

III Monetary policy and domestic financial markets

The Central Bank's nominal and real interest rates have fallen since the *August Monetary Bulletin*, and the monetary stance is broadly the same as in the first half of 2016. Market agents expect the Bank's key rate to be lowered by a further 0.25 percentage points before the end of this year. Other market interest rates have fallen in line with the Bank's rate cut, and it appears that there is less reason to question the effectiveness of monetary policy transmission through the interest rate channel than there was before the Bank's new capital flow management measure was introduced in June. The risk premium on Treasury debt has fallen to its lowest point since 2008. The króna has continued to appreciate despite substantial foreign currency purchases by the Central Bank. Growth in money holdings has lost pace in spite of continued strong growth in domestic demand, and credit growth has been limited. Share prices have fallen year-to-date, after a strong performance in 2015, while house prices have risen. Private sector financial conditions have improved overall. Households' and firms' debt ratios have fallen, and their equity ratios are higher than they were before the financial crisis. Moreover, large steps have been taken towards full liberalisation of the capital controls, which will make a significant impact on private sector financial conditions.

Monetary policy

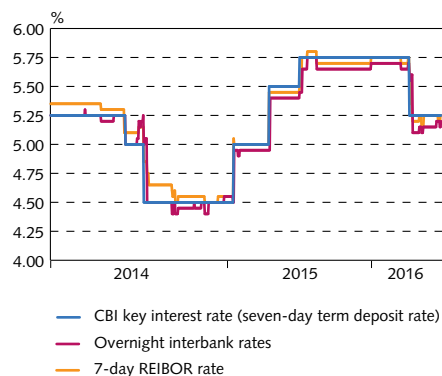
The Central Bank's nominal interest rates have fallen ...

The Central Bank Monetary Policy Committee (MPC) decided to lower the Bank's interest rates by 0.5 percentage points at its August meeting but kept them unchanged at its October meeting. The Bank's key rate was therefore 5.25% just before the publication of this *Monetary Bulletin* (Chart III-1). Short-term interbank market interest rates have declined in line with the key rate. Interbank market turnover rose in the autumn, after having been almost non-existent during the preceding months. Interest rates in auctions of banks' bills have also moved with Central Bank interest rates and have been broadly in line with the key rate. Accepted interest rates in Treasury bill auctions have remained low, however, and are now just over ½%. Treasury bills are owned predominantly by owners of offshore krónur, who have limited investment options available to them.

... as has the Bank's real rate

The monetary stance as measured in terms of the Bank's real rate has eased since the *August Monetary Bulletin* and is now similar to that in the first half of the year. In terms of twelve-month inflation, the Bank's real rate has fallen by 1.2 percentage points since August, to 3.4% (Table III-1). The decline is smaller in terms of the average of various measures of inflation and inflation expectations, or 0.1 percentage point, and the real rate by this measure is now 3%. The Bank's interest rate reduction in August has by and large been transmitted to other interest rates, and it appears that the disturbances in monetary policy transmission through the interest rate channel, which began to appear in H2/2015, have subsided (see below).

Chart III-1
Central Bank of Iceland key interest rate and short-term market rates
Daily data 2 June 2014 - 11 November 2016

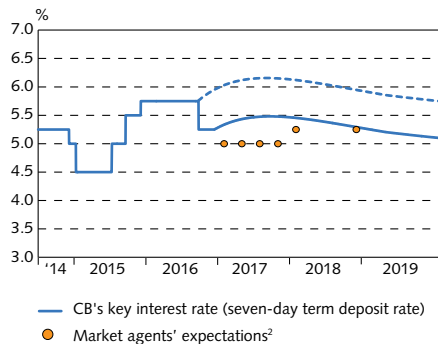


Source: Central Bank of Iceland.

Chart III-2

Central Bank of Iceland key interest rate and expected developments¹

Daily data 1 June 2014 - 31 December 2019

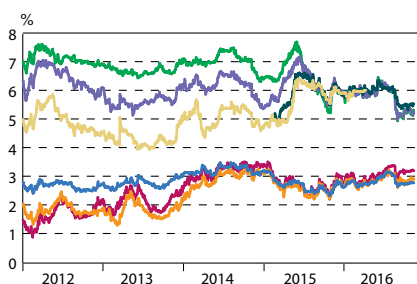


1. Interbank interest rates and Treasury bonds were used to estimate the yield curve. Broken lines show forward market interest rates since the last MB 2016/3. 2. Estimated from the median response in the Central Bank's survey of market agents' expectations of collateralised lending rates. The survey was carried out during the period 31 October - 2 November 2016.
Source: Central Bank of Iceland.

Chart III-3

Nominal and indexed bond yields

Daily data 2 January 2012 - 11 November 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.

Market agents expect key rate to be lowered further

According to the Bank's survey of market agents' expectations, carried out in early November, respondents expect the Bank's key rate to be lowered to 5% by the end of this year and be kept unchanged for the majority of 2017 (Chart III-2). This is a lower rate than they expected in a corresponding survey conducted in August. The Bank's rate cut in August took them by surprise, as they had expected it to be introduced in increments through 2017. The forward rate curve suggests a broadly unchanged policy rate throughout the forecast horizon.¹

Table III-1 The monetary stance (%)

| | Current stance (11/11 '16) | Change from MB 2016/3 (19/8 '16) | Change from MB 2015/4 (30/10 '15) |
|---|-------------------------------|--|---|
| <i>Real interest rates in terms of:</i> ¹ | | | |
| Twelve-month inflation | 3.4 | -1.2 | -0.2 |
| Business inflation expectations (one-year) | 3.2 | 0.5 | 1.3 |
| Household inflation expectations (one-year) | 2.7 | 0.2 | 1.3 |
| Market inflation expectations (one-year) ² | 3.0 | -0.4 | 1.4 |
| One-year breakeven inflation rate ³ | 3.0 | -0.2 | 0.4 |
| Central Bank inflation forecast ⁴ | 2.8 | 0.2 | 0.7 |
| Average | 3.0 | -0.1 | 0.8 |

1. Based on the seven-day term deposit 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.

Market interest rates and risk premia

Bond market yields have fallen in line with the key rate ...

Yields on nominal Treasury bonds are now in the 5.2-5.5% range, or up to 0.8 percentage points less than just before the publication of the August *Monetary Bulletin* (Chart III-3). Yields on most Treasury bonds fell in line with the Central Bank's rate cut in August. They fell even further between the publication of the August CPI and early September, when Moody's upgraded Iceland's sovereign credit rating from Baa2 to A3. This dip reversed to an extent after the publication of the September CPI, when it emerged that inflation earlier in the year had been underestimated in Statistics Iceland figures (see Chapter V). The spread between long-term and short-term Treasury bonds has narrowed still further since August and is now about 0.3 percentage points. Over the same period, yields on comparable indexed bonds have fallen by 0.2-0.3 percentage points, to 2.8-3.2%, and the five- and ten-year breakeven inflation rate has declined by ½ a percentage point, to 2.2% (see also Chapter V).

... and the interest rate channel of monetary policy appears to have normalised

Inflows of foreign capital to the domestic bond market have virtually halted since the Bank adopted its new capital flow management measure in early June (see Box 1). Late in 2015, significant foreign capital inflows into the domestic bond market caused interest rates

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.

on nominal Treasury bonds to decline. Demand was concentrated in longer-term bonds, pushing term premia on those bonds downwards. The current reasons for the decline in bond interest rates are probably different, and market agents' reduced inflation expectations and their expectations of a lower key rate appear to be the most important of them. This is in line with the results of the most recent survey of market agents' expectations. Inflation has remained low and has been below target for nearly three years, the Bank's key rate has been cut, and according to the MPC's August statement, it appears that it will be possible to keep inflation at target over the medium term with a lower nominal rate than was previously considered necessary. It is likely that the decline in bond interest rates also reflects Iceland's improved credit ratings and the reduction in the risk premium on Treasury obligations. If changes in market agents' expectations are the main reason for these developments in the bond market, there is less reason than before to doubt the efficacy of monetary policy transmission through the interest rate channel – unlike last year, when bond interest rates fell even though the Central Bank raised interest rates and the MPC's statements indicated that further rate hikes could be in the offing (see Box 1 in *Monetary Bulletin* 2015/4).

Risk premium on Treasury debt has fallen to post-crisis low

The risk premium on the Treasury's foreign obligations has fallen this year, in line with improved sovereign credit ratings and reduced unrest in global financial markets. The spread between the Icelandic Treasury bond issued in US dollars and a comparable bond issued by the US has continued to narrow and is now up to ½ a percentage point less than in August. The spread against German bonds is similar. The interest rate spread measures about 1 percentage point, the smallest spread ever recorded (Chart III-4). Yields on these Treasury obligations have followed the international trend and have fallen steeply in the recent term, particularly the yield on the Treasury's eurobond, which is now about ½%. The CDS spread on five-year Treasury obligations in US dollars is now about 0.9%, and is at its lowest since the beginning of 2008. The spread on Treasury obligations is now similar to that for other countries with comparable credit ratings (Chart III-5).

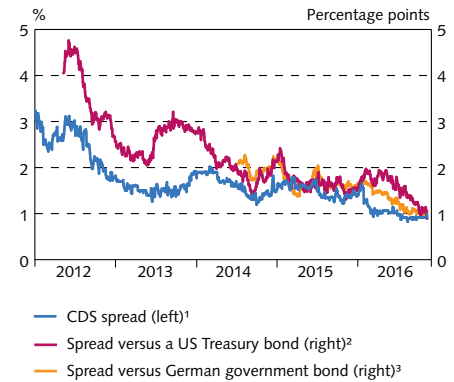
Interest premia on the domestic commercial banks' international bond issues have also fallen this year, in line with international trends and the reduction in the risk premium on Treasury obligations. The premium on the commercial banks' recent eurobond issues measured about 2 percentage points, ½ a percentage point less than on comparable bond issues earlier this year. Standard & Poor's upgrade of the banks' credit ratings in late October will probably cause risk premia to fall still further. In addition, there are signs that other domestic firms have gained increased access to foreign credit.

Exchange rate of the króna

The króna has appreciated in spite of sizable purchases by the Central Bank ...

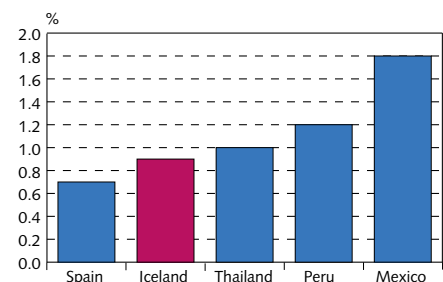
The króna has appreciated by about 7.6% in trade-weighted terms since the publication of the August *Monetary Bulletin*, and the trade-

Chart III-4
Risk premia on Icelandic Treasury obligations
Daily data 2 January 2012 - 11 November 2016



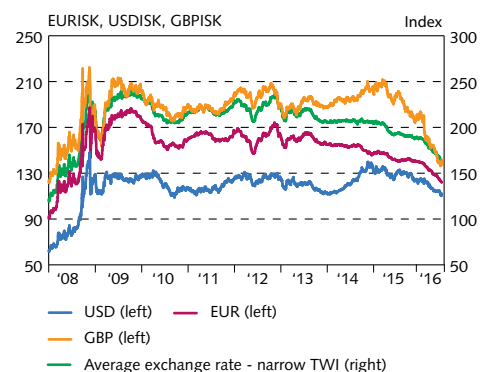
1. Five-year USD obligations. 2. USD bonds maturing in 2022.
3. Eurobonds maturing in 2020.
Source: Bloomberg.

Chart III-5
Iceland's sovereign CDS spread versus other countries with comparable credit ratings



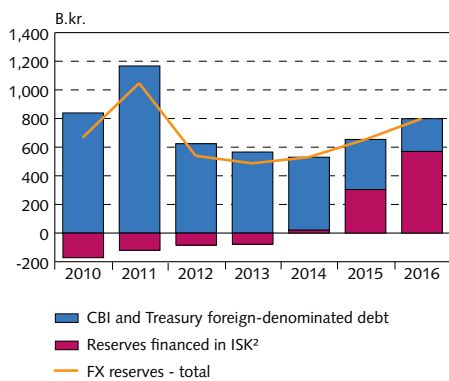
1. CDS spread on five-year Republic of Iceland obligations in USD as of 11 November and CDS spread on other countries with comparable credit ratings from at least two of the three international agencies that assign credit ratings for Iceland.
Source: Bloomberg.

Chart III-6
Exchange rate of foreign currencies against the króna
Daily data 3 January 2008 - 11 November 2016



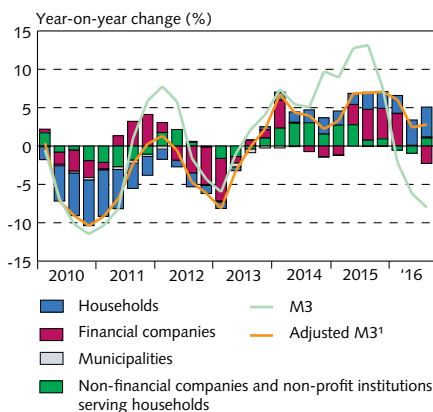
Source: Central Bank of Iceland.

Chart III-7
Central Bank of Iceland foreign exchange reserves 2010-2016¹



1. Balance as of end-October 2016. 2. Foreign exchange reserves net of Central Bank and Treasury foreign-denominated debt.
Source: Central Bank of Iceland.

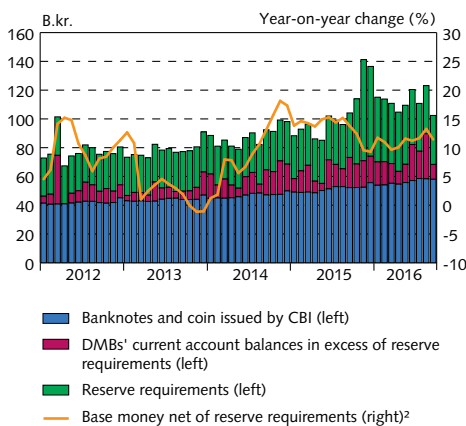
Chart III-8
Money holdings
Q1/2010 - Q3/2016



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

Chart III-9
Components of Central Bank base money (M0)¹

January 2012 - September 2016



1. Monthly average. 2. Twelve-month moving average.
Source: Central Bank of Iceland.

weighted index now measures about 164 points (Chart III-6). Over this period, the króna has risen 9.2% against the pound sterling, 4.2% against the US dollar, and 8% against the euro. The Bank's foreign currency purchases have leaned against the appreciation of the króna. The Bank's net purchases year-to-date total about 352 b.kr., more than in all of 2015. In addition, the pension funds have bought 59 b.kr. worth of foreign currency this year, in connection with their special authorisation for foreign investment.

The appreciation of the króna and the Bank's foreign currency purchases in the recent past are probably attributable for the most part to the trade surplus, which stems from improved terms of trade and growth in the tourism industry, in addition to increased non-resident demand for domestic assets (see Box 1). Therefore, to an extent, the appreciation of the króna reflects an adjustment to a higher equilibrium exchange rate (see Box 3 in *Monetary Bulletin* 2016/2).

... and the foreign exchange reserves are broadly in line with the Bank's criteria

For quite some time, the Central Bank has leaned against the rise in the exchange rate through its intervention in the interbank foreign currency market. This is in line with the declared objective of the intervention policy, which is to mitigate exchange rate volatility and build up foreign exchange reserves financed domestically during the run-up to capital account liberalisation. Because of the Bank's foreign currency purchases, its foreign exchange reserves have expanded significantly, although they remain broadly in line with the criteria formulated for reserve adequacy during the prelude to the capital account liberalisation (Chart III-7).

Money holdings and lending

Annual growth in broad money has eased ...

Growth in money holdings has lost pace in spite of continued strong growth in domestic demand. M3 adjusted for deposits held by deposit institutions in winding-up proceedings grew by 2.4% year-on-year in Q2 and by 2.8% in Q3, somewhat less than in the four preceding quarters (Chart III-8). This reduced growth is due mainly to a contraction in deposits held by non-deposit-taking financial institutions; however, annual growth in household deposits has gained pace, owing primarily to growth in general savings and term deposits.²

... but deposit institutions' excess reserves remain stable

Banknotes and coin in circulation have increased in the recent past, in line with the rise in the number of foreign tourists in Iceland. As a share of GDP, banknotes and coin in circulation have remained relatively stable in recent years, at close to 2½. Deposit institutions' excess reserves with the Central Bank – i.e., their current account deposits in excess of reserve requirements – has held relatively stable, however, averaging 10-20 b.kr. per month (Chart III-9).

2. For further discussion of post-crisis developments in money holdings, see Box III-1 in *Monetary Bulletin* 2014/2.

Domestic credit growth remains weak ...

Unlike the last economic upswing, credit growth is still relatively weak in spite of a surge in domestic demand. After adjusting for the Government's debt reduction measures, credit system lending to domestic borrowers grew by 1.8% year-on-year in nominal terms in Q3 (Chart III-10), similar to the growth rate in H1, following a continuous decline beginning in Q2/2010. After adjusting for the effects of exchange rate movements on the foreign-denominated credit stock, the increase is somewhat larger, however, or 2.9%. As before, credit growth year-to-date is due largely to an increase in corporate lending – to services companies in particular, but also to construction firms. Lending by the credit system, particularly the pension funds, has increased through purchases of corporate bonds, albeit somewhat less than in recent years.³ The stock of loans to domestic borrowers plus credit system holdings of corporate bonds is estimated to have increased by nearly 3% year-on-year in Q3/2016. This increase accords with indications from the Central Bank's recent corporate investment survey, which suggests that the share of credit-financed domestic investment has risen somewhat in 2016 (see also Chapter IV).

... despite a strong increase in pension funds' household lending

Pension funds' lending to households has increased in the past year, after many funds eased their lending requirements, expanded their product range, and offered better interest rate terms than commercial banks were offering on comparable loans. Before these changes were made, the stock of loans to fund members had contracted, partly in response to the Government's debt relief measures. The stock of pension fund loans has grown by a fourth year-on-year, and the funds' share in the increase in lending to households has been similar to that of the three largest commercial banks (Chart III-11). Nevertheless, the ratio of fund member loans to the pension funds' net assets is still historically low. The increase in loans from pension funds and deposit money banks (DMBs) is offset by the continued contraction in the stock of Housing Financing Fund (HFF) lending to households; therefore, the combined increase in credit system lending to households is still relatively small.

Asset prices and financial conditions

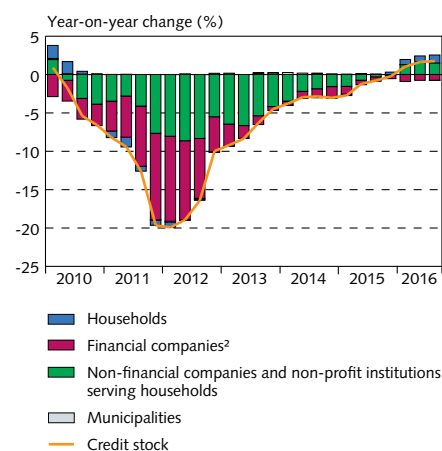
House prices have risen strongly ...

According to figures from Registers Iceland, capital area house prices rose by about 12% year-on-year in September. Significant importation of labour, households' increased disposable income, and limited offerings in the housing market – owing to weak residential investment in recent years and the surge in private rentals to tourists – have contributed to the increase.⁴ Although the impact of the spike in short-

3. There is some uncertainty about the reliability of these figures, however, owing to reclassification that has taken place in accordance with new national accounts standards.

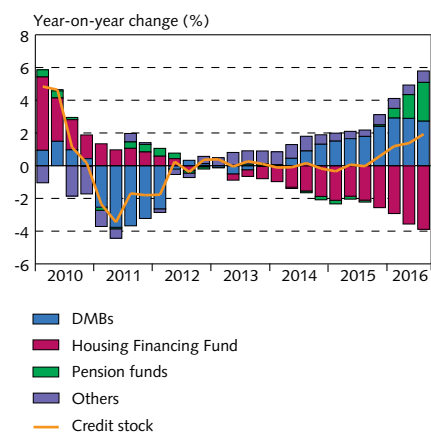
4. According to Lúdvík Elíasson (2016), "Icelandic boom and bust: immigration and the housing market", *Housing Studies* (forthcoming), it can be assumed that about a fifth of the 35% rise in house prices since 2013 is attributable to the past three years' rapid population growth, which in turn is due in particular to significant importation of labour.

Chart III-10
Credit system lending to resident borrowers
and sectoral contribution¹
Q1/2010 - Q3/2016



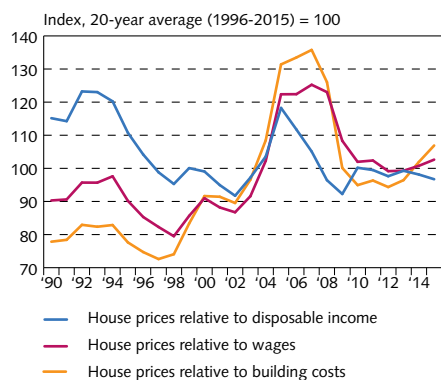
1. Credit stock adjusted for reclassification and Government debt relief measures. Only loans to pension fund members are included with pension funds. 2. Excluding loans to deposit institutions and financial institutions in winding-up proceedings.
Source: Central Bank of Iceland.

Chart III-11
Credit system lending to households¹
Q1/2010 - Q3/2016



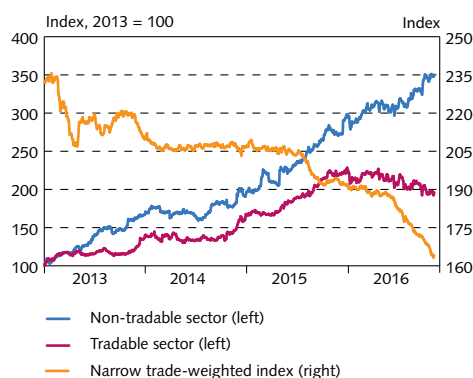
1. Credit stock adjusted for reclassification and Government debt relief measures.
Source: Central Bank of Iceland.

Chart III-12
House prices, wages, disposable income,
and building costs 1990-2015



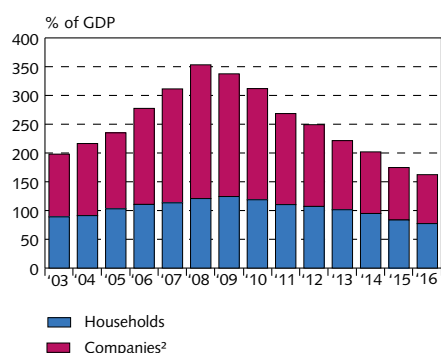
Sources: Statistics Iceland, Central Bank of Iceland.

Chart III-13
Share prices and average exchange rate¹
Daily data 2 January 2013 - 11 November 2016



1. Average change in share price of OMX18 companies in the non-tradable sector versus export companies.
Sources: Nasdaq Iceland, Central Bank of Iceland.

Chart III-14
Household and non-financial corporate debt
2003-2016¹



1. Debt owed to financial undertakings and market bonds issued. The 2016 figure is the end-June 2016 debt position as a share of year-2016 GDP as estimated by the Central Bank. 2. Excluding financial institutions (which includes holding companies).
Sources: Statistics Iceland, Central Bank of Iceland.

term rentals to foreign tourists varies from one region to another, it is strongest in the central part of greater Reykjavík. Housing market turnover in the capital area was up 7.1% year-on-year in the first nine months of 2016, although the pace of the increase has eased since the beginning of the year. New homebuyers are increasing in number, and in Q2/2016, nearly a fourth of purchasers were first-time buyers, as opposed to 20% in 2015. Even though house prices have risen steeply in the past few years, house prices relative to income and construction costs have been broadly stable at levels close to the respective twenty-year averages (Chart III-12). The outlook is for a continued rise in house prices during the forecast horizon.

... but share prices have fallen

Share prices have continued to fall since the publication of the August *Monetary Bulletin*. The OMX18 index has fallen by over 2% since August and by nearly 9% year-to-date, after rising steadily throughout 2015. The decline is due largely to a small number of companies that have foreign operations and carry significant weight in the OMX18 index, and it probably reflects to an extent the impact of the appreciation of the króna on their operating performance (Chart III-13). Most companies' earnings reports have been in line with expectations, and rising wage costs have affected them somewhat. According to a survey carried out recently by the Confederation of Icelandic Employers among its member organisations, about 82% of respondents considered the last wage settlement to have had some effect or a significant effect on their operations, and about 18% of them reduced staffing levels afterwards. Furthermore, a third of them were of the view that the appreciation of the króna had made a somewhat negative or extremely negative impact on their operations. The percentage of respondents holding this opinion was considerably higher among goods exporters and tourism companies. In spite of rising wage costs, share prices of companies operating mainly in the domestic market have risen in the recent term, possibly because of the surge in domestic demand.

Important steps taken towards capital account liberalisation

An act of law amending the Foreign Exchange Act, no. 87/1992, and aimed at lifting capital controls on households and businesses entered into force on 21 October. The amendments in the new legislation, which are part of the authorities' capital account liberalisation strategy, provide for expanded authorisations for foreign exchange transactions and cross-border movement of capital. With the entry into force of the amending legislation, outward foreign direct investment is authorised but is subject to confirmation by the Central Bank. The amending Act also authorises investment in financial instruments issued in foreign currency subject to a maximum of 30 m.kr., which will rise to 100 m.kr. at the turn of the year. The new Act also authorises individuals to purchase one piece of foreign real estate per year and eases or lifts several other special restrictions. These changes represent important steps towards final removal of the capital controls that will have a significant impact on households' and businesses' financial conditions.

Private sector debt-to-GDP ratio continues to decline ...

Even though nominal private sector debt rose slightly in H1, it has fallen relative to GDP, which has grown with increased economic activity. The corporate debt-to-GDP ratio declined by 6 percentage points in H1, to 85% of estimated year-2016 GDP (Chart III-14). The household debt-to-GDP ratio fell by 6½ percentage points during the half, to over 77%, partly as a result of the authorities' debt relief measures. As of end-October 2016, the cumulative direct reduction of mortgage principal totalled 73.5 b.kr., and another 27.2 b.kr. had been paid towards loans through the third-pillar pension savings programme.

... and private sector equity ratios exceed their pre-crisis peak

According to new figures from Statistics Iceland, households' assets equalled 392% of GDP at the end of 2015 (including pension assets amounting to 176%). These percentages have held broadly unchanged in recent years. Household equity has increased, however, with declining debt. It totalled 80% of total assets at the end of 2015, or about 12 percentage points more than at year-end 2010, and has risen above its pre-crisis peak (Chart III-15). Figures from Statistics Iceland show as well that 7,300 households had negative equity in real estate at year-end 2015, about the same as at the end of 2007. This is about 4,200 fewer than at the end of 2014 and some 17,700 below the end-2010 peak. Firms' equity position has also been improving. According to figures from Statistics Iceland, firms' equity ratio was 37% at the end of 2014, up from 10% at year-end 2008 and 6½ percentage points above its pre-crisis peak.

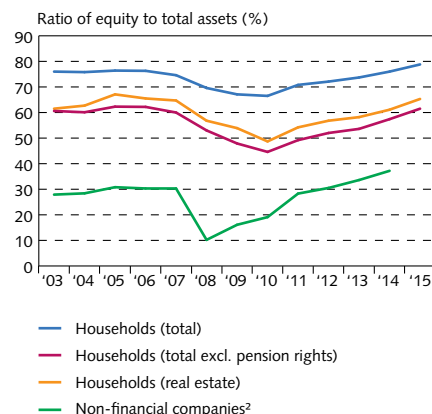
Private sector arrears have declined, but corporate insolvencies have increased in line with the rise in new company registrations

The share of household debt in arrears to the three large commercial banks and the HFF had declined to about 5.4% by the end of September, as opposed to 8% a year earlier (Chart III-16). The number of individuals on the Creditinfo default register has also fallen marginally. The share of corporate loans in arrears to credit institutions rose towards the end of 2015 but then declined again. By September it was 8.9%, 2.4 percentage points lower than at the beginning of the year. The number of firms on the default register has been virtually unchanged year-to-date. There have been more corporate insolvencies thus far in 2016 than in all of 2015, and it is the first time since 2011 that there has been a year-on-year increase in insolvencies. This probably reflects to a significant degree the rapid rise in the number of firms, as new company registrations have also increased rapidly (Chart III-17).

Borrowing costs have been declining

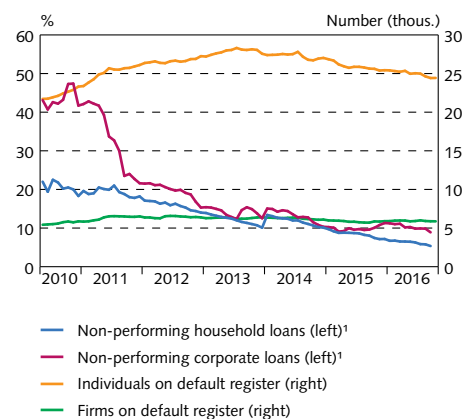
Interest rates on non-indexed deposits and mortgage loans from the commercial banks and the pension funds declined in tandem with the Central Bank's rate cut in August, but indexed mortgage rates from both banks and pension funds have remained virtually unchanged (Chart III-18). In many cases, borrowing fees have declined in recent months, which could facilitate borrowing and increase the likelihood

Chart III-15
Household and corporate equity ratios
2003-2015¹



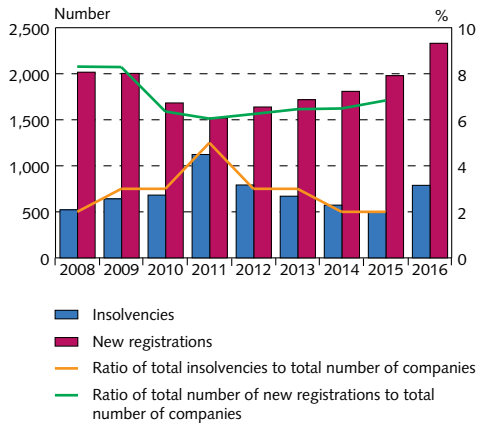
1. According to income tax returns, apart from households' pension rights and securities assets, which are taken from Statistics Iceland's sectoral accounts. 2. Companies excluding pharmaceuticals, financial, and insurance firms.
Source: Statistics Iceland.

Chart III-16
Credit system arrears
May 2010 - October 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.

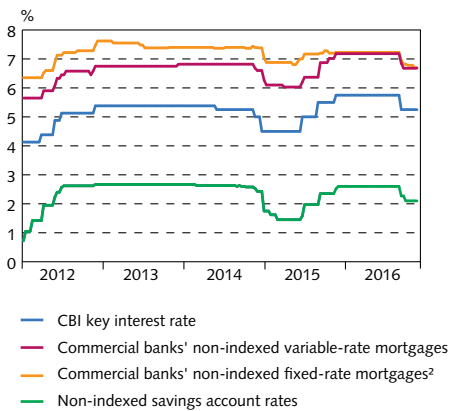
Chart III-17
Corporate insolvencies and new company registrations 2008-2016¹



1. Number of corporate insolvencies and new company registrations in the first nine months of each year.
Source: Statistics Iceland.

of refinancing as mortgage lending rates fall. Furthermore, with increased lending by pension funds, the available mortgage loan options have increased in number, as is discussed above.

Chart III-18
Central Bank of Iceland key interest rate and Commercial banks' rates¹
1 January 2012 - 11 November 2016



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