Monetary Bulletin 2018/4[1]

The global output growth outlook has deteriorated slightly from the Bank's August forecast, and it is possible that output growth has peaked in many countries. Financial conditions have tightened in a number of emerging market economies and downside risks to the global growth outlook have increased. The recent surge in oil prices and rising alumina prices have eroded Iceland's terms of trade after an uninterrupted four-year improvement. The exchange rate of the króna has fallen in the recent past, owing mainly to poorer terms of trade, weaker export growth, and increased concerns about tourism operators' performance and the economic outlook more generally.

GDP growth measured 6.4% in H1, after increasing significantly since H2/2017. This is stronger growth than was assumed in the August *Monetary Bulletin*, owing primarily to larger increases in inventories and an unexpected contraction in goods imports. There are signs that goods imports have contracted still further in Q3, and it appears that demand has shifted increasingly towards domestic production. The outlook is for GDP growth to ease in H2 and measure 4.4% for the year as a whole, nearly 1 percentage point above the August forecast, with the deviation stemming from stronger economic activity in H1 and a more positive contribution from net trade. GDP growth is expected to slow down in 2019 and converge with its long-term trend rate of 2.7% in the next few years.

Total hours worked increased significantly in Q3, and unemployment fell between quarters. Job creation is expected to ease over the forecast horizon, in line with declining GDP growth. Because of stronger GDP growth in 2017 and H1/2018, the output gap is estimated to be larger than was assumed in August; however, it is now projected to narrow more quickly over time than was previously expected.

Inflation has been close to the target for much of 2018. It measured 2.7% in Q3 and 2.8% in October. Underlying inflation has risen as well, and long-term inflation expectations are now around 3% or more by all measures. Because of the recent depreciation of the króna and the wider output gap early in the forecast horizon, the inflation outlook for the first half of the horizon has deteriorated since the August forecast. Inflation is expected to exceed 3% through 2019 and remain above the target until H2/2020.

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

I Economic outlook, key assumptions, and main uncertainties

Central Bank baseline forecast

The global GDP growth outlook has deteriorated

Global GDP grew by 3.7% in 2017, the strongest growth rate since 2011. It has softened slightly in 2018 to date, however, and the outlook has deteriorated marginally. The International Monetary Fund (IMF) now expects that global GDP growth will remain at 3.7%, both this year and in 2019, whereas its previous forecast was for 3.9% growth in both years. As before, the outlook is for the persistent slack in leading advanced economies to close by the end of this year.

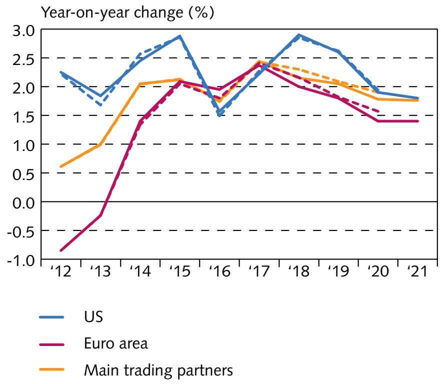
Among Iceland's main trading partners, GDP growth averaged 2.4% in 2017, the strongest since 2010. It is projected to ease slightly this year, to an average of 2.2%, and fall still further, to 1.8% by 2020 (Chart I-1). This is a poorer outlook than was assumed in the August forecast. The greatest difference is the prospect of weaker growth in the euro area, whereas the outlook for the US is broadly unchanged. In the US, it is still assumed that GDP growth will pick up slightly between years, measuring 2.9% this year, and then slow gradually as the effects of substantial fiscal easing taper off and the repercussions of the escalating trade dispute between the US and China come to the fore. Further discussion of the global economy can be found in Chapter II, and uncertainties in the global outlook are discussed later in this chapter.

Króna weaker than was forecast in August

Terms of trade for goods and services have improved by a total of nearly 15% in the past four years. The outlook has worsened, however, after a 4.5% year-on-year deterioration in Q2/2018. The deterioration is due in large part to the jump in oil prices and an increase in the price of alumina, caused by a temporary slowdown in production in Brazil. Import prices in general have also risen. The outlook is for a nearly 2% deterioration in terms of trade in 2018 as a whole, broadly as was forecast in August, with the improved outlook for marine product and aluminium prices counterbalancing the prospect of higher oil prices (Chart I-2). In 2019, however, terms of trade are expected to remain unchanged instead of improving by 2%, as was forecast in August. This is due mainly to higher oil prices, but also to the outlook for lower aluminium prices and a smaller-than-expected decline in alumina prices. If the forecast materialises, terms of trade will be nearly 2% poorer by the end of the forecast than was assumed in August.

The króna has depreciated in recent weeks and is now about 10% weaker against the average of other currencies than it was at the time of the August *Monetary Bulletin*. It is also nearly 8% weaker in Q4 to date than was projected in August. The króna is now at its lowest in more than two years. This abrupt drop is due to several interlinked factors, but the onset of the current slide can probably be traced to some extent to the temporary uncertainty about WOW Air's financing in the first week of September. In addition, the macroeco-

Chart I-1
Global output growth 2012-2021[1]

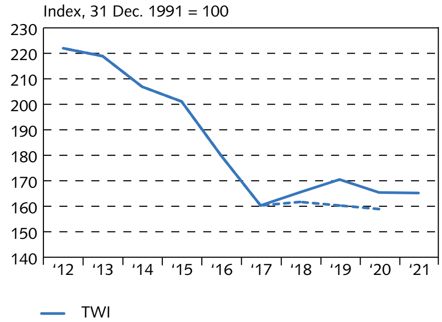


1. Central Bank baseline forecast 2018-2021. Broken lines show forecast from MB 2018/3.
Sources: OECD, Thomson Reuters, Central Bank of Iceland.

Chart I-2
Terms of trade 2012-2021[1]

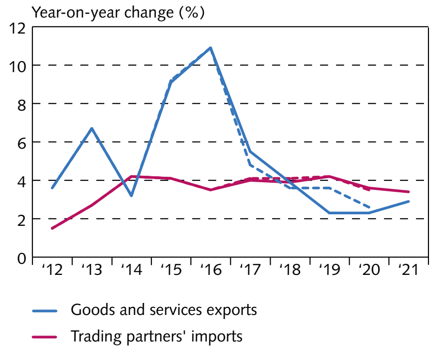
1. Central Bank baseline forecast 2018-2021. Broken line shows forecast from MB 2018/3.
Sources: Statistics Iceland, Central Bank of Iceland.

Chart I-3
Exchange rate 2012-2021[1]



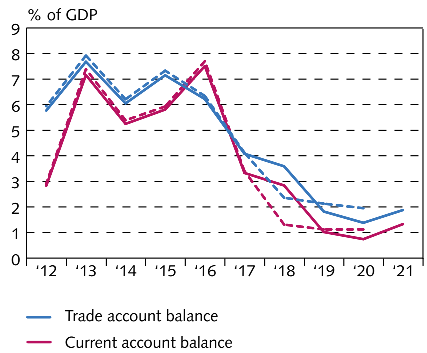
1. Narrow trade basket. Central Bank baseline forecast 2018-2021. Broken line shows forecast from MB 2018/3.
Source: Central Bank of Iceland.

Chart I-4
Exports and global demand 2012-2021[1]



1. Central Bank baseline forecast 2018-2021. Broken lines show forecast from MB 2018/3.
Sources: Statistics Iceland, Thomson Reuters, Central Bank of Iceland.

Chart I-5
Current account balance 2012-2021[1]



1. Current account balance based on estimated underlying balance 2008-2015. Central Bank baseline forecast 2018-2021. Broken lines show forecast from MB 2018/3.
Sources: Statistics Iceland, Central Bank of Iceland.

nomic factors that have generally driven the appreciation of the króna in recent years appear to have given way. Terms of trade have deteriorated, and export growth has slowed. The operating environment in the tourism industry has grown more difficult, and it appears as though GDP growth has lost pace in H2/2018. All of these factors, together with growing concerns about upcoming wage negotiations, appear to have contributed to investor pessimism, which in turn has led to a depreciation of the króna. The baseline forecast assumes that the exchange rate will remain broadly at its year-to-date average for the remainder of the forecast horizon. This entails a trade-weighted exchange rate index (TWI) about 3% lower, on average, in 2018 than in 2017, and a further 3% decline in 2019 (Chart I-3). In 2020-2021, however, the TWI looks set to be just over 165 points, which is broadly in line with the 2018 value and about 4% weaker than was assumed in the August forecast. Further discussion of the uncertain exchange rate outlook can be found later in this chapter, and terms of trade and the exchange rate are discussed in Chapters II and III.

Outlook for weaker export growth than was forecast in August

Goods and services export volumes in H1/2018 were broadly in line with the Bank's assessment in August. Because of Statistics Iceland's revision of 2017 export figures, export growth is slightly weaker than was assumed in August, although the outlook for 2018 as a whole is broadly unchanged. Exports are expected to grow by 3.9% year-on-year, somewhat below the average for the past three years but similar to the 2011-2014 average (Chart I-4). This year's healthy growth rate is due largely to just over 10% growth in marine product exports, which is stronger than was projected in August and can be traced to larger fish catches year-to-date. Due to an unexpected contraction in the transport and transit component of services exports in H1/2018, services exports are now expected to grow somewhat less than was forecast in August. Even though growth in services exports will remain broadly unchanged between this year and next, the outlook is for growth in total exports to weaken further. This is due primarily to a 3.5% contraction in marine product exports, which in turn stems from a significant reduction in pelagic quotas, although it is offset somewhat by increased demersal quotas. This is a change from the August forecast, and the main reason for the difference is that export growth is now forecast at just over 2% in 2019, as opposed to 3½% in August. Growth is expected to remain about the same in 2020 and then rise to nearly 3% in 2021, as goods exports gain ground.

The unexpected contraction in goods imports in H1/2018 is the main reason the year-2018 trade surplus is forecast at 3.6% of GDP, more than 1 percentage point larger than was forecast in August (Chart I-5). However, with the prospect of weaker export growth and poorer terms of trade, the surplus will narrow somewhat in 2019 and be slightly smaller than was forecast in August, or 1.8% of GDP. It will shrink again in 2020 but will rebound to just under 2% of GDP in 2021. The current account surplus is expected to develop in a similar manner, measuring 2.8% of GDP in 2018 and then averaging about

1% of GDP over the next three years. Further discussion of exports and the external balance can be found in Chapter IV.

Domestic demand growth has slowed and is expected to ease further during the forecast horizon

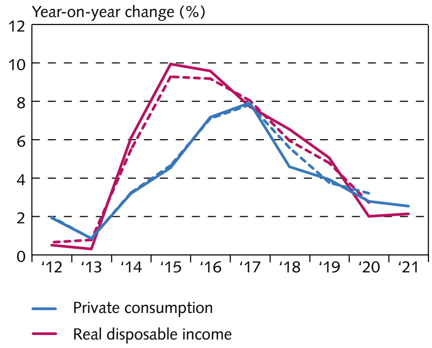
Private consumption growth appears to have slowed over the course of the year, after surging in the recent past. Growth is still strong in historical terms, supported by rising real wages, increased employment, and the improvement in households' net worth. Private consumption grew by 5.3% in H1/2018, slightly below the August forecast. On the other hand, the Gallup Consumer Confidence Index indicates that households have grown more pessimistic in response to news about a possible economic turnaround, and leading indicators imply that consumption spending will contract still further in H2. As a result, private consumption growth is projected at 4.6% for 2018 as a whole, some 1 percentage point below the August forecast. The forecast for the next few years is broadly unchanged, however: private consumption growth is expected to measure just under 4% in 2019 and just under 3% per year over the latter half of the forecast horizon (Chart I-6).

Growth in investment spending has slowed as well, although it was stronger in H1/2018 than was assumed in August. In all, investment grew by 7.6% in H1, down from 9.5% in 2017 and just over 19% per year, on average, in 2014-2016. According to the baseline forecast, investment spending will ease further in H2 and investment growth will measure 5% in 2018 as a whole. This is based on a recent survey of investment plans and other indicators of investment. The forecast entails a contraction in investment in energy-intensive industry, as well as in ships and aircraft, and a significantly slower rate of growth in other business investment. Business investment as a whole will therefore contract, whereas residential and public investment will grow strongly. This year's investment-to-GDP ratio will therefore be about 23%, which is well in line with the August forecast (Chart I-7). The ratio appears set to rise still further in 2019 and measure 24% of GDP or more during the forecast horizon, which is above both the August forecast and the historical average. The ratio of business investment to GDP will continue to fall, however, and will align with its historical average by the end of the forecast horizon.

Domestic demand, which reflects all public and private sector consumption and investment spending, increased by 7.9% in 2017 and 6.2% in H1/2018. In part, developments in H1/2018 reflect a strong increase in inventories, but if these are set aside, consumption and investment spending increased by 5.3% year-on-year, which is well in line with the 5.1% projected in August. Domestic demand growth is expected to ease still further in H2 and to measure 4.2% in 2018 as a whole, or 0.5 percentage points below the August forecast (Chart I-8). Investment spending will increase somewhat more next year than this year, which will cause domestic demand growth to gain pace in 2019 before easing again in 2020. Further discussion of developments in private consumption, investment, and domestic demand can be found in Chapter IV.

Chart I-6

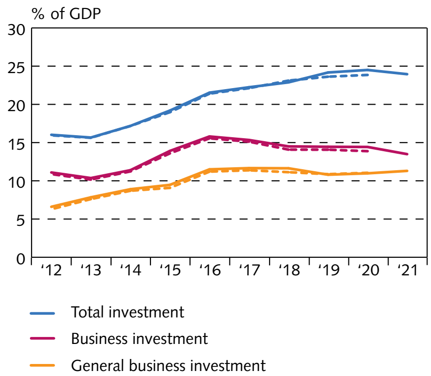
Private consumption and disposable income 2012-2021[1]



1. Central Bank baseline forecast 2018-2021. Broken lines show forecast from MB 2018/3.
Sources: Statistics Iceland, Central Bank of Iceland.

Chart I-7

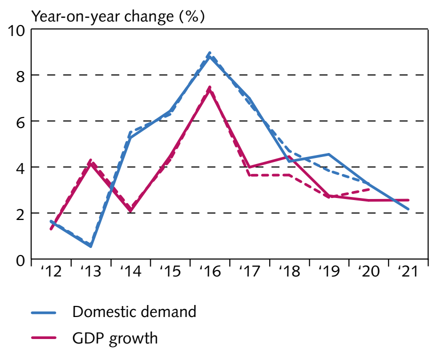
Investment 2012-2021[1]



1. General business investment is business investment excluding energy-intensive industry and ships and aircraft. Central Bank baseline forecast 2018-2021. Broken lines show forecast from MB 2018/3.
Sources: Statistics Iceland, Central Bank of Iceland.

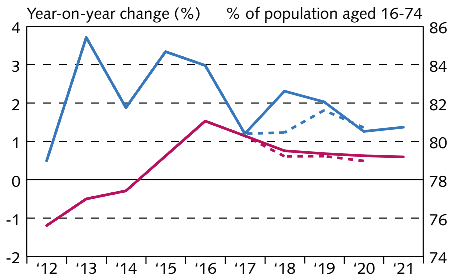
Chart I-8

Domestic demand and GDP growth 2012-2021[1]



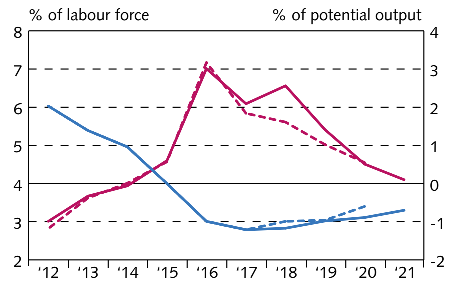
1. Central Bank baseline forecast 2018-2021. Broken lines show forecast from MB 2018/3.
Sources: Statistics Iceland, Central Bank of Iceland.

Chart I-9
Total hours worked and employment rate 2012-2021[1]



1. Central Bank baseline forecast 2018-2021. Broken lines show forecast from MB 2018/3.
Sources: Statistics Iceland, Central Bank of Iceland.

Chart I-10
Unemployment and output gap 2012-2021[1]



1. Central Bank baseline forecast 2018-2021. Broken lines show forecast from MB 2018/3.
Sources: Statistics Iceland, Central Bank of Iceland.

GDP growth in 2017 and 2018 stronger than anticipated

GDP growth measured 4% in 2017, about 0.4 percentage points more than Statistics Iceland's earlier figures had suggested. It was stronger than previously projected in H1/2018 as well. Growth was projected at 5.6% in the Bank's August forecast but measured 6.4%. This is a sharp increase from the H2/2017 average of 2.7%, although domestic demand growth did slow down between years. The deviation in GDP growth from the previous forecast is due primarily to a large increase in inventories in H1 and an unexpected contraction in goods imports. As a result, it appears that demand has shifted increasingly towards domestic production.

The outlook is for GDP growth to ease in H2 and measure 4.4% for the year as a whole, about 0.8 percentage points more than was forecast in August (Chart I-8). This is due to greater strength in the economy in H1 and a more favourable contribution from net trade than was envisioned in August, as Statistics Iceland figures indicate that goods imports contracted still further in Q3. As in the August forecast, GDP growth is expected to approach its long-term trend rate of 2.7% in the next few years. Further discussion of developments in GDP growth can be found in Chapter IV.

Output gap larger than previously forecast but set to narrow faster

The number of employed persons grew by 4.1% year-on-year in Q3, more than was forecast in August. Total hours worked increased by 4.3% between years, well in excess of the annual growth rate in the previous five quarters. Seasonally adjusted unemployment measured 2.6% in Q3, after declining by 0.3 percentage points from Q2, but is about the same as in Q3/2017. The underemployment rate (part-time workers who would like to work more) was 3.5% in Q3 and had fallen by 0.5 percentage points year-on-year. Unemployment is now 0.2 percentage points below the 2003-2007 average, and the underemployment rate is 0.5 percentage points below it.

Total hours worked are estimated to increase by 2.3% this year, about 1 percentage point more than was assumed in August (Chart I-9). In spite of a more than 2% increase in the number of jobs this year, the outlook is for the employment rate to fall by nearly 1 percentage point year-on-year, owing to the prospect of a more than 3% increase in the working-age population. The labour participation rate will fall in a manner similar to the employment rate, and average unemployment will therefore measure 2.8% this year, as it did in 2017 (Chart I-10). Surveys indicate that job growth will continue in the coming term, but at a slower pace than in the recent past. As a result, the baseline forecast assumes that total hours worked will increase by 2% in 2019 and then by just under 1½% per year in 2020 and 2021. However, the employment rate will hold steady at just above 79% of the working-age population, as in the August forecast. Unemployment will rise to 3% in 2019 and 3.3% by 2021, which is close to the level deemed consistent with price stability.

As is discussed above, GDP growth was stronger in 2017 and H1/2018 than previously projected. As a consequence, the output gap was slightly larger at year-end 2017 than was assumed in August, and the outlook is for it to be about 1 percentage point larger at the end of 2018. As the forecast horizon progresses, however, the gap will narrow faster than was forecast in August, and it will have virtually closed by the end of the horizon (Chart I-10). It should be noted, though, that estimates of the output gap are always subject to uncertainty. Further discussion of the labour market and factor utilisation can be found in Chapter V.

Inflation outlook deteriorates in the first half of the forecast horizon due to a wider output gap and a weaker króna

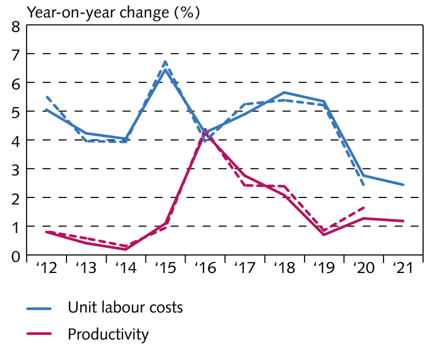
Inflation has been close to the target for much of 2018. It has risen over the course of the year, however, measuring 2.7% in Q3 and 2.8% in October. It is therefore about 1 percentage point higher than it was a year ago. In krónur terms, import prices have risen recently, owing to higher oil prices and the depreciation of the króna, although this is offset in part by the slowdown in house price inflation. The difference between inflation including and excluding housing has narrowed considerably. Underlying inflation in terms of the median of various measures was 3% in October, about 1.8 percentage points higher than in the same month of 2017. This is the highest it has been by that measure since January 2014.

Labour market unrest and the weakening of the króna have caused inflation expectations to rise again. Short-term inflation expectations have risen by as much as 1 percentage point in the past year. Long-term inflation expectations have also inched upwards and are now about 3% or more by all measures. In terms of the survey of market agents, this is the highest they have been since 2016, and in terms of the breakeven inflation rate in the bond market it is the highest since mid-2015.

Wage developments have been broadly in line with the Bank's August forecast. The year-on-year rise in wages has eased in 2018 to date, although it remains sizeable. It is assumed that nominal wages will rise by an average of 7% year-on-year in 2018, whereas the average annual increase in the past three years is estimated at 8%. The year-on-year rise in wages is expected to keep slowing down during the forecast horizon, in line with weaker labour productivity growth, rising unemployment, and a negligible improvement in terms of trade. The rise in unit labour costs will therefore ease from 5½% this year and in 2019 to 2½% in 2021 (Chart I-11).

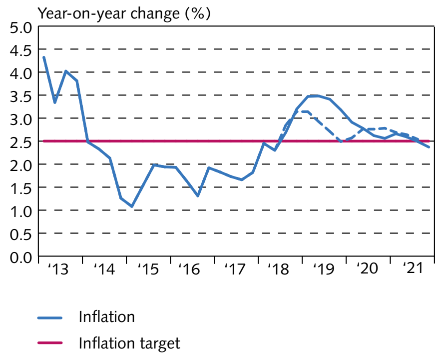
In 2018 to date, inflation has developed broadly in line with the Bank's forecasts. The current forecast assumes that it will average 3.2% in Q4, just above the August forecast of 3.1%. Unlike in August, the outlook is now for inflation to gain further momentum, averaging 3.5% well into 2019 and remaining above 3% by the end of the year instead of being at target, as was forecast in August (Chart I-12). The poorer inflation outlook through H1/2020 is due primarily to the recent depreciation of the króna, although, with the revision of GDP growth figures for 2017 and H1/2018, the output gap will be larger until mid-2020. From then on, the output gap is estimated to be broadly as was forecast in August, and the effects of the recent

Chart I-11
Unit labour costs and productivity 2012-2021[1]



1. Productivity measured as GDP per total hours worked. Central Bank baseline forecast 2018-2021. Broken lines show forecast from MB 2018/3.
Sources: Statistics Iceland, Central Bank of Iceland.

Chart I-12
Inflation[1]
Q1/2013 - Q4/2021



1. Central Bank baseline forecast Q4/2018 - Q4/2021. Broken line shows forecast from MB 2018/3.
Sources: Statistics Iceland, Central Bank of Iceland.

depreciation of the króna are expected to have tapered off. Inflation will then fall back to target as described in the August forecast from H2/2020 onwards. The uncertainties in the inflation forecast are discussed below. Developments in global prices are discussed in Chapter II, and domestic inflation and inflation expectations are discussed in Chapter VI.

Key assumptions and main 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 domestic economic policy and Iceland's external environment. It is also based on an assessment of the effectiveness of individual markets and how monetary policy is transmitted to the real economy. All of these factors are subject to uncertainty. The discussion below explains the assumptions about domestic economic policy. It also lists several important uncertainties and explains how changes in key assumptions could lead to developments that deviate from the baseline forecast.

Fiscal and monetary policies

After considerable easing in 2015-2017, the fiscal stance appears set to tighten marginally this year and then ease slightly once again in 2019 and 2020 (see Chapter IV). Over the period from 2018 to 2021, however, the stance is broadly neutral, as was previously assumed.

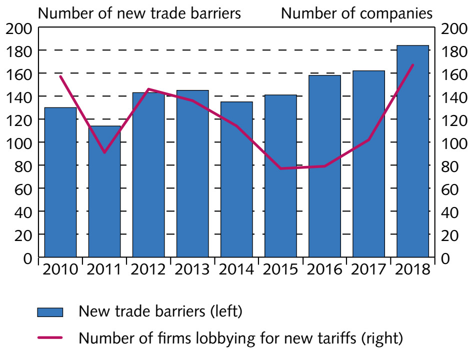
The Bank's key interest rate has been unchanged at 4.25% since October 2017, at which time it had been lowered by 1.5 percentage points since August 2016 (see Chapter III). The baseline forecast is based on the assumption that, during the forecast horizon, the key rate will develop in line with the monetary policy rule in the Bank's macroeconomic model, which ensures that inflation will be broadly at target over the medium term.

International trade dispute could weigh on domestic economic activity

The global output growth outlook has deteriorated slightly from the Bank's August forecast, and it is possible that output growth has peaked in many countries. Financial conditions have tightened in a number of emerging market economies, and downside risks to the global growth outlook have increased. In addition, concerns have been mounting about the escalating trade dispute between the US and several other countries, and support for free global trade appears to be on the wane. For example, countries have increasingly resorted to technical trade barriers in recent years, at a time of growing pressure from lobby groups to increase import tariffs (Chart I-13). The US authorities have already imposed tariffs on a number of imports and are considering raising them still further. Other countries have reacted, and it is likely that their response will be stronger if the US increases tariffs even more.[2] If this scenario materialises, it will have severe repercussions

Chart I-13

New technical trade barriers and lobbying for new protective tariffs[1]



1. The chart show the average number of new technical trade barriers introduced each month and the number of companies that lobby the US Congress to adopt new protective tariffs. 2018 figures are for the first nine months of the year.
Sources: Center for Responsive Politics, World Trade Organization.

2. The US government has already imposed a 10% tariff on all aluminium imports and a 25% tariff on steel imports. In addition, it has imposed a 25% tariff on 50 billion US dollars of Chinese imports, plus an additional 10% tariff on 200 billion dollars of Chinese imports,

for the global economy, slowing down world trade and global output growth. The escalation of tensions could also have a negative impact on firms' investment plans if the trade dispute exacerbates economic uncertainty. Increased uncertainty is also likely to lead to rising interest rate spreads, which will further tighten the financing terms available to companies around the world. In a recent analysis, the IMF attempts to assess the impact of all of these factors on the global economy.[3] According to the Fund's findings, global GDP growth could turn out 0.3 percentage points less this year and 0.5 percentage points less in 2019 than it would be otherwise. These effects would taper off gradually, but global GDP would be lowered permanently by about ½%. In advanced economies, the impact varies, but it is greatest in the US, where GDP would be reduced permanently by nearly 1%. According to the IMF's assessment, Iceland's main trading partners would experience a permanent 0.5% average reduction in GDP.

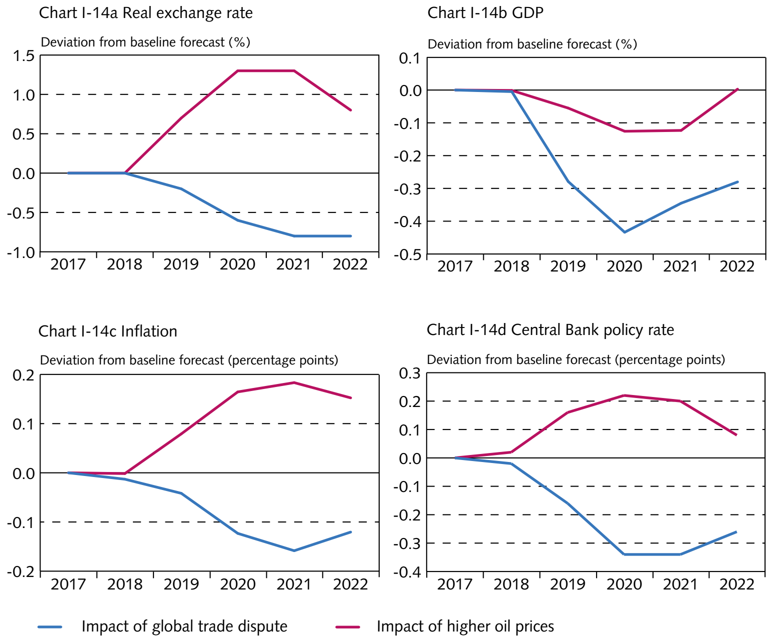
It is difficult to predict the effect of this on Iceland, but the likelihood is that reduced global economic activity would cut into Iceland's exports, thereby lowering GDP growth. Potential additional effects could surface in poorer terms of trade, particularly with falling aluminium prices, as increased tariffs on aluminium products have already lowered prices and exacerbated uncertainty in the aluminium market. The estimated impact of the trade dispute on the domestic economy is based on the IMF's assessment of its impact on global GDP growth and trading partner demand. It is also assumed that interest rate spreads on domestic companies' financing costs will rise broadly as in the IMF assessment. Finally, it is assumed the global aluminium prices will fall in line with the historical relationship between aluminium prices and global GDP growth, on the one hand, and trading partner imports, on the other. This implies that aluminium prices will be about 6% lower in 2019 than in the baseline forecast.

With weaker global economic activity, Iceland's exports will grow by ½-¾ of a percentage point less per year in 2019 and 2020. Terms of trade will deteriorate as well and will be about 1% poorer in 2020 than in the baseline forecast. Weaker export growth and poorer terms of trade will lower GDP growth by 0.3 percentage points relative to the baseline forecast in 2019, and by 0.2 percentage points in 2020, whereupon the GDP growth effects begin to taper off. As Chart I-14 shows, by the time the effects peak in 2020, GDP will have fallen by ½% relative to the baseline forecast. This is somewhat less than the average effect among Iceland's trading partners but very similar to the IMF's estimate of the effect on the euro area. Offsetting the contractionary effects due to weaker global economic activity is a decline in the real exchange rate and the Central Bank's policy rate, which is nearly ½ a percentage point lower than in the baseline forecast by 2020. Inflation is 0.1-0.2 percentage points lower than in the baseline, owing to offsetting effects of a lower exchange rate and a smaller output gap.

and it intends to increase the latter to 25%. Other countries have more or less responded in kind by imposing tariffs on US exports. The US is also considering imposing a 25% tariff on an additional 267 billion dollars of Chinese imports and a further tariff on imported motor vehicles and spare parts worth about 350 billion dollars.

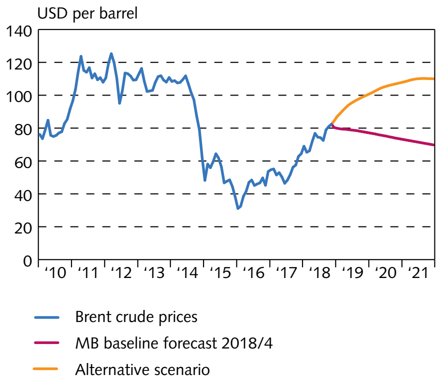
3. International Monetary Fund (2018), *World Economic Outlook*, Chapter 1, October 2018.

Chart I-14
Alternative scenario



Source: Central Bank of Iceland.

Chart I-15
Global crude oil prices[1]
January 2010 - December 2021



1. Baseline forecast based on crude oil futures.
Sources: Thomson Reuters, Central Bank of Iceland.

Developments in oil prices highly uncertain after recent surge

Global oil inventories have been reduced rapidly in the recent past, and oil prices have soared as a result. In late September, they rose above 80 US dollars per barrel, more than three times the January 2016 trough. The effects of higher prices can already be felt in Iceland. They emerge directly, through rising petrol prices and their effect on the CPI, and they also affect economic activity, national income, and the general price level indirectly in various ways. These indirect effects include a rise in the price of other imported goods affected by higher oil prices, as well as higher costs of manufacturing domestic goods requiring imported fuel for their production. Higher oil prices have also eroded terms of trade and adversely affected the position of airlines and other transport companies.

According to the baseline forecast, which is based on global oil futures, oil prices will gradually ease back to about 70 US dollars per barrel by end-2021 (Chart I-15). This assessment is highly uncertain, however, and the possibility cannot be excluded that prices will continue rising if, for instance, there are further interruptions in oil production in Venezuela, or if the US trade embargo further impedes Iranian oil exports without a corresponding increase in production elsewhere. In order to assess the impact of a further rise in oil prices, it is assumed that they will rise to 95 US dollars per barrel by mid-2019 and just over 100 dollars by the end of 2019, and then keep rising until, by the end of 2021, they reach 110 dollars, the average from the beginning of 2011 through September 2014, before the recent tumble began. If this materialises, the average 2019 price will be about a fifth higher than in the baseline forecast, and by the end of the forecast horizon the average price will be about 50% higher than in the baseline. In addition, it is assumed that higher oil prices will affect global commodity prices, as well as export prices and the general price level in trading partner countries, in line with the historical relationship among these variables. This entails that by the end of the forecast horizon, commodity prices will be some 9% higher than in the baseline forecast, export prices about 2% higher, and trading partners' consumer prices nearly 1% higher. In all, import prices in foreign currencies will rise in the next three years by 1-1⅓ of a percentage point more per year than in the baseline forecast, and will be a full 3% higher than in the baseline by the end of the forecast horizon.

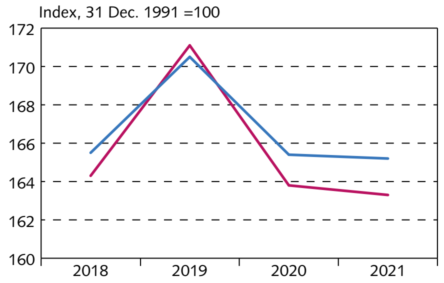
Chart I-14 illustrates the impact of this on the domestic economy. Increased oil and commodity prices erodes Iceland's terms of trade and reduces households' purchasing power. National income therefore declines in comparison with the baseline forecast, and demand grows more slowly. GDP would then be 0.1% less than in the baseline forecast from 2019 onwards. Import prices in krónur terms rise faster than in the baseline and is a full 2% higher by the end of the period. Inflation therefore rises relative to the baseline forecast and is nearly 0.2 percentage points higher in 2021, when the full-year impact peaks. In order to respond to a general rise in prices caused by higher oil prices and ensure that inflation falls back to the target over the medium term, the Central Bank's policy rate rises by 0.2 percentage points above the baseline forecast from 2019 onwards. Higher interest rates push the exchange rate upwards, and the real exchange rate is over 1% higher than in the baseline forecast from 2020 onwards. Higher interest rates and a stronger króna also mitigate the inflationary effects of higher oil prices by further slowing domestic economic activity.[4]

Exchange rate outlook uncertain

According to the baseline forecast, the trade-weighted exchange rate of the króna will be close to the 2018 average for most of the forecast horizon. This technical assumption is affected, on the one hand, by the GDP growth outlook and the interest rate differential with abroad, and on the other, by the estimated equilibrium real exchange rate. The equilibrium real exchange rate is considered to have declined from the previous estimate, owing to poorer terms of trade and a less favourable outlook for exports. Furthermore, the interest rate differential with abroad has narrowed as the slack in trading partner economies has disappeared and the output gap in Iceland has narrowed. All of these are subject to uncertainty, however, and exchange rate developments could easily differ from the baseline forecast. Although the outlook is for GDP growth to remain close to its trend growth rate for most of the forecast horizon, the króna could continue to depreciate, if global economic uncertainty increases still further or if global interest rates rise faster than the markets assume. The exchange rate path in the baseline forecast is very similar, however, to that obtained

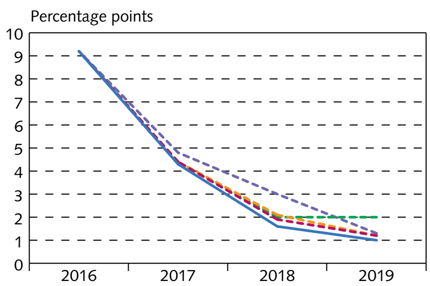
4. The inflationary effect of higher oil prices could be overestimated in that this assessment ignores the negative impact of higher oil prices on global economic activity. It could also be underestimated if inflation expectations become less securely anchored and long-term inflation expectations also begin to rise, which would call for a stronger monetary policy response than is described here (see, for example, the discussion in Chapter I of *Monetary Bulletin* 2018/2).

Chart I-16
Exchange rate forecasts[1]



1. Yearly averages of the trade-weighted exchange rate index according to the baseline forecast in MB 2018/4 and the Bank's DYNIMO model.
Source: Central Bank of Iceland.

Chart I-17
Forecast contribution of tourism to growth in goods and services exports[1]



1. The contribution of tourism (travel and passenger transport by air) to growth in exports of goods and services in MB forecasts.
Sources: Statistics Iceland, Central Bank of Iceland.

with the Bank's dynamic stochastic general equilibrium (DSGE) model, DYNIMO (Chart I-16). On the other hand, the Bank's recent survey of market participants' views on the economic outlook indicates that respondents are more pessimistic about the exchange rate. As in the baseline forecast, market participants expect the króna to be weaker in 2019 than in 2018, but unlike the baseline forecast, they do not expect the depreciation to reverse in 2020.

Growth in tourism could ease faster than in the baseline forecast

Tourism exports grew by 11% in 2017 and by an average of over 25% per year in 2015-2016. The growth rate has eased still further in 2018 to date, and according to the baseline forecast, it will measure just under 4% for the year as a whole, and less than 3% in 2019 and 2020. The contribution of tourism exports to export growth has therefore been declining: in 2017, tourism contributed over 4 percentage points to the 5.5% growth in goods and services exports, and in 2015-2016 it contributed an average of nearly 8 percentage points per year. The outlook is for a considerably smaller contribution to export growth in 2018, or about 1½ percentage points, followed by about 1 percentage point per year in the next two years.

To an extent, it was foreseeable that growth in tourism would ease, although the slowdown has been more pronounced than was assumed in the Bank's previous forecasts. Now, for instance, the outlook is for this year's contribution from tourism to export growth to be about half as much as was assumed in the Bank's November 2017 forecast, and the outlook for 2019 has been revised downwards as well (Chart I-17). The change in outlook probably reflects the impact of a high real exchange rate and the recent surge in oil prices. There have been signs of increasing difficulties in tourism and airline operations as the competitive position of the sector has deteriorated; therefore, the possibility cannot be excluded that growth in 2018 and 2019 will be weaker than is assumed in the baseline forecast.

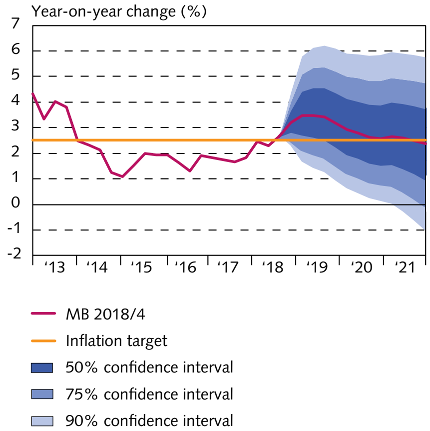
Inflation could rise faster in the near future than is assumed in the baseline forecast

The issues discussed above highlight the uncertainty that generally accompanies the economic outlook. Some of these risks could indicate that the inflation outlook is underestimated in the baseline forecast. The most important of them is uncertainty about the upcoming wage settlements. Although the baseline forecast already assumes relatively sizeable pay increases even though the wage share is above its historical average, it is not impossible that wage settlements will provide for even larger increases or that wage drift will be greater than assumed, not least in view of the fact that unemployment is still low and tension in the labour market remains. Various other factors could pull in the same direction, causing inflation to turn out higher than in the baseline forecast. For example, global oil prices have soared in the recent past, and the possibility of a further increase, opposite to the assumption in the baseline forecast, cannot be ruled out. Although some of the downside risks to the currency from the previous risk assessment have already been realised, the króna could continue to weaken instead of remaining broadly at the current level for the remainder of the forecast horizon, as the baseline forecast assumes. By the same token, house price inflation could pick up again if growth in mortgage lending continues to gain momentum. Furthermore, the strength of the economy in H1/2018 could indicate that the output gap will be more persistent than is currently assumed, particularly if the fiscal stance eases more than is forecast. Inflation could also rise higher and remain more persistent if long-term inflation expectations do not ease back to the target.

Neither can the possibility be excluded that inflation will turn out lower than is assumed in the baseline forecast. The króna could appreciate again, for example, if external conditions improve. The trade dispute between the US and China could also undermine global economic activity, which could weaken Iceland's exports and result in weaker GDP growth than in the baseline forecast. Moreover, productivity growth could be underestimated, and this could cause the output gap to narrow faster than is assumed in the baseline.

In order to reflect these uncertainties, Chart I-18 illustrates the confidence intervals of the forecast; i.e., the range in which there is considered to be a probability of up to 90% that inflation will lie over the next three years (the methodology is described in Appendix 3 in *Monetary Bulletin* 2005/1). The uncertainty about short-term inflation is considered concentrated on the upside. For the long term, however, the probability distribution is considered to be roughly symmetric. There is a roughly 50% probability that inflation will be in the 2¼-4½% range in one year and in the 1-3¾% range by the end of the forecast horizon.

Chart I-18
Inflation forecast and confidence intervals
Q1/2013 - Q4/2021



Sources: Statistics Iceland, Central Bank of Iceland.