FINANSTILSYNET

Mortgage-credit

Market development 2021

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1. Summary

The total pre-tax profit of mortgage banks increased in 2021. The result was DKK 20.9 billion, versus DKK 17.2 billion in 2020. The increase in profit should be seen in the light of the impact of the COVID-19 crisis on the result for 2020, with general declines in revenue items and higher impairments.

Mortgage bank lending increased by 1.4% in 2021. Loan growth was supported by low bond yields and high property prices. Long-term mortgage rates increased in 2021, widening the gap between long-term and short-term interest rates. This may have led some of the borrowers to opt for variable interest rates and deferred amortisation in order to obtain a lower yield. The share of variable rate new loans and interest-only new loans increased from 32% and 41%, respectively, in 2020 to 47% and 51% in 2021.

The year started with soaring housing prices, but in the last half of the year house prices showed signs of stagnation. The average mortgage of home buyers relative to the value of the home remained stable and their average debt factor increased significantly, from 3.3 in the first quarter of 2020 to 3.9 in Q4 of 2021. The share of home buyers with a debt factor above 4 also increased between 2020 and 2021, from 22.2% to 27.5%. Over the same period, the home buyers' share of variable rate loans and share of interest-only loans increased. Both the financial situation of home buyers and the loans they take thus pull in the direction of increased risk.

In 2021, the Danish Financial Supervisory Authority investigated the granting of loans for home purchase. The preliminary results show, consistent with the above, that several institutions granted home loans with increased risk. However, only a small proportion of the appropriations did not comply with the minimum requirements laid down in the rules.

Mortgage bank lending with the possibility of outstanding debt at maturity, including loans with a grace period of up to 30 years, for owner-occupied housing saw much growth in 2021. At the end of 2021, these loans accounted for 9.8 percent of total mortgage lending to owner-occupied housing and 20.3 percent of mortgage lending to owner-occupied dwellings with deferred amortisation. Loans with a grace period up to 30 years are more complex than traditional mortgage products. The loans were initially intended for particularly robust customers with mortgages on owner-occupied housing, but the FSA has observed a greater prevalence, including for residential rental properties and cooperative housing. Greater uptake of interest-only mortgages can increase household indebtedness and vulnerability to adverse economic shocks. The FSA is therefore particularly attentive to the spread, the detailed characteristics and the customer segment, where loans are offered with a grace period up to 30 years.

Prices and sales increased overall in the commercial real estate market.[1] The highest price growth was in residential rental properties. Mortgage lending in this segment has increased sharply over several years. Between 2014 and 2021, it increased by 76.2 percent. The share of mortgage loans for residential rental properties with deferred amortisation and variable interest rates increased in 2021. The development was primarily driven by growth

[1] Residential rental, office and business, agricultural, factory and warehouse properties.

areas, where the share of interest-only new loans increased from 57% in 2020 to 73% in 2021, and where the share of new loans with variable rates increased from 44% in 2020 to 63% in 2021. When lending rises sharply within a segment, there is a risk that growth will be at the expense of credit quality. The Financial Supervisory Authority therefore continuously monitors developments in the market for residential rental properties.

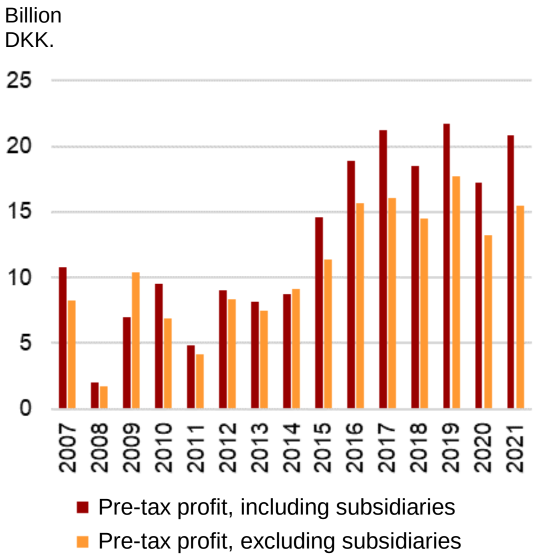
2. Mortgage bank earnings

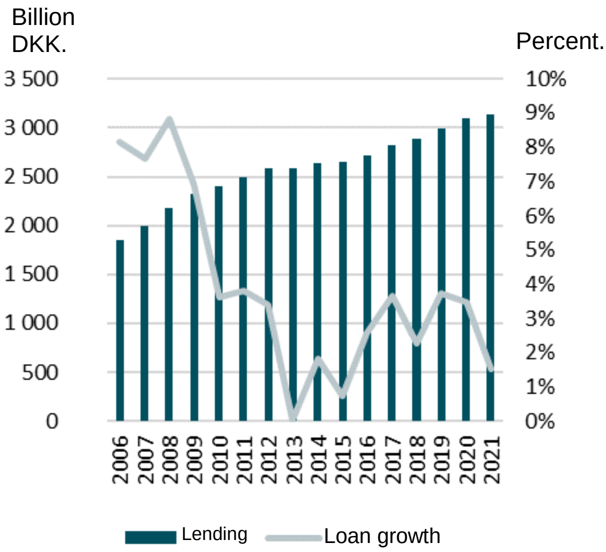
Mortgage bank earnings increased in 2021. The institutions' annual accounts include the following[2]:

- Pre-tax profit increased by 21.3%. Return on equity before tax increased from 7.4% to 8.7%. The increase in profit should be seen in the light of the impact of the COVID-19 crisis on the result in 2020 with higher impairments.
- Net interest income increased by 0.3%. This remains a relatively flat trend in nominal income, despite rising underlying lending.
- Net fee income decreased by 0.5%, reflecting a higher nominal increase in fee expenses than in fee income.
- Loan impairments decreased markedly by 95.4%. The decrease is attributable to lower impairments on several property categories for both residential and commercial purposes, including primarily owner-occupied housing, office and commercial properties, agriculture and private residential buildings for rent.
- Lending increased by 1.4%. Lending was supported by low bond yields and high property prices.

The total pre-tax profit for mortgage banks was DKK 20.9 billion; see Figure 1. This compares to a pre-tax profit of DKK 17.2 billion in 2020, which was particularly influenced by the COVID-19 crisis. Lending continued to increase from DKK 3.098 billion in 2020 to DKK 3.142 billion in 2021; see Figure 1. Loan growth of 1.4% in 2021 was more subdued than loan growth of 3.5% in 2020, despite another year of high activity in the housing market.

Figure 1: Earnings and loans





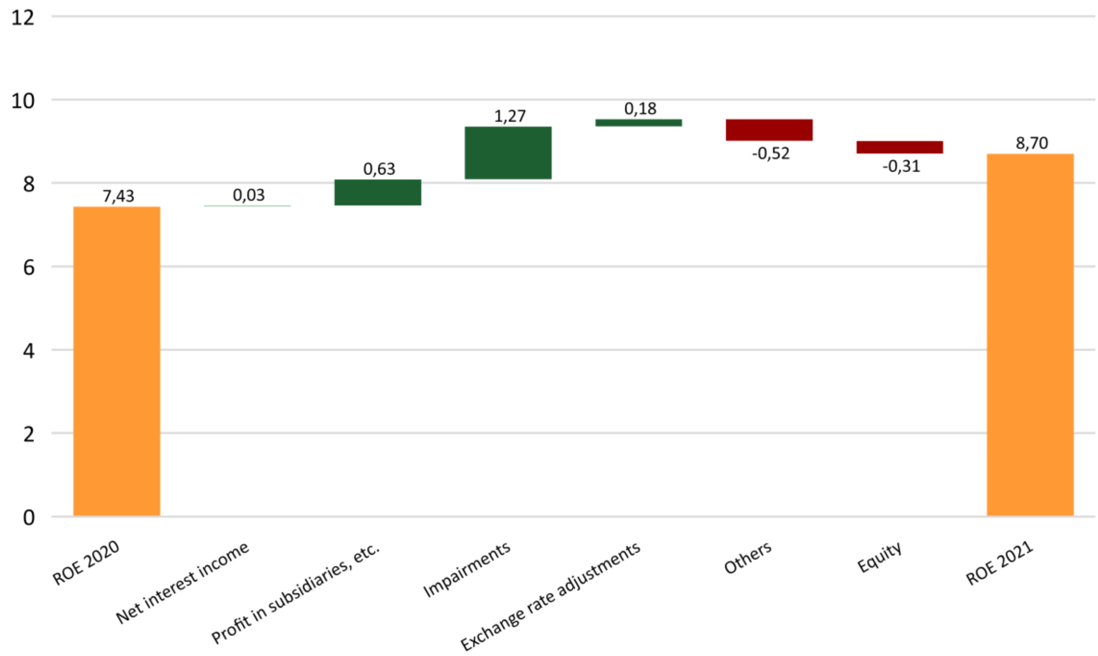
Note: The figure to the left shows the development in pre-tax profits for mortgage credit institutions including and excluding the result of shares in associated and affiliated companies. Loans in the figure to the right are calculated on the basis of write-downs and excluding loans to other MFIs. The loan is calculated as the sum of loans and other receivables at fair value and amortised cost, with the majority for mortgage banks placed in the first category. When interest rates rise, lending at fair value falls, all other things being equal.

[2] The full annual accounts and key figure table for mortgage credit institutions can be found in Appendices 1 and 2.

Source: Reports to the Danish FSA.

Return on equity before tax (ROE) expresses the return on invested capital by owners[3]. The increase in return on equity between 2020 and 2021 was primarily driven by lower impairments and an increase in the result of shares in associated and related companies; see Figure 2.

Figure 2: Return on equity before tax

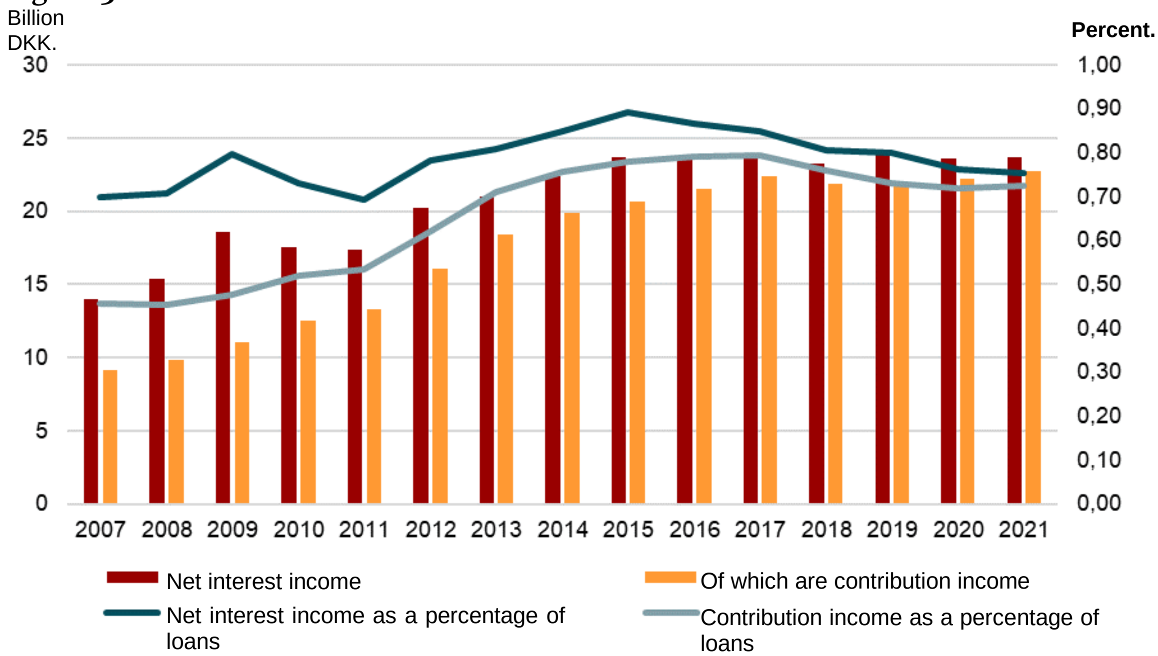


Note: The figure shows how mortgage banks' expense and income items affected the development in return on equity before tax between 2020 and 2021. Other items include net fee income, other operating income, other operating expenses, staff and administrative expenses, profit or loss on winding-up activities and depreciation and amortisation of intangible and tangible assets.
Source: Reports to the Danish FSA.

Contribution income from lending was in line with 2020; see Figure 3. The unchanged level should be seen in the light of the fact that the overall share of variable rate loans and deferred amortisation loans decreased (which pulls contribution income down due to higher contribution rates on riskier loan types), while the share of loans with up to 30 years of deferred amortisation increased (which pulls contribution income upwards)[4].

[3] Return on equity (ROE) is calculated as pre-tax profit in relation to equity.
[4] A distinction is made in this article between total loans, new loans (subset of total loans) and loans for house purchase (subset of new loans). Movements in the loan composition may therefore vary according to the type of loan.

Figure 3: Net interest and contribution income

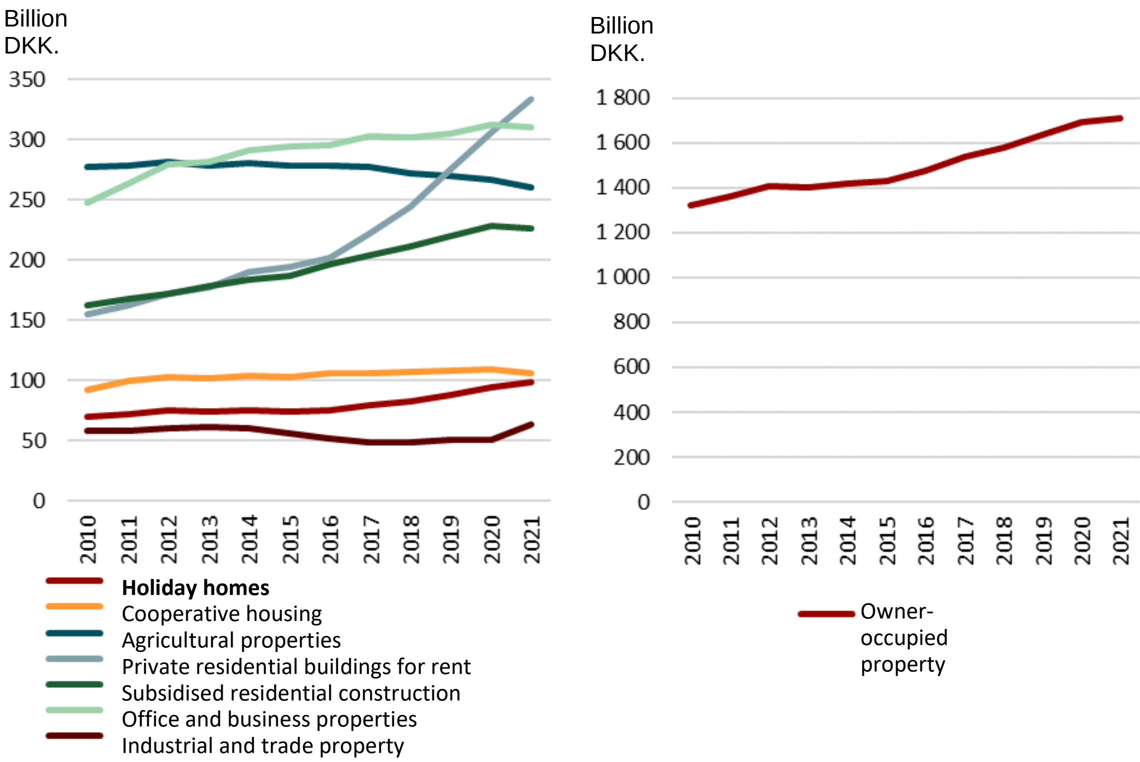


Note: Loans are calculated on the basis of impairments and excluding loans to other MFIs. Net interest income as a percentage of loans and contribution income as a percentage of loans are shown on the right-hand axis.
Source: Reports to the Danish FSA.

3. The lending composition of mortgage banks

Mortgage bank lending increased in 2021 for owner-occupied housing, second homes, residential properties for rent (residential rental properties) and industrial and trade properties. The highest growth was for residential rental properties, where mortgage lending rose 8.8%. The growth brought lending above the level of mortgage lending for office and commercial properties, which in recent years has been the dominant category in mortgage lending to corporate clients. Mortgage lending for owner-occupied housing increased by 1.2%, which was more subdued than the growth of 3.4% the year before and the lowest growth since 2015. With the exception of industrial and trade properties, lending growth across property categories was lower in 2021 than in 2020.

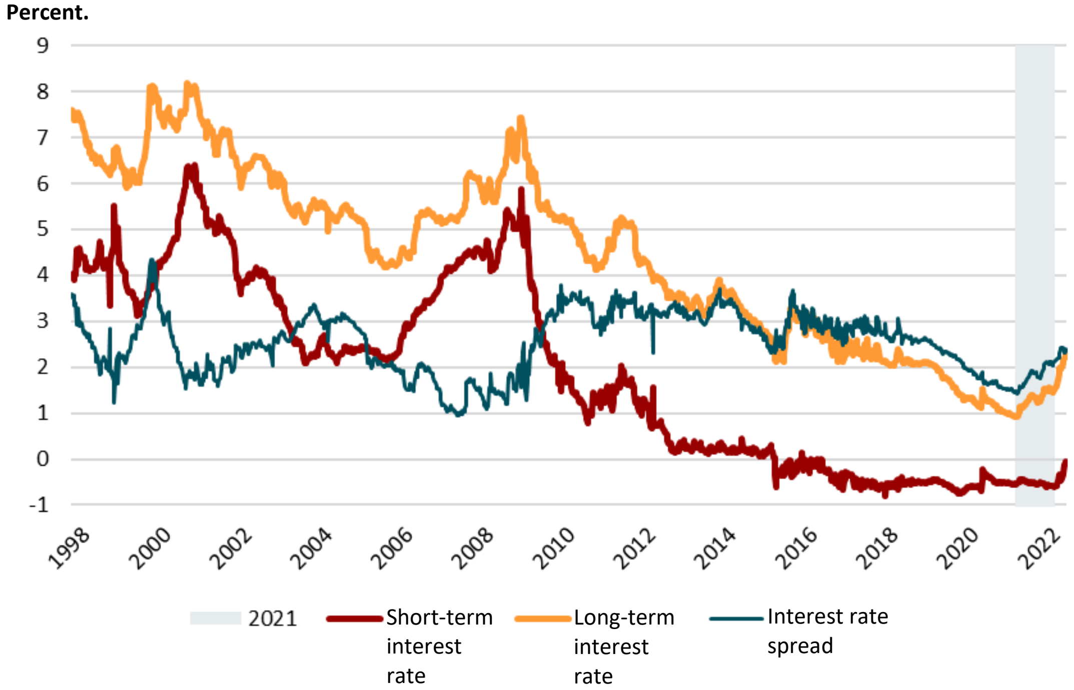
Figure 4: Loans by property category



Note: Loans are calculated as mortgage bank loans before impairments calculated at fair value at the end of the period. Index loans are not included. Properties for social, cultural and educational purposes as well as other properties are not included in the figure, as mortgage lending for both these property categories was below DKK 50 billion in 2021.
Source: Reports to the Danish FSA.

The subdued growth in mortgage lending for owner-occupied housing coincided with an increase in long-term mortgage rates of 0.58 percentage points in 2021, which was evenly distributed throughout the year; see Figure 5. The increase has continued in 2022 when short- and long-term mortgage rates increased by 0.54 and 0.80 percentage points, respectively, between week 52 in 2021 and week 15 in 2022. Much of the increase in mortgage rates in 2022 is attributable to expectations of tighter monetary policy in the US and the euro zone on the back of higher inflation. The war in Ukraine has also contributed to rising energy prices and thus to the risk that inflation will become more protracted if monetary policy is not tightened.

Figure 5: Interest rate developments



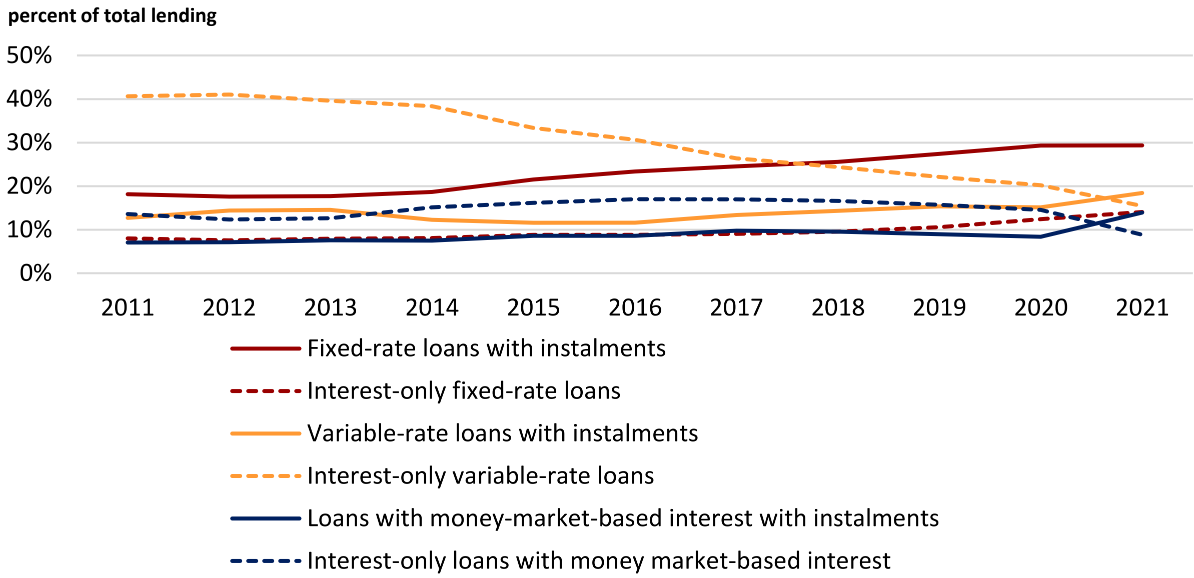
Note: The long-term interest rate covers 30-year, fixed-rate, convertable newly issued mortgage bonds that week. The short-term interest rate covers the one- and two-year inconvertible standing newly issued mortgage bonds for the week in question behind the granting of adjustable-rate loans.
Source: Finance Denmark and the Danish Financial Supervisory Authority's own calculations.

The difference between long-term and short-term mortgage rates (the interest rate spread) increased in 2021, which may have led borrowers to opt for variable rates. However, the overall share of variable rate mortgage lending continued to decline; see Figure 6. In 2021, the share amounted to 56 percent compared to 57 percent in 2020. The share of fixed-rate mortgage lending increased from 41% in 2020 to 43%.[5]

This development could not be found in mortgage lending. Here, the share of variable rate loans increased from 32 percent to 47 percent. The share remained below the corresponding share for total mortgage lending.

[5] The reason why the proportion of fixed-rate loans and variable-rate loans does not add up to 100 percent is that the balance amounts to index loans. As index loans are not a current active loan type, similar shares for new loans amount to 100 percent.

Figure 6: Loan types



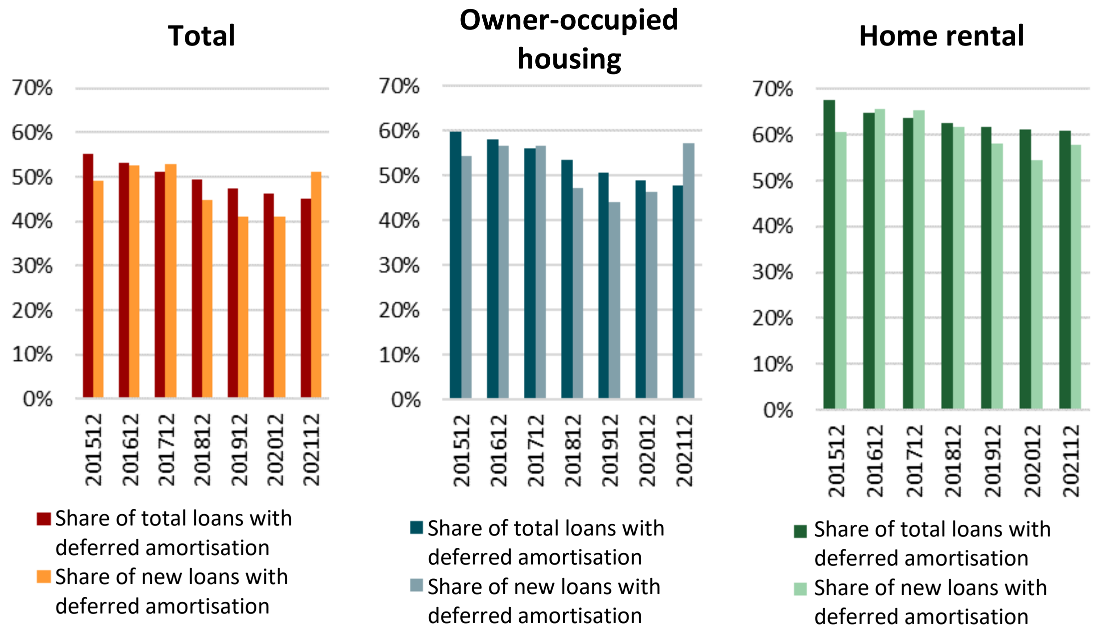
Note: Total loans are calculated before impairments and at fair value. New loans are new loans and extensions of existing loans (which are not due to conversion costs etc.) disbursed by the institution during the period. The value is calculated at fair value at the time of payment. By deferred amortisation is meant the customer's contractual right (in the terms of the mortgage deed), which applies at the time of the settlement, to refrain from paying off for a certain period of time.
Source: Reports to the Danish FSA.

The share of interest-only loans decreased from 46% in 2020 to 45% in 2021; see Figure 7. For new loans, the share of interest-only loans increased from 41% to 51%. The development for new loans was primarily driven by an increase in the share of variable-rate new loans with deferred amortisation and a decrease in the share of fixed-rate new loans with instalments; see Figure 6. If this trend continues, the total share of interest-only mortgage lending will begin to increase[6].

The mortgage banks' two most dominant property categories, owner-occupied housing and residential rental properties, followed the same development as the overall mortgage lending; see Figure 7.

[6] A higher proportion of deferred amortisation in new lending compared to total lending will not necessarily lead to an increase in the proportion of total deferred amortisation loans. This is partly due to the fact that conversions are not included in the new loan, and that conversions may have a different profile than the new loan.

Figure 7: Share of interest-only loans

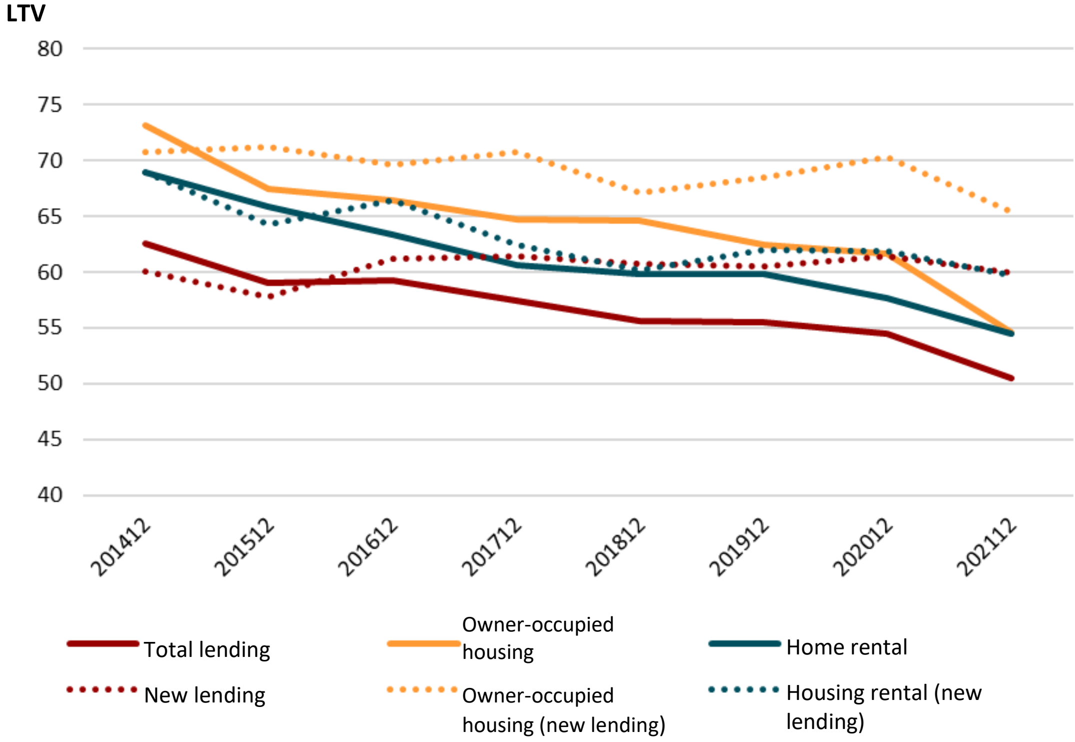


Note: Total loans are calculated before impairments and at fair value. New loans are new loans and extensions of existing loans (which are not due to conversion costs etc.) disbursed by the institution during the period. The value is calculated at fair value at the time of payment. By deferred amortisation is meant the customer's contractual right (in the terms of the mortgage deed), which applies at the time of the settlement, to refrain from paying off for a certain period of time.
Source: Reports to the Danish FSA.

Loan-to-value ratios

The loan-to-value ratio (LTV) expresses the mortgage in the properties in relation to the value of the properties. For total mortgage lending, the LTV of mortgage banks has generally been declining since 2014 due to rising property prices and a larger share of loans with installments. In 2021, LTV for mortgage banks decreased for total lending and new lending as well as for owner-occupied and residential rental properties; see Figure 8.

Figure 8: LTV for selected property categories



Note: The mortgage banks' exposure-weighted LTV in the respective categories.
Source: Reports to the Danish FSA.

4. Housing market

Market data

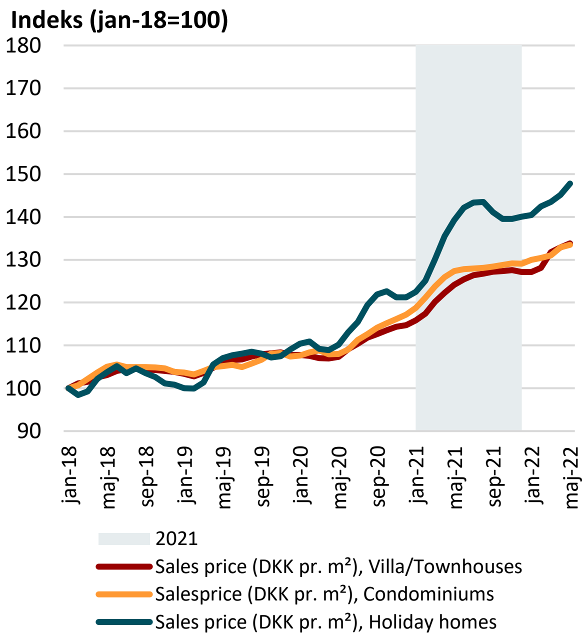
When the COVID-19 crisis hit Denmark in early March 2020, house prices were expected to fall as a result of a new economic crisis. However, after the initial shock, the housing market took an unexpected turn with large price increases and decreases in sales times; see Figure 9. The price increases in 2020 were supported by several factors, including low interest rates, bailout packages, travel savings, payment of frozen holiday pay and teleworking.

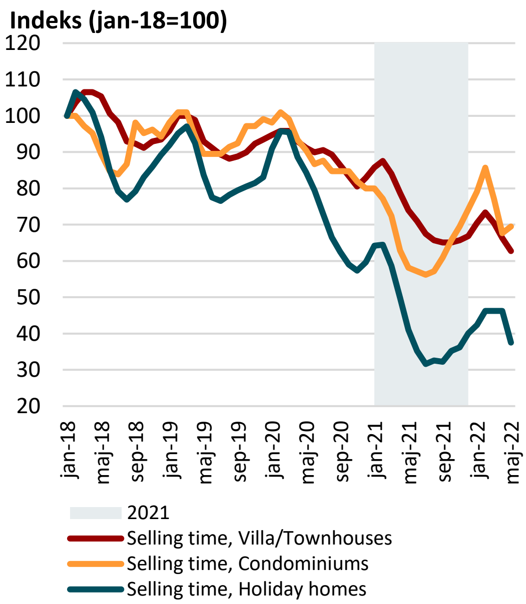
In 2021, high activity in the housing market continued, and prices increased nationally from December 2020 to June 2021 by 9.3%, 9.1% and 17%, respectively, for villas/townhouses, condominiums and second homes.

Between June 2021 and December 2021, house prices showed signs of stagnation, with growth of 1.3% and 1.0%, respectively, for villas/townhouses and condominiums. From the summer of 2021, it also began to take longer for homeowners to sell their homes; see Figure 9.

All in all, prices rose 10.8%, 10.2% and 15.2%, respectively, for villas/townhouses, condominiums and second homes in 2021. This was more than in 2020, when prices rose 6.5%, 9.1% and 11.2%, respectively. Overall, house price increases in 2020 and 2021 were a European phenomenon[7].

Figure 9: Sales data



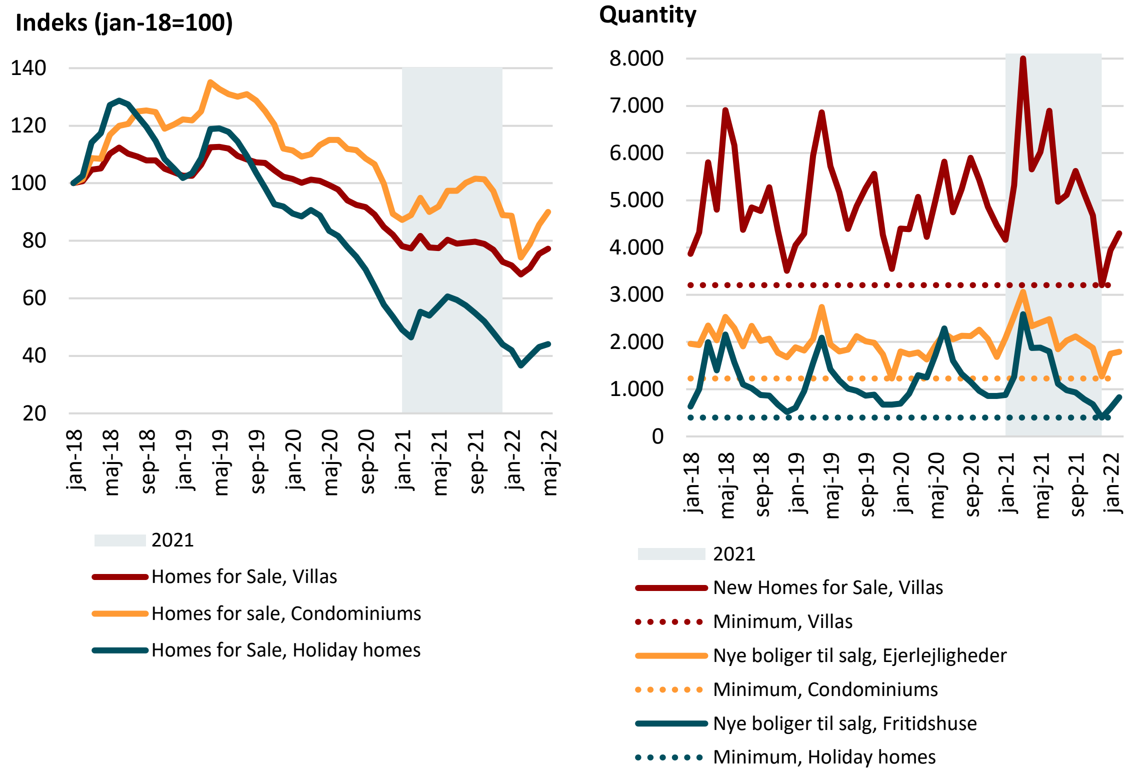


Source: Housing Market Index.

[7] See Figure 28 in Appendix 3 (Eurostat).

The price increases since March 2020 have been supported by a high demand for housing. This is reflected in a decreasing number of homes for sale, despite the fact that the number of new homes put up for sale has been high; see Figure 10. However, between December 2021 and January 2022, the market for homes for sale showed signs of a slowdown with a decrease in the number of new homes for sale, also in light of the season; see Figure 10. When there are fewer for-sale signs out in the country, there is an increased likelihood that homes of poorer condition and with longer times before selling will be sold for lack of better alternatives. In addition, all other things being equal, rising mortgage rates contribute negatively to price developments and activity in the housing market.

Figure 10: Supply data



Source: Housing Market Index.

High activity and rapidly rising prices in the housing market generally require vigilance, as the likelihood of a major downturn may be elevated. Uncertainty is further increased by rapidly rising inflation and interest rates, as it has, all other things being equal, a direct negative impact on home buyers' daily finances and disposable income.

Credit for owner-occupied home purchases

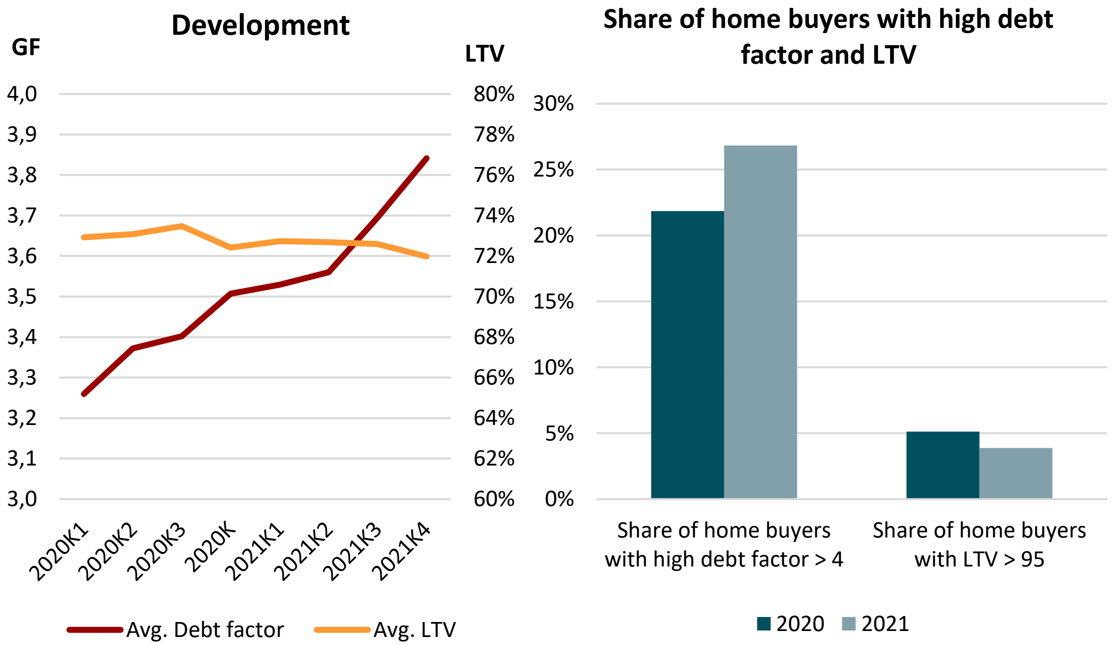
Caution in granting credit is essential to ensure that consumers can withstand a negative economic shock, where in the worst case they may end up having to leave their homes with a larger debt backlog. Since the financial crisis, the authorities have introduced several measures aimed at lowering the risk of housing financing for both consumers and credit institutions, including the Growth Guide and the Good Practice Order[8]. Two important parameters herein are debt factor (gældsfaktor/GF) and loan-to-value ratio (LTV)[9].

Overall, LTV (including post-financing) declined modestly for mortgage home buyers (hereafter home buyers) between 2020 and 2021 and similarly for the share of home buyers with an LTV greater than 95%; see Figure 11. According to the Good Practice Order, home buyers must make an appropriate down payment, which is often 5 percent of the purchase price. Some financial institutions also finance costs associated with borrowing and buying a home. LTV can thus be over 95 percent. Institutions may also, in certain cases, waive the payment requirement.

The average debt factor for home buyers increased significantly from 3.3 in the first quarter of 2020 to 3.9 in Q4 of 2021; see Figure 11. This is a very significant development in a very short space of time.

The share of home buyers with a debt factor above 4 increased from 22.2% in 2020 to 27.5% in 2021. It is not a requirement for the institutions that they do not issue loans with a debt factor above 4, but in this case they are generally not allowed to provide risky loans. There are also additional requirements if the home is located in a growth area. Home buyers with a high debt factor will, all other things being equal, be more vulnerable to negative shocks to the economy, including rising inflation and interest rates.

Figure 11: Debt factor and LTV for home buyers with mortgages

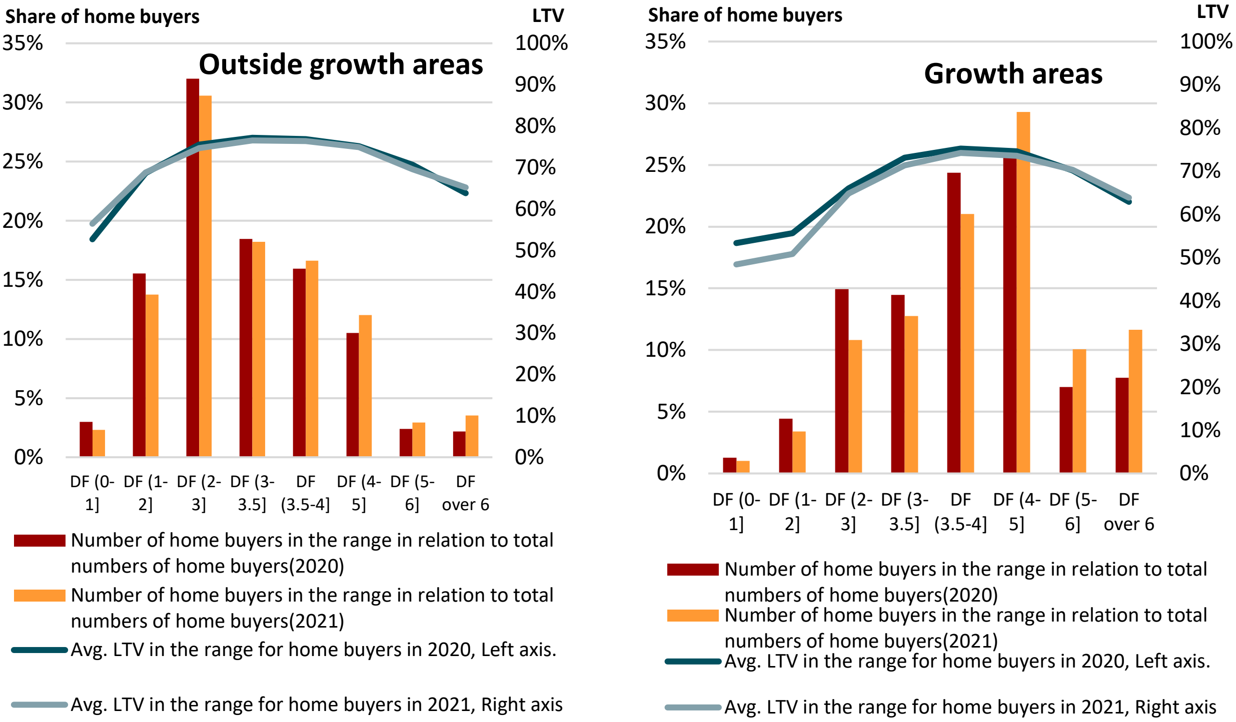


[8] The Growth Guide: Guidelines on credit rating when lending homes in growth areas, etc. Good practice rules: Good Practice Order for Housing Credit.
[9] Debt factor is defined as household debt relative to annual gross income. Loan-to-value ratio is defined as debt in the property in relation to the value of the property.

Note: Mortgage credit institution lending to home buyers during the specified periods. Home purchase is defined as new lending for a property that was not mortgaged to the person or persons in previous quarters. The loan-to-value ratio and debt factor also include any banking institutions' post-financing of the property. If there are several buyers of the same property, the observation, and thus LTV and GF, is counted several times (with the number of buyers).
Source: Reports to the Danish FSA (Credit Register).

The debt factor increased in 2021 both inside and outside growth areas, and a higher proportion of loans to home buyers with a debt factor above 4 was allocated, especially in growth areas; see Figure 12. Just before and after the financial crisis, the typical requirement for debt factor was that it should be below 2.5-3.5 depending on the specific institution. In growth areas, few home buyers today live up to this.

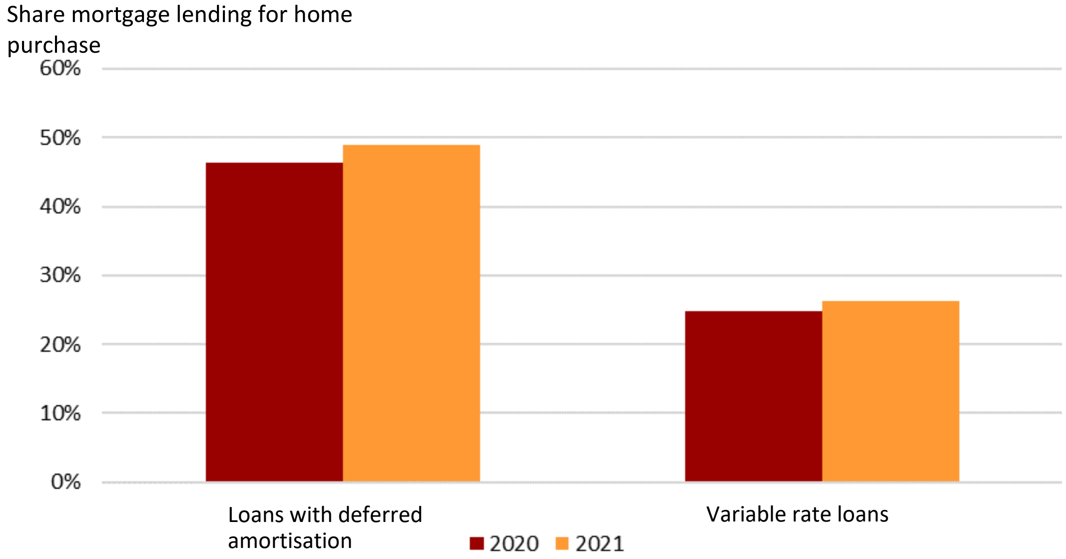
Figure 12: GF and LTV for home buyers with mortgages by area



Note: Mortgage credit institution lending to home buyers during the specified periods. Home purchase is defined as new lending for a property that was not mortgaged to the person or persons in previous quarters. The loan-to-value ratio and debt factor also include any banking institutions' post-financing of the property. If there are several buyers of the same property, the observation, and thus LTV and GF, is counted several times (with the number of buyers).
Source: Reports to the Danish FSA (Credit Register).

For mortgage lending to home buyers, the share of deferred amortisation loans and variable rate loans increased in 2021; see Figure 13.

Figure 13: Composition of mortgage lending for home purchase



Note: Mortgage banks' lending for home purchase. Home purchase is defined as new lending for a property that was not mortgaged to the person or persons in previous quarters.
Source: Reports to the Danish FSA (Credit Register).

In 2021, the Financial Supervisory Authority investigated the granting of loans for home purchase by banking institutions. Since the banks facilitate the mortgage banks' lending, the study also included granted mortgage loans. The preliminary results show that several institutions granted high-risk mortgages, even if only a small proportion of the grants did not comply with the minimum requirements of rules and guidelines; see Box 1.

Box 1: Thematic inspection of increased risk appetite in the housing market by granting loans for customers' purchase of housing

In the summer of 2021, the FSA initiated inspections of the risk appetite of a number of banks when granting home loans for customers' purchases of owner-occupied and leisure homes. The inspections were launched to shed light on whether rising house prices in most of the country had led to increased risk appetite.

The preliminary results indicate, inter alia, that:

- only a small proportion of appropriations did not comply with the minimum requirements of rules and guidelines
- mortgages were granted for the purchase of owner-occupied housing for customers with a negative or flimsy fortune
- There were a number of banks that did not take a position on whether customers' self-financing when buying a home was appropriate.
- Some of the customers who had bought homes in recent years would become technically insolvent with only a slight drop in the price of housing
- There is a need for improvements in data quality, as there were many errors and deficiencies in the banks' basis for decision-making.

Risky new lending

The Good Practice Order for Housing Credit contains rules that restrict the possibilities of granting risky loans to consumers with high debt. The guidelines for the executive order define a number of loans as risky; cf. Box 2. As a rule, credit institutions are not allowed to grant risky loans to customers with high debt.

Box 2: Good practice on risky loans

New rules on good practice for housing credit entered into force on 1 January 2018. As a rule, they required credit institutions not to provide risky mortgages if the borrower has a debt factor (debt-to-income ratio) above 4 and a loan-to-value ratio of more than 60 percent.

According to the instructions to the rule, the following loans are considered risky:

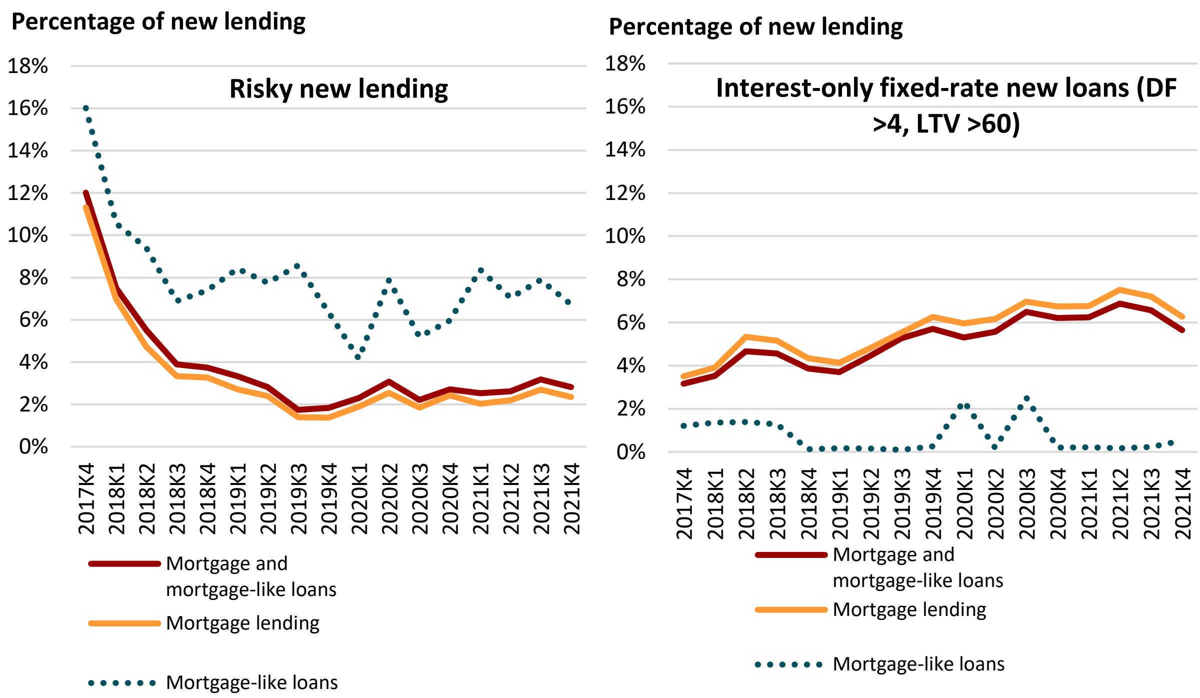
- Variable rate loans with less than 5 years with or without instalments
- Loans with deferred amortisation and variable interest rates with an interest commitment period of 5 years or more.

The purpose of the rule is to protect households with high debt so that they can withstand interest rate increases without getting into financial difficulties. At the same time as the rule was introduced, the Minister for Industry, Business and Financial Affairs asked the Financial Supervisory Authority to monitor the development in the risky loan types.

The total share of mortgage and mortgage-like risky loans increased from 2.5% in 2020 to 2.8%. The FSA is following developments closely and is continuously in dialogue with the institutions that are experiencing an increasing share of risky new lending.

While the share of risky new loans since the Q4 of 2017 has been decreasing or at a low level, the FSA has observed an increasing trend in recent years in the share of new loans with fixed interest rates and deferred amortisation combined with a high debt factor and loan-to-value ratio; see Figure 14.

Figure 14: Share of risky new loans



Note: Data includes mortgage credit institutions' and banks' intermediation of mortgage and mortgage-like loans. New lending (gross new lending) is calculated according to the guidelines for housing lending for customers with a high debt factor: https://www.finanstilsynet.dk/Ansoeg-og-Indberet/Indberetning-for-finansielle-virksomheder/System/KGFS. Mortgage-like loans are defined in accordance with the Executive Order on Good Practice for Housing Credit and cover, among other things, loans granted by banks on mortgage-like terms.
Source: Reports to the Danish FSA.

Mortgage loan with the possibility of outstanding debt at maturity

Rising house prices combined with rising interest rates may be one of the reasons why the share of interest-only mortgages for owner-occupied housing is increasing. This is because deferred amortisation ensures a low benefit as long as the grace period is activated. The grace period and the associated lower benefit can be used e.g. for renovations, payment of more expensive debt[10], savings for pensioners, consumption or purchase of more expensive

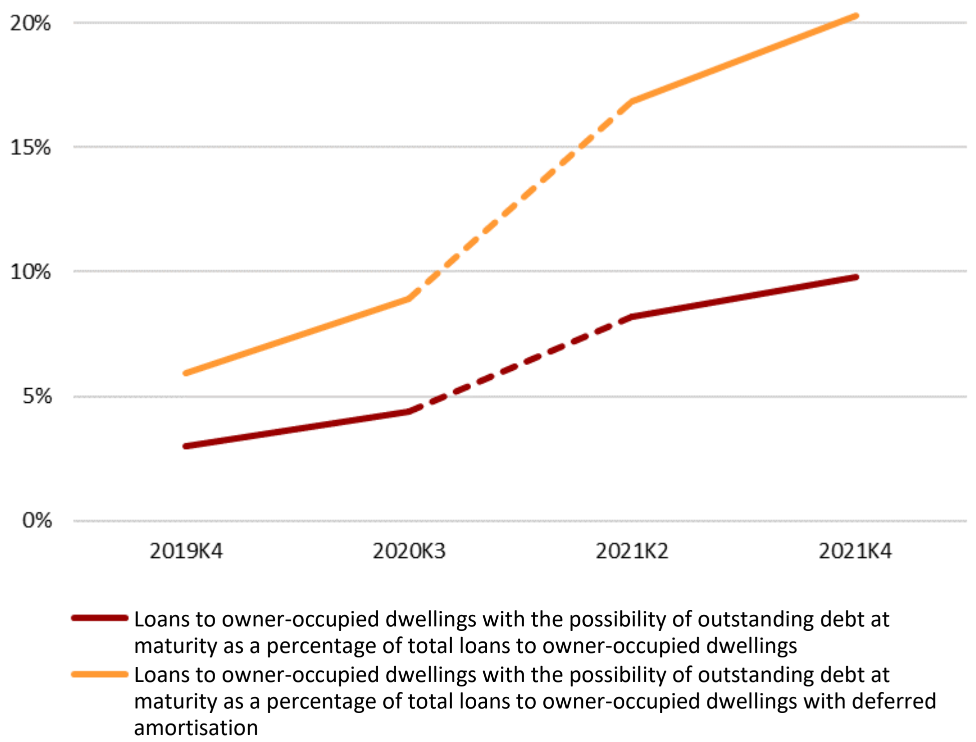
[10] An analysis by the Financial Supervisory Authority concludes that households that have both an interest-only mortgage and a bank loan generally pay off significantly less than households that do not have deferred amortisation. The popular statement that deferred amortisation is often used to pay off more expensive bank debt is thus far from universal. Firstly, the mortgage is repaid overall, and secondly, the mortgage becomes more expensive (higher fixed rate and contribution rate) on deferred amortisation, so it is not clear that there is actually a saving for the customer.

properties. The latter, all other things being equal, puts upward pressure on house prices in general.

Another reason for the increase in the proportion of interest-only new loans for owner-occupied housing may be the spread of mortgage lending with the possibility of outstanding debt at maturity, including lending with up to 30 years of grace. However, these are only included in the new loan if they are not taken up through ordinary conversions[11].

Loans with the possibility of outstanding debt at maturity to owner-occupied dwellings are growing rapidly; see Figure 15. At the end of 2021, these loans accounted for 9.8 percent of total mortgage lending to owner-occupied housing and 20.3 percent of mortgage lending to owner-occupied dwellings with deferred amortisation.

Figure 15: Share of total loans with outstanding debt at maturity (owner-occupied dwellings)

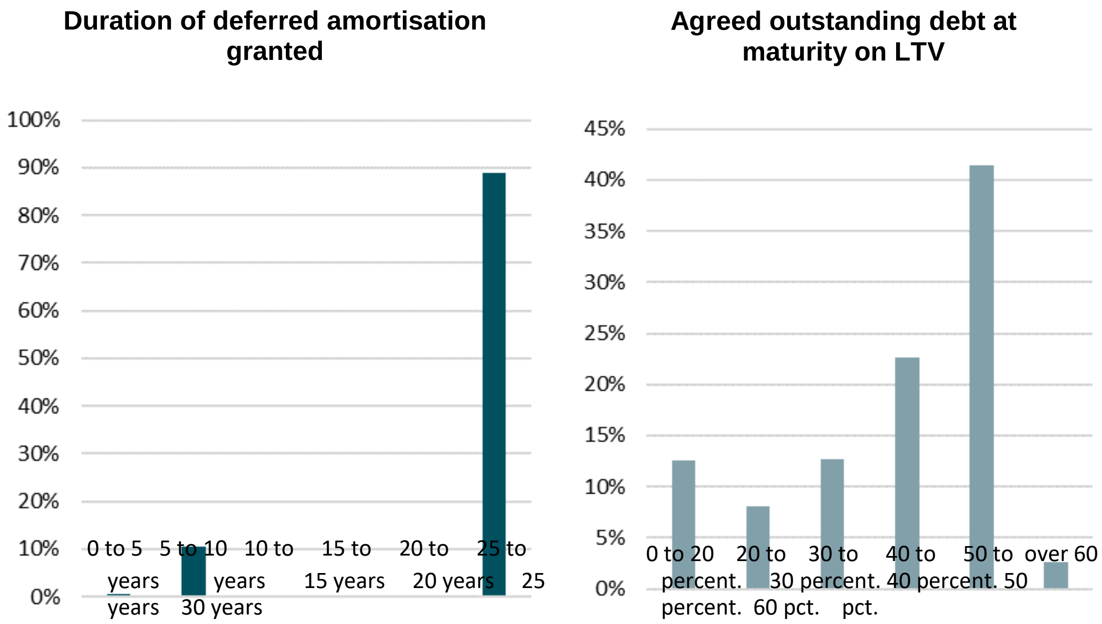


Note: For Q4 of 2019 and Q3 of 2020, the shares are calculated as the mortgage banks' total loans with up to 30 years of deferred amortisation compared to the mortgage banks' total loans with mortgages on owner-occupied housing (with and without installments). From Q2 of 2021, the shares are calculated as the mortgage banks' total loans with the possibility of outstanding debt at maturity with mortgages in owner-occupied housing compared to the mortgage banks' total loans with mortgages on owner-occupied housing (with and without installments). The difference between the two calculation methods does not change the conclusion of high growth. Loans with the possibility of outstanding debt at maturity are defined as the total mortgage loan, where the customer at the time of calculation has the opportunity to have a residual debt at the end of the loan that is significantly larger than the usual forward payment on the loan.
Source: Reports to the Danish FSA.

[11] Ordinary conversions here cover conversions without an increase in the existing loan (in addition to the cost).

At the end of 2021, 89 percent of the total mortgage lending with the possibility of outstanding debt at maturity had been granted with 25-30 years of deferred amortisation. The share of loans with agreed outstanding debt at maturity of more than 50 percent of the property's current value amounted to 44 percent; see Figure 16.

Figure 16: Duration of deferred amortisation and agreed outstanding debt at maturity (owner-occupied housing)

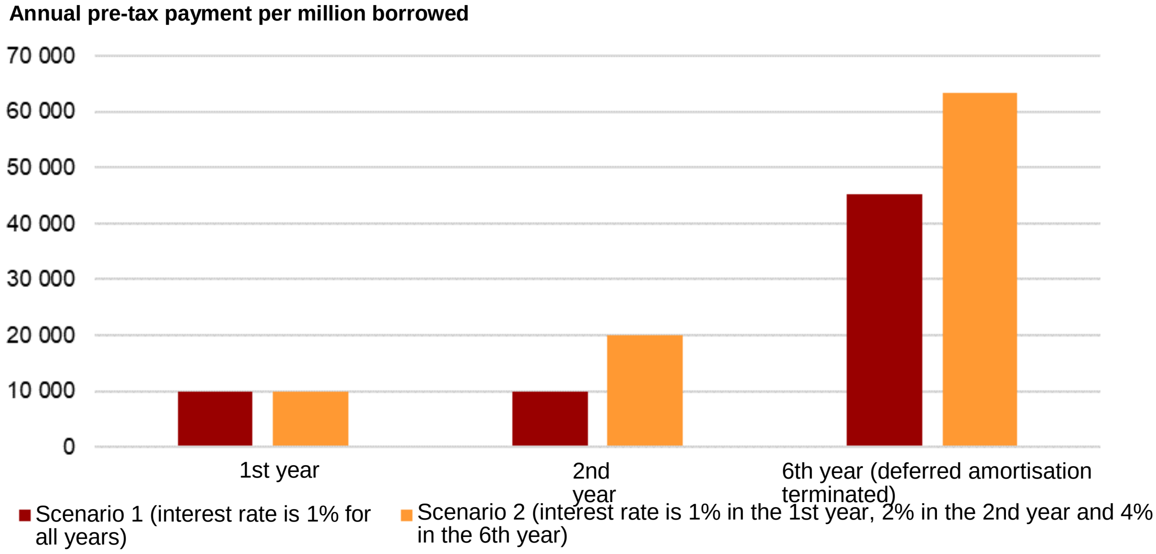


Note: Loans with the possibility of outstanding debt at maturity are defined as the total mortgage loan, where the customer at the time of calculation has the opportunity to have a residual debt at the end of the loan that is significantly larger than the usual forward payment on the loan. Data is calculated as of the end of 2021. The duration of granted deferred amortisation includes the initially agreed duration of the grace period of the loan between the institution and the customer. Agreed outstanding debt at maturity includes the agreed outstanding debt at maturity between the institution and the customer calculated as loan-to-value ratio (LTV) at the current value of the mortgage.
Source: Reports to the Danish FSA.

Loans with the possibility of up to 30 years of deferred amortisation differ in several ways from the traditional mortgages. For example, the products currently allow the outstanding debt at the end of the loans to amount to up to 60 percent of the loan-to-value ratio measured from the date of being granted. The remaining debt must be repaid at the end of the loan without any guarantee of taking out a new loan. Several mortgage banks also have a clause stating that the deferred amortisation period can be terminated by the mortgage bank if the property falls sufficiently in value. This can lead to a large increase in benefits for the borrower. For example, the benefit may increase by around DKK 35 000 per year per borrowed million if the deferred amortisation period is terminated after 5 years and the maturity is not extended; see Figure 17[12]. The closer the loan is terminated to the expiration of the deferred amortisation period, the greater the increase in benefits will be. In addition to the increased complexity, new types of loans with low performance can contribute to speed blindness among borrowers and increased risk in the housing market.

[12] Several mortgage banks have a clause stating that the deferred amortisation period on loans with up to 30 years of amortisation can be terminated if the property falls in value so that LTV exceeds 75 percent.

Figure 17: Example of termination of deferred amortisation



Note: Example of loans with a principal amount of DKK 1 million, with stated interest rate and DKK 0 in contributions and other costs. The loan is taken out as a loan with a 30-year deferred amortisation, whereby interest is only paid on the loan until maturity, when the entire remaining debt must also be paid. After 5 years, the deferred amortisation is terminated. It is assumed that the loan is then repaid as an annuity loan for the remaining maturity (i.e. without maturity extension).
Source: The Financial Supervisory Authority's own calculations.

In 2020-2021, the Financial Supervisory Authority examined the mortgage banks' offers on mortgage loans with the possibility of up to 30 years' of deferred amortisation. The special characteristics of loans with up to 30 years of deferment increase the need for guidance for borrowers. The study therefore led to a number of recommendations for how mortgage banks deal with the loans[13].

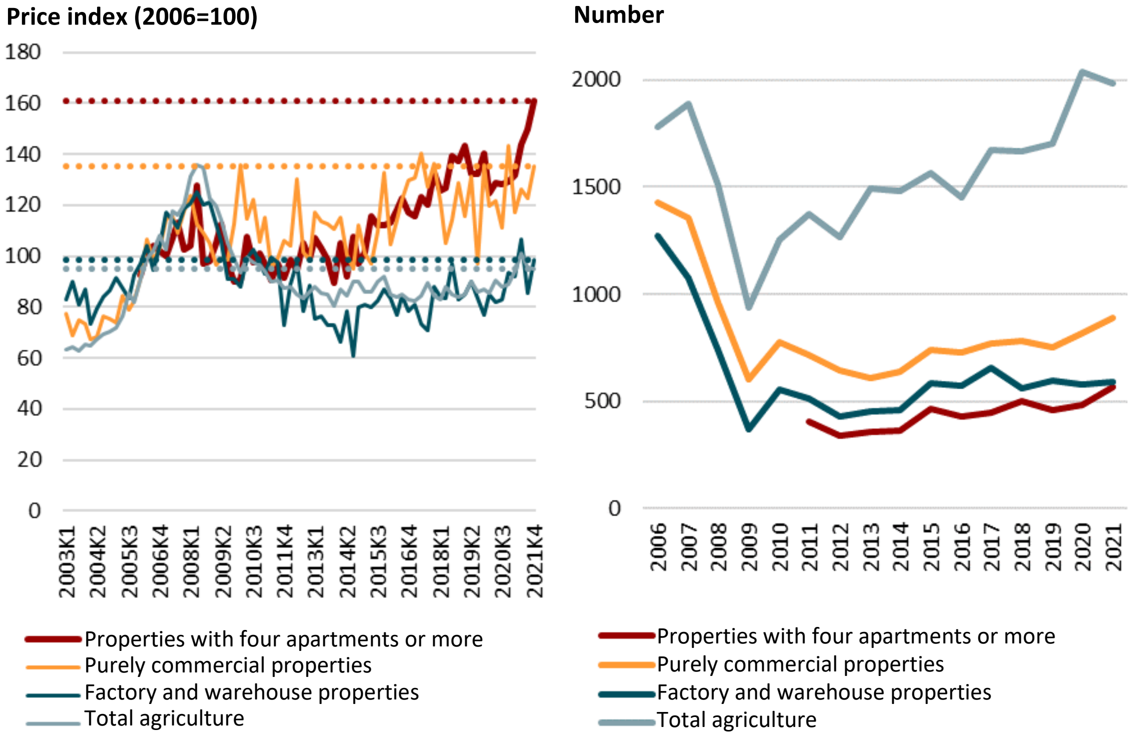
Loans with up to 30 years of deferment were initially intended for particularly robust customers with mortgages on owner-occupied housing, but they have become more widespread, including for residential rental properties and cooperative housing. Greater uptake of interest-only mortgages can increase household indebtedness and vulnerability to adverse economic shocks. The FSA is therefore particularly attentive to the spread, the detailed characteristics and the customer segment, where loans are offered with a grace period up to 30 years.

[13] https://www.finanstilsynet.dk/Nyheder-og-Presse/Pressemeddelelser/2021/Rapport_realkreditlaan_090221

5. Commercial real estate market

Overall, the number of sales in 2021 of properties to commercial customers, with the exception of agriculture, increased only as shown in Figure 18. Prices for properties with four apartments or more (residential rental properties) increased between Q4 of 2020 and Q4 of 2021 by 24.5%, with prices at a historically high level. In comparison, prices for factory and warehouse properties and agriculture increased by 5.4% and 6.6%, respectively, while prices for pure commercial properties fell by 5.7% over the same period.

Figure 18: Price index for properties, commercial

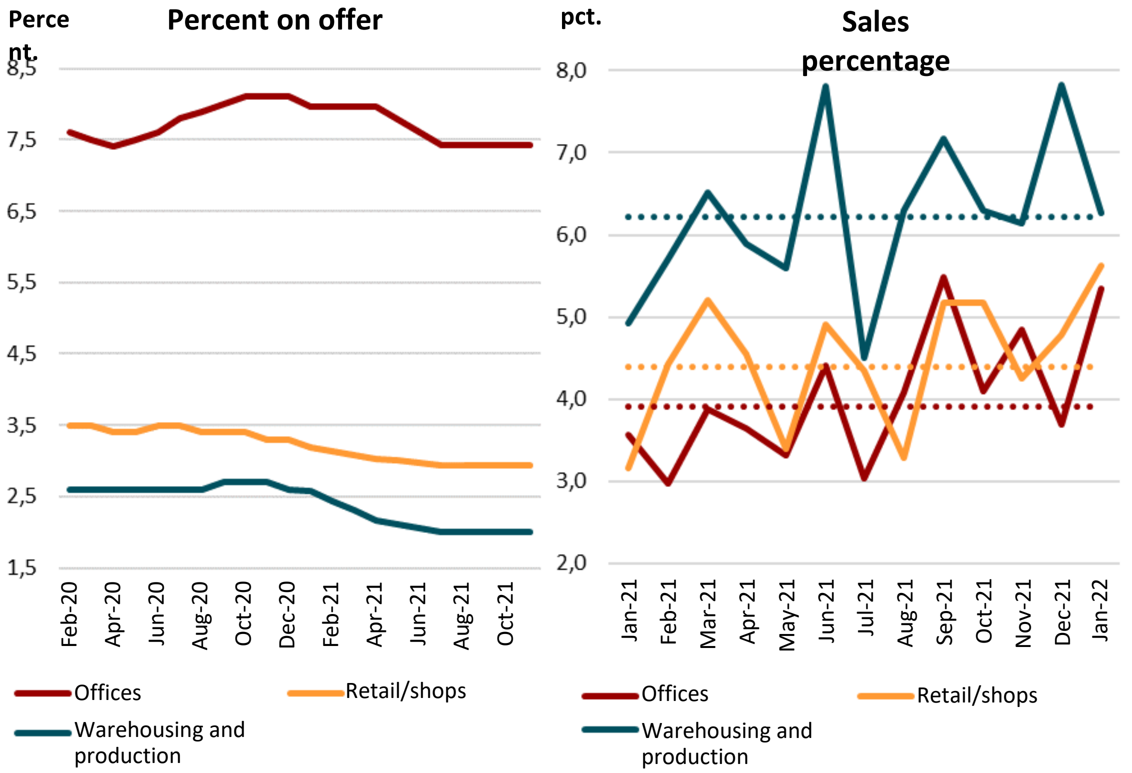


Note: Properties with four apartments or more are used as targets for the development of residential rental properties. In the figure to the right, the number of sales is calculated as the number of sales in ordinary free trade by price calculation.
Source: Statistics Denmark.

One of the concerns during the COVID-19 crisis was the impact on the volume of empty shops and commercial premises, which can, among other things, put downward pressure on property prices and the ability of the borrowers ability to pay. However, supply rates for retail, warehouse and production premises ended up being relatively stable in 2020 and declining in 2021; see Figure 19[14]. Nationally, 2.9% of retail space, 7.4% of office space and 2.0% of warehouse and manufacturing premises were being sold as of November 2021. The corresponding figures for December 2020 were 3.3%, 8.1% and 2.6%, respectively.

[14] The development in the supply percentages in the figure should be read with the proviso that improvements have been made to the data, which has been in force from Q4 of 2020 and onwards.

Figure 19: Percent on offer



Note: Statistics for available properties are calculated in accordance with Box 3. This percentage data runs through November 2021. The development in the figure on the left should be read subject to improvements to the data applicable from Q4 of 2020 and onwards. The sales percentage in the figure on the right is defined as the percentage of transactions within the category out of all cases offered within the category. The dotted lines indicate the average for 2021.
Source: Ejendomstorvet.dk.

Box 3: Ejendomstorvet's Market Index – Statistics for available properties

Ejendomstorvet's Market Index – Statistics on Available Properties maps out the supply of Danish commercial buildings every fiscal quarter, divided into offices, shops and warehouses/production premises, calculated as offered premises measured in relation to the total population of buildings (square meters). The statistics cover a considerable part of the commercial premises in Denmark and are published by the Danish Real Estate Association in collaboration between the business portal Ejendomstorvet.dk and EjendomDanmark.

Source: https://www.ejendomstorvet.dk/statistik/udbudsstatistik

Although retailers have been under pressure from the COVID-19 lockdowns and restrictions, fewer foreign tourists and increased e-commerce, Denmark has not had as few offered retail square meters in the past 10 years as now; cf. Ejendomstorvet's Market Index[15]. This is due e.g. to increased local demand from grocery chains and new stores, high employment, bailout packages and deferred VAT, more domestic tourists, increased

[15] https://www.de.dk/media/1svbalty/ejendomstorvet_statistikken_4_kvartal_2021.pdf

savings and saved consumption needs among consumers, more flexible landlords, etc.[16] The stores in Copenhagen have been especially pressured by the decline in tourism during COVID-19, but here too the trend reversed with a significant decrease in available commercial property percentages[17].

In 2021, the supply of warehouse and production premises was at a historically low level, and the available property percentages decreased significantly measured in all regions in Denmark between 2012-2013 and 2021; cf. Ejendomstorvet's Market Index[18]. This can be attributed e.g. to the economic recovery, limited new construction, e-commerce and a general increase in demand[19].

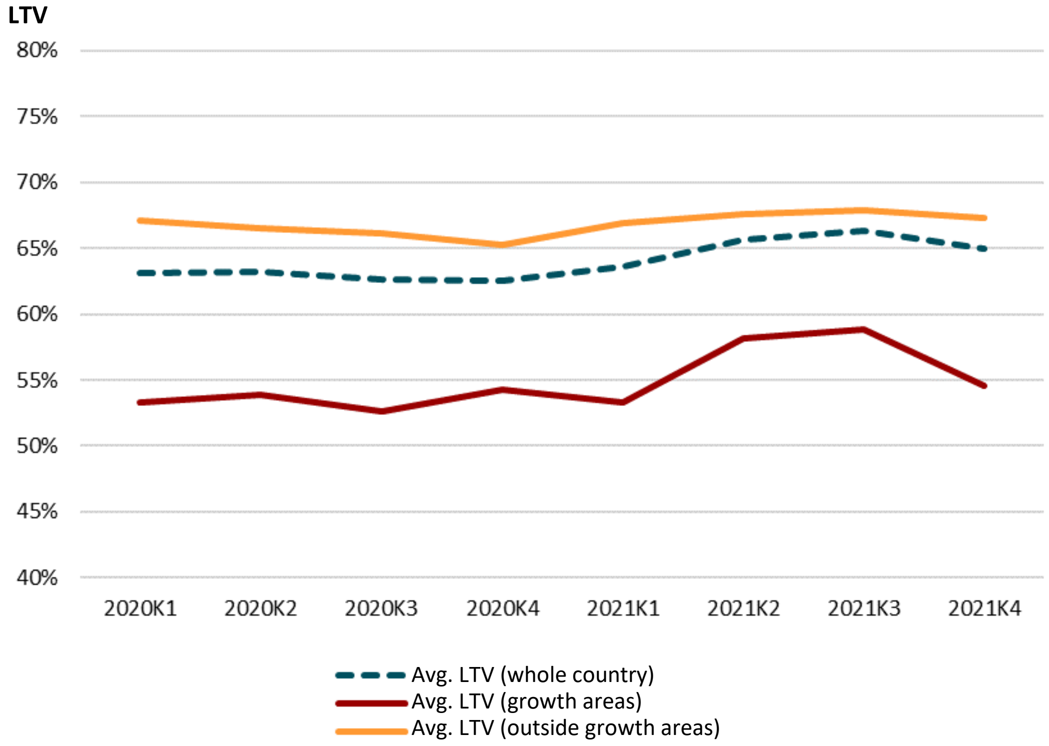
Credit for residential rental properties

Mortgage lending, sales prices and trading activity for residential rental properties have increased significantly since 2014; see Figures 4 and 18. Between 2014 and 2021, mortgage lending increased by 76.2%. The development is supported e.g. by rising prices, more properties being built and a change in the financing structure in the form of more foreign investors. When lending increases sharply within a segment, it entails a risk that growth will occur at the expense of credit quality, and that the mortgage bank will thus get worse loans on the books. Experience shows that this is supported, as above-normal losses have been observed in situations where a mortgage credit institution has grown strongly within a certain customer segment.

Looking at mortgage lending by mortgage banks alone between Q1 of 2020 and Q4 of 2021, the average quarterly LTV increased from 63% to 65%; see Figure 20. The rising prices are therefore to a considerable extent financed by increased borrowing. The average LTV throughout the period was lower for residential rental properties in growth areas than outside growth areas[20].

[16] https://www.ejendomstorvet.dk/nyheder/pressemeddelelse--laveste-tomgang-i-butikker-siden-20110912-2021
[17] https://www.ejendomstorvet.dk/nyheder/koebenhavn-faar-bugt-med-tomme-butikslokaler-2022
[18] https://www.de.dk/media/1svbalty/ejendomstorvet_statistikken_4_kvartal_2021.pdf
[19] https://www.ejendomstorvet.dk/nyheder/historisk-faa-ledige-lagerlokaler-i-vest-og-sydsjaelland-2022
https://www.ejendomstorvet.dk/nyheder/historisk-faa-ledige-lagerlokaler-i-vestjylland-2022
https://www.ejendomstorvet.dk/nyheder/-stjylland-har-aldrig-haft-f-rre-ledige-lagerlokaler--pressemeddelelse-1002-2022
[20] Between Q1 of 2020 and Q4 of 2021, the share of the number of new loans for residential rental properties located in growth areas was between 20 and 30% compared to the number of new loans to residential rental properties in and outside growth areas. Measured by volume, the distribution was more equal with only a slight overweight outside growth areas.

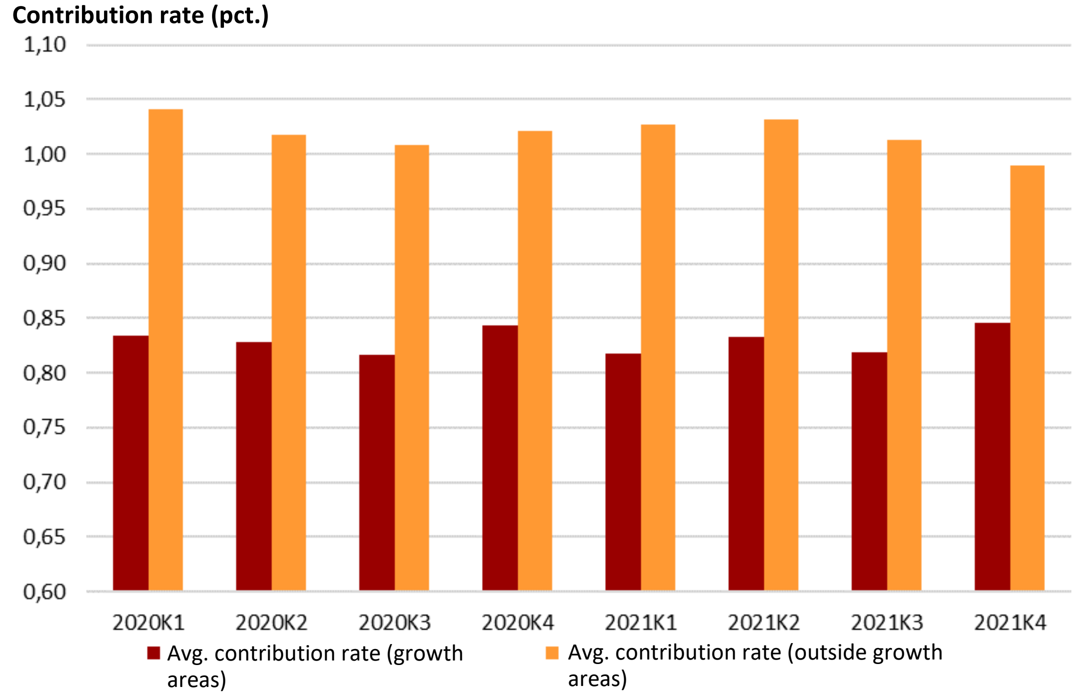
Figure 20: LTV for mortgage lending for residential rental properties



Note: New mortgage lending (with conversions omitted) with mortgages on private rental properties. Averages are calculated based on the number of loans. The period refers to the date of disbursement of the loans. Data is cleared of LTVs greater than 120 percent.
Source: Reports to the Danish FSA (Credit Register).

Mortgage lenders take on more risk, all other things being equal, the higher the LTV of exposures. Between Q1 of 2020 and Q4 of 2021, the average contribution rates for mortgage credit institutions were higher outside growth areas than in growth areas; see Figure 21. Outside growth areas, average LTVs were also higher than in growth areas. Thus, there is evidence that mortgage lenders in 2020 and 2021 priced according to the higher risk associated with higher LTVs.

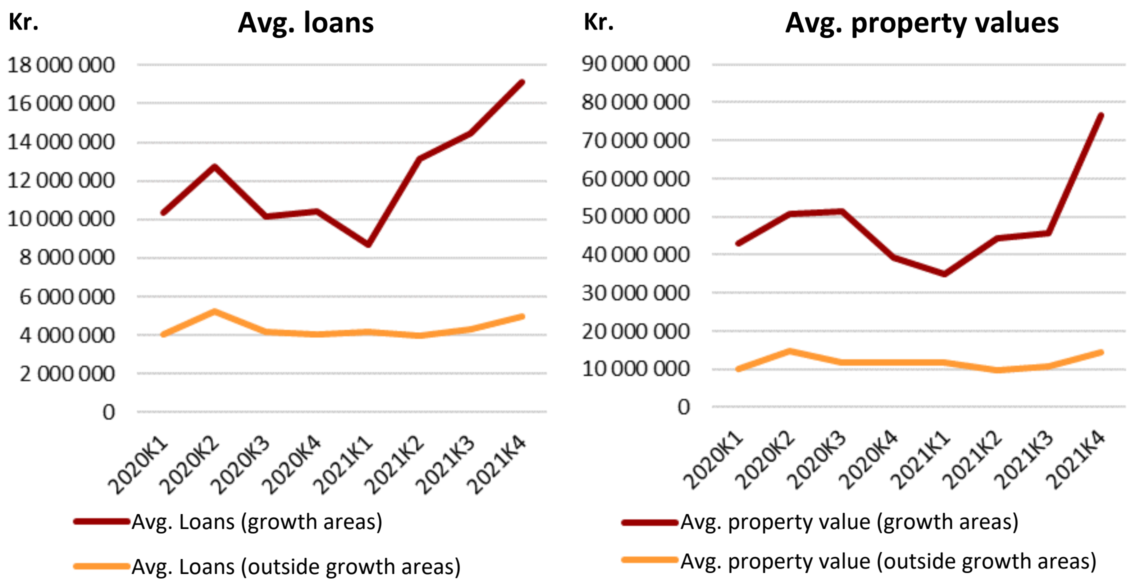
Figure 21: Contribution rate for mortgage loans for residential rental properties



Note: New mortgage lending (with conversions omitted) with mortgages on private rental properties. Averages are calculated based on the number of loans. The period refers to the date of disbursement of the loans. Data is cleared of LTVs greater than 120 percent.
Source: Reports to the Danish FSA (Credit Register).

The quarterly development in the amount of an average new loan and the value of the property are shown in Figure 22. Growth areas in particular experienced an increase in the amount of mortgage loans and mortgage values in 2021.

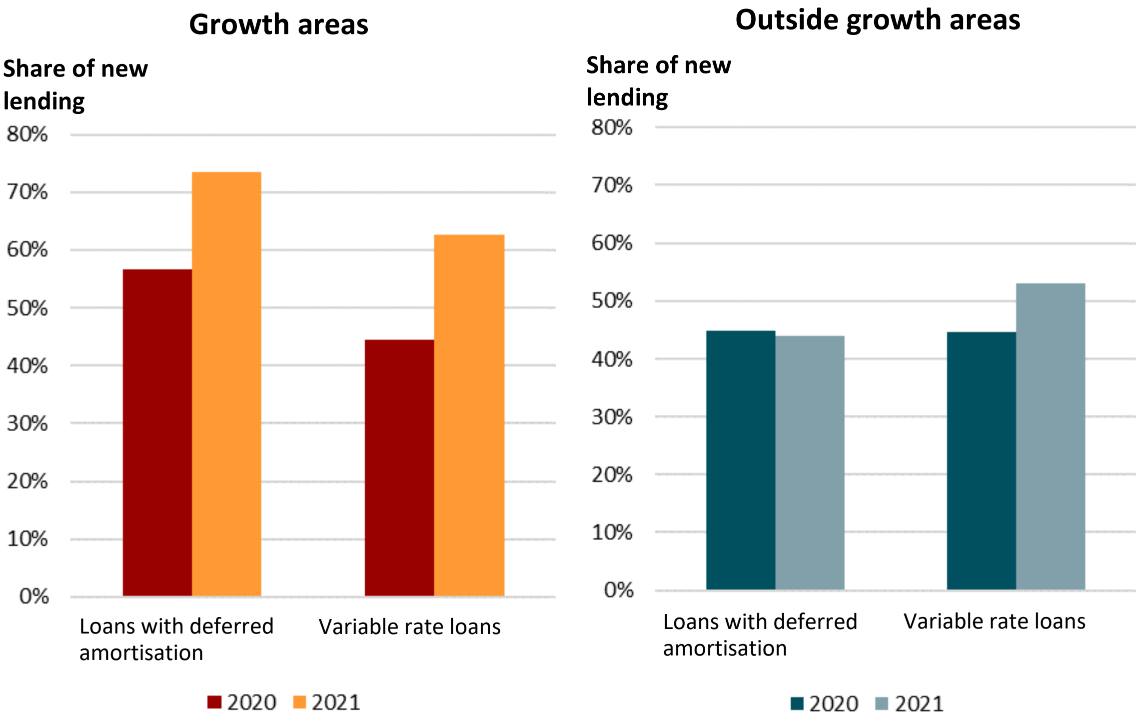
Figure 22: Mortgage loans and property values for residential rental properties



Note: New mortgage lending (with conversions omitted) with mortgages on private rental properties. Averages are calculated based on the number of loans. The period refers to the date of disbursement of the loans. Data is cleared of LTVs greater than 120 percent.
Source: Reports to the Danish FSA (Credit Register).

Mortgage lending for residential rental properties followed the overall trend as the total mortgage new lending, with an increase in the share of loans with deferred amortisation and in the share of loans with variable interest rates; see Figure 23. The development was primarily driven by growth areas, where the share of interest-only new loans increased from 57% in 2020 to 73% in 2021, and where the share of new loans with variable rates increased from 44% to 63%.

Figure 23: Distribution of mortgage loans for residential rental properties



Note: New mortgage lending (with conversions omitted) with mortgages on private rental properties. The period refers to the date of disbursement of the loans. Data is cleared of LTVs greater than 120 percent. The distribution is made based on the outstanding debt (volume) in the period and not the number of loans.
Source: Reports to the Danish FSA (Credit Register).

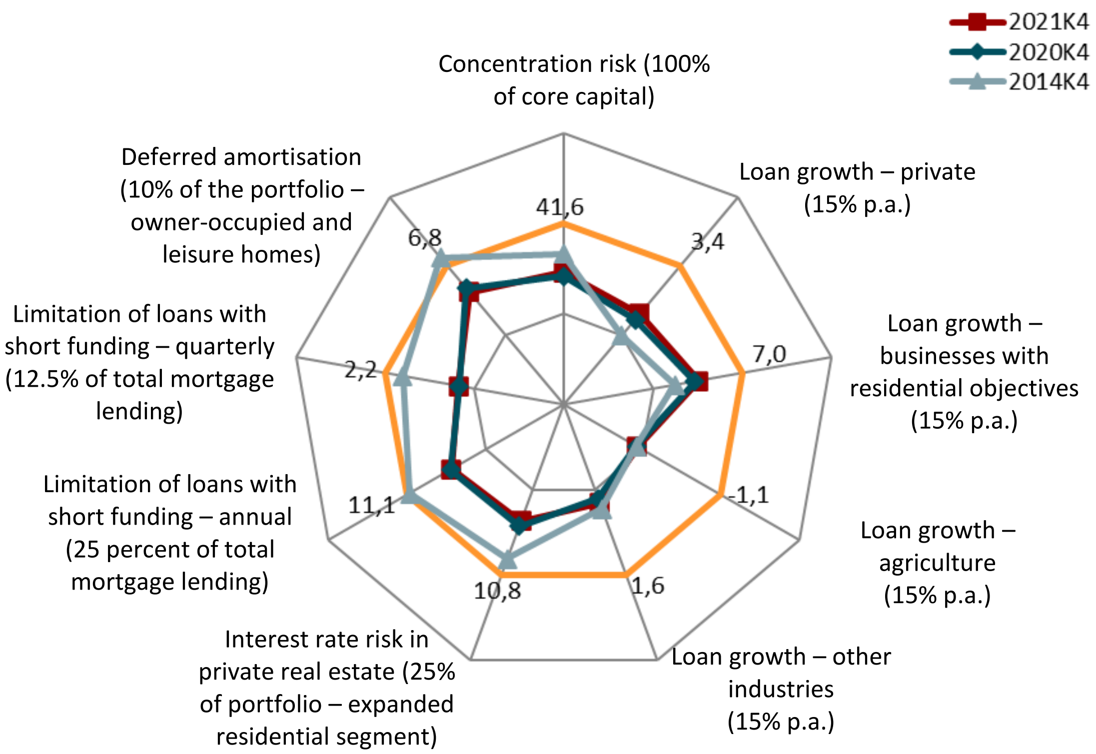
The Financial Supervisory Authority continuously monitors developments in the market for residential rental properties. Among other things, this has given rise to more risk information as a result of exceeding the Supervisory Diamond's benchmark for loan growth for businesses with residential objectives, including residential rental properties.

6. Supervisory Diamond for mortgage credit

The Supervisory Diamond for Mortgage Credit Institutions is an instrument that discourages excessive risk-taking by the individual mortgage credit institution. It was introduced in 2014 with partial effect from 2018 and full effect from 2020. The Supervisory Diamond contains five main benchmarks; see Box 4.

In Q4 of 2021, mortgage credit institutions were at sector level within all the benchmarks of the supervisory diamond; see Figure 24[21]. Since 2014, the institutions have moved further within the framework at sector level as far as the majority of the benchmarks are concerned. Since 2018, two institutions have received risk information, both due to overruns on loan growth for residential businesses.

Figure 24: Supervision Diamond for the mortgage credit sector



Note: The figure shows where mortgage banks were at, for sector level, in 2014, 2020 and 2021 (the grey, blue and red bands, respectively) in relation to the benchmarks in the Supervisory Diamond (the yellow band). The benchmark for loan growth and loans with short funding is divided into subcategories. The values in the figure belong to the red band – Q4 of 2021.
Source: Reports to the Danish FSA.

[21] The sector level is calculated as all mortgage banks taken together.

Box 4: Supervisory Diamond benchmarks

The Supervisory Diamond for Mortgage Credit Institutions contains five benchmarks that indicate what the FSA generally considers to be mortgage credit activities with increased risk.

1. **Loan growth**
   Mortgage credit institution lending may increase by a maximum of 15 percent per year in four areas (private, residential business, agriculture and other businesses), as increased lending may be at the expense of credit quality.

2. **Borrower's interest rate risk**
   The proportion of variable rate loans that have an interest commitment period of up to two years and that exceed 75% of the loan limit must be less than 25% of the total loan. This limits the quantity of risky loans. The guideline only applies to loans to private individuals and to residential rental properties.

3. **Limitation of deferred amortisation for private individuals**
   The proportion of interest-only loans exceeding 75% of the loan limit must be less than 10% of total lending. This limits the credit risk of mortgage banks.

4. **Limitation of loans with short funding**
   Mortgage banks may refinance a maximum of 25 percent of the total loan portfolio per year and a maximum of 12.5 percent in the quarter. This limits the risk of debt being issued at extraordinarily high interest rates when refinancing.

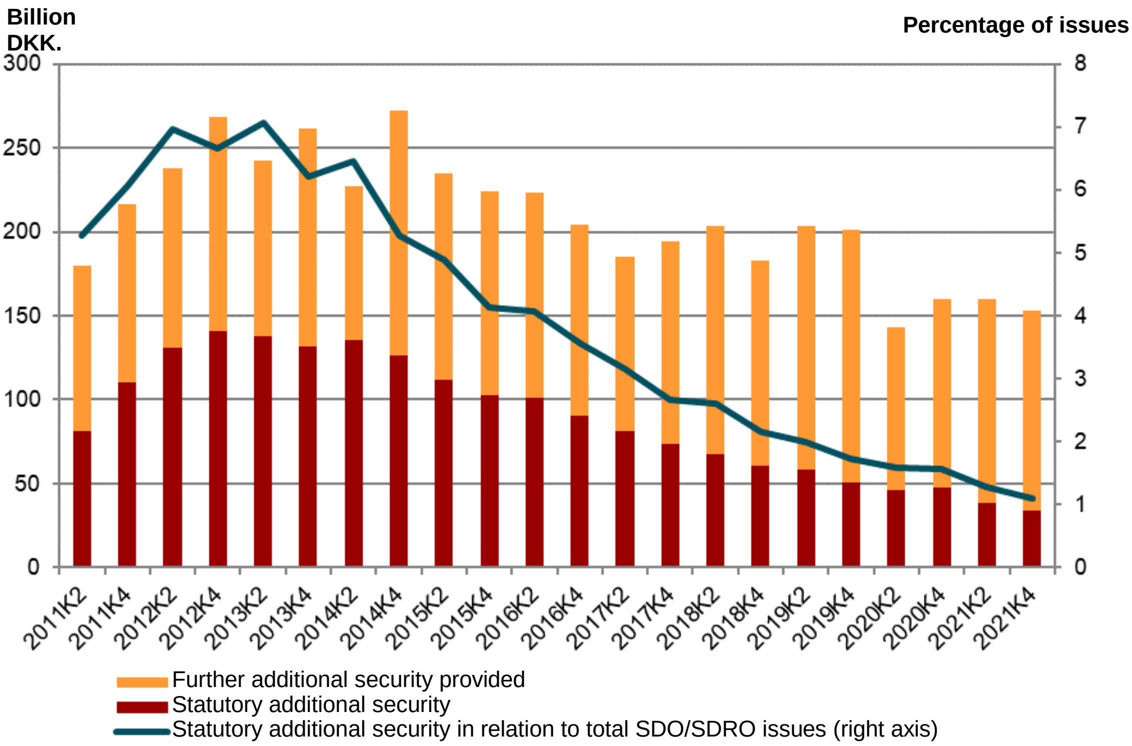
5. **Concentration risk**
   The sum of the 20 largest net exposures must be lower than the institution's core capital. This reduces the risks associated with having a significant part of the lending shared across a few large customers.

7. Additional security

The statutory requirement for additional security/collateral obliges mortgage credit institutions issuing SDOs or SDROs (especially covered bonds and covered mortgage bonds) to provide compensatory collateral to bondholders if property prices fall so much that the loan limits are exceeded. Conversely, rising property prices may result in a lower need for additional collateral for mortgage banks in the event of unchanged mortgages. Figure 25 shows that the legal requirement for additional collateral has decreased since the end of 2012.

Mortgage banks typically have an overcoverage in relation to the legal requirement for additional security. The further additional security for Q4 of 2021 amounted to DKK 119 billion compared to DKK 113 billion in the same period the year before.

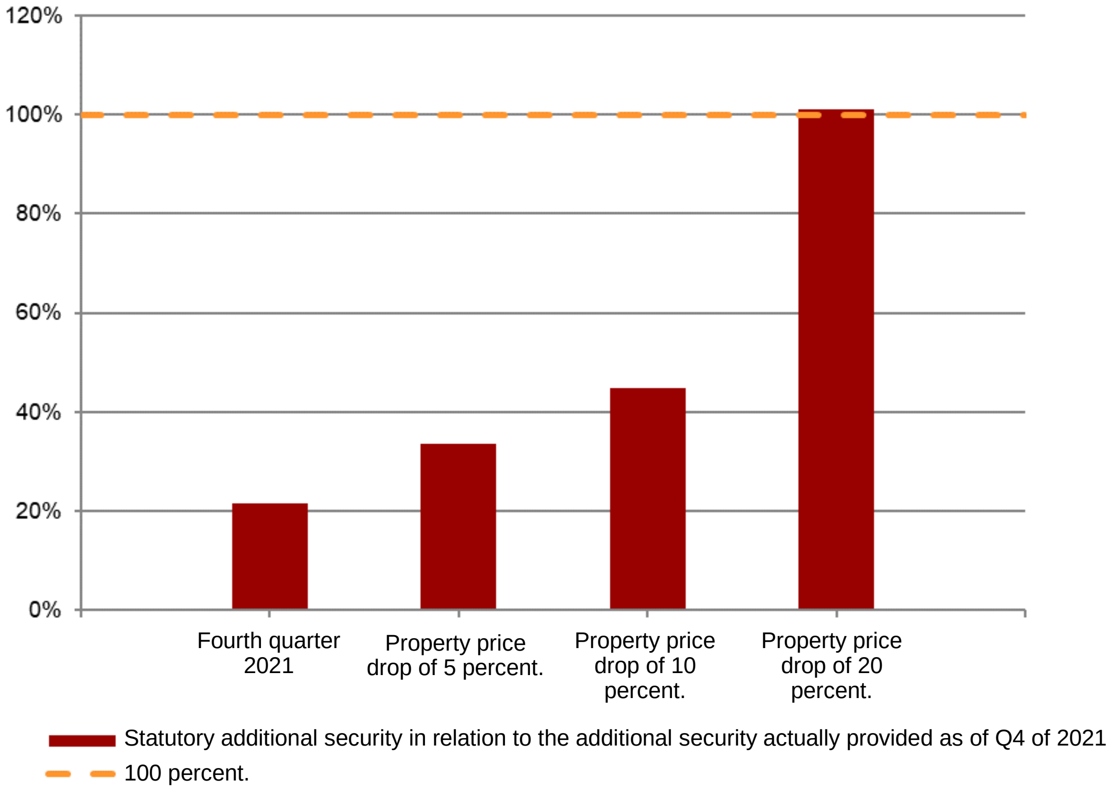
Figure 25: Additional security



Note: The decrease in additional security between 2019 and 2020 can be attributed to an adjusted and more accurate calculation method for one of the mortgage banks.
Source: Reports to the Danish FSA.

Mortgage banks stress test and assess the impact of a property price decrease on their statutory supplementary collateral every year. Figure 26 shows the impact of a fall in property prices of 5%, 10% and 20%, respectively, on the mortgage banks' statutory requirement for additional collateral in relation to the total actually provided additional collateral as of "Q4 of 2021, when all other factors are equal. If the value is above 100 percent, the institutions need to obtain further additional security in order to withstand a given fall in house prices.

Figure 26: Stress test for additional security



Note: The figure shows the statutory amount in relation to the actual additional security provided as of Q4 of 2021 in the event of property price declines of 5, 10 and 20 percent, respectively, which are estimated by selected mortgage banks. Source: Reports to the Danish FSA.

Mortgage lenders continue to be able to counter an overall property price decline of more than 10 percent at sector level with their most recently reported additional security when all other factors are equal. A general property price decrease of 20 percent will mean that the statutory requirement for additional collateral will be marginally greater than what the mortgage banks initially held at the end of 2021; see Figure 26.

8. Appendix 1: Annual accounts of mortgage banks, 2017–2021

	2017	2018	2019	2020	2021	Changes, 1 year	Changes, 5 years
Income statement	*million DKK*					*pct.*	
Interest income	73.150	69.524	67.766	60.750	59.519	-2,03	-18,63
Interest costs	49.236	46.251	43.790	37.113	35.822	-3,48	-27,24
Net interest income	***23.914***	***23.274***	***23.975***	***23.637***	***23.697***	***0,25***	***-0,91***
Dividends on shares, etc.	177	252	217	58	150	156,69	-15,14
Fees and commission income	2.973	2.833	4.409	3.605	4.365	21,09	46,83
Paid fees and commissions	6.197	6.380	8.946	8.100	9.104	12,40	46,91
Net interest and fee income	***20.866***	***19.980***	***19.656***	***19.200***	***19.107***	***-0,48***	***-8,43***
Staff and administrative costs	5.561	5.373	5.077	5.775	7.034	21,80	26,49
Other operating income	1.239	1.995	3.074	2.133	2.573	20,62	107,61
Other operating costs	202	162	204	177	252	42,46	24,83
Depreciation and amortisation of intangible and tangible assets	237	99	284	256	410	60,26	73,46
Basic earnings	***16.106***	***16.340***	***17.165***	***15.125***	***13.984***	***-7,55***	***-13,18***
Exchange rate adjustments	870	- 916	1.562	1.218	1.632	34,00	87,49
Write-downs on loans and receivables, etc.	874	905	996	3.077	140	-95,46	-84,03
Profit/loss on shares in associated enterprises	5.134	3.933	3.987	3.953	5.403	36,69	5,24
Pre-tax profit/loss	21.236	18.453	21.717	17.219	20.879	21,26	-1,68
Tax	3.417	2.980	3.317	2.641	2.948	11,62	-13,72
Profit/loss for the period	17.820	15.473	18.400	14.578	17.931	23,00	0,63

Note: The figures are based on the institutions that existed in each year. The table shows selected records. In 2021, the mortgage sector consisted of Nykredit Realkredit, Realkredit Danmark, Totalkredit, Jyske Realkredit, DLR Kredit and Nordea Kredit. Totalkredit is doubly included in profit and equity, as it is part of the Nykredit Group. The result of shares is mainly attributable to subsidiaries of Nykredit Realkredit: Totalkredit and Nykredit Bank. The subsidiaries are included with their net earnings. This means that the part of the result attributable to Totalkredit includes both contribution income and costs to banks in connection with mediation and administration for the mortgage credit institution. At Nykredit Bank, net profit is also affected by the mortgage activities and customer relationships in it, e.g. value adjustments of interest rate swap agreements entered into to hedge customers' interest rate risk.
Source: Reports to the Danish FSA.

	2017	2018	2019	2020	2021	Changes, 1 year	Changes, 5 years
Balance sheet items	*million DKK*					*pct.*	
Cash in hand and on-demand receivables with central banks	898	809	295	347	22.225	6308,94	2375,83
Receivables from credit institutions and central banks	851.461	844.379	1.099.373	1.045.844	1.024.854	-2,01	20,36
Lending	2.819.304	2.883.600	2.991.737	3.097.717	3.142.182	1,44	11,45
Lending, excluding Repos	*2.819.304*	*2.883.600*	*2.991.737*	*3.097.717*	*3.142.182*	*1,44*	*11,45*
Bonds	205.372	167.003	211.208	193.270	177.514	-8,15	-13,56
Shares, etc.	6.095	6.961	6.716	6.565	6.766	3,05	11,01
Equity participations in associated enterprises	162	54	49	45	53	16,69	-67,45
Shares in affiliated enterprises	47.360	49.851	59.260	62.844	70.477	12,15	48,81
Assets associated with pooled schemes	-	-	-	-	-		
Intangible assets	201	257	307	354	269	-23,96	34,09
Land and buildings	545	141	795	684	526	-23,11	-3,46
Other tangible assets	112	113	159	190	206	8,51	84,16
Tax assets	605	387	273	90	116	28,75	-80,88
Assets in temporary possession	721	667	208	145	76	-47,78	-89,52
Other assets	12.594	10.174	12.379	10.230	8.705	-14,90	-30,87
Period accrual items	334	424	464	476	343	-27,94	2,65
Total assets	3.945.763	3.964.820	4.383.223	4.418.800	4.454.312	0,80	12,89
Amounts owed to credit institutions and central banks	711.303	727.340	857.165	887.332	923.171	4,04	29,79
Deposits	-	10.500	11.950	7.200	-		
Deposits, excluding Repos	-	-	-	-	-		
Bonds issued	2.971.770	2.970.099	3.248.851	3.249.950	3.252.282	0,07	9,44
Other commitments	8.501	3	3	1.137	458	-59,68	-94,61
Period accrual items	39	26	36	36	29	-20,14	-26,09
Total debt	***3.720.646***	***3.734.095***	***4.142.826***	***4.168.794***	***4.198.514***	***0,71***	***12,84***
Provisions for commitments	674	513	745	382	332	-13,28	-50,77
Subordinated capital injections	15.792	15.861	16.516	17.946	15.587	-13,14	-1,30
Equity	208.651	214.350	223.136	231.678	239.879	3,54	14,97
Total liabilities	3.945.763	3.964.820	4.383.223	4.418.800	4.454.312	0,80	12,89

Note: The figures are based on the institutions that existed in each year. The table shows selected records. In 2021, the mortgage sector consisted of Nykredit Realkredit, Realkredit Danmark, Totalkredit, Jyske Realkredit and Nordea Kredit.
Source: Reports to the Danish FSA.

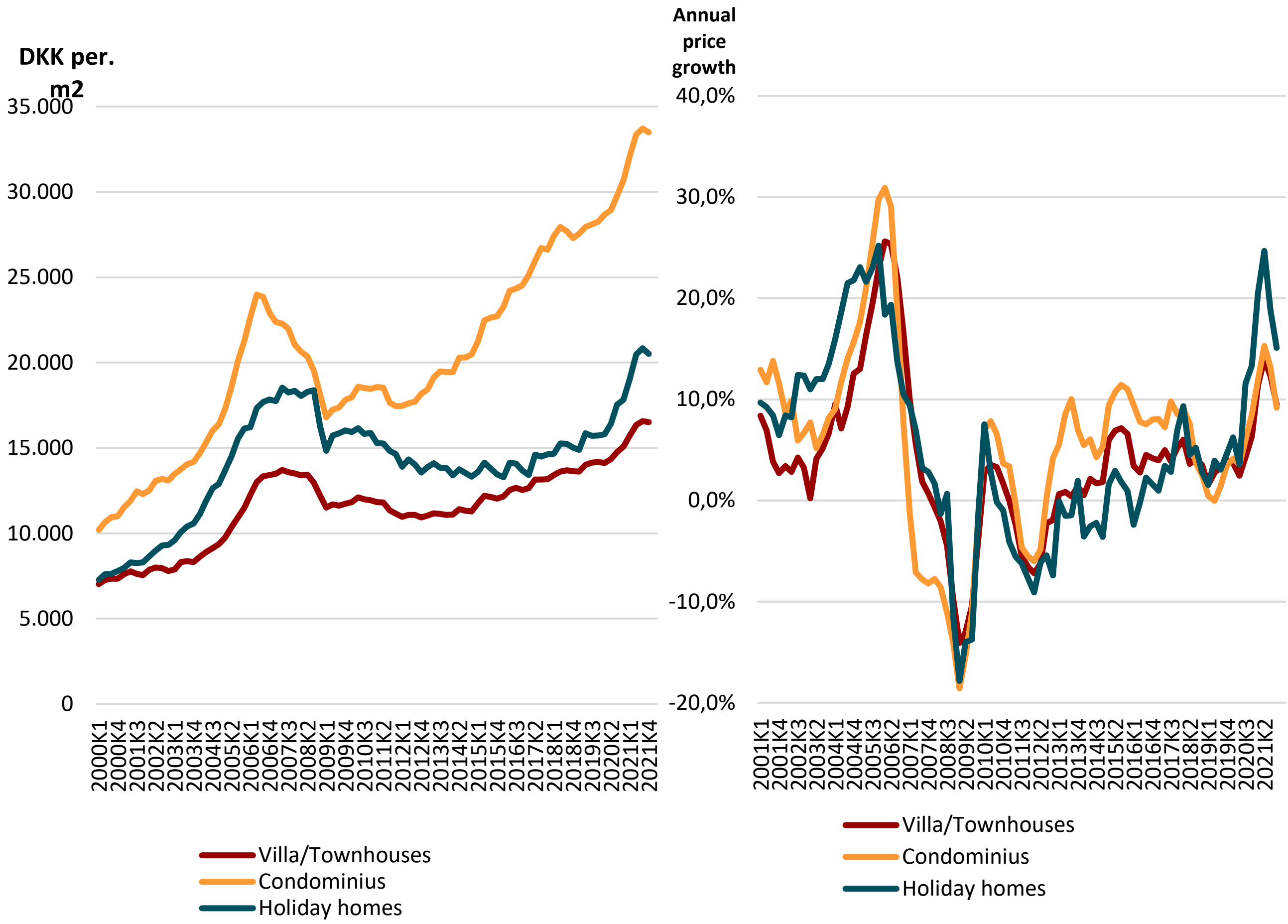
9. Appendix 2: Key figures for mortgage banks, 2017–2021

	2017	2018	2019	2020	2021
Capital ratio	23,46	23,66	22,87	23,02	21,88
Core capital ratio	21,64	21,92	21,09	21,04	20,18
Real core capital ratio	20,80	21,09	20,31	20,31	19,49
Return on equity before tax	10,18	8,61	9,73	7,43	8,70
Return on equity after tax	8,54	7,22	8,25	6,29	7,48
Earnings per cost kroner (DKK)	4,08	4,16	4,19	2,87	3,58
Cumulative impairment ratio	0,38	0,36	0,34	0,40	0,40
Impairment rate for the period	0,03	0,04	0,04	0,10	0,01
Loans in relation to equity (ratio)	13,51	13,45	13,41	13,37	13,10
Total risk exposures (DKK billion)	909	929	1.003	1.057	1.114

Note: The table shows selected records. The figures are based on the institutions that existed in each year.
Source: Reports to the Danish FSA.

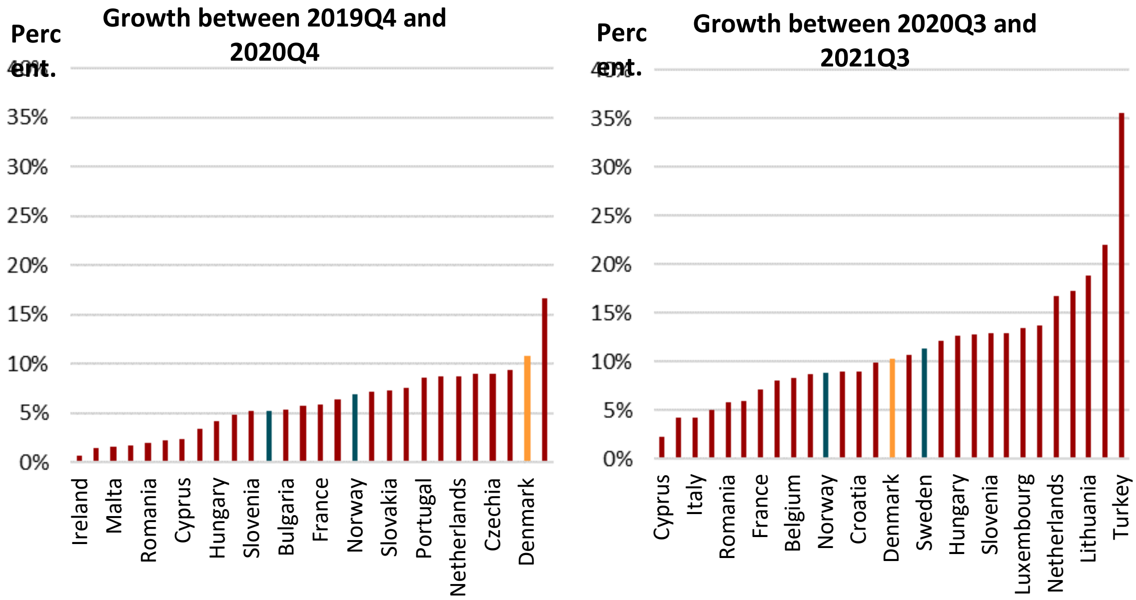
10. Appendix 3: Price developments in the housing market

Figure 27: Loan and price growth for owner-occupied and leisure/second homes in Denmark



Source: Finance Denmark and the Danish Financial Supervisory Authority's own calculations.

Figure 28: House price growth across countries



Note: Growth in the EU Harmonised House Price Index.
Source: Eurostat.