

DANMARKS NATIONALBANK

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Danish Government Borrowing and Debt 2020

- The government budget developed better than expected during the year, and the balance on the central government's account increased to kr. 137 billion at the end of 2020. The significant account buffer contributes to the central government entering 2021 with a good starting point.
- The course of the covid-19 crisis has clearly highlighted the importance of the central government having access to a broad and diversified investor base through multiple financing channels.
- Despite periods with market turmoil, Danish government bonds were sold at record low yields in 2020. This shows great market confidence in the Danish economy and the Danish government bond market.

Central government debt increased less than expected

23 per cent of GDP

was what Denmark's central government debt amounted to in 2020. The increase primarily reflects costs for covid-19 schemes.

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Record low yields

-0.33 per cent p.a.

was the average yield to maturity on nominal bonds issued by the Danish central government in 2020.

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Summary of the year in review

Denmark entered the covid-19 crisis with a good starting point

Covid-19 had a major impact on Danish society and economy in 2020. The lockdown of Danish society and the adoption by the Danish Parliament (*Folketinget*) of a large number of relief packages for the corporate sector meant that the central government suddenly faced the prospects of having to borrow an amount running into many billion kroner in a very short period in March 2020.

Denmark's starting point for managing the crisis was good. Public finances are sound, central government debt is low, and the balance on the central government's account with Danmarks Nationalbank shows a high surplus. The strong starting point is underlined by the fact that Denmark is one of few countries in the world with the highest credit rating AAA.

Government budget fared better than expected during 2020

The government budget deficit ended at kr. 111 billion, with a large part being due to liquidity shifts between 2020 and 2021. This is a large deficit relative to previous years, but significantly lower than estimated. The total financing requirement for 2020 ended at kr. 252 billion, see Chart 1.

At the end of 2020, the central government debt was kr. 536 billion, equal to 23 per cent of GDP. This is an increase from 18 per cent of GDP in 2019. Denmark's gross public debt (the EMU debt) is among the lowest in Europe. The central government's total interest costs remain very low and constituted 0.7 per cent of GDP in 2020.

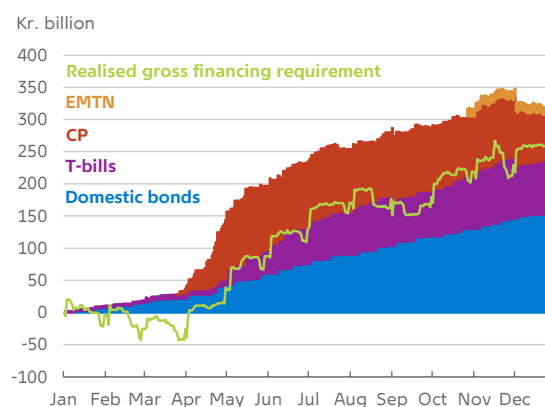
Great flexibility ensured borrowing

The sudden and marked increase in the financing requirement in the spring coincided with great turmoil in the financial markets and limited global demand for a number of assets, including Danish government securities. This meant that there was a need to show great flexibility in the issuance, including by using several financing sources. Therefore, the central government's two commercial paper programmes were activated.

Commercial paper programmes were the primary source of financing during the initial part of the covid-19 crisis. The CP programmes also helped

The central government's financing requirement was met using a wide range of financing sources

Chart 1

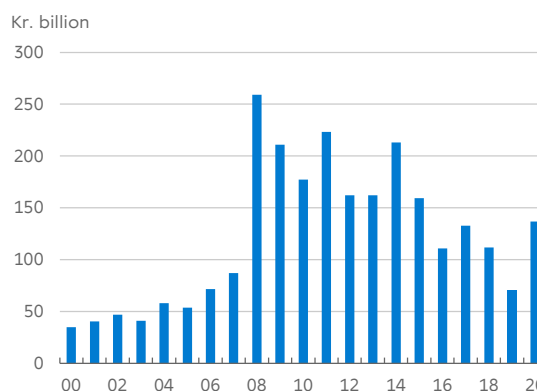


Note: The chart shows the central government's cumulative borrowing in domestic bonds, T-bills, commercial papers and the EMTN programme in conjunction with the central government's cumulative gross financing requirement.

Source: Own calculations.

The balance on the central government's account increased to kr. 137 billion at the end of 2020

Chart 2



Note: Year-end.

Source: Danmarks Nationalbank.

reduce pressure on a challenged domestic bond market, thus contributing to the subsequent return of the demand for domestic government securities. Despite periods with great turmoil, in 2020 domestic government bonds were sold at an average yield to maturity of -0.33 per cent p.a. and with a long average maturity of 11.6 years. This shows great market confidence in both the Danish economy and the Danish government bond market.

The course of the covid-19 crisis has clearly highlighted the importance of the central government having access to a broad and diversified investor base through multiple financing channels, including issuances denominated in foreign currency.

Large account buffer maintained during 2020

The balance on the central government's account increased from kr. 70 billion at the end of 2019 to kr. 137 billion at the end of 2020 as a result of the government budget deficit being lower than expected, see Chart 2. The central government maintained a large account buffer throughout 2020, and the increase in the balance on the central government's account is largely equal to the current outstanding volume in the central government's commercial paper programmes, see Chart 1. The commercial paper loans were raised at yields slightly below the interest rate on the central government's account. This meant that the maintenance of a higher account buffer did not result in increased central government costs. The significant account buffer contributes to the central government entering 2021 with a good starting point.

Central government debt and interest costs

The government budget developed better than expected

The need for borrowing during the covid-19 crisis arose faster and more suddenly than under previous crises. The ongoing adoption of a large number of relief packages for the Danish corporate sector from the beginning of the spring also meant that the central government's estimated net financing requirement was adjusted upwards significantly several times.

A government budget surplus of kr. 22 billion was budgeted for in the Finance Act for 2020, see Chart 3. The situation looked markedly different in May, when a deficit of kr. 178 billion was expected instead. The estimated net financing requirement was subsequently adjusted further upwards to kr. 248 billion in August, before being adjusted downwards to kr. 197 billion in December. The net financing requirement ended at kr. 111 billion, equal to 4.9 per cent of GDP. This is a high percentage relative to previous years, but significantly lower than estimated during the year.

At the same time, a large part of the deficit is due to temporary liquidity shifts, including as a result of the deferral of the payment deadline for tax and VAT to 2021 for Danish corporations and on-lending to LD Pensions in connection with the disbursement of holiday allowances. On the one hand, these schemes have increased central government expenditures in 2020, but, in turn, they are expected to increase central government revenues in 2021.

The total central government financing requirement, including debt redemption etc., amounted to kr. 252 billion in 2020, see Chart 3.

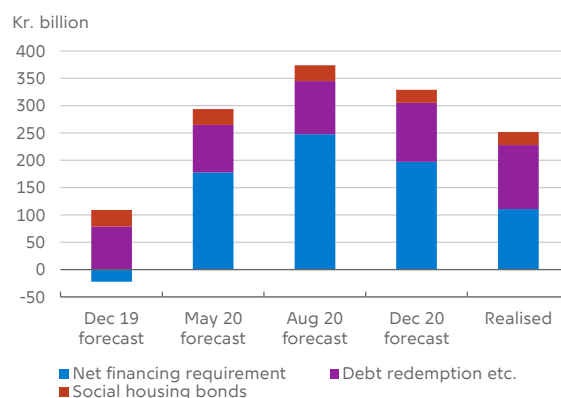
Central government debt increased to 23 per cent of GDP

The government budget deficit in 2020 resulted in an increase in central government debt to kr. 536 billion at the end of 2020, equal to 23 per cent of GDP, see Chart 4.

Borrowing on behalf of government-owned companies (on-lending) still represents a large part of the central government debt. Adjusted for on-lending, the central government debt amounted to kr. 398 billion, equal to 17 per cent of GDP, at the end of 2020, see Table 1.

Great uncertainty about the net financing requirement in 2020

Chart 3

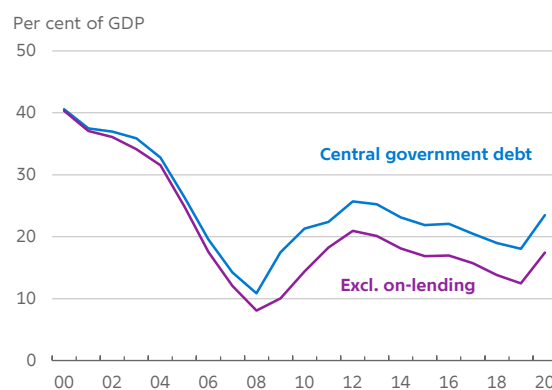


Note: 'Debt redemption etc.' comprises maturity of long-term and short-term debt, purchases of bonds with maturity outside the year, net payments on currency swaps and net bond purchases by government funds. 'Social housing bonds' shows the central government's net purchases of social housing bonds.

Source: The Danish Ministry of Finance and Danmarks Nationalbank.

Covid-19 crisis resulted in increase in central government debt in 2020

Chart 4



Note: Year-end.

Central government debt, end of 2020

Table 1

	Kr. billion	Per cent of GDP
Domestic debt	725	32
Foreign debt	82	4
Collateral for swaps	0	0
The central government's account ¹	-137	-6
Government funds	-26	-1
Bonds for financing social housing	-108	-5
Central government debt	536	23
On-lending	-138	-6
Central government debt adjusted for on-lending	398	17

1. Balance on the central government's account with Danmarks Nationalbank

EMU debt remains among the lowest in Europe

Denmark's public gross debt (the EMU debt) is estimated to amount to 45 per cent at the end of 2020. Denmark's EMU debt is consequently among the lowest in Europe and significantly below the EU's Stability and Growth Pact limit of 60 per cent of GDP, see Chart 5.

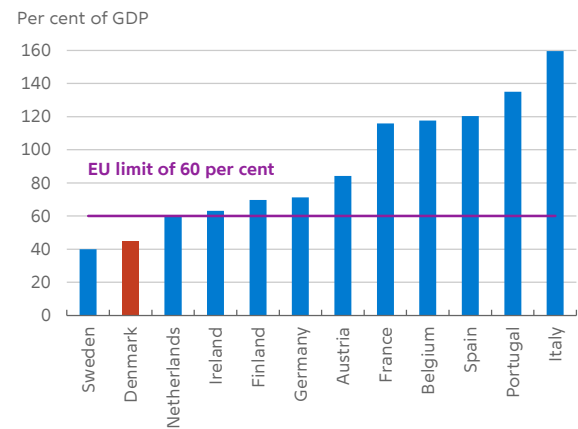
In 2020, Denmark remains one of few countries in the world with the highest credit rating (AAA/Aaa) and with stable prospects among the largest international credit rating agencies.

Interest costs remain low

In 2020, interest costs on central government debt amounted to kr. 16 billion, equal to 0.7 per cent of GDP, see Chart 6. The increase in interest costs relative to 2019 is not a consequence of the rising debt, but reflects capital losses on buy-backs of government bonds. In connection with buy-backs of government bonds with maturity outside the year, future interest costs are brought forward, but are conversely reversed by corresponding lower future interest costs. The capital losses on buy-backs amounted to approximately kr. 8 billion in 2020, equal to around half of the total interest costs.

EMU debt among the lowest in Europe

Chart 5

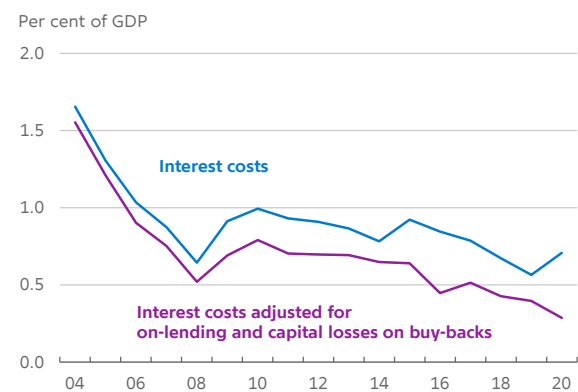


Note: EMU debt, estimate from the European Commission for the end of 2020, *European Economic Forecast*, autumn 2020.

Source: European Commission.

Central government's interest costs remain low

Chart 6



Source: The Central Government Accounts. Figures for 2020 are provisional central government accounting figures.

The central government also receives interest income from the government-owned companies as a result of on-lending. The central government received kr. 1.3 billion in interest income in 2020. If the central government's interest costs are adjusted for capital losses on buy-backs and interest income from on-lending, they amounted to just under kr. 7 billion in 2020, equal to 0.3 per cent of GDP, see Chart 6. The low underlying interest costs reflect that the central government has been issuing bonds at a yield close to zero for a number of years.

Public debt measures

Box 1

The central government debt, the EMU debt and the net public debt are often used in statements of national debt.

The *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 social housing 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.

The *EMU debt* comprises debts 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.

The *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 side includes 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).

Central government borrowing

Central government issued bonds totalling kr. 124 billion

In accordance with the target, the central government issued bonds totalling kr. 124 billion in 2020 at market value through auctions and tap sales, see Chart 7 (left). In March, the target was adjusted upwards from kr. 75 billion to kr. 125 billion in direct continuation of the adoption of a number of compensation schemes for the Danish corporate sector to mitigate the consequences of the lockdown and the covid-19 crisis.

The upward adjustment of the target coincided with the financial markets being hit by uncertainty about the economic outlook. The uncertainty resulted in a global drop in the demand for a number of asset classes, including Danish government bonds. At the same time, uncertainty arose about how the central government would finance the very extensive covid-19 relief packages. This meant that the domestic bond market did not function well during a critical period. Therefore, increased borrowing flexibility was needed, and, in this connection, the activation of the commercial paper programmes helped give the central government access to a wider investor base. This reduced the requirement for issuance of

domestic bonds and thus helped ease the pressure on the domestic market.

The demand for Danish government securities bounced back after a difficult period in March-April, see Chart 7 (right). From mid-April, the demand was good with steady sales at the central government's auctions.

Focus on 2-year and 10-year bonds

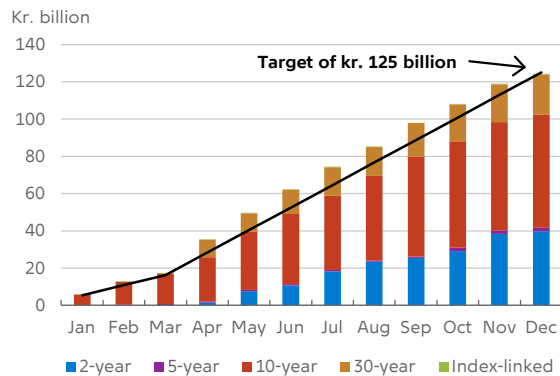
In line with the strategy, the majority of the issuances were made in 2-year and 10-year nominal bonds, see Table 2. This reflects the strategy to build up these bonds to levels for liquid benchmark series. Sales in the two bonds accounted for about 80 per cent of the total issuances for the year. There was also good demand for the new 30-year bond, which accounted for just under 20 per cent of the issuances.

The other on-the-run issues were only used to a minor extent, one reason being limited demand. This also applied to the inflation-indexed bond, for which sales only amounted to kr. 0.3 billion, which reflects low inflation expectations.

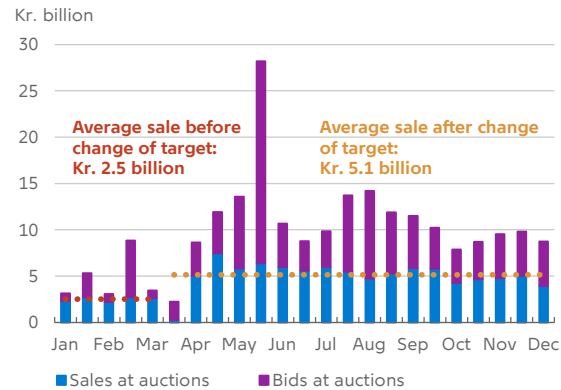
Sales of government bonds were in line with the target

Chart 7

Sales at auctions and tap sales



Bids and sales at auctions



Note: Left: Sales at market value excl. switch operations. Sales were made for kr. 80 million in the 20-year nominal segment (4.5 per cent 2039), not shown in the chart. Right: Bids and sales at nominal value.
 Source: Danmarks Nationalbank.

Government bonds issued at record low yields

Danish government bonds were issued at record low yields in 2020. Nominal bonds were sold at an average yield to maturity of -0.33 per cent p.a., which is on a par with 2019. The low yield level must also be seen in the light of the bond issuances in 2020 having had a significantly longer average remaining maturity (11.6 years) relative to previous years, see Table 3. The main reason for the long remaining maturity in 2020 is the opening of the new 30-year bond.

Large fluctuations in yields

Danish government yields increased significantly in March-April as a result of the significant market turmoil, see Chart 8 (left). The market turmoil also resulted in extensions of the yield spread to Germany in several countries, see Chart 8 (right). This was also the case for Denmark, where the extension of the yield spread must also be seen in the context of Danmarks Nationalbank's independent interest rate increase of 15 basis points in March.

The increased interest in Danish government securities from mid-April meant that interest rates subsequently fell and that the yield spread to Germany was gradually narrowed. The 10-year yield spread to Germany was roughly back to the pre-covid-19 level in June, when taking into account Danmarks Nation-

Central government issuances in 2020

Table 2

Kr. million, market value	Auctions and tap sales	Switch operations
0.25 per cent 2022	39,782	8,011
1.75 per cent 2025	1,848	717
0.5 per cent 2029	60,888	10,847
0.1 per cent 2030i	326	-
4.5 per cent 2039	80	-
0.25 per cent 2052	21,337	8,005
Total	124,262	27,580

albank's interest rate increase, and was on a level of around 13-16 basis points since June.

Other comparable European countries have seen a further and greater narrowing of the yield spread to Germany. This may be driven by the ECB's asset purchase programme (QE) and TLTRO lending facility, which have contributed to pushing down yields in general, but especially in the euro area, see Box 2.

Commercial paper programmes were an important source of financing in the spring ...

When the financing requirement increased rapidly and suddenly in the spring during a period with considerable pressure on the domestic bond market, there was a need for great flexibility in the issuance. The activation of the central government's two commercial paper (CP) programmes for the first time since 2015 meant that the central government gained access at short notice to the international capital markets, which are characterised by great depth. The programmes were also well suited, as a large part of the increase in the financing requirement was due to temporary liquidity shifts, see Box 3.

After the opening of the CP programmes, the central government quickly built up the outstanding volume to around kr. 100 billion, see Chart 9. The programmes were thus the primary source of central government financing during the initial part of

Yield to maturity on central government issuances

Table 3

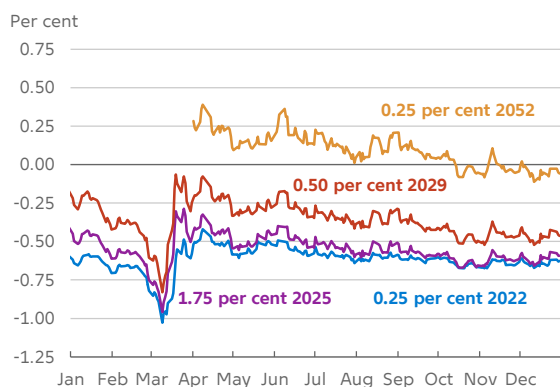
	Average maturity, years	Average yields, per cent p.a.
2013	9.6	1.42
2014	9.3	1.11
2015	6.8	0.32
2016	7.4	0.04
2017	7.5	0.15
2018	7.5	0.15
2019	7.8	-0.33
2020	11.6	-0.33

Note: Yield to maturity is weighted by market value. Yield to maturity is exclusive of index-linked bonds.
 Source: Own calculations.

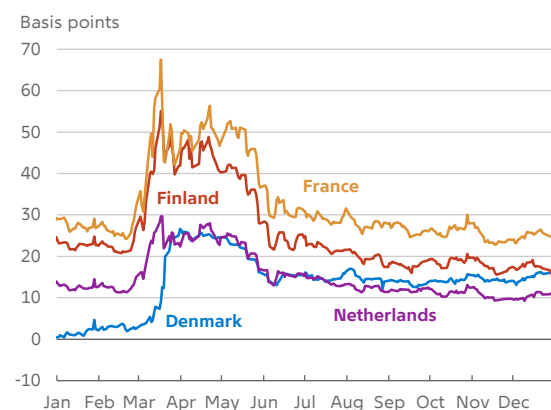
Low yields and stable yield spread to Germany since June

Chart 8

Yields to maturity for Danish government securities



Yield spread to Germany in 10-year segment



Note: Left: Yields to maturity. Right: Par yield spread to Germany in 10-year segment.
 Source: Nordea Analytics.

What are quantitative easing (QE) and targeted longer-term refinancing operations (TLTRO)?

Box 2

Quantitative easing. Traditionally, central banks use monetary policy interest rates to influence economic demand, but several central banks around the world, including the ECB, also purchase financial assets such as government bonds. They do this to push the interest rate level further downwards in a situation where interest rates are already very low to support economic growth. This extraordinary monetary policy measure is known as quantitative easing (QE) and helps stimulate the economy beyond what central banks can do by conventional means.

Targeted longer-term refinancing operations. Another of the ECB's extraordinary monetary policy measures is targeted longer-term refinancing operations or TLTRO. Under TLTRO, long-term loans are granted to banks, where the amount that banks can borrow is linked to their existing lending to households and corporations, excluding home loans. The banks can borrow more and at a lower interest rate if they increase their lending to the real economy. This gives the banks an incentive to increase their lending and thus promotes economic activity.

Commercial papers

Box 3

The central government can raise short-term foreign loans via two commercial paper programmes: a European (ECP) programme and a US (USCP) programme. They may be used both as part of the central government's liquidity reserves and to facilitate the build-up of the foreign exchange reserve.

Like T-bills, commercial papers (CPs) are a source of short-term financing and are thus suitable for countering temporary liquidity shifts, but, unlike T-bills, they are non-standardised products with a very high degree of flexibility. The issuances can, for example, be adjusted in terms of value, maturity (up to 12 months) and currency. The central government can issue CPs up to a total amount limit of 12 billion dollars in each of the central government's two programmes. Under the USCP programme, CPs can be issued in dollars, while CPs can be issued in several currencies under the ECP programme. CPs are issued as zero-coupon papers directly to an investor via one of the central government's bank counterparties in the programmes. The central government has five bank counterparties in the USCP programme and 10 in the ECP programme.

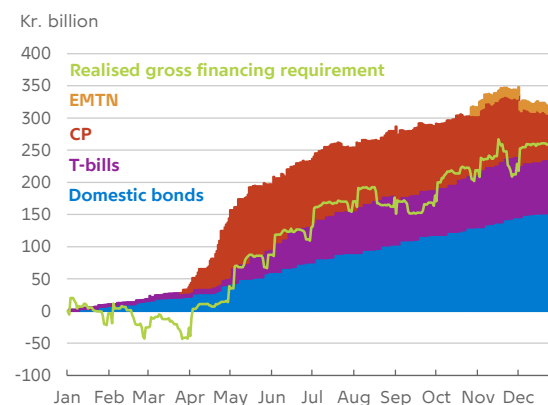
the covid-19 crisis and helped ease the pressure on the domestic bond market during a difficult period. The issuance of commercial papers also contributed to supporting excess liquidity in the banking sector, which, in turn, had a positive effect on the demand for domestic government securities.¹

... and subsequently ensured the central government of a solid account buffer

The balance on the central government's account increased from kr. 70 billion at the end of 2019 to kr. 137 billion at the end of 2020 as a result of the government budget deficit being lower than expected, see Chart 10. The central government maintained a large account buffer throughout 2020, and the increase in the balance on the central government's account is largely equal to the current outstanding volume under the central government's commercial paper programmes, see Chart 9. The commercial paper loans were raised at yields slightly below the interest rate on the central government's account.

The central government's financing requirement was met using a wide range of financing sources

Chart 9



Note: The chart shows the central government's cumulative borrowing in domestic bonds, T-bills, commercial papers and the EMTN programme in conjunction with the central government's cumulative gross financing requirement.
 Source: Own calculations.

1 See Danmarks Nationalbank ([link](#)) for further details.

This meant that the maintenance of a higher account buffer did not result in increased central government costs. The significant account buffer contributes to the central government entering 2021 with a good starting point.

The outstanding volume in commercial papers was kr. 70 billion at the end of 2020. This will be further reduced in 2021 in line with the temporary covid-19 measures being phased out.

The T-bill programme was increased and expanded in 2020

With prospects of an increased borrowing requirement and to ensure greater flexibility in the access to short-term domestic financing, the T-bill programme was extended from two to four loan series in March 2020. The central government has since maintained four loan series and subsequently adjusted upwards the target for the outstanding amount in the T-bill programme to kr. 80-100 billion.

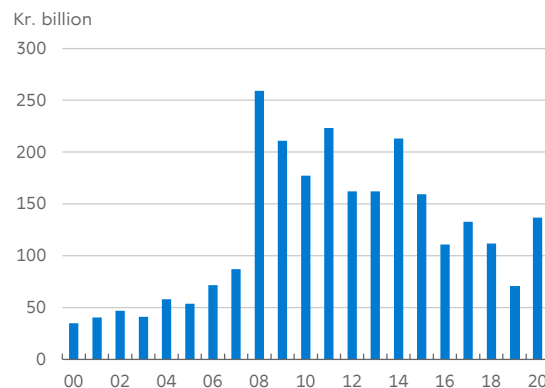
At the end of 2020, the outstanding volume in the T-bill programme was kr. 83 billion.² T-bills were sold at an average yield to maturity of -0.52 per cent p.a. in 2020.

There was generally good demand for T-bills in 2020. However, the turmoil in the financial markets meant that demand was very limited for a period in March-April, which resulted in few bids at the auctions. To arouse investor interest, the central government entered a purchase bid in the government bond with maturity in 2020 at a yield above the market yield. The central government's primary dealers quickly moved the market quotations in T-bills to a corresponding yield level, and the bid for the 2020 bond could be taken off the market again on the same day.

The higher yield level made T-bills more attractive, for example among domestic investors for investment of excess liquidity as an alternative to 'adjustable rate mortgage bonds and certificates of deposit. This is reflected in a higher domestic ownership share relative to previous years, see Chart 11.

The balance on the central government's account was kr. 137 billion at the end of 2020

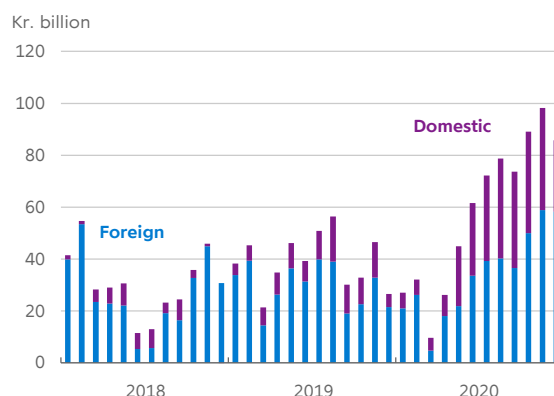
Chart 10



Note: Year-end.
 Source: Danmarks Nationalbank.

The T-bill programme was expanded in 2020

Chart 11



Note: Outstanding volume at nominal value by trading day.
 Source: Danmarks Nationalbank.

² By value date and thus deviates from the outstanding volume in Chart 11, which is displayed by trading date.

Foreign investors' interest in T-bills was generally good, despite the Federal Reserve's monetary policy easements making lending of dollars against Danish kroner, among other currencies, less attractive during periods of the year.

The central government issued its first EMTN loan since 2014

There was tremendous investor interest when, on 20 October, the central government issued its first foreign currency loan under the *European Medium-Term Note (EMTN) Programme* since 2014. The issuance was made to ensure that the central government's EMTN programme is a well-functioning source of financing, including that processes, investors and market players are in place. The EMTN programme gives the central government access to a broad and diversified investor base through the international capital markets, see Box 4. The issuance was made after a full update of the documentation for the central government's EMTN programme.

A 2-year dollar loan of 2 billion dollars, equal to 1.7 billion euros, was issued via syndication. Issuance in dollars gives access to investors which, relative to an issuance in euros, supplement the investor base in krone-denominated bonds to a greater extent. The large and broad interest in the issuance was underlined by an order book amounting to nearly 9 billion dollars, widely distributed on both investor type and geography. Central banks and public institutions

EMTN loan

Box 4

The central government primarily issues bonds denominated in foreign currency for the sake of the foreign exchange reserve, but, in extraordinary situations, issuances can also be made to finance the central government's domestic borrowing requirement. When the central government borrows funds denominated in foreign currency, the proceeds of the loan are deposited in the foreign exchange reserve, and the balance on the central government's account is increased by the kroner equivalent. With the EMTN programme, the central government achieves a significant diversification of the investor base, both in terms of region and investor type, and issuances can also relatively quickly be made in currencies in which the debt market is very deep.

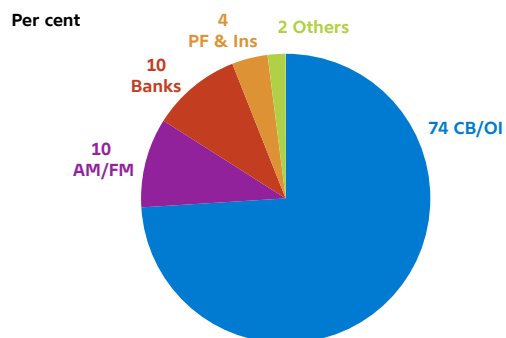
were allocated the main part of the total with an allocation of 74 per cent, see Chart 12 (left). Geographically, investors from European, Middle Eastern and African countries (EMEA) received the largest allocation, equal to half the total sales, see Chart 12 (right).

The loan was raised at a yield to maturity of 0.248 per cent p.a., equal to 9.85 basis points above the equivalent US Treasury bond, or 1 basis point above the swap curve. This is on a par with the Swedish central government's 2-year dollar issuance two weeks earlier and thus among the most expensive issuances in 2020. All payments were swapped at a

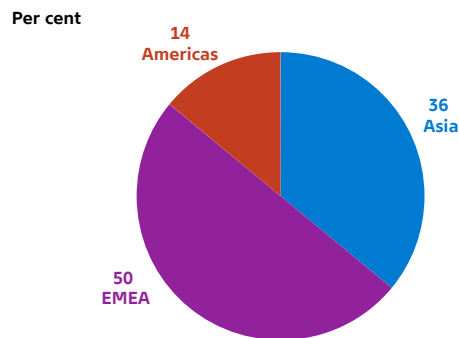
Large and broad interest in the central government's EMTN issuance

Chart 12

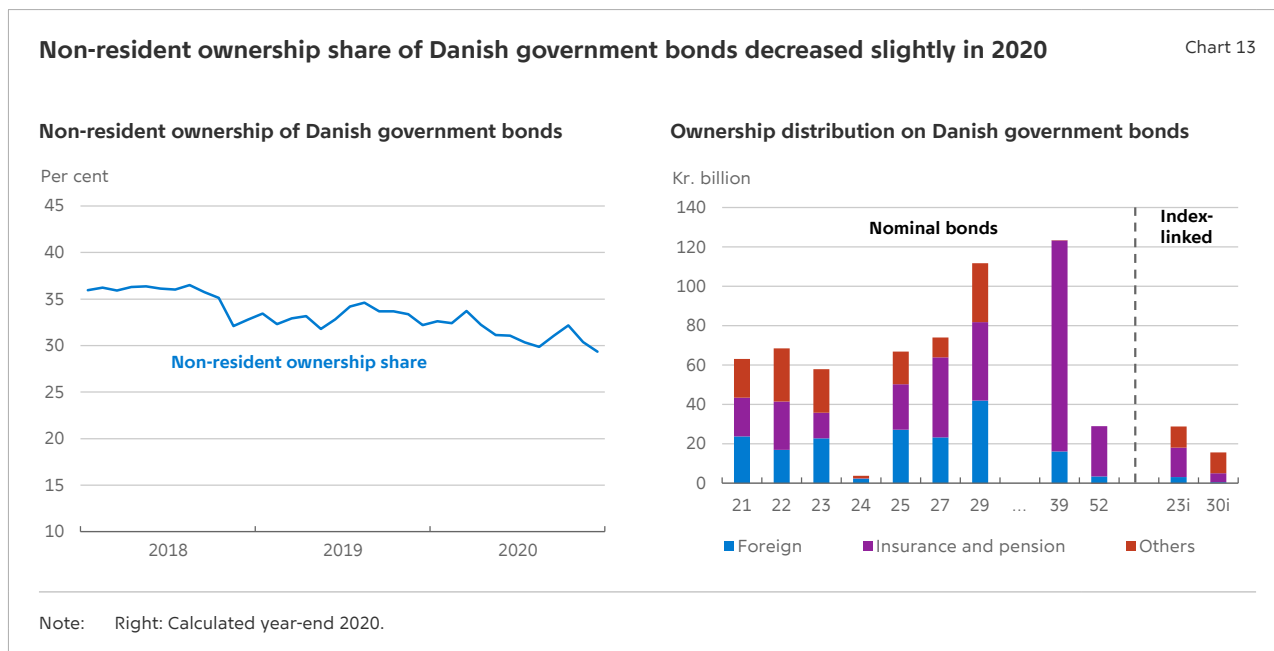
Allocation by investor type



Allocation by geography



Note: CB/OI stand for central banks/public institutions, and AM/FM for asset managers/fund managers.



fixed interest rate in euros with a yield to maturity of -0.57 per cent p.a., roughly equal to the level at which the central government could have issued directly in euros.

Broad investor base in domestic government bonds

Domestic government bonds are owned by a broad investor group, see Chart 13 (right). The ownership share in the longer-term securities is concentrated among domestic insurance and pension companies. It is natural for this investor group to demand long-term government securities to cover long-term pension liabilities.

Non-resident ownership share of Danish government bonds was 29 per cent at the end of 2020, and thus decreased slightly relative to 2019, see Chart 13 (left).

Japanese investors were among the net sellers of Danish government bonds in 2020. Conversely, particularly North American investors were net buyers of Danish government bonds in 2020.

Trading in the secondary market

Rapid normalisation of liquidity in market for government securities after market turmoil

Liquidity indicators and indications from the central government's primary dealers³ show that the liquidity in the government securities market was significantly reduced in March due to uncertainty about the effects of covid-19 and the general market turmoil. The deteriorated liquidity was, for example, reflected in a significant increase in the quoted trading costs in the inter-dealer market, measured as the spread between bid and ask prices. Concurrently with the widening of the spread, the depth in the inter-dealer market fell, measured as the marketable volume at the best bid and ask prices, see Chart 14.

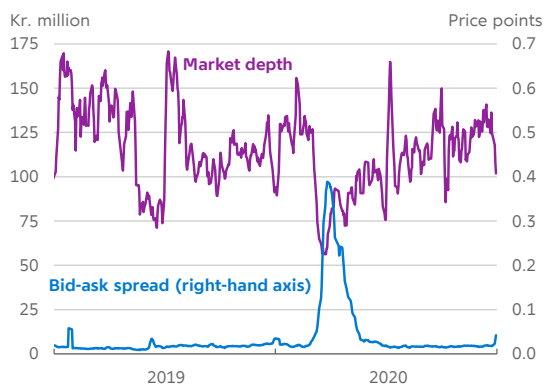
In line with calm being restored in the markets, both the spread between bid and ask prices and the depth returned to normal levels relatively quickly, see Chart 14. The relatively rapid return to normal levels indicates that the central government's primary dealer model still functions well.

³ See Danmarks Nationalbank ([link](#)) for further information.

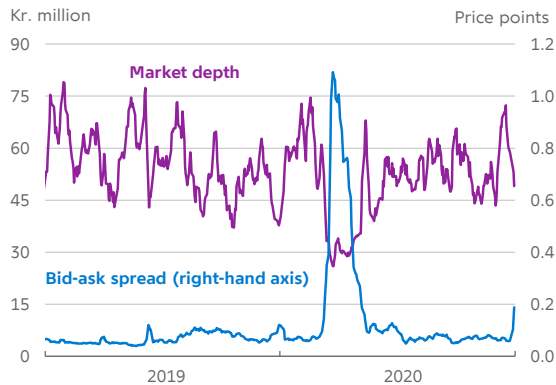
Liquidity in the inter-dealer market normalises rapidly after market turmoil

Chart 14

2-year benchmark



10-year benchmark



Note: Bid-ask spread and market depth 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, respectively.
 Source: MTS Denmark and own calculations.

The central government was active in the secondary market

Also in 2020, the central government contributed to a liquid and well-functioning government securities market through purchases, switches and tap sales, see Chart 15. The central government’s activity in the secondary market contributes to making it easier and less expensive to trade in Danish government securities.

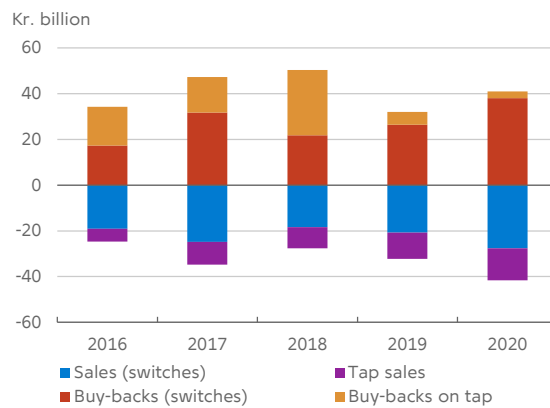
Purchases were primarily made via switches

In 2020, the central government purchased government securities with maturity outside the year for kr. 41 billion at market value, kr. 38 billion of which was via switch operations, see Table 4. The limited volume of purchases not made as switch operations (tap purchases) must be seen in light of the fact that the central government’s financing requirement was exceptionally high in 2020.

In 2020, two regular switch operations were held a month, where primary dealers and investors could switch papers outside the on-the-run issue to more liquid issuance papers. A significant part of the switches were made between the 2052 bond and the 2039 bond, which contributes to evening out the maturity profile and reducing the central government’s large amortisations in 2039. The switches have also contributed to building up the outstanding volume in the new 30-year bond. Sales of kr. 8 billion were

Central government activity in the secondary market

Chart 15



Note: Purchases of bonds maturing within the year are not included.

made via switches in the 2052 bond, equal to just under 30 per cent of the total issuances in the bond, see Table 4.

Sales of government bonds were supplemented by tap sales

The central government's issuance of bonds primarily takes place at the auctions, which are typically held twice a month, but this is also supplemented to a smaller extent by tap sales in the secondary market between the auctions. In 2020, the central government sold bonds for kr. 14 billion via tap sales, which is slightly higher than in the previous years, see Chart 15.

Securities lending

The central government's primary dealers have access to the central government's and the Social Pension Fund's securities lending schemes. Under these schemes, the primary dealers may borrow government securities against security in other Danish government securities. This supports the primary dealers' market making and thus also contributes to ensuring a liquid market for Danish government securities.

The central government charges a fee for the lending of securities to incentivise trading between the market participants. The extraordinary market conditions in March meant that the fee for securities lending to the central government's primary dealers was temporarily reduced to 0.1 per cent p.a. from 0.2 per cent p.a. The fee was increased again to 0.2 per cent p.a. with effect from 1 January 2021.

Barclays Bank has withdrawn as a primary dealer

Barclays Bank withdrew from the group of primary dealers in Danish government bonds in 2020. After this withdrawal, there are nine primary dealers, including four international banks.

Market risk management

Identification and management of risks are an important element in the management of central government debt. The risk management generally supports the overall objective for 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.

Switches in 2020

Table 4

Kr. million, market value	Purchases	Issuance
3 per cent 2021	2,160	-
0.25 per cent 2022	-	8,011
1.5 per cent 2023	4,749	-
7 per cent 2024	939	-
1.75 per cent 2025	-	717
0.5 per cent 2027	13,745	-
0.5 per cent 2029	-	10,847
4.5 per cent 2039	16,454	-
0.25 per cent 2052	-	8,005
Total	38,047	27,580

The central government's market risks are primarily directed at risks connected with the development in interest rates, as the central government only has very limited exchange rate risks. The central government's interest rate risk is the risk that the central government's interest costs will increase as a result of the central government having to meet its financing requirement at higher interest rates in the future. The risk depends on the debt level and 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.

In 2020, there was also increased focus on the central government's refinancing risk as a result of the increase in the central government's short-term borrowing. The refinancing risk covers the risk of having to issue debt at extraordinarily high interest rates, including the extreme case in which it is not possible to refinance the debt. The refinancing risk can be illustrated by several indicators, including the short-term refinancing volume, which is calculated as the sum total of the maturity of existing government securities in the next 12 months. The short-term refinancing volume thus expresses the amount of payments on the debt that the central government faces in the short term.

Interest rate risk remains low

In 2020, the average duration of the central government debt was 9.8 years, see Chart 16 (left). The duration of the central government debt has consequently been reduced by 0.4 years against 2019. The decrease in duration primarily reflects the increase in short-term borrowing.

The target for the average duration was set at 10 years \pm 0.5 years at the beginning of the year. However, the duration tolerance band was extended to 10 years \pm 1 year in June due to the great uncertainty about the development in the balance on the central government's account. There have been significant fluctuations in the duration during the year derived from large movements in the central government's account.

Central government debt is robust to interest rate changes

The long-term fixed interest period for the central government debt ensures that any interest rate increases will only make themselves felt gradually on the central government's total interest costs. A permanent increase in all interest rates by 3 percentage points by 2021 will thus increase the central government's net interest costs by less than 0.1 per cent of GDP in 2021, see Chart 16 (right). The interest rate pass-through will subsequently increase gradually to around 0.5 per cent of GDP after five years. The rea-

son for the gradual interest rate pass-through is that higher interest rates have an immediate effect on the interest accrual on the central government's account, while the debt costs only increase in line with new debt being issued or existing debt being refinanced.

Increased focus on the central government's refinancing risk

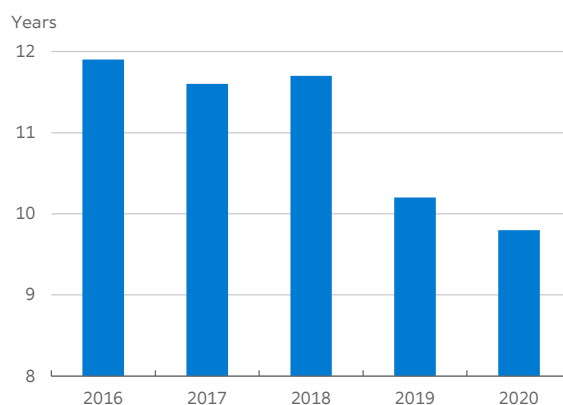
A large part of the financing in 2020 has been in short-term securities, which has resulted in an increase in the short-term refinancing burden of around kr. 140 billion since the end of 2019. This is a high level relative to previous years, see Chart 17, and it has increased the focus on the central government's refinancing risk.

The assessment of the refinancing risk depends greatly on whether the loans that fall due are to be refinanced or will merely roll out, for example because they have covered a temporary expense item. On this basis, the overall refinancing risk is assessed as low, although it is higher than previously. The reason for this is that the increase in the refinancing burden primarily reflects increased short-term borrowing to finance temporary draws on liquidity in the form of deferred tax and VAT revenues, on-lending to LD Pensions in connection with the disbursement of frozen holiday pay funds and the build-up of a temporary account buffer. In addition, the refinancing burden is expected to be reduced during

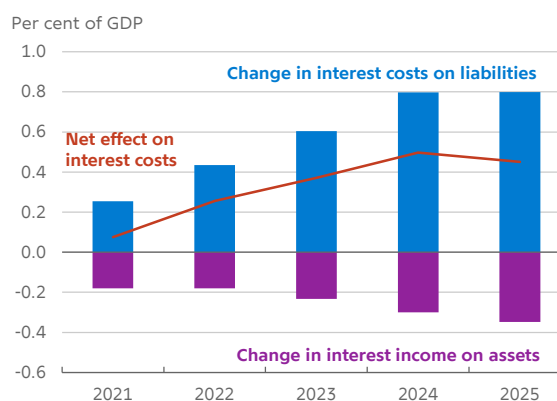
Interest rate risk on central government debt remains low

Chart 16

The duration was further reduced in 2020



Interest rate pass-through of 3 percentage points



Note.: Left: Average duration calculated without discounting. Right: Changes in interest costs in a permanent parallel shift of the yield curve, beginning of 2021. The calculations are based on a number of simplified assumptions as well as preliminary budget estimates.

Source: Own calculations.

2021 in line with a reduction in temporary short-term borrowing in, for example, commercial papers.

Currency risk of foreign issuances is low

The central government issued commercial papers in dollars and euros as well as a 2-year dollar loan in 2020. When the central government raises foreign loans in currencies other than euro, the currency exposure on amortisations and interest payments is converted into euro or kroner. The central government's foreign debt portfolio is thus exposed only to euro, where the current risk is very low due to the Danish fixed exchange rate policy towards the euro.

On-lending and central government guarantees

A number of government-owned companies have access to raising loans via the central government, so-called on-lending, see Box 5. In 2020, the central government's on-lending amounted to kr. 27 billion at nominal value, see Table 5. The largest borrowers were The Copenhagen Metro, Femern Belt A/S and Energinet. The total outstanding on-lending volume amounted to kr. 138 billion at year-end, equal to an increase of just under kr. 8 billion against 2019.

Most on-loans in second half of the year

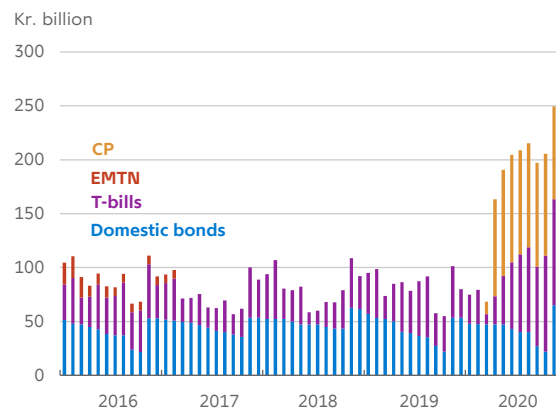
Most on-loans were raised in the second half of 2020, see Chart 18. This is mainly due to Femern Belt A/S, which converted loans to the new 30-year bond. The main part thereof is proceeds neutral and does not affect the central government's financing requirement.

It is generally in the interests of both the central government and the companies to distribute the raising of loans over the year. This ensures that the companies' interest risk is spread out and that the central government's risk management is strengthened when the companies distribute their raising of loans over the year.

In 2020, 85 per cent of the on-loans were raised on auction days and in auction papers, see Chart 19. This helps ensure that the companies are offered the same interest rate on on-loans as that on which the central government's own financing is based. This is particularly important in case of large on-loans.

Short-term borrowing has increased the central government's short-term refinancing volume

Chart 17



Note: Each column shows the next 12 months of maturity of domestic bonds, T-bills, EMTN loans and commercial papers.

On-lending

Box 5

In connection with on-lending, the 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 requirement 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 on 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.

On-lending in 2020

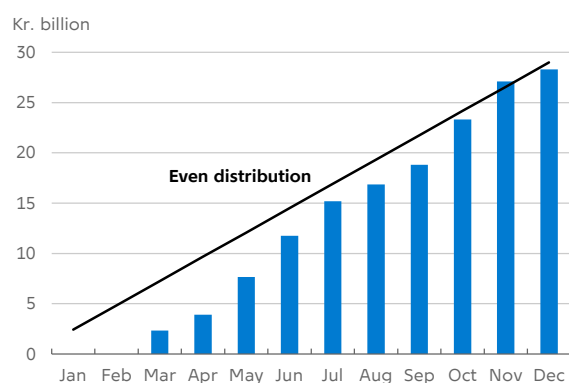
Table 5

Kr. billion, nominal value	Holding, end of 2019	Gross borrowing in 2020	Amortisations and early redemptions in 2020	Holding, end of 2020
Infrastructure				
A/S Femern Landworks	3.9	3.0	-1.5	5.4
A/S Storebælt	17.3	2.0	-1.0	18.3
A/S Øresund	10.7	1.2	-1.2	10.8
Energinet	28.7	4.0	-1.7	31.0
Femern Belt A/S	11.8	5.3	-5.3	11.8
Fjord Link Frederikssund	0.8	0.1	-0.1	0.8
The Copenhagen Metro	29.4	6.3	-3,8	31.9
Greater Copenhagen Light Rail	1.1	0.2	0.0	1.3
Sund & Bælt Holding A/S	0.7	0.0	0.0	0.7
CPH City & Port Development	12.7	1.4	-1.8	12.3
Other				
Danish Ship Finance	0.9	0.0	-0.5	0.3
DR (Danish Broadcasting Corporation)	2.9	0.3	-0.4	2.8
EKF (Danish Export Credit Agency)	9.8	2.6	-2.2	10.3
Investment Fund for Developing Countries	0.1	0.0	0.0	0.2
Nordsøfonden (Danish State's oil and gas company)	0.0	0.5	0.0	0.5
Total	130.7	27.0	-19.4	138.3

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.

Accumulated on-lending

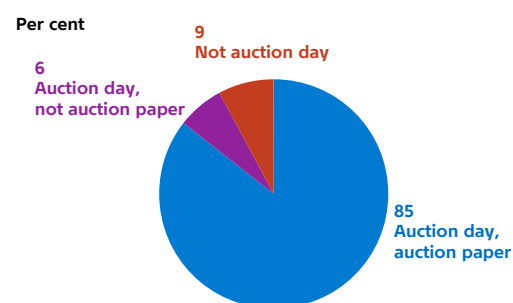
Chart 18



Note: Accumulated on-lending at market value.

On-loans are typically raised on auction days

Chart 19



Source: Own calculations.

New on-lending counterparties

Vækstfonden (the Growth Fund), the Danish Green Investment Fund, Danmarks Grønne Fremtidsfond (the Danish Green Future Fund) and Evida Holding A/S are new on-lending counterparties which are expected to raise their first on-loans in 2021. Evida takes over activities from Energinet.

Government loan guarantees

In recent years, the government-owned companies have made more extensive use of on-loans than government-guaranteed loans in their financing. The reason for this is that the on-lending financing costs are typically lower, as the loan is financed by the issuance of government bonds, which have a higher liquidity than corresponding government-guaranteed issuances from the companies. At the end of 2020, Danmarks Nationalbank managed government loan guarantees amounting to kr. 11 billion, equal to 0.5 per cent of GDP, see Table 6.

Social housing bonds

The central government has purchased all bonds for financing of social housing

In 2020, the central government purchased bonds for financing of social housing for just under kr. 27 billion at market value. Overall, since 2018, the central government has purchased bonds to finance social housing for around kr. 120 billion. The bonds finance new builds and refinancing of existing adjustable rate loans. To this are added fixed-rate convertible bonds, which are converted into new loans at the instance of the Danish Ministry of the Interior and Housing. The central government has purchased all issued government-guaranteed mortgage bonds and bonds issued by KommuneKredit for financing of social housing at a yield equal to the government yield.

Government funds

Danmarks Nationalbank manages the assets of three government funds

On behalf of the central government, Danmarks Nationalbank manages the assets of the Social Pension Fund, Innovation Fund Denmark and the Fund for Better Working Environment and Labour Retention.

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

Table 6

End of 2020	Kr. million	Per cent of GDP
A/S Storebælt	1,023	0.0
A/S Øresund	465	0.0
Fjord Link Frederikssund	2	0.0
A/S Femern Landworks	55	0.0
Øresundsbro Konsortiet I/S	8,039	0.4
DSB (the Danish State Railways)	286	0.0
DR (Danish Broadcasting Corporation)	436	0.0
The Danish Guarantee Fund for Non-life Insurers	761	0.0
Kalaallit Airports International A/S (KAIR INT)	73	0.0
Total	11,141	0.5

Note: The figures include guaranteed swaps. Loans taken out by Øresundsbro Konsortiet (the Øresund Bridge Consortium) are guaranteed by the Danish and Swedish central governments with joint and several liability.

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 risk on the assets of the funds is assessed separately, but forms part of the consolidated risk management of the central government debt.

The Social Pension Fund is expected to be discontinued in 2021

The Social Pension Fund (SPF) had assets of kr. 13 billion, stated at nominal value, at the end of 2020, see Table 7. SPF's nominal bond holding has gradually been reduced since 1995 as the transfers from the fund exceed the current yield.

In 2020, kr. 13.5 billion was transferred from the fund to the Danish Agency for Labour Market and Recruitment, see Table 8. The monthly transfers of just over kr. 1 billion were financed by interest payments, di-

The government funds' assets, end of 2020

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
3 per cent bullet loan 2021	5.7	3.7	0.7	16.0
1.5 per cent bullet loan 2023	6.2	2.7	-	15.3
7 per cent bullet loan 2024	-	1.1	-	30.4
1.75 per cent bullet loan 2025	-	2.1	-	3.1
0.5 per cent bullet loan 2027	-	3.7	-	5.1
Government bonds, total	11.9	13.3	0.7	4.0
Account balance	1.1	0.3	0.0	-
Total	13.0	13.6	0.7	-

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

vestment sales of government bonds and maturity of the last mortgage bonds in the fund's portfolio. The fund has financed part of the central government's expenses in recent years. With the current level of the transfers, the fund's assets are expected to have been exhausted by the end of 2021, when the fund is expected to be discontinued.

The fund's market risk is managed through the use of a tolerance band for the average Macaulay duration over the year. By 2020, the tolerance band was 2.5 years \pm 0.5 years. The duration ended at 2.1 years. The lower duration reflects that there is less time left until the discontinuation of the fund.

Innovation Fund Denmark

The assets of Innovation Fund Denmark amounted to just under kr. 14 billion, stated at nominal value at the end of 2020. 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 2020. The transfers were financed by interest income in the fund and divestment sales of bonds.

Fund for Better Working Environment and Labour Retention

The assets of the Fund for Better Working Environment and Labour Retention amounted to kr.

The funds' income and expenses in 2020

Table 8

Kr. million	SPF	Innovation Fund Denmark	Fund for Better Working Environment and Labour Retention
Revenues			
Interest etc. ¹	804	59	-5
Expenses			
Transfer to Ministry	13,520	400	-
Pension yield tax ²	14	-	-
Net revenues	-12,729	-341	-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.

0.7 billion by the end of 2020. According to the legislation, the fund's assets may only be invested in Danish government bonds. The fund's interest income and maturity of bonds are invested so that the future transfers from the fund are, as far as possible, matched by its income from interest and maturity on bonds. There were no transfers from the fund in 2020.

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Economic Memo is a cross between Analysis and Working Paper and it often shows the ongoing study of the authors. The publication series is primarily targeted at professionals. Economic Memo is published continuously.



WORKING PAPER

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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 2020

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Central-Government Debt year-end 2010-20 (continues next page)

Table 1

Kr. million	2010	2011	2012	2013	2014
A. Loan					
<i>Domestic debt</i>					
- Fixed-rate bonds, nominal	556,900	606,627	620,695	615,907	637,617
- Inflation-linked bonds ¹	-	-	10,207	23,251	35,531
- Fisheries Bank bonds	887	786	684	594	507
- Treasury bills	25,460	44,200	44,940	32,300	29,800
- Currency swaps from kroner to euro (net) ²	2,974	2,974	-1,490	-1,490	-
- Currency swaps from kroner to US dollars	-9,808	-8,660	-7,512	-6,364	-5,215
Domestic debt, total	576,413	645,927	667,524	664,198	698,240
<i>Foreign debt³</i>					
- in US dollars	9,901	8,957	7,662	6,219	5,778
- in euros	104,811	102,861	82,338	69,689	53,207
- in other currencies and multi-currency	18	-	-	-	-
Foreign debt, total	114,731	111,818	90,000	75,908	58,986
Domestic and foreign debt, total	691,144	757,745	757,524	740,106	757,225
B. Collateral related to swaps ⁴	-	-	-	3,596	3,804
C. Government deposits with Danmarks Nationalbank ⁵	-177,282	-223,100	-161,991	-161,953	-213,099
D. The Social Pension Fund, The Fund for Better Working Environment and Labour Retention and The Danish National Innovation Fund					
- Government securities	-75,511	-69,351	-70,859	-65,550	-64,825
- Other securities	-52,075	-51,393	-37,902	-32,352	-25,259
The three funds, nominal value, total	-127,587	-120,744	-108,761	-94,902	-90,084
E. Bonds to finance social housing	-	-	-	-	-
Central-government debt, total (A+B+C+D+E)	386,275	413,901	486,771	486,848	457,846
Central-government debt, per cent of GDP	21.3	22.4	25.7	25.2	23.1

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 2010-20 (continued)

Table 1

Kr. million	2015	2016	2017	2018	2019	2020
A. Loan						
<i>Domestic debt</i>						
- Fixed-rate bonds, nominal	584,356	572,020	570,222	543,732	543,075	597,153
- Inflation-linked bonds ¹	35,667	38,193	38,765	43,897	44,957	44,223
- Fisheries Bank bonds	424	343	272	200	129	108
- Treasury bills	29,840	27,180	32,740	30,400	23,980	83,180
- Currency swaps from kroner to euro (net) ²	-	-	-	-	-	-
- Currency swaps from kroner to US dollars	-4,067	-2,942	-1,872	-1,022	-400	-67
Domestic debt, total	646,220	634,794	640,127	617,207	611,741	724,596
<i>Foreign debt³</i>						
- in US dollars	5,047	3,795	2,152	1,244	497	71
- in euros	28,223	8,044	-	-	-	82,132
- in other currencies and multi-currency	-	-	-	-	-	-
Foreign debt, total	33,270	11,839	2,152	1,244	497	82,202
Domestic and foreign debt, total	679,490	646,633	642,279	618,450	612,239	806,798
B. Collateral related to swaps⁴	2,859	1,610	1,005	690	267	-370
C. Government deposits with Danmarks Nationalbank⁵	-157,376	-110,928	-134,689	-111,674	-70,411	-136,875
D. The Social Pension Fund, The Fund for Better Working Environment and Labour Retention and The Danish National Innovation Fund						
- Government securities	-62,399	-63,233	-52,084	-48,454	-32,267	-25,851
- Other securities	-17,172	-8,834	-7,432	-1,675	-1,675	-
The three funds, nominal value, total	-79,571	-72,067	-59,516	-50,129	-33,942	-25,851
E. Bonds to finance social housing	-	-	-	-30,298	-86,784	-107,689
Central-government debt, total (A+B+C+D+E)	445,402	465,249	449,079	427,039	421,368	536,014
Central-government debt, per cent of GDP	21.9	22.1	20.5	18.9	18.0	23.5

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 2018-20

Table 2

Kr. billion	2018	2019	2020
Current, investment and lending budget	41.4	61.2	na.
On-lending of government loans	-48.5	-18.5	na.
Distributed capital losses on issue and due interest ¹	2.6	2.3	na.
Other capital items ²	-2.7	-37.3	na.
Net cash balance	-7.2	7.7	-110.7
Net financing requirement (= -net cash balance)	7.2	-7.7	110.7
Redemption on long-term domestic government debt ³	95.9	135.9	116.7
Redemption on T-bills ⁴	32.7	30.4	24.0
Domestic financing requirement ⁵	135.8	158.6	251.3
Redemption on long-term foreign government debt ⁶	1.0	0.8	0.4
Redemption on commercial papers ⁴	0.0	0.0	0.0
Financing requirement	136.8	159.4	251.8

Source: *Central Government Accounts*. 2020 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 2016-20

Table 3

Kr. billion	2016	2017	2018	2019	2020
Domestic debt	21.5	18.5	15.6	14.2	17.1
Foreign debt	0.1	0.0	-0.1	-0.1	-0.6
Central government's account at Danmarks Nationalbank	0.3	0.2	0.8	0.5	0.6
Government funds	-4.1	-1.5	-1.2	-1.4	-0.9
Bonds for financing social housing	-	-	-0.0	-0.0	0.1
Central-government debt	17.8	17.1	15.1	13.2	16.3
Central-government debt, per cent of GDP	0.8	0.8	0.7	0.6	0.7
On-lending	-2.1	-2.0	-1.5	-1.4	-1.3
Central-government debt, adjusted for on-lending	15.7	15.2	13.6	11.8	15.1
Central-government debt, adjusted for on-lending, per cent of GDP	0.7	0.7	0.6	0.5	0.7

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

Source: *Central Government Accounts*. Figures for 2020 are provisional figures from the central government's accounting.

Issuance of domestic central-government securities in 2020

Table 4.1

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	46,895	47,794
DK0009923138	1.75	Bullet loan 2025	20 May 2014	15 Nov 2025	2,280	2,565
DK0009923807	0.5	Bullet loan 2029	23 Jan 2019	15 Nov 2029	66,380	71,735
DK0009923724	0.1	DGBI 2030	7 Feb 2018	15 Nov 2030	270	326
DK0009922320	4.5	Bullet loan 2039	11 Nov 2008	15 Nov 2039	40	80
DK0009924029	0.25	Bullet loan 2052	1 Apr 2020	15 Nov 2052	28,560	29,342
Government bonds, total					144,425	151,843
T-bills						
DK0009817454	0	T-bill 2020 I	30 Aug 2019	2 Mar 2020	2,400	2,403
DK0009817538	0	T-bill 2020 II	28 Nov 2019	2 Jun 2020	3,400	3,407
DK0009817611	0	T-bill 2020 III	27 Feb 2020	1 Sep 2020	14,540	14,567
DK0009817884	0	T-bill 2020 IV	30 Mar 2020	1 Dec 2020	21,400	21,444
DK0009817967	0	T-bill 2021 I	30 Mar 2020	1 Mar 2021	43,640	43,761
DK0009818189	0	T-bill 2021 II	28 May 2020	1 Jun 2021	21,400	21,498
DK0009818262	0	T-bill 2021 III	28 Aug 2020	1 Sep 2021	13,820	13,891
DK0009818346	0	T-bill 2021 IV	27 Nov 2020	1 Dec 2021	4,320	4,345
T-bills, total					124,920	125,315
Domestic issuance, total					269,345	277,158

Note: Issuances related to switch operations are included.

Issuance of foreign central-government bonds in 2020

Table 4.2

ISIN code	Coupon, per cent	Name	Issued	Redemption date	Issuance, kr. million, nominal ¹
Loan					
XS2249779302	0.125	2,000 million US dollar loan	20 Okt 2020	27 Okt 2022	12,592

1. The loan was swapped to 1,692 million euro with a fixed rate.

Central-government domestic debt as of end-2020

Table 5.1

Kr. million, nominal value	Outstanding amount end-2019	Issuance 2020	Redemp- tions 2020	Outstanding amount end-2020	Redemption date	ISIN code
Government bonds, fixed interest-rate						
<i>Bullet loans</i>						
0.25 per cent bullet loan 2020	53,385	-	53,385	-	15 Nov 2020	DK0009923641
3 per cent bullet loan 2021	68,255	-	5,255	63,000	15 Nov 2021	DK0009922676
0.25 per cent bullet loan 2022	21,480	46,895	-	68,375	15 Nov 2022	DK0009923997
1.5 per cent bullet loan 2023	64,415	-	6,545	57,871	15 Nov 2023	DK0009923054
7 per cent bullet loan 2024	6,879	-	3,172	3,707	10 Nov 2024	DK0009918138
1.75 per cent bullet loan 2025	64,580	2,280	-	66,860	15 Nov 2025	DK0009923138
0.5 per cent bullet loan 2027	86,990	-	13,010	73,980	15 Nov 2027	DK0009923567
0.5 per cent bullet loan 2029	45,280	66,380	-	111,660	15 Nov 2029	DK0009923807
4.5 per cent bullet loan 2039	131,810	40	8,710	123,140	15 Nov 2039	DK0009922320
0.25 per cent bullet loan 2052	-	28,560	-	28,560	15 Nov 2052	DK0009924029
<i>Inflation-linked bonds¹</i>						
0,1 per cent inflation-linked 2023	29,745	-	1,185	28,676	15 Nov 2023	DK0009922916
0,1 per cent inflation-linked 2030	15,212	274	-	15,547	15 Nov 2030	DK0009923724
<i>Perpetual bonds</i>						
5 per cent Dansk-Islandsk Fond 1918	1	-	-	1	Perpetual	-
Government bonds, fixed interest rate, total	588,032	144,429	91,261	641,376		
T-bills						
T-bill I 2020	22,480	2,400	24,880	-	2 Mar 2020	DK0009817454
T-bill II 2020	1,500	3,400	4,900	-	2 Jun 2020	DK0009817538
T-bill III 2020	-	14,540	14,540	-	1 Sep 2020	DK0009817611
T-bill IV 2020	-	21,400	21,400	-	1 Dec 2020	DK0009817884
T-bill I 2021	-	43,640	-	43,640	1 Mar 2021	DK0009817967
T-bill II 2021	-	21,400	-	21,400	1 Jun 2021	DK0009818189
T-bill III 2021	-	13,820	-	13,820	1 Sep 2021	DK0009818262
T-bill IV 2021	-	4,320	-	4,320	1 Dec 2021	DK0009818346
T-bills, total	23,980	124,920	65,720	83,180		
Fisheries Bank of Denmark Bonds						
5 per cent 2025	129	-	22	108	1 Nov 2025	DK0009604894
Fisheries Bank Bond, total	129	-	22	108		
Domestic government securities, total	612,141	269,349	157,003	724,663		
Swaps from kroner to US dollar	-400	-	-332	-67		
Central-government domestic debt, total	611,741	269,349	156,670	724,596		

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-2020

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 Okt 2022	12,115
2020/22 swap from US dollar				-6,058
2020/22 swap from US dollar				-6,058
2020/22 swap to euro	-0.7225			6,295
2020/22 swap to euro	-0.7345			6,295
Loan, total				12,590
Commercial papers				
ECP programme in euro				16,515
ECP programme in US dollar ²				31,227
USCP programme in US dollar ²				19,512
Forward foreign-exchange contracts ²				2,288
CP outstanding, total				69,542
Other foreign debt				
Currency swaps in US dollar ³				71
Other foreign debt, total				71
Foreign debt, total				82,202

¹ The outstanding amount as of 31 December 2020 is calculated to kroner on the basis of the following exchange dollar rates as of 30 December 2020: euro = 743.93 and US dollar = 605.76.

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.

³ The government's currency swaps are all concluded to hedge on-lending in dollar to Danish Ship Finance.

Central-government portfolio swaps as of end-2020

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	
2021	-	-	-	
2022	-	-	-	
2023	-	-	-	
2024	-	-	-	
2025	-	-150	-1,116	
2026	-	-650	-4,836	
2027	600	-	-	
2028	600	-	-	
Interest rate swaps, total	1,200	-800	-5,951	

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 2020: euro = 743,93.

On-lending and government guarantees administered by Danmarks Nationalbank 2016-20

Table 7

Kr. million	2016	2017	2018	2019	2020
On-lending					
DR (Danish Broadcasting Corporation)	3,140	3,002	3,044	2,902	2,801
Danish Ship Finance ¹	4,534	2,775	1,751	889	347
EKF (Danish Export Credit Agency)	14,933	13,248	12,853	9,808	10,265
Energinet	20,924	22,980	25,505	28,724	31,037
Femern Belt A/S	2,350	2,550	6,200	11,750	11,750
A/S Femern Landworks	1,325	1,425	2,600	3,900	5,400
Finansiel Stabilitet	-	-	-	-	-
Fjord Link Frederikssund	530	530	650	750	780
Greater Copenhagen Light Rail	100	-	350	1,100	1,300
Investment Fund for Developing Countries	-	-	-	142	188
The Copenhagen Metro	15,035	17,585	21,990	29,440	31,940
Nordsøfonden (Danish State's oil and gas company)	-	-	-	-	500
SSI (Statens Serum Institut)	387	-	-	-	-
A/S Storebælt	15,696	15,110	17,040	17,271	18,286
Sund og Bælt Holding A/S	500	500	300	650	650
CPH City & Port Development	14,800	14,450	13,850	12,700	12,300
A/S Øresund	10,342	10,302	10,322	10,722	10,772
Ireland	2,974	-	-	-	-
Total	107,569	104,457	116,456	130,748	138,315
Garantier					
DR (Danish Broadcasting Corporation)	796	776	436	436	436
DSB (the Danish State Railways)	3,117	3,526	1,687	749	286
Femern Belt A/S	36	-	-	-	-
A/S Femern Landworks	39	4	6	22	55
Fjord Link Frederikssund	-	-	-	-	2
The Danish Guarantee Fund for Non-life Insurers	-	-	-	534	761
Kalaallit Airports International A/S (KAIR INT)	-	-	-	0	73
A/S Storebælt	6,239	5,971	3,955	2,285	1,023
Sund og Bælt Holding	4	100	-	-	-
A/S Øresund	517	495	447	439	465
Øresundsbro Konsortiet I/S	14,202	13,009	13,189	11,976	8,039
Total	24,950	23,882	19,720	16,442	11,141

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 following exchange dollar rate as of 30 December 2020: 605.76.

Buy-backs from the market by the government and the government funds in 2020

Table 8

Kr. million, market value	Government	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
0.25 per cent bullet loan 2020	53,475	21	-	-	53,496	-
3 per cent bullet loan 2021	5,516	-1,693	-	-256	3,566	2,160
1.5 per cent bullet loan 2023	7,006	-2,256	-	-	4,749	4,749
0.1 per cent DGBi 2023i	1,242	-	-	-	1,242	-
7 per cent bullet loan 2024	4,234	-3,248	-	-	987	939
0.5 per cent bullet loan 2027	13,961	-	-	-	13,961	13,745
4.5 per cent bullet loan 2039	16,454	-	-	-	16,454	16,454
Total	101,887	-7,176	-	-256	94,454	38,047