Growing risk of overheating in the domestic economy

The global economic outlook has deteriorated once again, and uncertainty has mounted since the forecast in the August Monetary Bulletin. *The outlook for exports is broadly unchanged, however, owing to offsetting effects from the prospect of continued strong growth in services exports and diminishing growth in other exports. Revised figures from Statistics Iceland imply strong GDP growth in H1/2015 and 5.6% year-on-year growth in Q2, the highest single-quarter growth rate since the beginning of 2008. GDP growth for 2015 as a whole is projected at 4.6%, almost ½ a percentage point more than was forecast in August. As in the Bank's previous forecasts, GDP growth is assumed to ease in 2016, although the outlook for the forecast horizon as a whole has improved. GDP growth in 2015 and ever since the economic recovery began in mid-2010 has been reflected to a significant degree in strong job creation, with unemployment declining sharply in spite of a sizeable increase in labour participation. Productivity has therefore been virtually flat in the past five years and productivity growth will, according to the forecast, remain below both its historical average and the level seen in previous recoveries. Inflation was somewhat lower in Q3 than had been forecast in August, and because of a stronger initial position, a higher exchange rate, and lower commodity and oil prices, the near-term inflation outlook improves from the previous forecast. On the other hand, there is the prospect of greater domestic inflationary pressures, as can be seen in a more pronounced positive output gap and larger rises in unit labour costs. The inflation outlook for the latter half of the forecast horizon is therefore considered broadly unchanged since August, although uncertainty has risen.*

I Economic outlook and key uncertainties

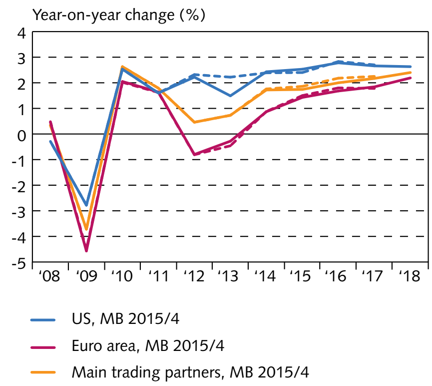
Central Bank baseline forecast[1]

Global economic outlook deteriorates again …

The International Monetary Fund's (IMF) most recent forecast provides for 3.1% global output growth this year, or 0.3 percentage points less than in 2014 and 0.2 percentage points below the Fund's summer forecast. The outlook has worsened for both developed and emerging countries – especially the latter – and if the forecast materialises, this will be the fifth consecutive year to see a year-on-year decline in emerging countries' GDP growth. The outlook has worsened in particular for commodity- and oil-exporting countries, which have lost revenues because of declining oil and commodity prices, and for countries with substantial US dollar-denominated debt, which have suffered from the appreciation of the dollar.

GDP growth among Iceland's main trading partners measured 1.9% in the first half of the year, slightly more than was forecast in the August *Monetary Bulletin*. The outlook for the year as a whole is slightly weaker than was forecast in August, however (Chart I-1). Trading partners' GDP growth is expected to be broadly unchanged year-on-year, at 1.7%, rising to 2% in 2016 and averaging 2¼% in 2017-2018. The GDP growth outlook for the forecast horizon as a whole has therefore deteriorated since August, and uncertainty about the global economy has increased again. Further discussion of the global economy can be found in Chapter II, and uncertainties in the global outlook are discussed later in this chapter.

Chart I-1
Global output growth 2008-2018[1]

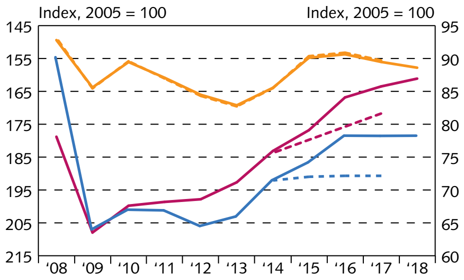


1. Central Bank baseline forecast 2015-2018. Broken lines show forecast from MB 2015/3.
Sources: Macrobond, OECD, Statistics Iceland, Central Bank of Iceland.

1. The analysis presented in this *Monetary Bulletin* is based on data available in early November.

Chart I-2

Exchange rate and terms of trade 2008-2018[1]

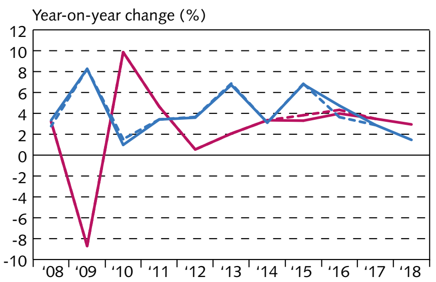


— TWI, MB 2015/4 (inverted left axis)
— Real exchange rate, MB 2015/4 (right)
— Terms of trade, MB 2015/4 (right)

1. Central Bank baseline forecast 2015-2018. Broken lines show forecast from MB 2015/3.
Sources: Statistics Iceland, Central Bank of Iceland.

Chart I-3

Exports of goods and services 2008-2018[1]

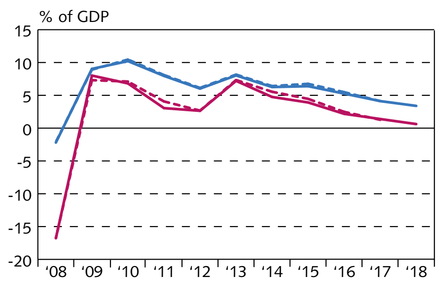


— Goods and services exports, MB 2015/4
— Trading partners' imports, MB 2015/4

1. Central Bank baseline forecast 2015-2018. Broken lines show forecast from MB 2015/3.
Sources: Macrobond, Statistics Iceland, Central Bank of Iceland.

Chart I-4

Current account balance 2008-2018[1]



— Trade account balance, MB 2015/4
— Underlying current account balance, MB 2015/4

1. Central Bank baseline forecast 2015-2018. Broken lines show forecast from MB 2015/3.
Sources: Statistics Iceland, Central Bank of Iceland.

… with export growth likely to weaken in coming years

In spite of significant foreign currency purchases by the Central Bank, the exchange rate of the króna has risen by almost 4½% in trade-weighted terms since the August *Monetary Bulletin*. As in the Bank's previous forecasts, it is assumed that the trade-weighted index (TWI) will remain broadly unchanged for the remainder of the forecast horizon; therefore, the current forecast is based on a higher exchange rate than the August forecast (Chart I-2). The real exchange rate has also risen with the nominal appreciation of the króna and increases in domestic costs in excess of the trading partner average. According to the forecast, the real exchange rate will continue to rise throughout the forecast horizon and will be some 3% above its thirty-year average by 2018; however, it will still be nearly 18% below its pre-crisis high.

Terms of trade improved by about 10½% year-on-year in the first half of 2015, following a 3% improvement in 2014. This strong improvement is due primarily to the decline in global oil and commodity prices and the rise in marine product prices. The recovery is projected to slow down in the second half, and terms of trade are expected to improve by just over 5% this year, about ½ a percentage point less than was forecast in August. The outlook for coming years is unchanged since August, however, although uncertainty has grown in tandem with increased uncertainty globally.

Services exports grew considerably more in H1 than was assumed in the August forecast, owing mainly to the burgeoning tourism sector and to substantial and unforeseen one-off revenues from patent applications. Although these one-time revenues probably do not reflect developments over the year as a whole, the outlook for 2015 is nonetheless for strong growth in services exports. Offsetting this, however, are weaker marine product exports, owing to reduced mackerel catches, the Russian import ban, and weak sales to Nigeria. Growth in goods and services exports is therefore estimated at 6.8% this year, as in the August forecast (Chart I-3). According to the forecast, export growth will slow down somewhat over the next three years, in line with the rising real exchange rate (see the discussion on the effects of exchange rate movements on external trade in Box 2). Goods exports are expected to be weaker next year than was projected in August, as the rise in the real exchange rate is larger and trading partner demand weaker than was forecast then. This is offset by the improved outlook for tourism, however.

As in the Bank's previous forecasts, it is assumed that the trade surplus will diminish somewhat in coming years, mainly due to strong imports, although this will be offset by the improvement in terms of trade that began last year and looks set to continue into 2016. The surplus on goods and services trade is forecast to shrink from 6½% of GDP in 2015 to about 3½% by 2018 (Chart I-4). The underlying current account surplus will narrow accordingly, from 4% of GDP this year to ½% by 2018. Further discussion of the real exchange rate and terms of trade can be found in Chapter II, and the external balance is discussed in Chapter IV.

Strong domestic demand growth in 2014 and even more expected this year

According to preliminary figures from Statistics Iceland, private consumption grew by about 4.4% year-on-year in the first half of 2015, owing to a number of factors: a significant rise in real disposable income stemming from large wage increases, increased employment, and relatively low inflation, and improvements in household equity stemming from rising asset prices and reduced debt. The outlook is for this to continue and to be augmented by proposed tax cuts, which will stimulate household demand still further. Private consumption is projected to grow by 4.6% this year, somewhat more than was forecast in August, and by about 4% per year over the next three years. Although this is a significant growth rate, it is well below growth in real disposable income; therefore, household saving is forecast to increase over the forecast horizon.

Investment also grew markedly in the first half of the year. Total investment was up 21% year-on-year, including a 38% rise in business investment. These figures are affected somewhat by strong investment in ships and aircraft, but even if these items are excluded, there is a considerable amount of investment activity, and the Bank's recent investment survey indicates that it is likely to continue. Total investment is projected to grow by nearly 21% this year and another 11½% in 2016, and the investment-to-GDP ratio is expected to rise from last year's 16.7% to nearly 20% by 2018.

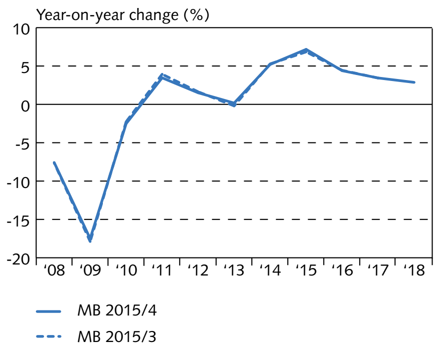
On the whole, domestic demand is forecast to grow by 7.2% this year, after a growth rate of 5% in 2014 (Chart I-5). As was forecast in August, the pace of growth will ease somewhat in coming years but will remain robust. Further discussion of private and public sector demand can be found in Chapter IV.

GDP growth robust in 2015 but projected to taper off gradually

According to preliminary figures from Statistics Iceland, GDP growth measured 5.6% in Q2, the strongest single-quarter measurement since the beginning of 2008. Statistics Iceland also revised previously published figures and now estimates Q1 GDP growth at 4.8% instead of the previous 2.9%. H1 GDP growth is now estimated at 5.2%, well above the 3% projected in the Bank's August forecast. Statistics Iceland's current assessment is much closer to the Bank's May forecast of 4.8%, which was prepared before the first preliminary figures for Q1 were available. Although strong GDP growth in the first half reflects in part the above-mentioned one-off effects from services exports, the outlook for the year as a whole has been revised upwards since the August forecast, with 2015 GDP growth now forecast at 4.6%. This is 0.4 percentage points above the August forecast but in line with the forecast from May. The improved outlook reflects both strong growth in domestic demand and a slightly more positive contribution from net trade.

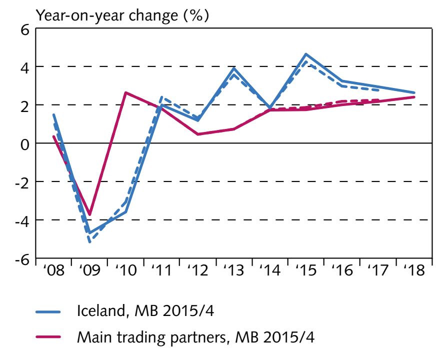
As in the August forecast, GDP growth is assumed to ease in coming years, although it is still expected to remain above its long-term average for the majority of the forecast horizon. It is projected at 3.2% in 2016, 3% in 2017, and 2½% in 2018. To some extent,

Chart I-5
Domestic demand 2008-2018[1]



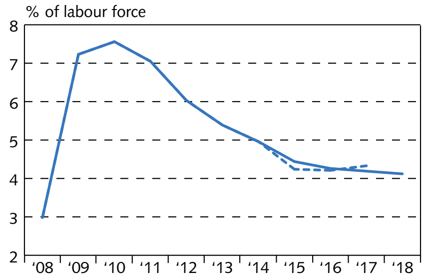
1. Central Bank baseline forecast 2015-2018.
Sources: Statistics Iceland, Central Bank of Iceland.

Chart I-6
GDP growth in Iceland and trading partners 2008-2018[1]



1. Central Bank baseline forecast 2015-2018. Broken lines show forecast from MB 2015/3.
Sources: Macrobond, Statistics Iceland, Central Bank of Iceland.

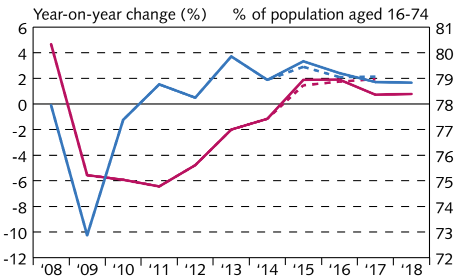
Chart I-7
Unemployment 2008-2018[1]



MB 2015/4
MB 2015/3

1. Central Bank baseline forecast 2015-2018.
Sources: Statistics Iceland, Central Bank of Iceland.

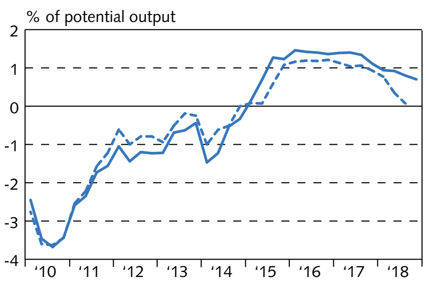
Chart I-8
Total hours worked and employment rate 2008-2018[1]



Total hours worked, MB 2015/4 (left)
Employment rate, MB 2015/4 (right)

1. Central Bank baseline forecast 2015-2018. Broken lines show forecast from MB 2015/3.
Sources: Statistics Iceland, Central Bank of Iceland.

Chart I-9
Output gap[1]
Q1/2010 - Q4/2018



MB 2015/4
MB 2015/3

1. Central Bank baseline forecast Q3/2015-Q4/2018.
Source: Central Bank of Iceland.

this year's strong output growth reflects the unusually rapid rise in tourism, but it also bears witness to the temporary stimulative impact of large wage increases and Government policy actions, such as household debt relief measures, which fuel private consumption. As the forecast horizon progresses, the effects of these will taper off, and dwindling export growth and sluggish productivity growth will weigh more heavily. Further discussion of developments in GDP growth can be found in Chapter IV.

Job creation continues, but low productivity growth gives cause for concern

Seasonally adjusted unemployment measured 4% in Q3/2015, having declined by ½ a percentage point year-on-year and more than 4 percentage points from its post-crisis high. Declining unemployment is due to job creation; however, the participation rate has also risen markedly. The seasonally adjusted labour participation rate is now 3 percentage points above the post-crisis trough from Q4/2011 and is closing in on its peak from early 2007. The employment rate has risen as well and was up 1½ percentage points year-on-year in Q3. Other indicators from the labour market point in the same direction.

As in the Bank's previous forecasts, the recovery of the labour market is projected to continue, with declining unemployment and an increase in the number of jobs and total hours worked. The recovery is forecast to be somewhat weaker than was assumed in August, however, due to the expectation of larger rises in unit labour costs. Unemployment will fall from its 4.4% average for this year to about 4% in 2018 (Chart I-7), and total hours worked will increase on average by just over 2% per year (Chart I-8). The employment rate will therefore taper off slightly from the current high.

Productivity has been virtually flat for five years in a row but is expected to pick up a bit this year, growing about 1¼% as in the August forecast (see Chart I-10 below). Productivity is expected to grow by approximately 1% per year over the forecast horizon, broadly in line with the average of the past ten years but somewhat below both the long-term average and the growth rate seen in previous recoveries. Further discussion of the labour market can be found in Chapter IV.

Outlook for a wider positive output gap than previously forecast

In line with Statistics Iceland's revision of historical GDP growth figures, the slack in the economy between 2011 and 2014 is now considered to have been just under ½ a percentage point per year larger than previous figures indicated. As in August, however, the spare capacity is considered to have disappeared early this year, and owing to stronger GDP growth both in 2015 and over the forecast horizon as a whole, the outlook is for a somewhat wider positive output gap than was previously projected. It is forecast to peak at 1½% of potential output early in 2016 and to remain at about that level until mid-2017 before narrowing once again (Chart I-9). According to the forecast, a slight positive gap will nonetheless remain at the end of the forecast horizon, owing to robust economic activity during the period.

As always, the assessment of the output gap is highly uncertain. A discussion of the main uncertainties in the assessment is below, and a discussion of factor utilisation can be found in Chapter IV.

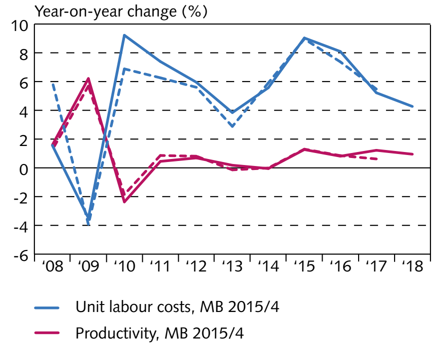
Inflation outlook improved for the near term but unchanged further ahead

Inflation measured 1.8% in October and only 0.3% excluding the housing component of the CPI. By that measure and according to various measures of underlying inflation, it has risen slightly since the beginning of the year. The same is true of most measures of inflation expectations, although it is unusually difficult to interpret developments in measures of inflation expectations in the bond market because of capital inflows that have suppressed the long end of the yield curve (see Chapter III and Box 1).

Inflation averaged 2% in the third quarter of the year, 0.4 percentage points below the forecast in the August *Monetary Bulletin*. The deviation is due primarily to a stronger króna and steeper declines in global oil and commodity prices than in the August forecast. Furthermore, the inflationary effects of the recent wage settlements appear to be more modest than was assumed then, probably due in part to the appreciation of the króna and the improvement in terms of trade in recent months. It is still too early to determine the ultimate effect of the large pay increases provided for in the wage settlements, however, and it is likely that the arbitration panel ruling in August will entail large pay hikes during the forecast horizon than was assumed in the August forecast. Although offset by somewhat more rapid productivity growth in the latter half of the forecast horizon, unit labour costs are still projected to rise steeply, or by 9% this year and 8% in 2016. If the forecast materialises, the increase in 2015 and the ensuing three years will average 6.7% per year, far in excess of the level compatible with medium-term price stability (Chart I-10).

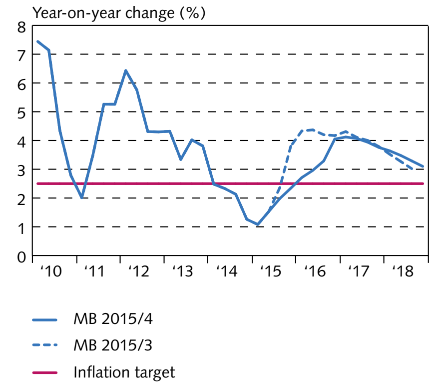
The near-term inflation forecast has improved markedly from the August forecast, although significant and growing domestic inflationary pressures remain and could take hold once the effects of a stronger króna and lower import prices begin to taper off. In Q4/2015, inflation is projected to be at 2.3%, 1½ percentage points less than was forecast in August (Chart I-11). According to the forecast, it will continue to inch upwards, albeit somewhat more slowly than was forecast in August. As was projected then, it is expected to be at or above 4% from the end of 2016 into H2/2017 and then begin to taper off again. In comparison with the August forecast, inflation will therefore be 1-1½ percentage points lower until the second half of 2016, owing primarily to a better initial position, a stronger króna, and lower oil and commodity prices. Offsetting this is the prospect of stronger domestic inflationary pressures, as is reflected in a wider output gap and larger increases in unit labour costs. The inflation outlook is highly uncertain at present, however. The uncertainties in the inflation forecast are discussed below, and developments in global prices and domestic inflation and inflation expectations are discussed in Chapters II and V.

Chart I-10
Unit labour costs and productivity 2008-2018[1]



1. Productivity measured as the ratio of GDP to total hours worked. Central Bank baseline forecast 2015-2018. Broken lines show forecast from MB 2015/3.
Sources: Statistics Iceland, Central Bank of Iceland.

Chart I-11
Inflation[1]
Q1/2010 - Q4/2018

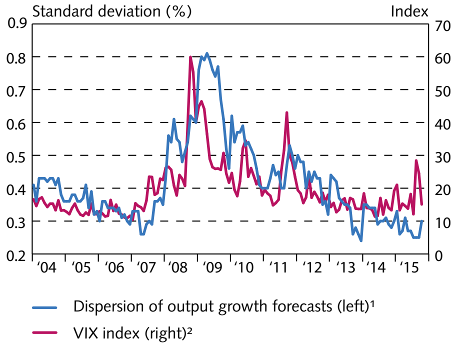


1. Central Bank baseline forecast Q4/2015-Q4/2018.
Sources: Statistics Iceland, Central Bank of Iceland.

Key uncertainties

The baseline forecast reflects an assessment of the most likely economic developments over the next three years. It is based on forecasts and assumptions concerning developments in the external environment of the Icelandic economy, as well as assessments of the effectiveness of specific markets and on the transmission of monetary policy to the real economy. All of these factors are subject to uncertainty. The following is a discussion of several important uncertainties in the forecast.

Chart I-12
Dispersion of output growth forecasts and implied stock price volatility
January 2004 - October 2015



1. Weighted average of standard deviation in output growth forecasts compiled by Consensus Forecasts for the G7 (weighted with PPP-adjusted GDP). 2. Chicago Board Options Exchange S&P 500 Implied Volatility Index (VIX).
Sources: Consensus Forecasts, Macrobond.

Growing uncertainty about the global economy
Uncertainty about the global economy appears to have risen again, primarily concerning the outlook in emerging market economies, including China and oil- and commodity-exporting countries (Chart I-12). The appreciation of the US dollar has tested balance sheets in many such countries, particularly in those where financial imbalances have accumulated in recent years, and has exacerbated the situation resulting from falling oil and commodity prices. By the same token, expectations of a policy rate hike in the US have significantly reduced capital flows to these countries and have increased the risk of a setback in an already fragile economic recovery, particularly if interest rate hikes go hand-in-hand with further appreciation of the dollar. Some geopolitical uncertainty remains, and while it has probably subsided on the whole over the past year, the heavy streams of refugees from the bottom of the Mediterranean have created new points of friction. Further ahead, difficulties in bringing inflation up to target and unfavourable age demographics in many advanced economies could indicate that the global GDP growth outlook is too optimistic. Global GDP growth could also turn out stronger than the baseline forecast indicates if, for instance, the decline in oil and commodity prices affects demand in industrialised countries more than is currently assumed or if the European Central Bank's (ECB) recent stimulative measures prove more effective than has been suggested. As before, as regards the global economic outlook, the risk in the baseline forecast is tilted to the downside.

Exchange rate developments uncertain
As before, the baseline forecast assumes that the exchange rate of the króna will remain stable throughout the forecast horizon. There is some uncertainty about this, however. The króna could weaken, for example, if terms of trade deteriorate. Strong increases in domestic wage costs following the recent wage settlements will also lead to a rise in the real exchange rate, thereby creating growing downward pressure on the nominal exchange rate, particularly in the longer term.

On the other hand, the exchange rate could rise from the level assumed in the baseline forecast. The recent appreciation of the króna stems in part from more favourable economic developments in Iceland than in neighbouring countries, and the possibility that this will continue cannot be excluded. The króna could also appreciate if there is an increase in inflows of capital in search of better returns or if

Iceland's terms of trade improve more than is assumed in the baseline forecast.

Uncertainty could increase temporarily upon the settlement of the failed banks' estates

The settlement of the failed banks' estates lies ahead, in connection with liberalisation of the capital controls. The forecast assumes that settlement will take place through, among other things, the payment of a stability contribution, which could affect domestic balance sheets during the settlement process.[2] The objective is to use market operations so as to prevent settlement from affecting the liquidity supply or the money stock so it would not cause the monetary stance to diverge from the Monetary Policy Committee's (MPC) objectives. The transformations could prove so pronounced, however, that attempts to counteract them will not be entirely successful. There is therefore the risk that settlement will cause a temporary disturbance in liquidity and the monetary stance, which could exacerbate uncertainty for a time, although this risk is less than it would be if the settlement should take place through the stability tax.

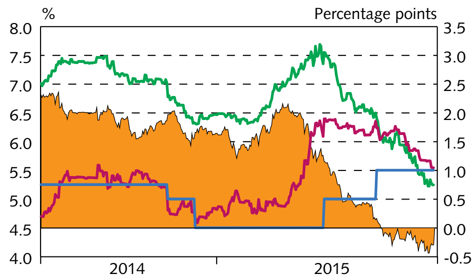
Difficulties in monetary policy transmission

Until recently, changes in Central Bank interest rates have been transmitted more or less smoothly along the yield curve and to the interest rates offered to households and businesses. Now, however, it appears that the transmission of monetary policy to other interest rates has been weakened. Domestic long-term bond interest rates have fallen considerably in the recent term (Chart I-13), and although the effects of this can be seen only to a limited extent in households' and businesses' interest rate terms, it is not unlikely that this drop in long-term rates will gradually spread to the terms offered to households and businesses. As is discussed in Chapter III and Box 1, this reduction in long-term rates is linked to increased capital inflows, which have lowered term premia in the bond market. This development is not unique to Iceland, and there are numerous examples of similar trends elsewhere, even in large economies like the US. This does not change the fact that it makes it more difficult for monetary policy to affect domestic interest rates to the intended degree. Under such conditions, market interest rates and rates offered to borrowers could decline during an attempt at monetary tightening. The monetary policy transmission mechanism therefore shifts from domestic interest rates to the exchange rate, which is unfortunate, as the exchange rate channel of monetary policy is less reliable. In view of this, the MPC has been examining ways to use other policy instruments in addition to interest rates.

Increased uncertainty about the monetary and fiscal policy mix

According to the baseline forecast, the new fiscal budget proposal represents an easing of fiscal policy of about 1½% of GDP in 2015

Chart I-13
Key Central Bank rate and nominal Treasury bond yields
Daily data 21 May 2014 - 30 October 2015

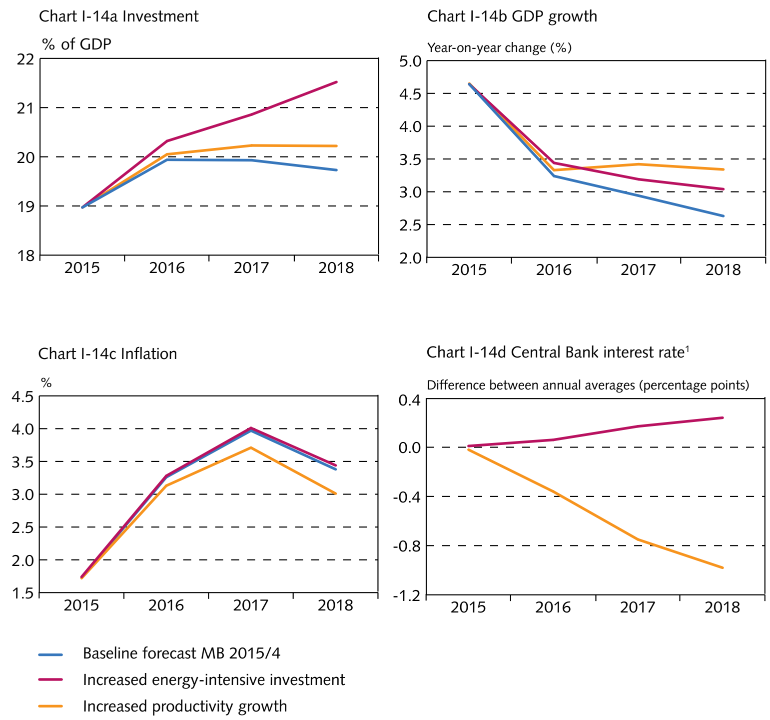


Source: Central Bank of Iceland.

2. See, for instance, Thorvardur Tjörvi Ólafsson (2015), "Economic analysis of capital account liberalisation in Iceland". Central Bank of Iceland *Special Publication* (forthcoming).

and 2016 (see Chapter IV and Box 3). This easing not only calls for a tighter monetary stance but also increases the risk of negative side effects of a suboptimal policy mix. The budget proposal and the medium-term fiscal plan are based on expenditure assumptions that in some cases appear fragile; for instance, as regards public employees' pay increases and estimated expenditures for operations and infrastructure investments. Therefore, there is the risk that the operating surplus will be smaller than is assumed unless further consolidation is achieved elsewhere. On the other hand, the revenue assumptions could underestimate cyclical revenues in view of increased strength in the economy. If this materialises, it is important to avoid relinquishing these revenues with further tax cuts unless countervailing measures on the expenditures side are imposed to offset them. This applies in particular to potential revenues reverting to the authorities upon the settlement of the failed banks' estates. It is vital that those revenues not be allocated so as to exacerbate the expansion of the economy, either through increased spending or through tax cuts. Such a scenario would require an even tighter monetary stance and create an even less optimal monetary and fiscal policy mix.

Chart I-14
Alternative scenarios



1. Deviation from baseline forecast.
Source: Central Bank of Iceland.

Energy-intensive investment could prove stronger than in the baseline forecast

According to the baseline forecast, investment in the energy-intensive sector will increase markedly in coming years, in part due to the construction of three silicon plants. There are also plans to build a fourth silicon plant of roughly the same size as the other three combined. If these plans come to fruition, investment in the energy-intensive sector could prove to be even stronger during the forecast horizon than is assumed in the baseline forecast. Chart I-14 shows the potential impact of building the fourth silicon plant, with construction estimated to begin in mid-2016 and production to start in 2019. As the chart shows, investment would grow somewhat more strongly than in the baseline forecast, and the investment-to-GDP ratio could turn out nearly 2 percentage points higher by 2018 than is assumed in the baseline scenario. GDP growth could be ¼ of a percentage point stronger in the next two years and almost ½ a percentage point more in 2018. Increased economic activity fuels domestic inflationary pressures, but this is offset by the appreciation of the króna, partly because of increased inflows of foreign capital in connection with the project but also because domestic interest rates will be higher than they would otherwise, and Central Bank rates will be about ¼ of a percentage point higher in 2018.

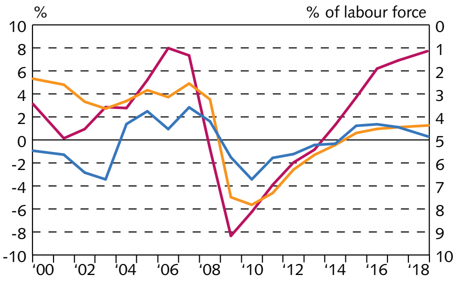
Increased productivity growth could offset large wage rises

According to figures from Statistics Iceland, labour productivity has been broadly unchanged for the past five years and has grown by less than 1% per year, on average, since the financial crisis struck in autumn 2008. This is considerably below productivity growth in previous recoveries and far below the thirty-year average. According to the baseline forecast, productivity growth will remain around 1% per year throughout the forecast horizon. Such weak productivity growth over such a long period of time is cause for concern, although similar developments can be seen among most other developed countries (the possible reasons for this are discussed in Chapter IV of *Monetary Bulletin* 2015/2), as productivity growth is one of the fundamentals that determine an economy's long-term potential output and one of the most important determinants of how rapidly an economy can grow without increased inflationary pressures. If productivity growth returns to its historical average beginning in 2016, potential output will increase accordingly and inflationary pressures will be reduced. Interest rates could therefore be lower than would otherwise be required, further supporting domestic demand and GDP growth. As can be seen in Chart I-14, the ratio of investment to GDP will be as much as 1 percentage point higher in 2018 than in the baseline forecast, and GDP growth will be just over ½ a percentage point more per year from 2017 onwards. Inflation will also be about ½ a percentage point less than in the baseline forecast, and Central Bank interest rates will be about 1 percentage point lower by 2018.

The impact of wage negotiations on demand and inflation possibly underestimated

The recently concluded private sector wage agreements have dramatically increased domestic inflationary pressures. Following the arbitration panel ruling on pay rises for university-educated public employees, labour market unrest has escalated yet again, and it is likely that the ruling will lead to even larger pay rises early next year, owing to the review clauses in the private sector contracts. The baseline

Chart I-15
Output gap, unemployment, and wage share 2000-2018[1]



1. Central Bank baseline forecast 2015-2018.
Sources: Statistics Iceland, Central Bank of Iceland.

forecast takes account of these factors, but there is still considerable uncertainty about the ultimate effect of the original wage agreements and the turmoil caused by the arbitration panel ruling (see also Box 4). Inflation has certainly risen more slowly than the Bank had previously assumed, both in its analysis last spring of the impact of wage settlements (see Chapter I in *Monetary Bulletin* 2015/2) and in its August forecast. But only a short time has passed, and as yet there are no clear signs that firms are absorbing the cost increases with additional streamlining, at least not if recent developments in employment and recruitment plans are reliable indicators. At all events, the rapid rise in the wage share indicates the risk that the baseline forecast represents an underestimation of the economic imbalances that could result from these wage settlements and that demand growth will turn out even stronger and economic imbalances will develop more rapidly than in the baseline scenario (Chart I-15).

Therefore, the uncertainties discussed in Chapter I of *Monetary Bulletin* 2015/2 still apply. Fiscal targets could be jeopardised, for instance, which could increase risk premia on domestic financial assets, raising domestic borrowers' financing costs and possibly undermining the capital account liberalisation strategy. This uncertainty and the poorer competitive position that accompanies steep rises in domestic costs (see Box 2) could also put additional pressure on the exchange rate of the króna, which increases the risk that the impact of wage rises on inflation is underestimated in the baseline forecast.

Increased uncertainty about the inflation outlook, with risk concentrated on the upside

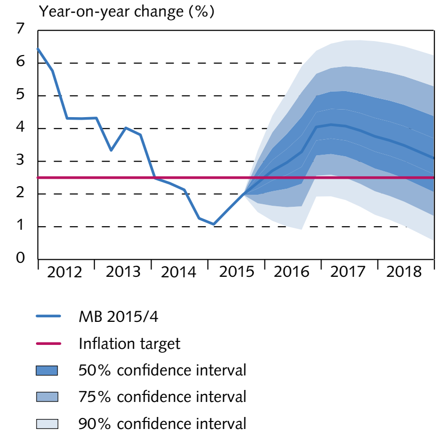
The uncertainties described above show clearly that the inflation outlook for the next three years could easily deviate from the scenario presented in the baseline forecast. Inflationary pressures could be underestimated, which (other things being equal) would call for higher interest rates than are implied in the baseline forecast in order to keep inflation at target if, for instance, firms pass the cost increases from the recent wage settlements through to price levels to a greater extent than is assumed in the baseline scenario or if the impact on private consumption of the strong temporary rise in real disposable income is underestimated.[3] Inflation could also prove more persistent than is forecast if these hefty pay increases de-anchor inflation expectations still further. The same applies if the króna proves weaker over the forecast horizon than is assumed in the baseline forecast or if the tension in the economy is more pronounced; for instance, if activity in the energy-intensive sector is greater than forecast, or if there is more slack in fiscal policy. The recent weakening of the monetary policy transmission mechanism could also make it more difficult for monetary policy to contain domestic demand, which could lead to higher inflation than is forecast, other things being equal. On the other hand, inflation could prove lower than is forecast if the global economic outlook worsens or global oil and commodity prices fall still

3. The baseline forecast is based on the assumption that monetary policy will be applied so as to ensure that inflation remains close to target throughout the business cycle.

further. The króna could also turn out stronger than is assumed in the baseline forecast, and firms could respond to the steep rise in wage costs by cutting their own profit margins or with increased streamlining. Productivity growth could also prove stronger than in the baseline forecast, which would counteract to a greater degree the inflationary pressures from the labour market.

Chart I-16 illustrates the above-mentioned uncertainties in the inflation forecast by showing the inflation outlook according to the baseline forecast together with the confidence intervals for the forecast; i.e., the range in which there is considered to be a 50%-90% probability that inflation will lie over the next three years (the methodology is described in Appendix 3 in *Monetary Bulletin* 2005/1). Uncertainty about the inflation outlook is considered to have grown since August, in part due to increased tension in the labour market and greater uncertainty about the global economy. As in August, the risk to the inflation forecast is tilted to the upside throughout the forecast horizon. There is a roughly 50% probability that inflation will be in the 3¼-5% range in one year and in the 2-4½% range by the end of the forecast horizon.

Chart I-16
Inflation forecast and confidence intervals
Q1/2012 - Q4/2018



Sources: Statistics Iceland, Central Bank of Iceland.

II The global economy and terms of trade

The global economic outlook is facing headwinds. The recovery has lost momentum so far this year, the financial markets were beset by considerable unrest in late summer, and the turmoil has made its mark on terms of trade and currency exchange rates. The outlook for GDP growth and demand among Iceland's main trading partners has deteriorated and uncertainty has mounted, after trading partners' economic recovery had gradually gained momentum from 2013 through mid-2015. On the whole, the global inflation outlook is virtually unchanged from the forecast in the August *Monetary Bulletin*. The outlook for Iceland's terms of trade is slightly poorer and more ambiguous than in August. The real exchange rate has risen sharply and appears set to continue doing so, with the associated erosion of Iceland's competitive position.

Global economy

Trading partners' GDP growth has gradually firmed up in the past two years …

GDP growth in Iceland's trading partner countries measured 1.9% in H1/2015, slightly exceeding the Bank's August forecast. Trading partners' GDP growth has gained ground over the past two years, since the end of the contraction in the euro area. As before, the economic recovery has proven sturdier in the US and the UK than in the eurozone, although it has gradually firmed up there as well (Chart II-1). The recovery is uneven in the Nordic region: the long-standing contraction in Finland has yet to come to an end and the outlook for Norway has deteriorated in the wake of the plunge in oil prices, while Denmark and Sweden have seen gradually increasing GDP growth.

… but indicators imply that the recovery has begun to weaken

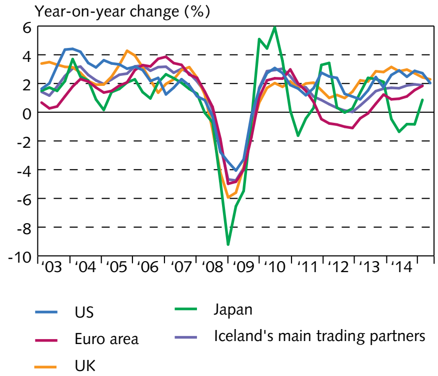
On the whole, economic indicators for the euro area have turned out better than market agents had expected (Chart II-2). They suggest a continued slow recovery resulting partly from measures taken by the European Central Bank (ECB), declining oil prices, the depreciation of the euro, and increased success in battling Greece's debt problems. Domestic demand has rallied somewhat in the euro area, with increased purchasing power and improving financial conditions, but exports have been somewhat weaker than anticipated. Leading indicators imply that GDP growth continues but at a slower pace, in line with the weaker global economic outlook (Chart II-3).

Economic indicators for the US have been weaker than expected since the time of the last *Monetary Bulletin*. After the recovery stalled due to temporary factors in the first quarter, it resumed in Q2, even though the appreciation of the dollar cut into the contribution from net trade. In the recent term, however, job creation and the decline in unemployment have slowed down, and investment in energy-related projects has contracted in the wake of the steep drop in energy prices. Nevertheless, the recovery in the US is projected to outpace that in most other major industrialised countries, and the US Federal Reserve

Chart II-1

Global GDP growth

Q1/2003 - Q3/2015

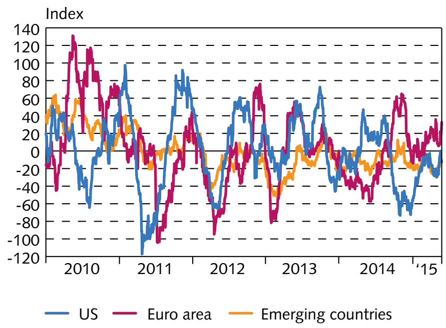


Sources: Macrobond, Central Bank of Iceland.

Chart II-2

Economic surprise index[1]

Daily data 4 January 2010 - 30 October 2015

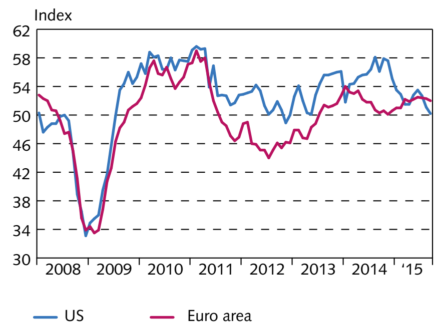


1. When the index is lower than 0, the indicators are more negative than expected; when the index is higher than 0, the indicators are more positive than expected. The index does not imply that the indicators are positive or negative.
Source: Macrobond.

Chart II-3

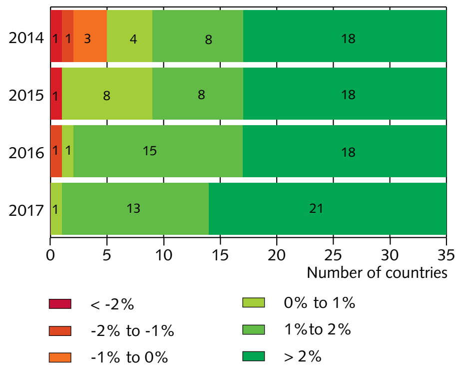
Leading indicators of GDP growth[1]

January 2008 - September 2015



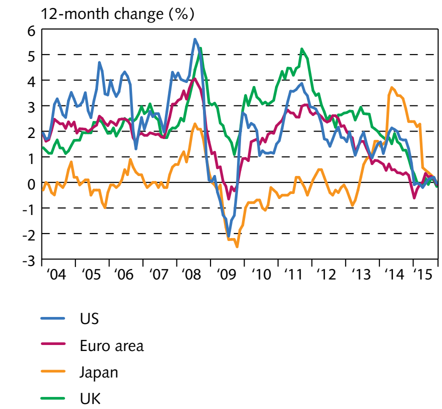
1. In the US and the euro area, the seasonally adjusted Manufacturing Purchasing Managers' Index (PMI) is published monthly. An index value above 50 indicates month-on-month growth, and a value below 50 indicates a contraction.
Sources: Bloomberg, Macrobond.

Chart II-4
Distribution of GDP growth among 35 industrialised countries



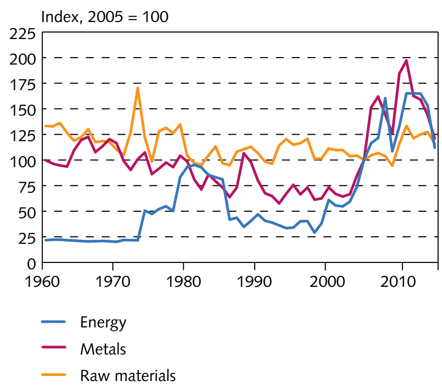
Source: IMF.

Chart II-5
Inflation in selected industrialised countries
January 2004 - September 2015



Source: Macrobond.

Chart II-6
Real commodity prices 1960-2015[1]



1. The 2015 value is based on first-half figures. The real price index for a commodity group is the trade-weighted average of the global U.S. prices of the commodities in the group deflated by the average economy manufacturing price index.
Source: IMF.

Bank is widely expected to raise interest rates late this year or early in 2016.

Global output growth outlook worsening …

According to the most recent GDP growth forecast from the International Monetary Fund (IMF), growth is expected to contract year-on-year in 2015, falling to only 3.1%, well below the thirty-year average. The IMF forecast is affected by a number of factors: the adjustment to weaker output growth in China and a general realignment of the drivers of growth, the steep decline in oil and commodity prices, volatility of cross-border capital flows, the expected policy rate hike in the US, and tighter financial conditions in emerging markets. The deterioration in the GDP growth forecast is greatest in the near term. The Fund expects global growth to pick up in 2016, measuring 3.6%, which is below its previous forecasts. Compared to the Fund's April forecast, the increase in the number of developed economies with GDP growth exceeding 2% is more moderate (Chart II-4). At the same time, the IMF is of the view, that the risks to the baseline forecast are tilted to the downside, particularly among emerging and developing countries.

Although the lion's share of global GDP growth has been borne by emerging countries in recent years, 2015 will be the fifth consecutive year to see a year-on-year decline in GDP growth among emerging economies if the IMF forecast materialises. At the same time, the Fund has reduced its GDP growth forecast for industrialised countries. Prospects have deteriorated in particular for oil and commodity exporters, for instance Australia, Brazil, and Canada.

… as is reflected in poorer prospects for Iceland's trading partners

Year-2015 GDP growth among Iceland's main trading partner countries is projected to remain unchanged year-on-year, at 1.7%. The Bank's forecasts from earlier this year have assumed, however, that the economic recovery would solidify in comparison with 2014. The output growth outlook for the next two years has also deteriorated in comparison with the August forecast, and the downside risks to the baseline forecast have risen.

Growth in world trade and trading partner demand has slipped year-to-date

The outlook for world trade and trading partner demand has also deteriorated from the Bank's August forecast. As is described in the new IMF forecast, it is difficult to assess the extent to which growth in world trade slowed down in the first half because of fluctuations in terms of trade and currency exchange rates. National accounts indicate, for instance, that growth in world trade has slowed somewhat, and various international indicators of trade volume point unequivocally to a contraction. The IMF's world trade forecast for 2015 has therefore been revised downwards by nearly a percentage point since July – to 3.2% – and the 2016 forecast has been reduced as well. The Fund anticipates somewhat more sluggish import growth in industrialised countries and noticeably weaker growth in emerging and developing countries. As a result, imports among Iceland's main trading partners are projected to be weaker than in the August forecast. They are forecast to grow by 3.3% this year, roughly ½ a percentage point less than in August.

Inflation remains low in developed economies

As before, inflation is low in developed economies, and the main task of most of their central banks is to stimulate inflation so as to avoid deflation and an excessive drop in inflation expectations. Modest deflation was measured in the euro area and the UK in September (Chart II-5). Steep declines in oil and commodity prices (Chart II-6) have pulled in the same direction as the slack in output, reducing inflation once again, whereas inflation has risen in some oil- and commodity-exporting economies, with currency depreciation exacerbating imported inflation. Overall, the inflation outlook among Iceland's trading partners is virtually unchanged since the last forecast, although inflation is expected to be more uneven because of differences in the impact of the drop in oil and commodity prices.

Significant turmoil in global markets

Six years after the deepest financial crisis since the 1930s ended and the global economic recovery began, the recovery remains sluggish and fragile. Economic growth in emerging and developing countries is losing momentum, not least in China, where private consumption and services must increasingly supplant investment and production as the main drivers of output growth. Concerns about a hard landing in China escalated this summer, causing severe turbulence in global markets, with commodity prices plummeting, capital flows to emerging economies tapering off, risk premia rising, and emerging countries' currencies depreciating against the US dollar (Charts II-6 and II-7). This situation differs from that prevailing late in 2014, when a steep drop in oil prices made relatively little impact on global financial markets (Chart II-8) and a number of major industrialised countries' currencies fell against the dollar. This time, however, metal prices, which typically react even more to global activity than oil prices, have also fallen sharply, which they did not do last year. Market agents still anticipate that interest rates will rise earlier in the US and UK than in most other industrialised countries, although the first rate hikes are now expected to take place somewhat later than previously thought. Uncertainty has increased, however, about how well prepared emerging countries are for a rate hike – particularly commodity-exporting countries with significant debt in US dollars (Chart II-9).[1]

Export prices and terms of trade

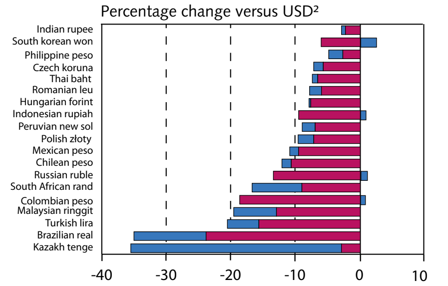
Marine product prices continue to rise, while aluminium prices fall

Foreign currency prices of marine products have risen virtually without interruption since February 2014. They increased by over 17% year-on-year in Q1/2015 but have risen somewhat more slowly since

1. See, for example, Chapter 3 of International Monetary Fund (2015). *Global Financial Stability Report*, October.

Chart II-7

Developments in emerging countries' currencies before and after the depreciation of the renminbi[1]

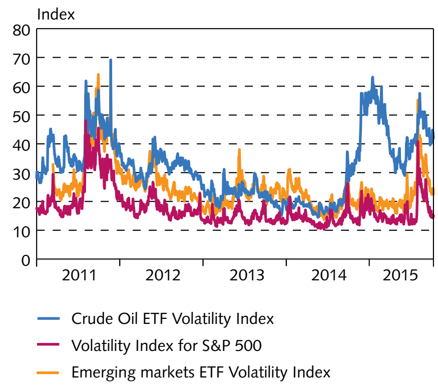


1. On 11 August, the People's Bank of China announced increased flexibility in the listing of the Chinese renminbi. 2. A reduction indicates a depreciation against the US dollar.
Sources: IMF, Macrobond.

Chart II-8

Global market volatility[1]

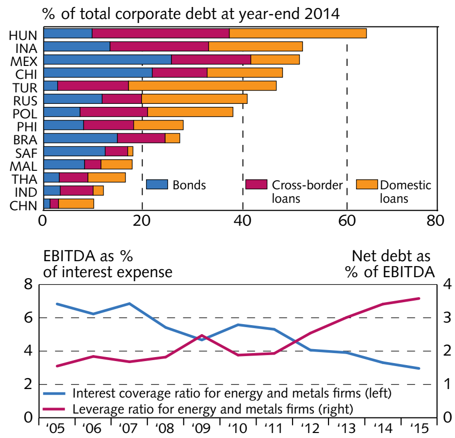
Daily data 3 January 2011 - 30 October 2015



1. The VIX index indicates the implied volatility of financial products.
Source: Federal Reserve Bank of St. Louis, Federal Reserve Economic Data (FRED).

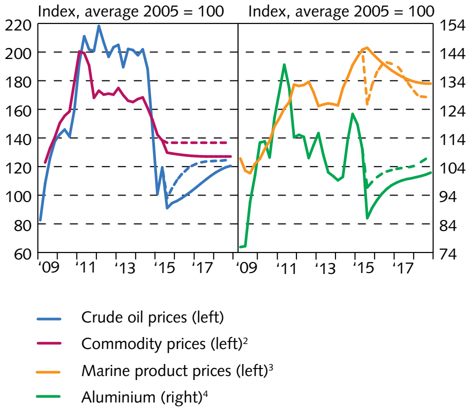
Chart II-9

Foreign-denominated corporate debt in emerging countries[1]



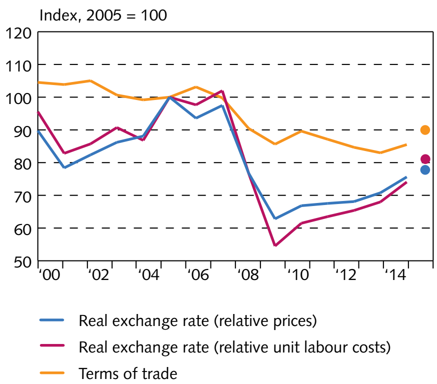
1. HUN: Hungary, INA: Indonesia, MEX: Mexico, CHI: Chile, TUR: Turkey, RUS: Russia, POL: Poland, PHI: Philippines, BRA: Brazil, SAF: South Africa, MAL: Malaysia, THA: Thailand, IND: India, CHN: China.
Source: IMF.

Chart II-10
Prices of marine products, aluminium, oil, and commodities[1]
Q1/2009 - Q4/2018



1. Central Bank baseline forecast Q4/2015-Q4/2018. Broken lines show forecast from MB 2015/3. 2. Non-oil commodity prices in USD. 3. Foreign currency prices of marine products are calculated by dividing marine product prices in Icelandic krónur by the export-weighted trade basket. 4. Foreign currency prices of aluminium products are calculated by dividing aluminium prices in Icelandic krónur by the exchange rate of the USD.
Sources: Bloomberg, Statistics Iceland, Central Bank of Iceland.

Chart II-11
Real exchange rate and terms of trade 2000-2015[1]



1. Dots show terms of trade and real exchange rate based on relative prices in 2015 according to Central Bank baseline forecast and real exchange rate based on relative unit labour costs according to OECD's forecast for unit labour cost developments for Iceland's largest trading partners in 2015.
Sources: OECD, Central Bank of Iceland.

then. They are expected to rise by about 8½% year-on-year in 2015, as was assumed in the August forecast (Chart II-10). The outlook is more ambiguous than in August, however, owing to the worsening economic outlook, uncertainty about the effects of the Russian import ban and economic difficulties in Nigeria. The price of fishmeal and fish oil is likely to rise in the near future, however, as a result of production cuts in Chile and Peru caused by El Niño.

Aluminium prices fell by 7% year-on-year over the first three quarters of 2015. Global metals prices have tumbled, not least because of reduced economic activity and the changing composition of growth in China, by far the world's largest purchaser of metals. A portion of the decline in prices to domestic aluminium producers is due to a drop in the premium paid to them, which had previously risen significantly, according to figures from Statistics Iceland. Prices are projected to continue falling, and the outlook has deteriorated since August. The price to domestic producers is projected to fall by over 7% this year, some 4½ percentage points more than was forecast in August, followed by a 5½% drop in 2016 (Chart II-10).

Oil prices plunged in late summer and are expected to remain low longer than previously anticipated

Crude oil prices have been falling year-to-date, with a particularly steep drop in Q3, to about half of Q3/2014 prices. It appears that the oil markets will take longer than previously thought to adjust to the glut of supply. Major forecasters' price projections and futures prices both indicate that crude oil prices will remain low for longer than was anticipated in August (Chart II-10).

Non-oil commodity prices fall more than previously assumed

US dollar prices of non-oil commodities have fallen continuously since Q2/2013. Increased supplies and reduced demand have caused food prices to fall 12% year-on-year, and metals prices are at their lowest since 2010. Non-oil commodities are now projected to fall in price by 17% year-on-year in 2015 and another 5% in 2016 – much more than was assumed in August.

Outlook for terms of trade somewhat weaker

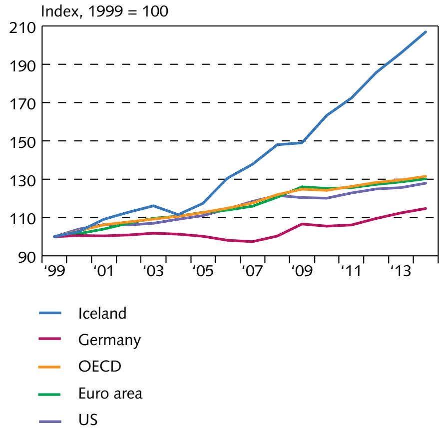
The improvement in terms of trade began in Q2/2014 and accelerated until the first quarter of 2015. Statistics Iceland's preliminary figures now indicate that terms of trade improved by 7.7% year-on-year in Q2, which is broadly in line with the forecast in the August *Monetary Bulletin*. The recovery is expected to lose pace in the latter half of the year, measuring just over 5% for 2015 as a whole, some ½ a percentage point less than in the August forecast (Chart II-11). The difference is due almost entirely to a smaller rise in export prices, which in turn is due to a larger decline in aluminium prices than was forecast in August. The outlook for terms of trade in 2016 is broadly unchanged since August, although uncertainty has grown.

Large pay rises lead to a sharp erosion in competitiveness

In Q3/2015, the real exchange rate of the króna rose to its highest value since mid-2008. It rose by 5.5% year-on-year due to an increase of 4% in the nominal exchange rate, and inflation in Iceland was 1.4 percentage points above the trading partner average. In spite of this increase, the real exchange rate in terms of relative consumer prices is still about 5.6% below its thirty-year average.

If the Bank's forecast materialises, the outlook is for the real exchange rate in terms of relative consumer prices to be, on average, more than 4% higher in 2015 than in 2014 (Chart II-11). Furthermore, given the substantial pay increases provided for in recent wage settlements, the real exchange rate in terms of relative unit labour costs will rise this year by even more – over 10%, if the forecast materialises. This increase comes on the heels of a protracted period of much larger rises in wage costs in Iceland than in competitor countries (Chart II-12). Given the prospects for wage developments in coming years, it is highly likely that Iceland's competitive position will continue to deteriorate. As is discussed in Box 2, this will have an appreciable effect on Iceland's external trade, other things being equal.

Chart II-12
Unit labour costs in developed countries



Sources: Macrobond, Central Bank of Iceland.

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.

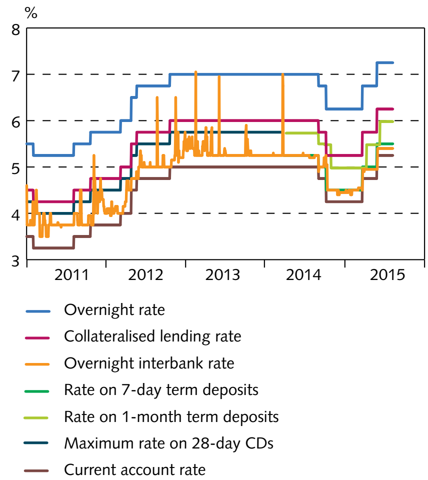
Monetary policy

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.

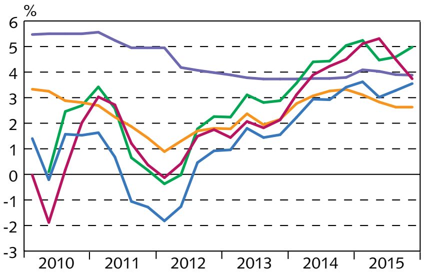
Overnight interbank interest rates have risen in line with the Bank's key rate and, as before, have remained below the centre of the interest rate corridor, close to the Bank's key rate (Chart III-1). The accepted rate in commercial banks' bill auctions has also risen in line with the key rate, unlike 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.

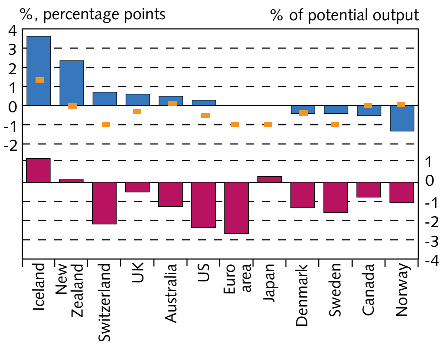
Chart III-2
Real Central Bank interest rate and real market rates
Q1/2010 - Q4/2015[1]



Real Central Bank rate
Real yield on nominal bonds[2]
Yield on indexed bonds[2]
Real rate on non-indexed variable-rate mortgage loans[3]
Interest on indexed mortgage loans[3]

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



Real rate[1]   Output gap 2015[3]
Deviation of inflation expectations from inflation target[2]

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 country 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

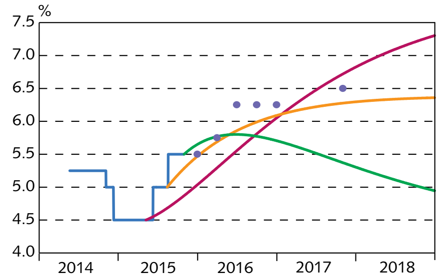
Since early June, when the capital account liberalisation strategy was introduced, nominal Treasury bond yields have fallen by as much as 2.2 percentage points, with the decline concentrated in the longest bonds. As much as 1.2 percentage points of it has taken place since the publication of the August *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



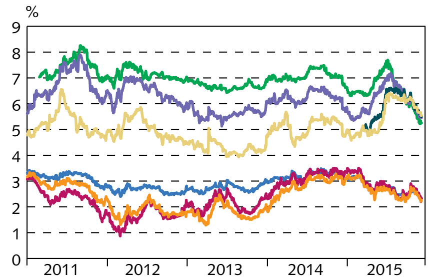
CBI key interest rate (seven-day term deposit rate)
MB 2015/2 (beginning of May 2015)
MB 2015/3 (mid-August 2015)
MB 2015/4 (end-October 2015)
Market agents' expectations (end-October 2015)[2]

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



Nominal Treasury bond maturing:
2016 2017 2019 2031

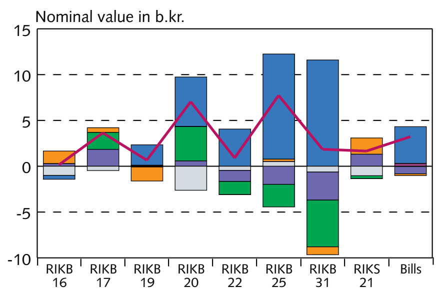
Indexed Treasury or HFF bond maturing:
2021 2024 2044

Source: Central Bank of Iceland.

Chart III-6

Changes in ownership of Treasury securities

31 May 2015 - 30 September 2015

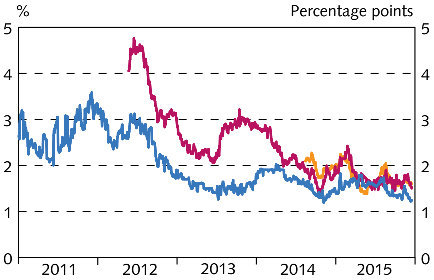


Non-resident investors
Others
Pension funds
Mutual and investment funds
Banks in winding-up
Banks and savings banks
Total

Source: Central Bank of Iceland.

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. These investors' new investment has amounted to just under 49 b.kr. since end-May and demand from them 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.

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)

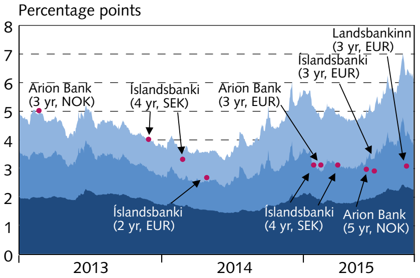
Source: Bloomberg.

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 domestic bank's borrowing terms in foreign markets have risen slightly since the summer, however, in spite of improvements in the banks' 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.

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.

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)

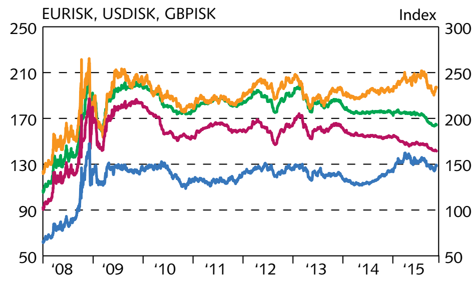
2. Adjusted M3 gives a more accurate view of money holders' spending capacity than unadjusted M3 does.

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

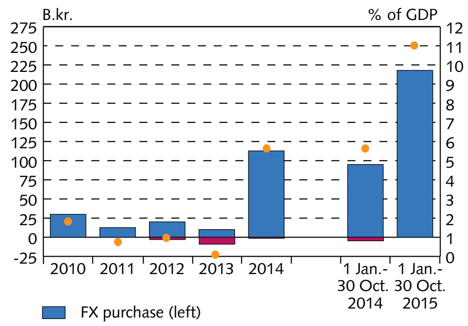


USD (left)
EUR (left)
GBP (left)
Average exchange rate - narrow TWI (right)

Source: Central Bank of Iceland.

Chart III-10

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



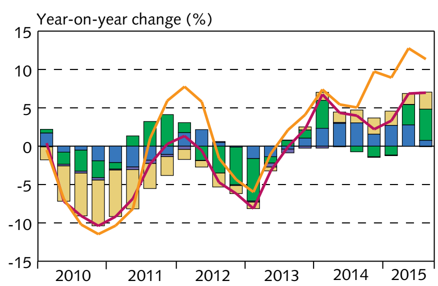
FX purchase (left)
FX sale (left)
Net purchase relative to GDP (right)[1]

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

Chart III-11

Components of money holdings - Adjusted M3[1]

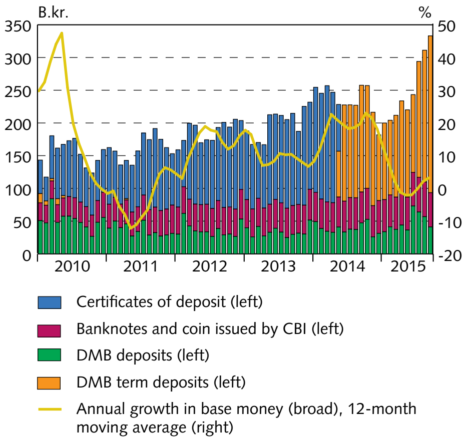
Q1/2010 - Q3/2015



Non-financial companies and non-profit institutions serving households
Financial companies
Municipalities
Households
Adjusted M3
M3

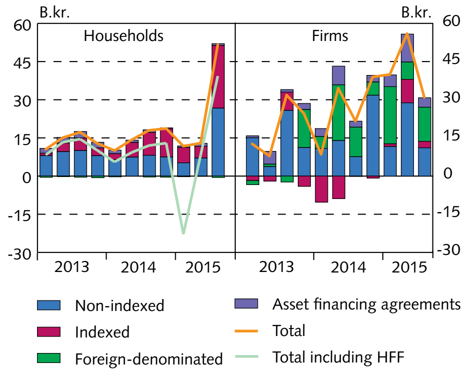
1. Adjusted for deposits held by failed banks' winding-up committees.
Source: Central Bank of Iceland.

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



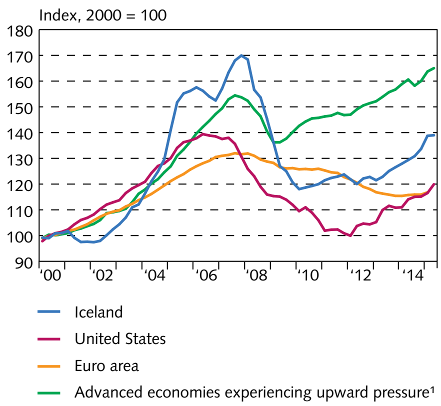
1. Base money including term deposits and certificates of deposit.
Source: Central Bank of Iceland.

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



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



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.

are included. If adjustments are made for the Government's debt 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.

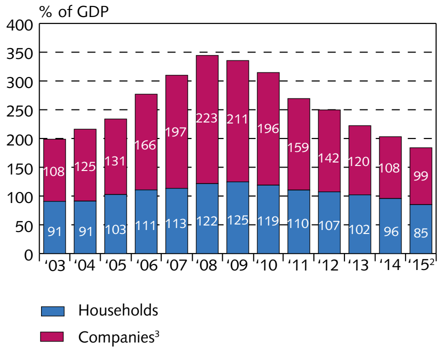
In the wake of the measures, household debt declined markedly at the beginning of the year. It rose slightly once again in Q2/2015, to about 85% of estimated year-2015 GDP (Chart III-15), about the level seen in mid-2004. The debt-to-GDP ratio is now about 10½ percentage points lower than at year-end 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.

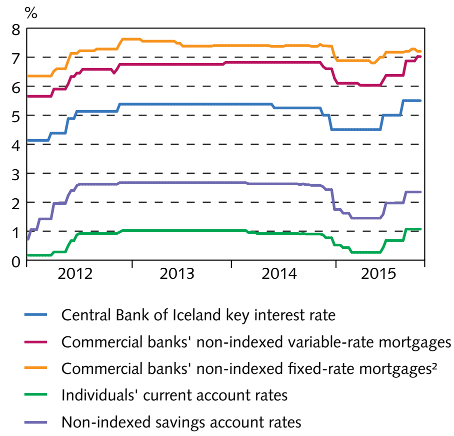
5. Far fewer borrowers have taken advantage of the third-pillar pension savings option than the authorities projected at first. In June, only 34,000 individuals had done so. No information is available about those who do not own real estate and will be able to use their third-pillar savings in connection 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]



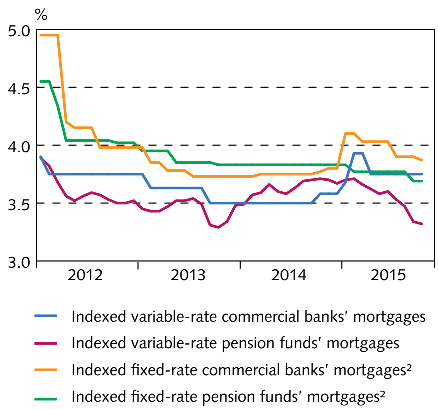
1. Debt owed to financial undertakings and market bonds issued. 2. End-June 2015. Central Bank estimate for GDP in 2015. 3. Excluding financial institutions (which includes holding companies).
Sources: Statistics Iceland, Central Bank of Iceland.

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 morgage rates from Arion Bank, Íslandsbanki, 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.

IV The domestic real economy

Seasonally adjusted GDP has gained momentum steadily since bottoming out in the wake of the 2008 financial crisis and is now above its 2007 peak. During this recovery phase, GDP growth has been driven by a strong increase in exports, business investment, and private consumption – the last of these supported by households' improving position, particularly in the past two years. This year, GDP growth is projected to be at its strongest since 2007, owing mainly to robust growth in the same factors that have led the recovery. Strong growth in domestic demand is also reflected in a narrowing trade surplus in spite of robust export growth. The recovery of the labour market continues as well, with a noticeable increase in jobs and falling unemployment. Productivity growth has been weak, however, much more so than in previous recoveries. The slack that has characterised the domestic economy in recent years has turned around into a positive output gap, reflecting the adjustment and recovery that have taken place in the past few years. The fiscal stance has eased at the same time.

GDP growth and domestic private sector demand

H1/2015 output growth in line with the May forecast

According to the Q2/2015 national accounts, published by Statistics Iceland in September, year-on-year GDP growth measured 5.6% during the quarter, the strongest single quarter since Q1/2008. GDP growth measured 5.2% in the first half of the year, whereas the Bank's August forecast assumed just over 3% (Chart IV-1). A large portion of the forecasting error was due to the revision of older Statistics Iceland figures, and in addition, the contribution from net trade was considerably more positive than had been assumed in August. H1 GDP growth was therefore much closer to the Bank's May forecast, which was prepared before the preliminary national accounts figures for Q1 were available. Closer examination of the composition of GDP growth reveals offsetting effects from robust domestic demand and the contribution from net trade, which – in spite of booming services exports – was negative in the first six months of the year because of the strong imports that usually accompany growing investment and private consumption.

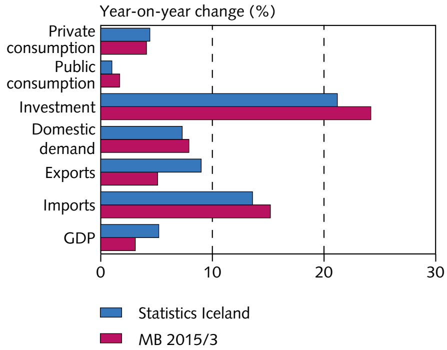
GDP per capita approaches its pre-crisis peak

In Q2, GDP was about 3.3% above its Q4/2007 peak in terms of seasonally adjusted Central Bank figures. Population growth was significant over this period, however, and GDP per capita was therefore about 2½% lower (in terms of Statistics Iceland's population estimate). From its pre-crisis peak, GDP contracted by some 11.2% before beginning to grow again in mid-2010. From that time onwards, it has grown by 16.1%, with the recovery driven mainly by private consumption, services exports, and business investment (Chart IV-2).

Iceland's post-crisis contraction was deeper than in most trading partner countries, and growth was weaker early in the recovery (Chart

Chart IV-1

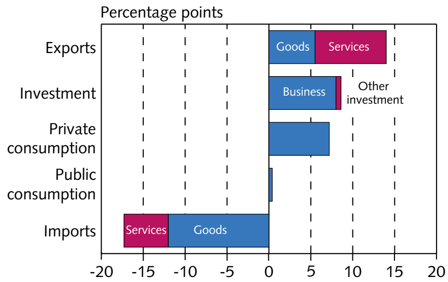
National accounts for H1/2015 and Central Bank estimate



Sources: Statistics Iceland, Central Bank of Iceland.

Chart IV-2

Contribution of GDP components to economic recovery[1]

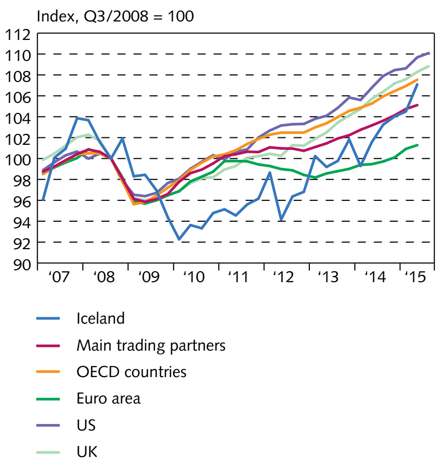


1. From H1/2010 - H1/2015.
Sources: Statistics Iceland, Central Bank of Iceland.

Chart IV-3

Post-crisis developments in GDP[1]

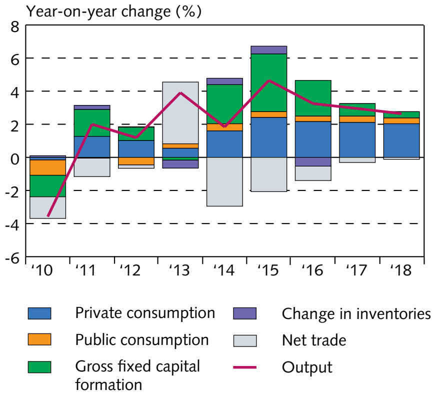
Q1/2007 - Q3/2015



1. Seasonally adjusted data for Iceland are from the Central Bank of Iceland.
Sources: Macrobond, OECD, Central Bank of Iceland.

Chart IV-4

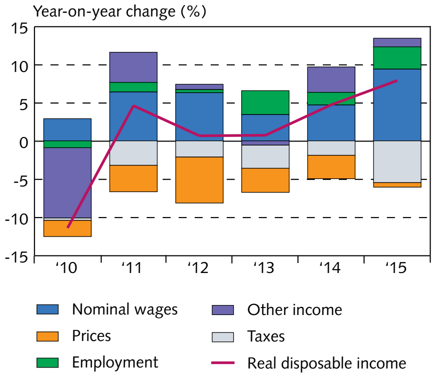
GDP growth and contribution of underlying components 2010-2018[1]



1. Central Bank baseline forecast 2015-2018.
Sources: Statistics Iceland, Central Bank of Iceland.

Chart IV-5

Developments in real disposable income and its main components 2010-2015[1]

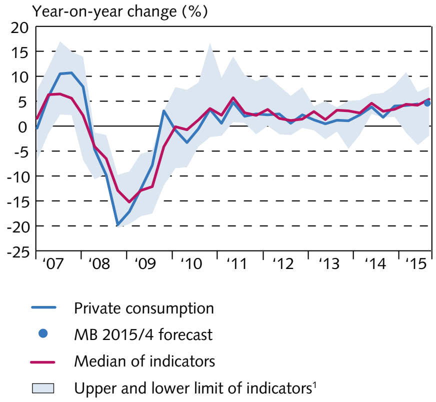


1. Central Bank baseline forecast 2015. The contribution of the main underlying factors in the yearly changes in real disposable income is calculated based on each factor's weight in disposable income. The combined contribution of underlying factors does not add up to the total change due to rounding and incomplete income accounts for households from Statistics Iceland.
Sources: Statistic Iceland, Central Bank of Iceland.

Chart IV-6

Indicators of private consumption

Q1/2007 - Q3/2015



1. Indicators are payment card turnover, groceries turnover, share prices, housing prices, consumer goods imports, new motor vehicle registrations, wages, and unemployment. The indicators are rescaled so that their average and standard deviation are the same as those for private consumption.
Sources: Centre for Retail Studies, Statistics Iceland, Central Bank of Iceland.

IV-3). In the recent term, however, GDP growth has been much stronger in Iceland than in trading partner countries (see Chapter II).

Outlook for stronger GDP growth in 2015 than previously projected

A more favourable contribution from net trade, owing to unexpectedly strong services exports, is the main reason H1/2015 GDP growth outperformed the August forecast. In the latter half of the year, however, growth is projected to moderate, as the surge in services growth was due in part to one-off revenues related to patents (see below). Domestic demand growth is expected to be in line with recent developments, however, and GDP growth for the year is estimated at 4.6%. This is 0.4 percentage points above the Bank's August forecast and well above the projected trading partner average. As in the August forecast, it is assumed that GDP growth will ease in coming years but remain relatively robust, averaging just under 3% per year. As in previous Central Bank forecasts, growth is driven to a great extent by robust growth in domestic private sector demand (Chart IV-4).

Households' financial situation continues to improve ...

According to figures from Statistics Iceland, households' real disposable income grew by a full 4.7% in 2014 (deflated by the private consumption deflator). This is mainly a reflection of increased wage income, although there were positive contributions from investment income as well (Chart IV-5). This was somewhat weaker growth in purchasing power than was assumed in August, however, because wage income was lower than forecast and tax payments slightly higher. Households' equity position improved markedly in 2014, both because of deleveraging and higher asset values (see the discussion of financial conditions in Chapter III). Households' income and equity position suffered greatly in the wake of the financial crisis, but from 2010 through 2014, real disposable income rose by 10.9% and real household equity by 39.2%. In view of the continued rise in real wages and asset prices and the increase in employment year-to-date, it can be assumed that these items will support household demand, both this year and in the near future. The announced reduction in income tax will further stimulate purchasing power and household demand.

... supporting household demand

Private consumption grew by 4.4% in the first half of 2015, and developments during the year appear to be in line with recent forecasts in *Monetary Bulletin*, which have assumed that the impact of the Government's debt relief measures would show most clearly in private consumption growth this year. Indicators of developments in private consumption during the third quarter show rather unequivocally that the trend from the first half will continue and, if anything, gain momentum (Chart IV-6). Presumably, the effects of the debt relief measures can be seen in the real estate market as well; for instance, according to the Gallup big-ticket index, the percentage of households considering a home purchase in the next twelve months is at its highest since late 2007. Rising property prices and reduced debt make it easier for households to undertake such investments. Furthermore, some credit institutions have eased access to credit by raising loan-to-value ratios and lowering interest rates and borrowing charges (see Chapter III). Private consumption growth for this year is forecast at 4.6%, somewhat more than was projected in August, reflecting stronger-than-expected growth in real wages, which is due largely to low inflation during the period. Private consumption is expected to be the one of the mainstays of GDP growth during the forecast horizon, supported by real wage growth and further improvements in households' equity position (Chart IV-7).

Business investment-to-GDP ratio at historical average

Following a strong post-crisis contraction, investment has been on the rise, and in the first half of 2015 business investment was the component of domestic demand that contributed most to GDP growth for the period. Over the first half, business investment grew 38% year-on-year. The main difference was in investments in ships and aircraft, although investment excluding energy-intensive industry, ships, and aircraft grew significantly as well. The ratio of business investment to GDP was at its long-term average of 13% during the first half of the year. In spite of this, total investment was somewhat below its long-term average, mainly due to weak public and residential investment.

Business investment growth to gain pace in 2015

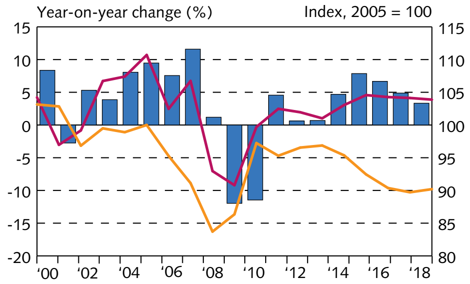
Most indicators of business investment in the coming term suggest that investment will continue to increase (Chart IV-8). The Central Bank survey of nearly 100 firms showed a marked year-on-year increase in planned investment, both in 2015 and in 2016 (see Table IV-1). According to the survey findings, companies in the fishing industry plan the largest increase in investment this year, or almost 50%. Firms in travel and transport also expect modest growth, whereas industrial firms project a contraction of about a fifth. Firms in travel and transport, on the one hand, and finance and insurance, on the other, project the largest increase in 2016, or over a third, and retail companies also forecast a considerable increase. The Gallup survey among Iceland's 400 largest firms also indicates that companies'

Table IV-1 Survey of corporate investment plans (excluding ships and aircraft)[1]

Largest 98 firms Amounts in ISK billions	2014	2015	2016	Change 2014 and 2015, % (prev. survey)	Change between 2015 and 2016,(%)
Fisheries (16)	5.9	8.9	9.0	49.3 (50.5)	1.7
Industry (18)	4.8	3.8	3.8	-20.4 (-20.3)	-0.8
Wholesale and retail sale (22)	5.1	6.3	7.3	24.1 (17.2)	16.7
Transport and tourism (7)	13.8	20.1	27.8	45.3 (78.1)	38.1
Finance/Insurance (9)	5.1	4.7	6.2	-8.5 (8.7)	32.5
Media and IT (7)	7.3	7.1	7.4	-2.9 (-4.5)	3.3
Services and other (19)	14.6	15.1	14.4	3.5 (-15.5)	-4.5
Total (98)	56.6	65.9	75.8	16.4 (20.4)	15.0

1. In parentheses is a comparison with the last survey, in which respondents from 99 firms were asked about investment plans for 2014-2015 (*Monetary Bulletin* 2015/2).
Source: Central Bank of Iceland.

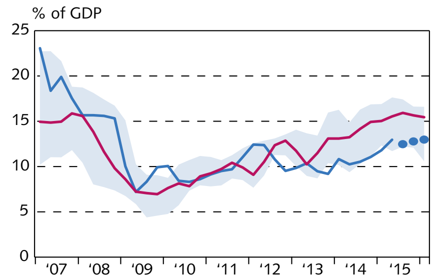
Chart IV-7
Private consumption and real disposable income 2000-2018[1]



Real disposable income (left)
Private consumption (left)
Ratio of private consumption to disposable income (right)

1. Central Bank baseline forecast 2015-2018.
Sources: Statistics Iceland, Central Bank of Iceland.

Chart IV-8
Indicators of business investment
Q1/2007 - Q1/2016



Business investment
MB 2015/4 forecast
Median of indicators
Upper and lower limits of indicators of business investment[1]

1. The indicators are imports of investment goods at constant prices and responses to four questions from the Gallup survey of Iceland's 400 largest companies. The questions centre on executives' assessment of (a) the economic outlook six months ahead, (b) how they expect domestic demand for their goods or services to develop in the next six months, (c) whether they expect their company's investment to increase year-on-year in the current year, and (d) whether they expect their margins to increase year-on-year. In assessing the range, all variables are rescaled so that their average and standard deviation are the same as those for business investment. Two-quarter moving averages. Investment indicators are lagged by two quarters.
Sources: Gallup, Statistics Iceland, Central Bank of Iceland.

investment plans are on the rise, with a growing share of respondents projecting increased investment expenditure in the coming term.

The above-mentioned indications of investment activity in 2015 are well in line with developments in investment goods imports. As before, the Bank's investment survey indicates that firms are to a large extent financing investment internally but that external credit financing is gaining ground, which accords with indicators of increased corporate lending (see Chapter III). In comparison with the August forecast, the outlook is for somewhat stronger growth in business investment excluding energy-intensive industry, ships, and aircraft, but as was assumed in August, total business investment is projected to grow by nearly a third year-on-year in 2015.

Residential investment growth in 2015 weaker than was forecast in August

In the first half of this year, residential investment contracted by over 13% year-on-year, according to preliminary figures from Statistics Iceland, whereas the forecast in the last *Monetary Bulletin* assumed an increase of 5%. This is somewhat at odds with both the Bank's forecast and projections from other forecasters, as well as with the indicators generally consulted in an assessment of residential investment activity (Chart IV-9). So far in 2015, both cement sales for construction outside the energy-intensive sector and imports of reinforcing steel have increased somewhat year-on-year. These indicators are well in line with the Federation of Icelandic Industries' (SI) assessment that there had been a large number of new residential housing starts during the year. Furthermore, figures from construction firms' value-added tax returns and new registrations of construction cranes indicate a marked increase year-on-year, lending further support to SI's estimates. Although these figures do not allow for a breakdown between residential and commercial housing, it appears likely that Statistics Iceland's residential investment figures will rise upon revision. According to the forecast, residential investment will increase by nearly 12% this year, which is still 6 percentage points less than in the August forecast. It is also assumed that rising house prices, which have been well in excess of the rise in construction costs in the recent past, and the improvement in households' financial position will support residential investment during the forecast horizon.

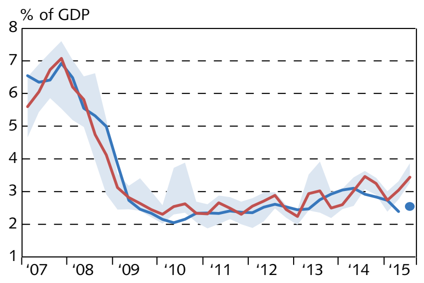
Strongest investment growth since 2006

The need to expand firms' production capacity has increased in response to growing household demand and the recent surge in exports. Increased business investment has been the key driver of the pick-up in investment activity, which is unsurprising, given that the output slack is considered fully absorbed and a positive output gap is developing. This year, it is estimated that business investment will account for the lion's share of growth in total investment, which is estimated at more than one-fifth (Chart IV-10). If the forecast materialises, this will be the strongest growth rate in a single year since the peak of the Kárahnjúkar Power Station construction project in 2006. According to the current forecast, energy-intensive investment

Chart IV-9

Indicators of residential investment

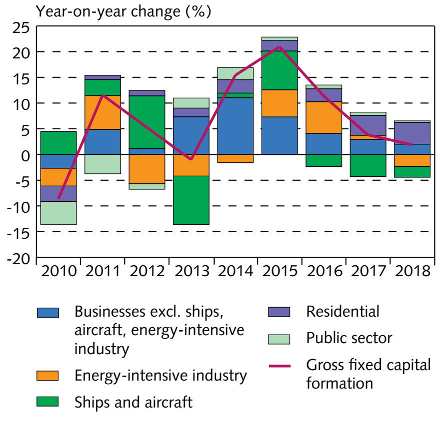
Q1/2007 - Q3/2015



1. The indicators are imports of reinforcing steel, imports of other construction materials, and cement sales to buyers other than energy-intensive firms. In assessing the range, the variables are rescaled so that their average and standard deviation are the same as those for measured residential investment. The chart shows a two-quarter moving average.
Sources: Aalborg Portland Iceland, Sementsverksmiðjan ehf., Statistics Iceland, Central Bank of Iceland.

Chart IV-10

Gross fixed capital formation and contribution of its main components 2010-2018[1]



1. Central Bank baseline forecast 2015-2018.
Sources: Statistics Iceland, Central Bank of Iceland.

will be slightly less this year than was forecast in August and slightly more next year. Over the forecast horizon as a whole, the outlook is for slightly more energy-intensive investment than was provided for in the August forecast. If this projection is borne out, the investment-to-GDP ratio will be just under 20% in 2018, or about 1 percentage point below the thirty-year average.

Public sector

The baseline forecast assumes modest growth in government expenditure

Fiscal consolidation is discernible on the expenditures side, with real public consumption growth measuring about 1% in the first half of 2015, according to preliminary figures from Statistics Iceland. Over the same period, public investment contracted slightly in real terms. Public consumption and investment are both forecast to grow slowly and steadily in real terms over the forecast horizon. An important factor here is the steep rise in expenses due to pay increases, which, in the absence of changes in planned nominal expenditure, holds back real growth in public consumption at both the state and the municipal levels. For example, several municipalities have already announced that they will have to resort to layoffs if negotiated wage increases are comparable to those provided for in the recent arbitration panel ruling.

Public consumption is projected to grow by about 1½% per year during the forecast horizon, and as in Ministry of Finance and Economic Affairs estimates, the ratio of public investment to GDP is expected to hold unchanged throughout the forecast horizon at about 3%. If the forecast materialises, this will mark a turning point in these economic variables during the business cycle, just as several years' contraction in public consumption and investment did in the wake of the financial crisis. The contribution of public expenditure to GDP growth will therefore be modest in coming years, at about ½ a percentage point per year (Chart IV-11). On the other hand, there is the risk that expenditure targets will not be met, owing to large cost increases like those provided for in public employees' wage settlements.

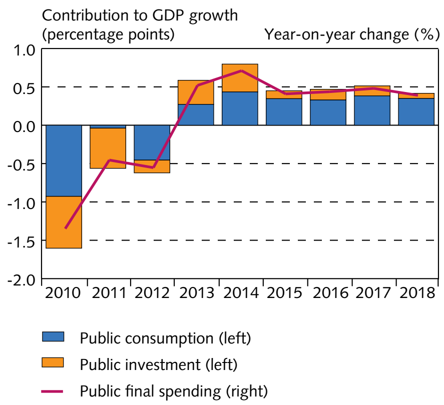
Outlook for a relatively stable surplus on the primary Treasury balance

According to the spring fiscal plan, prepared in April, the primary Treasury balance was assumed to improve by 0.4 percentage points of GDP between 2016 and 2019.[1] In the recently presented fiscal budget proposal, however, this improvement is cut in half; therefore, the fiscal policy response to the recent wage settlements, as measured in changes to the primary balance, is limited. Over the same period, it is assumed that the deficit in the financial balance will narrow significantly because of deleveraging, which means that the overall surplus will grow slightly over the period (Chart IV-12).

1. The primary balance for 2017 is adjusted for the accelerated write-down of indexed mortgage loans.

Chart IV-11

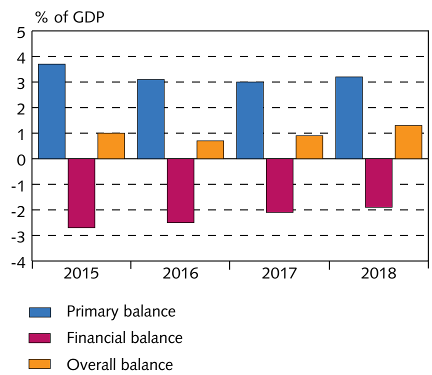
Public consumption and investment 2010-2018[1]



1. Central Bank baseline forecast 2015-2018.
Sources: Statistics Iceland, Central Bank of Iceland.

Chart IV-12

Central Government balances 2015-2018[1]

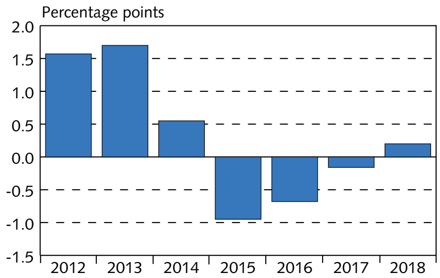


1. National account basis.
Sources: Ministry of Finance and Economic Affairs, Central Bank of Iceland.

The accumulated reduction in revenues due to systemic changes on the revenues side since autumn 2013, excluding the bank tax, totals 1.6% of GDP in 2016. Substantial tax revenues have been relinquished at a time of consolidation on the expenditures side. Therefore, the easing of the fiscal stance stems primarily from changes on the revenues side. The declared objective in the fiscal budget proposal – that the ratio of primary revenue to GDP must not rise during the period 2016-2019 – therefore appears to be at odds with the objective of allowing automatic fiscal stabilisers to work, which would entail permitting the ratio to rise during an upward cycle. Primary expenditure relative to GDP declines at the same time, however, according to the budget proposal, as is generally the case during an economic recovery (see the discussion of the 2016 fiscal budget proposal in Box 3). According to the Central Bank forecast, real growth in primary expenditure will be outpaced by GDP growth; therefore, the primary expenditure-to-GDP ratio excluding irregular items will decline by just over 1% of GDP during the period. These assumptions are somewhat uncertain, however, particularly in view of possible expenditure pressures related to an increase in the Treasury's special revenues concurrent with capital account liberalisation (see also the discussion of uncertainties in Chapter I).

Chart IV-13

Change in central government cyclically adjusted primary balance 2012-2018[1]



1. Central Bank baseline forecast 2015-2018.
Sources: Financial Management Authority, IMF, Central Bank of Iceland.

Fiscal stance to ease until 2017

The fiscal stance is reflected in the cyclically adjusted primary balance (see the discussion of the output gap later in this chapter). Measured in terms of changes in the cyclically adjusted primary balance, the Treasury outcome will deteriorate by a total of 1.6 percentage points during the period 2015-2018. The easing is greatest in 2015 and 2016, at 0.9 and 0.7 percentage points each year (Chart IV-13). The fiscal stance therefore eases in spite of the improvement in the overall balance, as the primary surplus does not increase, whereas spare capacity disappears and a positive output gap develops at the same time. This is also slightly more slack than was assumed in the May forecast, which is the Bank's most recent assessment of the fiscal stance.

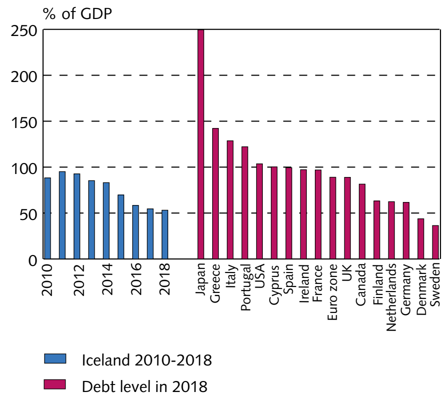
Treasury debt falls rapidly

The fiscal budget proposal for 2016 provides for rapid reduction of Treasury debt, although account has not been taken of the impact of the capital account liberalisation strategy on central government finances, except that the Central Bank bond will be paid off by the Treasury in the first half of the year.[2] This debt payment amounts to about 6% of GDP. Another extraordinary debt reduction measure is expected in connection with the sale of the Treasury's 30% stake in Landsbankinn. The ratio of Treasury debt to GDP was 75% at year-end 2014 and will decline to 62% by the end of 2015, according to the plan accompanying the budget proposal. With the above-mentioned extraordinary deleveraging measures, the ratio will fall still further, to just under 50% of GDP by the end of 2016, whereas the forecast in *Monetary Bulletin* 2015/2 assumed 61%. The change from that

2. The Government strengthened the Central Bank's capital position with a special bond issue.

forecast is due equally to the retirement of the Central Bank bond and the Treasury's buyback of the outstanding US dollar bonds it issued in 2011 to expand the foreign exchange reserves. The buybacks reduced gross Treasury debt by about 2.7% of GDP. In addition to those bonds, the Avens bond and the loans taken in connection with the Stand-By Arrangement between the authorities and the International Monetary Fund (IMF) have been paid off.[3] Treasury financing of the foreign exchange reserves has therefore been reduced. According to the forecast, the gross debt of the Treasury and the general government will amount to 45% and 53% of GDP, respectively, by year-end 2018. This would be in compliance with the fiscal rule concerning indebtedness that is set to take effect with the new legislation on public sector finances, and it means that Iceland's general government debt ratio would be similar to Germany's (Chart IV-14).

Chart IV-14
General government gross debt



Sources: IMF, Central Bank of Iceland.

External trade and the current account balance

Growth in total exports driven by services in 2015

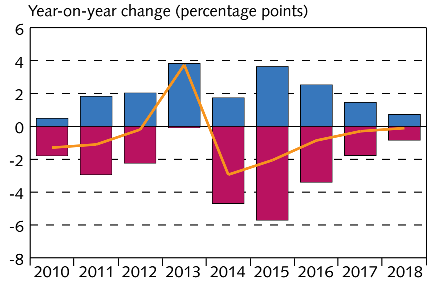
Exports of goods and services were up 9% year-on-year in the first half of 2015, with growth driven primarily by a 15% increase in services exports. Services exports grew considerably more than was projected in August, whereas goods exports were broadly in line with that forecast. Growth in services exports is due principally to booming tourism and sizeable one-off revenues from intellectual property patents in Q2. Although this handsome growth will probably not reflect developments over the year as a whole, it is likely that all components of services exports will exceed the projections in the August forecast. The travel component weighs heaviest here, with the number of passengers travelling to Iceland up more than a fourth year-on-year so far in 2015. This is a larger increase than was recorded at the same time in 2014, and the country's two largest airlines have already increased their seat offerings by a considerable margin. As a result, stronger growth in services exports is expected this year, although the outlook is for somewhat weaker goods exports. The outlook for goods exports is due somewhat to weaker growth in marine product exports, which in turn stems from reduced mackerel catches, the Russian import ban, and poor sales to Nigeria. In spite of relatively unfavourable developments in external conditions, total exports are forecast to grow by nearly 7% this year, which is broadly in line with the forecast in the August *Monetary Bulletin*. The outlook for the next two years has deteriorated, however, in line with a weakening competitive position and poorer prospects for trading partner demand (see Chapter II and Box 2).

Import growth at its strongest since H1/2006

In the first half of 2015, goods and services imports grew by nearly 14% year-on-year, the strongest growth rate since H1/2006, owing mainly to substantial aircraft imports in the first quarter. Even exclud-

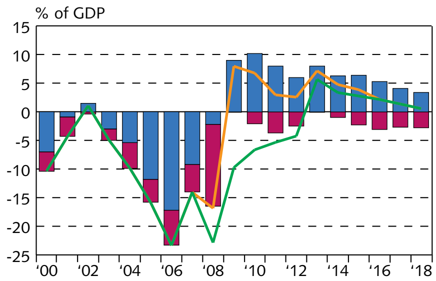
3. The Avens bond was due to the Treasury's purchase of asset-backed bonds issued by Avens B.V., a company owned by the old Landsbanki Íslands. In summer 2008, the bank had received a facility from the European Central Bank (ECB) in Luxembourg against collateral in Avens B.V. bonds. Avens' assets consisted primarily of Icelandic bonds, and the company became the largest single owner of ISK assets outside Iceland.

Chart IV-15
Contribution of net trade to GDP growth 2010-2018[1]



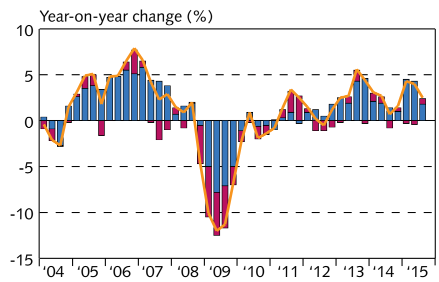
1. Central Bank baseline forecast 2015-2018.
Sources: Statistics Iceland, Central Bank of Iceland.

Chart IV-16
Current account balance 2000-2018[1]



1. Secondary income included. Central Bank baseline forecast 2015-2018.
2. Excluding the calculated income and expenses of DMBs in winding-up proceedings but including the estimated effects of the settlement of their estates, and excluding the effects of pharmaceuticals company Actavis on the balance on income until 2012. Also adjusted for the failed DMBs' financial intermediation services indirectly measured (FISIM).
Sources: Statistics Iceland, Central Bank of Iceland.

Chart IV-17
Changes in employment and hours worked
Q1/2004 - Q3/2015



Source: Statistics Iceland.

ing ships and aircraft, import growth is at its highest since H1/2006: without them, imports were up 9% year-on-year, outpacing domestic demand growth over the same period. The rise in the real exchange rate could partly explain the rise in imports, but strong domestic demand for consumer goods and for commodities and operational imports is a factor as well. Indications from Statistics Iceland's external trade figures suggest that growth in goods imports has eased as the year has progressed but continues to be consumer-driven to a large degree. Icelandic Tourist Board figures on Icelanders' departures via Keflavík International Airport and the Gallup survey of overseas travel plans indicate that tourism imports are also growing markedly between years, in line with Icelanders' increased purchasing power. On the whole, import growth excluding ships and aircraft is assumed to remain about the same for 2015 as a whole as it was in H1. Imports of all goods and services will grow somewhat more, however, or about 12%, slightly less than was forecast in August.

Negative contribution of net trade to GDP growth despite robust export growth

Imports are forecast to grow in excess of exports this year; therefore, the contribution from net trade to GDP growth will be strongly negative for the second year in a row (Chart IV-15). According to figures from Statistics Iceland, this was the case in the first half, in spite of strong export growth. The forecast assumes that the contribution from net trade will be somewhat more negative in H2 than in H1, in part because the surge in patent revenues in Q2 is not expected to continue unabated. The contribution of net trade to GDP growth is forecast to be negative by 2 percentage points over 2015 as a whole, on the heels of a 3-point negative contribution in 2014.

Surplus on combined goods and services trade set to shrink

Last year the surplus on goods and services trade amounted to nearly 6½% of GDP. H1/2015 showed a surplus comparable to that in 2014, and the outlook for the year as a whole is similar as well. The surplus is projected at just over 6%, slightly less than was forecast in August. As in the previous forecast, the surplus is expected to narrow in coming years, to about 5% in 2016 and 3% by 2018 (Chart IV-16).

Current account surplus to shrink accordingly

The underlying deficit on primary income including secondary income totalled 23 b.kr. in H1/2015, a slightly larger deficit than was assumed in the August forecast, as the preliminary estimate of primary income for Q1 was revised downwards. The underlying current account surplus totalled 40 b.kr. in H1, or just under 4% of GDP. As is the case for the goods and services accounts, the outlook is for a somewhat smaller underlying current account surplus in 2015 than was forecast in August. Prospects for coming years are broadly unchanged, however. The underlying current account surplus is projected to continue shrinking, to about ½% of GDP by 2018 (Chart IV-16). If this forecast materialises, national saving will remain above 20% of GDP during the forecast horizon.

Labour market

Swifter rise in total hours worked than was forecast in August

The forecast in the August *Monetary Bulletin* assumed that the impact of the cost increases provided for in the recent wage settlements would be reflected to some extent in reduced labour demand. There are few signs of this as yet, although it is difficult to assess how strong demand would have been without these large cost increases. According to the Statistics Iceland labour force survey (LFS), labour demand did grow somewhat more slowly in Q3 than in the first half, albeit somewhat more strongly than had been forecast. Total hours worked rose by 2.4%, whereas the forecast assumed an increase of just under 2%. So far this year, total hours have increased by 3.5%, but unlike the first half of the year, the increase in Q3 is due both to a rise in the number of employed persons and average hours worked (Chart IV-17). However, as is discussed in the May issue of *Monetary Bulletin*, average hours worked have grown slowly since 2011, and in Q3 they were still somewhat below the third-quarter average in 2003-2015 and well below the pre-crisis average.

According to the LFS, the labour participation rate and the employment rate also rose somewhat between years, and the number of persons outside the labour market continued to fall. Seasonally adjusted unemployment measured 4% in Q3, having declined by 0.2 percentage points quarter-on-quarter.[4] The fall in the unemployment rate was smaller than the rise in the employment rate, however, as the participation rate increased considerably (Chart IV-18).

Increased optimism about the employment outlook

According to the Gallup survey carried out in August and September among Iceland's 400 largest firms, respondents are considerably more upbeat about staff recruitment than they were in the spring survey, which was conducted around the time wage settlements were being finalised (Chart IV-19). According to the autumn survey, firms interested in recruiting staff in the next six months outnumbered those planning redundancies by just over 17 percentage points. More companies are planning to recruit now than according to the summer survey, and fewer are planning to reduce staffing. Executives in all sectors except tourism were more optimistic about recruitment than in the summer survey. The public also seems quite optimistic about the employment outlook and, according to the Gallup Consumer Sentiment Index in October, expectations towards the employment situation have not measured higher since October 2007.

Increased labour use rather than productivity growth during the economic recovery

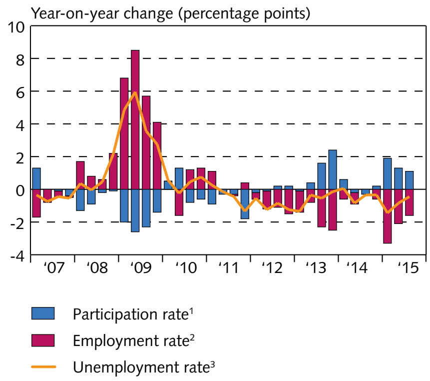
As is stated above, the total hours have risen markedly this year. In the first half, GDP growth exceeded the increase in total hours, resulting in an increase in labour productivity, which has remained virtually

4. Unemployment as registered by the Directorate of Labour (DoL) was less, or 3%, in Q3, after adjusting for seasonality. It had declined very slightly between quarters and by just over ½ a percentage point between years.

Chart IV-18

Contribution to changes in unemployment rate

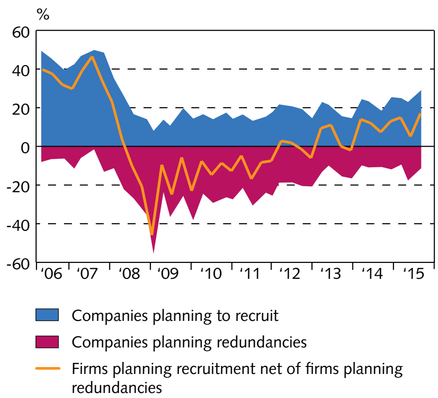
Q1/2007 - Q3/2015



1. Persons in the labour market as percentage of population aged 16-74. 2. Employed persons as percentage of population aged 16-74. An increase in the employment rate shows as a negative contribution to changes in unemployment. 3. Unemployed persons as percentage of labour force. May not equal the sum of its components due to rounding.
Sources: Statistics Iceland, Central Bank of Iceland.

Chart IV-19

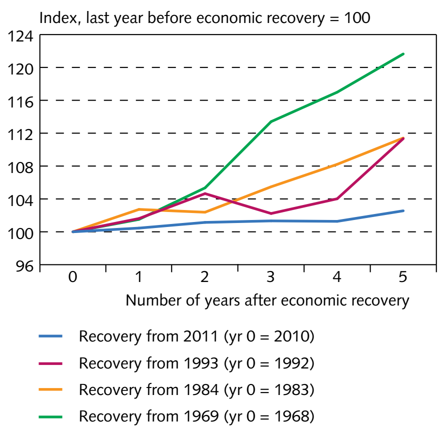
Companies planning to change staffing levels within 6 months



Source: Gallup

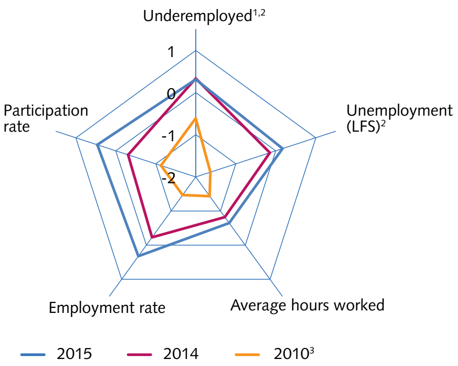
Chart IV-20

Post-crisis labour productivity[1]



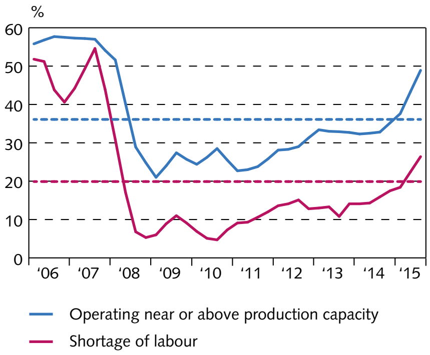
1. From 1991, the ratio of GDP to total hours worked; before 1991, the ratio of GDP to man-years. Data for 2015 are based on the forecast in *Monetary Bulletin* 2015/4. The four contractions are periods featuring a significant contraction in measured GDP.
Sources: Statistics Iceland, Central Bank of Iceland.

Chart IV-21
Indicators of labour market tension in the third quarter of the year
Deviation from third-quarter average in 2003-2015 (number of standard deviations)



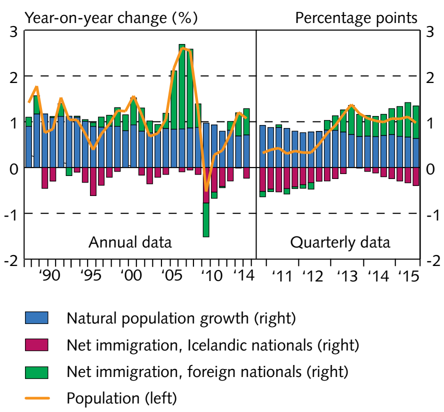
1. Number of underemployed part-time workers as a percentage of population. 2. Multiplied by -1 so that a negative deviation from the average indicates tension. 3. The year when labour market recovery began.
Sources: Statistics Iceland, Central Bank of Iceland.

Chart IV-22
Indicators of factor utilisation[1]
Q1/2006 - Q3/2015



1. According to Gallup Sentiment Survey among Iceland's 400 largest firms. Seasonally adjusted data. Twice a year respondents are asked if their production is near or above capacity; therefore, a linear interpolation is used to generate quarterly data. Broken lines show period averages.
Sources: Gallup, Central Bank of Iceland.

Chart IV-23
Contribution to population changes[1]



1. Population figures are annual for 1987-2014 and quarterly from Q4/2010 onwards.
Sources: Statistics Iceland, Central Bank of Iceland.

flat for the past five years. The current recovery is therefore quite dissimilar to previous recoveries as regards the slow improvement in productivity (Chart IV-20). This development is in line with those in many developed economies in recent years however (see Chapter IV in *Monetary Bulletin* 2015/2). Productivity growth is projected at just over 1% year-on-year in 2015, and if the forecast materialises, the next few years will be broadly similar. The pick-up in productivity is slightly greater than in the last forecast, as GDP growth is projected to be stronger, but it is well below the average of the past three decades, which is close to 2% per year.

Indicators of factor utilisation

Far more firms consider themselves understaffed

The slack in the labour market appears to have been considerably smaller in Q3 as compared with the third quarter of previous years, owing to strong labour demand in the first half (Chart IV-21). In terms of the deviation of unemployment, the labour participation rate, the employment rate, and the underemployed from the 2003-2015 average, the slack had already disappeared, but average hours worked were still below their historical average.[5] In view of how slowly average hours worked have increased, however, there still may be some scope to satisfy increased labour demand without creating additional wage pressures. The share of firms considering themselves short-staffed rose by about 7 percentage points between Gallup's summer and autumn surveys. In the autumn survey, about a fourth of respondents considered themselves understaffed (Chart IV-22). Because this information extends only back to 2006, however, the average for the period (43%) is probably not a good indicator of normal factor utilisation.

The results of the autumn survey also give rise to the question whether it is now more difficult for firms to address staffing problems with imported labour, but net immigration of foreign nationals has been considerable in recent years (Chart IV-23). This applies in particular to the assessment by firms in the construction sector, which has relied most heavily on imported labour to address staffing shortages. According to Gallup's autumn survey, about ⅔ of construction firms considered themselves understaffed, and over 70% were interested in recruiting. In the tourism sector, which also uses foreign workers to address staffing shortages, some 40% of firms considered themselves understaffed.

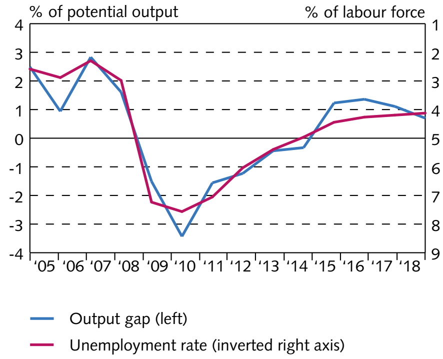
Positive output gap has developed

Since the post-crisis economic recovery began, the margin of spare capacity in the economy has narrowed steadily. Increased use of the capital stock and declining unemployment in recent years are signs of this. Indications from surveys suggest strongly that the positive

5. Statistics Iceland published recently a detailed breakdown of the labour force, which includes a potential addition to the labour market. There are three groups: those that are employed part-time and want to work more and those who are outside the labour market and are (a) seeking work but cannot begin work within two weeks or (b) could begin work within two weeks but are not looking for work (underemployed) (see Box 3 in *Monetary Bulletin* 2015/2).

output gap has widened over the course of the year. According to the Gallup survey conducted this autumn, the number of firms considering themselves understaffed had risen sharply, as did the number that would have difficulty responding to a sudden increase in demand (Chart IV-22). The slack in the economy is considered to have virtually disappeared in 2014, and this year GDP is expected to grow in excess of potential output, giving rise to an output gap of nearly 1½% of potential output (Chart IV-24), somewhat more than was assumed in the Bank's August forecast.

Chart IV-24
Output gap and unemployment 2005-2018[1]



1. Central Bank baseline forecast 2015-2018.
Sources: Statistics Iceland, Central Bank of Iceland.

V Inflation

Inflation measured 2% in Q3/2015, somewhat below the projection in the August *Monetary Bulletin*. In recent months, however, it has risen in comparison with the first half of the year, owing mainly to increased house prices and domestic goods and services prices. The decline in global oil prices has lowered headline inflation markedly, however. Domestic inflationary pressures have increased in the wake of the recent wage agreements, although the appreciation of the króna and the decline in global goods prices have pulled in the opposite direction. It is not clear how persistent these effects will be, however, and near-term developments in wage costs are highly uncertain, owing to the possibility of a review of wage settlements. By most measures, inflation expectations are above the Bank's inflation target, although recent developments in inflation expectations have been somewhat ambiguous.

Recent developments in inflation

Inflation has been lower than expected

Inflation has been below the Bank's target since the beginning of 2014. It measured 2% in the third quarter of this year, somewhat less than was forecast in the August *Monetary Bulletin*. Excluding housing, prices were up by only 0.6% year-on-year in Q3. The deviation from the previous forecast is due mainly to the recent appreciation of the króna, as well as to a larger-than-expected drop in global oil prices. The decline in domestic petrol prices had a marked effect on the CPI during the quarter. Furthermore, the inflationary effects of the recent wage settlements appear thus far to be more modest than was assumed in the August forecast, probably due in part to the appreciation of the króna and the improvement in terms of trade in recent months.

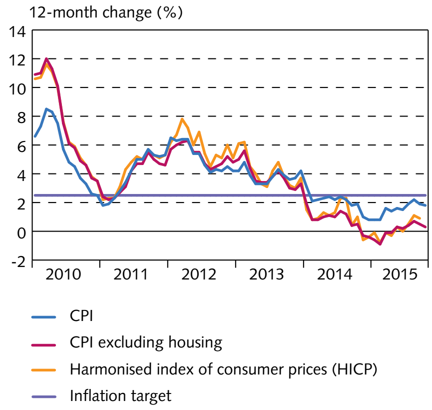
The CPI rose by 0.07% month-on-month in October, after falling by 0.4% in September. The unexpected decline in September was due mainly to a steep drop in airfares. In October, the main driver was rising house prices. Twelve-month inflation measured 1.8%, roughly unchanged since just before the publication of the August *Monetary Bulletin* (Chart V-1). Twelve-month inflation excluding housing has declined slightly since then, measuring 0.3% in October. Inflation in terms of the HICP (which also excludes housing costs) has been somewhat higher in recent months, with the twelve-month increase measuring 0.9% in September, up from 0.5% in July 2015.

Underlying inflation and other indicators of inflationary pressures

Domestic factors the main drivers of inflation

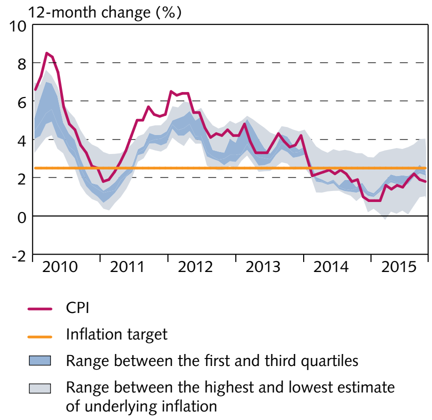
Underlying inflation has also risen since the beginning of the year, although it is still low by most measures. Underlying twelve-month inflation in terms of core index 3 (which excludes the effects of indirect taxes, volatile food items, petrol, public services, and real mort-

Chart V-1
Various measures of inflation
January 2010 - October 2015



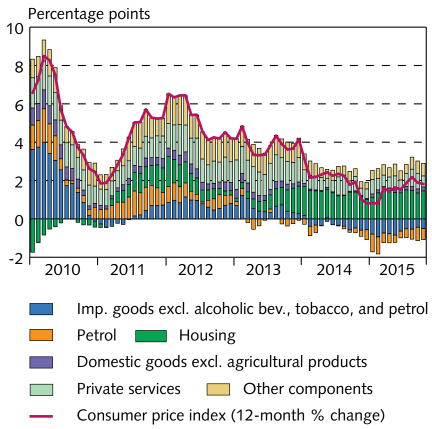
Sources: Statistics Iceland, Central Bank of Iceland.

Chart V-2
Headline and underlying inflation[1]
January 2010 - October 2015



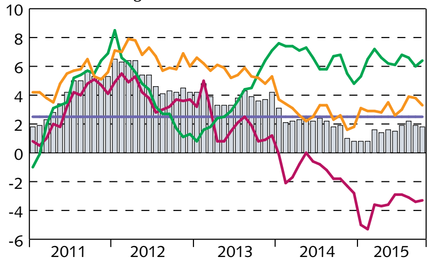
1. The shaded area includes different measures of underlying inflation; core indices that exclude the effects of volatile food items, petrol, public services and owner-equivalent rent and statistical measures such as the weighted median, the trimmed mean and a dynamic factor model.
Sources: Statistics Iceland, Central Bank of Iceland.

Chart V-3
Components of CPI inflation
Contribution to inflation January 2010 - October 2015



Source: Statistics Iceland.

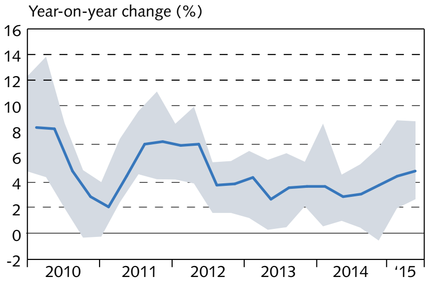
Chart V-4
Imported and domestic inflation[1]
January 2011 - October 2015



CPI
Imported prices (32%)
Domestic prices excluding housing (45%)
Housing (23%)
Inflation target

1. Imported inflation is estimated using imported food and beverages and the price of new motor vehicles and spare parts, petrol, and other imported goods. Domestic inflation is estimated using the price of domestic goods and the price of private and public services. The figures in parentheses show the current weight of these items in the CPI.
Sources: Statistics Iceland, Central Bank of Iceland.

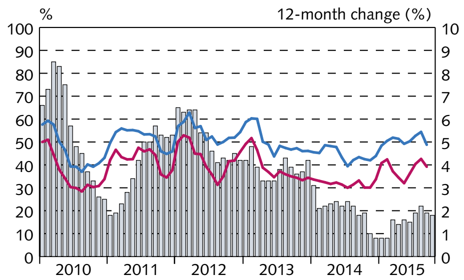
Chart V-5
Domestic inflationary pressures[1]
Q1/2010 - Q2/2015



Average
Upper and lower limits of indicators of domestic inflationary pressures

1. Upper and lower limits of five indicators of domestic inflationary pressures. The indicators are unit labour costs, the GDP price deflator, prices of private services and domestic goods, and producer prices of goods sold domestically.
Sources: Statistics Iceland, Central Bank of Iceland.

Chart V-6
Distribution of price increases in the CPI
January 2010 - October 2015



Share of categories showing increase (left)[1]
Share of categories showing an annualised increase of more than 2.5% (left)
CPI (right)

1. The share of goods categories that rise in price is a 3-month centred average.
Source: Statistics Iceland.

gage interest expense) measured 1.9% in October and, if the market price of housing is also excluded, about 0.6%. Statistical measures of underlying inflation suggest that it lies in the 2-4% range and is unchanged, on average, since July (Chart V-2).

The main drivers of rising inflation year-to-date have been domestic price increases in, for instance, housing, private services, and domestic goods. Higher house prices explained more than ¾ of twelve-month inflation in October and increased prices of private services and domestic goods about ⅔, whereas falling prices of imported goods, oil in particular, have pulled strongly in the opposite direction (Chart V-3). Domestic inflationary pressures appear to have increased somewhat in recent months, as domestic inflation (excluding housing) was 3.3% in October, as opposed to 3% in July. On the other hand, imported goods prices had fallen by 3.3% year-on-year in October. By this measure, the difference between domestic and imported inflation has widened (Chart V-4). Chart V-5 also shows that, in terms of the average of several different factors reflecting domestic costs, domestic inflationary pressures had increased steadily from mid-2014 through Q2/2015. Closer scrutiny of the distribution of price increases across CPI components reveals similar developments: even though inflation is still low, on average, more than half of CPI components have risen every month so far this year, as was the case in 2013, when average inflation was much higher, or 3.9% (Chart V-6).

Other indicators also imply that cost pressures have increased. Producer prices of goods sold domestically rose 4.3% year-on-year in Q3, as opposed to 3.3% in Q2. According to the results of Gallup's autumn survey, carried out in August and September, about 42% of corporate executives expected their goods and services prices to increase in the upcoming six months, as opposed to 37% in the spring survey, conducted in March. By the same token, nearly 60% of firms expected input prices to rise in the next six months, as compared with 50% in March (Chart V-7).

Króna appreciation and falling global goods prices offset increased cost pressures

Increased domestic inflationary pressures can be attributed in large part to the pay increases negotiated in the recent wage settlements. Thus far, however, the appreciation of the króna in recent months and the drop in imported goods prices seem to have offset most of the inflationary effects of these cost increases. It is possible that the appreciation currently passes through to the price level more strongly than often before, as it is based largely on economic fundamentals and occurs in spite of the Central Bank's sizeable foreign currency purchases (see Chapter III). In view of this, firms could consider the appreciation more persistent than those occurring in previous upswings.

The composition of inflation is reminiscent of the situation in 2003-2005, however, when headline inflation was low partly because the króna had appreciated and imported inflation was low at a time of strong domestic inflationary pressures, which emerged, among other things, in steeply rising house prices. When the exchange rate gave way in 2006, inflation rose rapidly. In view of the significant inflationary pressures deriving from the labour market at present and the widening positive output gap, it is relatively likely that headline inflation does not fully reflect the existing underlying inflationary pressures. The outlook is for inflation to rise again once the effects of reduced global goods prices taper off (see the discussion of the risk profile for the inflation forecast in Chapter I).

Wage costs probably underestimated

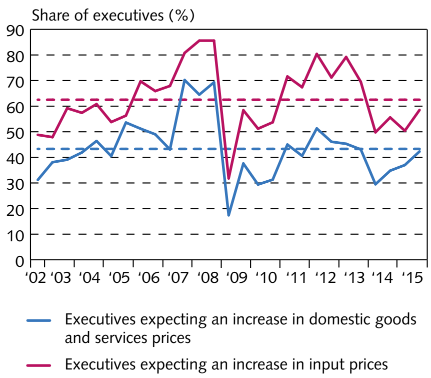
In September, Statistics Iceland published revised wage cost figures based on the national accounts for 2007-2014. National accounts figures for wages and related expenses usually change somewhat with each revision (Chart V-8). The most recent revision shows that, on average, wages per man-year were somewhat higher than previously estimated during the period in question, but the impact of the revision varies from year to year. The wage share (wages and related expenses relative to gross factor income) was 62.2% in 2014, an increase of more than 2 percentage points year-on-year (Chart V-9). It was then 1.3 percentage points above its twenty-year average, and if the baseline forecast materialises, by 2018 it will be broadly in line with the pre-crisis peak from 2006-2007.

The pay increases provided for in the recently concluded wage agreements have surfaced in the wage index, as was assumed in the last forecast, and wage drift has been broadly as projected (for further information on the assessment of wage developments, see Box 4). The wage index rose in Q3/2015 by 3.5% quarter-on-quarter and by 7.9% year-on-year.

The arbitration panel ruling that applied to most members of the Association of Academics and the Icelandic Nurses' Association entailed pay increases much larger than those provided for in the private sector wage agreements from previous months, which were nonetheless sizeable. The cost increases deriving from the contracts reached with large public sector unions in late October are similar to those provided for in the arbitration panel ruling. The review clause in the wage agreements will therefore be triggered, as one of the premises for those agreements was that the wage policy provided for would serve as a guideline for other collective bargaining negotiations. The social partners have therefore been engaged in discussions in an attempt to reach an agreement on changes in wages and rights, thereby forestalling early termination of wage agreements next February, when the review clause is to be invoked. An agreement has been signed concerning a change in the procedure for wage settlements, but a final conclusion has not been reached concerning how the contract review next February will be handled. All ideas on this topic that have been discussed entail a larger rise in wage costs than was assumed in the August forecast, and the assumptions in the current forecast take account of some of these ideas. Furthermore, the pay rises in public sector wage agreements are larger than was assumed in the last forecast, owing to the arbitration panel ruling and the agreements reached with State employees in late October.

Chart V-7

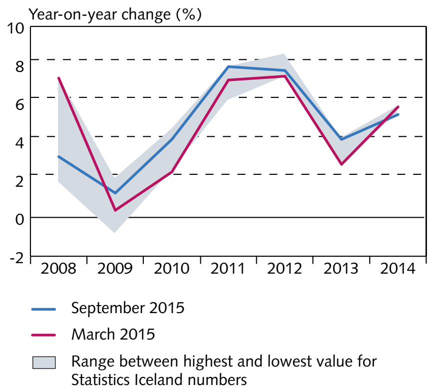
Corporate expectations of input and product prices six months ahead 2002-2015[1]



1. Broken lines show averages from 2002.
Source: Gallup.

Chart V-8

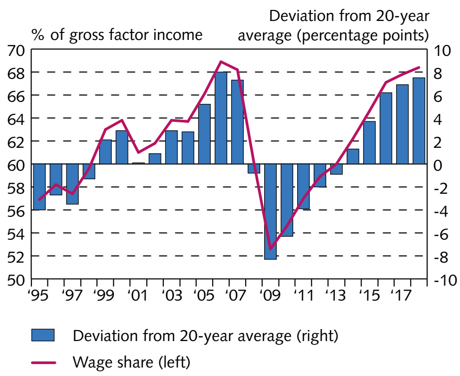
Wages per man-year



Sources: Statistics Iceland, Central Bank of Iceland.

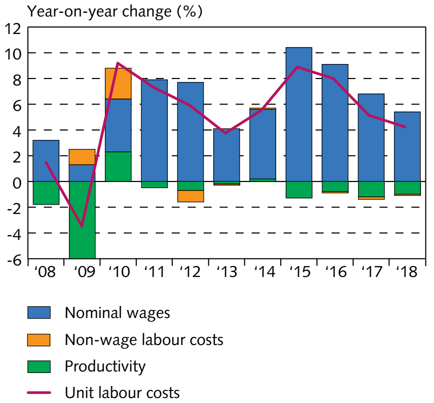
Chart V-9

Wage share 1995-2018[1]



1. The 20-year average is 60.9% (base 1997). Central Bank baseline forecast 2015-2018.
Sources: Statistics Iceland, Central Bank of Iceland.

Chart V-10
Unit labour costs and contribution of underlying components 2008-2018[1]

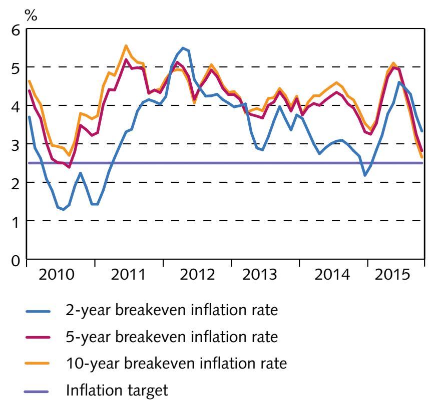


1. Labour productivity growth is shown as a negative contribution to an increase in unit labour costs. Central Bank baseline forecast 2015-2018.
Sources: Statistics Iceland, Central Bank of Iceland.

Chart V-11
Inflation and inflation expectations one year ahead
Q1/2010 - Q4/2015

Sources: Gallup, Statistics Iceland, Central Bank of Iceland.

Chart V-12
Breakeven inflation rate[1]
January 2010 - October 2015



1. Forward breakeven inflation rate based on nominal and indexed yield curves (monthly averages). The breakeven rate indicates the expected annual inflation rate in two, five, and ten years.
Source: Central Bank of Iceland.

As in the August forecast, it is assumed that the pay rises will be retroactive to the beginning of May. Therefore, wages will rise more during the contract period than was forecast in August. On the other hand, if the agreements reached are in line with the ideas discussed by the social partners, they will entail larger pay hikes than are provided for in the current forecast. Given the tension that appears to be developing in the labour market, wage drift could also be underestimated in the forecast. Although wages will rise somewhat more in 2015 than was projected in August, the increase between annual averages is broadly in line with that forecast, as new figures from Statistics Iceland show that wages were higher, on average, in 2014 than earlier figures had indicated. Unit labour costs are therefore expected to increase by 9% this year, as in August, and by 8.1% next year instead of the previously forecasted 7.4% (see Chapter IV and Chart V-10).

Inflation expectations

Developments in inflation expectations highly uncertain

Inflation expectations had risen considerably by most measures at the time the August *Monetary Bulletin* was published. Developments since then have been somewhat ambiguous, however, possibly due to increased uncertainty about domestic price developments. The breakeven inflation rate in the bond market, as calculated from the difference between interest rates on indexed and non-indexed bonds, has fallen since August. Although the decline probably reflects to some extent the appreciation of the króna, low global inflation, and reduced pessimism about inflation in comparison with the period prior to the wage settlements, it is difficult to interpret developments in the breakeven rate, as it is also affected by the recent surge of capital inflows, which has led to a marked decline in yields on long nominal Treasury bonds (see Chapter III and Box 1). The breakeven inflation rate two years ahead averaged 3.3% in October, having declined by 1 percentage point since August. The same does not apply to market agents' short-term inflation expectations. According to the Bank's late-October survey of market agents' inflation expectations, conducted just before the publication of this *Monetary Bulletin*, respondents expected inflation to measure 3.8% one year ahead, which is 0.1 percentage points less than in the August survey (Chart V-11). Their inflation expectations two years ahead measured 4% or ½ a percentage point higher than in August. These results therefore indicate that only a small part of the decline in the breakeven rate can be contributed to a real decline in inflation expectations.

Similar developments can be seen in Gallup's autumn survey among corporate executives, who projected inflation at 3.5% one year ahead, a decline of ½ a percentage point since this summer. Their inflation expectations two years ahead rose slightly, however, and also measured 3.5%. Households appear to expect slightly higher inflation in the coming term. According to the survey carried out in September, their inflation expectations one and two years ahead were unchanged since last summer, at 4%.

Market agents' long-term inflation expectations are broadly unchanged

Indications of long-term inflation expectations are also somewhat ambiguous. Market agents expect inflation to average just under 3½% in the next ten years, which is broadly similar to their response in August. On the other hand, the ten-year breakeven inflation rate in the bond market has declined, averaging 2.7% in October, just over 1 percentage point lower than in August (Chart V-12). The above-mentioned effects of foreign capital inflows into the domestic bond market are also a factor here. In addition, it is possible that the short-term factors that have caused inflation to turn out lower than expected have spread to long-term inflation expectations to some extent.