Inflation expected to remain at target throughout the forecast horizon

The outlook is for global GDP growth to decline year-on-year in 2016 to its lowest level since 2009. Although the period of declining GDP growth in emerging economies is considered to be at an end, growth in developed countries does not appear to be recovering. The GDP growth outlook for Iceland's main trading partners has deteriorated somewhat, mainly due to poorer prospects for the UK in the wake of the Brexit referendum. As before, the risk to the global outlook is concentrated on the downside.

At the same time, the domestic economy is robust and has gained momentum. Domestic demand grew by nearly 10% year-on-year in H1/2016, including private consumption growth of nearly 8% and investment growth of almost a third. GDP growth measured 4.1%, broadly the same as in 2015. Domestic demand is expected to grow by nearly 9% in 2016 as a whole, the strongest single-year growth rate since 2006. As in the Bank's August forecast, GDP growth would then be 5%, the strongest since 2007. The forecast for 2017 is significantly affected by the assumption in the current baseline forecast that the exchange rate of the króna will rise during the forecast horizon rather than remaining at the level prevailing at the time the forecast was prepared. It is appropriate to depart from this technical assumption of an unchanged exchange rate now that general capital account liberalisation has begun. According to the forecast, the króna will continue to appreciate – by just under 5% over the forecast horizon – and will be almost 14% stronger by the end of the period than was assumed in the August *Monetary Bulletin*. Other things being equal, a rising exchange rate impedes GDP growth and affects its composition. Under such circumstances, GDP growth is driven more by domestic demand, whereas export growth slows down and demand is shifted more towards imports. The current account surplus will therefore narrow. In spite of the negative effects of a rising exchange rate and external shocks such as a poorer outlook for the capelin fishery, GDP growth is expected to be robust next year, or 4.5%, driven mainly by growth in tourism, the impact of recent wage increases, and increased private sector equity. Furthermore, job creation will be strong and unemployment low. Added to this is the stimulative effect of fiscal easing, with offsetting effects from a tight monetary stance. GDP growth is expected to ease gradually towards its trend growth rate of 2¾% as the forecast horizon progresses.

This strong demand growth is increasingly straining the resources of the economy. Labour participation is growing rapidly and has reached the pre-crisis peak. A shortage of labour has emerged, and the current forecast assumes greater importation of labour than forecast in August. Therefore, in spite of stronger GDP growth, the output gap is expected to be narrower during the forecast horizon than was previously assumed.

Inflation measured 1.8% in October, and inflation expectations appear to be broadly consistent with the target by most measures. According to the forecast, inflation will rise to 2.1% in Q4/2016. The outlook is for it to align with the target in H1/2017 and hover in the 2½-3% range for the remainder of the forecast horizon. This is a significant change from the last forecast, and it is due largely to the assumption that the króna will continue to appreciate over the majority of the forecast horizon. The appreciation will therefore weigh against domestic inflationary pressures, both by lowering imported goods and services prices and by shifting some of domestic spending towards imports.

I Economic outlook and key uncertainties

Central Bank baseline forecast[1]

Continued expectations of weak GDP growth among trading partners

According to the most recent forecast from the International Monetary Fund (IMF), the outlook is for global GDP growth to measure 3.1% in 2016, after declining year-on-year for the second year in a row. If this forecast materialises, this will be the weakest global GDP growth since 2009 and the fifth consecutive year with a growth rate below its long-term average. The Fund's forecast assumes that growth will pick up slightly in 2017 and average 3½% over the next three years. Growth will be supported mainly by emerging economies, as growth in advanced economies is expected to remain sluggish.

Among Iceland's main trading partners, GDP growth has been weak for some time. It averaged 1.6% in H1/2016 and, according to the baseline forecast, will be close to that level for the year as a whole (Chart I-1). The GDP growth outlook is more or less unchanged from the forecast in the August *Monetary Bulletin*, as the outlook for weaker growth in the US offsets a pickup in growth in several other advanced economies. The outlook is for growth in trading partner countries to remain broadly unchanged over the next two years and edge upwards to 1.9% by 2019. This is below the August forecast, as growth is expected to be weaker in nearly all developed countries. The main difference is that GDP growth in the UK is expected to be 0.8 percentage points weaker in 2018 than was previously thought, in addition to the previous revision of 2017 growth estimates in the wake of the Brexit referendum. Year-2017 output growth in the UK is now projected to be only 0.9%, some 1.3 percentage points less than was forecast this spring. Further discussion of the global economy can be found in Chapter II, and uncertainties in the global outlook are discussed later in this chapter.

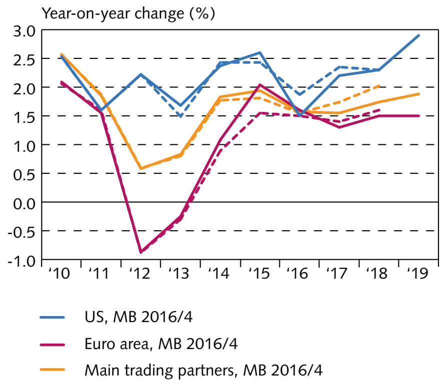
Further appreciation of the króna assumed over the forecast horizon

Over the past two years, the price of Iceland's exported goods has risen markedly relative to trading partner exports (Chart I-2). Terms of trade have therefore improved by nearly 10% and look set to improve by a further 3% this year. Even though global oil prices have risen more strongly and marine and aluminium product prices have developed less favourably than was assumed in August, this is a larger improvement in terms of trade than was projected at that time, owing mainly to more favourable developments in other import and export prices. Terms of trade are expected to improve next year but, as was assumed in August, deteriorate slightly in the latter half of the forecast horizon. As is discussed later in this chapter, the forecast of developments in terms of trade could prove overly optimistic, given the out-

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

Chart I-1

Global output growth 2010-2019[1]

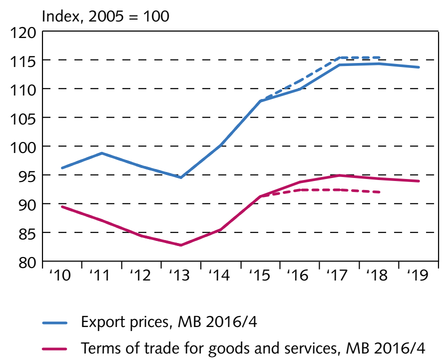


1. Central Bank baseline forecast 2016-2019. Broken lines show forecast from MB 2016/3.

Sources: Macrobond, OECD, Central Bank of Iceland.

Chart I-2

Export prices and terms of trade 2010-2019[1]



1. Price of Icelandic exports relative to trading partners' export prices (converted to the same currency using the trade-weighted exchange rate index). Central Bank baseline forecast 2016-2019. The broken lines show the forecast from MB 2016/3.

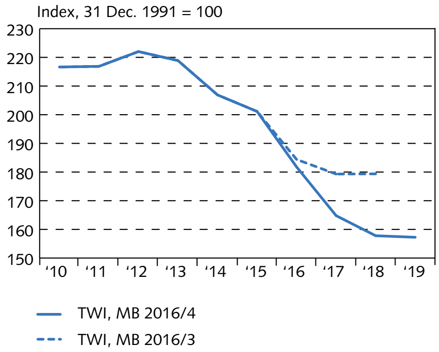
Sources: Macrobond, Statistics Iceland, Central Bank of Iceland.

look for global export prices and weak GDP growth in trading partner countries.

The króna has appreciated markedly in the recent past. In trade-weighted terms, it was up by about 13% year-on-year in Q3/2016. As is discussed in Chapter III, inflows of short-term capital into the domestic bond market have more or less ceased since the Central Bank began applying its new capital flow management measure to contain excess inflows in search of higher yields (see also Box 1). The recent rise in the exchange rate can be attributed largely to the sizeable trade surplus, which in turn is due to improved terms of trade and a burgeoning tourism sector, together with increased foreign demand for domestic assets. Therefore, the appreciation may to some extent reflect an adjustment to a higher equilibrium exchange rate, as is discussed in Box 3 of *Monetary Bulletin* 2016/2.

Although it is not impossible that the exchange rate could dip temporarily when the capital controls are lifted, it is expected to continue rising over the forecast horizon (Chart I-3).[2] In 2017, the trade-weighted exchange rate index (TWI) is expected to be just under 165. According to the forecast, the króna will appreciate by another 4½% over the remainder of the forecast horizon, and by the end of the period it will be nearly 14% stronger than was assumed in August. The real exchange rate therefore continues to rise. In terms of relative consumer prices, it rose by 4% in 2015, and it appears likely to rise by another 11½% per year in 2016 and 2017. In terms of relative unit labour costs, the increase is even larger. Further discussion of terms of trade and the exchange rate can be found in Chapters II and III.

Chart I-3
Exchange rate 2010-2019[1]

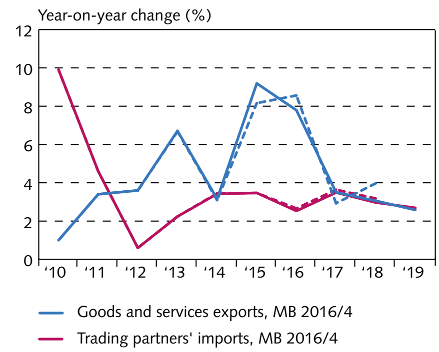


1. Central Bank baseline forecast 2016-2019. Narrow trade basket.
Source: Central Bank of Iceland.

Outlook for weaker export growth as the forecast horizon progresses

Exports of goods and services grew in 2015 by over 9%, about 1 percentage point more than was indicated by Statistics Iceland's first 2015 figures. This rapid growth rate is due to services exports, which grew by over 2 percentage points more than was previously measured, owing mainly to more complete information on exported tourism services. The outlook for export volumes this year is broadly unchanged from the August forecast, and due to base effects from 2015, exports are expected to grow by nearly 1 percentage point less than was projected in August (Chart I-4). Because of the reduced capelin quota, marine product exports are expected to contract by 2% in 2017 instead of growing by 3½%. On the other hand, the outlook is for stronger exports of services and miscellaneous manufactured goods. Export growth is then projected to ease in 2018-2019, in line with the rising real exchange rate and weaker growth in global economic activity.

Chart I-4
Exports and global demand 2010-2019[1]

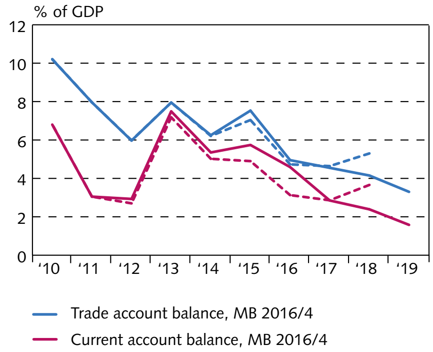


1. Central Bank baseline forecast 2016-2019. Broken lines show forecast from MB 2016/3.
Sources: Macrobond, Statistics Iceland, Central Bank of Iceland.

2. Unlike the Bank's forecasts in recent years, the current baseline forecast assumes that the exchange rate of the króna will develop in line with the Bank's quarterly macroeconomic model (QMM) over the forecast horizon. See Ásgeir Daníelsson, Bjarni G. Einarsson, Magnús F. Gudmundsson, Svava J. Haraldsdóttir, Thórarinn G. Pétursson, Signý Sigmundardóttir, Jósef Sigurdsson, and Rósa Sveinsdóttir (2015), QMM: A quarterly macroeconomic model of the Icelandic economy – Version 3.0, Central Bank of Iceland, *Working Paper* no. 71. Later in this chapter is a comparison between the baseline forecast and an alternative scenario that assumes a constant exchange rate during the forecast horizon.

The surplus on goods and services trade measured 7.5% of GDP in 2015 but, as was forecast in August, is expected to shrink to 5% this year (Chart I-5). According to the current forecast, the surplus will continue to narrow in coming years and will be smaller than was assumed in August. This primarily reflects a changed assessment of the adjustment of the economy to its long-term growth path, which is taking place to some extent through the appreciation of the króna. As is discussed above, previous baseline forecasts were based on the technical assumption that the exchange rate would remain constant over the forecast horizon, but the current forecast assumes that it will rise further. This shifts demand growth out of the domestic economy, which will surface in stronger import growth and reduced foreign demand for Iceland's exports. The current account surplus is expected to narrow in a similar manner, falling from 4½% of GDP this year to 1½% of GDP in 2019. Further discussion of the external balance can be found in Chapter IV.

Chart I-5
Current account balance 2010-2019[1]

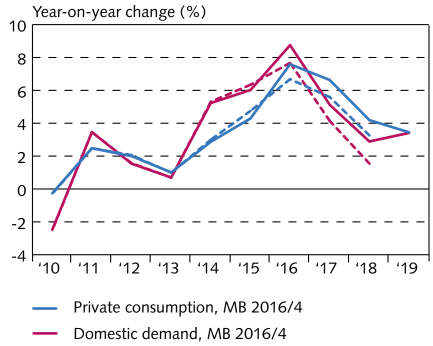


1. Central Bank baseline forecast 2016-2019. Broken lines show forecast from MB 2016/3. Current account balance based on estimated underlying balance 2008-2015.
Sources: Statistics Iceland, Central Bank of Iceland.

Strong growth in domestic demand driven by a surge in consumer and investment spending

Private consumption grew by nearly 8% year-on-year in H1, and the outlook is for 7½% growth in 2016 as a whole, or about 1 percentage point more than was forecast in August (Chart I-6). This is the fastest growth rate since 2005, but unlike the situation then, households' spending has not increased more than their income and balance sheets can sustain. Instead, households have stepped up their saving in the recent past. Real disposable income has grown markedly – and more rapidly in the past two years than was previously thought. By the same token, net household wealth has increased significantly. Job creation has been strong, and households are more optimistic than before. Private consumption growth is still projected to be strong in 2017, or 6½%, but the pace is expected to ease somewhat as the forecast horizon progresses, although it will be a bit stronger than in the August forecast. According to the forecast, households will reduce their saving slightly in 2016 and 2017, but the ratio of private consumption to GDP will still be below its historical average.

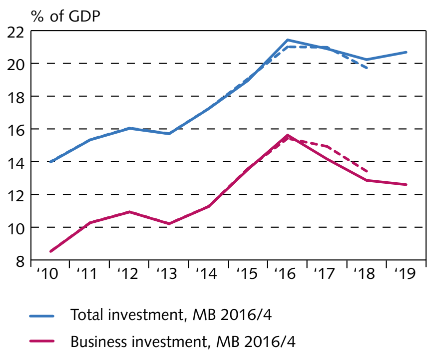
Chart I-6
Private consumption and domestic demand 2010-2019[1]



1. Central Bank baseline forecast 2016-2019. Broken lines show forecast from MB 2016/3.
Sources: Statistics Iceland, Central Bank of Iceland.

Investment has surged this year in virtually all categories. Business investment grew by over 37% in H1/2016 and residential investment by more than a fourth. The increase has been especially large in sectors related to transport and tourism. Total investment therefore grew by nearly a third in H1, somewhat more than was assumed in the Bank's August forecast. For 2016 as a whole, total investment looks set to grow by over 22% instead of the 18% provided for in the August forecast. As in the Bank's previous forecasts, investment growth will ease from 2017 onwards; however, the ratio of investment to GDP will be close to its long-term average throughout the forecast horizon (Chart I-7).

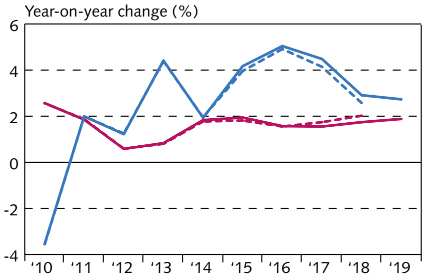
Chart I-7
Investment 2010-2019[1]



1. Central Bank baseline forecast 2016-2019. Broken lines show forecast from MB 2016/3.
Sources: Statistics Iceland, Central Bank of Iceland.

Domestic demand grew by 9.4% year-on-year in the first half of 2016, and for the year as a whole it is projected to grow by 8.7%, about 1 percentage point more than was forecast in August and the strongest single-year growth rate since 2006 (Chart I-6). Strong growth is also expected next year, but from 2018 onwards, demand growth

Chart I-8
GDP growth in Iceland and trading partners 2010-2019[1]



1. Central Bank baseline forecast 2016-2019. Broken lines show forecast from MB 2016/3.
Sources: Macrobond, Statistics Iceland, Central Bank of Iceland.

will be broadly in line with its long-term trend rate. Further discussion of private and public sector demand can be found in Chapter IV.

GDP growth is forecast at 5% this year and expected to outpace the August forecast in 2017 despite a rising exchange rate

According to preliminary figures from Statistics Iceland, output growth measured 4.1% in H1/2016. This is similar to the growth rate for 2015 as a whole but above the Bank's August forecast of 3.6% for H1. The difference is due to stronger domestic demand offset by a more negative contribution from net trade. Economic activity has therefore been robust in the past year. At mid-year, GDP had grown by 22% from its early 2010 trough, according to seasonally adjusted Central Bank figures, and was nearly 6% above the pre-crisis peak.

Year-on-year GDP growth is estimated to have picked up even further in the third quarter, to 6¾%. According to the forecast, it will measure 5% for 2016 as a whole, broadly in line with the August forecast (Chart I-8). As before, strong growth in private consumption and investment pull in one direction and the negative contribution from net trade – in spite of nearly 8% export growth – in the other.

Other things being equal, the appreciation of the króna will erode the GDP growth outlook (see the comparison between the baseline forecast and the alternative scenario with a lower exchange rate path later in this chapter). The composition of GDP growth will also change, as a higher exchange rate and the reduced inflation associated with it will boost real disposable income, thereby supporting private consumption growth. Furthermore, a higher exchange rate directs spending growth towards imported goods and services and weighs on export growth. As a result, GDP growth will be driven more by domestic demand, and the contribution from net trade will be more negative.

In spite of a higher exchange rate and external shocks such as the adverse impact of the Brexit referendum and a poor capelin catch (which are estimated to reduce next year's GDP growth by a combined ¾ of a percentage point), strong domestic demand and the prospect of a continued surge in tourism will cause year-2017 GDP growth to be ½ a percentage point stronger than was forecast in August, or 4½%. As in the Bank's previous forecasts, it is assumed that GDP growth will gradually ease towards its long-term trend rate, measuring about 3% in 2018 and 2¾% in 2019. Further discussion of developments in GDP growth can be found in Chapter IV.

Rapid job creation and labour participation back to pre-crisis peak

Employment rose by 4.5% year-on-year in Q3. At the same time, average hours worked declined by 1.2%, probably reflecting streamlining undertaken in response to last year's costly wage settlements. Total hours worked therefore rose by 3.2% between years, which is in line with the Bank's August forecast. The working-age population has also risen strongly, in part due to importation of foreign labour. Labour participation is therefore broadly back to the early 2007 peak, offsetting the impact of job creation on unemployment. Seasonally adjusted unemployment measured 3.1% in Q3, about 1 percentage point less than in the same quarter of 2015. Long-term unemployment has also declined markedly and has all but disappeared.

Total hours worked have risen by 2.7% year-on-year in 2016 to date, and the increase for the year as a whole is estimated at 3%, slightly more than was forecast in August (Chart I-9). Total hours are expected to rise by 3½% in 2017 and then taper off slightly in 2018, as GDP growth moves towards its long-term trend rate. The employment rate is expected to rise steeply year-on-year in 2016, for the second year in a row. If this projection materialises, it will be 81% in 2016 and 2017 and then ease to 80% as the forecast horizon progresses. Further discussion of the labour market can be found in Chapter IV.

Declining unemployment and widening output gap, but labour importation eases pressure on domestic resources

According to the forecast, unemployment will average 3.1% this year, slightly more than was forecast in August. It is expected to be broadly unchanged next year and then gradually rise to the level consistent with low and stable inflation (Chart I-10).

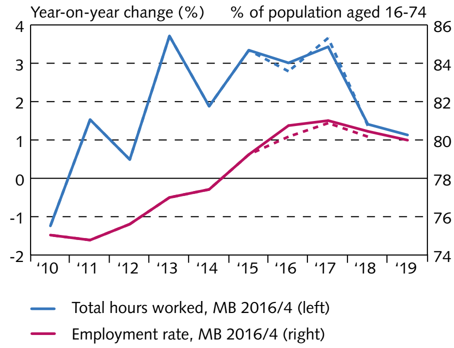
As unemployment has declined, it has become more difficult for firms to hire workers, and there is a growing labour shortage in nearly all sectors. There are indications of growing demand pressures in the economy, and as in the Bank's previous forecasts, the output slack is considered to have disappeared in 2015 and the positive output gap is projected at just over 2% of potential output in 2016 (Chart I-10). To a degree, though, labour shortages have been addressed with imported labour, which raises potential output and eases pressures on domestic resources. It is assumed that there will be more importation of labour during the forecast horizon than was projected in August. As a result, the output gap will be smaller from 2017 onwards than was forecast at that time. As always, the assessment of the output gap is highly uncertain. A discussion of the key uncertainties in the assessment is below, and a discussion of factor utilisation can be found in Chapter IV.

Further appreciation of the króna lowers the Bank's inflation forecast

Inflation was unchanged month-on-month at 1.8% in October. It had doubled between August and September, but the actual increase was not as drastic as it first appeared because it emerged that Statistics Iceland had made an error in its inflation measurements from March onwards. As a result, twelve-month inflation was actually 0.1-0.3 percentage points higher each month until September, when the mistake was discovered. Headline inflation should therefore have measured 1.2% in August and should have risen by 0.6 percentage points in September (Chart I-11).[3] The Central Bank's overforecast of inflation in H1 was therefore somewhat less than previously thought.

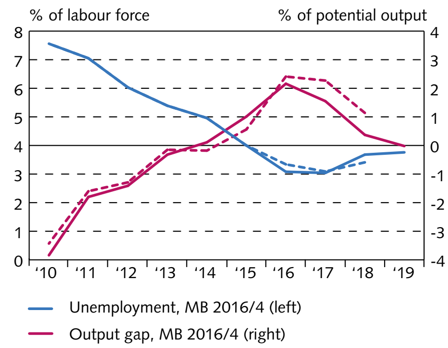
3. In accordance with the joint declaration made on 27 March 2001 by the Government and the Central Bank, the Bank sent the Government a special report on 9 September because inflation had fallen below 1%, the lower deviation threshold for the inflation target (the report is reproduced in this *Monetary Bulletin* as Box 4). If inflation had been measured correctly in August, however, there would have been no need for such a report, as the Bank highlighted in a letter to the Government on 14 October.

Chart I-9
Total hours worked and employment rate 2010-2019[1]



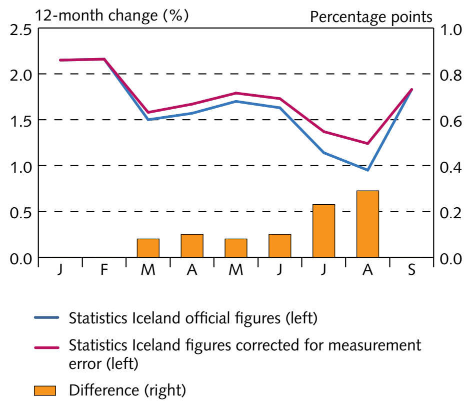
1. Central Bank baseline forecast 2016-2019. Broken lines show forecast from MB 2016/3.
Sources: Statistics Iceland, Central Bank of Iceland.

Chart I-10
Unemployment and output gap 2010-2019[1]



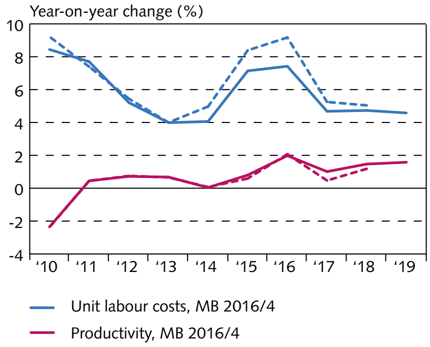
1. Central Bank baseline forecast 2016-2019. Broken lines show forecast from MB 2016/3.
Sources: Statistics Iceland, Central Bank of Iceland.

Chart I-11
Inflation - official and corrected data
January 2016 - September 2016



Sources: Statistics Iceland, Central Bank of Iceland.

Chart I-12
Unit labour costs and productivity 2010-2019[1]



1. Productivity measured as GDP per total hours worked. Central Bank baseline forecast 2015-2019. Broken lines show forecast from MB 2016/3.
Sources: Statistics Iceland, Central Bank of Iceland.

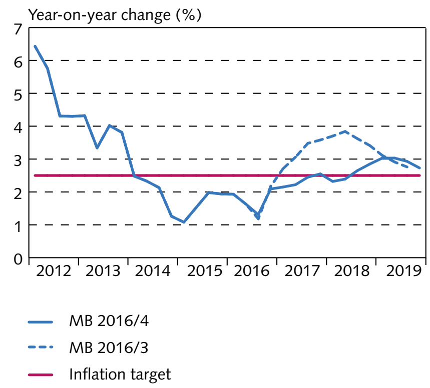
Inflation has been below the inflation target for nearly three years. As is discussed in Box 5 of *Monetary Bulletin* 2016/2, this is due in large part to imported deflation and the appreciation of the króna. Inflation has been much lower in terms of the CPI excluding housing, which is affected more strongly by imported deflation and the exchange rate than are indices that include housing costs (see Box 2). The CPI excluding housing fell by 0.5% year-on-year, and inflation thus measured has therefore been consistently below 1% for more than two years.

Households' and businesses' one- and two- year inflation expectations have continued to fall and, like market expectations, appear to be broadly in line with the inflation target. Furthermore, the anchoring of long-term inflation expectations to the target seems to continue to improve.

It is still the case that the main source of domestic inflationary pressures is in the labour market, as the large pay hikes provided for in the last wage agreements stimulate demand through rising household income and could induce firms to pass rising wage costs through to prices. The Statistics Iceland wage index rose by 11% year-on-year in Q3, and firms' wage costs are estimated to rise by 9½% over the year as a whole, somewhat less than was assumed in the Bank's August forecast. As in August, the rise in wages is expected to lose pace in coming years. Although unit labour costs are expected to increase more slowly than was forecast in August, owing to the expectation of more rapid productivity growth, they are still expected to rise well above the level that is consistent with medium-term price stability (Chart I-12).

Inflation averaged 1.3% in Q3, which is consistent with the August forecast. As in August, it is expected to rise in Q4, to 2.1%, due in part to adverse base effects from the prior year. However, as 2017 progresses, the current baseline forecast deviates significantly from the Bank's previous forecast. Instead of continuing to rise, peaking at 3¾% in H1/2018, as was projected in August, inflation will remain in the 2½-3% range throughout the forecast horizon (Chart I-13). The main reason for this change is that the current forecast is not based on the technical assumption that the exchange rate of the króna will remain stable throughout the forecast horizon; instead, it is assumed to rise for most of the period (see the comparison of inflation forecasts based on differing exchange rate paths later in this chapter). As a result, the transmission of monetary policy through the exchange rate channel will be more effective, which will keep domestic inflationary pressures in check for a longer period than was possible in the Bank's previous forecasts. In addition, it is assumed that the output gap will be narrower than was forecast in August and the rise in unit labour costs smaller. As before, the outlook is subject to a number of uncertainties, which are discussed below. Further discussion of global price level developments can be found in Chapter II, and developments in domestic inflation and inflation expectations are discussed in Chapter V.

Chart I-13
Inflation[1]
Q1/2012 - Q4/2019



1. Central Bank baseline forecast Q3/2016-Q4/2019.
Sources: Statistics Iceland, Central Bank of Iceland.

Key uncertainties

The baseline forecast reflects the assessment of the most likely economic developments during the forecast horizon. 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 key uncertainties in the forecast.

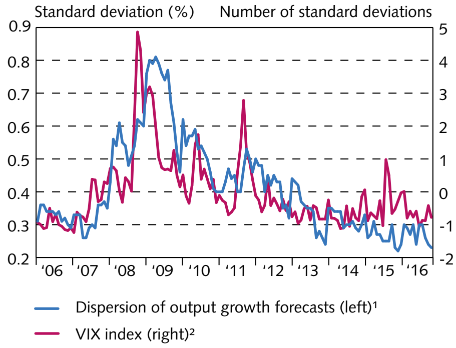
Are global forecasts overly optimistic once again?

The baseline forecast is based on the assumption that global GDP growth will pick up as the forecast horizon progresses and that various factors that have hindered the global economic recovery and contributed to uncertainty about the economic outlook will recede. This is in line with the Bank's previous forecasts and with assessments by leading international institutions. These forecasts have repeatedly proven excessively optimistic, however, and various uncertainties and risks are still in evidence. The Brexit vote in June resulted in some volatility in global financial markets, which resurfaced following the unexpected result in the US presidential election. The turmoil was less pronounced, however, than in the beginning of the year (Chart I-14). The macroeconomic impact of Brexit has yet to emerge, and if Britain's access to the EU internal market is largely curtailed, the impact on the global economy could be underestimated. The same applies to the effects of the unexpected result in the US presidential election. Furthermore, general scepticism about the benefits of open economies and free international trade is on the rise in many advanced economies and if protectionism gains momentum, the global economic recovery could suffer (see IMF, *World Economic Outlook*, Chapter 2, October 2016). China's adjustment to a sustainable GDP growth path has also been a challenge, both domestically and internationally, and although the short-term outlook for China has improved somewhat, a sudden drop in asset prices could severely test the resilience of the Chinese financial system. Although oil prices have risen in the recent past, they are still historically low and, together with low non-oil commodity prices, have strained many emerging economies. Furthermore, financial conditions facing these countries could tighten once again. Moreover, there is still considerable pessimism about whether developed countries will be able to stimulate their economies with conventional policy instruments.

As in the Bank's previous forecasts, the global outlook as projected in the baseline scenario could prove overly optimistic. Demand for Iceland's most important export products could therefore prove weaker than is forecast. Increased geopolitical uncertainty or a sudden spike in oil prices could also cause a reversal in the tourism industry, and the impact of the recent rise in the exchange rate on tourism could be underestimated.[4] In addition, assumptions concerning export prices may be overly optimistic, and terms of trade could therefore turn out weaker than is assumed in the baseline forecast (see below).

4. The *Financial Stability* 2016/2 report outlines the possible impact of a severe global economic crisis on the Icelandic economy and financial system through a severe contraction in tourism to Iceland.

Chart I-14
Dispersion of output growth forecasts and implied stock price volatility
January 2006 - November 2016



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). Deviation from January 2000-October 2016 average measured in standard deviations.
Sources: Consensus Forecasts, Macrobond.

Exchange rate forecasts are always uncertain

The baseline forecast assumes that the króna will continue to appreciate over the forecast horizon. This is a departure from the baseline forecasts of the past few years, which have been based on the technical assumption that the exchange rate will remain unchanged at the level prevailing at the time the forecast was prepared. This assumption has been made because the capital controls have in part disconnected the economic forces that typically drive currency movements. Now that full liberalisation is in sight, it is appropriate to revisit this technical assumption and base the baseline forecast on an endogenous exchange rate path.

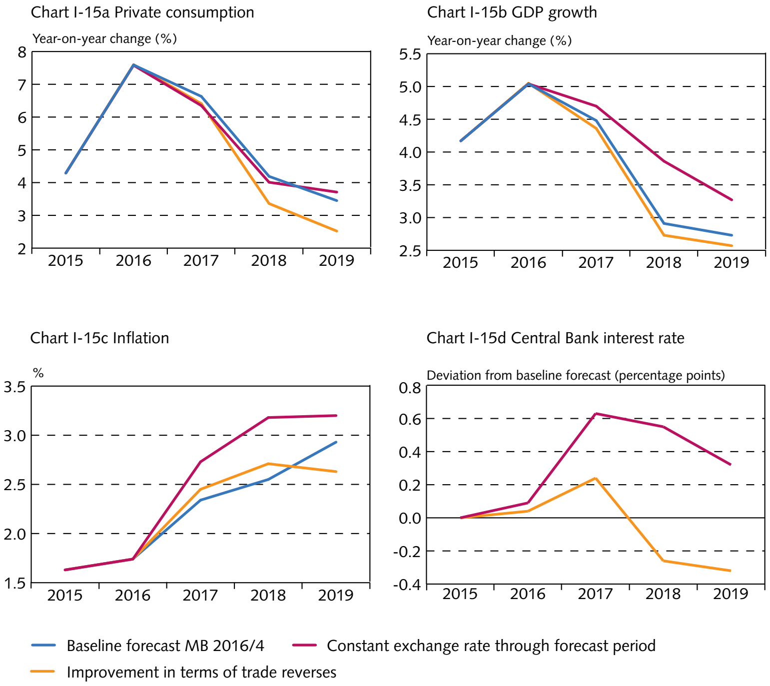
But as always, forecasting exchange rates remains notoriously difficult. The statutory amendments providing for important steps towards liberalisation of capital controls on the private sector have only recently been passed, and if households and businesses choose to accumulate foreign assets rapidly, a sudden surge in outflows is quite possible.[5] As is discussed below, the past years' improvement in terms of trade could also reverse – if key export prices give way, for instance. Furthermore, uncertainty about the global economy could undermine the króna, as such uncertainty is often accompanied by capital flight to safe assets at the expense of small currencies. The recent appreciation of the króna has broadly reflected the strength of the domestic economy and the resulting interest rate spread vis-à-vis neighbouring countries. To the extent that the economy strengthens – for instance, because export growth is even stronger than in the baseline forecast – the exchange rate of the króna could rise even more than the forecast assumes. Moreover, it should be noted that the exchange rate forecast is also affected by the assessment of developments in the equilibrium real exchange rate during the forecast horizon. The equilibrium real exchange rate is judged to have risen somewhat in the recent term (see, for example, Box 3 in *Monetary Bulletin* 2016/2), but it and some of the assumptions surrounding it are uncertain.

One of the main drawbacks of forecasts based on a constant exchange rate is that they shut down an important channel through which the economy adjusts towards its long-term trend growth rate and through which monetary policy affects the real economy. Under the current conditions of GDP growth in excess of its trend growth and increased inflationary pressures during the forecast horizon, the Central Bank's key rate should affect inflation directly – by raising the exchange rate, which lowers import prices – and indirectly – by curbing domestic demand and supporting a shift in expenditure towards imports. Forecasts based on an unchanged exchange rate exclude part of this adjustment, as the resulting inflation forecasts are higher than they would be otherwise and the interest rate path that appears necessary to keep inflation at target over the forecast horizon is higher as well.

Assuming a higher exchange rate path significantly affects the baseline forecast – not only the inflation outlook but also the as-

5. But as is shown in a recent Central Bank analysis, this is not necessarily the most probable outcome (see "Analysis of potential outflows upon capital account liberalisation", Central Bank of Iceland, 19 August 2016).

Chart I-15
Alternative scenarios



Source: Central Bank of Iceland.

sessment of GDP growth and its composition. Chart I-15 compares the current baseline forecast and the alternative scenario based on an unchanged exchange rate over the forecast horizon. As the chart shows, private consumption grows more slowly in the scenario with the lower exchange rate path than in the baseline forecast over most of the forecast horizon. This reflects both reduced real incomes and the fact that a lower exchange rate calls for a higher key interest rate. However, in spite of slightly weaker growth in domestic demand, GDP growth is somewhat stronger in the alternative scenario: about ¼ of a percentage point more in 2017 and nearly 1 percentage point more in 2018. This is because a lower exchange rate stimulates exports and reduces imports. The output gap is therefore wider, which contributes to domestic inflationary pressures, adding to the inflationary effect of a lower exchange rate. This is offset by a tighter monetary stance, with the key Central Bank rate about ½ a percentage point higher than in the baseline forecast from 2017 onwards.

Could the recent improvement in terms of trade reverse?

Terms of trade improved by nearly 10% in 2014-2015 and look set to improve by a further 3% this year. As is discussed in Box 1 of *Monetary Bulletin* 2016/2, this is the largest improvement in terms of trade among OECD countries, and it is particularly striking in comparison with other commodity exporters among advanced economies. All of them except those that are net oil exporters have enjoyed a boost from the past few years' reduction in global oil prices. Iceland stands out among them because marine product prices have risen steeply relative to global food and commodity prices (see Chapter II of *Monetary Bulletin* 2016/2). This can also be seen in Chart I-16, which

Chart I-16
Export prices and global business cycle
1990-2016[1]

1. Price of Icelandic export prices relative to trading partners' export prices (converted to the same currency using the trade-weighted exchange rate index). Shaded area denotes years when global GDP growth is below its 25-year average (1992-2016). The global GDP growth forecast for 2016 is from the International Monetary Fund (*World Economic Outlook*, October 2016). 2. Central Bank of Iceland baseline forecast 2016.
Sources: IMF, Macrobond, Statistics Iceland, Central Bank of Iceland.

shows developments in Iceland's export prices relative to trading partners' export prices. The chart shows clearly how much Iceland's relative export prices have risen in the recent past and how unusual this is: during periods of weak global economic activity, relative export prices usually remain flat or decline, but during the period of tepid global GDP growth since 2012, they have risen by more than 11% and are expected to rise by more than 16% from 2014 through 2016.

After such large increases, it is appropriate to ask how sustainable these gains are and whether there is the risk that the improvement in terms of trade will partially reverse during the forecast horizon, particularly in view of the continued expectation of weak global economic activity. Should this prove to be the case, economic activity in Iceland would be weaker than is assumed in the baseline forecast, as the value of domestic production relative to foreign production would fall. The recent growth in domestic income and wealth could reverse to an extent, cutting into demand and GDP growth. This can be seen more clearly in Chart I-15, which illustrates the possible impact of a combined 9% deterioration in terms of trade over the next three years instead of the ½% improvement provided for in the baseline forecast.[6]

The deterioration in terms of trade causes domestic demand to grow more slowly during the forecast horizon than is assumed in the baseline forecast, as private consumption growth is slightly weaker in 2017 and nearly 1 percentage point weaker from 2018 onwards than in the baseline forecast. To some extent, the reduction in spending is directed at imported goods and services, however, somewhat muting the impact on GDP growth. Nevertheless, GDP growth is about 0.2 percentage points weaker from 2018 onwards. The deterioration in terms of trade also cuts into the trade surplus, although the impact on inflation is relatively limited, owing to the offsetting effects of a weaker króna and reduced domestic demand. As the forecast horizon progresses, monetary policy will offset the contractionary effect of the supply shock, and by 2018 the Bank's key rate will be about ¼ of a percentage point lower than in the baseline forecast.

The fiscal stance could ease more than is assumed in the baseline forecast

The fiscal deficit totalled 6 b.kr. in 2015, or 0.3% of GDP, and according to the baseline forecast, the outlook is for a somewhat larger deficit this year, if the effects of the settlement of the failed banks' estates on Treasury performance are ignored. The primary surplus – i.e., the overall balance net of the financing balance – was considerably larger in 2015, or 3.2% of GDP. It declined by 1 percentage point year-on-year, however, and is projected to narrow still further this year when excluding one-off effects. Cyclically adjusted, this entails a significant easing of the fiscal stance, as is discussed in Chapter IV. The fiscal

6. As is discussed in Box 2 of *Monetary Bulletin* 2015/4, a rise in the exchange rate leads to improved terms of trade, other things being equal. According to the baseline forecast, the króna appreciates by 17% during the period 2014-2016, leading to a 4% improvement in terms of trade according to the empirical results reported in the Box. The alternative scenario therefore assumes that the part of the 13% improvement in terms of trade in excess of the portion attributable to the rise in the exchange rate will reverse over the next three years.

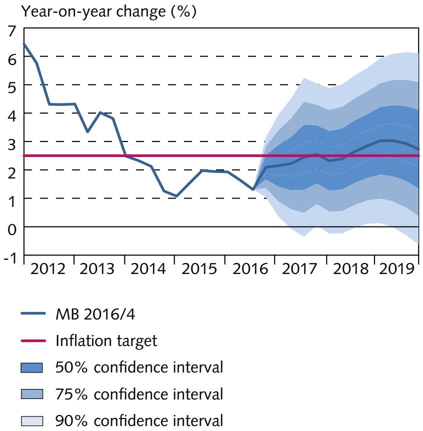
budget proposal for 2017 has not yet been presented; therefore, it is difficult to assess the outlook. The baseline forecast is based on the authorities' previous estimates and the approvals that had been given by the end of the last legislative session. As a result, there is considerable uncertainty about the fiscal situation and the economic policy that will be applied. This is true not least because of the numerous campaign promises centring on increased spending and reduced taxes that were given during the run-up to the recent Parliamentary elections. Consequently, there is the risk of even further fiscal easing in the near future. As experience has shown and as has been discussed in previous issues of *Monetary Bulletin*, this would be extremely unfortunate at a time when it is necessary to coordinate monetary and fiscal policy so as to contain domestic demand under the conditions currently prevailing in the Icelandic economy. The strain on monetary policy would be even greater, thereby exacerbating the negative side effects of an unfavourable policy mix. As can be seen in the alternative scenario in *Monetary Bulletin* 2016/2, a weaker fiscal stance leads to more rapid growth in domestic demand, which in turn calls for a higher policy rate to offset increased inflationary pressures. The current account surplus is then smaller and the exchange rate of the króna higher, further eroding the competitive position of Iceland's export sectors.

The inflation outlook could change if economic developments diverge from the assumptions in the baseline forecast

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. Inflation could turn out higher, for example, if households step up consumption more than is assumed in the baseline forecast. A wage settlement review early in 2017 could bring about larger pay rises than are provided for in the baseline forecast, and tension in the labour market could result in more wage drift than is projected. Firms' capacity and willingness to absorb the associated cost increases could also be overestimated. A limited supply of housing, increasing rentals to tourists, and significant importation of labour could also cause house prices to rise more rapidly than is assumed. This would raise headline inflation directly, through the housing component of the CPI, and indirectly, through stronger demand stemming from homeowners' increased wealth. Demand pressures could also prove to be underestimated if the fiscal stance is eased even further in the wake of the recent elections. Furthermore, inflation expectations, which have only recently been anchored to the target, could become unmoored again if, for instance, the króna should depreciate suddenly.

Inflation could also be overestimated in the forecast. For example, the global economic outlook could turn out too optimistic and projections for the domestic economy likewise, and imported deflation could prove more persistent than is currently assumed – that is, as long as the króna does not give way. The króna could also appreciate further and productivity growth could rise towards its trend rate more quickly than the baseline forecast indicates. The baseline forecast could also underestimate the extent to which firms will absorb wage-

Chart I-17
Inflation forecast and confidence intervals
Q1/2012 - Q4/2019



Sources: Statistics Iceland, Central Bank of Iceland.

related cost increases by streamlining even further – e.g., if competition proves stiffer than is currently assumed.

Chart I-17 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). The uncertainty about the inflation outlook is broadly unchanged since August. As was the case then, the probability distribution of the inflation forecast is broadly symmetrical. There is a roughly 50% probability that inflation will be in the 1½-3½% range one year ahead and in the 1⅓ -4% range by the end of the forecast horizon.