III Monetary policy and domestic financial markets

The Central Bank's key interest rate has been unchanged since November 2015, but its real rate has risen with the decline in inflation and inflation expectations. According to a recent Central Bank survey, market agents appear to expect the Bank's key rate to remain unchanged until the year-end but to increase in the first half of 2017. Bond market yields have remained relatively stable in spite of increased new investment by non-residents. The rise in risk premia on Iceland's sovereign obligations at the beginning of 2016 has reversed for the most part, and the CDS spread is at its lowest since 2008. The króna has continued to appreciate in spite of substantial foreign currency purchases by the Central Bank. Money holdings have continued to grow, and corporate lending has begun to pick up again after contracting year-on-year without interruption since mid-2010. Asset prices have risen, and private sector debt has declined. In spite of a steep drop in recent years, the private sector debt ratio is still relatively high in international context. Overall, private sector financial conditions have continued to improve.

Monetary policy

Nominal Central Bank interest rates unchanged …

The Central Bank of Iceland Monetary Policy Committee (MPC) decided to hold the Bank's interest rates unchanged at its February and March meetings. 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 5.75%. Overnight rates in the interbank market for krónur have remained close to the Bank's key rate (Chart III-1). Interbank market turnover grew in the second half of 2015 but has contracted again, owing partly to the effects of changes in reserve requirements.

Similarly, interest rates in auctions of bills issued by the banks have moved broadly in line with the Central Bank's collateralised lending rate. Accepted rates in Treasury bill auctions have continued to fall, however, and are now more than 4 percentage points below the floor of the interest rate corridor. Financial institutions in winding-up proceedings have been one of the largest owners of Treasury bills in the recent term. Demand for Treasury bills contracted when their estates were settled in late 2015. Declining interest rates in the most recent Treasury bill auctions are probably due to the fact that the largest participants in the auctions are currently owners of offshore krónur, who have very few investment options, most of them offering low interest rates.

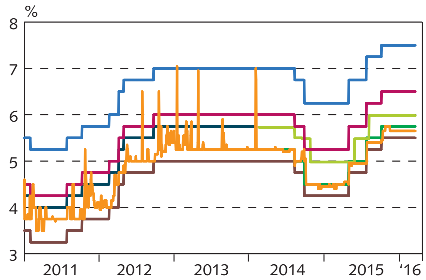
… but the real Central Bank rate has risen

Even though the Central Bank's nominal interest rates have been held unchanged, the monetary stance in terms of the Bank's real rate has tightened since the publication of the February *Monetary Bulletin.* In terms of the average of various measures of inflation and inflation expectations, the Bank's real rate has risen by 0.2 percentage points since February, to 2.8%. Concurrent with the recent decline in inflation, real

Chart III-1

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

Daily data 3 January 2011 - 6 May 2016



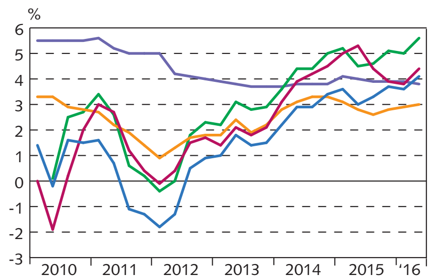
- Overnight CBI rates
- Collateralised lending rate
- Overnight interbank rates
- Rates on 7-day term deposits
- Rates on 1-month term deposits
- Maximum rate on 28-day CDs
- CBI current account rates

Source: Central Bank of Iceland.

Chart III-2

Real Central Bank interest rate and real market rates

Q1/2010 - Q2/2016[1]

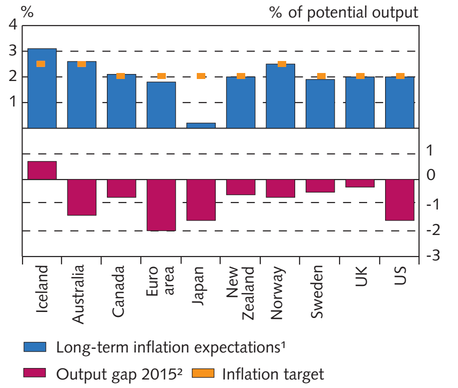


- Real Central Bank rate
- Real yield on nominal bonds[2]
- Yield on indexed bonds[3]
- Average real rate on non-indexed variable-rate mortgage loans[4]
- Average interest on indexed mortgage loans[4]

1. Based on data until 6 May 2016. 2. Five-year rate from the estimated nominal yield curve. 3. Five-year rate from the estimated real yield curve. 4. 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

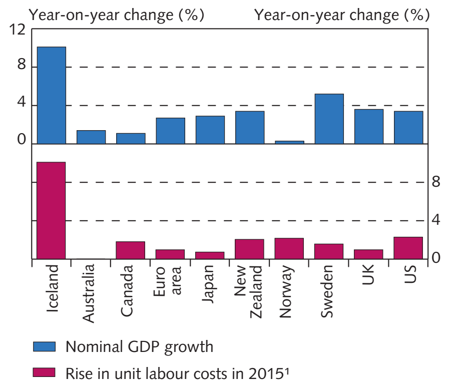
Inflation expectations and output gap in selected industrialised countries



1. Market agents' four- to five-year inflation expectations (based on IMF forecast four years ahead for UK and Canada and five-year inflation swap agreements five years ahead for Japan and Australia). 2. Central Bank estimate for Iceland; IMF estimate for other countries.
Sources: Bloomberg, International Monetary Fund, websites of the relevant central banks, Central Bank of Iceland.

Chart III-4

Nominal GDP and wage costs in selected industrialised countries

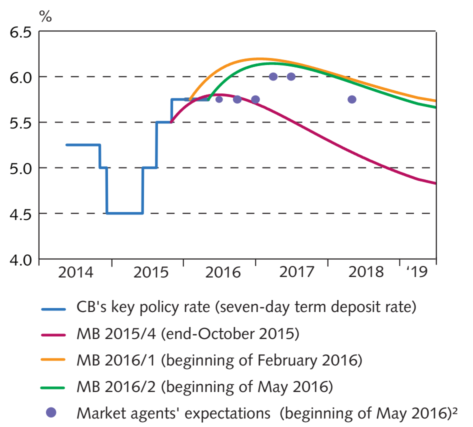


1. Figures for Iceland are based on estimates in *Monetary Bulletin* 2016/2.
Sources: OECD, Statistics Iceland, Central Bank of Iceland.

Chart III-5

Central Bank of Iceland key policy rate and expected developments¹

Daily data 21 May 2014 - 30 June 2019



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 collaterlised lending rates. The survey was carried out during the period 2-4 May 2016.
Source: Central Bank of Iceland.

rates in terms of past inflation have risen somewhat more, or by 0.5 percentage points, to 4.1% (Table III-1). The November 2015 and February 2016 issues of *Monetary Bulletin* discuss the weaknesses in monetary policy transmission through the interest rate channel in H2/2015, which developed concurrent with the decline in long-term nominal Treasury bond yields caused by non-residents' increased new investment. Although these effects are less pronounced at present, they can still be felt, and the nominal yield curve is still virtually flat. Yields on nominal Treasury bonds are broadly unchanged since the publication of the February *Monetary Bulletin*, and real rates on these bonds are still close to the Central Bank's real rate (Chart III-2). Yields on indexed Treasury bonds have also stood virtually still, as have the commercial banks' deposit and lending rates and the pension funds' average lending rates.

Table III-1 The monetary stance (%)

Real interest rates in terms of:[1]	*Current stance (6 May '16)*	*Change from MB 2016/1 (5 Feb. '16)*	*Change from MB 2015/2 (8 May '15)*
Twelve-month inflation	4.1	0.5	1.1
Business inflation expectations (one-year)	2.7	0.6	1.2
Household inflation expectations (one-year)	2.3	0.6	0.8
Market inflation expectations (one-year)[2]	2.5	-0.1	1.6
One-year breakeven inflation rate[3]	2.9	0.1	1.0
Central Bank inflation forecast[4]	2.1	-0.5	0.3
Average	2.8	0.2	1.0

1. Assuming that the seven-day term deposit rate is 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 twelve-month inflation four quarters ahead.
Source: Central Bank of Iceland.

Interest rates higher in Iceland than in other industrialised countries

In most industrialised economies, central bank interest rates have remained very low for several years and are negative in some instances (see Chapter II). As Charts III-3 and III-4 indicate, this reflects economic conditions that differ greatly from those in Iceland. Long-term inflation expectations have persistently been above target in Iceland, while in other industrialised countries they are firmly anchored at the inflation target or have fallen below it, as in Japan. There is still considerable slack in other industrialised economies, whereas a positive output gap has begun to develop in Iceland. Finally, nominal demand growth and wage rises are much larger in Iceland than in comparison countries. All of these factors call for tighter monetary policy in Iceland than in other industrialised countries.

Market agents expect a modest rise in Central Bank rates

According to the survey of market agents' expectations, carried out in early May, respondents expect the Bank's key rate to be held unchanged until the year-end and then be raised by 0.25 percentage points, to 6%, in the first half of 2017. In two years' time, however, survey participants expect the key rate to be back to 5.75% (Chart III-5). This is as much as 0.5 percentage points lower than in a comparable survey conducted in February. Indications from forward interest rates give similar results.[1]

In late 2015, increased inflows related to non-residents' new investment in long nominal Treasury bonds had a significant impact on the shape of the yield curve, but as is discussed below, these effects have reversed in part. At the time of the November *Monetary Bulletin*, forward interest rates indicated that market agents expected a larger decline in the Bank's rates than was implied by other indicators. It is possible that these factors still have some impact on the long end of the yield curve, albeit most likely weaker than before.

Market interest rates and risk premia

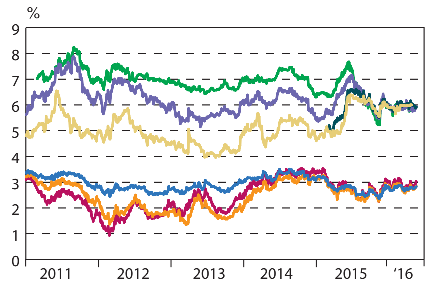
Bond market yields broadly unchanged despite resurgence of new investment by non-residents

In the latter half of 2015, bond market yields fell markedly – particularly on long nominal Treasury bonds – in spite of the Central Bank's interest rate increases (Chart III-6). This could be due in part to increased optimism about the Treasury's position, expectations of reduced Treasury bond issuance, and lower inflation expectations. However, as is discussed in Box 1 in *Monetary Bulletin* 2015/4, it is likely that the decline was due mainly to increased capital inflows connected with non-residents' new investment in long nominal Treasury bonds, which pushed yields downwards, flattening out the yield curve until the term premium on longer bonds seemed to have virtually disappeared. These disturbances in monetary policy transmission along the interest rate channel reversed in part after the Bank's rate increase in early November and the subsequent announcement that the Bank was considering using other policy instruments to restrict carry trade-related capital inflows. Yields on nominal Treasury bonds rose by as much as 0.8 percentage points thereafter, and yields on indexed Treasury bonds and Housing Financing Fund (HFF) bonds rose by up to 0.4 percentage points. Furthermore, non-residents' new investment tapered off towards the end of the year.

Non-residents' new investment in the bond market has picked up once again, totalling 24.3 b.kr. in the first four months of 2016. As before, it is limited to nominal Treasury bonds. In a departure from developments in 2015, market yields have remained relatively stable in spite of these increased inflows. Although the disturbances in monetary policy transmission have not subsided in full, as can be seen in the fact that the yield curve is still virtually flat despite the MPC's indications of further rate hikes, this recent stability indicates that the effects of capital inflows are less pronounced than before and that the bond market is better able to absorb increased inflows. Before the publication of this *Monetary Bulletin*, nominal Treasury bond yields lay in the 5.9-6% range and indexed Treasury and HFF bonds in the 2.8-3% range, similar to those in early November, following the Central Bank's rate increase. Therefore, the breakeven inflation rate in the bond market is broadly unchanged year-to-date (see Chapter V).

1. 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-6
Nominal and indexed bond yields
Daily data 3 January 2011 - 6 May 2016



Nominal Treasury bond maturing in:
— 2016 — 2017 — 2019 — 2031

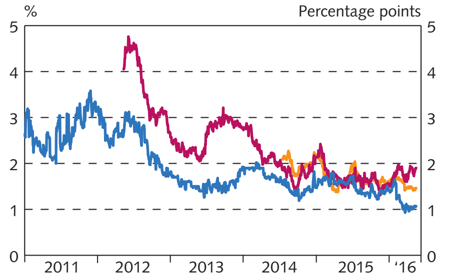
Indexed Treasury or HFF bond maturing in:
— 2021 — 2024 — 2044

Source: Central Bank of Iceland.

Chart III-7

Risk premia on Icelandic Treasury obligations

Daily data 3 January 2011 - 6 May 2016



— Five-year USD CDS spread on the Republic of Iceland (left)

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

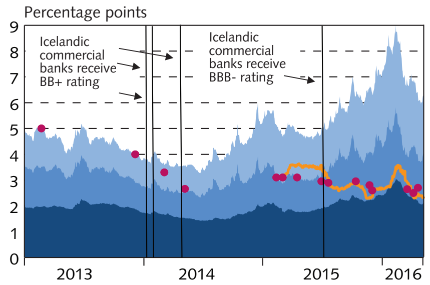
— Spread between Icelandic and German government bonds issued in EUR, maturing in 2020 (right)

Source: Bloomberg.

Chart III-8

Risk premia on firms and financial institutions

Daily data 2 January 2013 - 6 May 2016



Firms and financial institutions with BBB credit rating[1]

Firms and financial institutions with BB credit rating[1]

Firms and financial institutions with B credit rating[1]

Interest rate premia on Icelandic commerical banks' international issues[2]

Interest rate premium on Arion Bank bond issued in EUR, maturity in 2018[3]

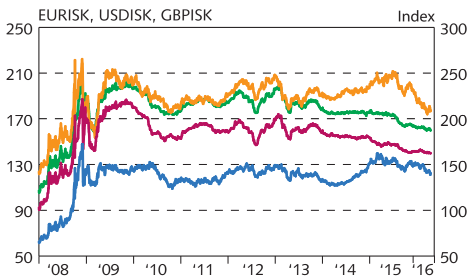
1. Interest premium on bonds issued in the US in USD. 2. Premium on three-month interbank interest rates at issuance of two- to five-year bonds in euros, Norwegian kroner, or Swedish kronor. 3. Premium on three-month interbank interest rates.

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

Chart III-9

Exchange rate of foreign currencies against the króna

Daily data 3 January 2008 - 6 May 2016



— USD (left) — EUR (left) — GBP (left)

— Average exchange rate - narrow TWI (right)

Source: Central Bank of Iceland.

Risk premia on the Treasury have declined, and the CDS spread is at its lowest since the beginning of 2008

Risk premia on the Treasury's foreign obligations rose at the beginning of 2016, in line with increased unrest in the global financial markets (Chart III-7). Many other countries saw a similar increase in risk premia on their sovereign obligations. The rise in risk premia on Icelandic Treasury obligations has largely reversed, however, as market unrest has retreated (see Chapter II). The interest rate spread between the Treasury's eurobond and a comparable bond issued by Germany is now about 1½ percentage points, about 0.2 points less than at the beginning of the year. A comparable spread vis-à-vis the US is still about 0.4 percentage points larger than at the beginning of the year, at 1.9 percentage points. The CDS spread on five-year Treasury obligations has continued to decline and is now about 1%, or 0.3 percentage points less than at the beginning of the year. In the recent term, it has been at its lowest since the beginning of 2008. The decline is probably a reflection of Standard & Poor's upgrade of Iceland's sovereign credit ratings earlier this year.

The rise in risk premia on the domestic commercial banks at the beginning of this year has also reversed, as it has on US firms and financial institutions with comparable credit ratings (Chart III-8). Interest premia on the commercial banks' international issues are now slightly below those on comparable issues at year-end 2015.

Exchange rate of the króna

Nominal exchange rate rises ...

The króna has appreciated by about 1.3% in trade-weighted terms since the February *Monetary Bulletin*, and the index now measures about 187.5 points (Chart III-9). Over this period it has risen 1.9% against the euro, 3.5% against the US dollar, and 3.5% against the pound sterling. As in the recent past, favourable terms of trade, tourism-generated foreign currency inflows, and continued capital inflows in connection with new investment in the bond market have contributed to the appreciation of the króna. As is discussed in Box 3, the appreciation probably reflects an adjustment to a higher equilibrium exchange rate to a large extent.

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

The Central Bank has intervened in the interbank foreign exchange market in order to build up foreign reserves financed domestically during the run-up to capital account liberalisation and to mitigate exchange rate volatility. Foreign exchange market turnover year-to-date totals just over 216 b.kr. and the Bank's net purchases about 125 b.kr. This is far more than over the same period in 2015.

Money holdings and lending

Money holdings continue to grow ...

Money holdings have grown in tandem with strong growth in nominal demand. In Q1/2016, annual growth in M3 measured 6.1% after adjusting for the deposits held by the financial institutions in winding-up proceedings, about the same rate of growth as in the majority of 2015 (Chart III-10). As before, this growth is due primarily to an increase in deposits held by households and non-deposit-taking financial institutions.

… as did Central Bank base money …

In terms of the twelve-month moving average, Central Bank base money (M0) grew 18½% year-on-year in March. This increase is due primarily to an increase in deposit institutions' current account balances with the Bank, which in turn is due to increased reserve requirements (Chart III-11). When adjusted for this, base money grew by 6½% year-on-year in March, owing largely to an increase in banknotes and coin in circulation, which probably stems in part from the continuing increase in tourist visits to Iceland.

… but deposit institutions' excess reserves have contracted

However, deposit institutions' excess reserves with the Central Bank – i.e., current account balances over and above reserve requirements – contracted by over 3% year-on-year in March in terms of the twelve-month moving average. These excess reserves have averaged 10-20 b.kr. per month since the beginning of 2014 (Chart III-11). Therefore, the Central Bank's foreign currency purchases in the last two years have not had a significant impact on market liquidity, as the Bank has applied mitigating measures and sterilised its intervention by offering term deposits (previously certificates of deposit) to financial institutions eligible for Central Bank facilities. In this way, the Bank pulls the increased domestic liquidity from its intervention back into the Bank as term deposits, as the intervention is not intended to affect market liquidity and thereby affect domestic interest rates. The risk exists that, without these offsetting measures, the increase in liquidity could bring short-term money market rates down below the level that the MPC considers conducive to price stability.

Corporate loan stock growing again …

The stock of credit granted by deposit institutions, the HFF, and the pension funds contracted by just over ½% year-on-year in nominal terms in the first quarter of 2016 (Chart III-12). The credit stock adjusted for the Government's debt relief measures is estimated to have grown by almost 1%, however. This increase is due mainly to a rise in lending to businesses, services companies in particular, while lending to households grew marginally year-on-year after adjusting for the debt relief package.

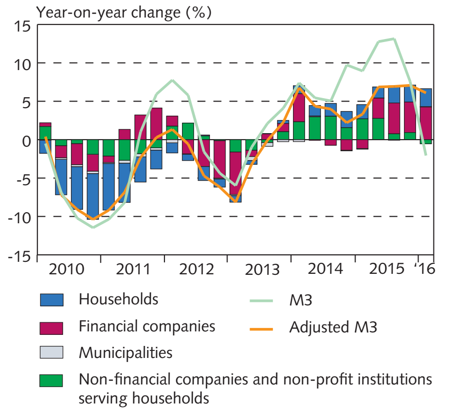
… after contracting uninterrupted since mid-2010

Lending to companies has grown year-on-year in the past four months, after contracting without interruption since mid-2010. The contraction is due in part to refinancing of older loans and conversion to other forms of debt, including marketable securities. Annual corporate bond issuance has increased to a total of 50-100 b.kr. in the past four years. As can be seen in Chart III-13, pension funds have stepped up their corporate lending in recent years by buying corporate bonds.

Chart III-10

Components of money holdings - Adjusted M3[1]

Q1/2010 - Q1/2016

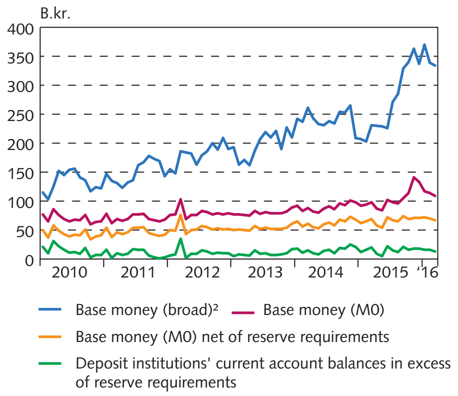


1. Adjusted for deposits of financial institutions in winding-up proceedings.
Source: Central Bank of Iceland.

Chart III-11

Central Bank base money and DMBs' excess reserves with the Bank[1]

January 2010 - March 2016

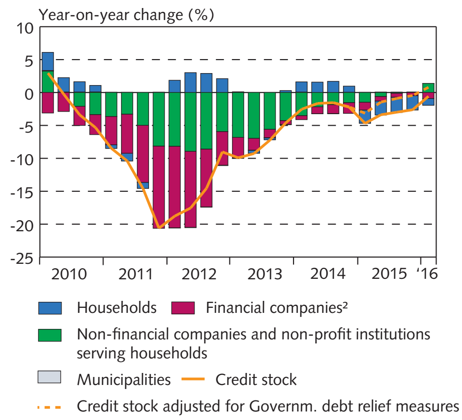


1. Monthly average. 2. Base money including term deposits and certificates of deposit.
Source: Central Bank of Iceland.

Chart III-12

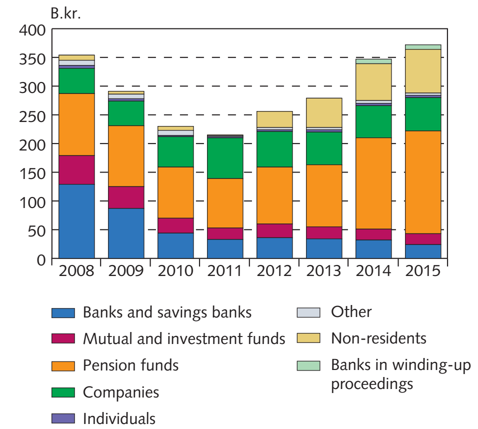
Credit system lending to resident borrowers and sectoral contribution[1]

Q1/2010 - Q1/2016



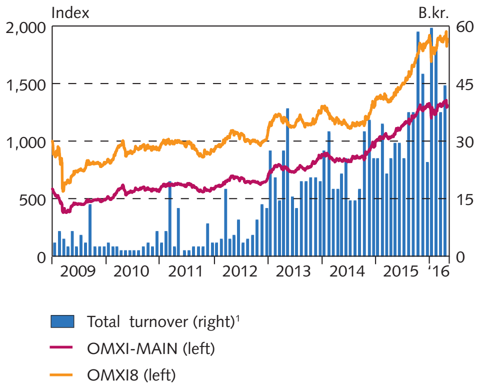
1. Only loans to pension fund members are included with pension funds. 2. Excluding loans to deposit institutions and financial institutions in winding-up proceedings.
Source: Central Bank of Iceland.

Chart III-13
Owners of corporate bonds 2008-2015[1]



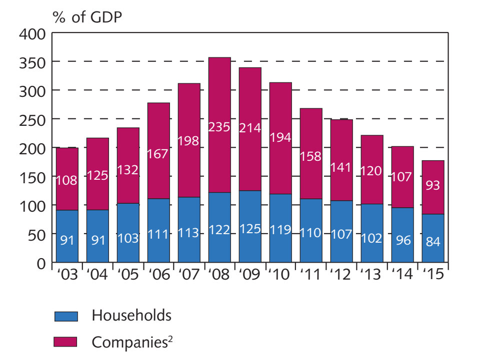
1. Based on market value of bonds.
Source: Central Bank of Iceland.

Chart III-14
Equity market
Daily data 2 January 2009 - 6 May 2016



1. Total monthly volume of listed shares.
Source: Nasdaq OMX Iceland.

Chart III-15
Household and non-financial corporate debt[1]



1. Debt owed to financial undertakings and market bonds issued. 2. Excluding financial institutions and holding companies.
Sources: Statistics Iceland, Central Bank of Iceland.

Asset prices and financial conditions

Moderate rise in house prices expected this year, in line with rising disposable income

According to figures from Registers Iceland, house prices have risen 7.6% year-on-year so far in 2016, just over ½ a percentage point more than was forecast in February. The number of purchase agreements has risen by a fifth year-on-year, and rent has risen by 5.2%. Turnover has therefore increased, and the average time-to-sale has fallen from four months at the beginning of 2015 to two months at the beginning of 2016. The outlook for this year is for house prices to continue rising at broadly the same pace as in 2015, in line with increased disposable income and improvements in households' equity position.

Share prices have risen since the publication of the February *Monetary Bulletin*

Share prices began to drop at the start of the year, similar to market developments abroad, after a steady rise throughout 2015. The announcement of pension funds' increased authorisation for foreign investment took place at the same time. That decline has now reversed, and the Nasdaq Iceland OMXI8 index has risen by 4.3% since the publication of the February *Monetary Bulletin* in spite of recent declines (Chart III-14). Turnover in the Nasdaq Iceland main market totalled more than 190 b.kr. over the first four months of the year, about 85% more than over the same period in 2015.

Year-2015 earnings reports from companies listed on the exchange were positive, and dividends per share rose year-on-year. The operational outlook was generally good, in spite of rising domestic wages and the appreciation of the króna. The newly published Q1/2016 earnings reports were below market expectations, however, owing in part to increased wage costs. As yet there are no signs of substantial new investment by non-residents in domestic equities, which to date totals about 9.8 b.kr. from mid-2015, when new investment in the bond market began to grow.

Continuing private sector deleveraging …

The private sector deleveraging that began in 2009 has continued. Corporate debt declined by over 3% in nominal terms in Q4/2015, to 93% of GDP by the year-end, some 13 percentage points lower than at the end of 2014 (Chart III-15). Corporate debt to foreign financial institutions declined by over a fourth in nominal terms in 2015, while debt to domestic institutions increased. The stock of domestic corporate bonds grew as well, as is mentioned above.

Household debt declined by 1% in nominal terms in Q4/2015, to 84% of GDP by the year-end, 11 percentage points lower than at the end of 2014. The debt-to-GDP ratio is likely to have fallen further this year, with increased economic activity and the continued impact of the Government's debt relief measures. In January 2016, with the payment of the remaining one-fourth of the Government's contribution to the direct reduction of mortgage principal, final settlement of measures took place between the Treasury and the financial institutions. As of end-April 2016, the cumulative direct reduction of mortgage principal totalled 73.4 b.kr., and another 19.7 b.kr. had been paid towards loans through the third-pillar pension savings programme.

... but debt is still relatively high in international context

Private sector debt amounted to 177% of GDP at the end of 2015, or nearly 200 percentage points below the October 2008 peak. The private sector debt ratio is now at its lowest since year-end 2003. The post-crisis reduction in debt has been much larger in Iceland than in other European countries (Chart III-16). However, in spite of this, Iceland's private sector debt level is relatively high in European context, owing to the steep rise during the pre-crisis period.

Arrears have declined among households but risen slightly among firms

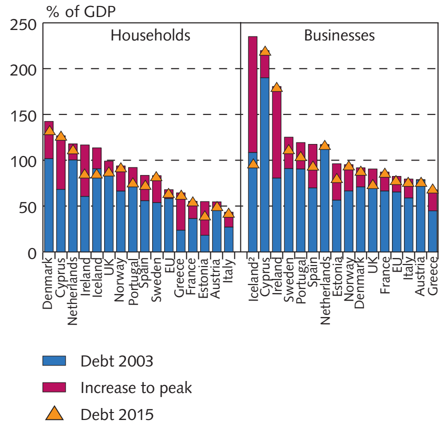
The ratio of non-performing household debt to the three large commercial banks and the HFF had declined to about 6.5% by the end of March (Chart III-17). The number of individuals on the Creditinfo default register has also tapered off. The ratio of non-performing corporate loans rose at the end of 2015, however, after a virtually uninterrupted decline since 2011, and the number of firms on the default register rose slightly as well. The ratio is still about a third lower than at the beginning of 2011, however. In spite of increased arrears among corporate borrowers, the number of insolvencies among private limited companies has declined year-on-year, and new company registrations have increased.

Mortgage lending rates broadly unchanged

Interest rates on indexed and non-indexed mortgage loans from the commercial banks have been unchanged since the publication of the February *Monetary Bulletin*, apart from one bank's 0.1 percentage point reduction in the rate on indexed fixed-rate mortgages. The average rate on indexed loans granted by the majority of pension funds is also unchanged. Most pension funds have eased their borrowing requirements and have begun to offer non-indexed loans. Interest rates on pension fund loans are now up to 1 percentage point lower than rates on comparable mortgages offered by the commercial banks. Concurrent with these changes, the pension funds' mortgage lending activity has increased and the stock of pension fund loans has grown in recent months, after having contracted before then, in part because of the Government's debt relief measures. In spite of this increase, their lending activity is relatively limited thus far, and these loans constitute a historically small share of the pension funds' net assets.

Chart III-16

Household and corporate debt in selected European countries 2003-2015[1]

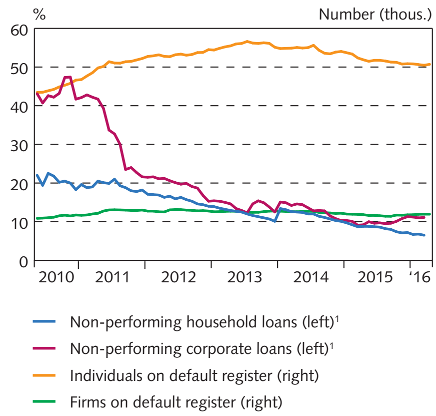


1. The blue columns show household and non-financial corporate debt at year-end 2003. The red columns show the increase in debt to the highest year-end value, and the triangles show the position at year-end 2015. Data for 2014 used if 2015 data are not available. 2. Debt owed to financial undertakings and market bonds issued according to figures from the Central Bank of Iceland.
Sources: Eurostat, Central Bank of Iceland.

Chart III-17

Credit system arrears

May 2010 - March 2016



1. Non-performing loans owed to the three largest commercial banks and the Housing Financing Fund are defined as loans at least 90 days in arrears, those that are frozen, or those for which payment is deemed unlikely. The cross-default method is used; i.e., if one loan taken by a customer is in arrears by 90 days or more, all of that party's loans are considered non-performing. The January 2014 increase is due almost entirely to improvements to the HFF's loan portfolio reports and therefore does not reflect an actual increase. Parent companies, book value.
Sources: CreditInfo, Financial Supervisory Authority, Central Bank of Iceland.