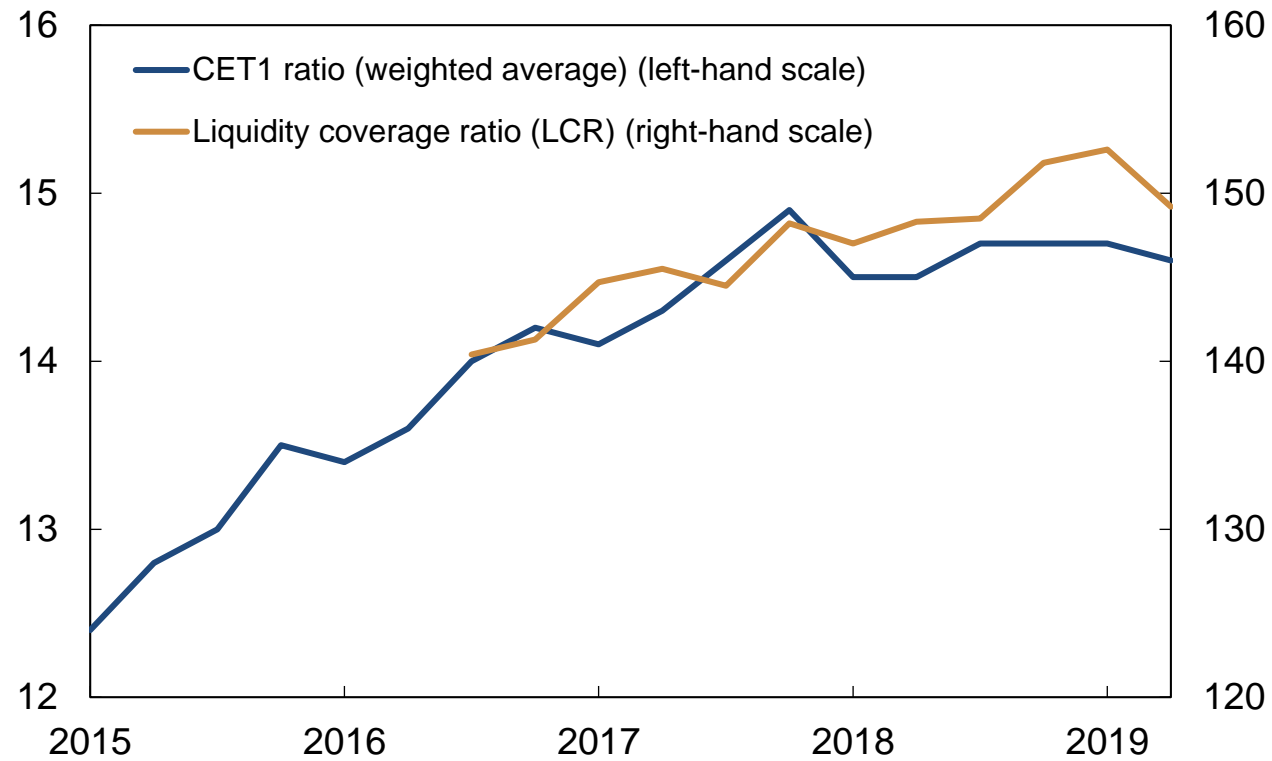
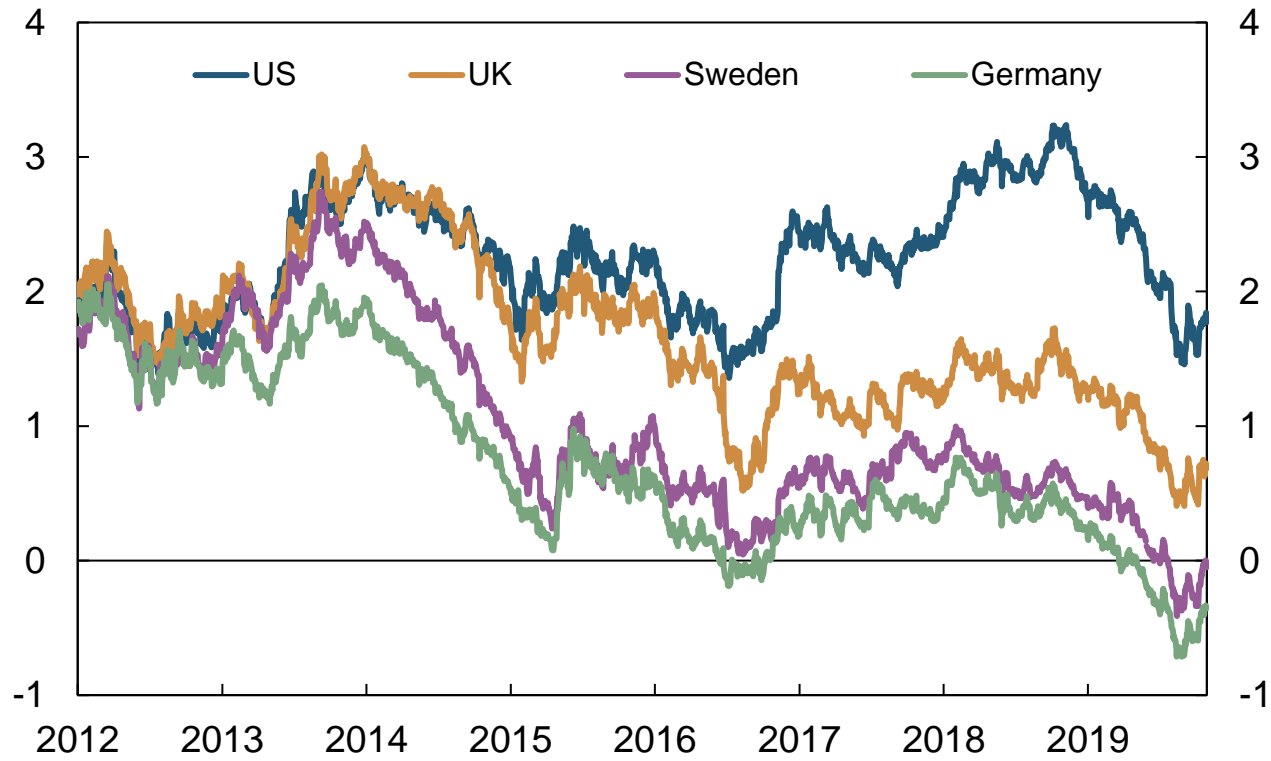


Chart 1.1 Capital and liquidity coverage ratios in the EU banking system.
Weighted average. Percent. 2015 Q1 – 2019 Q2



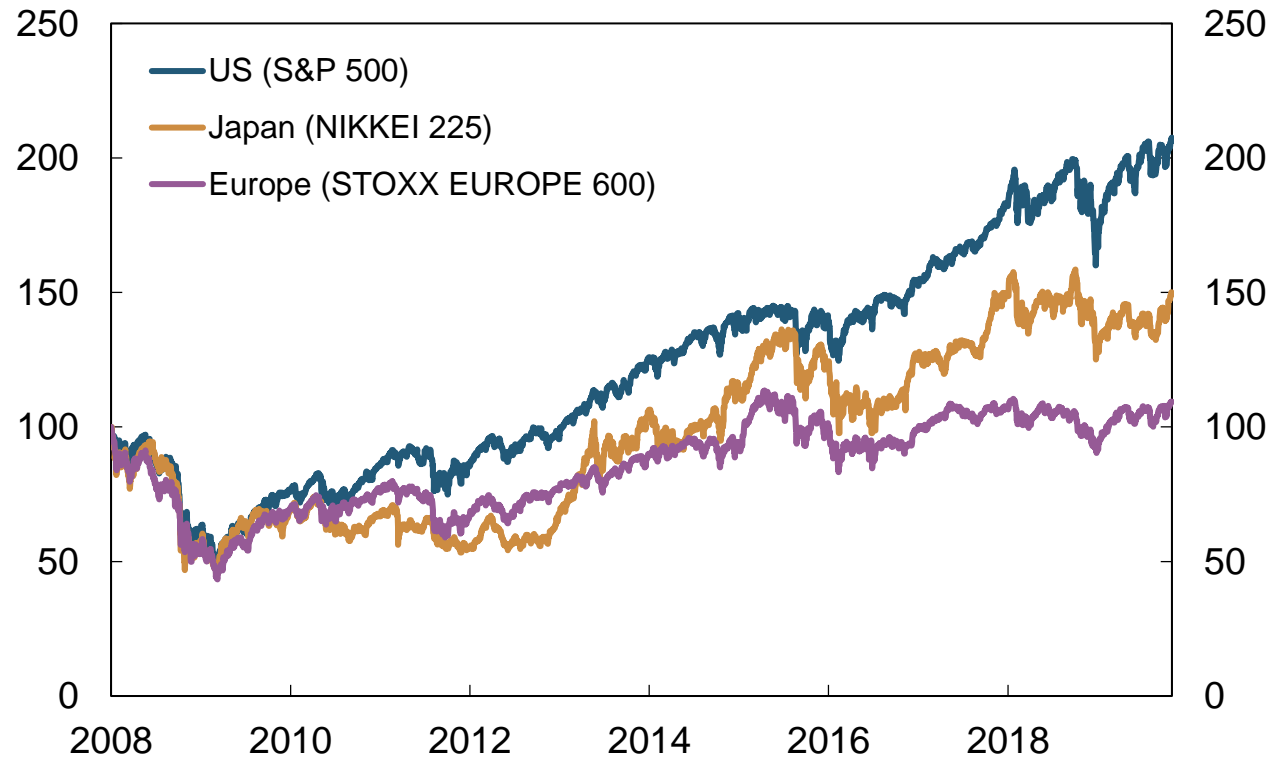
Source: European Banking Authority (EBA)

Chart 1.2 Yields on ten-year government bonds in selected countries.
Percent. 1 January 2012 – 30 October 2019



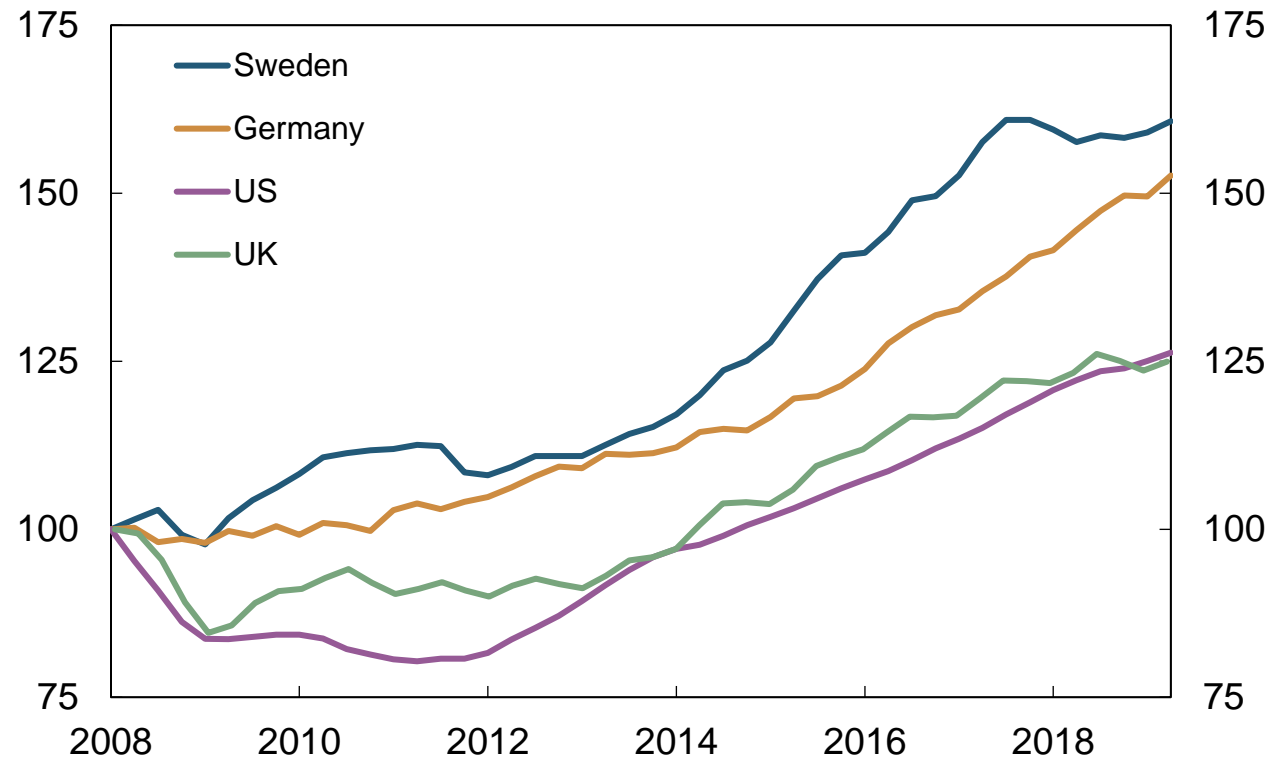
Source: Bloomberg

Chart 1.3 Stock market indexes in selected countries.
Index. 1 January 2008 = 100. 1 January 2008 – 30 October 2019



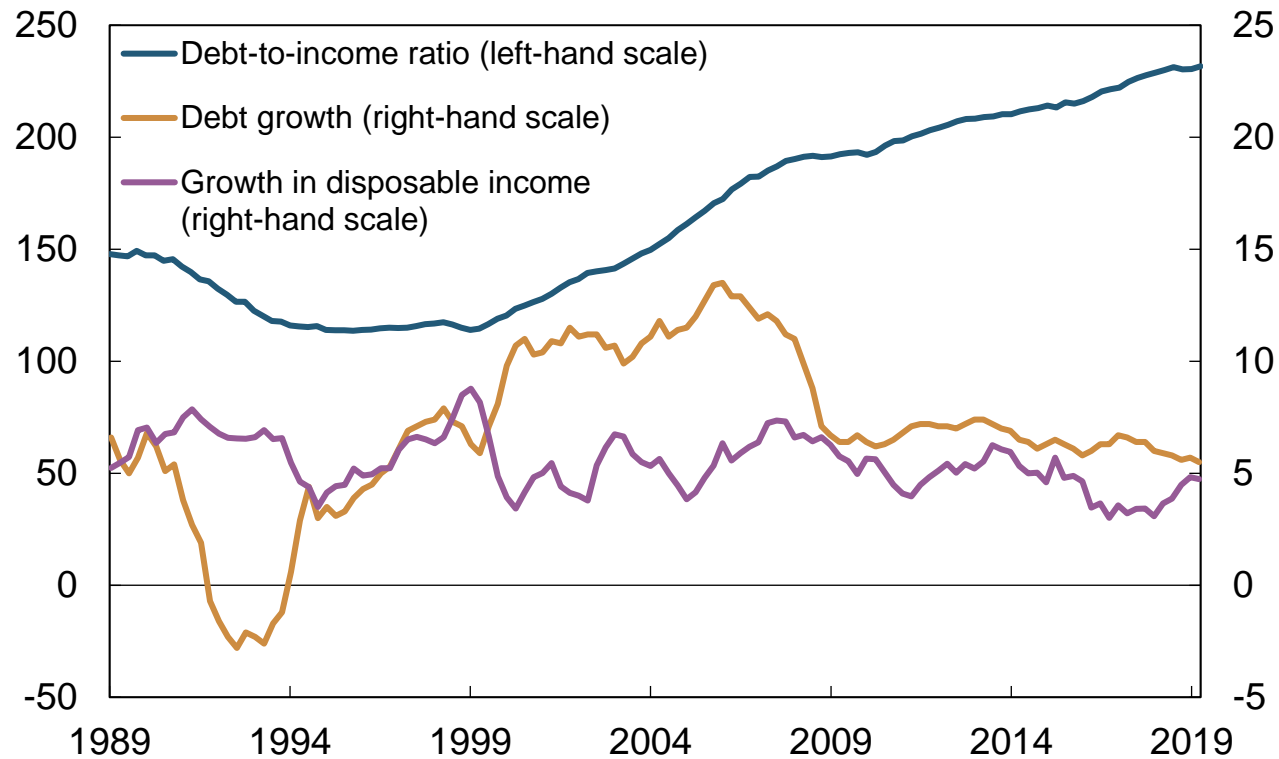
Source: Bloomberg

Chart 1.4 House prices in selected countries.
Index. 2008 Q1 = 100. 2008 Q2 – 2019 Q2



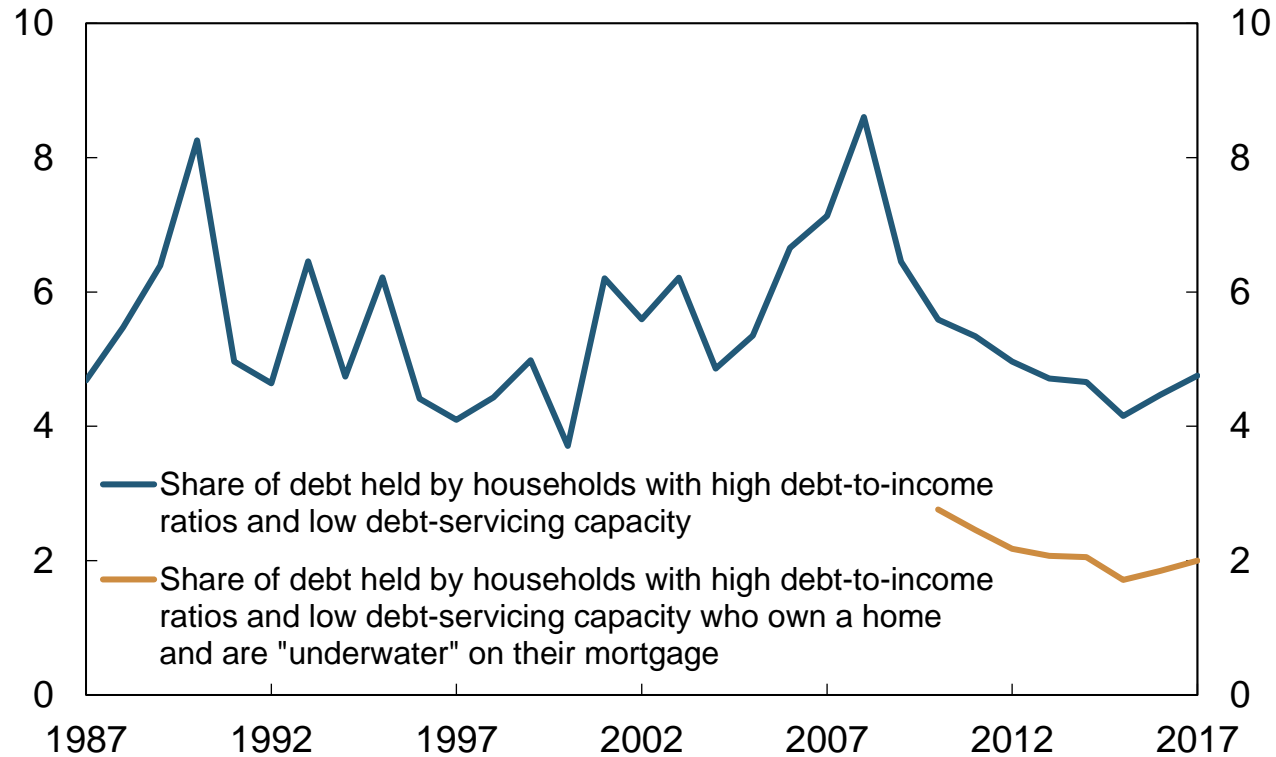
Source: Bank for International Settlements (BIS)

Chart 1.5 Household debt-to-income ratio¹⁾ and four-quarter change in debt and disposable income²⁾. Percent. 1989 Q1 – 2019 Q2³⁾



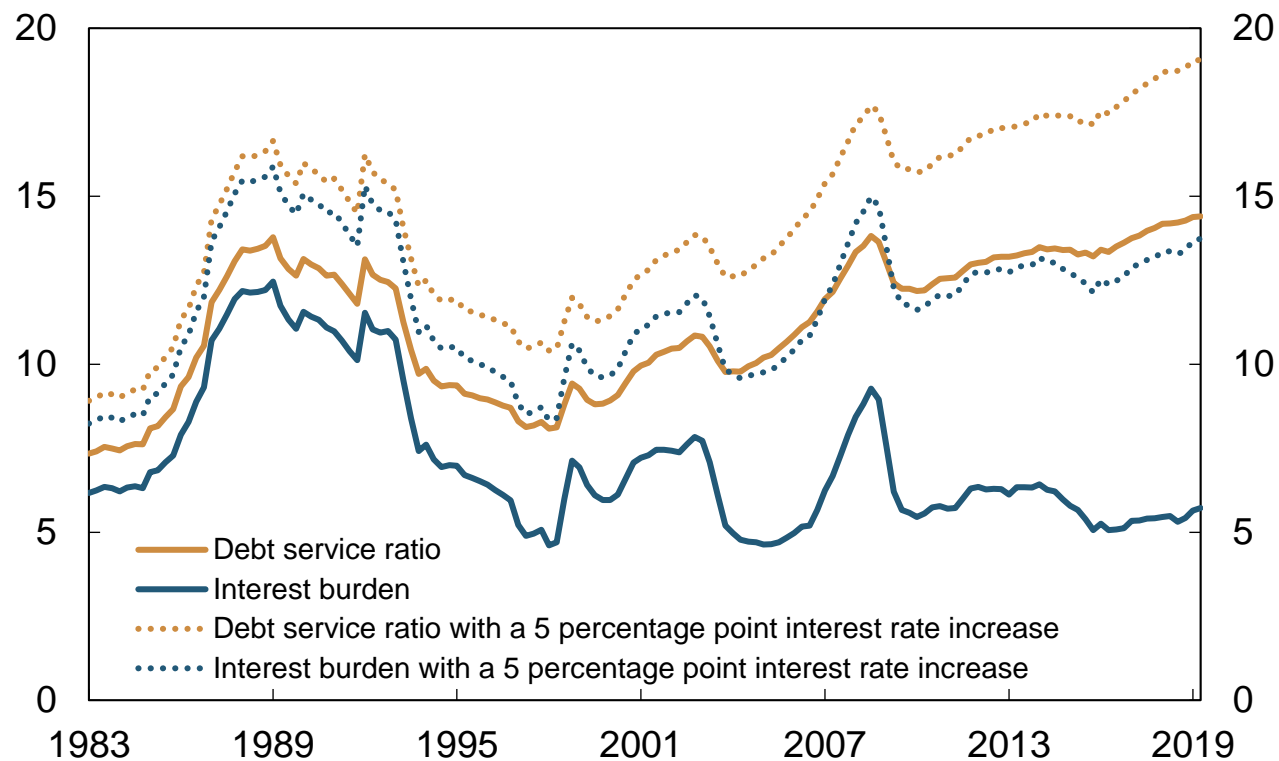
1) Loan debt as a percentage of disposable income. **2)** Income after taxes and interest payments. Adjusted for a break in the series. Four-quarter change in moving sum for the previous four quarters. **3)** Projection for change in disposable income for 2019 Q2. Sources: Statistics Norway and Norges Bank

Chart 1.6 Debt held by vulnerable households¹⁾. Share of total household debt. Percent. 1987 – 2017



1) Households in breach of critical values for debt-to-income ratio (debt over five times gross income) and debt-servicing capacity (annual income after tax, less interest and standard consumption expenditure of less than one month's income) and from 2010 also critical value for debt-to-value (net debt higher than dwelling's market value). Sources: SIFO, Statistics Norway and Norges Bank

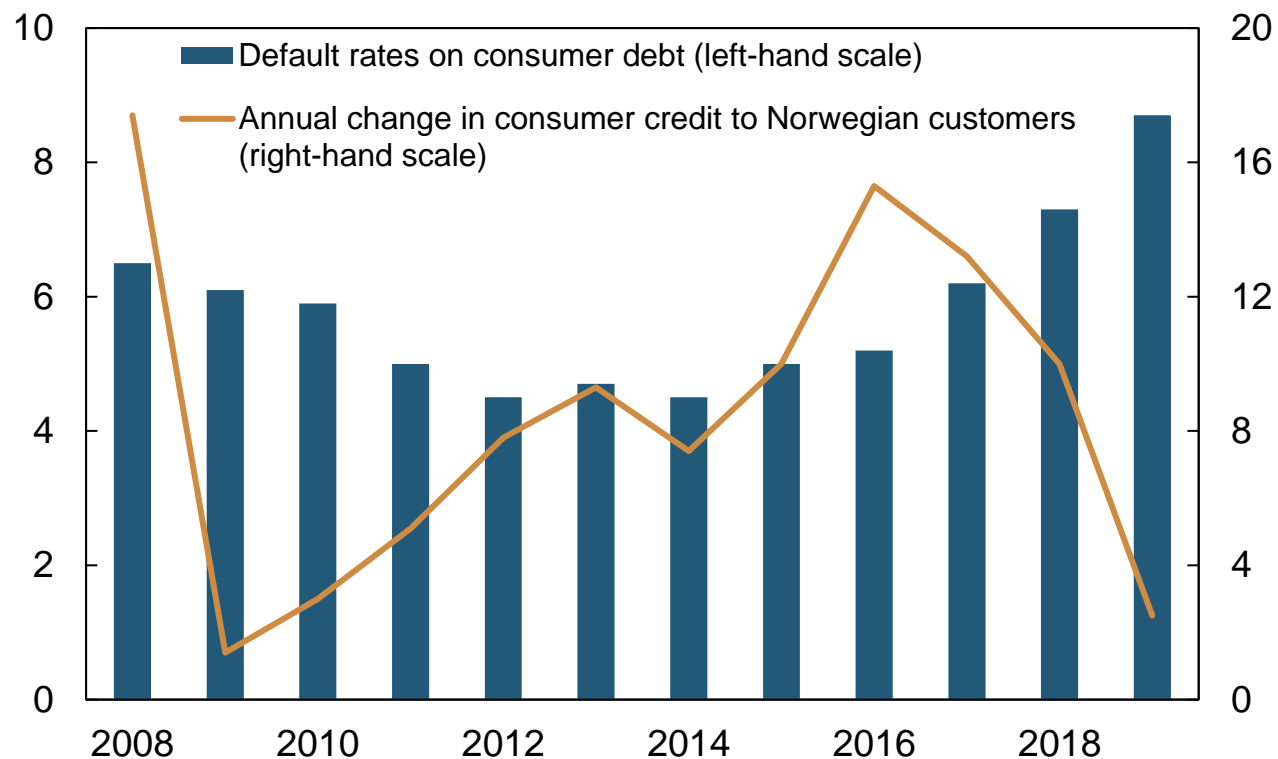
Chart 1.7 Household debt service ratio¹⁾ and interest burden²⁾.
Percent. 1983 Q1 – 2019 Q2



1) Debt service ratio is interest expenses and estimated principal payments as a percentage of after-tax income. **2)** Interest burden is interest expenses as a percentage of after-tax income.

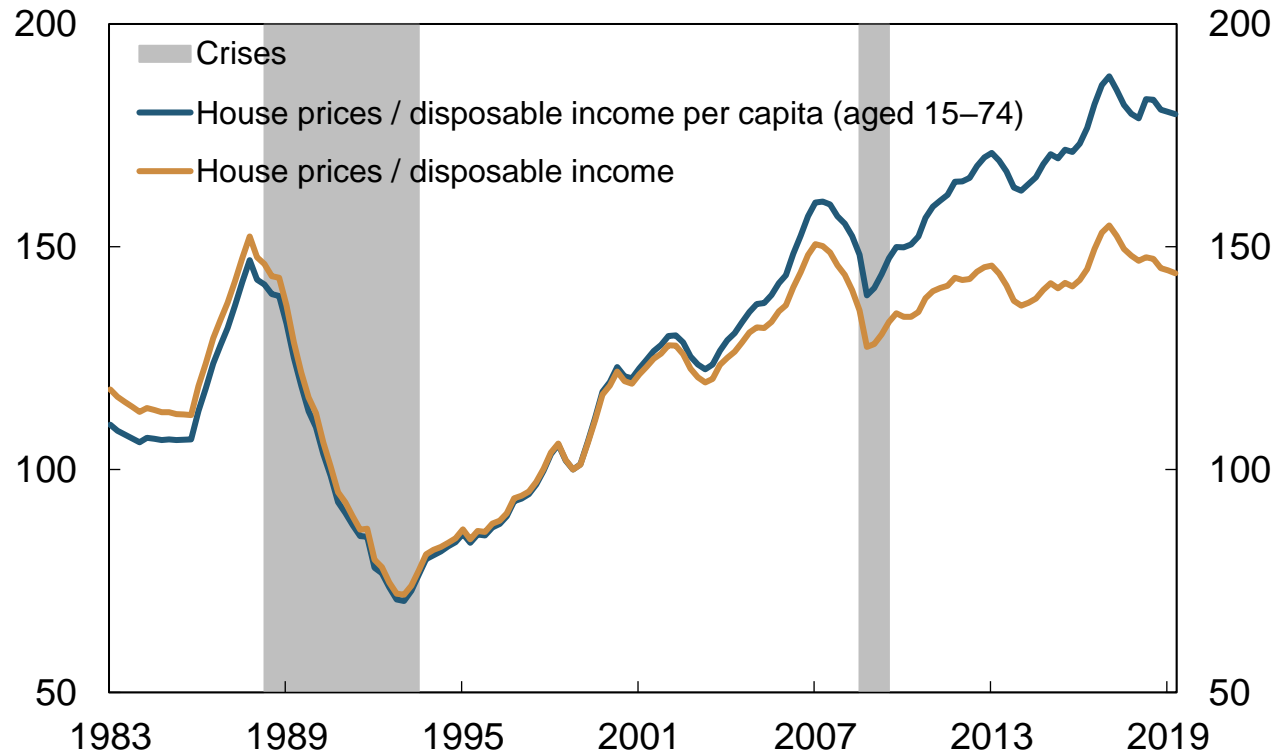
Sources: Statistics Norway and Norges Bank

Chart 1.8 Annual change in consumer credit and default rates¹⁾ on consumer debt.²⁾ Percent. At year-end. 2008 – 2019³⁾



1) Gross non-performing consumer debt (90 days) as a share of gross consumer debt. Also includes finance companies' exposures abroad. 2) Based on the FSAs sample of banks and finance companies that cover most of the consumer credit market. Non-performing loans sold omitted from the sample. 3) At 30 June 2019.
Source: Finanstilsynet (Financial Supervisory Authority of Norway)

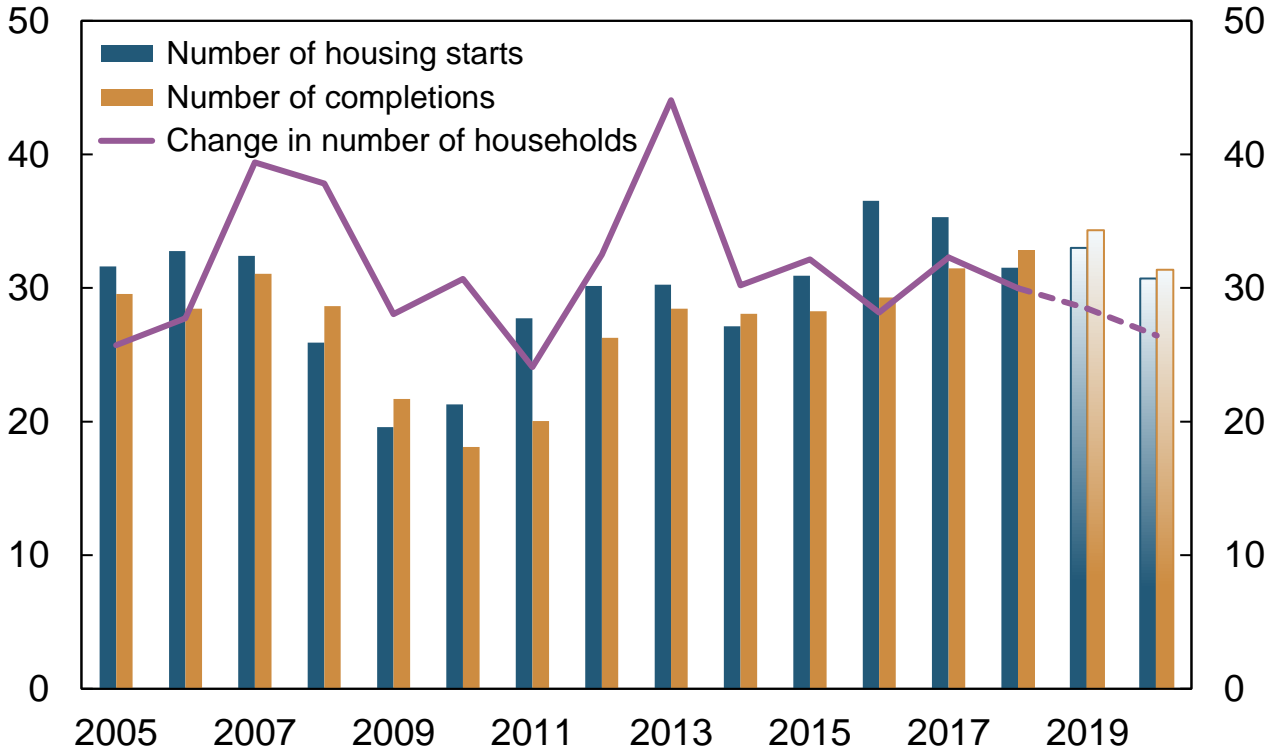
Chart 1.9 House prices relative to disposable income¹⁾.
Index. 1998 Q4 = 100. 1983 Q1 – 2019 Q2



1) Disposable income is income after taxes and interest payments. Adjusted for a break in the series.

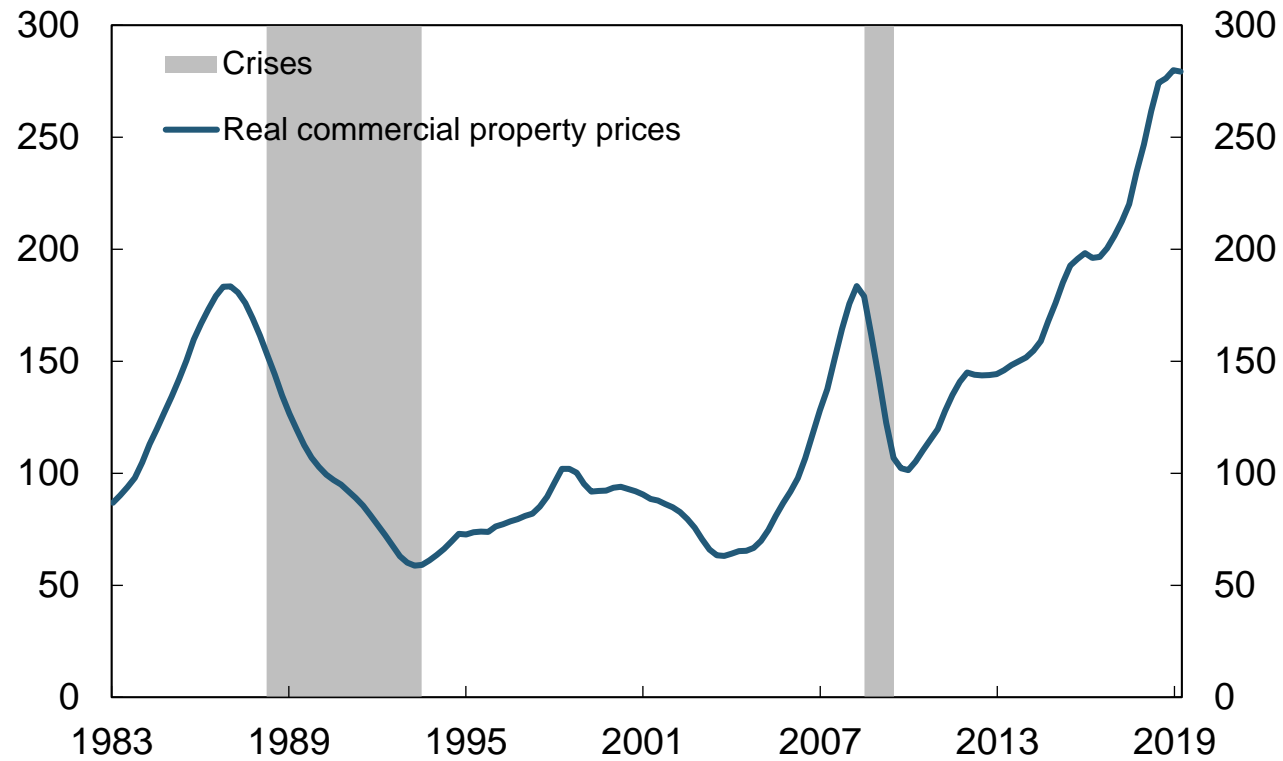
Sources: Eiendomsverdi, Finn.no, Norwegian Association of Real Estate Agents (NEF), Real Estate Norway, Statistics Norway and Norges Bank

Chart 1.10 Housing starts and completions, annual change in number of households. In thousands. 2005 – 2020¹⁾



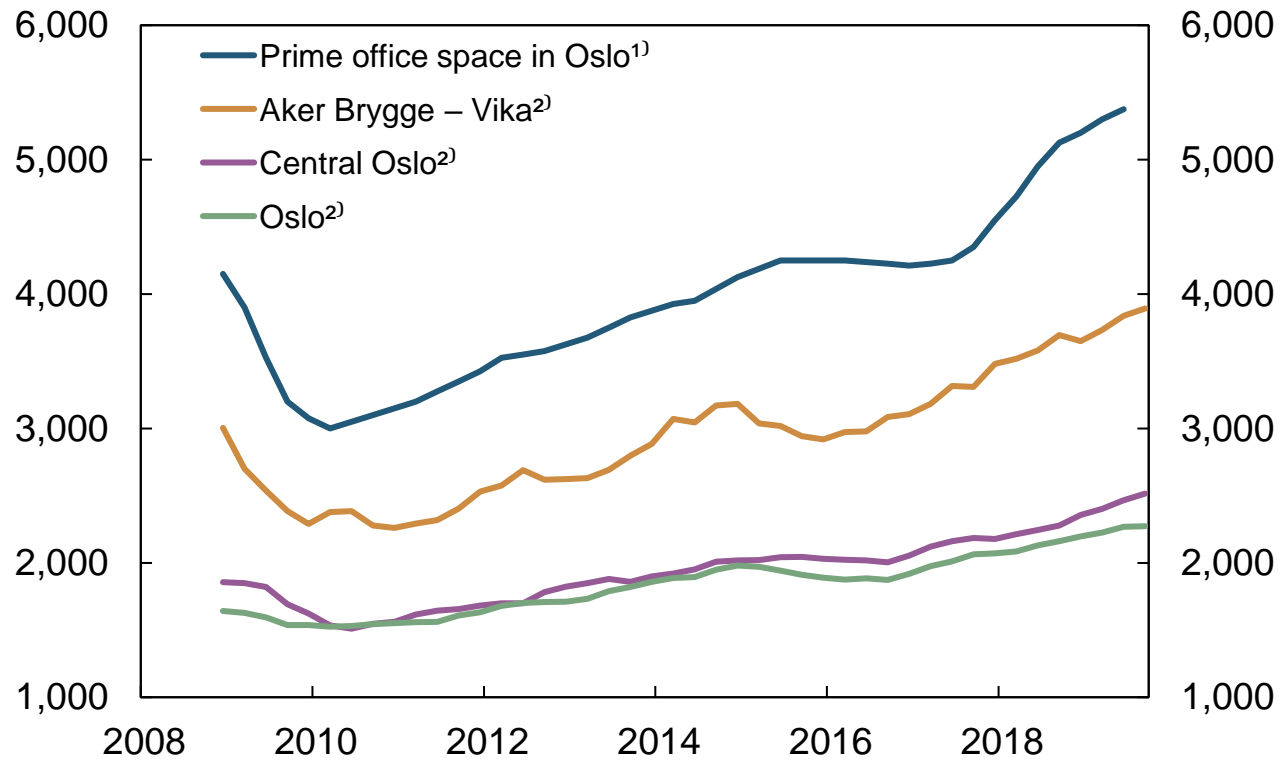
1) Projections for 2019 and 2020.
Sources: Statistics Norway and Norges Bank

Chart 1.11 Real commercial property prices.¹⁾
Index. 1998 = 100. 1983 Q1 – 2019 Q2



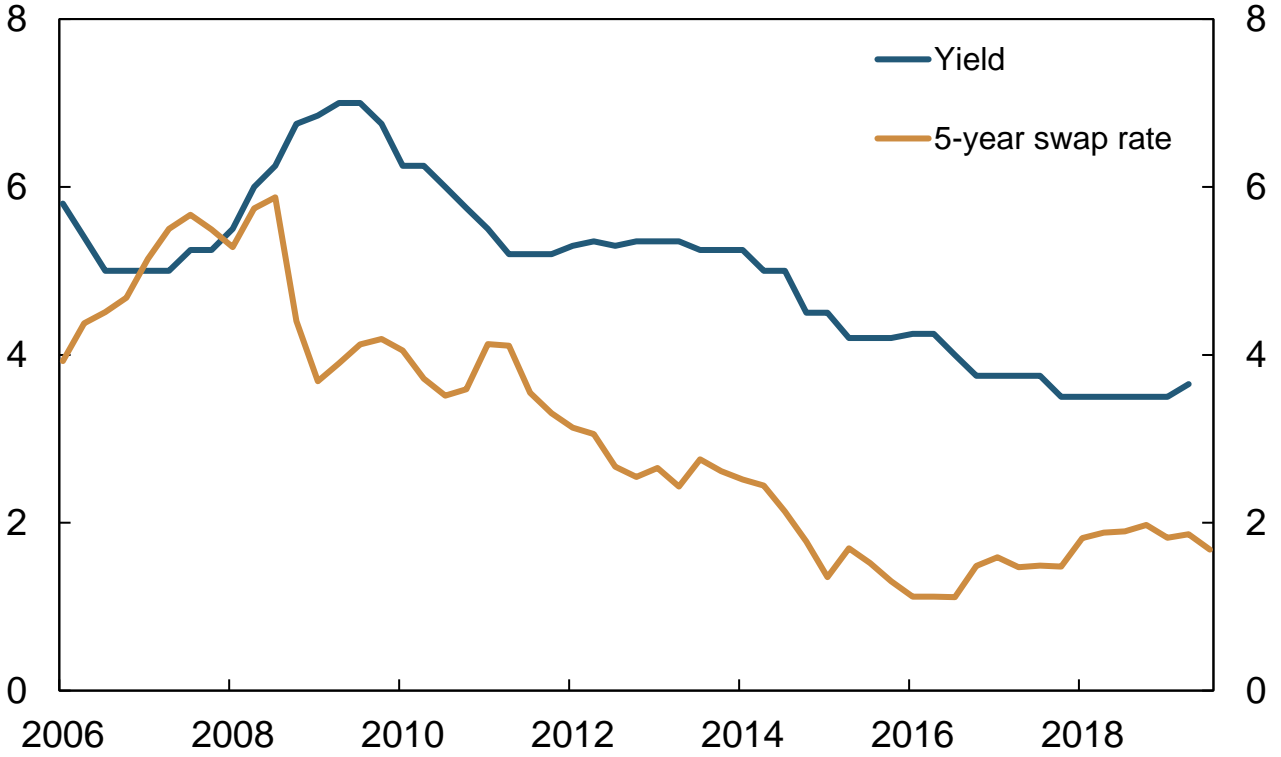
1) Estimated real selling prices per square metre for prime office space in Oslo. Deflated by the GDP deflator for mainland Norway. Average selling price for the previous four quarters.
Sources: CBRE, Dagens Næringsliv, OPAK, Statistics Norway and Norges Bank

Chart 1.12 Office rents in Oslo. NOK per square metre per year. Four-quarter moving average. 2008 Q4 – 2019 Q3



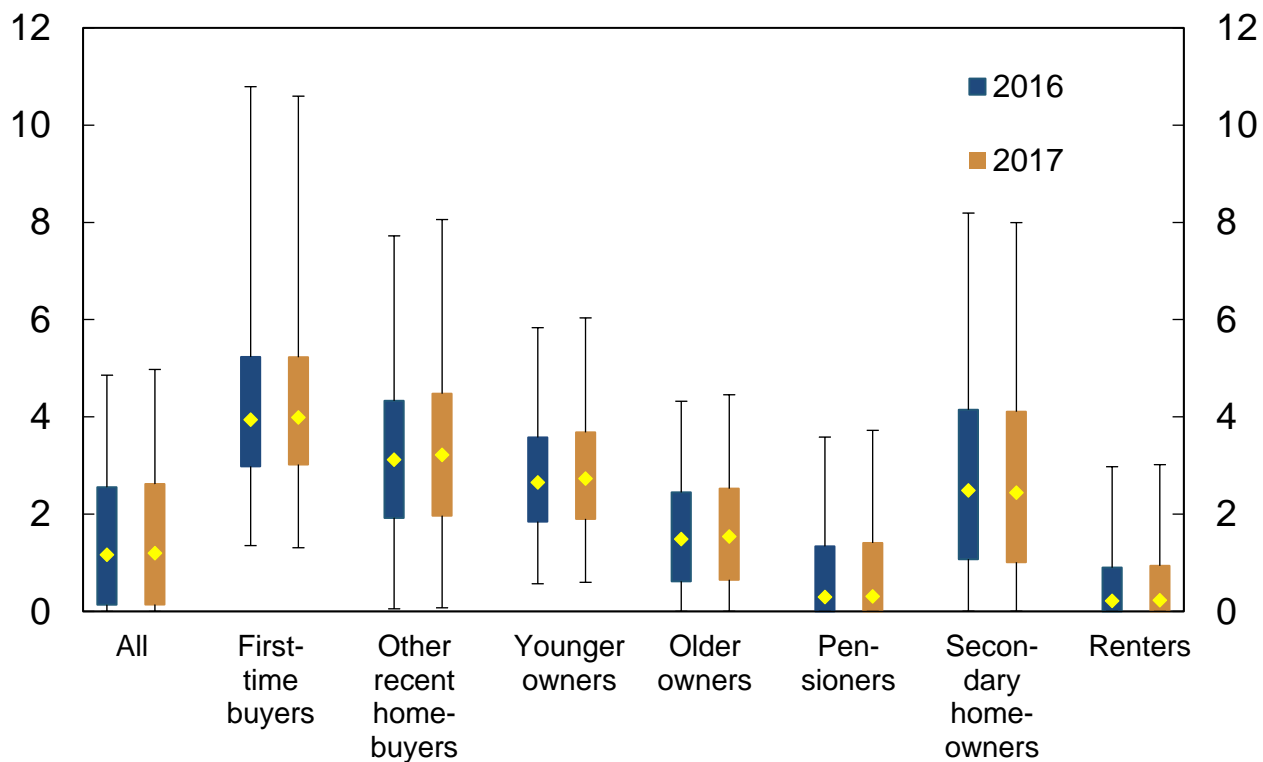
1) Market rents according to CBRE to 2019 Q2. 2) Calculated as the average rental price for signed leases, at lease signing date.
Sources: Arealstatistikk and CBRE

Chart 1.13 Yield for prime office space in Oslo and long-term interest rates. Percent. 2006 Q1 – 2019 Q3¹⁾



1) Yield to 2019 Q2.
Sources: CBRE and Refinitiv

Chart 1.A Debt-to-income ratio¹⁾. By household group. 2016 and 2017



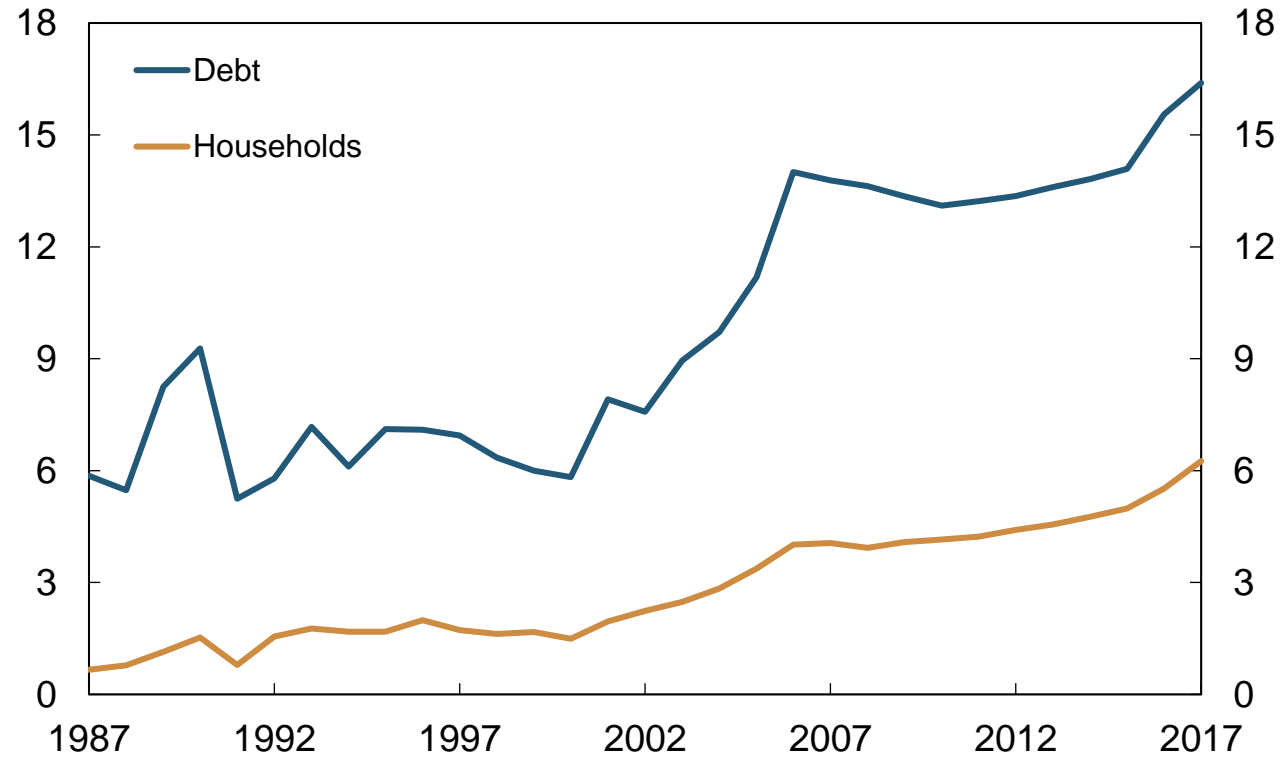
1) Debt as a share of gross income. Diamonds indicate the medians, bars the 25th to 75th percentiles and lines the 5th to 95th percentiles.
Sources: Ambita, Statistics Norway and Norges Bank

Chart 1.B Debt by income decile. Share of total debt held by each household group. Percent. 2017



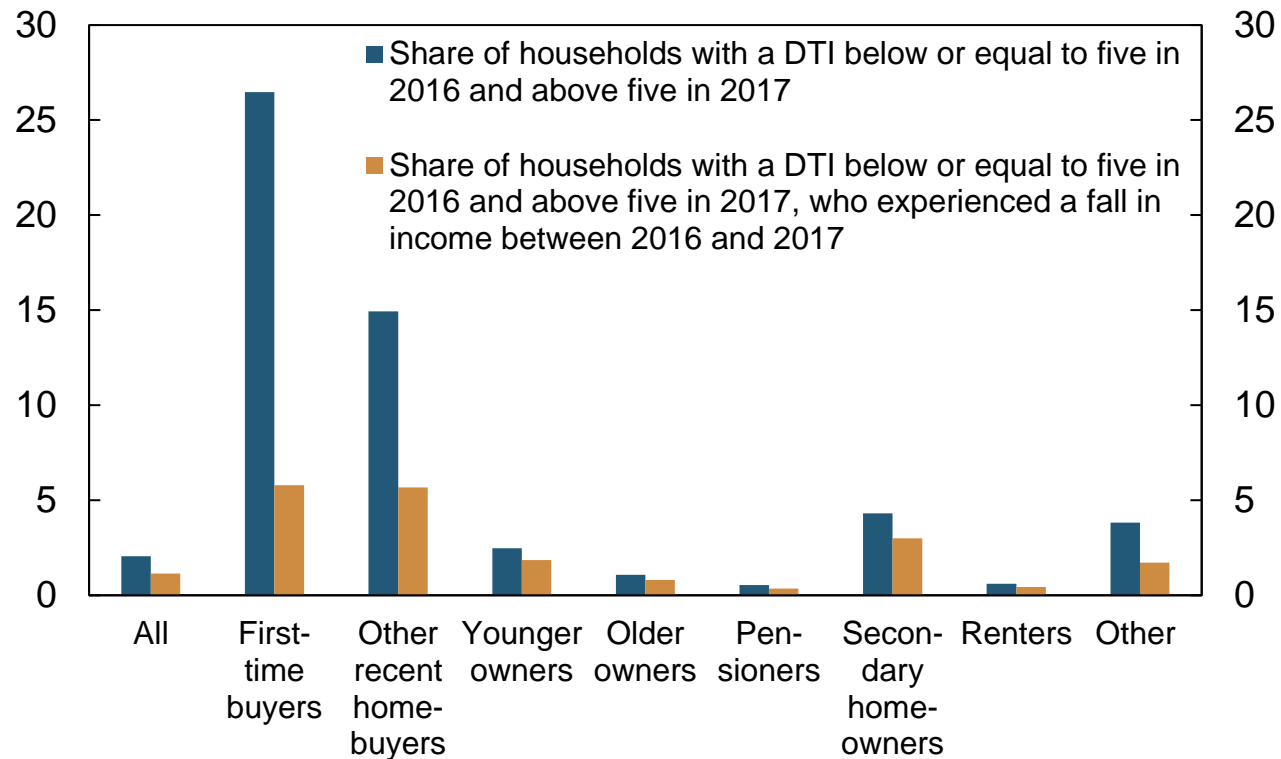
Sources: Ambita, Statistics Norway and Norges Bank

Chart 1.C Share of households with a DTI¹⁾ ratio higher than five and share of debt held by these households. Percent. 1987 – 2017



1) Debt as a share of gross income.
Sources: Statistics Norway and Norges Bank

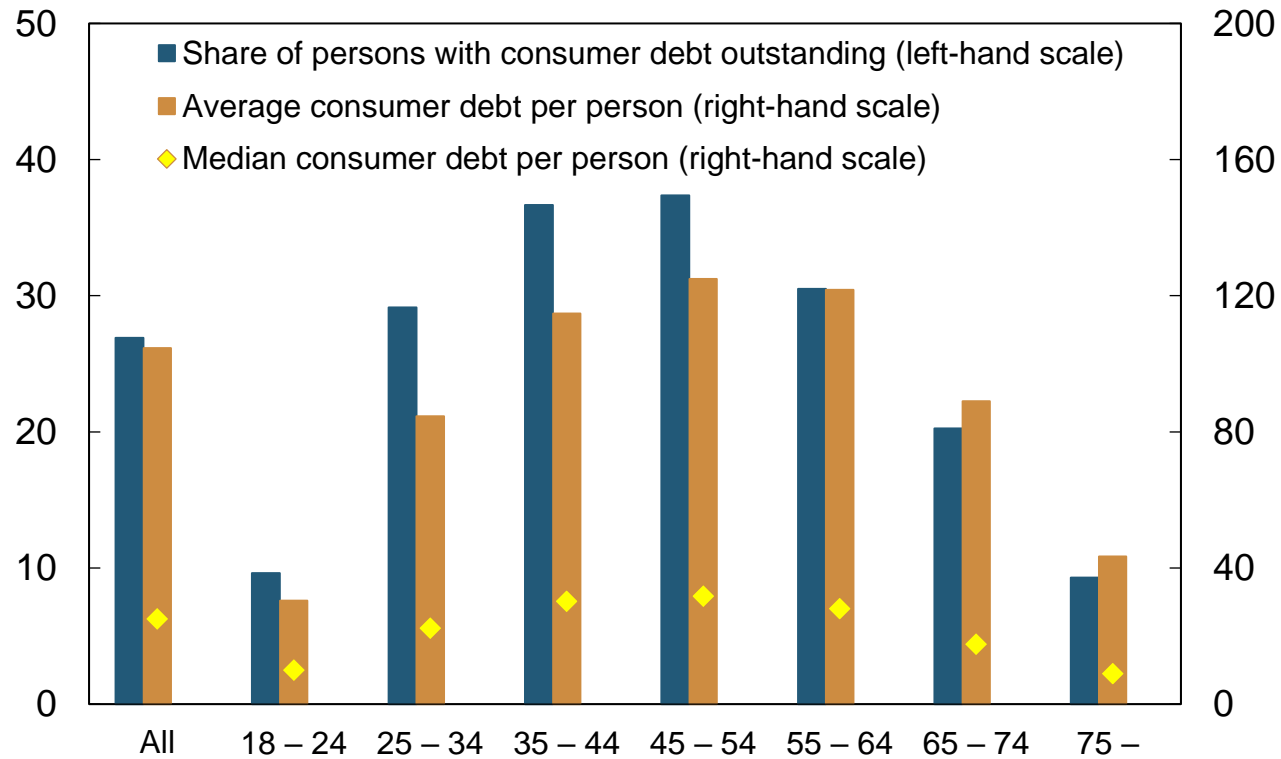
Chart 1.D Households whose DTI¹⁾ rose to above five in 2017. Share of households in each household group. Percent



1) Debt as a share of gross income.

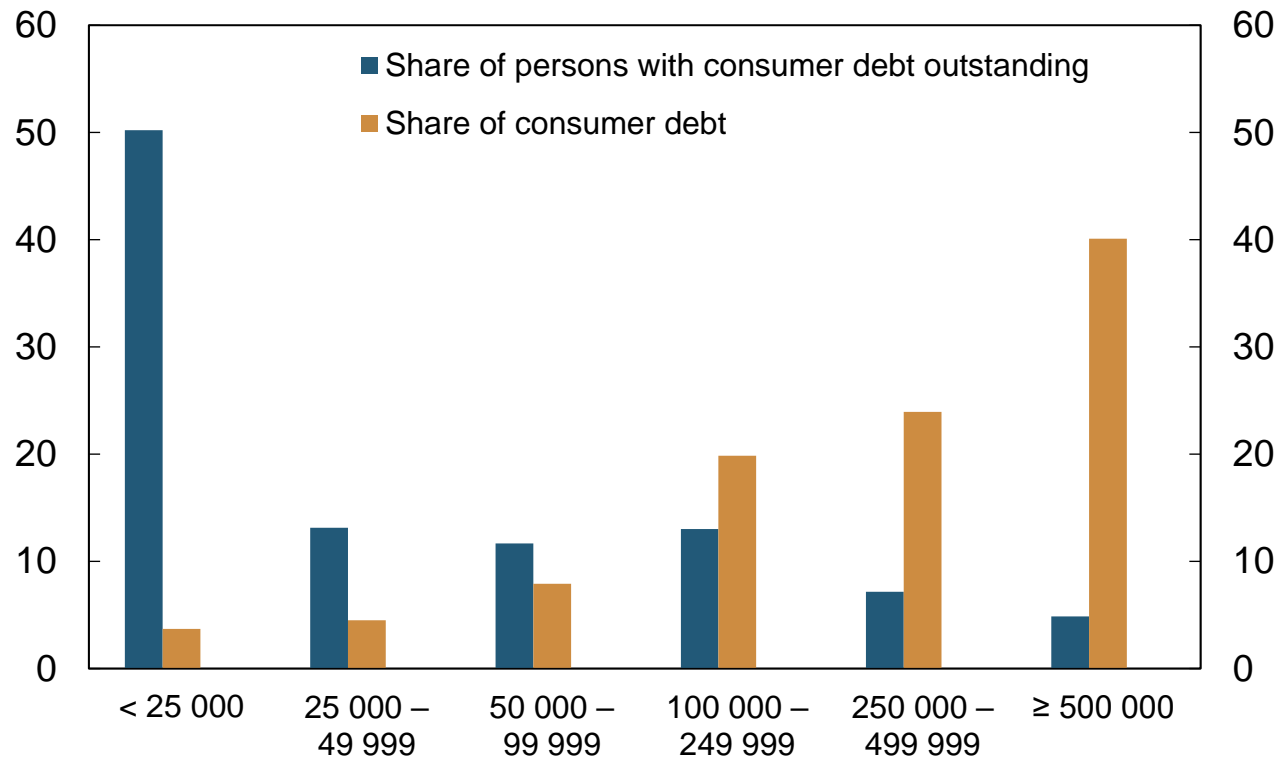
Sources: Ambita, Statistics Norway and Norges Bank

Chart 1.E Persons with consumer debt outstanding as a share of the population. Percent. Consumer debt per person. In thousands of NOK. By age. At 30 September 2019



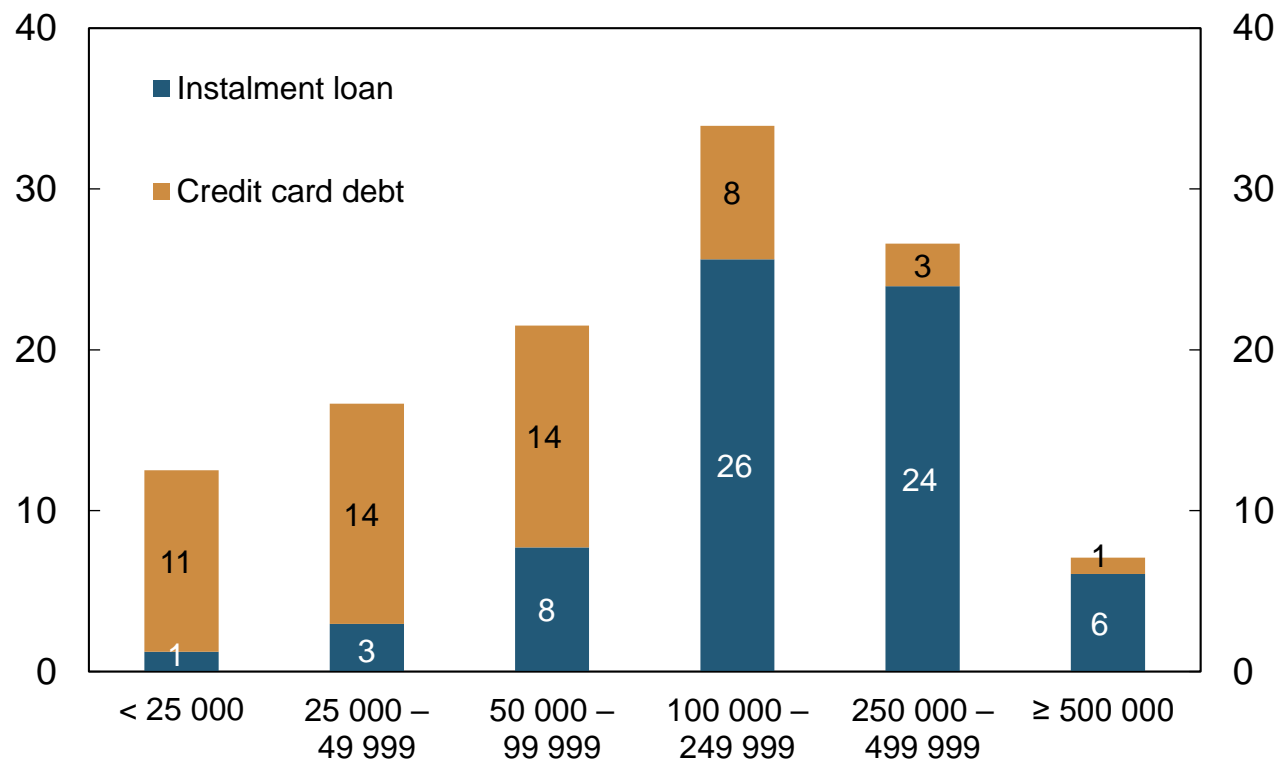
Sources: Gjeldsregisteret AS and Norges Bank

Chart 1.F Distribution of persons with consumer debt outstanding and consumer debt balances held by these persons. By amount of consumer debt in NOK. Percent. At 30 September 2019



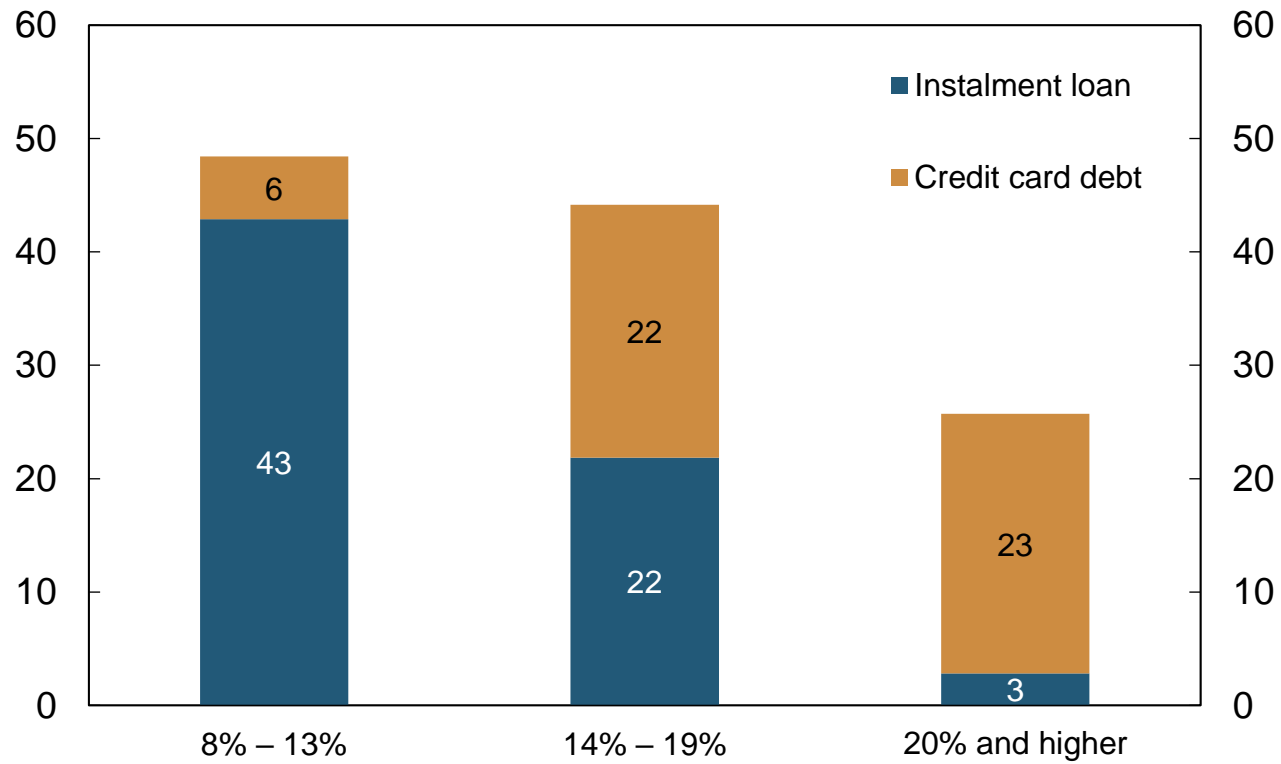
Sources: Gjeldsregisteret AS and Norges Bank

Chart 1.G Consumer credit. By credit type and unpaid balances in NOK.
In billions of NOK. At 30 September 2019



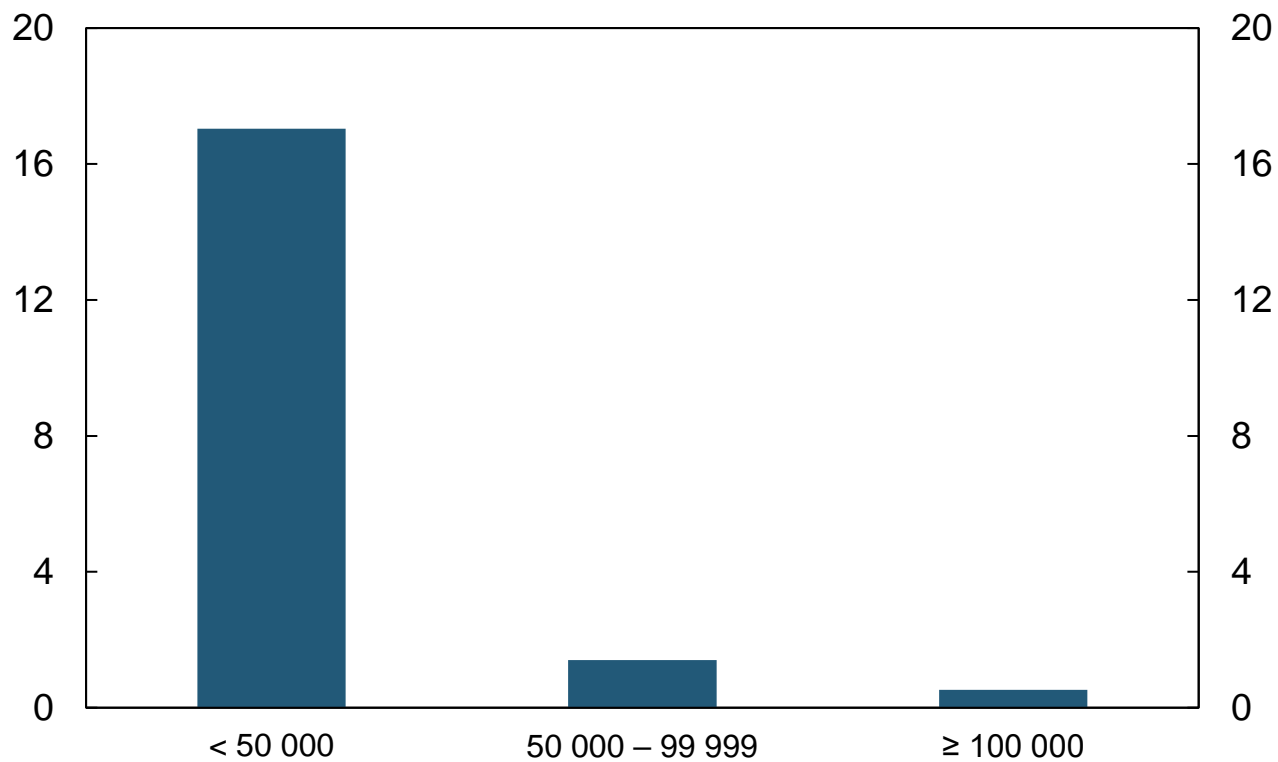
Sources: Gjeldsregisteret AS and Norges Bank

Chart 1.H Consumer credit. By credit type and interest rate.
In billions of NOK. At 30 September 2019



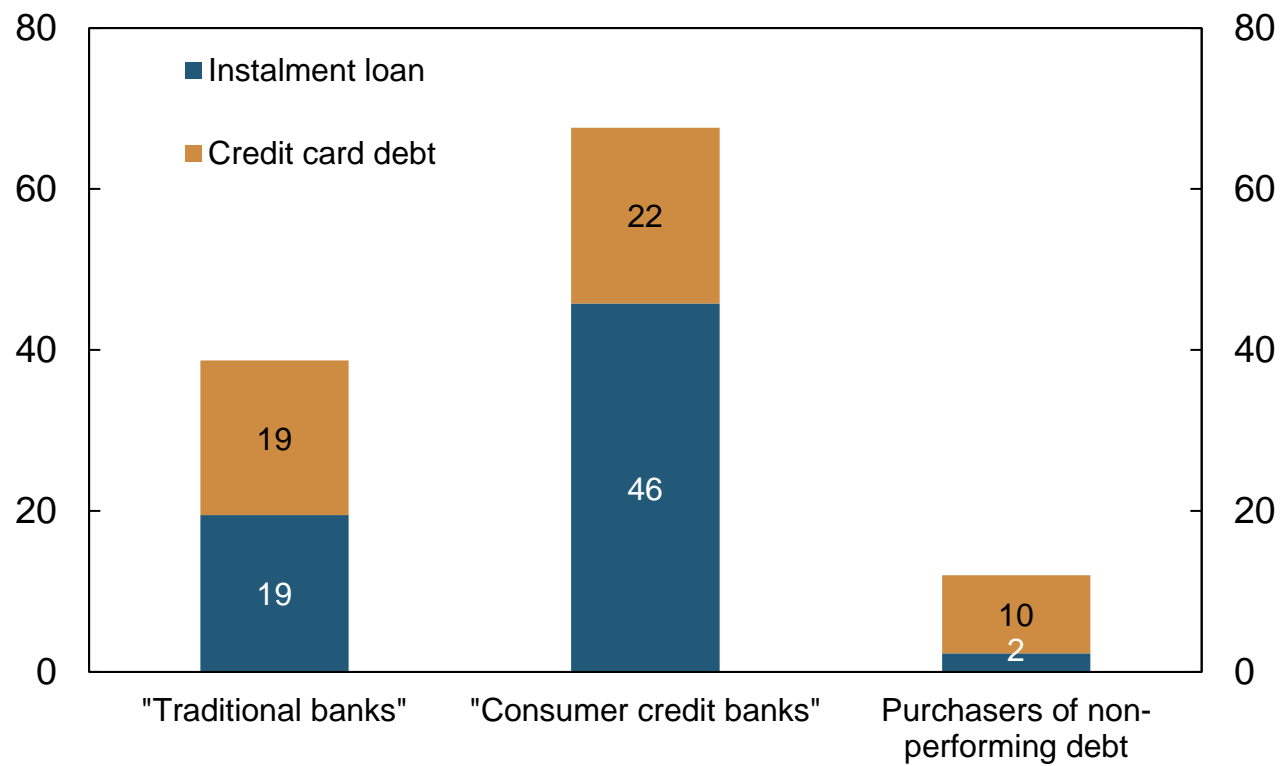
Sources: Gjeldsregisteret AS and Norges Bank

Chart 1.I Persons who had repaid their entire consumer debt balances by the beginning of October 2019. By amount of debt in NOK. Percentage of those with consumer debt balances at the beginning of September 2019



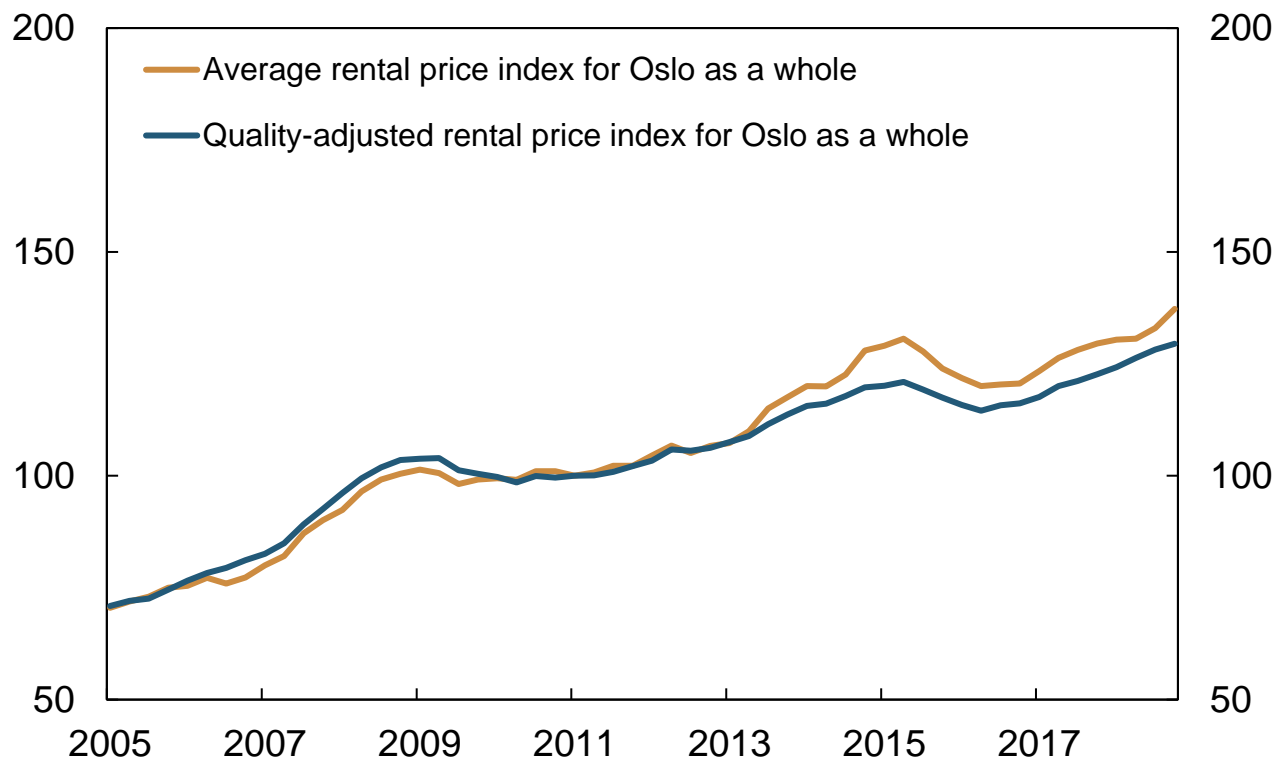
Sources: Gjeldsregisteret AS and Norges Bank

Chart 1.J Consumer credit. By credit and lender type. In billions of NOK.
At 30 September 2019



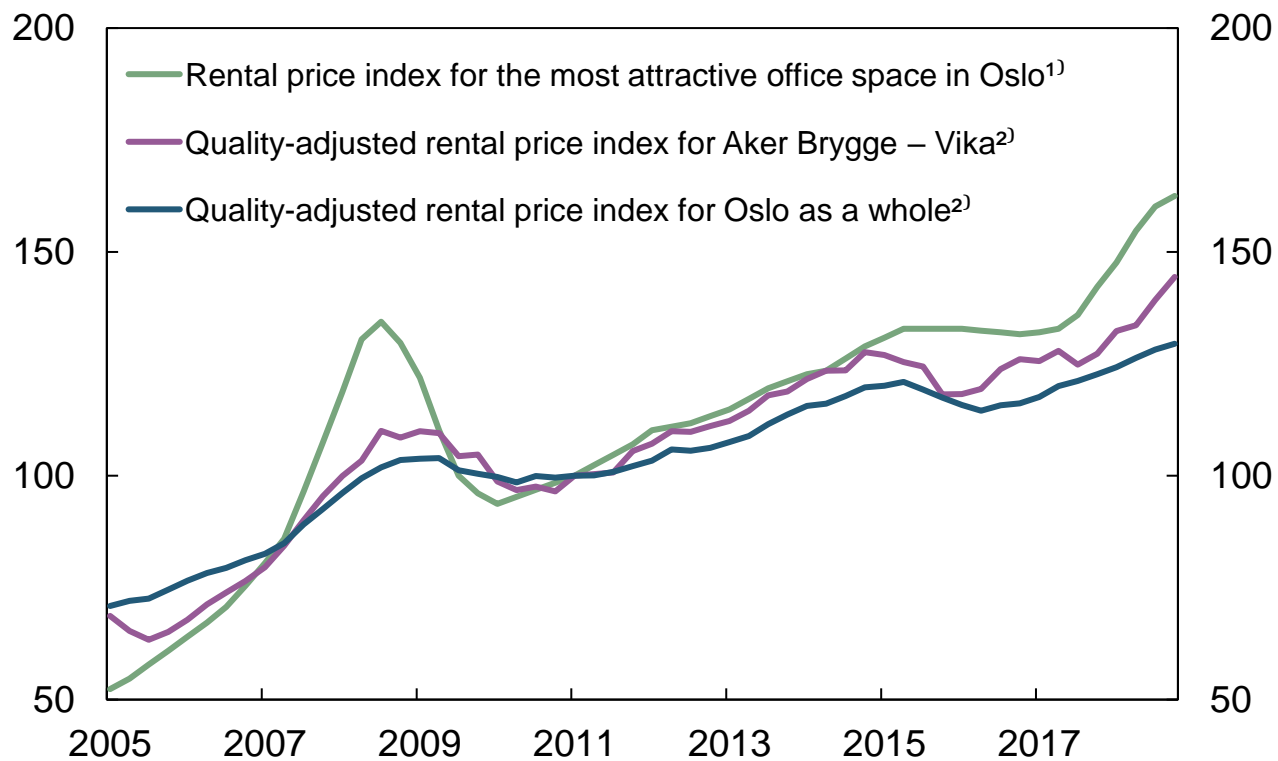
Sources: Gjeldsregisteret AS and Norges Bank

Chart 1.K Office rents in Oslo.¹⁾ Four-quarter moving average. Index.
2011 Q1 = 100. 2005 Q1 – 2018 Q4



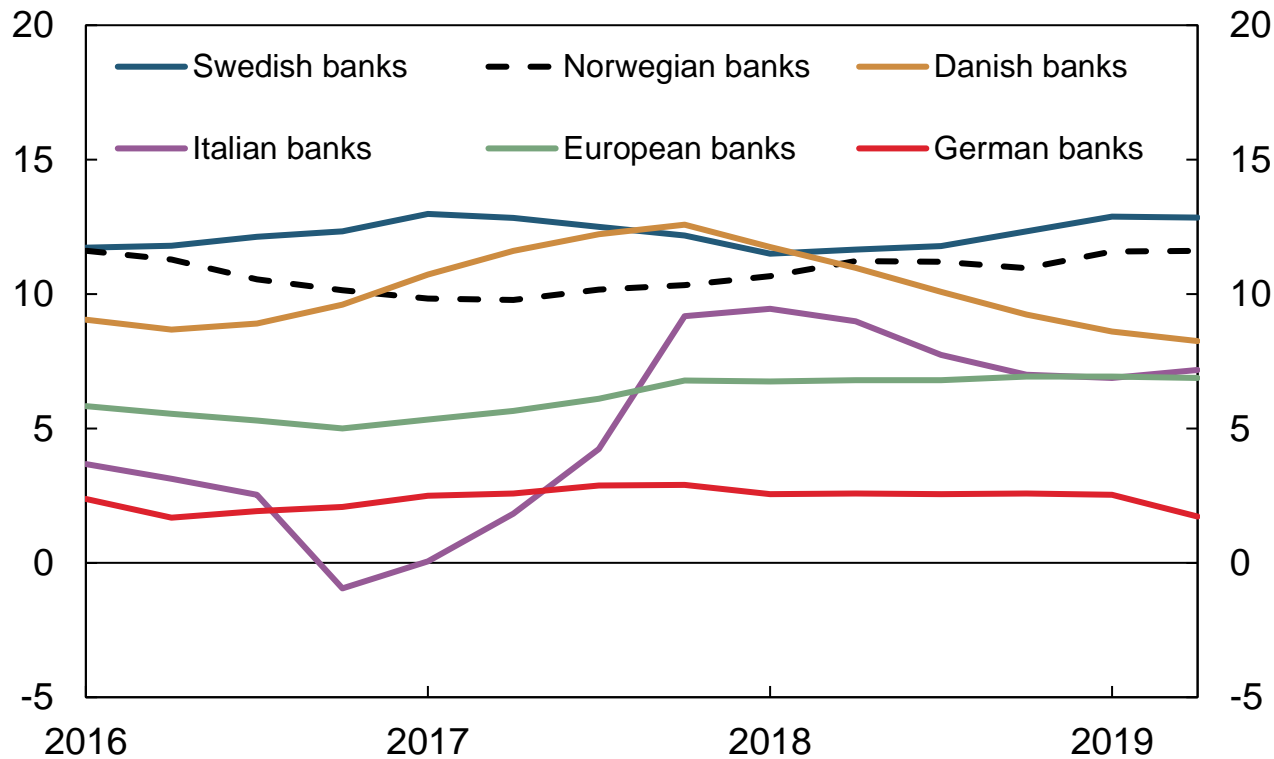
1) Based on signed leases, at lease inception date.
Sources: Arealstatistikk and Norges Bank

Chart 1.L Office rents in Oslo.¹⁾ Four-quarter moving average. Index.
2011 Q1 = 100. 2005 Q1 – 2018 Q4



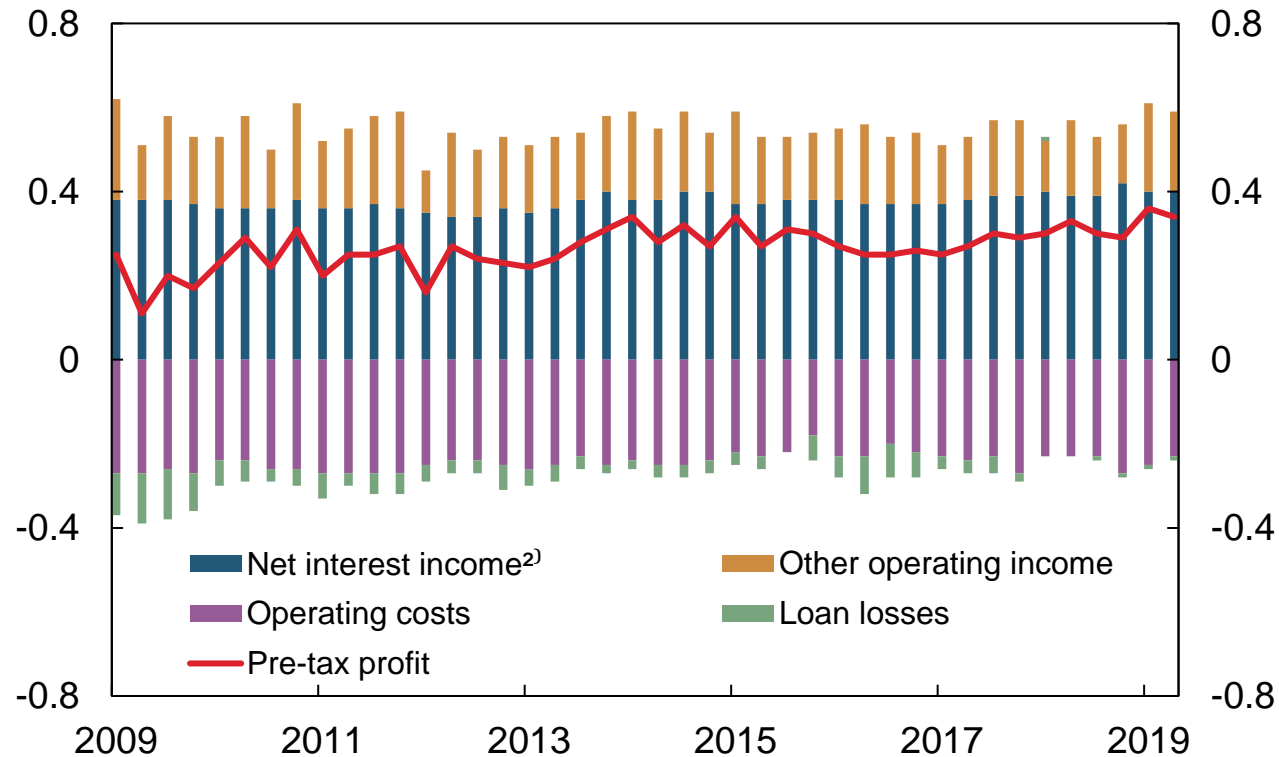
1) Market rents according to CBRE. **2)** Based on signed leases, at lease inception date.
Sources: Arealstatistikk, CBRE and Norges Bank

Chart 2.1 Return on equity after tax. Large Norwegian banking groups¹⁾ and European²⁾ banks. Four-quarter moving weighted average. Percent. 2016 Q1 – 2019 Q2



1) Weighted average of DNB Bank, Nordea Bank Norge (to 2016 Q4), SpareBank 1 SR-Bank, Sparebanken Vest, SpareBank 1 SMN, Sparebanken Sør (from 2016 Q1), SpareBank 1 Østlandet (from 2016 Q3) and SpareBank 1 Nord-Norge. Consolidated figures. **2)** Based on a sample of 150 European banks. The sample varies over time. Sources: European Banking Authority (EBA), Norwegian banking groups' quarterly and annual reports and Norges Bank

Chart 2.2 Decomposed change in profits. Large Norwegian banking groups.¹⁾ As a percentage of average total assets. 2009 Q1 – 2019 Q2

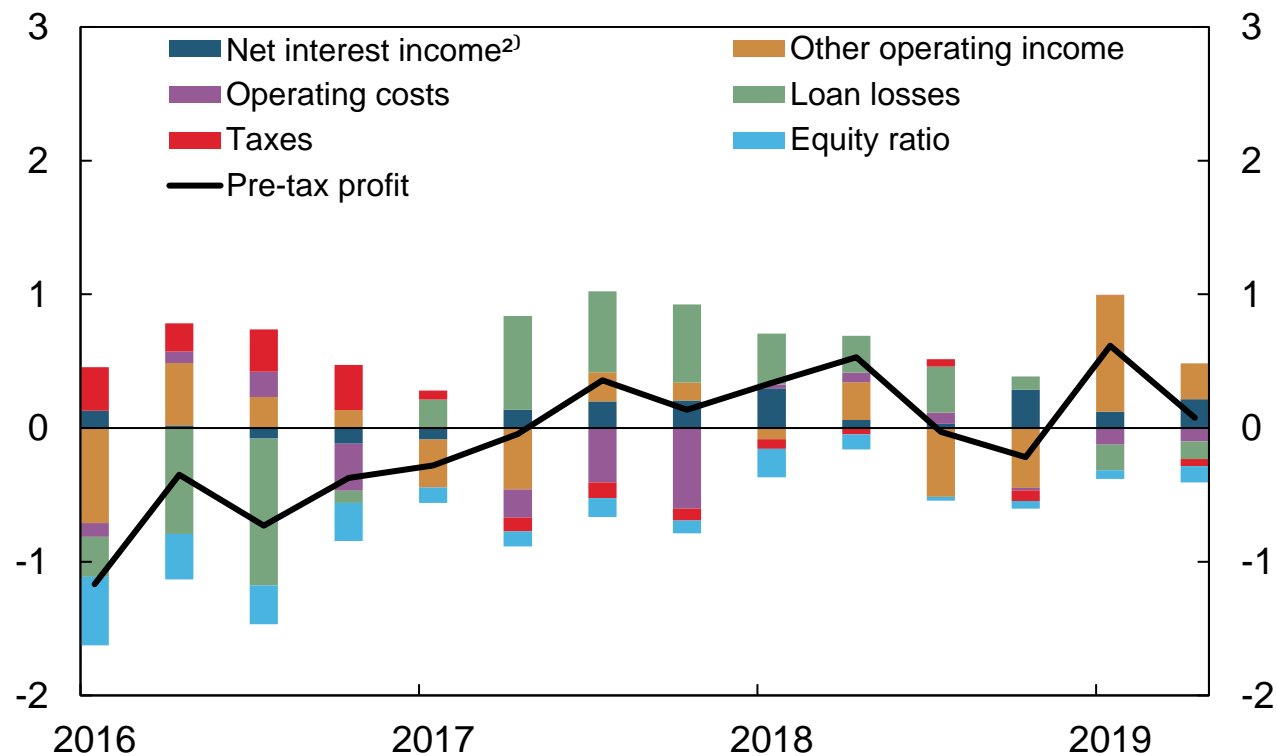


1) Weighted average of DNB Bank, Nordea Bank Norge (to 2016 Q4), SpareBank 1 SR-Bank, Sparebanken Vest, SpareBank 1 SMN, Sparebanken Sør (from 2014 Q1), SpareBank 1 Østlandet (from 2016 Q3) and SpareBank 1 Nord-Norge.

2) Commission income from part-owned mortgage companies in the SpareBank 1-alliance has been reclassified from other operating income to net interest income.

Sources: Bank's quarterly reports and Norges Bank

Chart 2.3 Estimated contributions to changes in large Norwegian banking groups¹⁾ return on equity after tax. Four-quarter moving weighted average of annualised return. Percentage points. 2016 Q1 – 2019 Q2

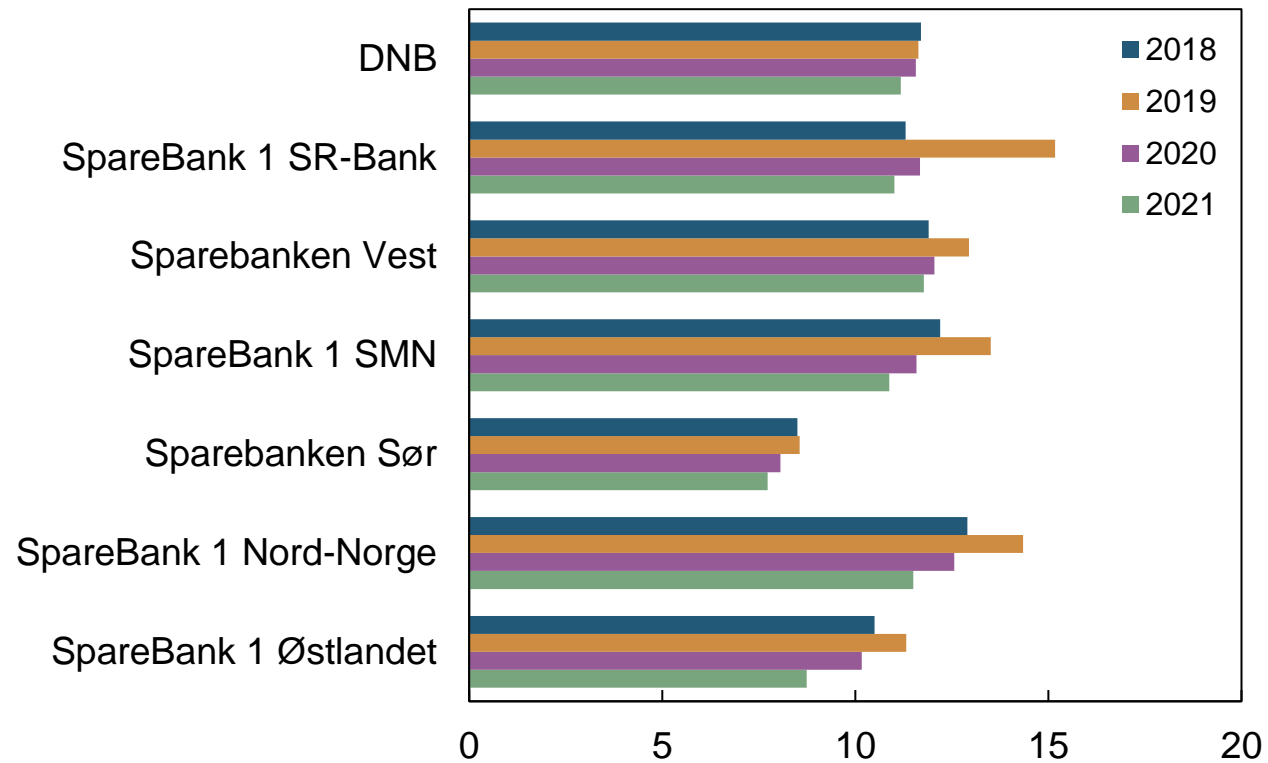


1) Weighted average of DNB Bank, Nordea Bank Norge (to 2016 Q4), Sparebank 1 SR-Bank, Sparebanken Vest, Sparbanken Vest, SpareBank 1 SMN, Sparebanken Sør (from 2014 Q1), SpareBank 1 Østlandet (from 2016 Q3) and SpareBank 1 Nord-Norge.

2) Commission income from part-owned mortgage companies in the SpareBank 1-alliance has been reclassified from other operating income to net interest income.

Sources: Banks' quarterly reports and Norges Bank

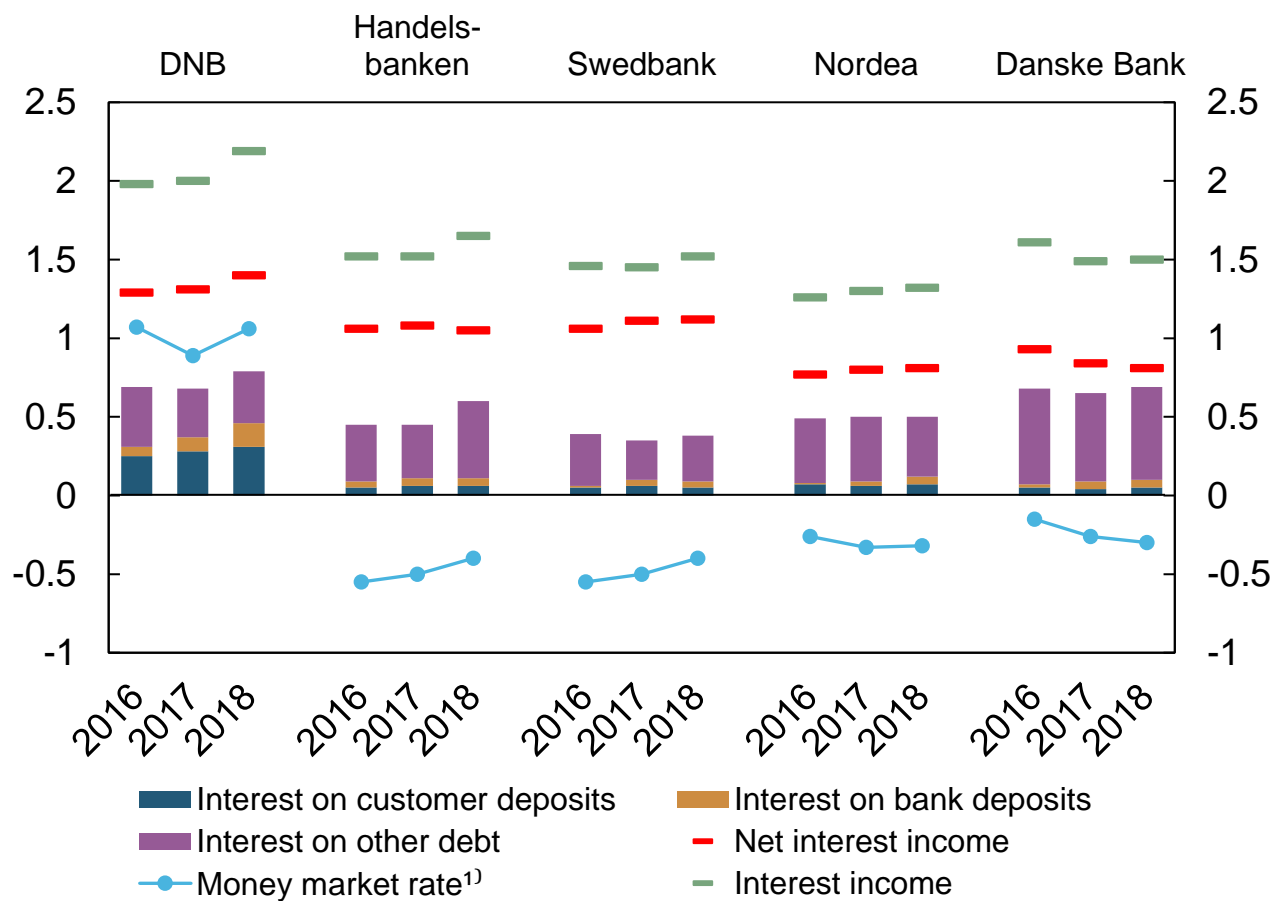
Chart 2.4 Analysts' estimates of return on equity in large Norwegian banking groups.¹⁾ Percent. At 31 October 2019



1) As reported in banks' annual reports in 2018. The high profitability in 2019 reflects extraordinary revenues.

Sources: Banks' annual reports and Bloomberg

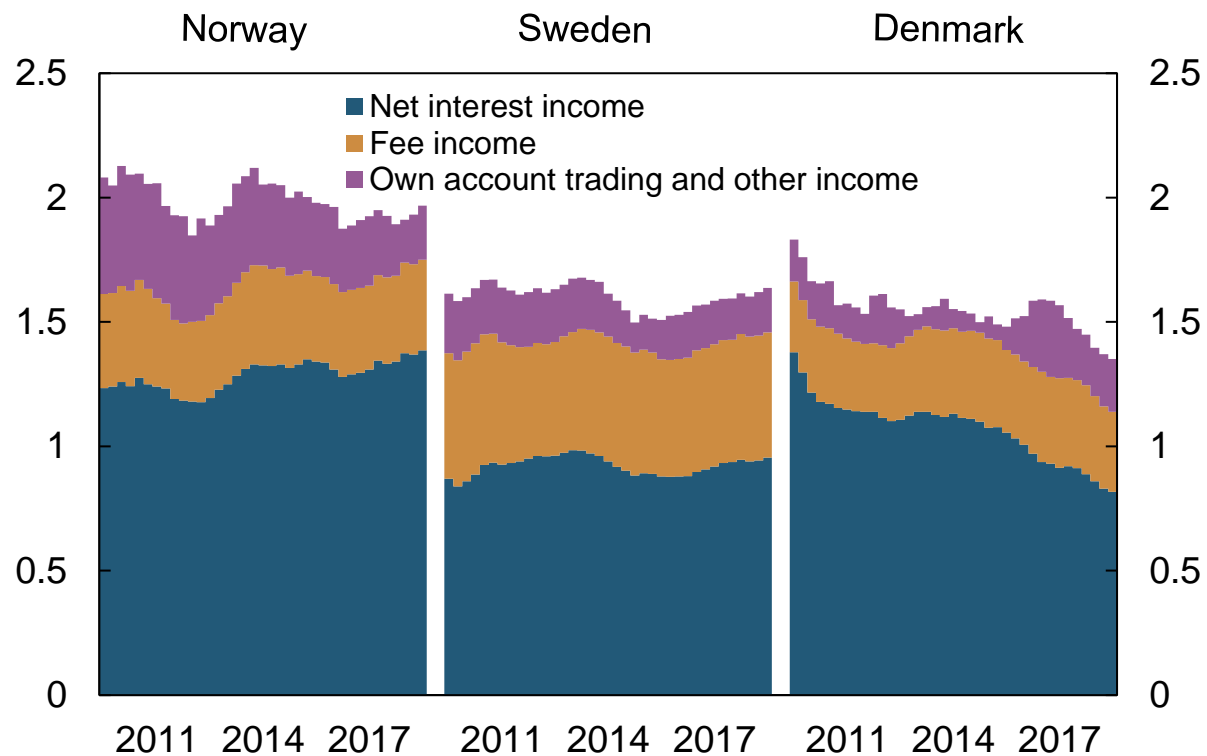
Chart 2.5 Large Nordic banking groups' interest expenses, interest income and net interest income. As a percentage of total assets. 2016 – 2018



1) 3-month Nibor, Stibor, Cibor and Euribor.

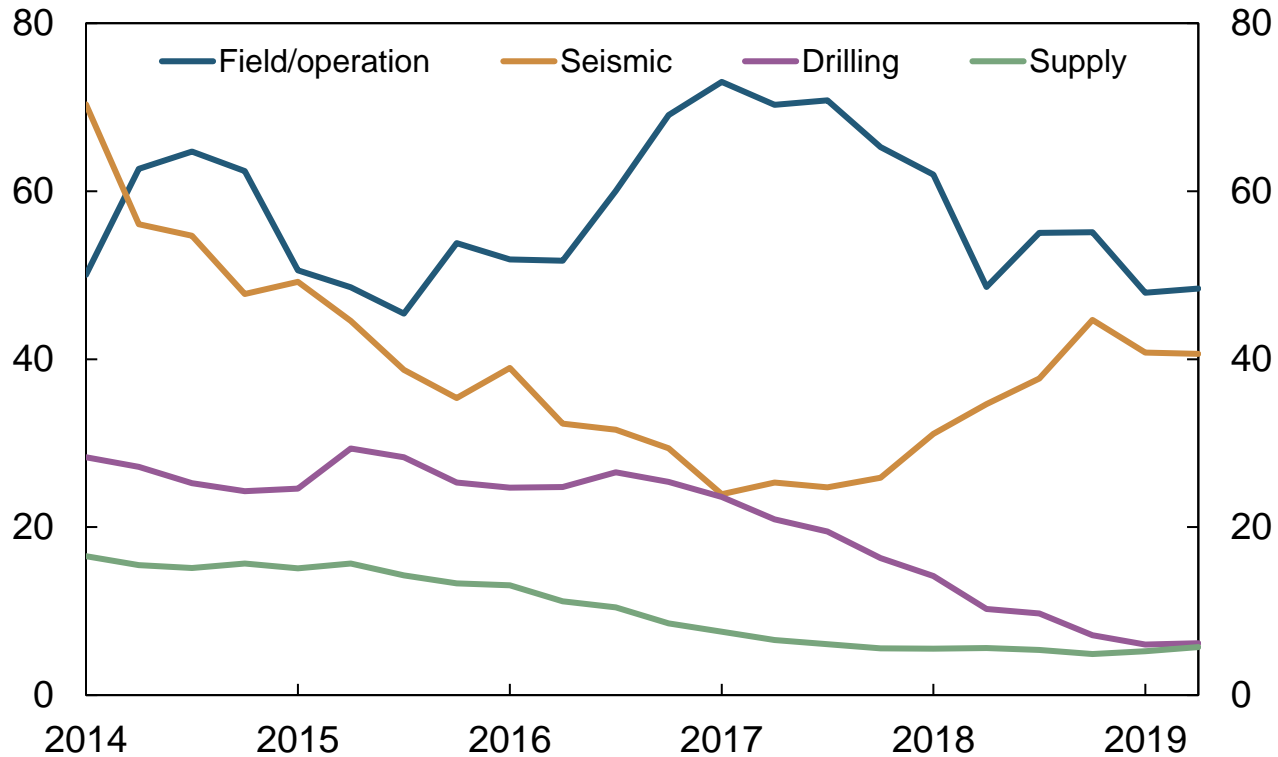
Sources: SNL / S&P MI, Refinitiv and Danske Bank's annual report

Chart 2.6 Operating income for selected banking groups in Norway, Sweden and Denmark.¹⁾ As a percentage of total assets. 2010 Q2 – 2019 Q2



1) Norwegian banks: DNB, SpareBank 1 SR-Bank, SpareBank 1 SMN, SpareBank 1 Nord-Norge and Sparebanken Vest. Swedish banks: Handelsbanken, SEB and Swedbank. Danish banks: Danske Bank, Jyske Bank, Spar Nord Bank and Sydbank. Source: SNL / S&P MI and Norges Bank

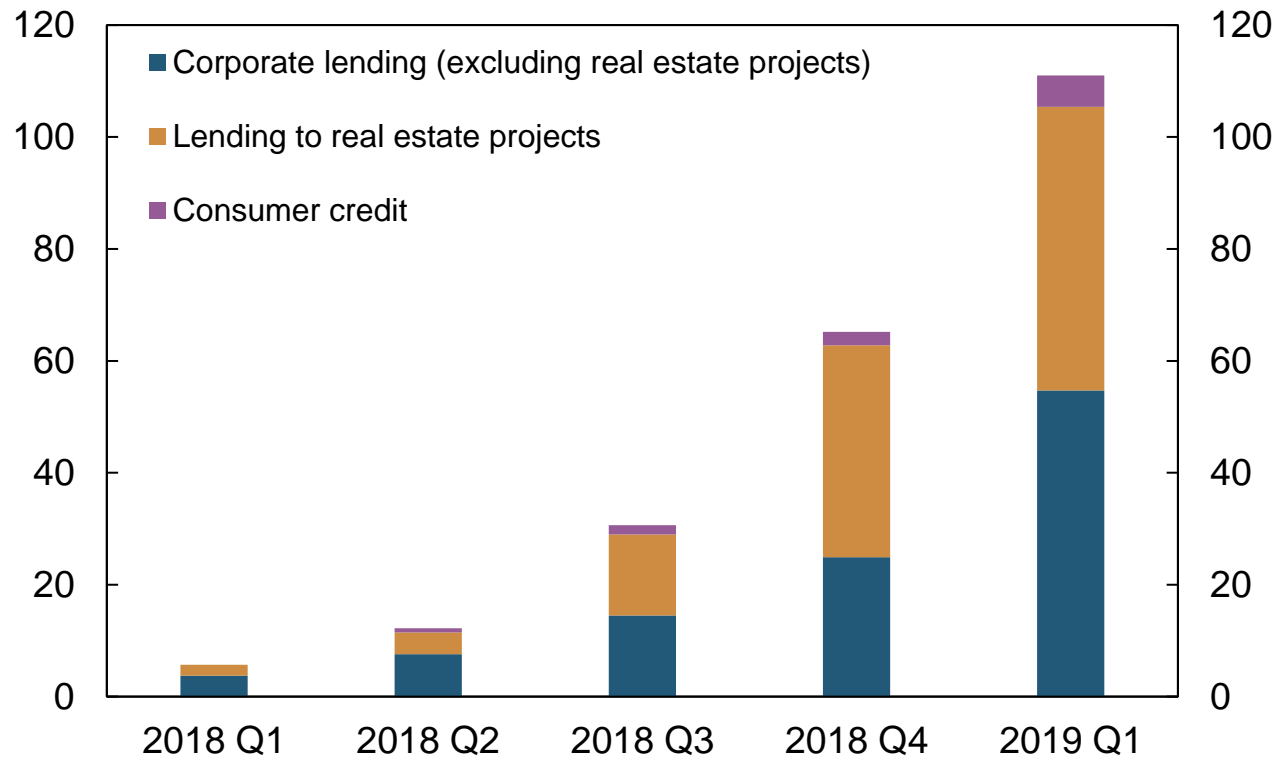
Chart 2.7 Debt-servicing capacity¹⁾ in the oil service industry. Percent.
2014 Q1 - 2019 Q2



1) Earnings before interest, taxes, depreciation and amortisation (EBITDA) for the last four quarters as a percentage of net interest-bearing debt. The EBITDA measure has been standardised by Bloomberg. Manual adjustments for EBITDA have been made where erroneous registrations appear in Bloomberg's measure.

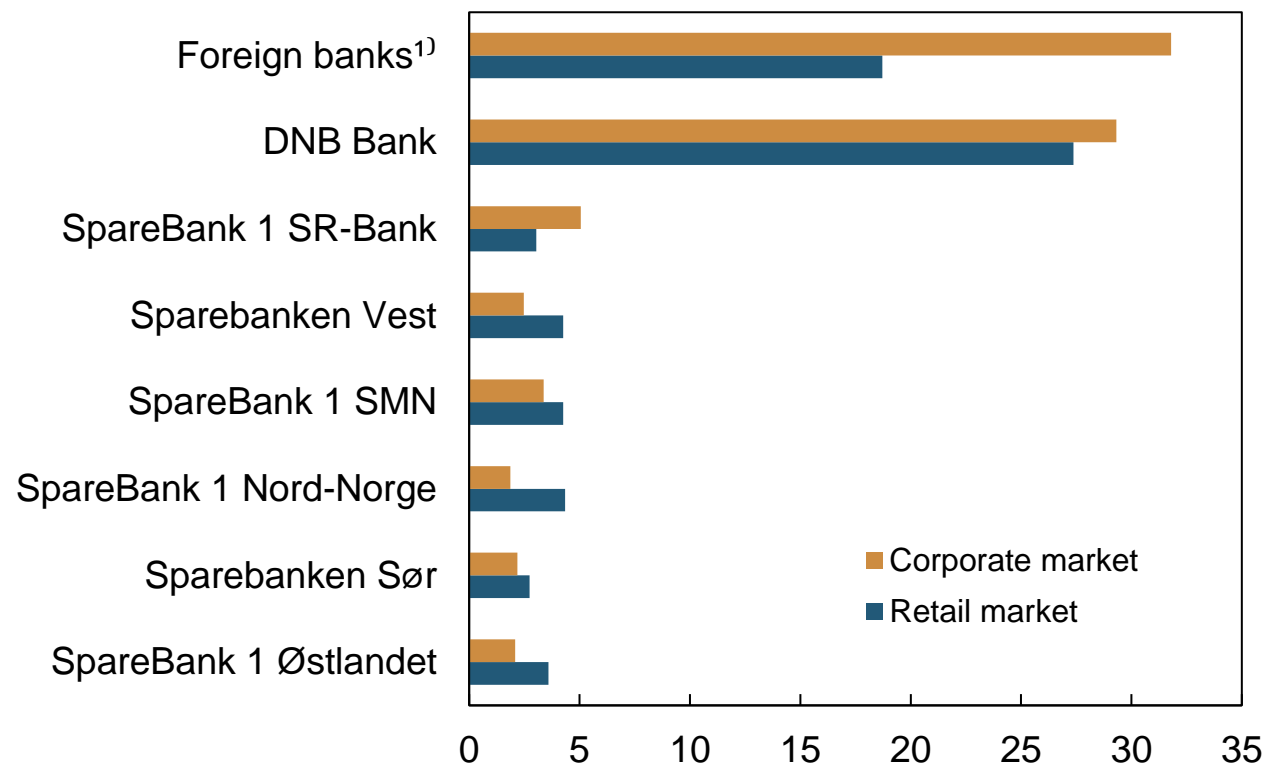
Sources: Bloomberg, company quarterly and annual reports and Norges Bank

Chart 2.8 Cumulative lending by crowdfunding companies by sector. In millions of NOK. 2018 Q1 – 2019 Q1



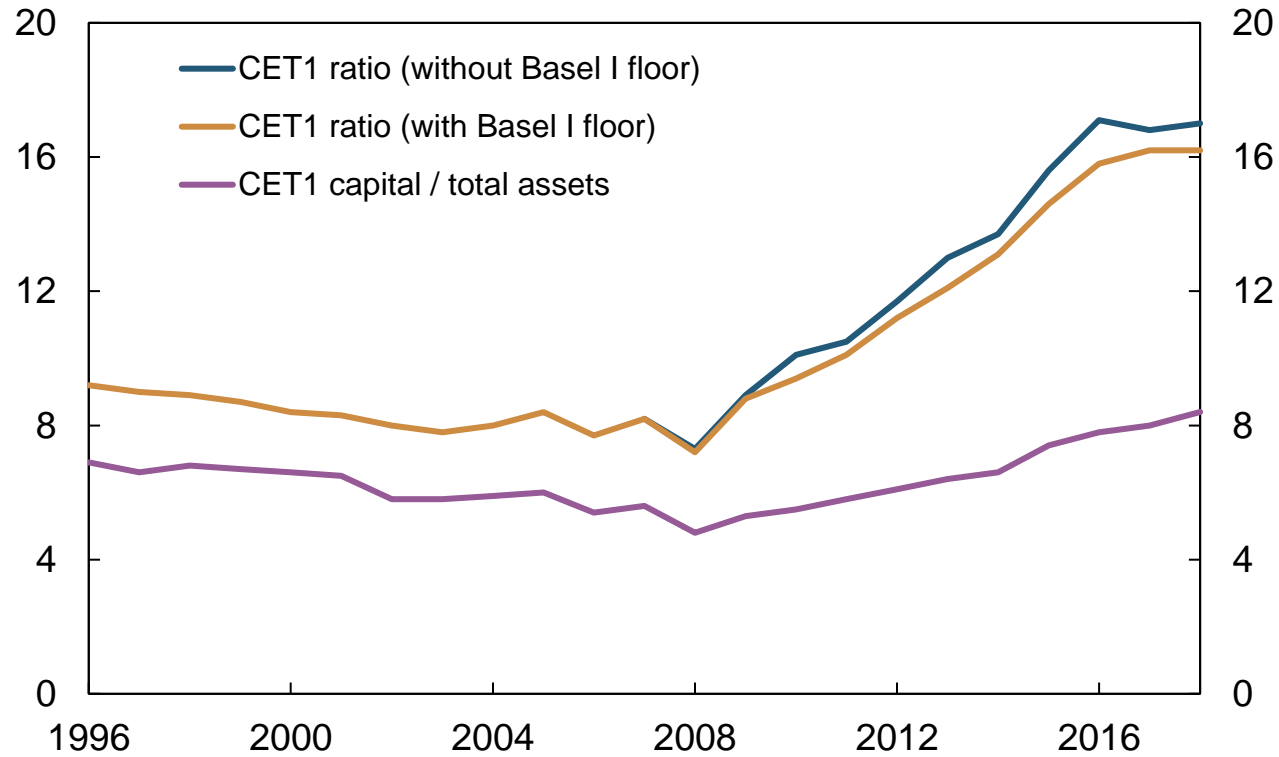
Source: Norges Bank

Chart 2.9 Market shares measured by gross lending.
Large banking groups in Norway. Percent. At 31 December 2018



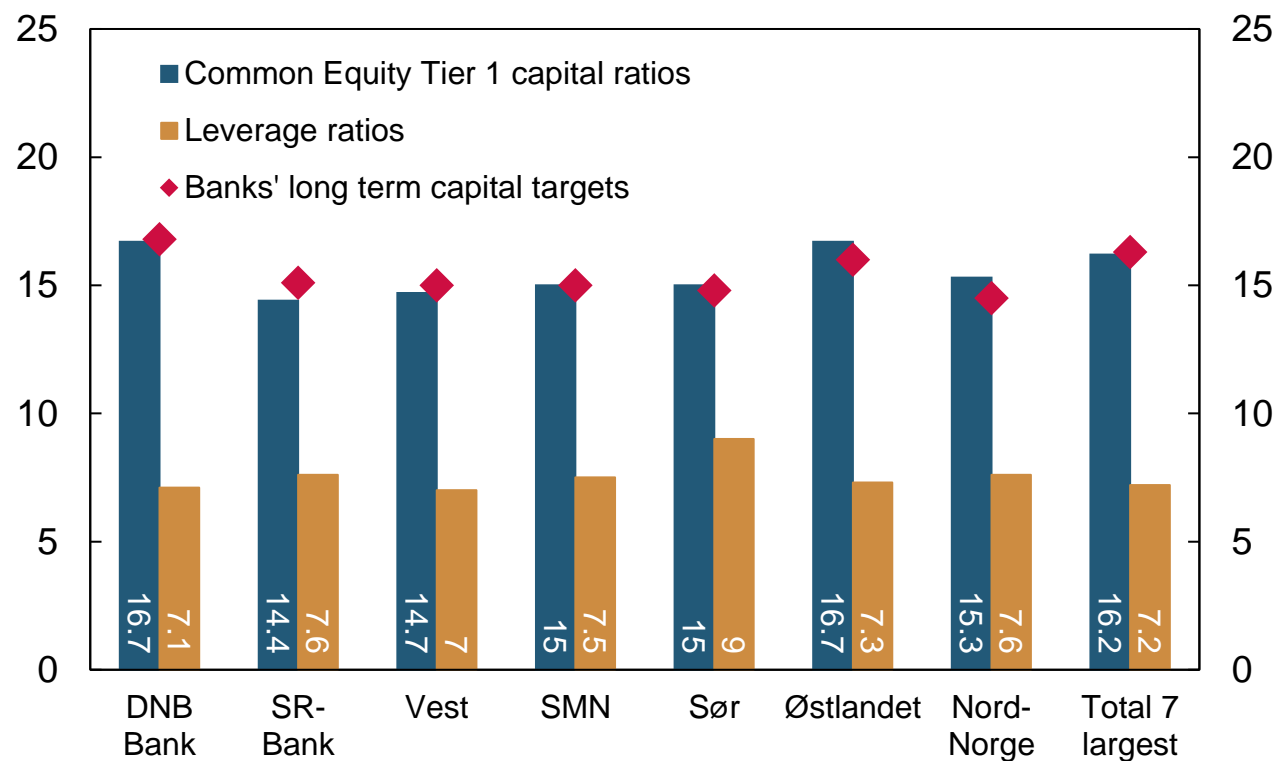
1) Nordea, Danske Bank and Handelsbanken.
Source: Norges Bank

Chart 2.10 Norwegian banks' Common Equity Tier 1 (CET1) capital ratios¹⁾. Share of risk-weighted assets and total assets. Percent. 1996 – 2018



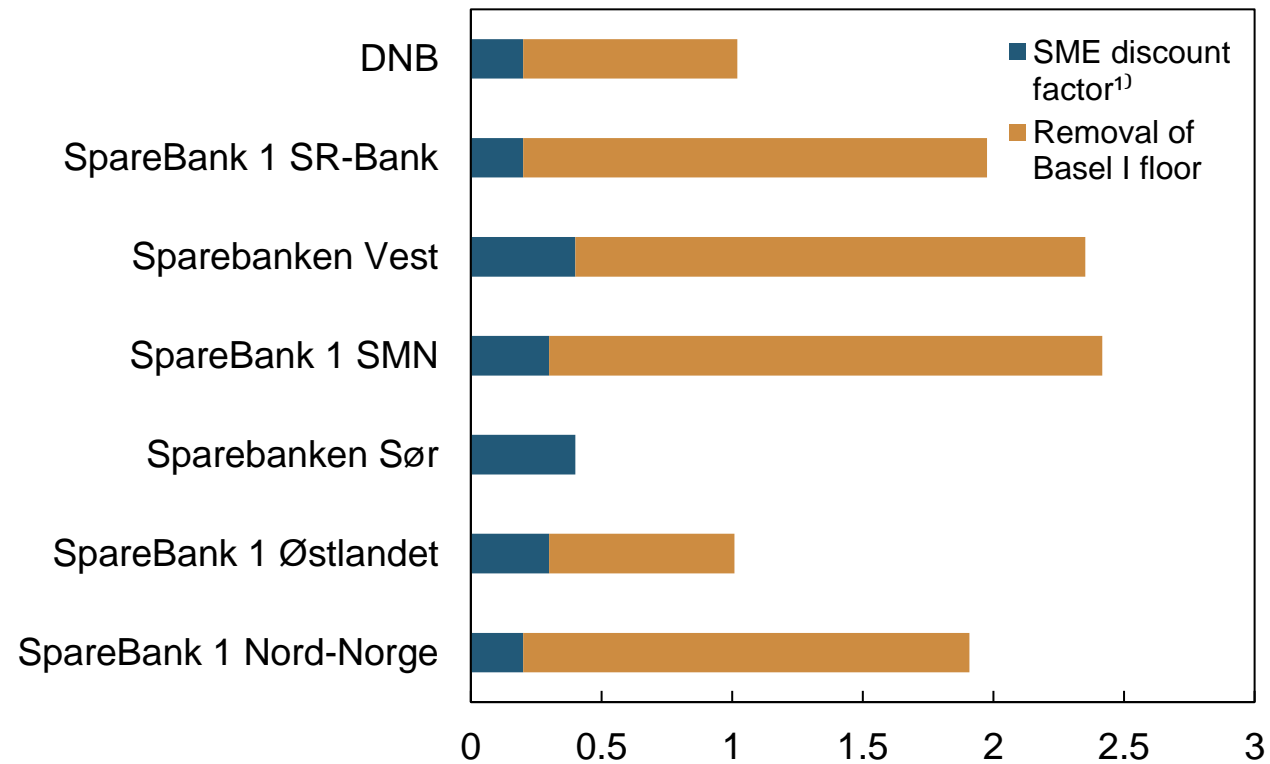
1) Consolidated figures where available. Parent banks otherwise.
Source: Finanstilsynet (Financial Supervisory Authority of Norway)

Chart 2.11 Largest Norwegian banking groups' Common Equity Tier 1 capital ratios, leverage ratios and long-term capital targets. Percent. At 30 June 2019



Sources: Banks' quarterly reports and Norges Bank

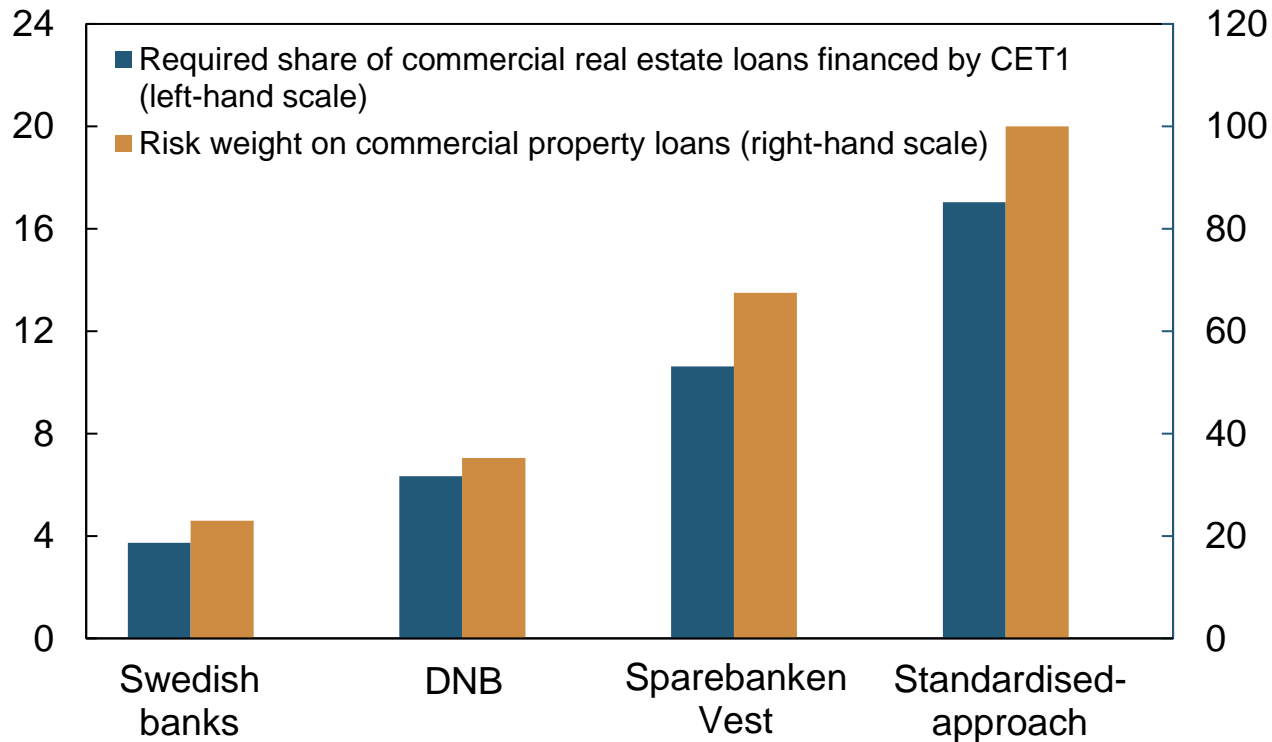
Chart 2.12 Effects of introducing CRR/CRD IV on CET1 ratios. Largest Norwegian banking groups. Percentage points. At 30 June 2019



1) Banks' estimates.

Source: Banks' quarterly reports and presentations

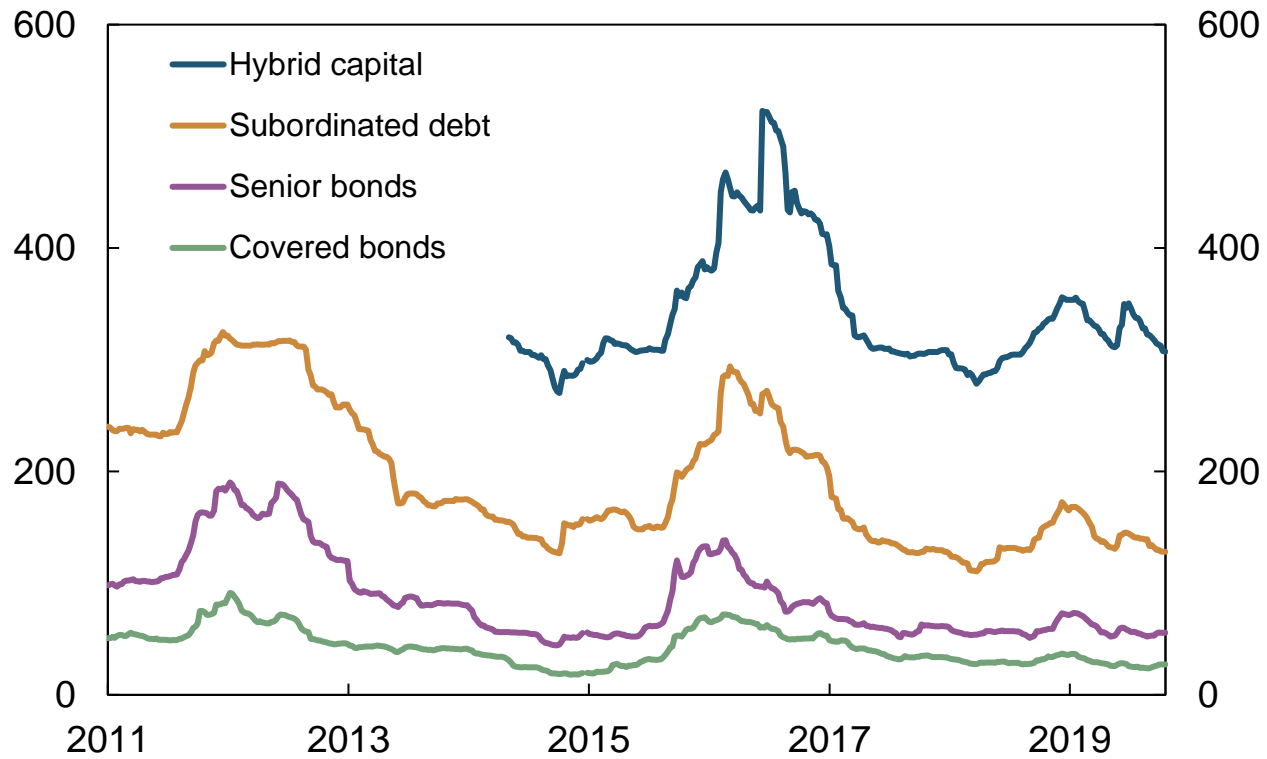
Chart 2.13 Banks' average risk weights for commercial real estate (CRE) exposures. Required share of CRE exposures financed by CET1.¹⁾ Percent. At 31 December 2018



1) The total CET1 requirement is the sum of Pillar 1 requirements, hard Pillar 2 requirements and soft Pillar 2 requirements. A soft Pillar 2 requirement of 1% is assumed for Norwegian banks. The hard Pillar 2 requirement for standardised-approach banks is equal to the equally weighted average of the requirement for 79 Norwegian standardised-approach banks.

Sources: Banks' Pillar 3 reports, Finansinspektionen and Norges Bank

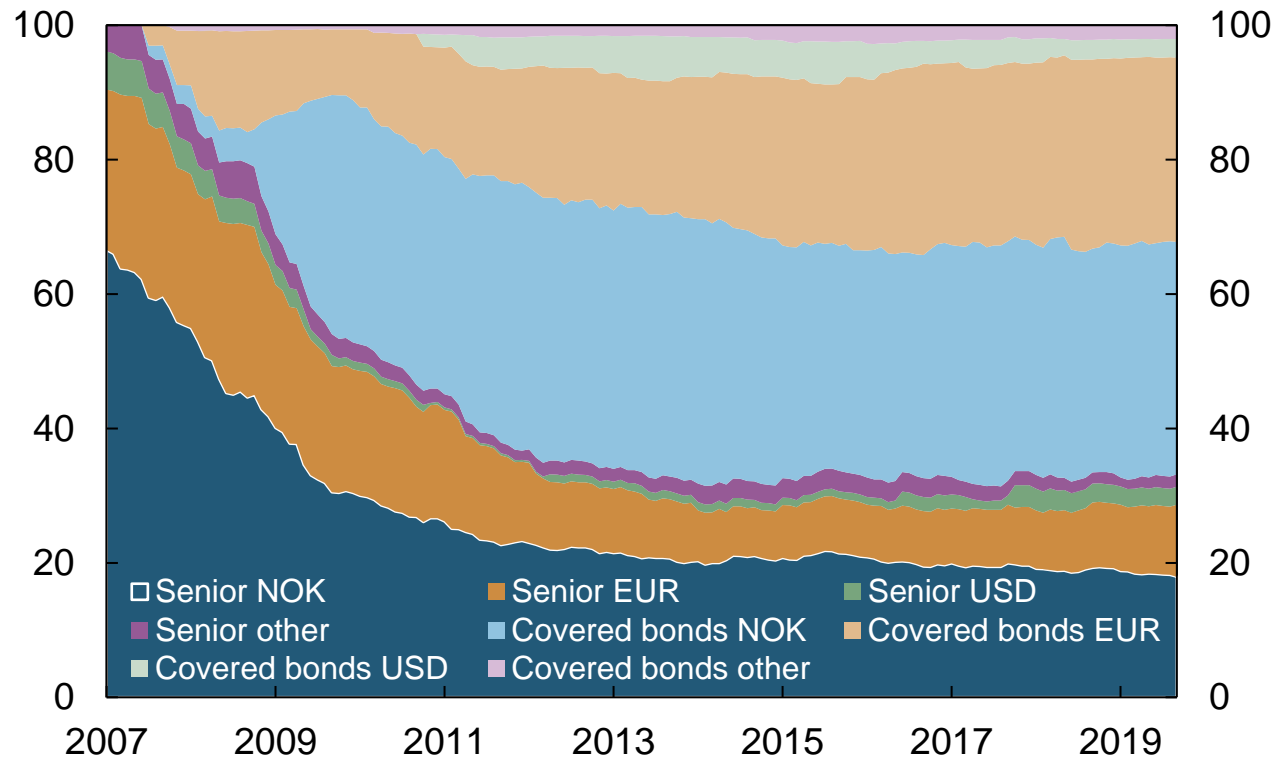
Chart 2.14 Risk premiums in Norway.¹⁾ Spread over 3-month Nibor. Five-year maturity. Basis points. 7 January 2011 – 24 October 2019



1) On bonds issued by large Norwegian banks and mortgage companies in the Norwegian market.

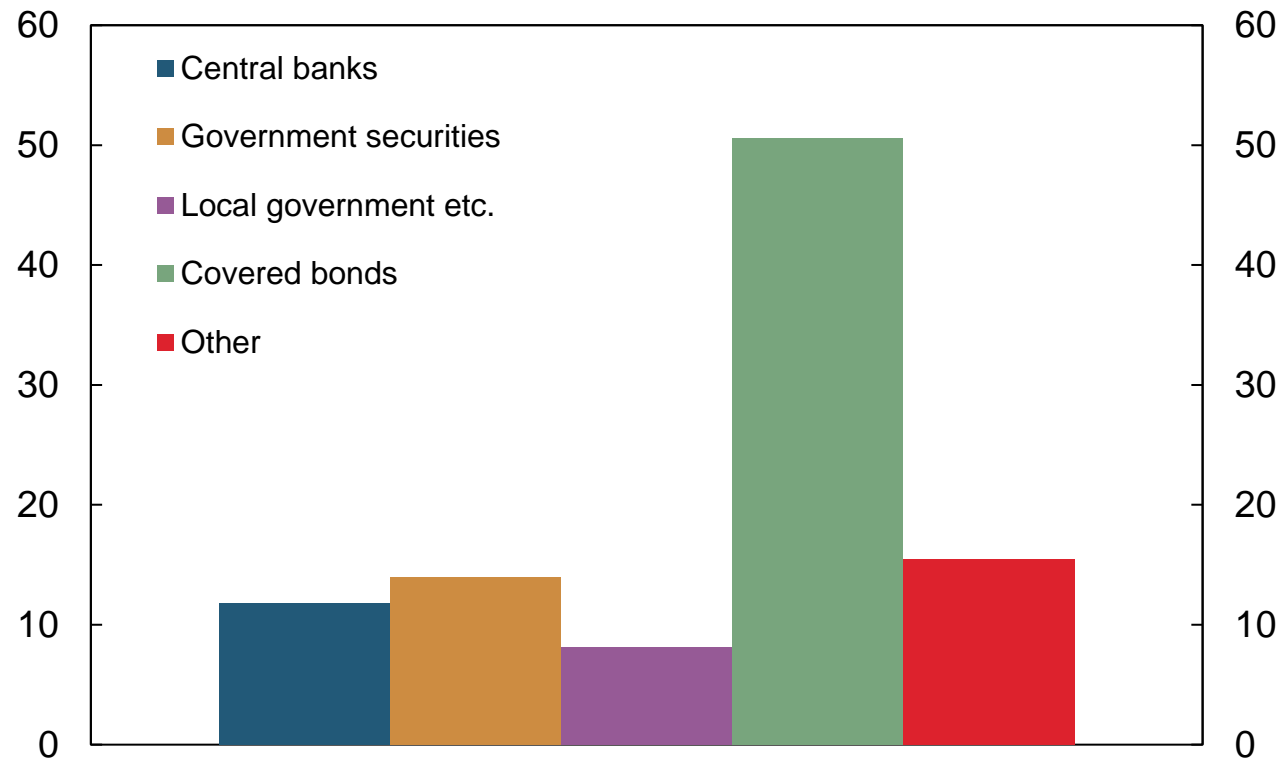
Source: Nordic Bond Pricing

Chart 2.15 Outstanding wholesale funding. Norwegian banks and covered bond mortgage companies. By bond and currency. Percent. January 2007 – September 2019



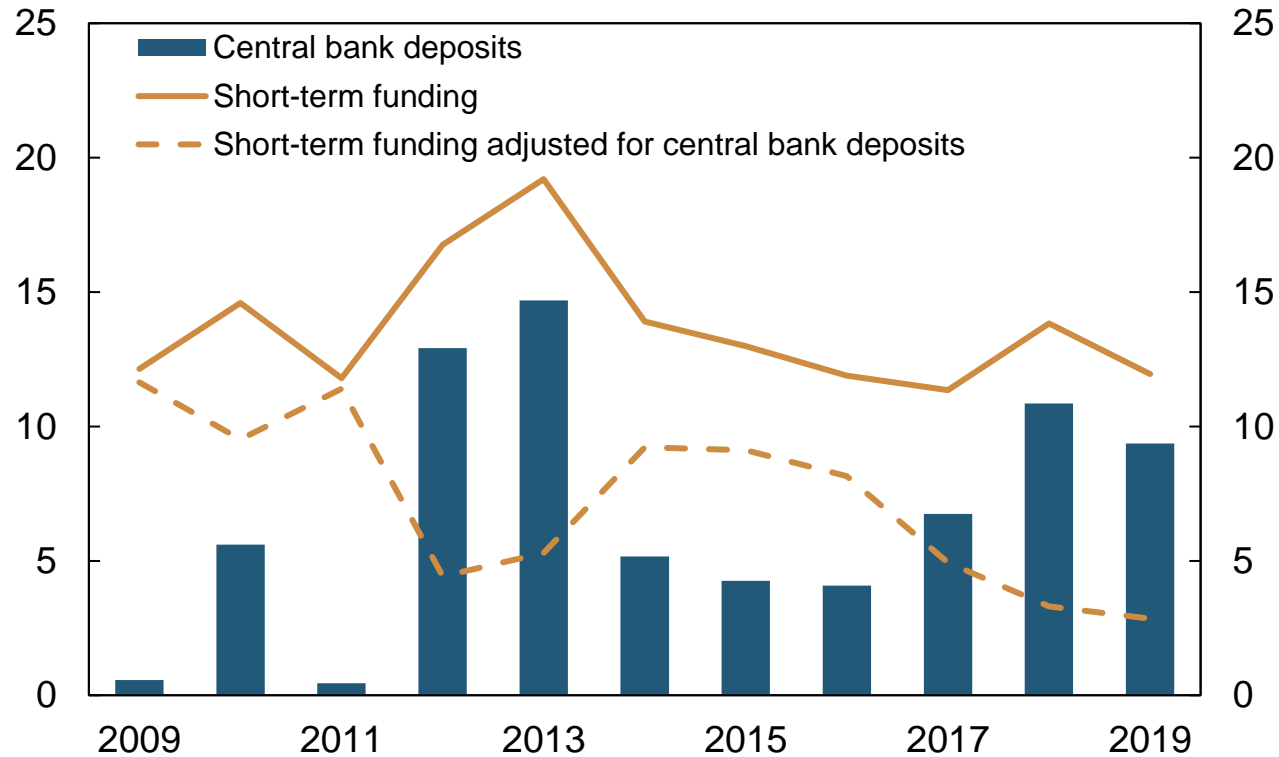
Sources: Bloomberg and Stamdata

Chart 2.16 Stock of liquid assets in NOK by asset type. Norwegian banks.¹⁾
After haircut and before caps. Percent. At 30 June 2019



1) Consolidated figures where available. Parent banks otherwise.
Source: Finanstilsynet (Financial Supervisory Authority of Norway)

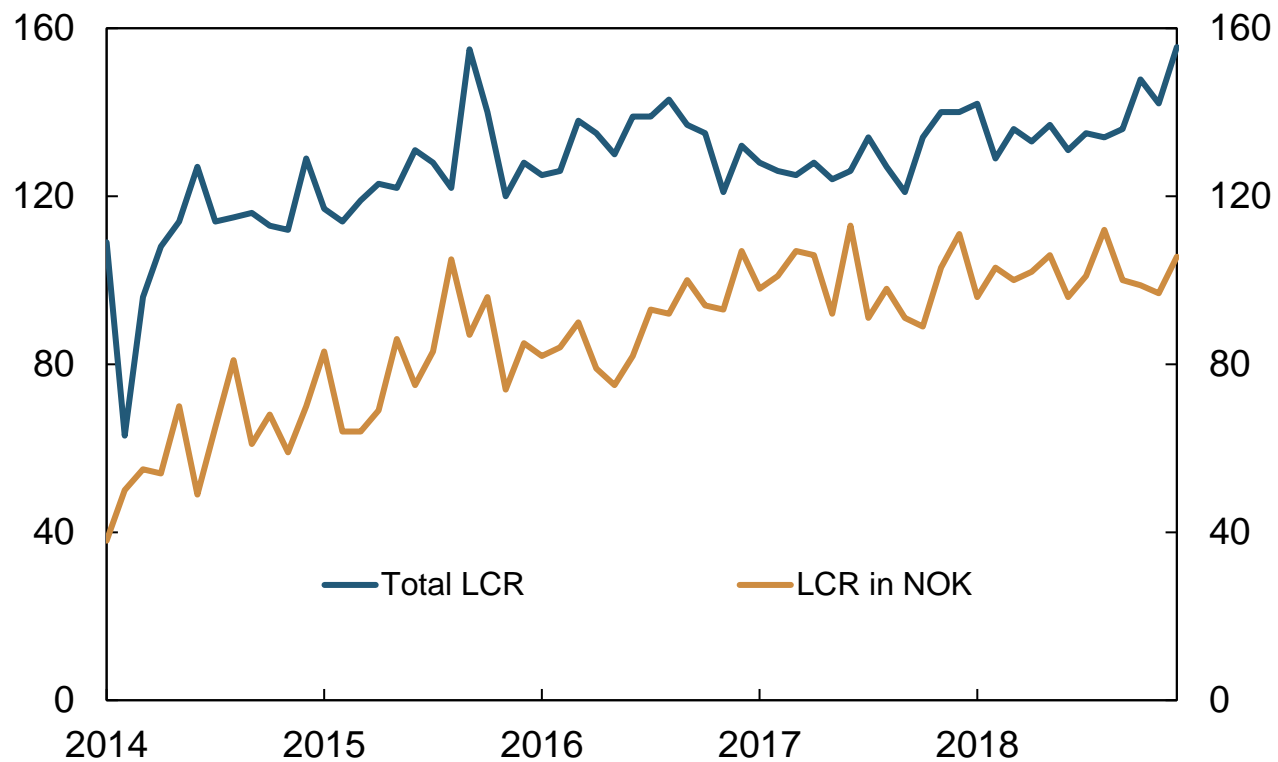
Chart 2.17 Short-term funding and central bank deposits in foreign currency.¹⁾ Norwegian banks. Share of total assets. Percent. 2009 – 2019²⁾



1) Comprises deposits from foreign customers and central banks, and debt securities with less than 12 months' residual maturity. **2)** Annual data at 30 June.

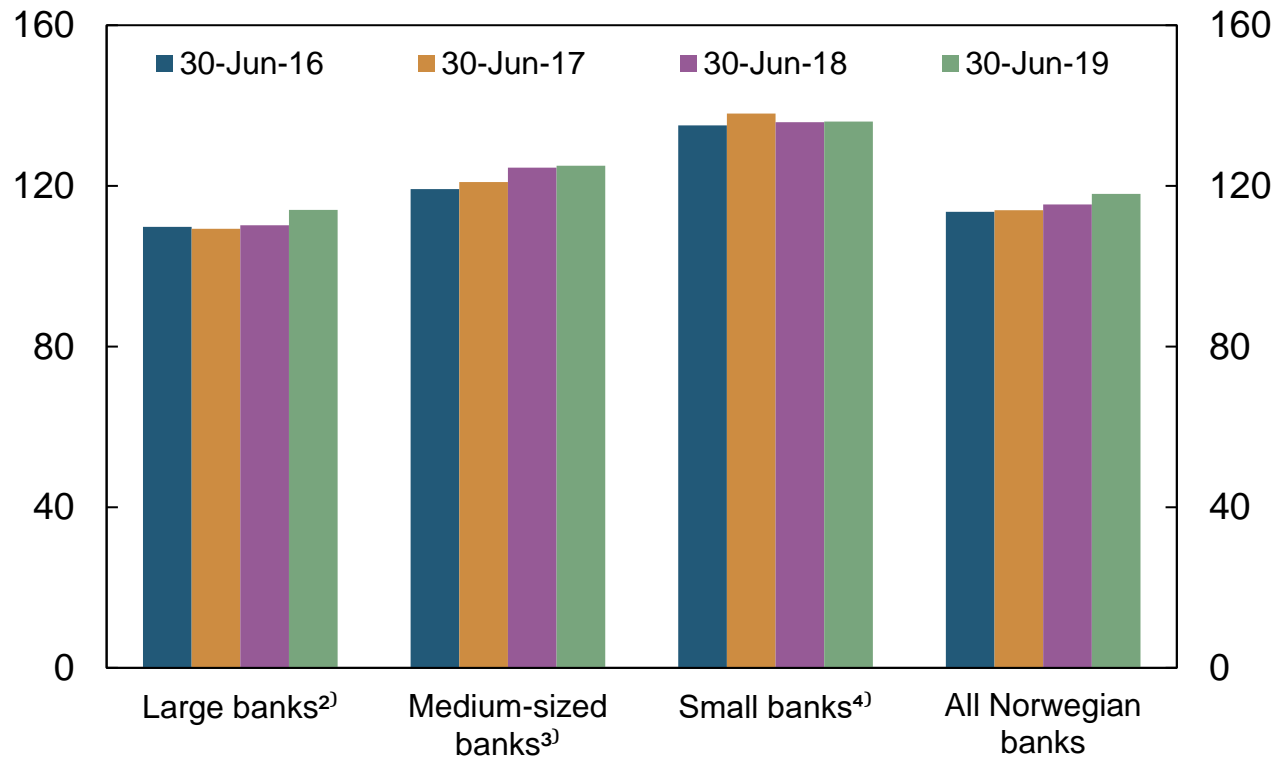
Source: Norges Bank

Chart 2.18 Liquidity Coverage Ratio (LCR). Norwegian banks.¹⁾ Percent.
July 2014 – June 2019



1) Consolidated figures where available. Parent banks otherwise.
Source: Finanstilsynet (Financial Supervisory Authority of Norway)

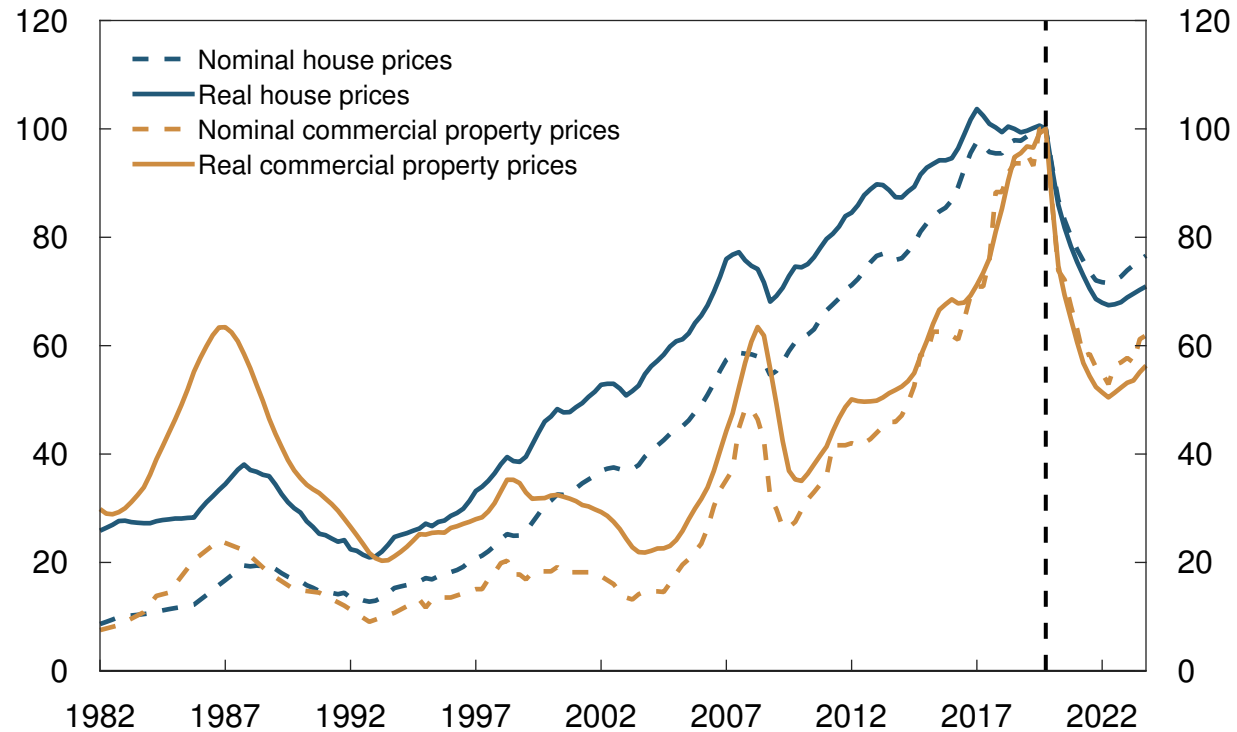
Chart 2.19 Net stable funding ratio (NSFR). Norwegian banks.¹⁾
 Percent. 2016 Q2 – 2019 Q2



1) Consolidated data where available. Parent banks otherwise. **2)** DNB, SpareBank 1 SR-Bank, Sparebanken Vest, SpareBank 1 SMN, Sparebanken Sør, SpareBank 1 Østlandet and SpareBank 1 Nord-Norge. **3)** Banks with total assets above NOK 10bn. **4)** Banks with total assets below NOK 10bn.

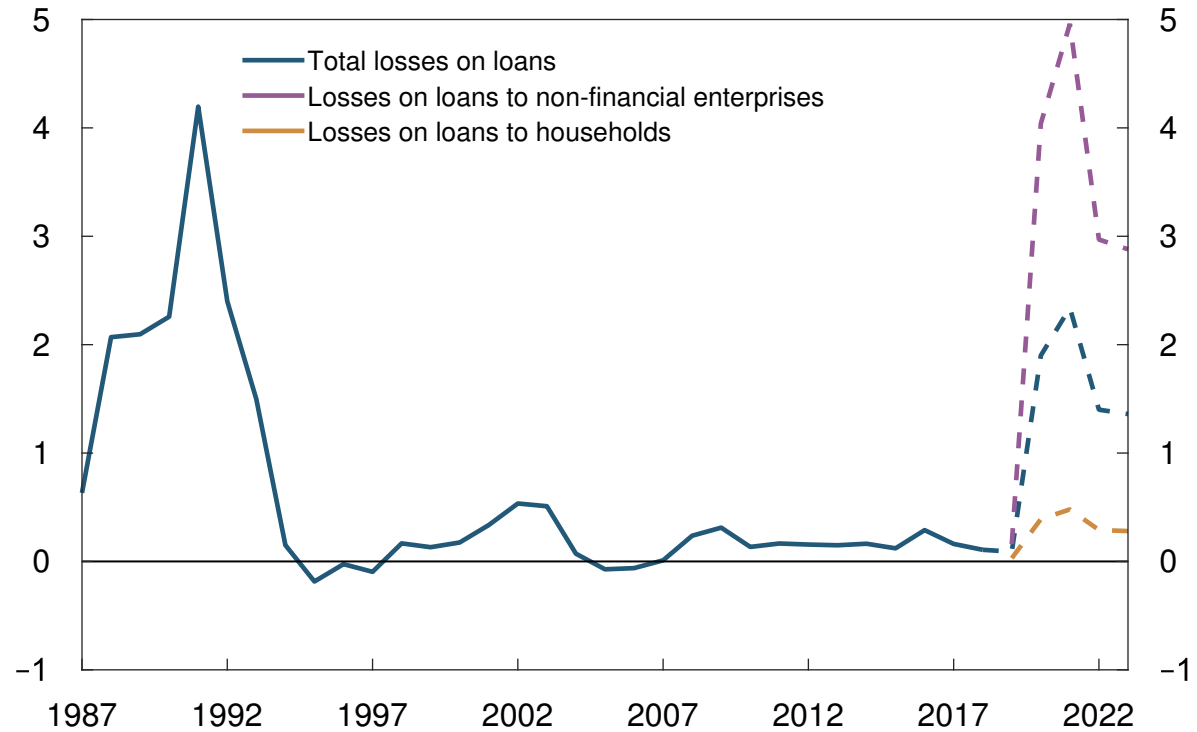
Source: Finanstilsynet (Financial Supervisory Authority of Norway)

Chart 3.1 House¹⁾ prices and commercial property prices²⁾. Index. 2019 Q4 = 100. 1982 Q1 – 2023 Q4³⁾



1) Seasonally adjusted and deflated by CPI-ATE. 2) Estimated selling prices per square metre for prime office space in Oslo. Average selling price for the previous four quarters. Deflated by the GDP deflator for mainland Norway. 3) Projections for 2019 Q3 – 2023 Q4. Projections for commercial property prices in 2019 are based on market participants' price forecasts.
Sources: CBRE, Dagens Næringsliv, Eiendomsverdi, Entra, Finn.no, OPAK, Real Estate Norway, Statistics Norway and Norges Bank

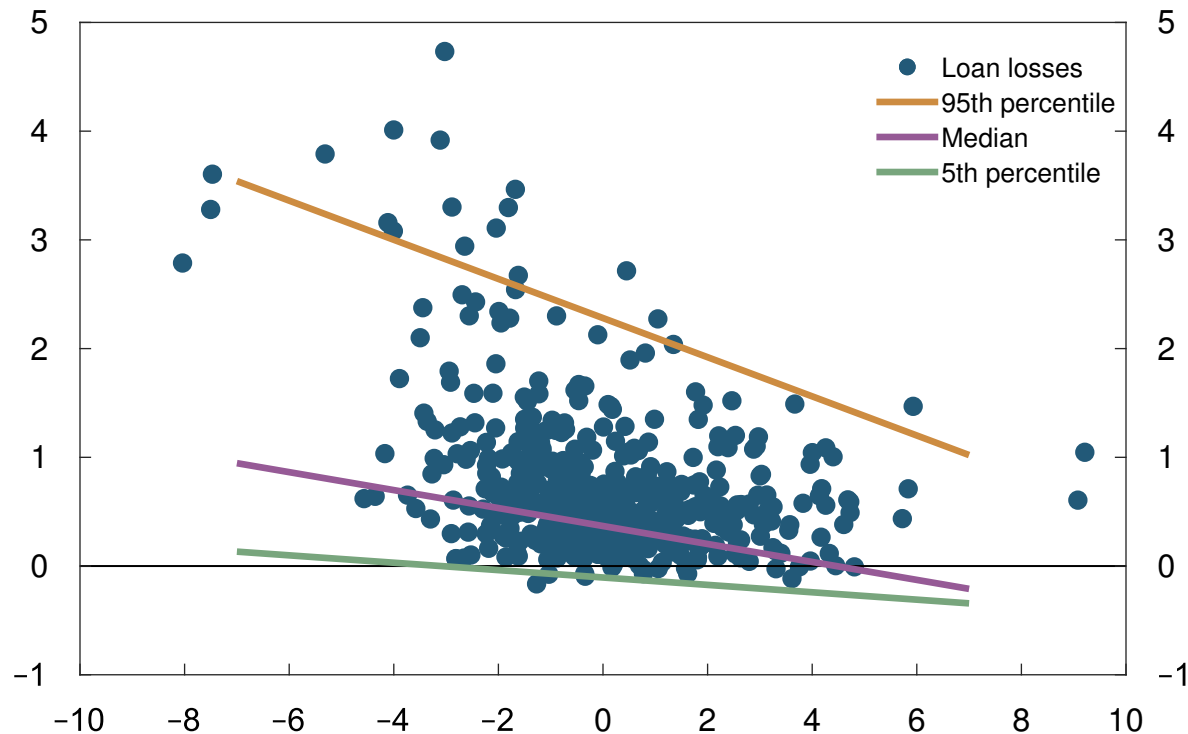
Chart 3.2 Loan losses as a share of gross loans to the sector. Historically (for all banks and mortgage companies) and in the stress scenario (for the macro bank). Percent. 1987 - 2023¹⁾



1) Projections for 2019 Q3 - 2023 Q4. Historical loss distribution is used to allocate loan losses to enterprises and households.

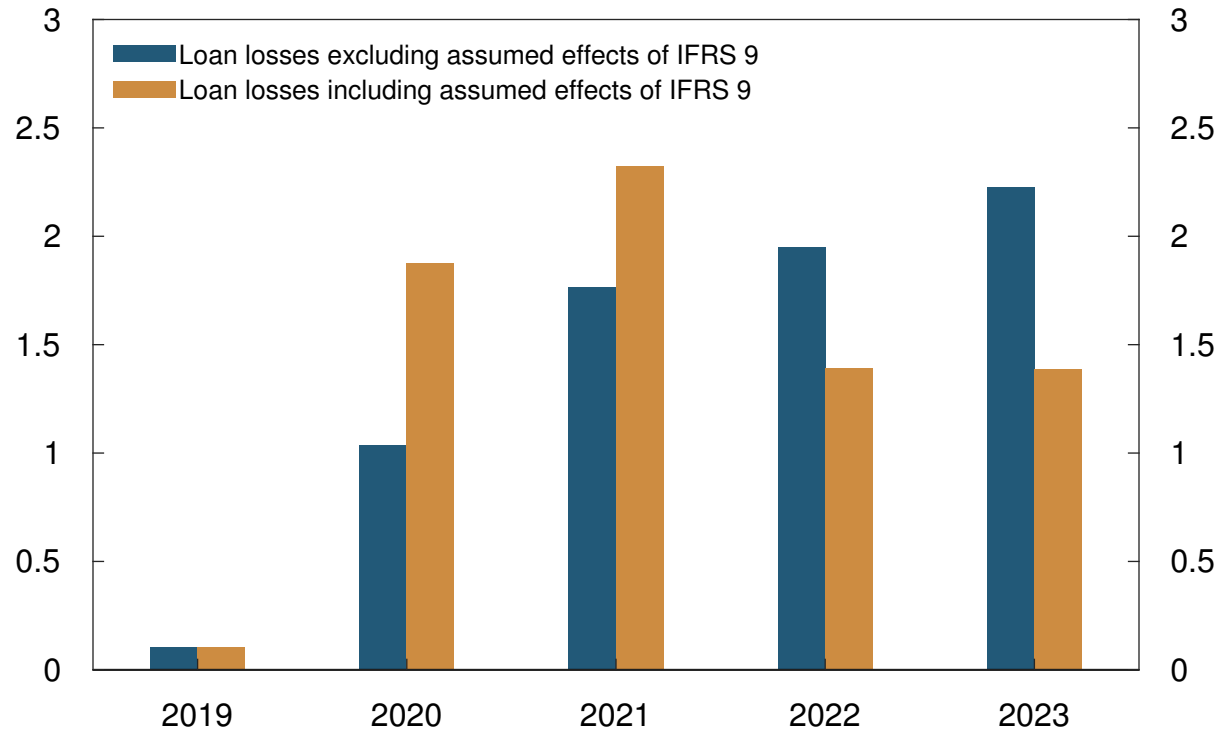
Sources: SNL / S&P MI, Statistics Norway and Norges Bank

Chart 3.3 Loan losses as a share of total loans (vertical scale) and GDP measured relative to trend¹⁾ (horizontal scale). Percent. 1979 – 2014²⁾



1) International data cover 19 OECD countries. Measures of recognised impairment losses and the sample of financial institutions vary across countries and time. GDP trend estimations use a two-sided HP filter with $\lambda = 100$. The lines show the estimated distribution of loan losses based on quantile regressions with GDP as a deviation from trend and country-specific fixed effects. The lines include fixed level effects for Norway. 2) The number of observations varies across countries. The data set covers a total of 23 crises and is based on the dating of crises in Anundsen, A.K, K. Gerdrup, F. Hansen and K. Kragh-Sørensen (2016) "Bubbles and Crises: The Role of House Prices and Credit". *Journal of Applied Econometrics*, 31(7) November/December, pages 1291-1311. Sources: National central banks, OECD, SNL / S&P MI, Statistics Norway and Norges Bank

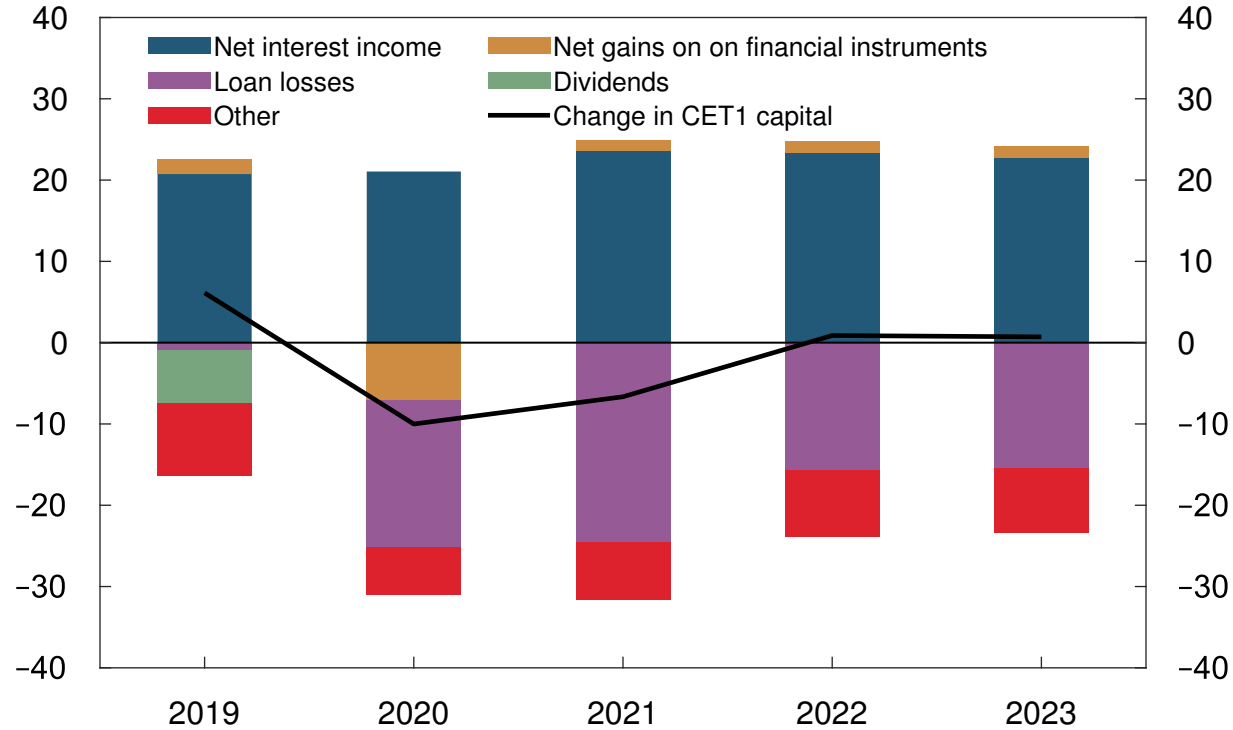
Chart 3.4 Loan losses as a share of gross loans in the stress scenario. Including and excluding assumed effects of IFRS 9. Percent. 2019 – 2023¹⁾



1) Projections.

Sources: Statistics Norway and Norges Bank

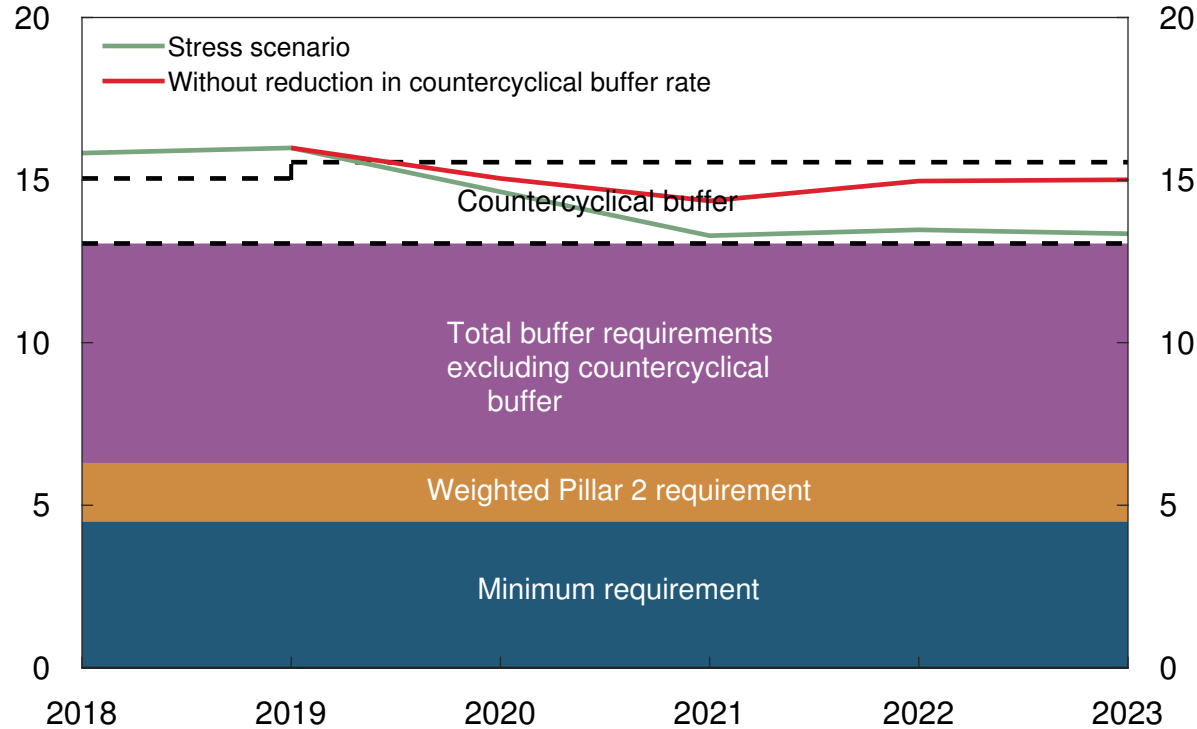
Chart 3.5 The macro bank's change in Common Equity Tier 1 (CET1) capital in the stress scenario and contribution from different components. Percent. 2019¹⁾ – 2023²⁾



1) Figures for 2019 are based on simple projections for the second half of the year. 2) Projections for 2019 Q3 – 2023 Q4.

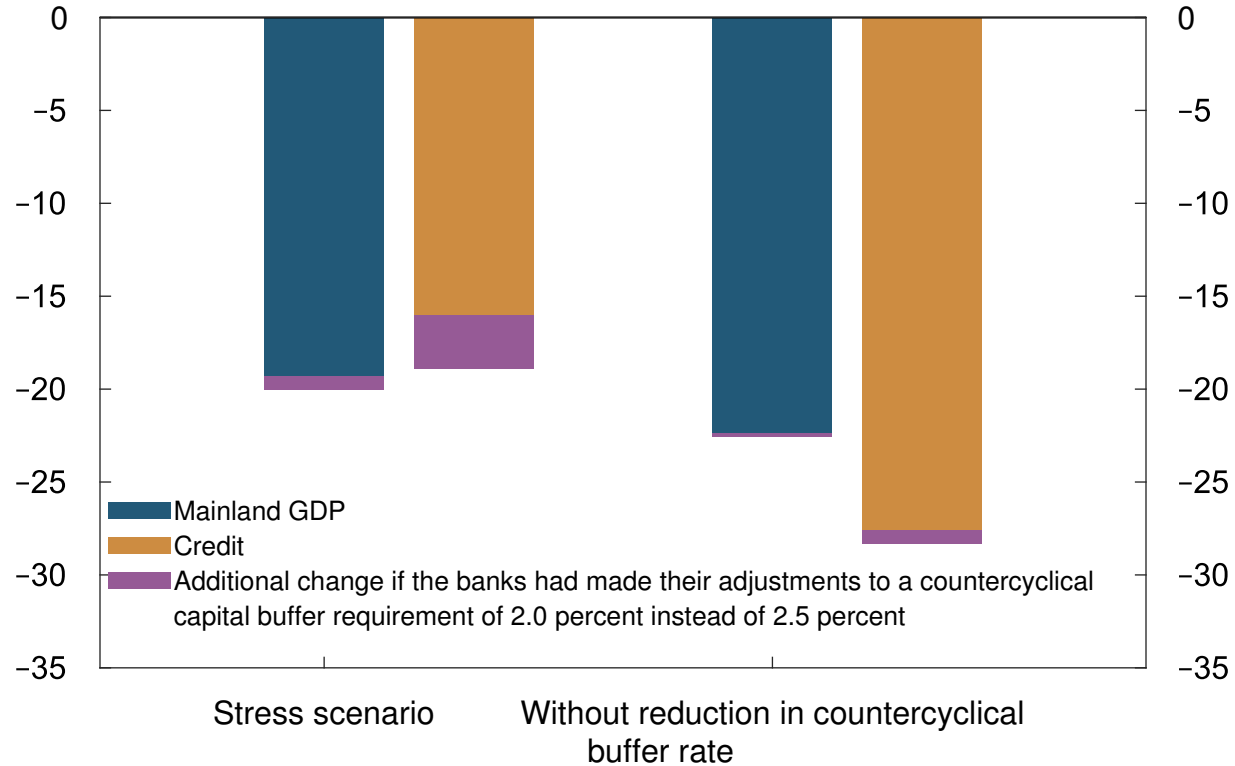
Sources: SNL / S&P MI and Norges Bank

Chart 3.6 The macro bank's Common Equity Tier 1 (CET1) ratio and the CET1 ratio requirement under Pillar 1 and Pillar 2¹⁾ under different assumptions about developments in banks' capital requirements. Percent. 2018 - 2023²⁾



1) Pillar 2 requirements for the banks in the stress test are weighted by their risk-weighted assets. 2) Projections for 2019 - 2023.
Sources: Finanstilsynet (Financial Supervisory Authority of Norway), SNL / S&P MI and Norges Bank

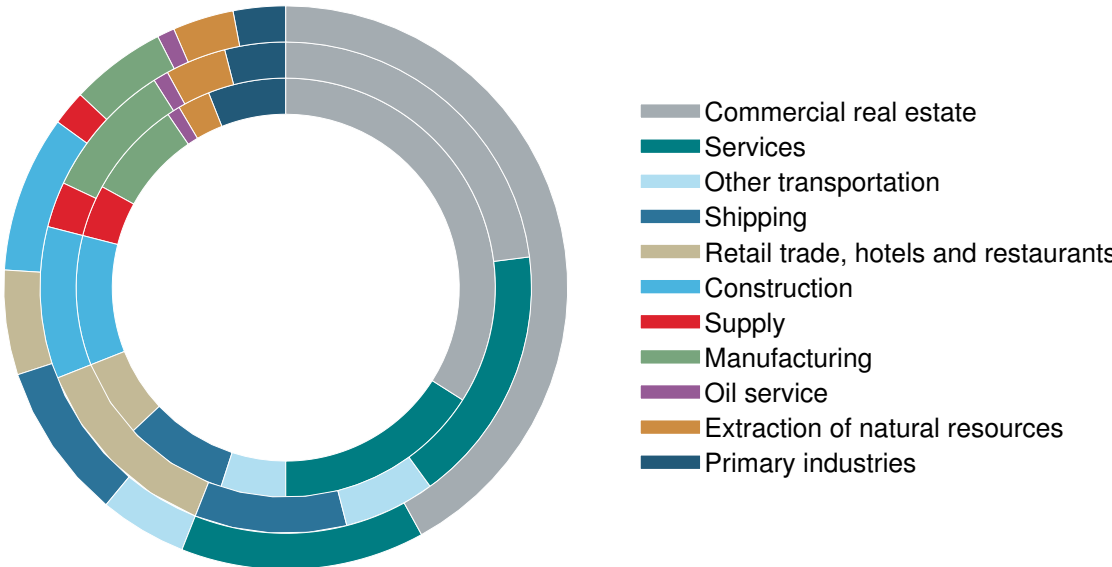
Chart 3.7 Total change through the stress period in mainland GDP and credit under different assumptions about developments in banks' capital requirements.¹⁾ Percent



1) Defined as the cumulative deviation from an estimated trend for GDP and the deviation from an estimated trend at the end of the stress scenario for total credit. Trend GDP growth in constant prices is set at 1.2 percent and trend credit growth is set at 3.7 percent.

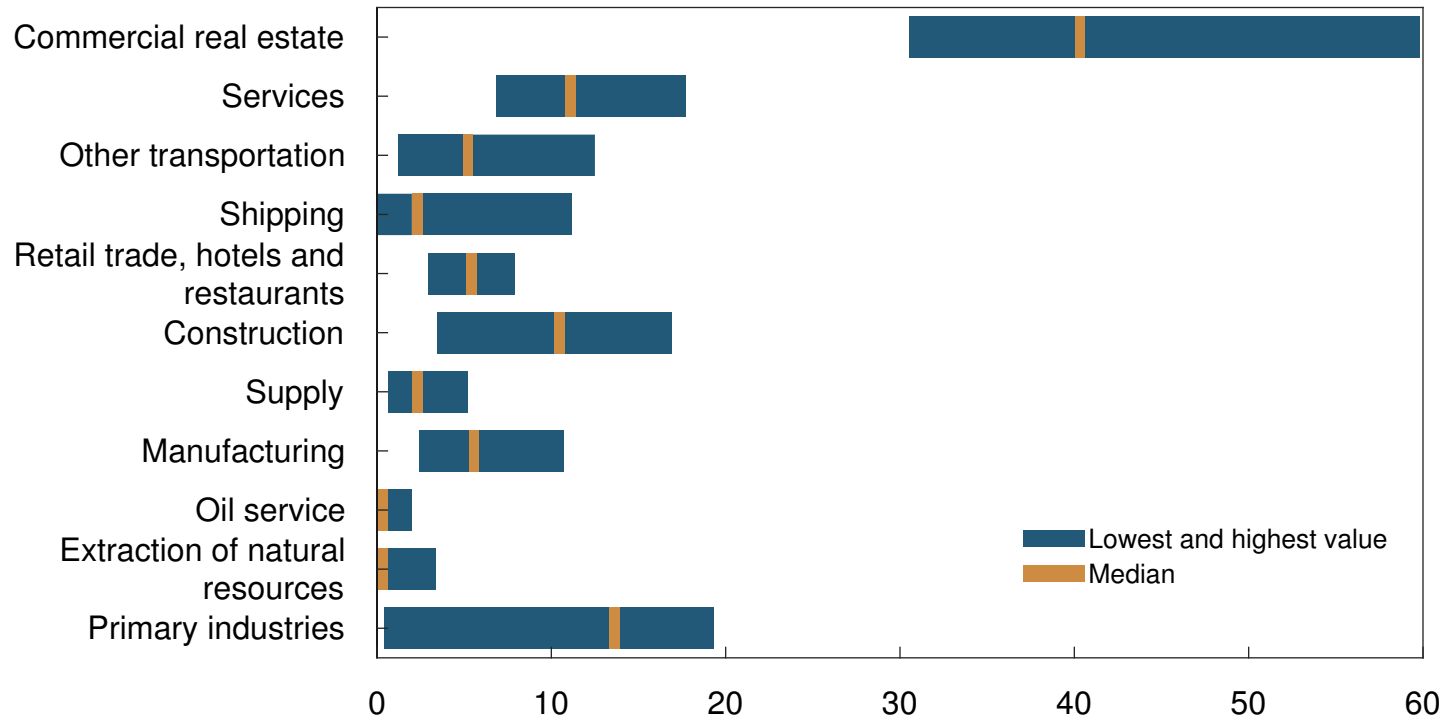
Source: Norges Bank

Chart 3.8 The macro bank's lending by industry (inner circle), loss by industry based on engagement data (middle circle), and losses by industry with upwardly revised PD and LGD for commercial real estate lending (outer circle). Percent of total corporate lending at 31 December 2018



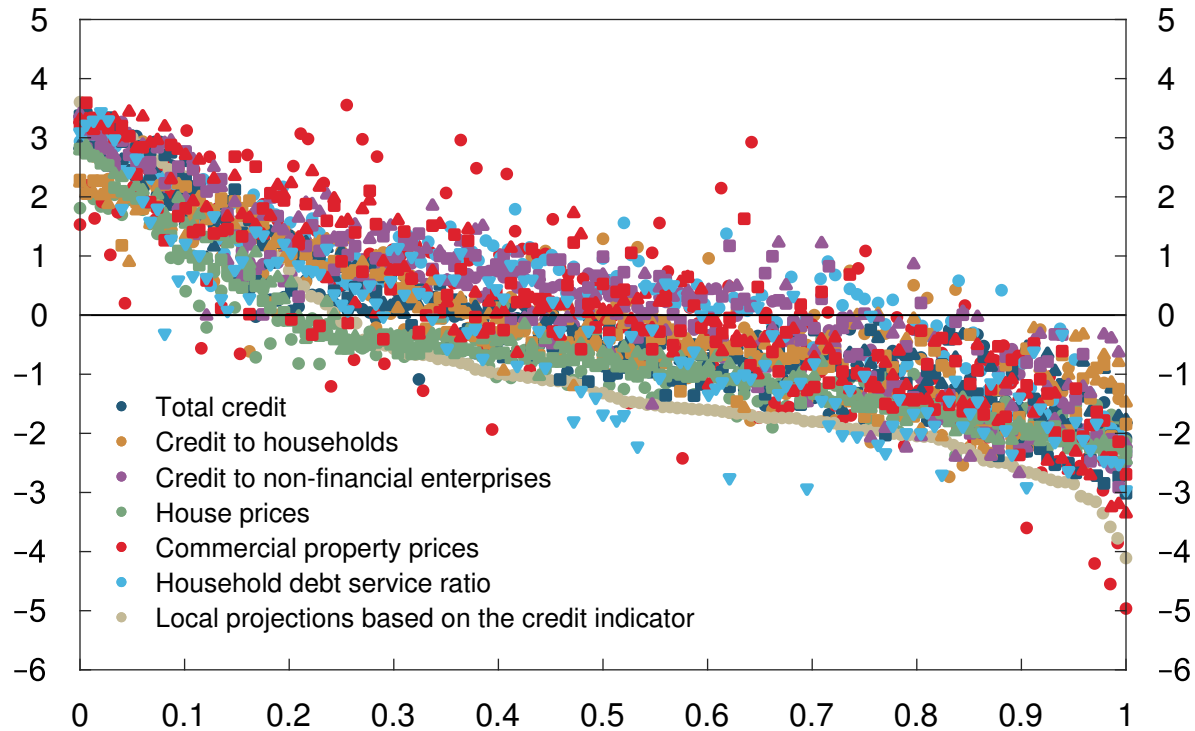
Sources: Finanstilsynet (Financial Supervisory Authority of Norway) and Norges Bank

Chart 3.9 Stress test banks' lending by industry. Percent of corporate lending. At 31 December 2018



Sources: Finanstilsynet (Financial Supervisory Authority of Norway) and Norges Bank

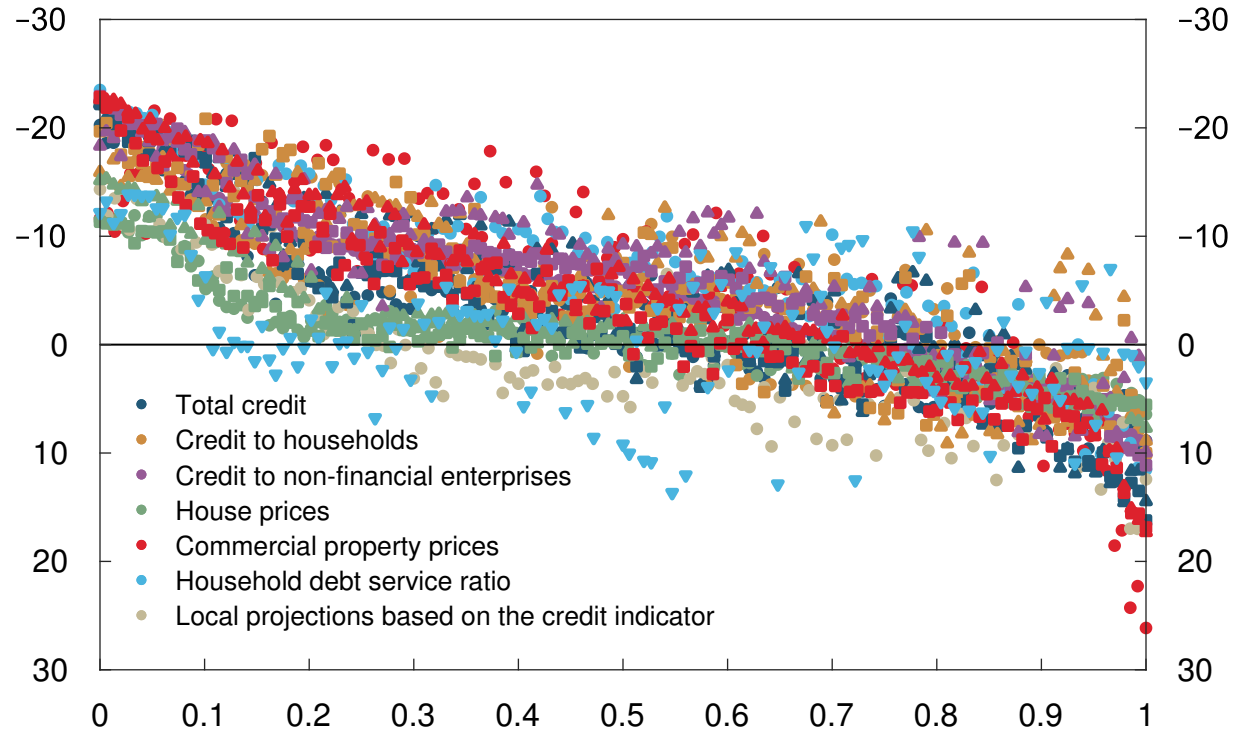
Chart 3.A Estimates of steepest fall in GDP based on different measures of financial imbalances. ¹⁾ Normalised levels of financial imbalance indicators (horizontal scale). Steepest fall in GDP in annual percentage growth (vertical scale). 1982 Q1 – 2019 Q1



1) Quantile regressions are applied to quantify the correlation between downside risk for mainland GDP (fifth percentile) and various measures of financial imbalances (backdated two years). Measures of financial imbalances are normalised based on their cumulative distribution. All estimates based on the same indicator have the same colour. Different transformations are indicated by different shapes. Estimates based on local projections show the pre-crisis correlation between credit indicators and GDP developments in crises based on 20 OECD countries.

Sources: CBRE, Dagens Næringsliv, Eiendomsverdi, Finn.no, OPAK, Real Estate Norway, Statistics Norway and Norges Bank

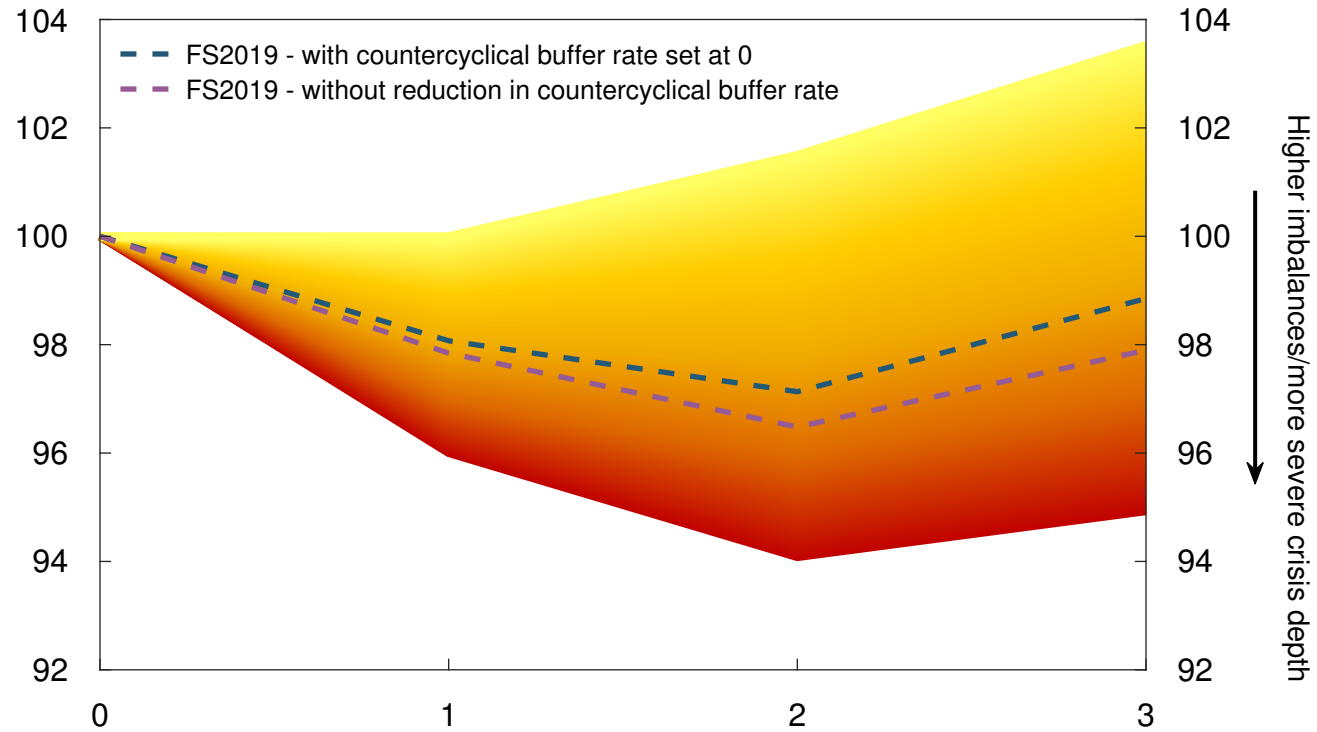
Chart 3.B Estimates for total GDP shortfall over a three-year period based on various measures of financial imbalances.¹⁾ Normalised levels of financial imbalance indicators (horizontal scale). Total GDP shortfall measured as annualised percentage deviation from GDP (vertical scale).²⁾ 1982 Q1 – 2019 Q1



1) Quantile regressions are applied to quantify the correlation between downside risk for mainland GDP (fifth percentile) and various measures of financial imbalances (backdated three years). Measures of financial imbalances are normalised based on their cumulative distribution. All estimates based on the same indicator have the same colour. Different transformations are indicated by different shapes. Estimates based on local projections show the pre-crisis correlation between credit indicators and GDP developments in crises based on 20 OECD countries. 2) The vertical scale is inverted.

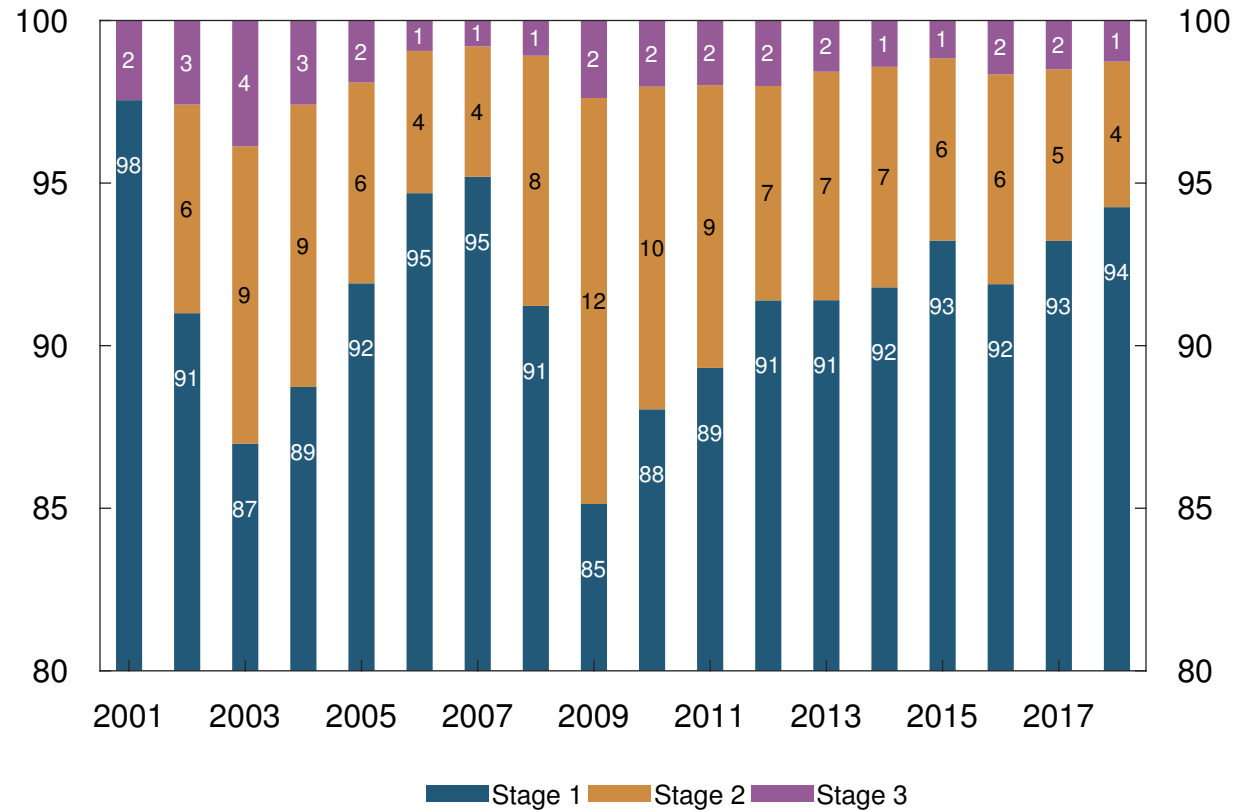
Sources: CBRE, Dagens Næringsliv, Eiendomsverdi, Finn.no, OPAK, Real Estate Norway, Statistics Norway and Norges Bank

Chart 3.C Potential GDP paths in the stress scenario and variation in financial imbalances. Years after crisis start (horizontal scale). GDP is indexed. Year 0 = 100



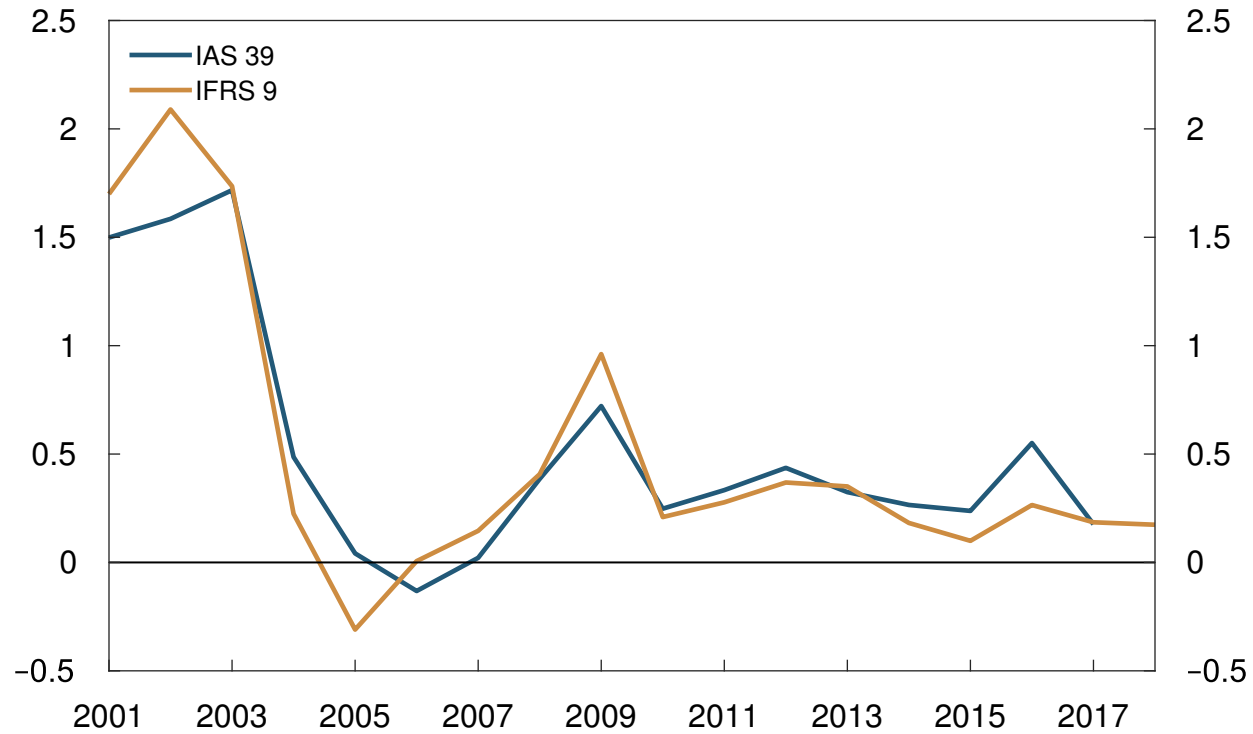
Source: Norges Bank

Chart 3.D Estimated classification under IFRS 9 of bank loans to enterprises established in 2000 or later. By stage (1, 2 and 3). Percent. 2001 – 2018



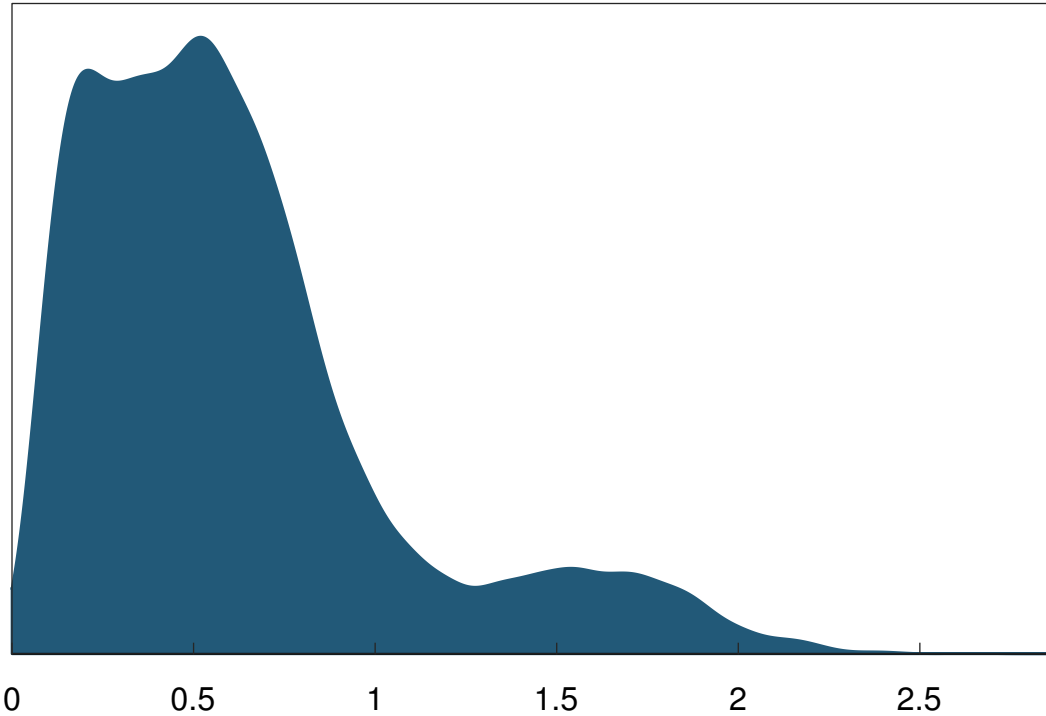
Source: Norges Bank

Chart 3.E Estimated losses under IAS 39 and IFRS 9 on bank loans to enterprises established in 2000 or later as a share of bank loans. Percent. 2001 - 2018



Source: Norges Bank

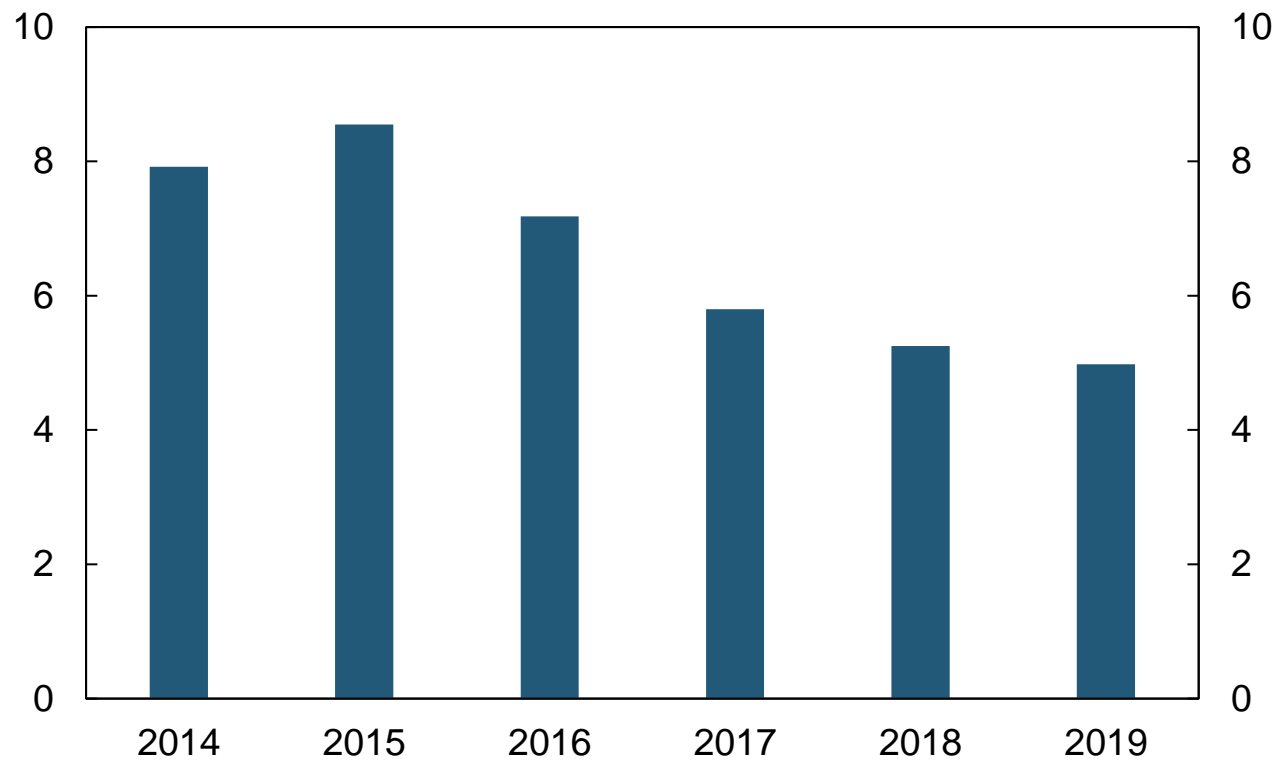
Chart 3.F Estimated probability density function of losses due to contagion in the banking sector.¹⁾ Percentage point fall in CET1 capital ratio



1) The shaded area sums to one. The density is non-parametric and is based on 30 000 simulations. In each simulation, one value is drawn for each of the 20 stochastic parameters in the model.

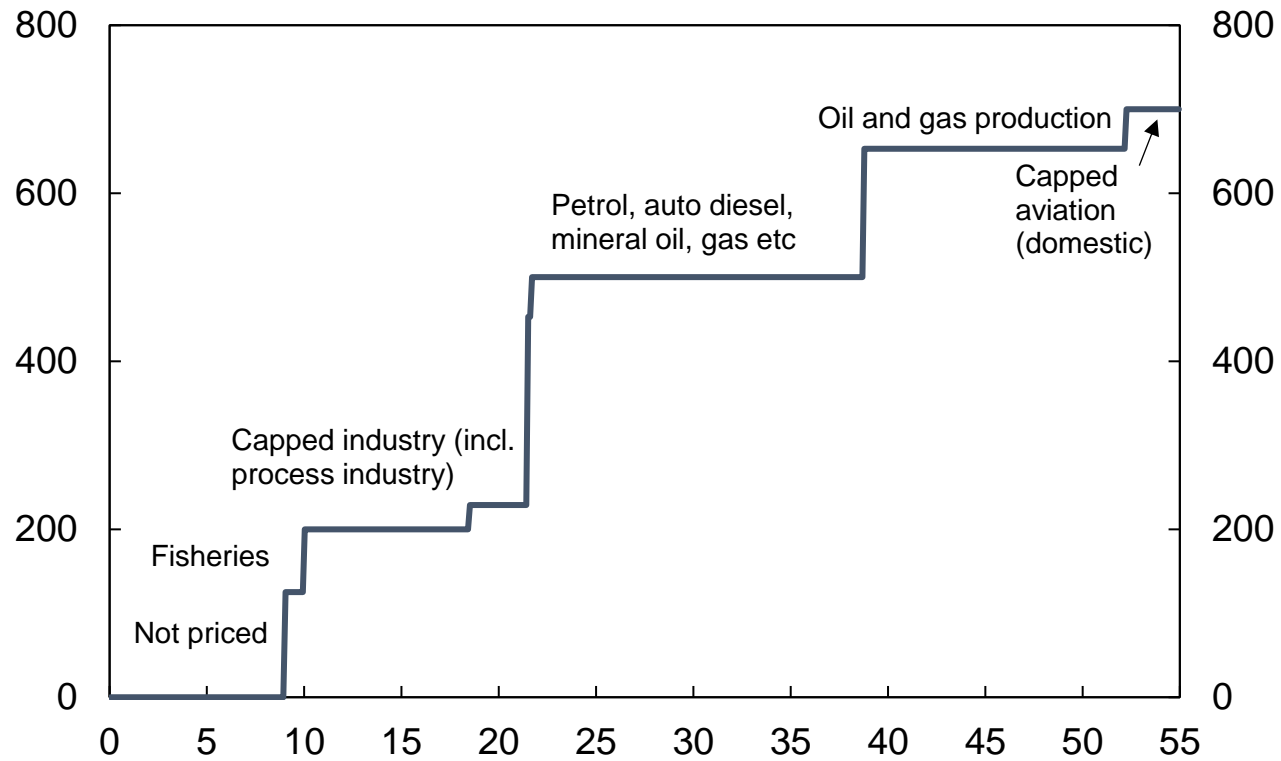
Sources: Finanstilsynet (Financial Supervisory Authority of Norway), VPS and Norges Bank

Chart 4.1 Developments in DNB's oil-related exposures. Percent of EAD¹⁾.
At year-end. 2014 – 2019²⁾



1) Exposure at default. **2)** Data for 2019 are at 30 June 2019.
Source: DNB

Chart 4.2 Emissions pricing in Norway. NOK per tonne CO₂-equivalent (vertical scale) and millions of tonnes CO₂-equivalent (horizontal scale). 2016



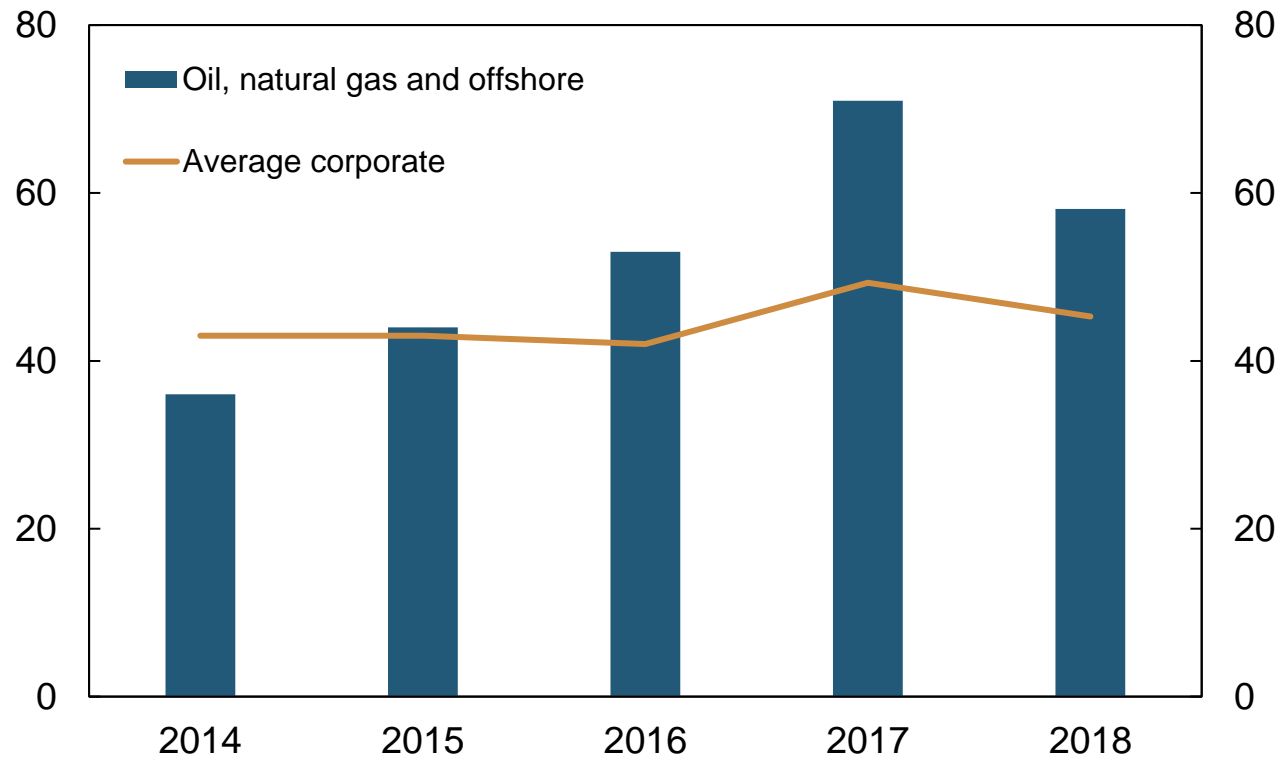
Sources: Ministry of Finance, Norwegian Environment Agency and Statistics Norway

Chart 4.3 Price of CO₂ European emissions allowance. In EUR.
1 January 2015 – 25 October 2019



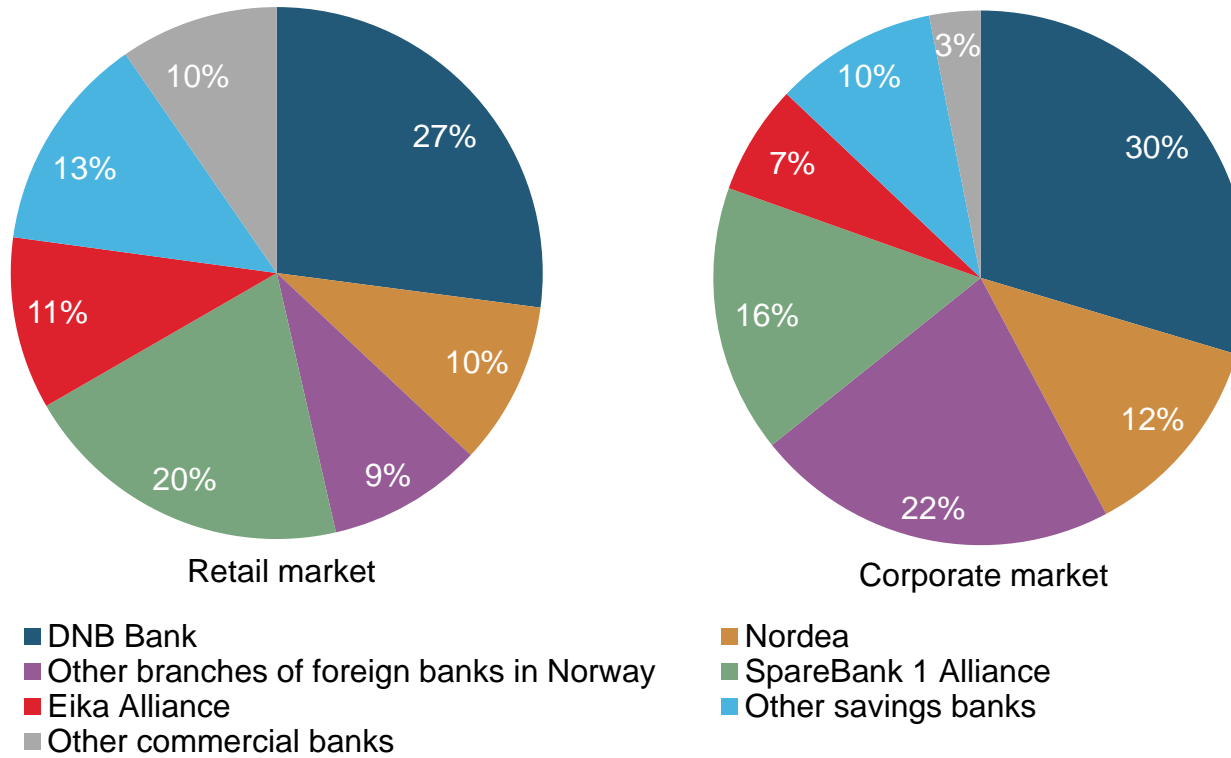
Source: Bloomberg

Chart 4.A Risk weights for DNB's aggregate corporate loans and oil-related loans. Healthy IRB portfolios. Percent. At year-end. 2014 – 2018



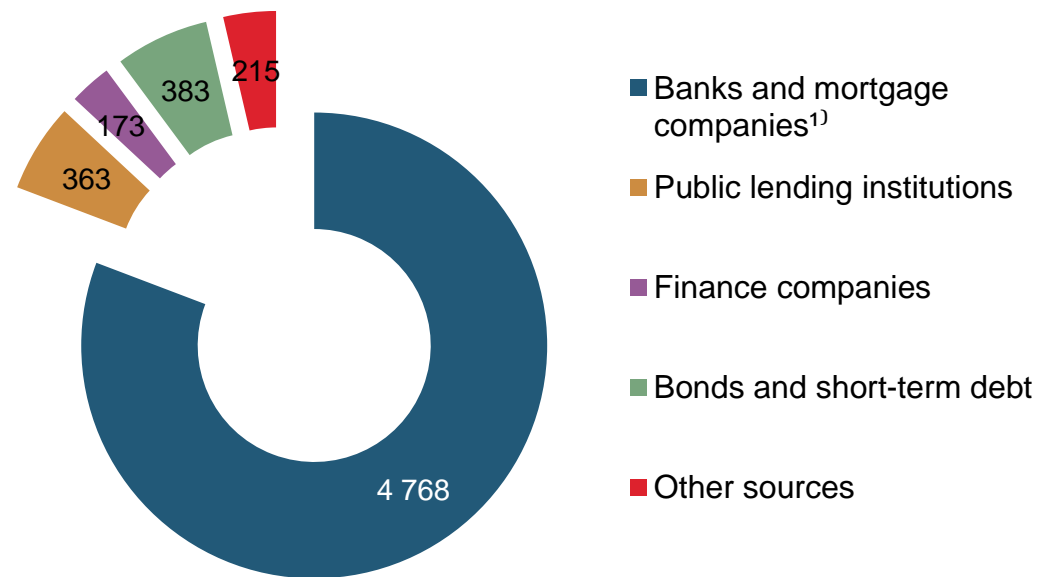
Source: DNB

Chart 1 Lending market shares.^{1,2)}
 Percent. At 30 June 2019



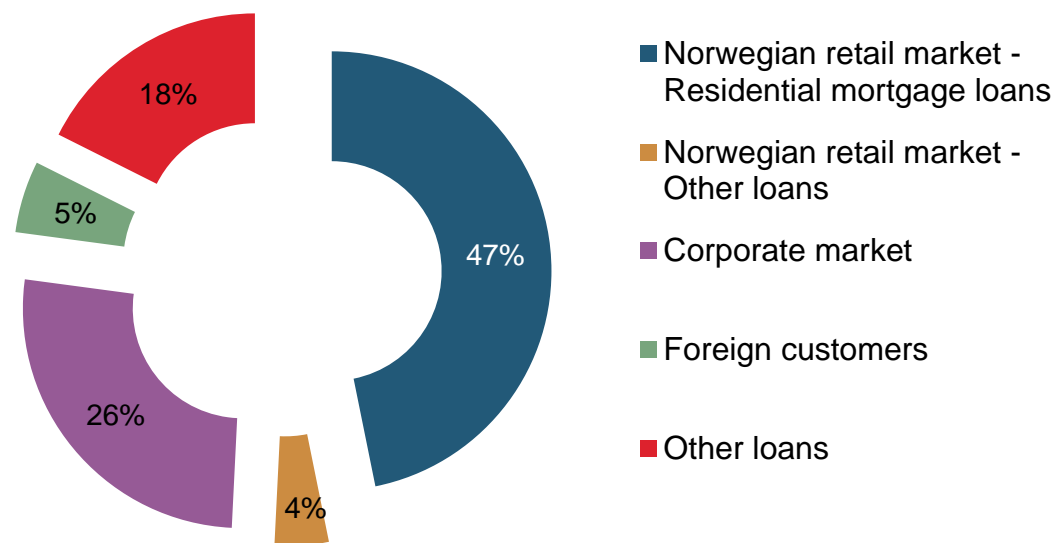
1) All banks and mortgage companies in Norway. 2) See Table 2.
 Source: Norges Bank

Chart 2 Gross domestic lending to the non-financial sector by credit source.
In billions of NOK. At 30 June 2019



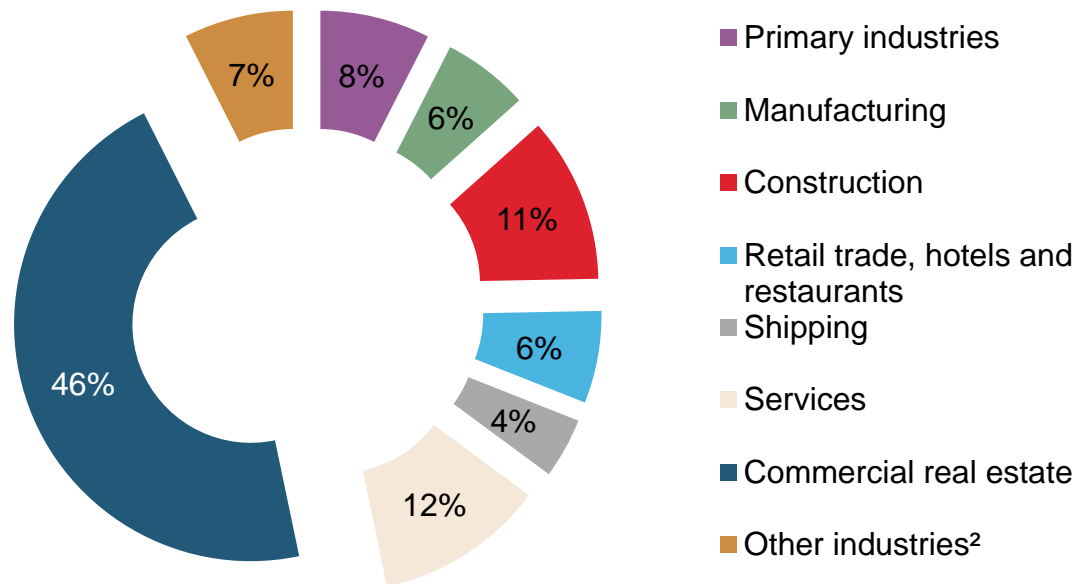
1) All banks and mortgage companies including Eksportfinans.
Source: Statistics Norway

Chart 3 Lending¹⁾ by all banks and mortgage companies.
Percent. At 30 June 2019



1) Total lending of NOK 5 720bn.
Source: Norges Bank

Chart 4 Lending to the corporate market¹⁾ by all banks and mortgage companies.
Percent. At 30 June 2019

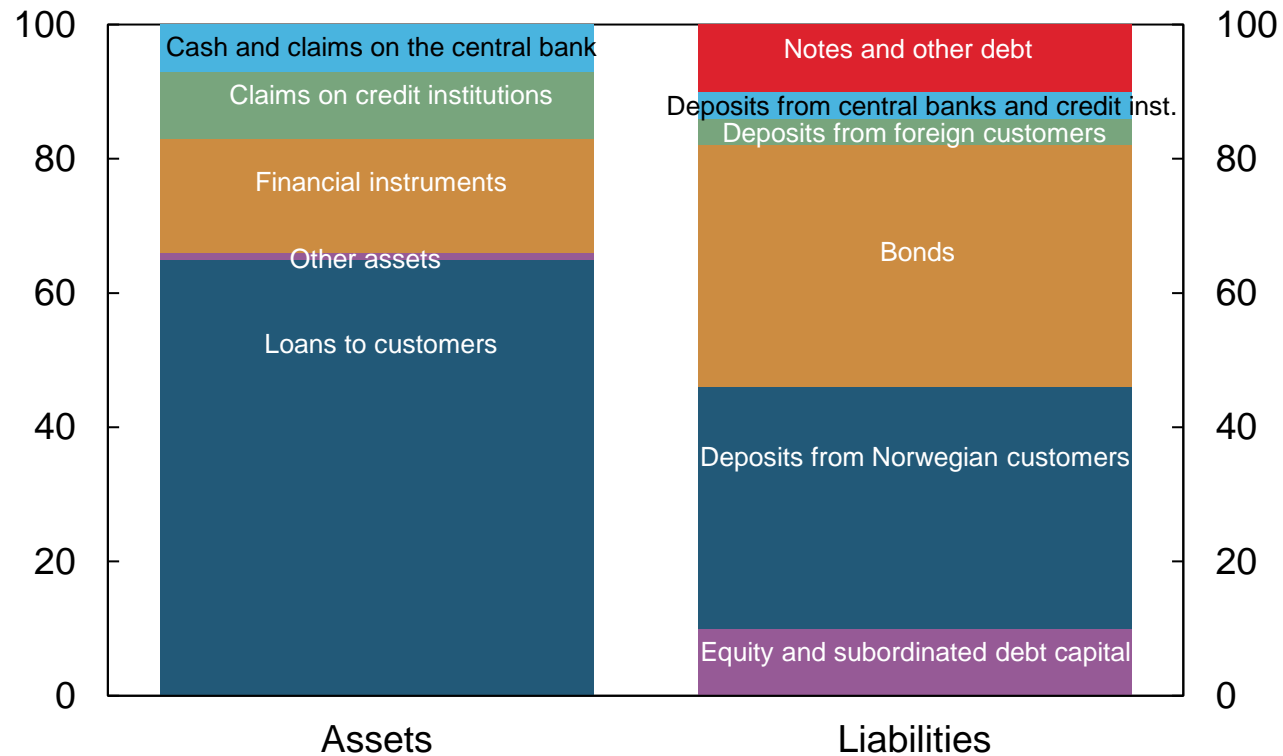


1) Total corporate loans NOK 1 506bn

2) Other industries comprise "Oil service", "Other transportation", "Electricity and water supply" and "Extraction of natural resources". Here, "Oil service" is narrowly defined.

Source: Norges Bank

Chart 5 Balance sheet¹⁾ of Norwegian-owned banks and covered bond mortgage companies.²⁾ Percent. At 30 June 2019



- 1)** Intercompany items between banks and mortgage companies are not eliminated.
2) All banks and mortgage companies excluding subsidiaries and branches of foreign banks in Norway.

Source: Norges Bank