.5 |
| Net financing requirement (= net cash balance) | -7.7 | 110.7 | -110.5 |
| Redemption on long-term domestic government debt ³ | 135.9 | 116.7 | 148.3 |
| Redemption on T-bills ⁴ | 30.4 | 24.0 | 83.2 |
| Domestic financing requirement ⁵ | 158.6 | 251.3 | 120.9 |
| Redemption on long-term foreign government debt ⁶ | 0.8 | 0.4 | 0.1 |
| Redemption on commercial papers ⁴ | 0.0 | 0.0 | 69.5 |
| Financing requirement | 159.4 | 251.8 | 190.5 |

Source: Central Government Accounts. 2021 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. From 2019 also including transactions related to financing of social housing, which was previously included under "On-lending of government loans".
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 2017-21

Table 3

| Kr. billion | 2017 | 2018 | 2019 | 2020 | 2021 |
|--|------|------|------|------|------|
| Domestic debt | 18.5 | 15.6 | 14.2 | 17.1 | 15.1 |
| Foreign debt | 0.0 | -0.1 | -0.1 | -0.6 | -0.4 |
| Central government's account at Danmarks Nationalbank | 0.2 | 0.8 | 0.5 | 0.6 | 0.5 |
| Government funds | -1.5 | -1.2 | -1.4 | -0.9 | -0.3 |
| Bonds for financing social housing | - | -0.0 | -0.0 | 0.1 | 0.2 |
| Central-government debt | 17.1 | 15.1 | 13.2 | 16.3 | 15.1 |
| Central-government debt, per cent of GDP | 0.8 | 0.7 | 0.6 | 0.7 | 0.6 |
| On-lending | -2.0 | -1.5 | -1.4 | -1.3 | -1.1 |
| Central-government debt, adjusted for on-lending | 15.2 | 13.6 | 11.8 | 15.1 | 14.0 |
| Central-government debt, adjusted for on-lending, per cent of GDP | 0.7 | 0.6 | 0.5 | 0.6 | 0.6 |

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

Source: Central Government Accounts. Figures for 2021 are provisional figures from the central government's accounting.

Issuance of domestic central-government securities in 2021

Table 4

| ISIN code | Coupon, per cent | Name | Opened | Redemption date | Issuance, kr. million, nominal | Issuance, kr. million, market value |
|--------------------------|---------------------|------------------|-------------|--------------------|--------------------------------------|---|
| Government bonds | | | | | | |
| DK0009923997 | 0.25 | Bullet loan 2022 | 8 May 2019 | 15 Nov 2022 | 9,700 | 9,836 |
| DK0009924292 | 0 | Bullet loan 2024 | 5 May 2021 | 15 Nov 2024 | 39,840 | 40,530 |
| DK0009923567 | 0 | Bullet loan 2027 | 25 Jan 2017 | 15 Nov 2027 | 1,900 | 2,000 |
| DK0009923807 | 0.5 | Bullet loan 2029 | 23 Jan 2019 | 15 Nov 2029 | 2,740 | 2,976 |
| DK0009923724 | 0.1 | DGBI 2030 | 7 Feb 2018 | 15 Nov 2030 | 5,480 | 6,612 |
| DK0009924102 | 0 | Bullet loan 2031 | 20 Jan 2021 | 15 Nov 2031 | 60,115 | 60,647 |
| DK0009924029 | 0.25 | Bullet loan 2052 | 1 Apr 2020 | 15 Nov 2052 | 19,110 | 18,431 |
| Government bonds, total | | | | | 138,885 | 141,033 |
| T-bills | | | | | | |
| DK0009817967 | 0 | T-bill 2021 I | 30 Mar 2020 | 1 Mar 2021 | 640 | 641 |
| DK0009818189 | 0 | T-bill 2021 II | 28 May 2020 | 1 Jun 2021 | 2,620 | 2,624 |
| DK0009818262 | 0 | T-bill 2021 III | 28 Aug 2020 | 1 Sep 2021 | 6,940 | 6,949 |
| DK0009818346 | 0 | T-bill 2021 IV | 27 Nov 2020 | 1 Dec 2021 | 12,220 | 12,269 |
| DK0009818429 | 0 | T-bill 2022 I | 25 Feb 2021 | 1 Mar 2022 | 37,900 | 38,031 |
| DK0009818502 | 0 | T-bill 2022 II | 28 May 2021 | 1 Jun 2022 | 9,960 | 10,005 |
| DK0009818692 | 0 | T-bill 2022 III | 30 Aug 2021 | 1 Sep 2022 | 5,480 | 5,510 |
| DK0009818775 | 0 | T-bill 2022 IV | 29 Nov 2021 | 1 Dec 2022 | 860 | 866 |
| T-bills, total | | | | | 76,620 | 76,893 |
| Domestic issuance, total | | | | | 215,505 | 217,926 |

Note: Issuances related to switch operations are included.

Central-government domestic debt as of end-2021

Table 5.1

| Kr. million, nominal value | Outstanding amount end-2020 | Issuance 2021 | Redemp- tions 2021 | Outstanding amount end-2021 | Redemption date | ISIN code |
|---|-----------------------------------|------------------|--------------------------|-----------------------------------|--------------------|--------------|
| Government bonds, fixed interest-rate | | | | | | |
| <i>Bullet loans</i> | | | | | | |
| 3 per cent bullet loan 2021 | 63,000 | - | 63,000 | - | 15 Nov 2021 | DK0009922676 |
| 0.25 per cent bullet loan 2022 | 68,375 | 9,700 | 1,840 | 76,235 | 15 Nov 2022 | DK0009923997 |
| 1.5 per cent bullet loan 2023 | 57,871 | - | 6,151 | 51,720 | 15 Nov 2023 | DK0009923054 |
| 7 per cent bullet loan 2024 | 3,707 | - | 735 | 2,972 | 10 Nov 2024 | DK0009918138 |
| 0 per cent bullet loan 2024 | - | 39,840 | - | 39,840 | 15 Nov 2024 | DK0009924292 |
| 1.75 per cent bullet loan 2025 | 66,860 | - | 17,770 | 49,090 | 15 Nov 2025 | DK0009923138 |
| 0.5 per cent bullet loan 2027 | 73,980 | 1,900 | - | 75,880 | 15 Nov 2027 | DK0009923567 |
| 0.5 per cent bullet loan 2029 | 111,660 | 2,740 | 29,540 | 84,860 | 15 Nov 2029 | DK0009923807 |
| 0 per cent bullet loan 2031 | - | 60,115 | - | 60,115 | 15 nov 2031 | DK0009924102 |
| 4.5 per cent bullet loan 2039 | 123,140 | - | 8,795 | 114,345 | 15 Nov 2039 | DK0009922320 |
| 0.25 per cent bullet loan 2052 | 28,560 | 19,110 | - | 47,670 | 15 Nov 2052 | DK0009924029 |
| <i>Inflation-linked bonds¹</i> | | | | | | |
| 0.1 per cent inflation-linked 2023 | 28,676 | - | 3,625 | 25,844 | 15 Nov 2023 | DK0009922916 |
| 0.1 per cent inflation-linked 2030 | 15,547 | 5,639 | - | 21,758 | 15 Nov 2030 | DK0009923724 |
| <i>Perpetual bonds</i> | | | | | | |
| 5 per cent Dansk-Islandsk Fond 1918 | 1 | - | - | 1 | Perpetual | - |
| Government bonds, fixed interest rate, total | 641,376 | 139,044 | 131,455 | 650,329 | | |
| T-bills | | | | | | |
| T-bill I 2021 | 43,640 | 640 | 44,280 | - | 1 Mar 2021 | DK0009817967 |
| T-bill II 2021 | 21,400 | 2,620 | 24,020 | - | 1 Jun 2021 | DK0009818189 |
| T-bill III 2021 | 13,820 | 6,940 | 20,760 | - | 1 Sep 2021 | DK0009818262 |
| T-bill IV 2021 | 4,320 | 12,220 | 16,540 | - | 1 Dec 2021 | DK0009818346 |
| T-bill I 2022 | - | 37,900 | - | 37,900 | 1 Mar 2022 | DK0009818429 |
| T-bill II 2022 | - | 9,960 | - | 9,960 | 1 Jun 2022 | DK0009818502 |
| T-bill III 2022 | - | 5,480 | - | 5,480 | 1 Sep 2022 | DK0009818692 |
| T-bill IV 2022 | - | 860 | - | 860 | 1 Dec 2022 | DK0009818775 |
| T-bills, total | 83,180 | 76,620 | 105,600 | 54,200 | | |
| Fisheries Bank of Denmark Bonds | | | | | | |
| 5 per cent 2025 | 108 | - | 22 | 86 | 1 Nov 2025 | DK0009604894 |
| Fisheries Bank Bond, total | 108 | - | 22 | 86 | | |
| Domestic government securities, total | 724,663 | 215,664 | 237,077 | 704,616 | | |
| Swaps from kroner to US dollar | -67 | - | -67 | - | | |
| Central-government domestic debt, total | 724,596 | 215,664 | 237,010 | 704,616 | | |

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.

Central-government foreign debt as of end-2021

Table 5.2

| Title | Coupon, per cent | ISIN code | Redemption date | Nominal value, kr. million ¹ |
|--|---------------------|--------------|--------------------|--|
| Loan | | | | |
| 2020/22 US dollar loan | 0.125 | XS2249779302 | 27 Oct 2022 | 13,122 |
| 2020/22 swap from US dollar | | | | -6,561 |
| 2020/22 swap from US dollar | | | | -6,561 |
| 2020/22 swap to euro | -0.7225 | | | 6,293 |
| 2020/22 swap to euro | -0.7345 | | | 6,293 |
| Loan, total | | | | 12,585 |
| Commercial papers | | | | |
| ECP programme in euro | | | | 2,975 |
| ECP programme in US dollar ² | | | | 2,953 |
| USCP programme in US dollar ² | | | | 3,477 |
| Forward foreign-exchange contracts ² | | | | 22 |
| CP outstanding, total | | | | 9,427 |
| Foreign debt, total | | | | 22,012 |

¹ The outstanding amount as of 31 December 2021 is calculated to kroner on the basis of the following exchange dollar rates as of 30 December 2021: euro = 743.65 and US dollar = 656.12.

² The Kingdom of Denmark enters a forward foreign-exchange contract with Danmarks Nationalbank when entering into a US dollar Commercial Paper loan. The Kingdom of Denmark receives US dollars upon redemption and pays euros.

Central-government portfolio swaps as of end-2021

Table 6

| Expiry year | Krone interest rate swaps | | Euro interest rate swaps | |
|----------------------------|---------------------------|----------------------------|--|--|
| | Net exposure, kr. million | Net exposure, million euro | Net exposure, kr. million ¹ | |
| 2022 | - | - | - | |
| 2023 | - | - | - | |
| 2024 | - | - | - | |
| 2025 | - | -150 | -1,115 | |
| 2026 | - | -650 | -4,834 | |
| 2027 | 600 | - | - | |
| 2028 | 600 | - | - | |
| Interest rate swaps, total | 1,200 | -800 | -5,949 | |

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 30 December 2021: euro = 743.65.

**On-lending and government guarantees administered
by Danmarks Nationalbank 2017-21 (continues)**

Table 7

| Kr. million | 2017 | 2018 | 2019 | 2020 | 2021 |
|--|----------------|----------------|----------------|----------------|----------------|
| On-lending | | | | | |
| A/S Femern Landworks | 1,425 | 2,600 | 3,900 | 5,400 | 11,220 |
| A/S Storebælt | 15,110 | 17,040 | 17,271 | 18,286 | 18,219 |
| A/S Øresund | 10,302 | 10,322 | 10,722 | 10,772 | 11,122 |
| CPH City & Port Development | 14,450 | 13,850 | 12,700 | 12,300 | 12,500 |
| Danish Ship Finance ¹ | 2,775 | 1,751 | 889 | 347 | 161 |
| Denmark's Green Future Fund | - | - | - | - | 130 |
| DR (Danish Broadcasting Corporation) | 3,002 | 3,044 | 2,902 | 2,801 | 2,801 |
| EKF (Danish Export Credit Agency) | 13,248 | 12,853 | 9,808 | 10,265 | 8,627 |
| Energinet | 22,980 | 25,505 | 28,724 | 31,037 | 29,466 |
| Evida Holding A/S | - | - | - | - | 2,499 |
| Femern A/S | 2,550 | 6,200 | 11,750 | 11,750 | 7,180 |
| Fjord Link Frederikssund | 530 | 650 | 750 | 780 | 780 |
| Greater Copenhagen Light Rail | - | 350 | 1,100 | 1,300 | 1,900 |
| Investment Fund for Developing Countries | - | - | 142 | 188 | 264 |
| Kalaallit Airports International A/S | - | - | - | - | 249 |
| Naviar | - | - | - | - | 500 |
| Nordsøfonden (the Danish North Sea fund) | - | - | - | 500 | 1,000 |
| Sund og Bælt Holding A/S | 500 | 300 | 650 | 650 | 650 |
| The Copenhagen Metro | 17,585 | 21,990 | 29,440 | 31,940 | 31,990 |
| The Danish Green Investment Fund | - | - | - | - | 1,900 |
| Vækstfonden | - | - | - | - | 6,000 |
| Total | 104,457 | 116,456 | 130,748 | 138,315 | 149,158 |

**On-lending and government guarantees administered
by Danmarks Nationalbank 2017-21 (continued)**

Table 7

| Kr. million | 2017 | 2018 | 2019 | 2020 | 2021 |
|--|---------------|---------------|---------------|---------------|--------------|
| Guarantees | | | | | |
| A/S Femern Landworks | 4 | 6 | 22 | 55 | 86 |
| A/S Storebælt | 5,971 | 3,955 | 2,285 | 1,023 | 828 |
| A/S Øresund | 495 | 447 | 439 | 465 | 528 |
| DR (Danish Broadcasting Corporation) | 776 | 436 | 436 | 436 | 436 |
| DSB (the Danish State Railways) | 3,526 | 1,687 | 749 | 286 | 245 |
| Fjord Link Frederikssund | - | - | - | 2 | 27 |
| Sund og Bælt Holding A/S | 100 | - | - | - | - |
| The Danish Guarantee Fund for Non-life Insurers | - | - | 534 | 761 | 746 |
| Øresundsbro Konsortiet I/S | 13,009 | 13,189 | 11,976 | 8,039 | 6,767 |
| Total | 23,882 | 19,720 | 16,442 | 11,068 | 9,664 |

Note: Guarantees are inclusive of guaranteed swaps.

Outstanding amount in the inflation-linked loans are measured at indexed nominal value at year-end.

¹ Re-lending in dollar to Danish Ship Finance is calculated to kroner by the end-of-year exchange rate.

Buy-backs from the market by the government and the government funds in 2021

Table 8

| Kr. million, market value | Govern- ment | Social Pension Fund | Fund for Better Working Environment and Labour Retention | Innovation Fund Denmark | Total buy-backs from the market | Hereof buy-backs in switch operations |
|-----------------------------------|-----------------|---------------------------|---|----------------------------|---------------------------------------|--|
| 3 per cent bullet loan 2021 | 22,904 | -4,832 | - | -3,458 | 14,614 | - |
| 0.25 per cent bullet loan 2022 | 1,862 | - | - | - | 1,862 | 1,710 |
| 1.5 per cent bullet loan 2023 | 6,456 | -6,456 | - | - | - | - |
| 0.1 per cent DGBi 2023i | 3,803 | - | - | - | 3,803 | 2,286 |
| 7 per cent bullet loan 2024 | 934 | - | - | - | 934 | - |
| 1.75 per cent bullet loan 2025 | 19,476 | - | - | - | 19,476 | 14,299 |
| 0.5 per cent bullet loan 2029 | 31,326 | - | - | 2,587 | 33,913 | 21,903 |
| 4.5 per cent bullet loan 2039 | 15,661 | - | - | 839 | 16,501 | 15,531 |
| Total | 102,423 | -11,288 | - | -32 | 91,103 | 55,729 |