III Monetary policy and domestic financial markets

The Central Bank's key interest rate has risen and the monetary stance tightened since the publication of the August *Monetary Bulletin*. Real market rates have not followed suit, however, indicating a weakening of monetary policy transmission across the yield curve. Instead, transmission of monetary policy appears increasingly to be taking place through the exchange rate channel, as the króna has appreciated somewhat since August. Market agents appear to expect smaller interest rate hikes by the year-end than they did in August. Even though their pessimism about the inflation outlook seems to have abated somewhat, it is likely that the steep drop in long-term bond interest stems mainly from increased capital inflows in connection with new investment by non-residents. This is also one of the main reasons for the weakening of monetary policy transmission through the interest rate channel. Growth in the money stock has picked up again after a temporary slowdown in 2014 and early 2015, and there has been an increase in lending to households and businesses. Asset prices have risen and debt ratios declined. Access to credit has opened up, and some of the pension funds' mortgage lending rates have fallen. Private sector financial conditions have therefore improved.

Monetary policy

Nominal Central Bank rates have risen

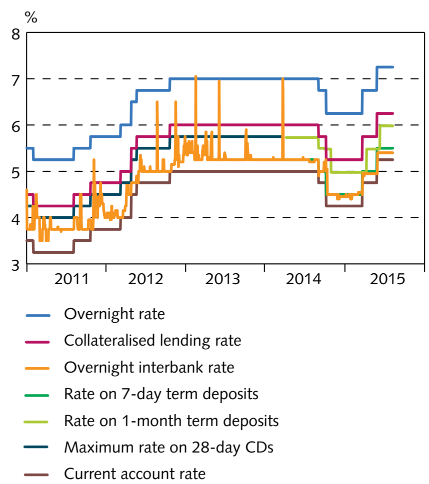
The Central Bank Monetary Policy Committee (MPC) decided to raise the Bank's interest rates by 0.5 percentage points at its August meeting but kept them unchanged at the September meeting. Prior to the publication of this *Monetary Bulletin*, the Bank's key interest rate – the rate on financial institutions' seven-day term deposits with the Bank – was 5.5%, after rising by 1 percentage point since mid-June. At the September meeting, the MPC also decided to increase deposit institutions' reserve requirements from 2% to 4% as of 21 October. The aim of this measure is not to affect the monetary stance but to strengthen the Bank's liquidity management in the wake of its sizeable foreign currency purchases in the recent term and to shore up financial institutions' liquidity in the run-up to the settlement of the failed banks' estates and the planned auction of offshore krónur.

Overnight interbank interest rates have risen in line with the Bank's key rate and, as before, have remained below the centre of the interest rate corridor, close to the Bank's key rate (Chart III-1). The accepted rate in commercial banks' bill auctions has also risen in line with the key rate, unlike the rate in Treasury bill auctions, which is now as much as 2 percentage points below the floor of the interest rate corridor. In all likelihood, this is due to increased demand from owners of offshore krónur, whose investment options were restricted in March to Treasury bills, in preparation for capital account liberalisation.

Chart III-1

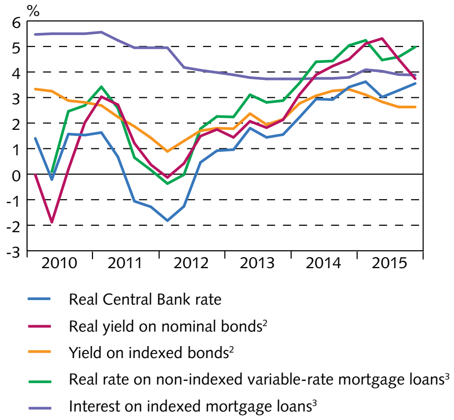
Central Bank of Iceland interest rates and short-term market rates

Daily data 3 January 2011 - 30 October 2015



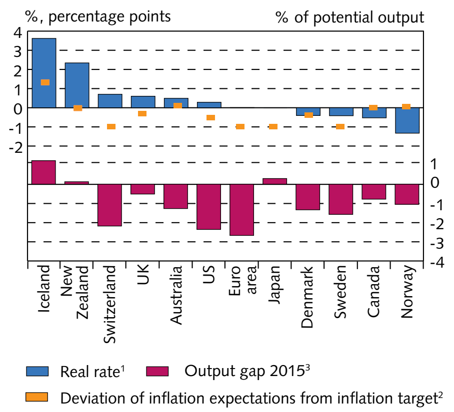
Source: Central Bank of Iceland.

Chart III-2
Real Central Bank interest rate and real market rates
Q1/2010 - Q4/2015[1]



1. Based on data until 30 October 2015. 2. Five-year rate from the estimated nominal and real yield curves. 3. Simple average lowest lending rates from the three largest commercial banks. Fixed-rate period of five years or more on indexed mortgage loans.
Source: Central Bank of Iceland.

Chart III-3
Real rate, output gap, and deviation of inflation expectations from target in selected industrialised economies



1. In terms of current 12-month inflation. 2. Inflation expectations one year ahead based on surveys of market agents and analysts. 3. For countries other than Iceland, the output gap is based on OECD estimates.
Sources: Consensus Forecasts, Macrobond, OECD, websites of the relevant central banks, Central Bank of Iceland.

The Central Bank's real rate has also risen …

The monetary stance as measured by the Central Bank's real rate has tightened since the August *Monetary Bulletin*. In terms of past inflation, the Bank's real rate has risen by about ½ a percentage point, to about 3½%, and in terms of the average of various measures of inflation and inflation expectations it has risen by nearly a percentage point, to 2.2% (Table III-1). This average, however, is about ¼ of a percentage point lower than in October 2014, as inflation expectations have risen in excess of the Bank's nominal interest rates.

Table III-1 The monetary stance (%)

Real interest rates based on:[1]	*Current stance (30 Oct. '15)*	*Change from MB 2015/3 (14 Aug. '15)*	*Change from MB 2014/4 (31 Oct. '14)*
Twelve-month inflation	3.6	0.5	0.4
Business inflation expectations (one-year)	1.9	1.0	-0.3
Household inflation expectations (one-year)	1.4	0.5	0.2
Market inflation expectations (one-year)[2]	1.6	0.6	-0.7
One-year breakeven inflation rate[3]	2.3	1.1	-0.8
Central Bank inflation forecast[4]	2.1	1.6	-0.5
Average	2.2	0.9	-0.3

1. With the seven-day term deposit rate as the Central Bank's key rate. 2. Based on survey of market participants' expectations. 3. The one-year breakeven inflation rate based on the difference between the nominal and indexed yield curves (five-day rolling average). 4. The Central Bank forecast of annual inflation four quarters ahead.
Source: Central Bank of Iceland.

…but in some instances other market rates have fallen

The transmission of Central Bank rates to other interest rates has been broadly smooth in the recent term. However, the recent rise in the real rate appears not to have been transmitted fully to other market rates, some of which have even fallen (Chart III-2). This could be a sign of a weakening of monetary policy transmission through the interest rate channel. Bond market yields have declined in spite of the MPC's rate hikes and signals of further rate hikes to come. This is particularly the case for long nominal Treasury bonds, whose yields have been broadly in line with the Bank's key rate in the recent term (see below). The decline in bond market yields has had a downward impact on the mortgage lending rates offered by some of the pension funds. Even though mortgage rates offered by the commercial banks have broadly followed the key Central Bank rate, signs of spillover effects to bank mortgage rates have also started to emerge.

The Bank's real rate is still higher than in most other developed economies

The Central Bank's real rate is higher than that in most other developed countries, and Iceland is the only advanced economy to see a policy rate increase in the recent term (Chart III-3). As before, this is attributable to the differences in economic developments and outlook in Iceland, as can be seen in significantly smaller spare capacity, more robust output growth, higher inflation, and much stronger growth in nominal expenditure and wages. In addition, inflation expectations appear to be less firmly anchored in Iceland, which gives cause for concern that they could rise rapidly, thereby necessitating a tighter monetary stance than would otherwise be needed. This differs from conditions in most other industrialised countries, where concerns centre on the possibility of an excessive decline in inflation expectations. As is discussed in the May *Monetary Bulletin*, the Bank's interest rates are closer to those in several emerging market economies whose economic conditions are in many ways similar to those in Iceland.

Market agents expect a rise in Central Bank nominal rates

According to the Bank's survey of market agents' expectations, carried out in late October, respondents expect the Bank's key rate to be held at 5.5% until the end of this year (Chart III-4). This is about 0.25 percentage points lower than in a comparable survey in August. However, the current survey indicates, as in August, that market agents expect the Bank's key rate to be 6.25% at mid-year 2016. Indications from forward interest rates also imply that market agents expect rates to be higher in mid-2016. But in a departure from the survey findings, forward rates indicate that market agents expect the Bank's rates to decline once again in the latter half of 2016, falling to 5% by the end of the forecast horizon. As is discussed below, the recent plunge in long-term nominal interest rates is probably due in large part to factors not related to expectations of future developments in short-term rates.[1]

Market interest rates and risk premia

Nominal Treasury bond yields have fallen significantly

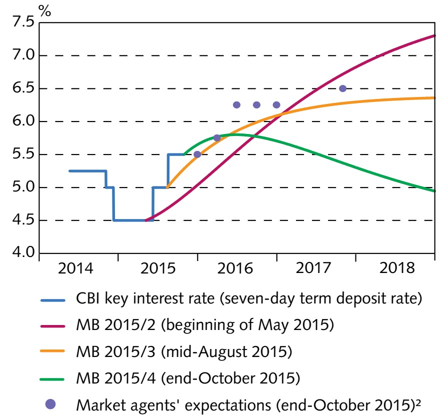
Since early June, when the capital account liberalisation strategy was introduced, nominal Treasury bond yields have fallen by as much as 2.2 percentage points, with the decline concentrated in the longest bonds. As much as 1.2 percentage points of it has taken place since the publication of the August *Monetary Bulletin* (Chart III-5). The yield curve is now downward-sloping, which at first glance would indicate that market agents expect a reduction in short-term interest rates in the coming term, due to factors such as expectations of weaker economic activity and declining inflation. Reduced fears of an inflation spurt in the wake of wage settlements could explain this development to some extent (see Chapter V). The steep drop in long nominal bond interest rates could also be owing to increased optimism about the Treasury's position following the publication of the capital account liberalisation strategy, which is expected to bring about a reduction in Treasury debt with the payment of stability contributions and/or taxes by the failed banks' estates. This, together with the new fiscal budget proposal, may also have fuelled expectations of reduced Treasury bond issuance. If this were a viable explanation of the decline in nominal bond interest rates, indexed rates should have fallen in a similar manner, but they have fallen considerably less. To some extent, this may be in response to the limited liquidity of indexed bonds. It may also explain the smaller reduction in yields on short Treasury bonds, the majority of which are held by non-residents whose assets are locked in by the capital controls.

1. In addition, measurement problems at the short end of the yield curve introduce a measure of uncertainty into the indications provided by the yield curve. For further discussion, see Box III-1 in *Monetary Bulletin* 2013/4.

Chart III-4

Central Bank of Iceland key interest rate, forward market interest rates, and market agents' expectations concerning the CB key rate[1]

Daily data 21 May 2014 - 31 December 2018

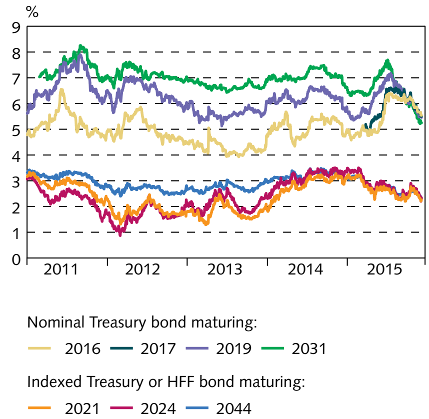


1. Interbank interest rates and Treasury bonds were used to estimate the yield curve. 2. Estimated from the median response in the Central Bank's survey of market agents' expectations of collateralised lending rates. The survey was carried out during the period 29 Oct. - 2 Nov. 2015.
Source: Central Bank of Iceland.

Chart III-5

Nominal and indexed bond yields

Daily data 3 January 2011 - 30 October 2015

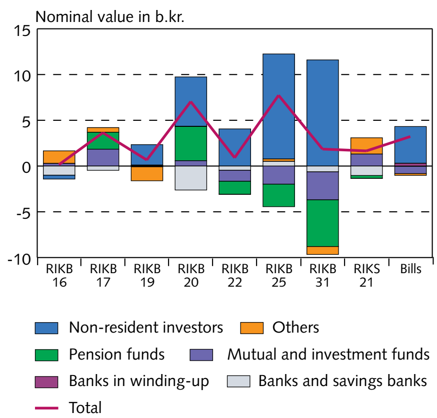


Source: Central Bank of Iceland.

Chart III-6

Changes in ownership of Treasury securities

31 May 2015 - 30 September 2015

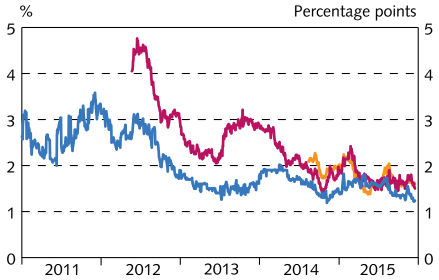


Source: Central Bank of Iceland.

Chart III-7

Risk premia on Icelandic Treasury obligations

Daily data 3 January 2011 - 30 October 2015



CDS Iceland (left)

Spread between Icelandic and US government bonds issued in USD, maturing in 2022 (right)

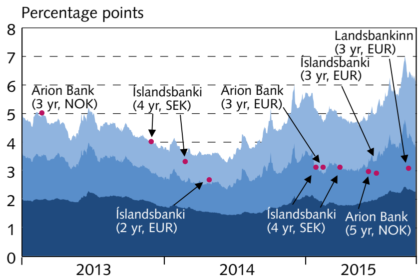
Spread between Icelandic and German government bonds issued in EUR, maturing in 2020 (right)

Source: Bloomberg.

Chart III-8

Risk premia on US firms and financial institutions and Icelandic banks[1]

Daily data 2 January 2013 - 30 October 2015



Firms and financial institutions in the US with BBB credit rating

Firms and financial institutions in the US with BB credit rating

Firms and financial institutions in the US with B credit rating

Icelandic banks

1. Credit spreads on bonds issues in USD for firms and financial institutions in the US. Credit spreads at issuance of bonds in foreign currency for Icelandic banks.

Sources: Arion Bank, Íslandsbanki, Landsbankinn, Macrobond, Federal Reserve Bank of St. Louis.

Most likely, though, the marked drop in long-term nominal rates in the recent past is due to the increase in non-residents' new investment in long nominal Treasury bonds starting in mid-June. This new investment has amounted to just under 49 b.kr. since end-May, and demand from these investors has pushed term premia on long-term bond interest downwards (Chart III-6). To a large extent, this probably reflects the combination of international investors' increasing confidence in Iceland, which is among other things reflected in a rising credit rating, and the spillover effects from quantitative easing measures by central banks in major advanced economies. These measures have pushed down the term premia in those countries and prompted investors in long-term government bonds to seek higher yields in other countries (see Box 1). Therefore, the decline in long-term bond interest probably reflects lower inflation expectations and expectations of a reduction in Central Bank rates only to a limited degree. Interpreting the yield curve is more difficult as a result.

Risk premia on Treasury obligations has declined

Late in 2014 and again in mid-2015, risk premia on the Treasury's foreign obligations rose by most measures (Chart III-7). Unrest in global financial markets was probably a factor in this development. They declined again this past summer, most likely due to expectations of an improved Treasury position following the introduction of the capital account liberalisation strategy, as can be seen in Iceland's improved sovereign credit ratings from all three major rating agencies that assign the Republic of Iceland a sovereign credit rating. The CDS spread on five-year Treasury obligations is now just over 1.2%, or slightly lower than in August, but ½ a percentage point below the summer 2015 peak. The spread between the Icelandic Treasury's long-term foreign-denominated bonds and comparable government bonds issued by the US and Germany has also fallen over this same period, to about 1½ percentage points.

Icelandic bank's borrowing terms in foreign markets have risen slightly since the summer, however, in spite of improvements in their credit ratings (Chart III-8). The terms were probably affected by temporary unrest in the financial markets at the time the issue took place – unrest relating, among other things, to worries about a hard landing in China and growing concern about emerging market economies (see also Chapter II). This unrest also led to a rise in risk premia on US firms' and financial institutions' local currency obligations.

Exchange rate of the króna

Nominal exchange rate rises ...

The króna has appreciated by just under 4½% in trade-weighted terms since the publication of the August *Monetary Bulletin*, and the index now measures about 193 points (Chart III-9). Over the same period, the króna has appreciated by about 3½% against the euro and the US dollar and over 5½% against the pound sterling. The exchange rate has been supported by the surplus on goods and services trade, which is due in part to improved terms of trade, and by the increased foreign currency inflows stemming from new investment by non-residents. Furthermore, GDP growth has been stronger in Iceland than in neighbouring countries and appears likely to remain so in the near term. As a result, the currency appreciation is probably rooted largely in favourable developments in economic fundamentals and the expectation that interest rates will remain higher in Iceland than in other industrialised countries. It therefore reflects both the adjustment of the exchange rate to stronger fundamentals and to the transmission of a tighter domestic monetary stance through the exchange rate channel at a time when transmission through the interest rate channel has clogged up, as is mentioned above.

... in spite of sizeable foreign currency purchases by the Central Bank

For some time, the Central Bank has leaned against the appreciation of the króna by buying currency in the foreign exchange market, although without entirely preventing a rise in the exchange rate. This is in line with the declared objective of the intervention strategy, which is to smooth exchange rate volatility and build up foreign exchange reserves, and not to target a given exchange rate level. The Bank's net foreign currency purchases amounted to just under 115 b.kr. in Q3/2015 and have totalled 218 b.kr. year-to-date, or the equivalent of 11% of year-2014 GDP (Chart III-10).

Money holdings and lending

Growth in money holdings accelerates again

M3 grew by 7% year-on-year in Q3, when adjusted for deposits of the financial institutions in winding-up proceedings (Chart III-11).[2] The rise is due for the most part to an increase in deposits held by non-deposit-taking financial institutions and households. There is also a marginal increase in non-financial companies' deposits. Growth in M3 has therefore begun to pick up again after a slowdown from late 2014 into Q1/2015.

Base money has also picked up year-to-date. Annual growth in terms of a twelve-month moving average measured 11.9% in September and about 3.2% including term deposits (which gives a more accurate view of the Central Bank's contribution to changes in liquidity in circulation). The increase in base money in recent years is attributable for the most part to an increase in deposit institutions' deposits with the Central Bank, although banknotes and coin issued by the bank have increased slightly as well (Chart III-12).[3]

Increased lending to household and businesses

The exchange rate- and price-adjusted stock of DMB loans to households increased by ½% in the first nine months of the year but contracted by nearly 5% if loans from the Housing Financing Fund (HFF) are included. If adjustments are made for the Government's debt

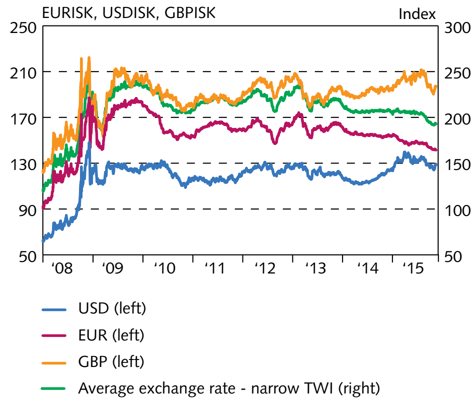
2. Adjusted M3 gives a more accurate view of money holders' spending capacity than unadjusted M3 does.

3. Credit institutions' deposits with the Central Bank fluctuate widely; therefore, it could make a difference which day of the week the month-end falls on, as auctions of seven-day term deposits are held once a week and one-month deposits are auctioned once a month.

Chart III-9

Exchange rate of foreign currencies against the króna

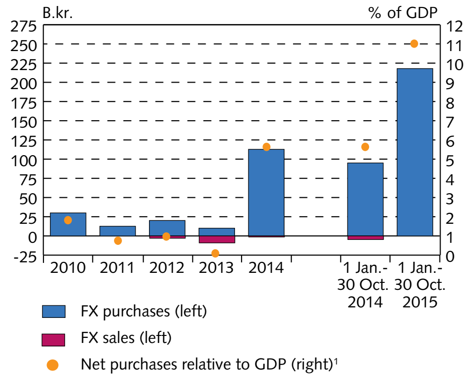
Daily data 3 January 2008 - 30 October 2015



Source: Central Bank of Iceland.

Chart III-10

Central Bank transactions in the Icelandic interbank foreign exchange market 2010-2015

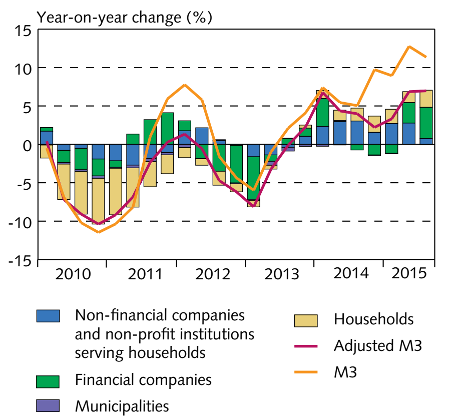


1. Year-2014 GDP used for 2015.
Sources: Statistics Iceland, Central Bank of Iceland.

Chart III-11

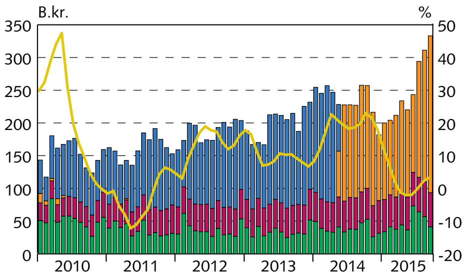
Components of money holdings - Adjusted M3[1]

Q1/2010 - Q3/2015



1. Adjusted for deposits held by failed banks' winding-up boards.
Source: Central Bank of Iceland.

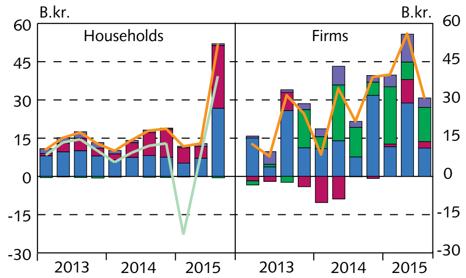
Chart III-12
Components of broad base money[1]
January 2010 - September 2015



Certificates of deposit (left)
Banknotes and coin issued by CBI (left)
DMB deposits (left)
DMB term deposits (left)
Annual growth in base money (broad), 12-month moving average (right)

1. Base money including term deposits and certificates of deposit.
Source: Central Bank of Iceland.

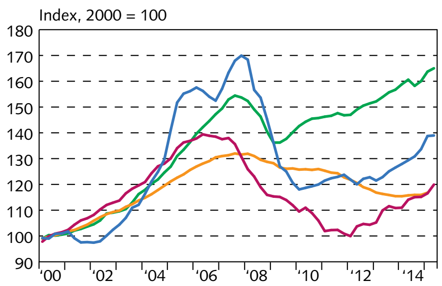
Chart III-13
Net new lending from DMBs to households and firms[1]
Q1/2013 - Q3/2015



Non-indexed
Indexed
Foreign-denominated
Asset financing agreements
Total
Total including HFF

1. New loans net of prepayments. Excluding holding companies.
Source: Central Bank of Iceland.

Chart III-14
Real house prices in advanced economies
Q1/2000 - Q2/2015



Iceland
United States
Euro area
Advanced economies experiencing upward pressure[1]

1. Upward-pressure countries are those with a residential real estate vulnerability index above the median for advanced economies (AEs): Australia, Austria, Belgium, Canada, France, Hong Kong, Israel, Luxembourg, New Zealand, Norway, Portugal, Spain, Sweden and United Kingdom.
Sources: IMF, Central Bank of Iceland.

relief measures, the credit stock contracted by approximately 1%. This development is somewhat uncertain, however, and appears inconsistent with other indicators from the credit market. In the first nine months of the year, net new loans granted to households by deposit institutions and the HFF – i.e., new loans less prepayments of older loans – totalled 24 b.kr., but excluding the effects of the Government's debt relief programme, the increase is estimated at roughly 70 b.kr. (Chart III-13).[4] This is a substantial increase in comparison with the past two years, as lending has been low in historical context. Since this spring, new non-indexed loans have exceeded new indexed loans, and the majority of them have featured fixed interest for a period of three to five years. Expectations of rising inflation during the early months of the year, during the run-up to wage negotiations, doubtless played a part in borrowers' increased interest in such loans. In addition, household debt service burdens declined as a result of the Government's debt relief measures, and borrowers have probably considered their debt service capacity to have increased with the pay rises provided for in the most recent wage settlements.

Borrowing by the non-financial business sector has also increased during the year. The adjusted stock of bank loans to the business sector had risen by just under 4% year-to-date by the end of September, compared to a decline of roughly 1½% during the same period in 2014. Net new lending from deposit institutions to the non-financial business sector totalled just over 126 b.kr. in the first nine months of 2015, a significant increase year-on-year. This rise in credit growth is in line with increased business investment so far this year and a growing share of external financing of investment expense, with the latest Bank survey suggesting that the share of internal financing has fallen from above 80% in 2014 to roughly 70% (see also Chapter IV).

Asset prices and financial conditions

House prices have risen somewhat year-to-date …

Capital area house prices have risen by over 9% year-on-year so far in 2015. Over the same period, the number of purchase agreements in the greater Reykjavík area has risen by more than 10%, rent prices by just over 6%, and the Statistics Iceland wage index by almost 7%.

… and look set to continue

The rise in house prices over the first three quarters of 2015 is broadly in line with the Bank's August forecast, reflecting strong growth in underlying economic fundamentals, including rising disposable income and improved household equity. The recent increase in real house prices has far outpaced that in the euro area but is similar to that in the US and other countries that have seen strong increases (Chart III-14). According to the Bank's current baseline forecast, the recent rise in house prices is expected to continue at broadly the same pace in coming years.

4. The difference between changes in the total stock of credit and net new lending primarily reflects regular repayments of loans.

Share prices have continued to rise

The Nasdaq Iceland exchange's OMXI8 index has risen by 18.2% since the last *Monetary Bulletin* and 40.8% so far this year (or 46.3% adjusted for dividend payments). Turnover in the NASDAQ Iceland main market totalled 263 b.kr. over the first nine months of the year, about 43% more than over the same period in 2014. The number of companies listed on the market rose in October, when Síminn completed its initial public offering. In spite of non-residents' increased investment in the bond market, new investment in the equity market appears limited thus far; however, it is difficult to assess whether derived effects from new bond market investment have made an impact on the stock market.

Private sector debt has declined year-to-date

Credit institutions' direct accumulated reduction in mortgage principal as a result of the Government's debt relief measures totalled 53.5 b.kr. in July, as opposed to about 9 b.kr. for the third-pillar pension savings option in June.[5] The Government's contribution to the reduction of principal was expedited, and those who have already approved their reduction have received about ¾ of it. It is assumed that the reductions will be paid in full by next January.

In the wake of the measures, household debt declined markedly at the beginning of the year. It rose slightly once again in Q2/2015, to about 85% of estimated year-2015 GDP (Chart III-15), about the level seen in mid-2004. The debt-to-GDP ratio is now about 10½ percentage points lower than at year-end 2014 and 40 percentage points below its 2009 peak. The ratio of corporate debt to GDP has declined as well. At mid-year, it was about 8½ percentage points lower than at year-end 2014 and is now at its lowest since 2003. The debt ratio of the private sector as a whole is at its lowest since year-end 2003.

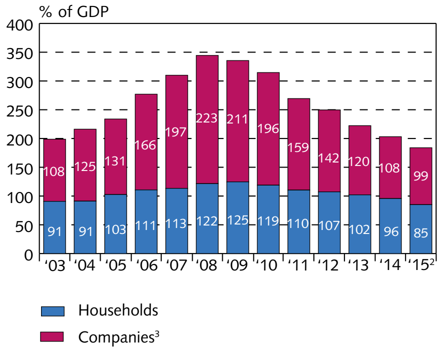
Access to credit has eased, and some of the pension funds' lending rates have fallen

Nominal interest rates on non-indexed mortgage loans offered by the three large commercial banks rose in line with the Central Bank's rate hikes in June and August, as did non-indexed deposit rates (Chart III-16), but comparable rates on the banks' indexed deposits and loans remained broadly unchanged over this period (Chart III-17). Interest rates on some of the pension funds' indexed loans to fund members have fallen in line with declining bond market yields and are now about ½ a percentage point below comparable rates offered by the commercial banks. In addition, some of the funds have raised their loan-to-value ratios to 75% and lowered borrowing costs for new loans. Although the commercial banks have not responded to the same extent, the recent rate reduction by one of the large banks suggests that this might change.

5. Far fewer borrowers have taken advantage of the third-pillar pension savings option than the authorities projected at first. In June, only 34,000 individuals had done so. No information is available about those who do not own real estate and will be able to use their third-pillar savings in connection with a purchase later on. When these measures were announced in November 2013, it was assumed that the third-pillar option would lead to a 67 b.kr. reduction in mortgage principal over three years' time.

Chart III-15

Household and non-financial corporate debt[1]

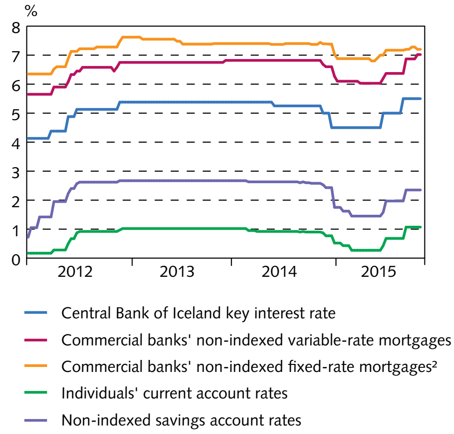


1. Debt owed to financial undertakings and market bonds issued. 2. End-June 2015. Central Bank estimate for GDP in 2015. 3. Excluding financial institutions (which includes holding companies).
Sources: Statistics Iceland, Central Bank of Iceland.

Chart III-16

Central Bank of Iceland key interest rate and commercial banks' rates[1]

1 January 2012 - 21 October 2015

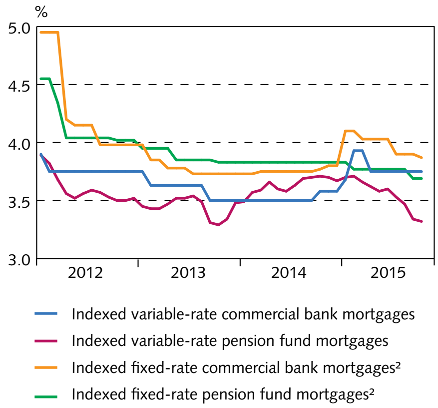


1. Simple average of the lowest mortgage rates from Arion Bank, Íslandsbanki, and Landsbankinn. 2. Rates are fixed for 3-5 years.
Sources: Arion Bank, Íslandsbanki, Landsbankinn, Central Bank of Iceland.

Chart III-17

Commercial banks' and pension funds' mortgage lending rates[1]

January 2012 - October 2015



1. Simple average of the lowest rates. 2. Rates are fixed for a period ranging from 5 years to the entire loan period.
Sources: Almenni Pension Fund, Arion Bank, Festa Pension Fund, Gildi Pension Fund, Íslandsbanki, Landsbankinn, LSR, Pension Fund of Commerce, Central Bank of Iceland.