CENTRAL BANK OF ICELAND

MONETARY BULLETIN

2021|2

The objective of the Central Bank of Iceland's monetary policy is to contribute to general economic well-being in Iceland. The Central Bank does so by promoting price stability, which is its main objective. In the joint declaration made by the Government of Iceland and Central Bank of Iceland on 27 March 2001, this is defined as aiming at an average rate of inflation, measured as the 12-month increase in the CPI, of as close to 2½% as possible.

Professional analysis and transparency are prerequisites for credible monetary policy. In publishing *Monetary Bulletin* four times a year, the Central Bank aims to fulfil these principles.

Monetary Bulletin includes a detailed analysis of economic developments and prospects, on which the Monetary Policy Committee's interest rate decisions are based. It also represents a vehicle for the Bank's accountability towards Government authorities and the public.

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Statement of the Monetary Policy Committee 19 May 2021

The Monetary Policy Committee (MPC) of the Central Bank of Iceland has decided to raise the Bank's interest rates by 0.25 percentage points. The Bank's key interest rate – the rate on seven-day term deposits – will therefore be 1%.

The economic recovery in H2/2020 was stronger than previously assumed. According to the Central Bank's new macroeconomic forecast, published in the May issue of *Monetary Bulletin*, the outlook is for just over 3% GDP growth this year and more than 5% growth in 2022. The outlook has improved since the Bank's last forecast, owing largely to signs of a stronger recovery of domestic demand. Unemployment has eased, although it remains high. The slack in the economy therefore appears to be smaller and looks set to close sooner than previously estimated.

Supply-side disruptions due to the COVID-19 pandemic have pushed production and distribution costs upwards worldwide, and global oil and commodity prices have risen steeply in the recent term, although these increases may prove to be temporary.

Inflation has therefore been higher and more persistent than previously forecast, measuring 4.6% in April. Inflationary pressures appear to be widespread, as underlying inflation is broadly similar to headline inflation. This is due to a number of factors, including the depreciation of the króna in 2020 and steep rises in wages and house prices. As a result, it is necessary to raise the Bank's interest rates in order to ensure that inflation expectations are anchored to the target.

The MPC will apply the tools at its disposal to ensure that inflation eases back to the target within an acceptable time frame.

Symbols:

*	Preliminary or estimated data.
0	Less than half of the unit used.
-	Nil.
...	Not available.
.	Not applicable.

Icelandic letters:

ð/Ð (pronounced like th in English this)
þ/Þ (pronounced like th in English think)
In this report, ð is transliterated as d and þ as th in personal names, for consistency with international references, but otherwise the Icelandic letters are retained.

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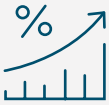
Monetary Bulletin in a nutshell

Global GDP growth lost pace in Q4/2020, after the resurgence of the COVID-19 pandemic, and indicators imply that it turned negative again in Q1/2021. Iceland's trading partners' economic activity has proven stronger than was forecast in the February *Monetary Bulletin*, however, and the outlook for 2021 has improved. Vaccination efforts are moving forwards, and substantial fiscal stimulus in the US will support the economic recovery all over the world.



In Iceland, GDP grew more between Q3 and Q4/2020 than was assumed in the Bank's February forecast. Furthermore, the contraction in the first three quarters of 2020 turned out smaller than previous estimates had indicated. The contraction in GDP over the year as a whole was therefore smaller than anticipated, or 6.6% instead of the 7.7% provided for in the February forecast. Moreover, the outlook for this year has improved, owing primarily to indications of stronger growth in private consumption. Offsetting this, infection rates are still rising rapidly in many parts of the world, and tourism is now expected to recover more slowly than previously forecast. GDP growth is projected at 3.1% in 2021, as compared with the February forecast of 2.5%. As in February, GDP is expected to grow just over 5% in 2022 but ease again in 2023.

Unemployment has begun to taper off after peaking in January, and indicators imply continuing growth in labour demand. Registered unemployment excluding recipients of part-time benefits is forecast to average just over 9% this year and gradually subside over the forecast horizon, although it will still be above the pre-pandemic rate at the end of the forecast period. The slack in output that opened up in the wake of the pandemic is estimated to have peaked at the end of 2020. Even so, it is smaller than was estimated in the February forecast and is now expected to close late in 2022, about a year earlier than was forecast in February.

Inflation picked up in H2/2020 and measured 4.2% in Q1/2021. It rose still further in April, reaching 4.6%, the highest inflation rate since early 2013. It has therefore been above the upper deviation threshold of the inflation target for all of 2021 to date. Inflation is higher than was forecast in February and has systematically exceeded forecasts ever since the pandemic struck. Domestic demand has withstood the shock better than expected, and oil and other commodity prices have risen faster than previously assumed. Cost increases due to pandemic-related supply disruptions have also been underestimated. Inflation is now expected to measure 3.8% in Q4/2021 and will not return to the target until mid-2022, about half a year later than was forecast in February.

To a large extent, economic developments will depend on how successful efforts to control the pandemic prove to be, both in Iceland and elsewhere. As in February, a majority of the local population is expected to be vaccinated by mid-2021. For the most part, the current public health measures within Iceland are assumed to remain in place through mid-year, whereupon they will gradually be relaxed. As in February, the measures currently in place at the border are expected to remain broadly unchanged through the end of Q3, but with increased exemptions, depending on the state of the pandemic in tourists' country of origin. All of these assumptions are highly uncertain, however, and economic developments will depend to a large degree on how successful efforts to control the pandemic prove to be.

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

The global economy and terms of trade

I

The global economy

Global GDP growth gave way in Q4/2020, following the resurgence of the pandemic …

Global economic activity picked up strongly when the first wave of the COVID-19 pandemic subsided in summer 2020, putting an end to the record contraction in H1 (Chart I-1). But it slowed again as the year advanced, with a new wave of the pandemic bringing much more rapid spread of the disease than the first one did (Chart 1 in Appendix 1). Authorities in a number of countries re-tightened public health measures in an attempt to contain the spread of the disease and reduce strain on healthcare systems. Many of them took steps similar to those taken in the first wave, including closing schools and retail stores, placing stringent restrictions on public gatherings and, in some instances, imposing curfews. GDP growth among Iceland's main trading partners fell as a result, from 10.2% quarter-on-quarter in Q3 to 0.5% in Q4. Economic activity suffered most in the euro area, which recorded a contraction of 0.7% between quarters. In Q4, Iceland's trading partners recorded an average contraction of 3.2% year-on-year (Chart I-2). The contraction for 2020 as a whole measured 5.2%, a post-war record (for further discussion of the magnitude and composition of the 2020 contraction, see Box 2).

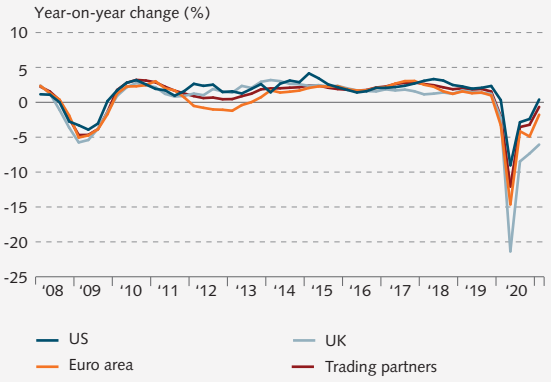
… but economic activity in Q4 proved stronger than expected

Although most advanced economies experienced a slowdown in economic activity in Q4, they proved to be generally more resilient than had been assumed in the Bank's February forecast. This was particularly true of the eurozone and the UK, where the strictest public health

Chart I-1

Global GDP growth[1]

Q1/2008 - Q1/2021

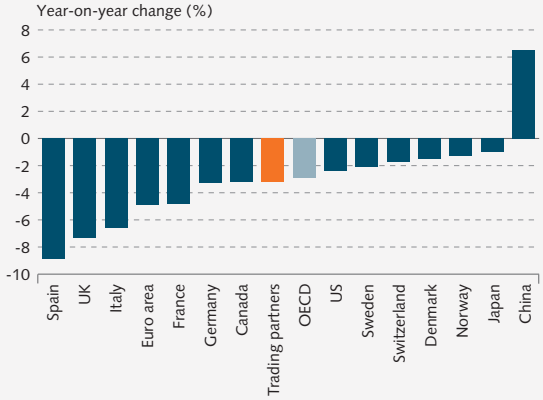


1. Seasonally adjusted data. Central Bank baseline forecast Q1/2021 for main trading partners.

Sources: Refinitiv Datastream, Central Bank of Iceland.

Chart I-2

Global GDP growth in Q4/2020[1]



1. Seasonally adjusted data. Figures for Norway exclude the production and shipping of oil and gas.

Sources: Refinitiv Datastream, Central Bank of Iceland.

measures were imposed, suggesting that the public health measures were less of a drag on GDP growth than the corresponding measures from spring 2020 were. In part, this is because the measures were more targeted the second time around and less directed at manufacturing. Furthermore, with increased e-commerce and more effective telework, households and businesses are better able to keep economic activity up and running under such conditions. In addition, the sectors affected most by closures and related restrictions were already deeply affected, especially tourism and contact-intensive services. As a consequence, the tighter measures in the autumn and winter had a smaller proportional impact on those sectors than they did at the beginning of the pandemic.

In many advanced economies, economic activity lost further ground in early 2021 …

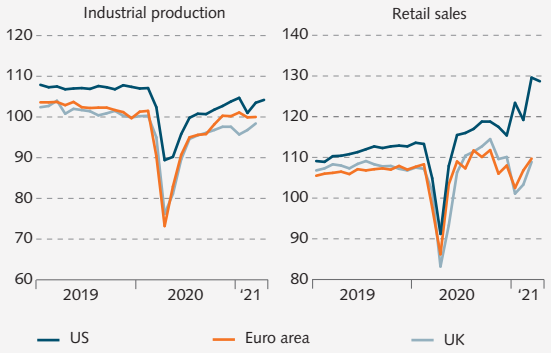
The continued rapid spread of the disease and tight public health restrictions in the early months of 2021 have constrained the economic recovery in major advanced economies. Retail sales slid still further in the eurozone and the UK in Q1, and production indices suggested that a contraction in GDP was imminent because of reduced activity in services sectors (Charts I-3 and I-4). Manufacturing largely held its ground, however, as it was less affected by the public health measures. Changed consumption patterns and pent-up demand in the wake of the pandemic were also important factors. Demand for many goods, including electronic equipment and consumer durables, has increased. This can be seen in an abrupt turnaround in global goods trade, which was nearly 4% stronger in February 2021 than before the pandemic struck (Chart I-5). A shortage of intermediate goods – the result of disruptions in production and cross-border goods transport – has put a damper on manufacturing output, however, and somewhat lengthened delivery times (for further discussion, see below and in Chapter V). Particularly noticeable is the shortage of semiconductors, which are important for the manufacture of all sorts of electronic equipment and computerised goods.

Leading indicators for the US suggested, however, that GDP growth was starting to pick up there in Q1 despite extraordinarily cold weather in February, which temporarily cut into domestic demand and interrupted business operations. Production indices imply that activity in both services and manufacturing has been on the rise in the US. In part, the more rapid economic recovery in the US reflects less restrictive public health measures, which some states have relaxed even further.

Chart I-3

Industrial production and retail sales[1]

January 2019 - April 2021



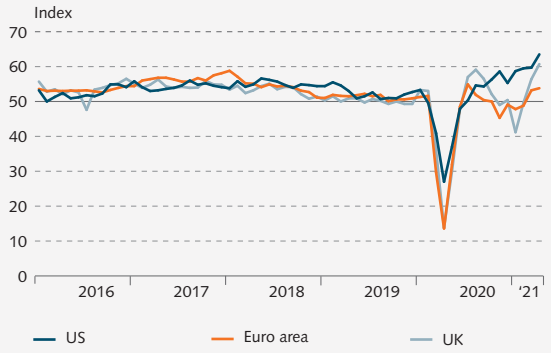
1. Seasonally adjusted volume indices (2016 = 100).

Source: Refinitiv Datastream.

Chart I-4

Composite PMI[1]

January 2016 - April 2021



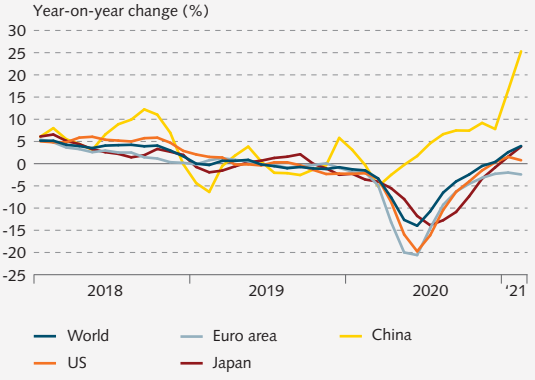
1. IHS Markit composite output purchasing managers' index. The index is published monthly and is seasonally adjusted. An index value above 50 indicates month-on-month growth in output, and a value below 50 indicates a contraction.

Source: Refinitiv Datastream.

Chart I-5

Global trade in goods[1]

January 2018 - February 2021



1. Seasonally adjusted volume indices, three-month average.

Source: CPB.

The fiscal stimulus measures approved in December and March, which included one-time payments to households and an expansion of unemployment benefits, also played a major role in supporting domestic demand at the beginning of the year, even though most of the measures have yet to be implemented (for further discussion, see below). This can be seen in a surge in retail sales in Q1.

… and trading partner GDP is estimated to have contracted again in Q1 …

According to newly published preliminary figures, GDP in the US grew by 1.6% quarter-on-quarter in Q1/2021. GDP was therefore 0.4% more than in Q1/2020 but nearly 1% less than before the pandemic (Chart I-6). GDP also grew between quarters in Sweden and China, but in most other trading partner countries it contracted again. On average, trading partner GDP is estimated to have contracted by 0.3% quarter-on-quarter in Q1, when it was just under 1% less than in Q1/2020 and 3.6% less than before the pandemic.

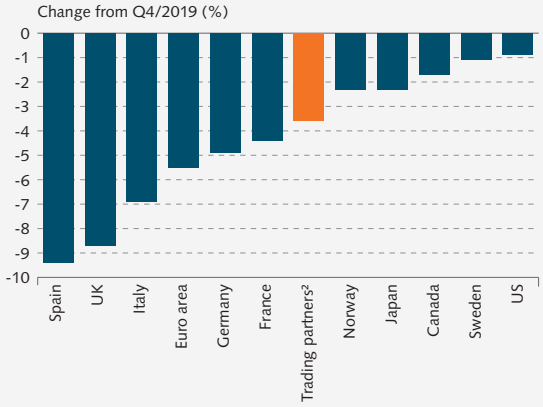
… but leading indicators suggest that a recovery is on the horizon

Even though the number of new COVID cases was still high at the beginning of Q2, there are signs that global economic activity is starting to recover. This is particularly the case for the US and the UK, where the vaccination roll-out has proceeded more quickly than in most other developed countries and more steps have been taken towards lifting restrictions on business operations and individuals' freedom to travel. Purchasing managers' indices (PMI) for March and April indicate a swift economic recovery once public health measures are relaxed, especially in services sectors, as there is considerable pent-up demand and households have accumulated significant savings (Chart I-7). Traffic data suggest that people are moving about more than before, and seeking out retail stores and recreational activities in greater measure (Chart 1 in Appendix 1). Even though the labour market situation has remained broadly unchanged in many major advanced economies in the recent past, the recovery has continued in the US, and the number of new applications for unemployment benefits is at its lowest since early 2020. Nevertheless, a full recovery of the labour market is still relatively far off.

Overall, the global GDP growth outlook for 2021 has improved, and it appears that economic activity will rebound quickly this summer, once vaccinations are well in hand and public health measures are relaxed

Chart I-6

Global GDP growth in Q1/2021[1]



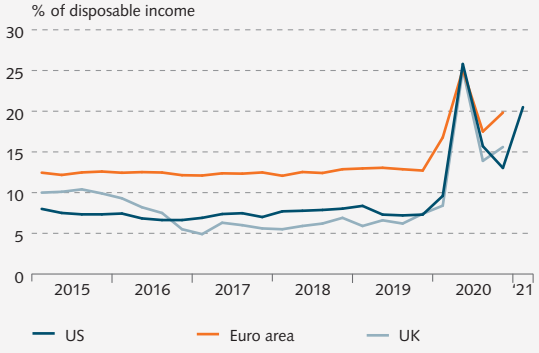
1. Seasonally adjusted data. Figures for Norway exclude the production and shipping of oil and gas. 2. Central Bank baseline forecast.

Sources: Refinitiv Datastream, Central Bank of Iceland.

Chart I-7

Household saving

Q1/2015 - Q1/2021



Source: Refinitiv Datastream.

again. Iceland's main trading partner countries (excluding China) have already vaccinated about 35% of the population, and it is still assumed that a majority will have been fully vaccinated around mid-year (see Box 1). Additional government support measures in major advanced economies play an important role in the improved GDP growth outlook, particularly in the US, where stimulus measures amounting to 1.9 trillion US dollars were approved in March, in addition to the 900 billion dollar package approved in December (amounting to a combined 13½% of GDP). Further fiscal stimulus measures are in preparation in the US. The outlook for the world's largest economies has therefore improved significantly, and this will stimulate economic activity worldwide.

Global GDP growth set to rise this year …

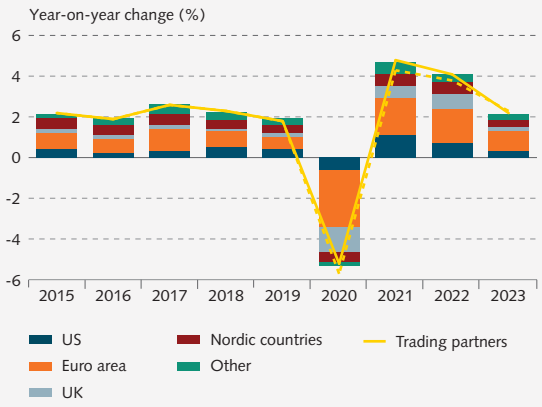
According to the International Monetary Fund's (IMF) most recent forecast, global output growth will measure 6% this year. This is 0.5 percentage points above the Fund's January forecast and 0.8 points above its October forecast. Furthermore, global GDP growth is forecast at 4.4% in 2022, or 0.2 percentage points above the IMF's most recent forecasts. World trade is also expected to recover strongly. The improved outlook reflects in particular the increased fiscal stimulus provided by several large economies and the expectation of a vaccine-driven recovery in H2/2021.

… and the GDP growth outlook for Iceland's trading partners has improved

According to the Bank's baseline forecast, GDP growth among Iceland's main trading partners is projected at 4.8%, some 0.5 percentage points above the February forecast (Chart I-8). Prospects have improved for most of them, but especially for the US, the UK, Sweden, and Canada. GDP growth is also expected to be stronger in 2022, while the outlook for 2023 is broadly unchanged. The outlook for trading partner imports has also improved, in line with the brighter GDP growth outlook. Imports by trading partner countries are expected to grow by an average of 9.1% this year and 6.1% in 2022. The outlook remains highly uncertain, however, not least because it is unclear how successful efforts to control the pandemic will prove to be, given the proliferation of new variants of the virus and uncertainty about vaccination rates. Moreover, the economic recovery will also be determined in large part by how households use the savings they have accumulated in the wake of the pandemic (for further discussion, see the analysis of key uncertainties in Box 1).

Chart I-8

GDP growth in Iceland's trading partners and contribution from selected countries 2015-2023[1]



1. Trade-weighted contribution from selected countries. Central Bank baseline forecast 2021-2023. Broken line shows forecast from MB 2021/1. The Nordic countries is the average for Denmark, Norway, and Sweden.

Sources: Refinitiv Datastream, Central Bank of Iceland.

Global inflation has risen, but the inflation outlook for the next two years is broadly unchanged

Global inflation was low in 2020, concurrent with a steep drop in energy prices and a pandemic-induced contraction in demand. In Q4/2020, twelve-month inflation among Iceland's main trading partners averaged only 0.3%, over 1 percentage point lower than in Q1 of the same year (Chart I-9). This trend reversed abruptly in early 2021, however, and inflation rose in nearly all trading partner countries, particularly in the eurozone, Sweden, and Norway. This is due in part to the recent spike in energy and commodity prices, which had fallen sharply in spring 2020. The uptick in inflation early in 2021 is affected to a large degree by adverse base effects, temporary factors, and one-off measures. These include the hike in Germany's value-added tax, which was lowered temporarily in H2/2020, changes in the weight of consumption items in price indices, and pandemic-related shifts in the timing of winter sales. The rise in oil and other commodity prices, together with base effects from the steep drop in prices last year and the impact of less restrictive public health measures, has pushed inflation even higher in March and April. Inflation has risen most in the US, to its highest since 2008. On the other hand, underlying inflation, which excludes energy prices and other volatile items, has risen less strongly. Inflation in these countries is expected to average about 2% for the remainder of the year and 1.8% in 2021 as a whole. This is 0.5 percentage points more than was assumed in the February forecast. Inflation is expected to taper off again at the beginning of 2022, however, when the effects of the above-mentioned temporary factors diminish. The inflation outlook for 2022 and 2023 is therefore broadly in line with the Bank's February forecast.

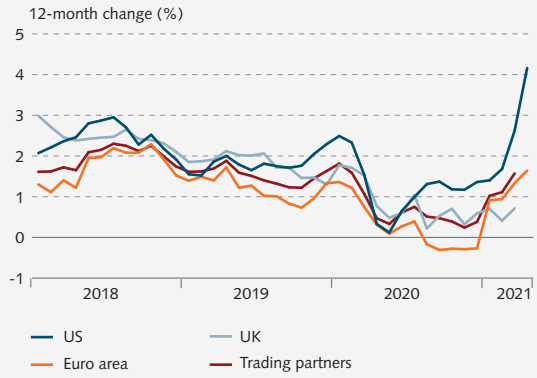
Central banks have held a steady course despite a brighter growth outlook and higher inflation …

In addition to the vast increase in government stimulus measures, leading central banks have continued to support the economic recovery with low interest rates and other stimulative measures. Even though the growth outlook has improved and inflationary pressures have grown, most central banks have held to their chosen path and announced plans to keep interest rates unchanged until there are clear indications that the recovery has taken hold and inflation will remain at target in the long run. The European Central Bank (ECB) has also expedited its bond purchases in order to lean even more strongly against a rise in long-term rates. Among central banks in major advanced economies,

Chart I-9

Global inflation

January 2018 - April 2021

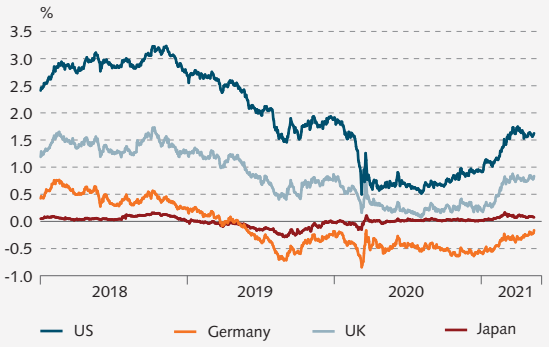


Sources: Refinitiv Datastream, Central Bank of Iceland.

Chart I-10

10-year government bond yields

1 January 2018 - 14 May 2021

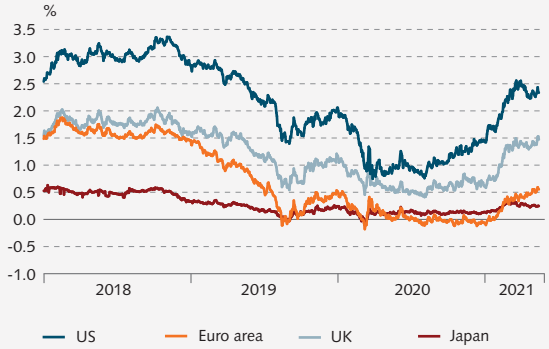


Source: Refinitiv Datastream.

Chart I-11

Breakeven inflation rates[1]

1 January 2018 - 14 May 2021



1. Five-year, five-year forward breakeven inflation rate.
Source: Refinitiv Datastream.

Norges Bank alone has signalled a rate hike in H2/2021, although the Bank of Canada announced in April that it would scale down its weekly bond purchases.

… but long-term rates have risen worldwide

Long-term interest rates in developed countries rose swiftly in Q1 and in many places were roughly back to pre-pandemic levels (Chart I-10). The increase reflects greater optimism about the global economic outlook as vaccination efforts proceed and government stimulus measures are enacted, particularly in the US, where the spread between long and short rates is at its widest in four years. Market agents' inflation expectations appear to have risen as a result, and market participants now expect central bank rates to rise faster than before (Charts I-11 and I-12). However, the rise in long-term bond rates probably stems in large part from an increase in the term premium, reflecting investors' demand for higher returns to compensate for a longer commitment period due to the associated uncertainty about future developments in inflation and short-term interest rates. Expectations of continued increases in the supply of Treasury bonds issued for government stimulus measures play an important role in this, although central banks' bond purchases pull in the opposite direction.

Financial conditions have improved overall

Greater optimism about the growth outlook has been reflected in share prices in advanced economies, which are widely above pre-pandemic prices (Chart I-13). Furthermore, share price volatility has continued to decline. In addition, risk premia on riskier financial assets have fallen even further, and capital flows to emerging market economies have continued. Therefore, notwithstanding the rise in long-term bond rates, financial conditions have held their ground, and on the whole, they are broadly as they were before the pandemic.

Export prices and terms of trade

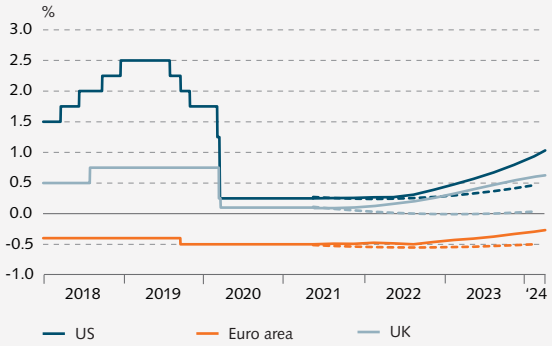
Brighter outlook for marine product prices …

The price of Icelandic marine products cratered in 2020, as market conditions have been difficult because of the pandemic, particularly in the hotel and restaurant sector (Chart I-14). As a result, prices fell in most product categories during the year, and in Q1/2021, prices were down by an average of 9% year-on-year in foreign currency terms. There are signs that the markets for important demersal products will be in balance in Q2, and that product prices will start rising again later this year. In addition, capelin product prices have developed very

Chart I-12

Central bank policy rates[1]

January 2018 - June 2024



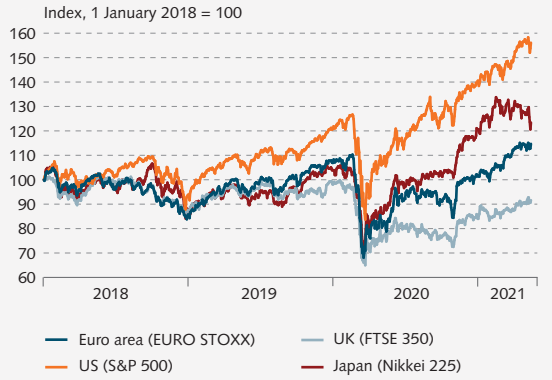
1. Daily data 1 January 2018 through 14 May 2021, and quarterly data Q2/2021 through Q2/2024. US interest rates are the upper bound of the US Federal Reserve bank's interest rate corridor, and rates for the euro area are the European Central Bank's deposit facility rate. Forward rates are based on overnight index swaps (OIS). Solid lines are based on forward rates in mid-May 2021, and broken lines in end-January 2021.

Sources: Bloomberg, Refinitiv Datastream.

Chart I-13

Global share prices

1 January 2018 - 14 May 2021

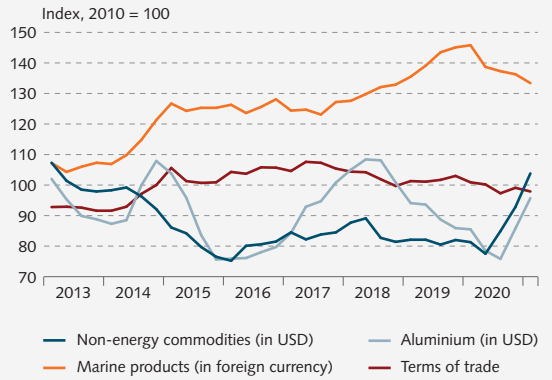


Source: Refinitiv Datastream.

Chart I-14

Commodity prices and terms of trade[1]

Q1/2013 - Q1/2021



1. Central Bank baseline forecast Q1/2021 for terms of trade.

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

favourably, and indicators imply that the price of other pelagics will rise as the year progresses. Foreign currency prices of marine product exports are expected to remain unchanged year-on-year in 2021, instead of falling by 2%, as was forecast in February. The outlook for the next two years is broadly unchanged, however.

… and aluminium prices are set to move higher

Global aluminium prices have recovered from the plunge in early 2020 (Chart I-14). Demand has grown concurrent with increased economic activity and the need to restore inventory levels. Prices have risen by nearly 60% since May 2020, the biggest price increase in a decade. The average price of aluminium is expected to be 27% higher this year than in 2020, and not 9% higher, as was forecast in February. Prices are also set to rise more strongly in 2022.

Oil prices have reached pre-pandemic levels …

Global crude oil prices have risen virtually without interruption after plunging in March and April 2020 (Chart I-15). The pace of the increase has been particularly quick since November, following positive news reports about the development of vaccines, and prices are now roughly at pre-pandemic levels. This is the sharpest turnaround in oil prices ever measured. The recent increase reflects expectations that demand for oil will recover more rapidly, in light of increased optimism about the economic outlook. Continued production cuts by OPEC countries and other oil producers have also supported prices. On the other hand, prices dipped slightly in April, in response to growing concerns about the upsurge of the pandemic in many countries and oil-producing countries' announcements of a gradual increase in production in coming months.

Brent crude was selling at an average of 65 US dollars per barrel in April, about one-fourth higher than at the turn of the year. Oil futures prices suggest, however, that prices will decline during the forecast horizon, yet remain above the February forecast over the entire period.

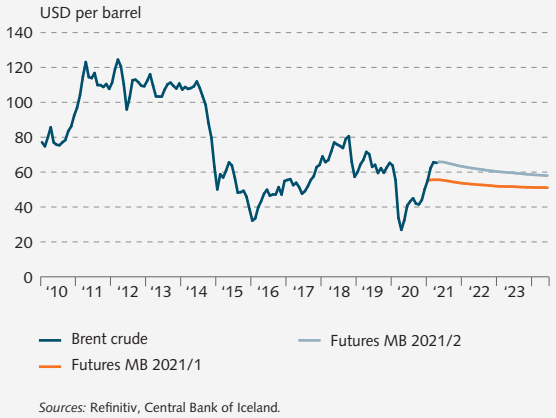
… and other commodity prices are at their highest in nearly a decade

Non-energy commodity prices have also risen virtually unabated since spring 2020 and are at their highest in eight years (Chart I-14). The price of nearly all commodity types is now higher than before the pandemic, with metals and food prices rising the most. The main driver of the increase is an abrupt jump in demand concurrent with growing economic activity, particularly in China.

Chart I-15

Global oil prices

January 2010 - June 2024



Sources: Refinitiv, Central Bank of Iceland.

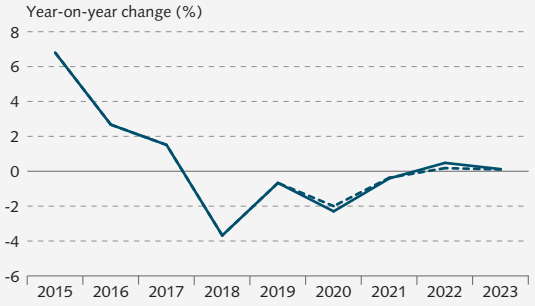
Supply-side difficulties have also made their mark, impeding the production of many commodities, especially copper and miscellaneous foodstuffs. This is exacerbated by the enormous increase in shipping costs due to the shortage of shipping containers and the blockage of the Suez Canal (for further discussion, see Chapter V). The outlook for 2021 has deteriorated markedly as a result, and commodity prices are projected to be nearly 19% higher this year than in 2020, whereas in February, the Bank had forecast an increase of just under 3%. On the other hand, prices are expected to fall by just over 3% in 2022.

Continued deterioration in terms of trade

Terms of trade for goods and services deteriorated by 2.3% in 2020, mainly because of rising imported goods prices, although higher imported services prices played a part as well. They worsened more than was assumed in the Bank's February forecast, which provided for a deterioration of 2% year-on-year (Chart I-16). The deviation is due primarily to the larger increase in import prices in Q4. It appears that terms of trade worsened still further in Q1/2021, and they are expected to deteriorate by 0.4% in 2021 as a whole, as was forecast in February. The price of oil and other commodities is projected to increase considerably more this year than was assumed in February, and the rise in general import prices is expected to be greater. On the other hand, the outlook for aluminium and marine product prices is more favourable.

Chart I-16

Terms of trade for goods and services 2015-2023[1]



1. Central Bank baseline forecast 2021-2023. Broken line shows forecast from MB 2021/1.
Sources: Statistics Iceland, Central Bank of Iceland.

Monetary policy and domestic financial markets

II

Monetary policy and market interest rates

Key rate unchanged since November …

Prior to the publication of this *Monetary Bulletin*, the Bank's key interest rate – the rate on seven-day term deposits – was 0.75% (Chart II-1). It has been unchanged since November, when it was lowered by 0.25 percentage points. The baseline forecast assumes that, during the forecast horizon, the key rate will develop in line with the monetary policy rule in the Bank's quarterly macroeconomic model, which ensures that inflation will be broadly at the Bank's inflation target over the medium term.[1]

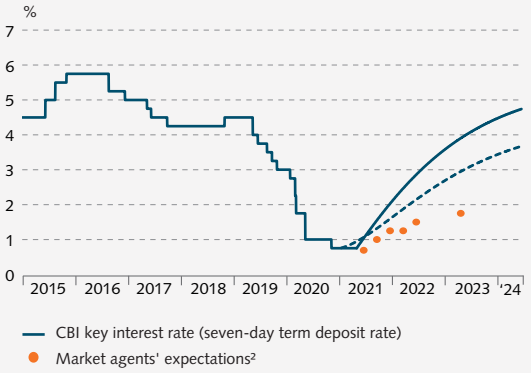
According to the Bank's market expectations survey, taken in early May, respondents expect the Bank's key rate to rise to 1% in Q3/2021 and reach 1.25% by the year-end. They expect it to continue rising in 2022 and reach 1.75% in two years' time. This is a more rapid increase than they expected in the last survey, but forward rates suggest that rates will be 4% after two years.

The Bank's real rate has been negative since March 2020. In terms of the average of various measures of inflation and one-year inflation expectations, it is now -2.8% and has fallen by about 2.2 percentage points since May 2020. The interest rate differential with abroad has narrowed concurrent with the reduction in the key rate, and the short-term real rate in Iceland is now 2.2 percentage points below the trading partner average.

Chart II-1

Central Bank of Iceland key interest rate[1]

1 January 2015 - 30 June 2024



1. The Central Bank's key interest rate and Treasury bond yields were used to estimate the yield curve. The broken line shows forward market interest rates prior to MB 2021/1. 2. Estimated from the median response in the Central Bank's survey of market agents' expectations concerning the collateralised lending rate. The survey was carried out during the period 3-5 May 2021.

Source: Central Bank of Iceland.

1 According to the monetary policy rule in the model, the key interest rate is determined in part by developments in the Bank's neutral real rate, which is the real rate that would be required, all else being equal, to keep inflation at target and ensure full factor utilisation. As is discussed in Box 1 in *Monetary Bulletin* 2019/4, this rate is estimated to have fallen gradually to 2% during the post-crisis period. It is estimated to have fallen still further in the recent term, to around 1%.

… but long-term rates have risen

The yield on ten-year nominal Treasury bonds was 4.1% just before this *Monetary Bulletin* went to press. It has risen by 0.9 percentage points in 2021 to date (Chart II-2). The yield on five-year nominal Treasury bonds has risen in a similar manner. The yield on ten-year indexed Treasury bonds was 0.9% just before this *Monetary Bulletin* was published and has risen by 0.1 percentage points year-to-date.

Since mid-August 2020, when the current rise in nominal rates began, the yield on five-year nominal bonds has risen by 1.4 percentage points, and the ten-year yield has risen slightly more. As Chart II-3 shows, the increase initially reflected the rise in real rates, which stemmed in part from greater optimism about the GDP growth outlook and expectations of the Treasury's increased financing need. On the other hand, inflation expectations were broadly unchanged. Since the beginning of the year, however, the rise in nominal rates appears to have been driven largely by a pickup in breakeven inflation, reflecting rising inflation expectations and increased uncertainty about the inflation outlook (for further discussion, see Chapter V).

The spread between one-year and ten-year nominal bond rates is currently about 2.6 percentage points and has widened by 0.4 points in 2021 to date. The term premium on Treasury bonds therefore appears to have risen, as it has in many other countries (see Chapter I), reflecting greater hesitancy among investors to tie up their funds for long periods of time.

Revised Treasury issuance calendar

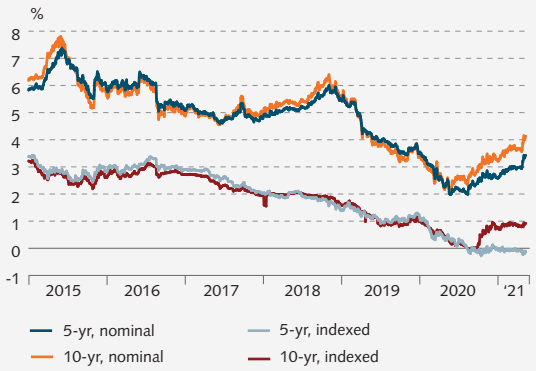
The Treasury's financing need has increased substantially because of the pandemic; however, terms on foreign borrowing have never been better, and the Treasury took advantage of this with a 750 million euro issue early this year. Given that the Treasury's position is better than was assumed when the last fiscal plan was prepared, estimated Treasury bond issuance for the year was reduced from 200 b.kr. to 180 b.kr., concurrent with the publication of Government Debt Management's most recent quarterly issuance calendar at the end of March. Furthermore, the Treasury has shifted more to long-term financing, whereas at the beginning of the pandemic it financed its deficit largely by issuing bills and short-term bonds.

The Central Bank has bought Treasury bonds in the secondary market for a total of 18.9 b.kr. (Chart II-4). In H1/2020, the Bank bought Treasury bonds for around 900 m.kr., but in November it scaled its purchases upwards, buying for another 6.7 b.kr. from then until the

Chart II-2

Government-guaranteed bond yields[1]

2 January 2015 - 14 May 2021

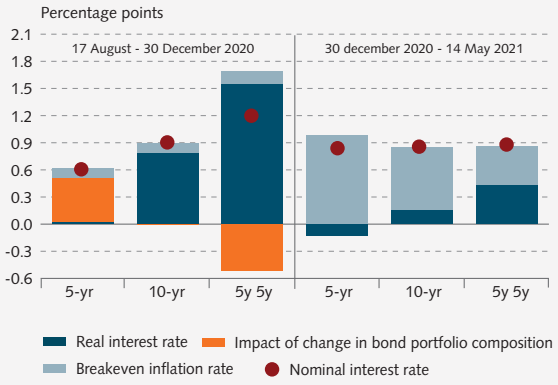


1. Based on the zero-coupon yield curve, estimated with the Nelson-Siegel method, using money market interest rates and Government-guaranteed bonds.

Source: Central Bank of Iceland.

Chart II-3

Breakdown of increase in nominal bond interest rate from August 2020 onwards[1]



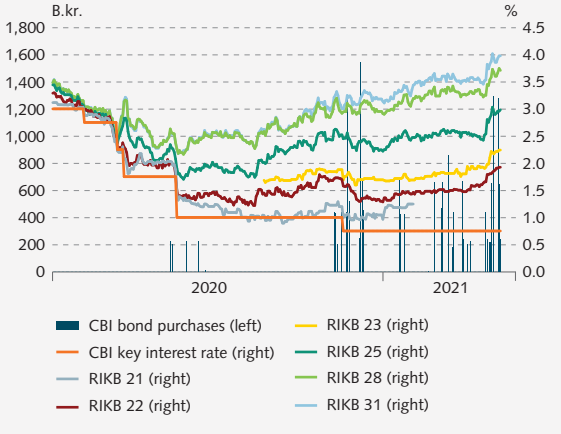
1. Change in nominal Treasury bond yields (estimated using the Nelson-Siegel method) and the contribution of corresponding changes in indexed bond yields and the breakeven inflation rate, adjusted for the effects of changes in the composition of the underlying bond portfolio on the calculation of the real zero-coupon yield curve.

Source: Central Bank of Iceland.

Chart II-4

Central Bank of Iceland bond purchases and nominal Treasury bond yields

2 January 2020 - 14 May 2021



Source: Central Bank of Iceland.

year-end. Since the last *Monetary Bulletin*, the Bank's bids have been accepted more often, and its purchases in 2021 to date total 11.4 b.kr.

Exchange rate of the króna

The króna has appreciated in the recent term …

The króna has appreciated by 3% in trade-weighted terms since the February *Monetary Bulletin* and by 9% from its local trough last September (Chart II-5). The average exchange rate is still about 6% lower than when the pandemic reached Iceland, however.

Since last June, non-residents have sold domestic securities and exported the proceeds in larger amounts than before, with net sales totalling about 50 b.kr. in H2/2020. This trend has continued in 2021, and net sales of domestic securities in the first four months of the year have totalled nearly 60 b.kr. Domestic pension funds traded heavily in the foreign exchange market in late 2020, and their currency sales offset a significant amount of their increased currency purchases. Their net purchases have increased thus far in 2021, totalling 20 b.kr. in the first four months of the year.

The króna has therefore appreciated year-to-date in spite of net outflows from non-residents, worsening terms of trade, and unfavourable external trade. This is probably due in part to increased forward currency sales. The Central Bank intervened more actively in the foreign exchange market in H2/2020, and in September it began a programme of regular foreign regular currency sales with the aim of deepening the market and improving price formation. At the end of March, however, the Bank decided to cut back on its regular currency sales, and in early May it discontinued the programme altogether, as the foreign exchange market appeared to be better balanced than it had been the previous autumn.

… but will remain relatively stable during the forecast horizon, according to the baseline forecast

The trade-weighted exchange rate index (TWI) stood at 200 points in Q1/2021, and the króna was therefore about 1½% stronger, on average, than was forecast in the February *Monetary Bulletin*. Since mid-March, the TWI has fluctuated between 193 and 198 points. According to the baseline forecast, it will remain broadly in this range throughout the forecast horizon; therefore, the króna will be nearly 5% stronger in 2022 than was projected in February (Chart II-6). As a result, the real exchange rate will rise by a full 5% over the forecast period, although it will still be more than 12% below its 2017 peak at the end of the forecast horizon.

Chart II-5

Exchange rate of the króna[1]

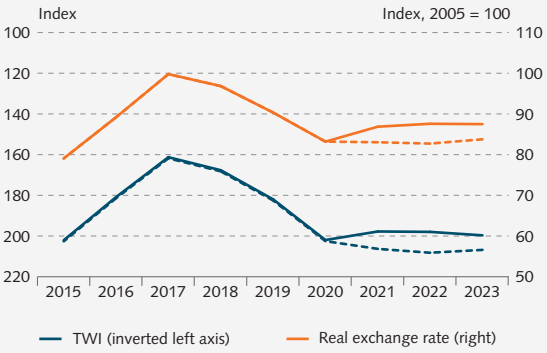
2 January 2015 - 14 May 2021

1. Price of foreign currency in krónur. Narrow trade index.

Source: Central Bank of Iceland.

Chart II-6

Exchange rate of the króna 2015-2023[1]



1. The trade-weighted exchange rate index (TWI) is based on a narrow trade basket. Real exchange rate in terms of relative consumer prices. Central Bank baseline forecast 2021-2023. Broken lines show forecast from MB 2021/1.

Source: Central Bank of Iceland.

Money holdings and lending

Growth in money holdings has eased

Growth in money holdings began to ease early in 2021, after rising strongly in H2/2020. The rapid growth in 2020 can be attributed in part to the easing of the monetary stance and the Central Bank's implementation of special pandemic-related measures to boost financial system liquidity. Annual growth in M3 averaged 12.8% in Q4/2020 but slowed to 8.7% in Q1/2021 (Chart II-7).[2] Household deposits have grown markedly in the recent past, especially after the pandemic reached Iceland, and annual growth in deposits measured 11% in Q1/2021. This is largely attributable to reduced consumption options as a result of public health measures and Government support measures, although sizeable contractual pay rises and increased mortgage lending due to strong housing market activity are factors as well. Furthermore, financial sector deposits other than those owned by credit institutions have declined since last year.

Strong growth in lending to households …

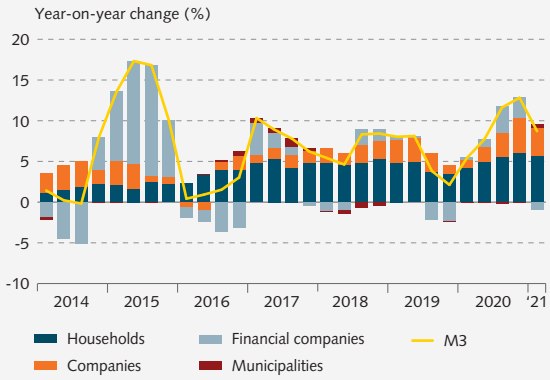
Credit system lending grew by an average of 5.2% year-on-year in 2020. The pace of growth increased over the course of the year, reaching 6.4% by Q4 (Chart II-8). Credit growth is driven by household lending, as corporate lending virtually stood still. Growth eased in Q1/2021, measuring 5.4%, and while the credit-to-GDP ratio has risen, it is still close to the average of the past decade.

Lending to households increased over the course of 2020. Twelve-month growth in the household credit stock peaked in November and has hovered around 10% since then. It stems almost entirely from increased mortgage lending, as the housing market has been lively in the recent past, fuelled by a significant drop in mortgage interest rates and a modestly leveraged household sector before the pandemic struck. Refinancing has accounted for a large share of the total, although it peaked as a share of total lending in October. Households have turned increasingly to non-indexed loans with variable interest rates. The commercial banks' market share has risen, but their covered bond issuance has not kept pace with the increase in lending; therefore, a larger share of their loan portfolio is financed with deposits than before.

Chart II-7

Money holdings[1]

Q1/2014 - Q1/2021



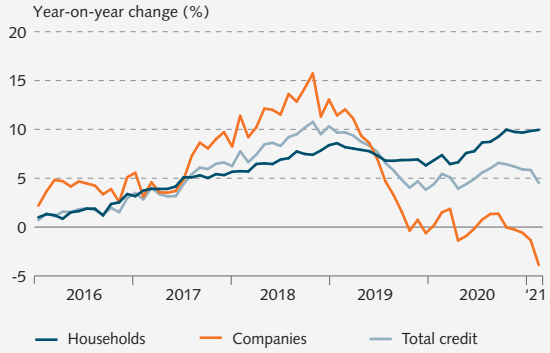
1. M3 is adjusted for deposits of failed financial institutions. Companies include non-financial companies and non-profit institutions serving households.

Source: Central Bank of Iceland.

Chart II-8

Credit system lending[1]

January 2016 - March 2021



1. Credit stock adjusted for reclassification and effect of Government debt relief measures. Excluding loans to deposit institutions, failed financial institutions, and the Government. Companies include non-financial companies and non-profit institutions serving households.

Source: Central Bank of Iceland.

2 Several changes have been made to the method used to calculate money holdings, which relate to the reclassification of a number of Government-owned firms and institutions (see the 18 May 2021 press release on the Central Bank website).

… but corporate lending has begun to contract

Corporate lending remained broadly flat year-on-year in 2020. The growth rate had slowed in 2019, alongside declining economic activity and higher returns required by banks on corporate loans. In 2021 to date, however, corporate lending has contracted. In Q1, the corporate credit stock was 2.5% smaller than in Q1/2020, and 4.3% smaller after adjusting for the impact of exchange rate movements on foreign-denominated corporate loans. Lending to individual sectors has either stalled or started to decline. Lending to construction companies gained pace early in 2020, but it slowed in the autumn, as new buildings have been selling well and construction companies' need for credit financing has been declining. Support loans and bridge loans, which bear a partial or full Treasury guarantee, have supported growth in lending to the companies affected most severely by the pandemic, however. Since July 2020, loans of this type have been granted in the amount of 12.4 b.kr. In addition, companies have obtained increased market financing, offsetting the contraction in lending, although financing through institutional investment funds has declined.

Debt ratios have risen, but credit spreads have been broadly unchanged recently

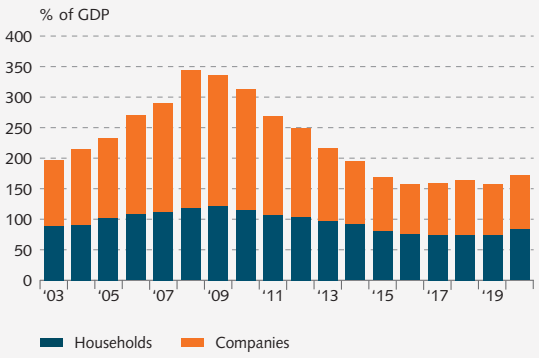
Household lending has grown rapidly in the recent term, and GDP contracted in 2020; therefore, the private sector debt-to-GDP ratio rose after having held virtually unchanged for four years (Chart II-9). The increase is relatively modest, however, and the debt-to-GDP ratio is now similar to that in 2015. There are no signs that households' financial conditions have deteriorated, either, and the non-performing household loan ratio is still low, at less than 3%. The corporate non-performing loan ratio rose sharply in 2020, however, and was still nearly 18% at the end of March (see also *Financial Stability* 2021/1). Most arrears are due to frozen loans, particularly loans to services firms and real estate companies. Corporate insolvencies have declined, however. Presumably, special Government measures (such as business closure subsidies) and forbearance measures from financial institutions have helped firms to withstand pandemic-induced revenue losses.

Even though households are more heavily leveraged than before, credit spreads on household loans have changed very little relative to the deposit rates offered to them (Chart II-10). Credit spreads on corporate loans rose sharply in early 2020 but peaked in March of that year and then declined later in 2020. They rose again towards the end of the year but have now begun to ease once more.

Chart II-9

Household and non-financial corporate debt[1]

2003-2020



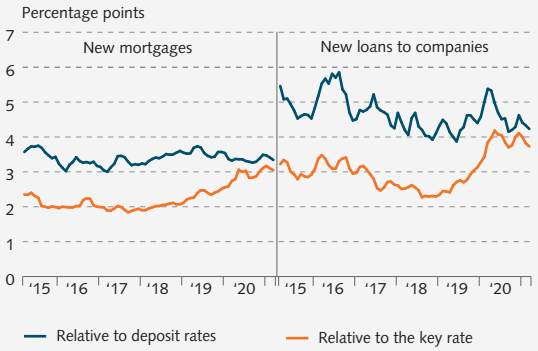
1. Debt owed to financial undertakings and market bonds issued. Excluding financial institutions (which includes holding companies).

Sources: Statistics Iceland, Central Bank of Iceland.

Chart II-10

Credit spreads[1]

March 2015 - March 2021



1. The difference between a weighted average of the large commercial banks' non-indexed lending rates and, on the one hand, the Central Bank's key rate, and on the other, a weighted average of their deposit rates. Three-month moving average.

Source: Central Bank of Iceland.

Asset prices

House prices have risen markedly, and market turnover has been strong …

After the pandemic started in 2020, real estate market activity began to increase steadily, peaking in H2. The ratio of market turnover to GDP was 21% in 2020 as a whole, the highest since 2007 (Chart II-11). Activity in the market has continued to grow in 2021 to date. The number of registered purchase agreements rose by nearly 47% year-on-year in Q1/2021, and the number of flats for sale has fallen. House prices have risen as a result. In 2020, the twelve-month increase in capital area house prices peaked at 7.7% in December. At the beginning of 2021 it tapered off slightly, but then in March the pace quickened again, to 10.7% (Chart II-12).

A large number of new flats have been sold recently, and the number of contracts for newly constructed properties has risen by 87% over the same period. The increased share of new properties in the data used to measure prices may well exaggerate the rise in prices. The number of first-time buyers in the capital area has also increased rapidly, reaching a record high of one-third of homebuyers in Q1/2021. There has been keen interest in Government equity loans, which are intended to give first-time buyers easier access to the housing market and boost demand for new, economical housing.

… but price increases do not appear out of line with fundamentals

The decline in interest rates in 2020 has given asset prices a lift and stimulated demand for owner-occupied housing. The rental market has softened as a result, and the contraction in tourism has both reduced demand for rental housing and boosted supply, as many properties previously used for short-term tourist rentals have been put on the long-term rental market. Rent prices have therefore fallen significantly and were down 0.6% year-on-year in March.

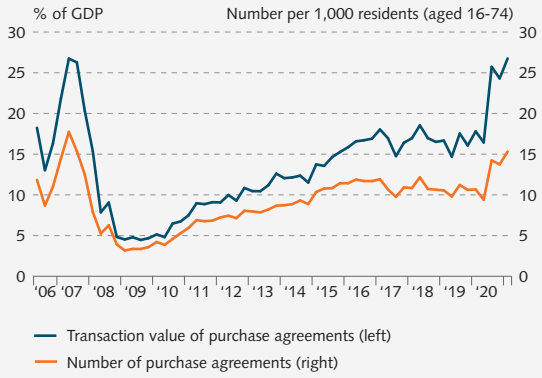
Even though house prices have risen noticeably in the recent term, they have developed broadly in line with macroeconomic fundamentals, and there are no unambiguous signs that imbalances have developed. Chart II-13 gives a comparison of developments in house prices with a forecast from the Bank's macroeconomic model, from Q1/2019 through Q1/2021. House prices have risen less than could have been expected based on the historical relationship between house prices, disposable income, and real mortgage interest rates.[3] Imbalances

3 Similar results are obtained using statistical tests that identify asset price bubbles (the GSADF test developed by P. C. B. Phillips, S. Shi, and J. Yu, 2015, "Testing for multiple bubbles: Historical episodes of exuberance and collapse in the S&P 500", *International Economic Review*, 56, 1043-1078).

Chart II-11

Number and transaction value of house purchase agreements nationwide[1]

Q2/2006 – Q1/2021



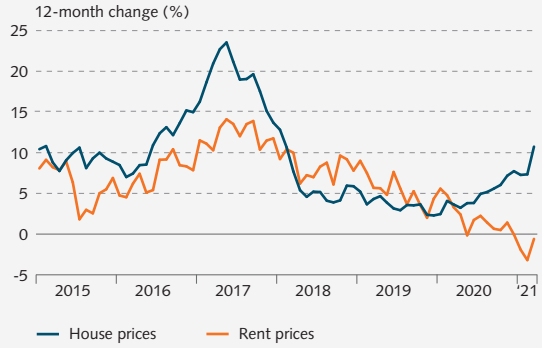
1. Number and transaction value of purchase agreements on date of purchase. Number and transaction value of purchase agreements, seasonally adjusted by the Central Bank. GDP data from Statistics Iceland. Central Bank baseline forecast for GDP in Q1/2021.

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

Chart II-12

House prices and rent[1]

January 2015 - March 2021



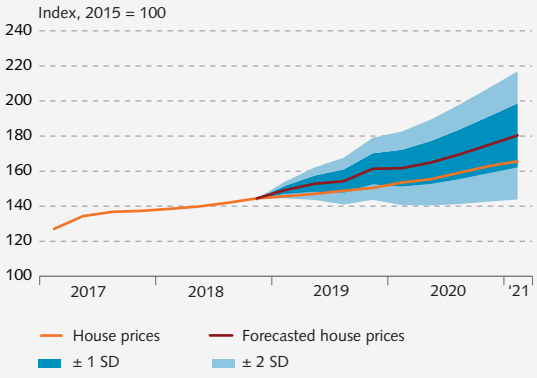
1. House prices and rent prices in the capital area.

Source: Registers Iceland.

Chart II-13

Actual and forecast house prices[1]

Q1/2017 - Q1/2021



1. Forecasted house prices according to a dynamic forecast from Q1/2019 - Q1/2021 using the Central Bank of Iceland house price equation in QMM, estimated over the period Q3/2001 - Q4/2017.

Source: Central Bank of Iceland.

could develop, however, if price hikes are increasingly debt-driven in the coming term. It is also important to bear in mind that the fundamentals that have supported house prices recently could reverse, causing house prices to give way again; for example, an increase in interest rates could create challenges for households that have financed home purchases at the low rates currently on offer.

Share prices have risen despite the economic contraction

The OMXI10 index has risen 16% year-to-date. In February it passed the 3,000-point mark for the first time since the financial crisis a dozen years ago. The domestic equity market has been vibrant so far this year, with turnover up 22% year-on-year in Q1 and the trade count up 42%. Low interest rates probably play a major role in share price increases, as prices are now 50% higher than they were before the pandemic reached Iceland. With rising prices, the share of direct pledging in the market has fallen. Between end-February 2020 and end-April 2021, the market value of listed shareholdings owned by individuals rose by 37 b.kr.

Demand and GDP growth

III

Domestic private sector demand

Private consumption contracted again in Q4/2020 … Household consumption spending declined again between Q3 and Q4/2020, after strong quarter-on-quarter growth in Q3 (Chart III-1). The contraction turned out somewhat smaller than was assumed in the February forecast, however, and for the year as a whole it measured 3.3%, or 1 percentage point less than projected. In part, the deviation reflects the fact that real disposable income appears to have risen more in 2020 than previously anticipated.

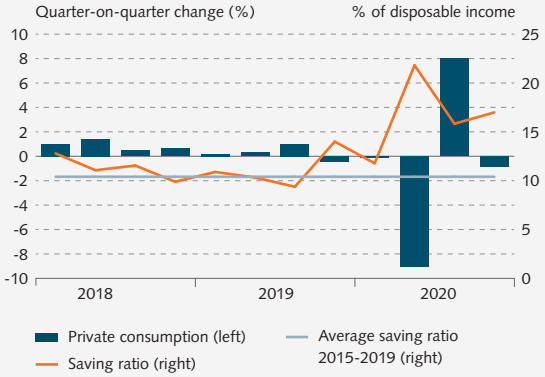
The COVID-19 pandemic surged again in September (Chart 2 in Appendix 1), prompting a tightening of public health measures, although the measures affected consumption behaviour less than in the first wave. Firms became more effective at adapting their activities to the public health measures and households increasingly took advantage of online shopping and home delivery services. According to the February forecast, the resurgence of the pandemic was expected to fuel greater household pessimism and lead to a rise in the saving rate, which had risen sharply at the start of pandemic, both in Iceland and abroad (see Chapter I). This did indeed happen, but not to the degree projected, and the setback in the autumn did not cause private consumption to contract as much in Q4 as was feared.

… but there are signs of a rebound in Q1/2021 … COVID case numbers began to decline in November 2020, and public health measures were relaxed again at the beginning of 2021. As January progressed, traffic returned to its pre-pandemic level, there was robust growth in payment card turnover within Iceland,

Chart III-1

Private consumption and household saving[1]

Q1/2018 - Q4/2020



1. There is some uncertainty about Statistics Iceland's figures on households' actual income levels, as disposable income accounts are not based on consolidated income accounts and balance sheets. The saving ratio is calculated based on the Central Bank's disposable income estimates, as Statistics Iceland figures are increased to reflect housholds' estimated expenses over a long period. Seasonally adjusted figures.

Sources: Statistics Iceland, Central Bank of Iceland.

and household spending on contact-intensive activities started to recover – although it remained weaker than before the pandemic (Chart III-2 and Chart 2 in Appendix 1). Even though the infection rate rose again in March and the tightest restrictions to date were put in place, payment card turnover continued to grow. New motor vehicle registrations (excluding rental cars) also indicate a strong recovery of private consumption year-to-date. Car registration numbers for the past three months are a full 15% higher than in the same period a year ago.

… and the prospect of robust growth for the rest of the year

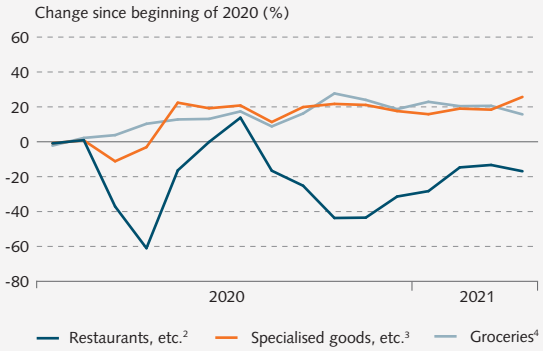
Private consumption appears to have increased again between quarters in Q1/2021, and looks set to grow strongly through the end of the year. Wages have risen, and broad-based Government measures have protected households' disposable income despite a lower employment rate. Households have also tapped their own savings to cushion against the economic shock, although the saving ratio remains above its historical average. In spite of the shock, household balance sheets are still strong overall, and debt levels have risen modestly since the pandemic struck (see Chapter II). Interest rates are low, and credit is readily available. Furthermore, households have grown increasingly more optimistic about the economic and employment outlook as the vaccine roll-out has progressed, and the Gallup Consumer Confidence Index reached a three-year high in March (Chart III-3). According to the baseline forecast, private consumption will be 5% stronger in Q1/2021 than in the same quarter a year ago. If this materialises, it will be the first time since the pandemic began that private consumption has grown year-on-year. The outlook for 2021 as a whole is for 5.2% growth, which is significantly more than was forecast in February, as the overall economic outlook has improved. The growth rate is then expected to ease in 2022 and 2023 (Chart III-4).

Developments in private consumption both this year and over the forecast horizon will depend in large part on the success of efforts to control the pandemic. If these efforts bear fruit sooner than is assumed in the baseline forecast, private consumption could pick up more quickly, while a setback in the fight against the pandemic could cause the outlook to deteriorate. Box 1 describes the assumptions in the baseline forecast concerning the pandemic and public health measures. It also presents alternative scenarios describing differing assumptions about the pandemic and their impact on macroeconomic developments.

Chart III-2

Payment card turnover, by category[1]

January 2020 - April 2021



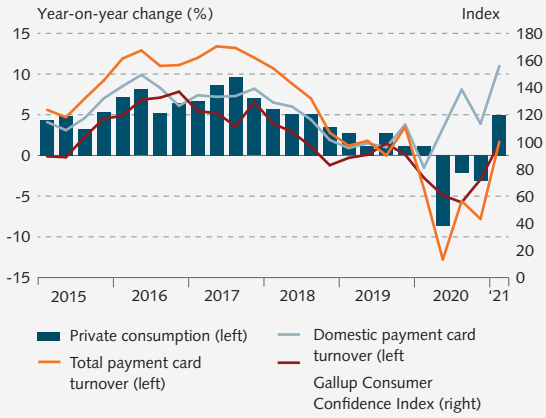
1. Seasonally adjusted. Change since average value of Jan. - Feb. 2020. 2. Restaurants, accommodation, transport, package tours, duty-free shopping, culture and recreation, and personal care and services. 3. Electronics, household appliances, furniture, clothing, and other specialised retail goods and services. 4. Grocery stores and supermarkets.

Source: Centre for Retail Studies.

Chart III-3

Private consumption and its indicators[1]

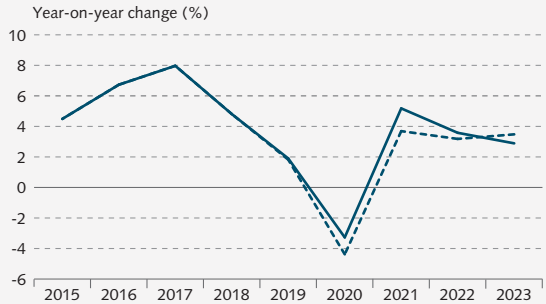
Q1/2015 - Q1/2021



1. The Gallup Consumer Confidence Index is seasonally adjusted. Central Bank

Chart III-4

Private consumption 2015-2023[1]



1. Central Bank baseline forecast 2021-2023. The broken line shows the forecast from MB 2021/1.

Sources: Statistics Iceland, Central Bank of Iceland.

Business investment contracted less than expected in 2020 ...

Business investment declined by 8.7% in 2020, the third consecutive year-on-year contraction. The main driver of the downturn was a 10.5% contraction in general business investment (i.e., excluding energy-intensive industry, ships, and aircraft), although investment in the energy-intensive sector also contracted by nearly one-fourth. Investment in ships and aircraft grew year-on-year in 2020, mainly because of positive base effects due to the sale of aircraft from WOW Air's operations in 2019. The year-on-year contraction peaked in Q3/2020, when business investment was 17.8% less than in the same quarter of the prior year (Chart III-5).

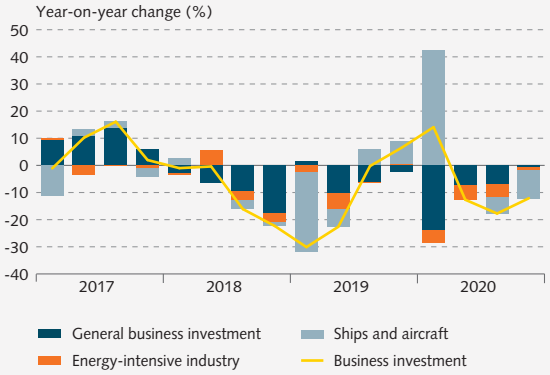
The downturn for the year as a whole was considerably smaller than the nearly 16% contraction forecasted in February. Revisions of previously published figures revealed that business investment was stronger than previously estimated in the first three quarters of the year, and the impact of the pandemic on companies' investment plans in Q4 turned out less pronounced than expected. This accords with the results of the Bank's investment survey from March 2021, which indicate that business investment ultimately contracted less than executives had projected last September. That said, the survey also suggests that the contraction was larger than Statistics Iceland data imply, which could indicate that a downward revision may be forthcoming.

... and looks set to grow marginally this year

According to the bank's survey of firms' investment plans, taken in March, business investment will increase by approximately 10% in nominal terms this year (Chart III-6). This is an improvement since the September survey, which suggested that investment spending would decline marginally during the year. The outlook improved in all sectors included in the survey, apart from manufacturing and information technology. As before, the largest contraction is expected in the fishing industry, although it should be noted that the survey does not include investments in ships and related equipment. Extensive investment planned in the tourism and transport sector is due largely to a 12 b.kr. investment initiative by Isavia, the operator of Keflavík Airport, with over 9 b.kr. of that amount falling in 2021 and the remainder in 2022. This one company's investment plans weigh heavily in the survey results. If Isavia is excluded, the survey indicates a smaller increase this year, or about 4% in nominal terms. This is a more upbeat outcome than can be inferred from Gallup's survey among Iceland's 400 largest companies, carried out around the same time. According to that

Chart III-5

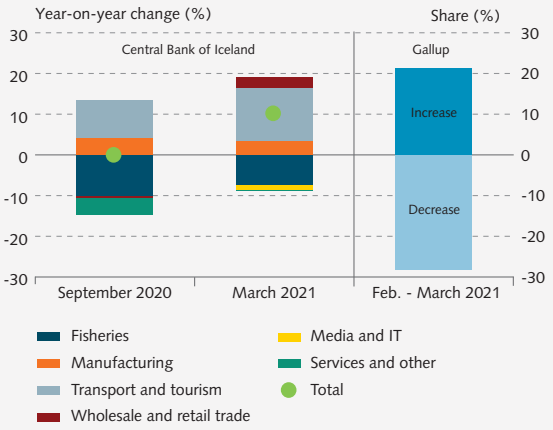
Business investment and contribution of components 2017-2020



Sources: Statistics Iceland, Central Bank of Iceland.

Chart III-6

Indicators of investment plans in 2021[1]



1. Central Bank survey of firms' investment plans (excluding investments in hotels, ships and aircraft). Gallup survey of Iceland's 400 largest companies' investment plans. The chart shows the share of firms intending to increase investment and the share intending to decrease it.

Sources: Gallup, Central Bank of Iceland.

survey, it appears that respondents intend to scale down investment relative to 2020.

Moreover, the outlook is for a marked slowdown in hotel construction this year. A number of hotels are in the final stages of construction, and several other projects have been postponed or abandoned. Pulling in the opposite direction is investment in the aquaculture sector, which is expected to more than double year-on-year. In addition, imports of investment goods in the first three months of 2021 suggest that Q1 investment was stronger this year than in 2020. The Bank's forecast therefore assumes that general business investment grew by just over 10% year-on-year in Q1, which is a significant change from the February forecast. The outlook for 2021 as a whole is broadly unchanged, however, owing to the offsetting impact of positive base effects from 2020 and a higher investment level in 2021. Furthermore, investment in the energy-intensive sector is expected to be a full 6% stronger this year, albeit offset by weaker investment in ships and aircraft. As a result, total business investment is projected to grow by just under 1% between years.

Residential investment to contract slightly less in 2021 than was forecast in February

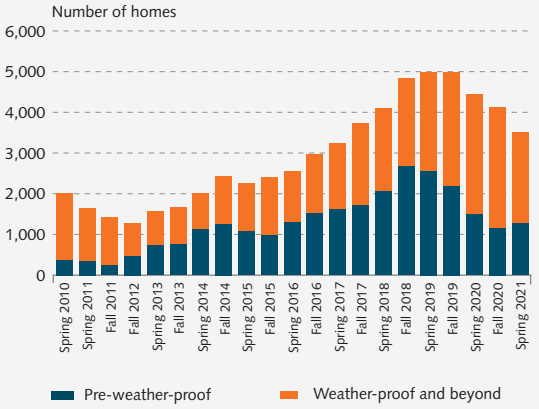
Residential investment contracted by just over 1% year-on-year in 2020 and not 6%, as was forecast in February. Figures for the first three quarters of the year were revised, and the year turned out more favourable as a result. In addition, a recent tally carried out by the Federation of Icelandic Industries indicates a slight rise in the number of weather-proof residential buildings since the autumn, suggesting an uptick in new construction (Chart III-7). Developers have been focusing recently on completing projects in later stages of construction, as demand for flats has surged. Therefore, all else being equal, increased sales of new homes should ease access to financing for new projects and mitigate uncertainty about planned construction. The outlook is for residential investment to contract by about 3% this year, slightly less than was forecast in February. If this forecast materialises, the contribution of residential investment to output growth should be about the same as in 2020 and the residential investment-to-GDP ratio about 5½%, just over 1 percentage point above the twenty-five-year average.

Public investment to drive investment growth in 2021

The baseline forecast assumes that total investment will be 4.9% stronger this year than in 2020 (Chart III-8). The increase is mainly driven by 4½% growth in regular business investment and strong growth in public investment spending (see below). Because investment has

Chart III-7

Residential housing in construction in the capital area[1]

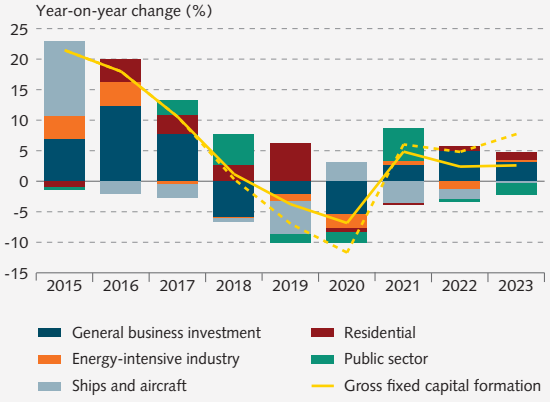


1. According to residential construction tallies conducted by the Federation of Icelandic Industries.

Source: The Federation of Icelandic Industries.

Chart III-8

Gross fixed capital formation and contribution of main components 2015-2023[1]



1. General business investment excludes ships, aircraft, and energy-intensive industry. Central Bank baseline forecast 2021-2023. Broken line shows forecast from MB 2021/1.

Sources: Statistics Iceland, Central Bank of Iceland.

contracted less in the past two years than was forecast in February, the investment level will be higher than previously expected in 2021 and 2022, even though the growth rate is expected to slow. By the end of the forecast horizon, the investment-to-GDP ratio will be broadly in line with the February forecast, however.

Public sector

Public investment to rise as public consumption growth slows down in 2021

Public sector demand is projected to grow by 5% this year, slightly more than in 2020, mainly because a portion of the investment spending planned for last year has shifted to this year. Public investment is forecast to increase by nearly a third in 2021, while public consumption growth is set to be weaker than in recent years, measuring 1.5%. Based on the Government's fiscal plan, growth in public consumption is expected to remain similar over the next two years, while public investment will contract slightly. Public sector demand will therefore be virtually unchanged over the next two years.

Large fiscal deficit due to the pandemic

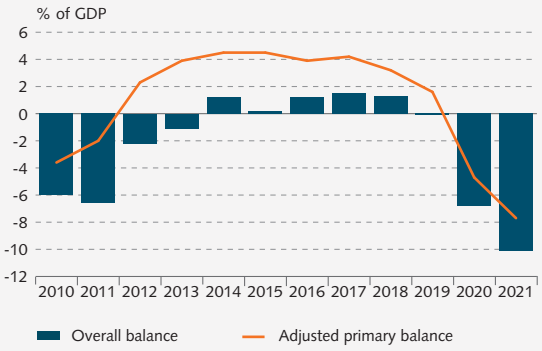
The Government's response to the COVID-19 pandemic, together with the impact of the economic contraction, generated a fiscal deficit equalling nearly 7% of GDP in 2020 (Chart III-9). Even so, the deficit was considerably smaller than the Bank and the Government had expected, as the economic contraction was less pronounced than originally feared. According to the Bank's baseline forecast, the fiscal deficit will grow to just over 10% of GDP this year, owing to fiscal support measures, automatic stabilisers, and the reduction in the lowest personal income tax rate. If the consolidation measures proposed in the new fiscal plan are implemented, the deficit will shrink markedly as the economic recovery takes hold. According to the fiscal plan, the primary balance will turn positive again in 2025.

Fiscal easing counteracts the economic contraction

The cyclically adjusted Treasury outcome is estimated to have deteriorated by nearly 4% of GDP in 2020, largely because of the Government's COVID-19 response measures. Similar fiscal easing is expected this year (Chart III-10). The Bank's previous estimate also assumed that the underlying Treasury outcome would worsen over these two years, but with fiscal easing showing more strongly in 2020. On the other hand, year-2021 tax revenues will decline more than developments in the output gap would generally indicate. This is because last year's

Chart III-9

Treasury outcome 2010-2021[1]

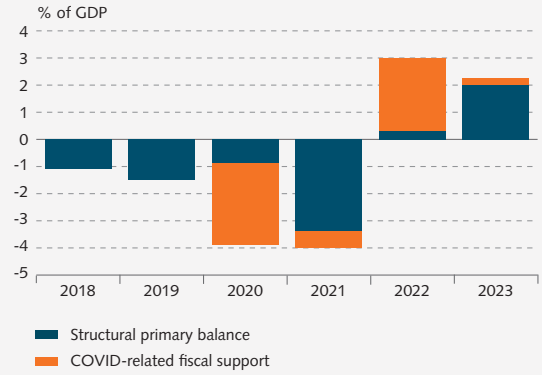


1. The primary balance is adjusted for one-off items. For 2016 through 2020, both the overall balance and the primary balance are adjusted for stability contributions, accelerated write-downs of indexed mortgage loans, a special payment to LSR A-division, dividends in excess of the National Budget, and other discretionary measures. Central Bank baseline forecast 2021.

Sources: Ministry of Finance and Economic Affairs, Statistics Iceland, Central Bank of Iceland.

Chart III-10

Change in central government cyclically adjusted primary balance 2018-2023[1]



1. The primary balance is adjusted for one-off items. Central Bank baseline forecast 2021-2023.

Sources: Ministry of Finance and Economic Affairs, Statistics Iceland, Central Bank of Iceland.

mitigating measures both dampened and postponed the impact of the pandemic on income tax. As a result, changes in the fiscal stance showed mostly in spending increases in 2020, whereas this year's easing will affect both revenues and expenditures.

According to the fiscal plan, most of the pandemic-related measures will expire in 2022, and the fiscal stance will tighten once again. The fiscal plan also provides for general consolidation measures starting next year and then increasing in 2023-2026, with the rise in the public debt ratio coming to a halt in 2025.

External trade and the current account balance

Exports to recover in Q4

After contracting in the first two quarters of 2020, exports started to grow again in Q3 and picked up more strongly in Q4 (Chart III-11), measuring 19% quarter-on-quarter and nearly a third relative to H1/2020. Export growth in Q4 was due largely to increased services exports relating to intellectual property licensing revenues, supported by increased marine product exports. In accordance with the February forecast, the contraction for 2020 as a whole measured 30.5%, and export volumes were at their lowest since 2010. This is also a larger contraction in exports than in most trading partner countries (see Box 2). Because the pandemic affected tourism-related activities so strongly, services exports fell by about half between 2019 and 2020. This was compounded by an 8.5% contraction in goods exports, which stemmed largely from reduced marine product exports and base effects from aircraft exports in early 2019. Excluding ships and aircraft, the contraction in goods exports was smaller, at just under 5%.

In Q1/2021, exports are estimated to have contracted quarter-on-quarter, mainly because of base effects due to the aforementioned intellectual property exports in Q4/2020. There was little improvement in tourism in the first three months of the year, but on the other hand, industrial and marine product exports appear to have increased concurrent with strong growth in agricultural exports, primarily farmed fish.

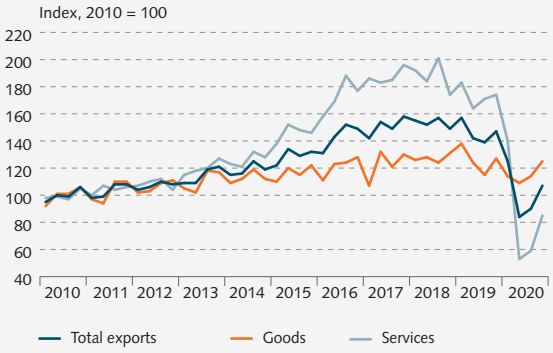
Goods exports stronger in 2021 than forecast in February

The outlook for this year's goods exports has improved since the last forecast, with growth now expected to measure 5% year-on-year instead of the previously projected 1%. The outlook for marine product exports has improved because of larger and more valuable capelin

Chart III-11

Exports of goods and services[1]

Q1/2010 - Q4/2020



1. Seasonally adjusted volume indices.

Source: Statistics Iceland.

catches. A slight increase in cod and haddock catches is expected as well, whereas a contraction was projected in February. Furthermore, aluminium exports are expected to grow more rapidly than previously thought, reflecting the improved global outlook and increased production, which stems in part from a new energy contract between Landsvirkjun and one aluminium manufacturer. Moreover, aquaculture exports are projected to continue growing, in view of recently announced plans for increased investment in the sector. Goods exports are estimated to grow by an average of 3% per year in 2022 and 2023, a slightly slower pace than was forecast in February.

Continued uncertainty in the tourism industry

The outlook is for activity in the domestic tourism sector to pick up starting in mid-year, as was forecast in February. Now, however, the rise in tourist numbers is expected to be less pronounced than was forecast then, as the pandemic has proven more persistent in Iceland's main trading partner countries and the authorities have tightened public health restrictions at the border in a bid to prevent the disease from spreading to Iceland (Chart 1 in Appendix 1). Two major factors in this are the emergence of new variants of the virus, which appear to be more contagious than their predecessors, and higher infection rates among children.

It is still uncertain when international passenger travel will return to normal and travel restrictions between Europe and North America can be lifted in full. Two US airlines have recently announced plans to fly to Iceland this summer, even though Europeans are generally not permitted to travel to the US. Travellers from the US accounted for more than a fifth of tourist arrivals in Iceland before the pandemic struck. In mid May, the number of foreign visitors was only about 7% of the tourist arrivals in early May 2019 (Chart 2 in Appendix 1). As in February, it is assumed that tourist numbers will rise as the year advances, the pandemic eases abroad, and restrictions at the border are eased (the assumptions in the baseline forecast concerning border restrictions are described in Box 1). The number of foreign tourists visiting Iceland in H2/2021 is projected at about half of the H2/2019 total. About 660,000 tourists are expected to visit Iceland this year, down from the February estimate of just over 700,000. This represents a year-on-year increase of about a third, which is broadly in line with the global estimate from the International Air Transport Association (IATA).[1] It is still expected that capacity in

1 See International Air Transport Association, Outlook for the Global Airline Industry, April 2021.

tourism-related sectors will be largely preserved, which will make it relatively easy to accommodate larger numbers of tourists.

With a weaker recovery of tourism, services exports will grow more slowly than was forecast in February, or just over a fifth instead of the previously projected one-fourth. For next year, it is assumed that border restrictions will have been fully lifted, and tourist numbers are expected to surge to 1.5 million. As a result, services exports are projected to grow by over 55% in 2022.

Exports set to grow in 2021 and 2022

Despite bleaker prospects for services exports this year, the outlook for total exports has improved since February. Exports are expected to grow by 11%, about 1 percentage point more than was forecast in February. The outlook for 2022 and 2023 is broadly in line with the February forecast, however (Chart III-12). If the forecast materialises, total exports will have returned to their 2019 level by the end of the forecast horizon.

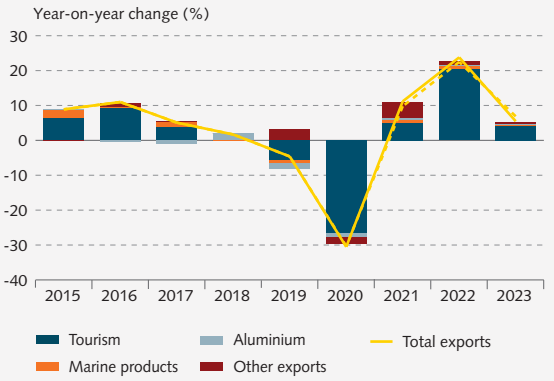
Imports to continue growing

As was forecast in February, goods and service imports grew quarter-on-quarter in Q4/2020 (Chart III-13). Growth during the quarter was due primarily to an 11% increase in service imports, driven mainly by imports of miscellaneous business services. In real terms, however, Q4 imports were still down by one-fifth relative to Q4/2019, and for the year as a whole the contraction measured 22%.

There are signs of a continued year-on-year contraction in imports in Q1/2021, as Icelanders' overseas travel has not increased discernibly, and it appears that goods imports contracted between years because of reduced imports of transport equipment and fuel. Icelanders are expected to start travelling abroad again in far greater numbers as the year progresses and the pandemic recedes. Growth in services imports will nevertheless be weaker this year than was forecast in February because the pandemic has proven more stubborn than was assumed then. On the other hand, the outlook is for stronger imports of consumer goods, investment goods, and export-related inputs, owing to the prospect of more robust growth in domestic demand and goods exports. Total imports are projected to grow by just over 12% this year, or 1 percentage point more than was forecast in February, and then by 16% in 2022, when Icelanders' spending abroad is expected to increase even more.

Chart III-12

Exports and contribution of subcomponents 2015-2023[1]



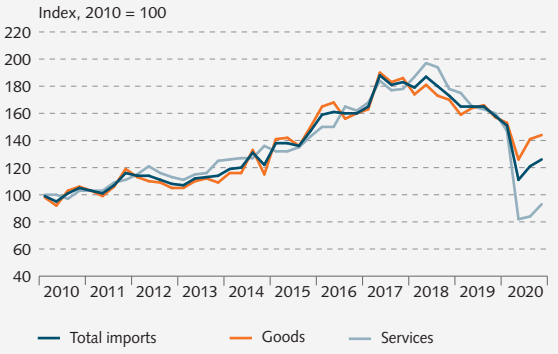
1. Because of chain-volume linking, the sum of components may not equal total exports. Tourism is the sum of "travel" and "passenger transport by air". Aluminium exports as defined in the national accounts. Central Bank baseline forecast 2021-2023. Broken line shows forecast from MB 2021/1.

Sources: Statistics Iceland, Central Bank of Iceland.

Chart III-13

Imports of goods and services[1]

Q1/2010 - Q4/2020

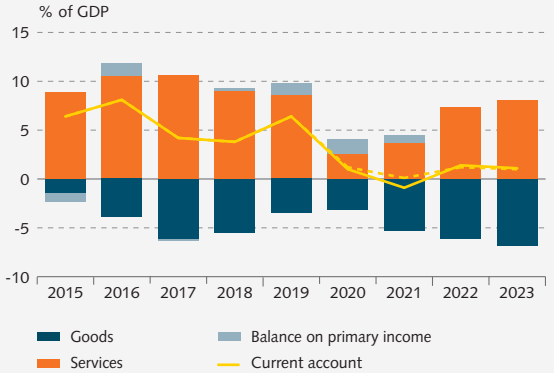


1. Seasonally adjusted volume indices.

Source: Statistics Iceland.

Chart III-14

Current account balance 2015-2023[1]



1. Current account excluding the effects of failed financial institutions in 2015. Balance on secondary income included in the balance on primary income. Central Bank baseline forecast 2021-2023. Broken line shows forecast from MB 2021/1.

Sources: Statistics Iceland, Central Bank of Iceland.

Trade deficit expected for the first time since 2008

The current account surplus measured 1% of GDP in 2020, the smallest surplus since 2008, when there was a sizeable deficit (Chart III-14). This is a significant change from the 6.4% surplus in 2019, reflecting the abrupt turnaround in the trade balance, which flipped from a 5.1% surplus in 2019 to a 0.6% deficit in 2020. The reversal is due to the strong contraction in services exports and a marked deterioration in terms of trade (see Chapter I). The composition of the current account surplus has changed somewhat in the wake of the pandemic. Over the past decade, it has been driven mainly by a surplus on goods and services trade, whereas in 2020 it reflected a 1.6% surplus on the primary and secondary income balance. The primary income surplus is due mainly to operating losses recorded by foreign-owned domestic companies.

Last year's trade deficit was slightly larger than was expected in February, and the difference is projected to continue into this year. This is offset by a continued surplus on the primary income account, in part reflecting an increasingly positive net asset position. The current account is expected to show a deficit of 0.2% of GDP this year but then reverse to a surplus of nearly 2% next year, when tourism regains momentum and terms of trade improve.

GDP growth

GDP contracted sharply in 2020 …

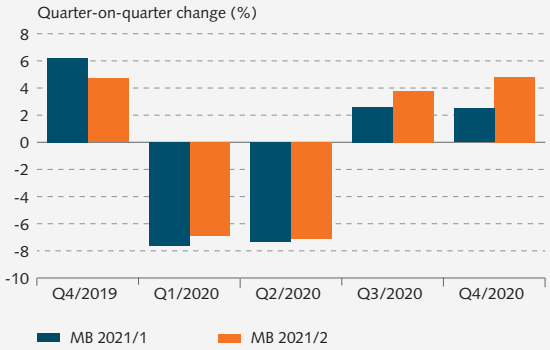
Even though private consumption contracted quarter-on-quarter in Q4/2020, domestic demand grew by 0.5% over the same period. Added to this was strong growth in intellectual property-related exports, bringing GDP growth for the quarter to 4.8% – the second quarter in a row to see a rise in GDP (Chart III-15). However, because of the steep contraction in the first two quarters, GDP was still 5.1% lower in Q4 than in the same quarter of 2019, having bottomed out at -10.1% in Q2/2020 (Chart III-16).

In 2020 as a whole, GDP contracted by 6.6%, owing to a 1.9% contraction in domestic demand and a negative contribution from net trade in the amount of 4.9 percentage points. All components of domestic demand contracted except public consumption. The contribution of inventory changes to output growth was marginally positive. The contraction in GDP somewhat exceeded the trading partner average (see Chapter I), but as is discussed in Box 2, this reflects the magnitude of the export shock relative to other countries.

Chart III-15

Quarterly changes in GDP growth[1]

Q4/2019 - Q4/2020



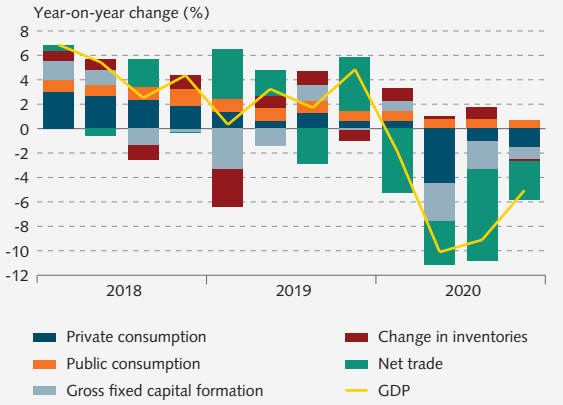
1. Seasonally adjusted figures. Data for the series MB 2021/2 show Statistics Iceland's measurement from February 2021, but data for the series MB 2021/1 show Statistics Iceland's measurement from November 2020, with the exception of Q4/2020 data, which are taken from the baseline forecast in MB 2021/1.

Sources: Statistics Iceland, Central Bank of Iceland.

Chart III-16

GDP growth and contribution of underlying components[1]

Q1/2018 - Q4/2020



1. Because of chain-volume linking, the sum of expenditure components may not equal GDP growth.

Sources: Statistics Iceland, Central Bank of Iceland.

… but less than previously forecast

Nevertheless, the contraction in GDP was more than 1 percentage point smaller than was forecast in February. GDP growth turned out stronger than expected in Q4, and Statistics Iceland revised its previous estimates for the first three quarters of the year. Developments in external trade in 2020 as a whole were in line with the February forecast, but the contraction in private consumption and investment turned out smaller than previously projected.

COVID-19 hit tourism-related sectors particularly hard

Last year's contraction in output extended to nearly half of all sectors, according to the production accounts, but the hardest-hit were sectors related to tourism and those that were most affected by public health measures (Chart III-17). For example, activities relating to travel bookings, air transport, and accommodation and restaurant services shrank by 50-75% from the prior year. However, the downturn was not restricted to tourism and related sectors. Other services and manufacturing also contracted markedly. That said, output did increase in some sectors, including retail sales, but the biggest contribution came from 3% growth in public sector activities.

Output growth in 2021 set to exceed the February forecast

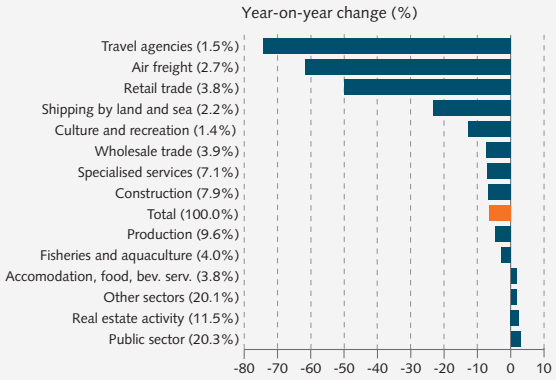
Owing to one-off effects from strong intellectual property exports in Q4/2020, GDP is estimated to have contracted quarter-on-quarter in Q1/2021 but to have grown by just over 2.2% relative to Q1/2020, the first increase year-on-year in more than a year. GDP growth is projected to gain momentum in Q2 and average 3.1% in 2021 as a whole, or 0.6 percentage points above the February forecast (Chart III-18). Private consumption growth will be the main driver of output growth, albeit offset in part by a slightly weaker rise in investment. The contribution from net trade is unchanged from the February forecast, however.

GDP growth is projected to accelerate further in 2022, measuring 5.2%, which is broadly similar to the February forecast. It will be driven mainly by strong growth in exports, and the contribution from net trade will be positive for the first time since 2019. Over the course of 2023, however, GDP growth will begin to ease towards its long-term potential and is expected to measure 2.3% (see Box 3).

If the forecast materialises, GDP will not return to its 2019 level until 2022, and in 2023 it will still be 3% below the level projected in the Bank's last pre-pandemic

Chart III-17

Contraction in selected sectors[1]

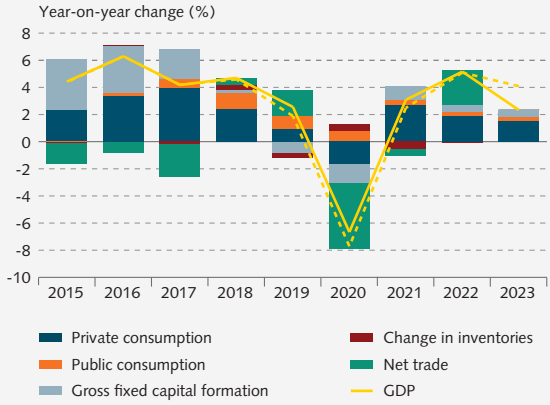


1. The contraction in gross national income (GNI) in 2020, by economic sector. GNI measures the income of all parties involved in output. It is equal to GDP adjusted for indirect taxes and production subsidies. Figures in parentheses show the share of individual sectors in nominal GNI in 2019.

Sources: Statistics Iceland, Central Bank of Iceland.

Chart III-18

GDP growth and contribution of underlying components 2015-2023[1]

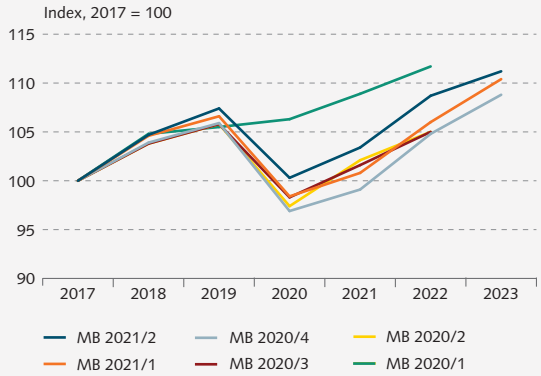


1. Central Bank baseline forecast 2021-2023. Broken line shows forecast from MB 2021/1.

Sources: Statistics Iceland, Central Bank of Iceland.

Chart III-19

Gross domestic product 2017-2023[1]



1. Central Bank baseline forecasts from February 2020 onwards.

Sources: Statistics Iceland, Central Bank of Iceland.

forecast. It is therefore clear that the economic damage done by the pandemic will be long-lasting (see also Boxes 3 and 4), although it will apparently be less severe than was initially feared (Chart III-19). This outlook is subject to considerable uncertainty, however. Box 1 presents alternative scenarios that describe various possible output growth paths, depending on how successfully the pandemic can be brought under control.

Labour market and factor utilisation

IV

Labour market

Total hours worked still down year-on-year …

According to the Statistics Iceland labour force survey (LFS), total hours worked were 3.5% fewer in Q1/2021 than in Q1/2020. 2.4% fewer people were employed, and average hours worked were down 1.1% (Chart 3 in Appendix 1). Seasonally adjusted total hours worked rose quarter-on-quarter after having declined somewhat in Q4/2020. According to the survey, the number of working persons also rose between quarters, but this does not accord with the pay-as-you-earn (PAYE) register, which indicates a continued decline in job numbers (Chart IV-1). PAYE data suggest that over 90% of the jobs lost in the past year were in tourism-related sectors.

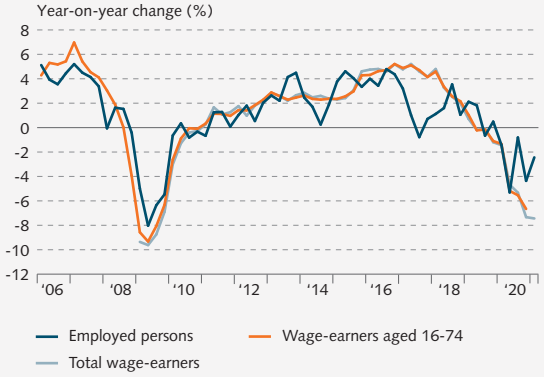
… but unemployment has started to ease …

Seasonally adjusted LFS results indicate that labour participation increased marginally between Q4/2020 and Q1/2021, but that the employment rate rose more strongly over the same period (Chart 3 in Appendix 1). Unemployment therefore fell by almost 1 percentage point between quarters, to 7.6%. Broadly, the same could be said of the LFS measure of the slack in the labour market, which includes the underemployed and those outside the labour market who could join the labour force at short notice. By that measure, the labour market slack measured 14.5% in Q1/2021 and had narrowed by nearly 3 percentage points between quarters (Chart IV-2). Registered unemployment (excluding recipients of part-time benefits) declined as well over the course of Q1 and measured 10.4% in April, although it was higher over the quarter as a whole than in Q4/2020, as it rose to a historical high of 11.6% in

Chart IV-1

Number of employed persons[1]

Q1/2006 - Q1/2021



1. Employed persons according to Statistics Iceland's labour force survey and wage-earners according to the Directorate of Internal Revenue's PAYE register. Wage-earners aged 16-74 includes individuals on childbirth leave and self-employed persons. The category "all wage-earners" excludes these groups but covers all age groups; the Q1/2020 figure is based on average of January and February values.

Sources: Statistics Iceland, Central Bank of Iceland.

January. Declining unemployment in 2021 to date is due in part to the Government's special job creation initiative. The trend appears to be relatively broad-based, with jobless numbers falling in most sectors, albeit most in accommodation and restaurant operations. However, long-term unemployment has risen steeply, reaching a historical peak in April (see also Box 4).

… as labour demand has picked up

According to Statistics Iceland's corporate survey for Q1, there were 700 more job vacancies than in the same quarter of 2020 (Chart IV-3). It was the second quarter in a row to see a year-on-year rise in vacancies, a significant turnaround from the steep decline in Q2/2020. There are no signs that the upsurge in the pandemic in Q4/2020 and the associated tightening of public health measures affected vacancy numbers. In Q1/2021, there were 3,500 jobs available, about the same as in Q1/2019. A similar shift can be seen in firms' staffing plans, according to the Gallup survey of Iceland's 400 largest companies. The balance of opinion between those planning to recruit and those planning to downsize was positive by over 4 percentage points during the quarter, and therefore close to its historical average, whereas it was negative by nearly one-third in Q2/2020.

Although labour demand appears to be recovering, as yet there are no clear signs of an imminent surge in job numbers strong enough to prompt a rapid decline in unemployment. Furthermore, for the tourism industry, the results of the two surveys differ widely. For example, according to the Gallup survey, the balance of opinion on staffing plans was positive by nearly 20 percentage points during the quarter in the transport, transit, and tourism sector, whereas the Statistics Iceland survey suggests that the number of job vacancies in the tourism industry has declined. Both surveys indicate that labour demand has increased in the construction industry and in sectors that include public sector-related services.

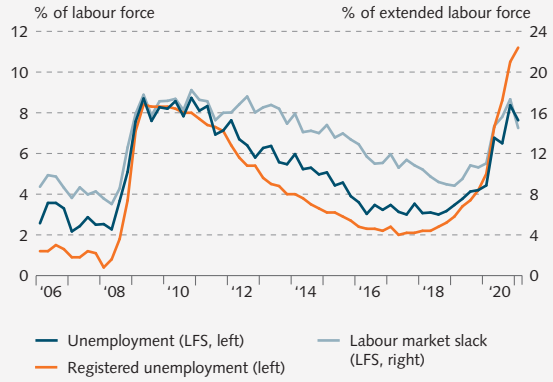
Population growth has slowed during the pandemic

Population growth has slowed markedly since the pandemic struck. The population grew by 1% year-on-year in Q1/2021, which is only 0.4 percentage points more than if no migration had taken place during the quarter (Chart IV-4). This is a major shift from early 2018, when annual population growth exceeded 3%. The change is due mainly to a significant decline in immigration of foreign workers.

Chart IV-2

Unemployment and labour market slack[1]

Q1/2006 - Q1/2021



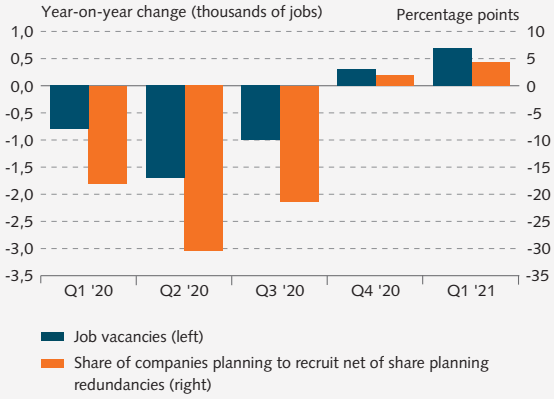
1. The labour market slack is the sum of unemployed persons, underemployed part-time workers, and the potential addition to the labour market (persons seeking work but not immediately available and persons available but not seeking work), expressed as percentage of the extended labour force (labour force plus the potential addition to the labour market). Registered unemployment excludes persons receiving part-time unemployment benefits from Q1/2020 onwards and is seasonally adjusted by the Central Bank. Seasonally adjusted figures.

Sources: Directorate of Labour, Statistics Iceland, Central Bank of Iceland.

Chart IV-3

Firms' staffing plans[1]

Q1/2020 - Q1/2021



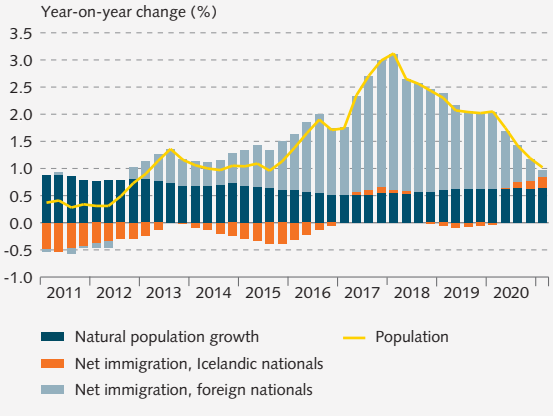
1. Job vacancies according to Statistics Iceland company survey. Firms' recruiting recruiting plans in the coming six months according to Gallup survey of Iceland's 400 largest companies. The data are seasonally adjusted by the Central Bank of Iceland.

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

Chart IV-4

Population

Q1/2011 - Q1/2021



Source: Statistics Iceland.

Unemployment projected to remain high but the outlook has improved since the last forecast

Labour demand has continued to recover, and the Government has launched a jobs initiative aimed at putting unemployed people back to work. Total hours worked are forecast to increase by 2½%, both this year and, on average, in 2022 and 2023. This is a larger increase than was forecast in February. The unemployment outlook has improved as well, although the jobless rate is still expected to taper off slowly and remain somewhat higher than before the pandemic. The LFS-based unemployment rate is forecast to average just under 7% this year and ease to around 6% towards the end of the forecast horizon. Registered unemployment will be higher this year, or slightly over 9%, but will fall faster during the forecast horizon (Chart IV-5). The outlook is highly uncertain, however. Box 1 presents alternative scenarios based on differing assumptions about developments in the pandemic, and Box 4 focuses in particular on various uncertainties relating to developments in unemployment.

Indicators of factor utilisation

The pandemic has undermined labour productivity

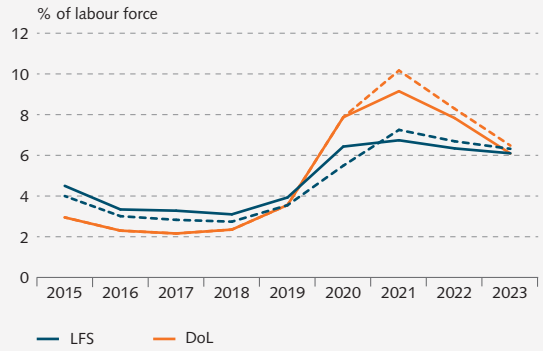
Labour productivity declined by 1.8% year-on-year in 2020 based on hours worked from the LFS (Chart IV-6). This is the largest single-year drop in productivity by this measure since 1999, and it represents an abrupt reversal from 2019, when labour productivity grew by nearly 2%. Another measure of labour productivity, also published by Statistics Iceland and based on total hours worked according to the national accounts, shows a similar reversal. By that measure, labour productivity was virtually flat year-on-year in 2020 but grew nearly 4% in 2019. Therefore, annual growth in labour productivity according to these two measures declined by similar amounts between 2019 and 2020, or around 3½ percentage points. The pandemic has therefore had a major impact on labour productivity, as is discussed in Box 3 – particularly in sectors relating to tourism and personal services (Chart IV-7).

Output slack to close and output gap to open in 2022

The seasonally adjusted results of Gallup's spring survey among Iceland's 400 largest firms suggest that the share of executives reporting staff shortages has risen slightly between surveys. The share who indicated that their firms would have difficulty responding to an unexpected increase in demand is broadly unchanged, however.

Chart IV-5

Unemployment 2015-2023[1]

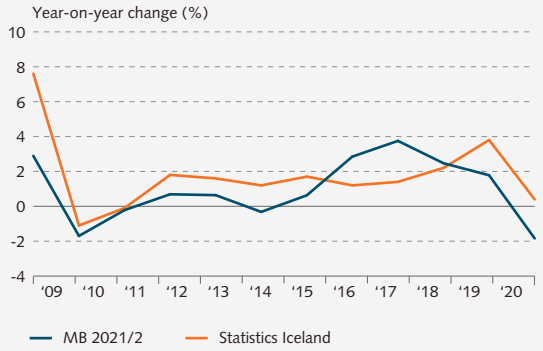


1. Unemployment according to Statistics Iceland labour force survey (LFS) and registered unemployment, excluding part-time benefits, according to the Directorate of Labour (DoL). Central Bank baseline forecast 2021-2023. The broken lines show the forecast from MB 2021/1.

Sources: Directorate of Labour, Statistics Iceland, Central Bank of Iceland.

Chart IV-6

Labour productivity 2009-2020[1]

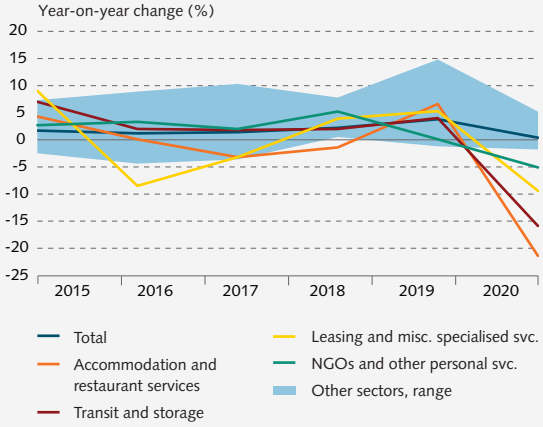


1. Labour productivity, from the Central Bank's macroeconomic model, is measured as GDP per hour worked, based on total hours worked according to Statistics Iceland labour force survey (LFS). However, labour productivity as published by Statistics Iceland is measured as gross factor income per hour worked, based on total hours worked according to national accounts data.

Sources: Statistics Iceland, Central Bank of Iceland.

Chart IV-7

Labour productivity in selected sectors 2015-2020[1]



1. Labour productivity as published by Statistics Iceland is measured as gross factor income per hour worked, based on total hours worked according to national accounts data.

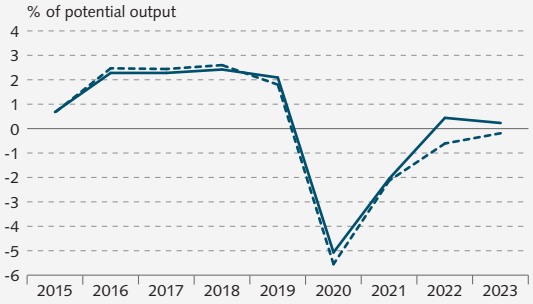
Source: Statistics Iceland.

The resource utilisation (RU) indicator, which combines various indicators of factor utilisation, rose somewhat in Q1, suggesting improved utilisation of resources. The RU indicator has now risen three quarters in a row (Chart 3 in Appendix 1).

The slack that developed in the economy in the wake of the pandemic therefore appears to be narrowing. Furthermore, the pandemic has caused significant disruption on the supply side of the economy, with the result that growth in potential output is estimated to have fallen well below its historical average in 2020 and remain there in 2021 (see also Boxes 3 and 4). As a consequence, spare capacity will be eliminated faster than it would otherwise. The output slack is projected to narrow from 5% of potential in 2020 to 2% this year, and then flip to a small output gap in H2/2022 (Chart IV-8). This is a smaller slack than was forecast in February and will close more quickly than was assumed then, reflecting both revisions of historical data and a more favourable GDP growth outlook. This assessment is highly uncertain, however, as is discussed in Box 1.

Chart IV-8

Output gap 2015-2023[1]



1. Central Bank baseline forecast 2021-2023.
Source: Central Bank of Iceland.

Inflation

V

Recent developments in inflation

Inflation above the upper deviation threshold of the inflation target in Q1/2021 …

Inflation measured 4.2% in Q1/2021, whereas the Bank's February forecast had assumed it would be 3.9%. The main drivers of inflation during the quarter were rising prices of petrol, private services, and residential housing (Chart V-1). Domestic petrol prices began increasing in late 2020, after global oil prices started to rise. Private services prices have also inched upwards recently, most likely due to wage hikes and an increase in domestic demand following the relaxation of public health measures early in Q1.

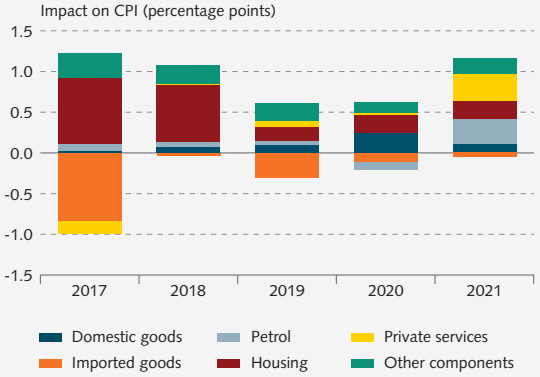
… and has risen since the February *Monetary Bulletin*

Headline inflation has continued to rise in the recent term, reaching 4.6% in April (Chart V-2), its highest level since February 2013. A large share of the past few months' spike in inflation is due to rising house prices, as inflation excluding housing slowed to 4.6% in April, after having exceeded the headline rate since June 2020. Inflation according to the HICP, which also excludes owner-occupied housing costs, was lower, however, measuring 3.8% in March.[1]

Underlying inflation according to the average of various measures was 4.3% in April and, unlike headline inflation, has slowed in recent months (Chart V-3). It is still high, however, indicating the presence of relatively

Chart V-1

Impact of CPI components in Q1[1]



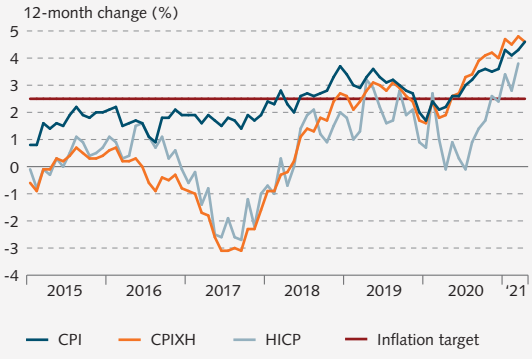
1. The combined impact of subcomponents equals the sum of monthly changes in the CPI in Q1.

Sources: Statistics Iceland, Central Bank of Iceland.

Chart V-2

Various measures of inflation

January 2015 - April 2021



Sources: Statistics Iceland, Central Bank of Iceland.

1 As is discussed in *Monetary Bulletin* 2020/4, the main difference between the CPI excluding housing (CPIXH) and the HICP is that the weight of various tourism-related subcomponents is greater in the HICP than in the CPIXH. The price of most of these subcomponents has risen only slightly or has fallen in the past year.

widespread inflationary pressures. Almost half of twelve-month inflation is due to higher imported goods prices, but the contribution from various subcomponents that weigh heavily in the CPI – such as services and domestic goods – has grown stronger as well. The housing market has been buoyant, and house prices have surged (see Chapter II). The cost of owner-occupied housing rose 4.8% year-on-year in April, with lower real mortgage interest expense offsetting the rise in house prices.[2]

Indicators of inflationary pressures

The recent appreciation of the króna has eased inflationary pressures …

As is mentioned above, last year's depreciation of the króna had a strong impact on imported goods prices. The exchange rate pass-through had eased by early 2021, however, and the króna has appreciated by just over 2% year-to-date. The foreign exchange market has been relatively well balanced over the same period. Imported inflation has therefore eased in recent months, apart from the surge in petrol prices since the end of 2020 (see Chapter I). Imported food and beverage prices have risen by 5.6% in the past twelve months, and the price of miscellaneous imported goods such as clothing, electronic equipment, and furniture is up 6.4% (Chart V-4). Petrol prices, however, are 10% higher than they were a year ago.

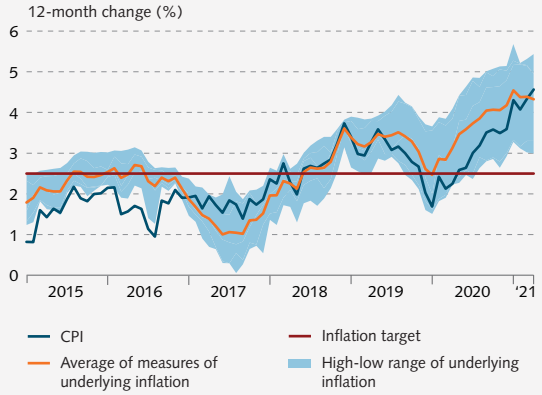
… but transport costs and global commodity prices are up sharply

The pandemic has led to steep hikes in transport costs and the price of various inputs, owing to disruptions in production, value chains, and domestic and cross-border distribution channels (see also Box 2 in *Monetary Bulletin* 2020/4). Added to this was the temporary halt in transport by sea via the Suez Canal following the blockage of the canal in late March. These supply-side disruptions have had a strong impact. The cost of cross-border container shipping, for instance, is three times the 2019 average, and the price of various commodities, including food, has risen as well (see Chart V-5 and Chapter I).[3] Furthermore, many companies' low inventory levels in the wake of the pandemic could amplify these cost effects even further. It will probably take some

Chart V-3

Headline and underlying inflation[1]

January 2015 - April 2021



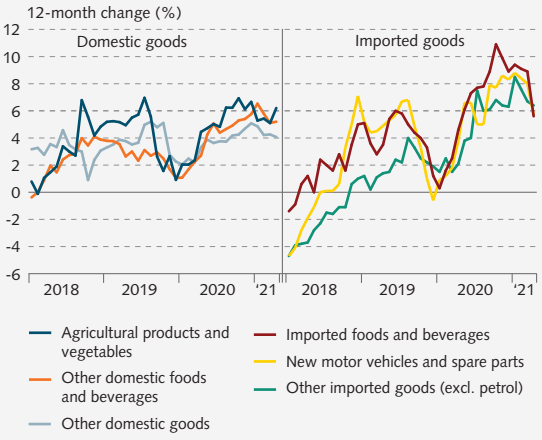
1. Underlying inflation measured using a core index (which excludes the effects of indirect taxes, volatile food items, petrol, public services, and real mortgage interest expense) and statistical measures (weighted median, trimmed mean, a dynamic factor model, and a common component of the CPI).

Sources: Statistics Iceland, Central Bank of Iceland.

Chart V-4

Domestic and imported goods prices

January 2018 - April 2021

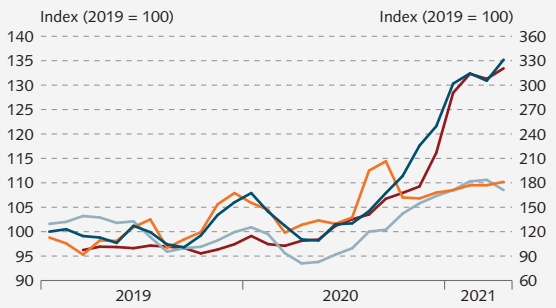


Source: Statistics Iceland.

Chart V-5

Global shipping and commodity prices[1]

January 2019 – April 2021



1. Food includes various comestible oils, various meal and grains, meat, and fruit. Beverages include cocoa, coffee, and tea. Commodities include timber, cotton, rubber, and tobacco. Container shipping based on the Freightos Global Container Index.

Sources: Freightos Limited, World Bank.

2 Headline twelve-month inflation is lower by an estimated 0.9 percentage points because of lower real mortgage interest expense.

3 Soon after the pandemic struck in early 2020, it was expected that global food and commodity prices would fall markedly. The analysis in *Monetary Bulletin* 2020/2, published in May, was based in part on the World Bank forecast, which assumed that global food and beverage prices would decline by just over 1% in 2020. In fact, they rose by more than 6%.

time to unwind the supply disruptions, and their aftereffects could persist well into this year. As a result, it could take longer for inflationary pressures to subside.

On the other hand, indications from Gallup's spring survey of corporate expectations, carried out in February and March 2021, suggest that executives do not think inflationary pressures have risen decisively since last autumn. About 58% of survey respondents expect to keep the price of their own goods and services unchanged in the next six months, and 37% expect to raise them. This is virtually the same as in the autumn survey (Chart V-6). Furthermore, the share of respondents expecting their input prices to rise fell between surveys.

If these supply disruptions persist, however, and if transport prices continue to rise, there is the risk of second-round effects – for instance, on services prices. There have been widespread disruptions in services activities due to broad public health measures, particularly in contact-intensive sectors. Now, with further relaxation of public health measures on the horizon as the vaccination roll-out proceeds, the increase in demand could trigger further price hikes for private services, which had risen by 2.4% year-on-year in April (Chart V-7).

Wages have risen steeply

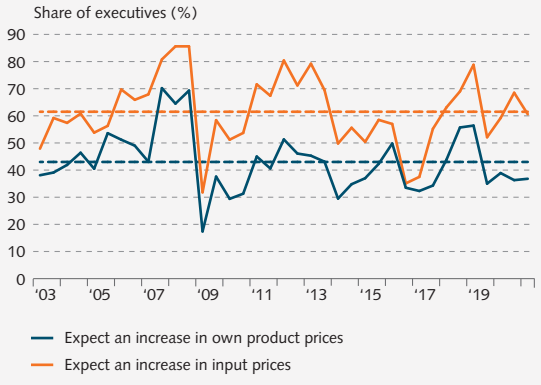
Housing is not the only non-traded good that has risen in price since the pandemic hit Iceland. Wages have risen markedly as well. The general wage index rose by 6.3% year-on-year in 2020, and the total wage index by nearly as much, or 5.6%. The smaller increase in the total wage index reflects both the impact of changes in the composition of the labour force and various payments not captured by the general wage index. With these sizeable pay hikes, the share of wages in factor income rose last year, unlike what happened following the financial crisis just over a decade ago.

The general wage index rose by 4.3% quarter-on-quarter in Q1/2021, as was assumed in the Bank's February forecast, bringing the twelve-month rise in the index to 10.5% (Chart V-8). This large increase is due mainly to the fact that two negotiated pay rises have taken effect in the twelve-month period in question – in April 2020 and January 2021 – and moreover, base effects from the delayed public sector contracts in 2020 can still be felt. It can therefore be expected that the twelve-month rise in the index will ease again in Q2 and the quarters to follow. Unit labour costs are estimated to have risen by over 5% in 2020 but are expected to rise less strongly this year and in 2022-2023, or an average of 3½% per year.

Chart V-6

Corporate expectations of input and product prices 6 months ahead[1]

March 2003 - March 2021

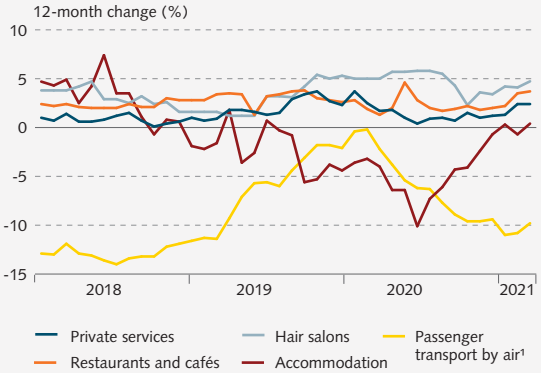


1. Broken lines show averages from 2003.
Sources: Gallup, Central Bank of Iceland.

Chart V-7

Private services and selected subcomponents of the CPI

January 2018 - April 2021

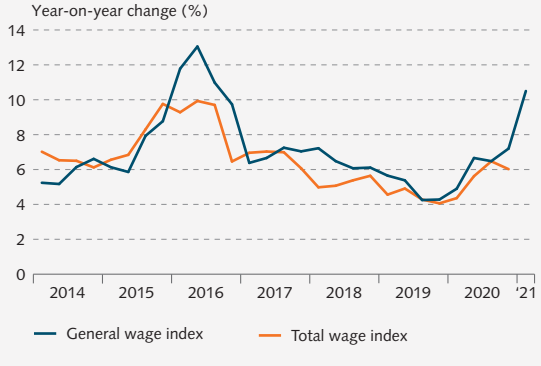


1. Twelve-month moving average.
Sources: Statistics Iceland, Central Bank of Iceland.

Chart V-8

Wages

Q1/2014 - Q1/2021



Source: Statistics Iceland.

Inflation expectations

Short-term inflation expectations have risen by several measures ...

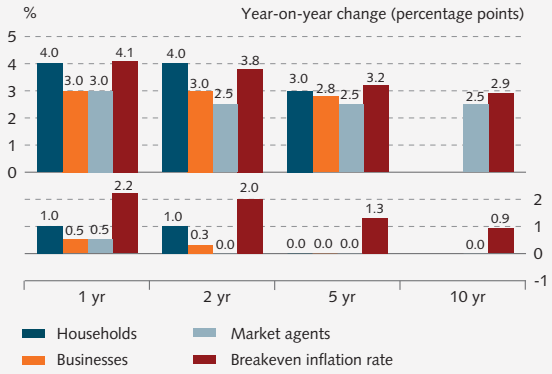
Short-term inflation expectations have increased by several measures since the last surveys were taken, as inflation has been persistently high in the recent term. Market agents expect inflation to measure 3% in one year's time, whereas in the previous survey they assumed it would be at the Bank's 2.5% target. Their inflation expectations two years ahead are still at target. According to Gallup's spring survey, households expect inflation to measure 4% in one year, as in the previous survey; however, their expectations two years ahead have risen by 1 percentage point, to 4%. Corporate executives expect inflation to measure 3% in both one and two years, which is unchanged between surveys but somewhat higher than a year ago (Chart V-9).

... and there are also signs that long-term inflation expectations have inched upwards

Market agents' five- and ten-year inflation expectations are still at target, where they have been continuously since H2/2019. According to Gallup's spring surveys, households continue to expect inflation to average 3% over the next five years, while corporate executives' long-term inflation expectations have risen since the previous survey and measure 2.8%, as they did a year ago. The five- and ten-year breakeven inflation rate in the bond market has also risen in recent months, and the ten-year rate has averaged 2.9% in Q2/2021 to date, compared with just over 2% in Q2/2020.[4] Long-term inflation expectations have therefore risen by several measures, which could indicate that the anchor to the inflation target has weakened in the recent past.

Chart V-9

Inflation expectations[1]



1. The most recent Gallup surveys of corporate and household inflation expectations were carried out in February/March 2021. The most recent Central Bank survey of market agents' expectations is from the beginning of May 2021. Households and businesses are not asked about ten-year inflation expectations. The most recent value for breakeven inflation is the average in Q2/2021 to date. The lower part of the chart shows the year-on-year change.

Sources: Gallup, Central Bank of Iceland.

The inflation outlook

Inflation to taper off considerably slower than previously forecast

In Q1/2021, inflation was above the Bank's February forecast, partly because the slack in the economy was smaller than expected and oil and commodity prices rose more than was assumed in the forecast. Furthermore, the inflationary effects of various supply-side disruptions were underestimated, as is discussed above. In spite of this, inflation is expected to begin declining in the near

4 It can be assumed that about one-third of the year-on-year increase in the one- to five-year breakeven rate is due to technical factors relating to the removal of a bond maturing in 2021 from market making and thus from the calculation of the real zero coupon curve. Furthermore, the breakeven rate also includes an inflation risk premium and a liquidity risk premium. For further information, see Chapter II.

future. It is forecast to measure 4.4% in Q2 and fall to 3.8% by Q4 (Chart V-10). Inflation will therefore be markedly more persistent than previously forecast, as the February forecast assumed that it would align with the target by the year-end. Now it is not expected to do so until mid-2022. This is due mainly to higher imported inflation, although the króna is now expected to be stronger than previously projected. Furthermore, in the latter half of the forecast horizon, the outlook is for inflation to be higher than was assumed in February, as a positive output gap is now expected to open up earlier than was forecast then. According to the forecast, inflation will be at target, on average, over the latter half of the forecast horizon.

Inflation risk concentrated on the upside

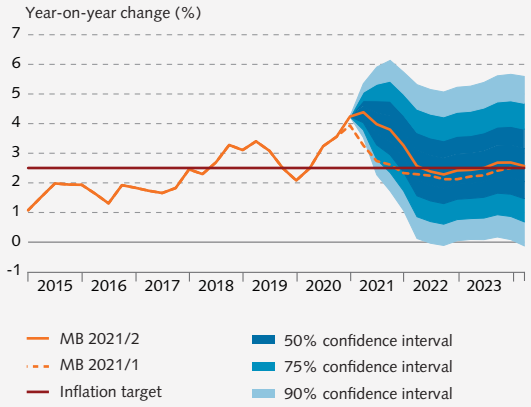
Inflation has systematically exceeded forecasts since the pandemic struck, as the slack in the economy has been smaller than anticipated and the exchange rate pass-through from the depreciation of the króna to imported goods prices has been stronger than expected. Cost increases due to pandemic-related disruptions in manufacturing were also underestimated, as is discussed above, and global oil prices have repeatedly risen more than projected (Chart V-11).

As is discussed in Box 1, the inflation outlook for both short and long term is highly uncertain. Uncertainty about the short term centres mainly on how the exchange rate develops and how long supply-side disruptions continue to affect value chains and goods transport. In the long term, the inflation outlook depends as much on the strength of the economic recovery as it does on the long-term impact of the pandemic on potential output. The risk profile is considered to be similar to that in the Bank's most recent forecasts, and tilted to the upside; i.e., near-term inflation is likelier to be underestimated in the baseline forecast than it is to be overestimated. There is a roughly 50% probability that inflation will be in the 1½-3¾% range in one year and in a similar range at the end of the forecast horizon (Chart V-10).

Chart V-10

Inflation forecast and confidence intervals

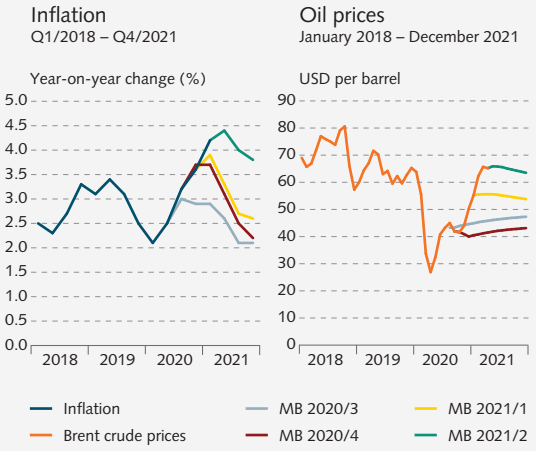
Q1/2015 - Q2/2024



Sources: Statistics Iceland, Central Bank of Iceland.

Chart V-11

Forecasts of inflation and oil prices in the wake of the pandemic



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

Box 1

Alternative scenarios and uncertainties

The baseline forecast reflects the most likely economic developments over the forecast horizon. The outlook is highly uncertain, however, and could alter in response to changes in key underlying assumptions. For example, the fact that some key uncertainties specified in the Bank's last forecast have materialised has led to changes in the assumptions underlying the current forecast. Early this year, for instance, the vaccine roll-out proceeded more slowly than had been expected. On the other hand, household saving has declined more quickly than previously projected, and domestic demand has therefore proved more resilient. Furthermore, the Government has announced even more fiscal stimulus measures. The impact of the pandemic on global value chains has also proven stronger than previously forecast, and global oil and commodity prices have risen more.

As before, global and domestic economic developments will depend to a large degree on how successful efforts to control the COVID-19 pandemic prove to be and how quickly vaccination programmes can be implemented. It is difficult to predict how long this will take. There are other uncertainties as well, however, and this Box discusses several of them. It also presents alternative scenarios based on different assumptions about the progress made in the battle against the pandemic.

Alternative scenarios: How quickly will the pandemic subside?

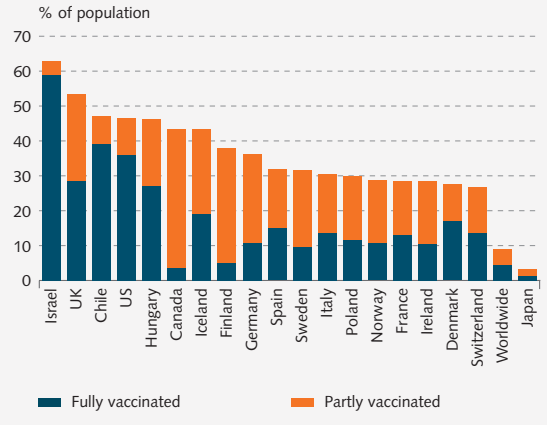
Pandemic- and vaccine-related assumptions in the baseline forecast

Iceland's vaccine roll-out began in late 2020, and as of this writing, about 43% of the population have received at least one dose. This is somewhat higher than the trading partner average but below the rates in the countries that are furthest along in their vaccination programmes (Chart 1).

Early this year, Iceland's vaccination programme proceeded somewhat more slowly than was expected in February. Furthermore, since the end of March, public health measures have been broader than was assumed in February, but on the other hand, they appear to affect domestic economic activity less than they did earlier in the pandemic (see Chapter III). Based on Government estimates, though, the outlook is for the vaccination rate to be back on schedule during Q2; therefore, the vaccine roll-out assumptions in the baseline forecast are broadly unchanged for the remainder of

Chart 1

COVID-19 vaccination rates[1]



1. Figures as of 14 May 2021.
Source: Our World in Data.

this year. It is assumed that all individuals in priority groups will have received at least one dose of the vaccine by mid-June and almost everyone by Q3. As in February, it is assumed that on average, vaccination programmes in trading partner countries will proceed at roughly the same pace as in Iceland, although there will be significant differences from one country to another. The public health measures currently in place at the border – with testing and quarantine – are assumed to continue until this autumn, with exemptions based on the status of the pandemic in tourists' country of origin. This is unchanged from the February forecast, but because of the steep rise in infection rates in some of Iceland's main trading partner countries, tourism is now expected to bounce back more slowly than was projected then (see Chapter III). It is assumed that public health measures within Iceland will be scaled back gradually but not lifted in full until later this year. Nor is it impossible that localised closures will be needed well into this year and that some public health measures will remain in place at the border through the year-end.

All of these factors are subject to considerable uncertainty. As a result, the assumptions about the progress of the vaccine roll-out may be overly optimistic. Furthermore, new variants of the virus have been identified, and others may surface as well, especially if it takes a long time to vaccinate the global population. Nor is it assured that the currently available vaccines will be effective against all of the variants. As a consequence, the possibility of a setback in the battle with the virus cannot be ruled out, and it could prove necessary to implement stringent lockdown measures once again, plunging the global economy back into recession. On the other hand, the assumptions in the baseline forecast could be overly pessimistic. It could be that vaccination programmes will proceed more quickly than is assumed here, and that public health measures can be unwound sooner, particularly as regards international travel. The two alternative scenarios below describe the potential impact of such scenarios on the domestic economy.

The economic recovery could be delayed if vaccination proceeds more slowly

In this alternative scenario, it is assumed that the pandemic will prove more difficult to control than in the baseline forecast; for example, if vaccines are not manufactured fast enough to halt further spread of the disease and new variants of it. In that case, it will be necessary to impose more stringent public health measures and keep them in place longer. Pessimism about the economic outlook will gain ground again, causing the general public to spend less and start building up precautionary savings once more. Increased uncertainty will also make firms less likely to hire workers and embark on new

investment projects. Furthermore, credit spreads on firms' domestic financing will rise higher than in the baseline forecast. The domestic economic recovery that began in late 2020 will stall again. This is compounded by a setback in the global recovery and more stringent restrictions on international travel. Domestic tourism will be hit hardest, as it is assumed that pandemic-related border restrictions will be extended. As a result, tourist arrivals will not increase to any marked degree before the end of Q3/2021, and they will rise more slowly well into 2022. In this scenario, the summer 2021 recovery assumed in the baseline forecast will not occur. Tourist numbers will hardly rise at all year-on-year in 2021, and in 2022 they will increase more slowly than is assumed in the baseline. Services exports therefore grow by just over 8% this year, as opposed to 22% in the baseline forecast, and because of the weaker recovery in trading partner countries, the outlook for goods exports will deteriorate as well. Combined goods and services exports will grow by 5 percentage points less than in the baseline forecast this year but will be similar to the baseline in the two years to follow (Chart 2a).[1]

Chart 2
Alternative scenarios

Source: Central Bank of Iceland.

1 Based on a recent assessment by the International Monetary Fund of various levels of success against the pandemic and their differing impact on the global economy. See *World Economic Outlook*, Chapter 1, April 2021.

The poorer exports outlook amplifies still further the adverse effects of the pandemic on domestic employment, incomes, and demand. Added to this is increased pessimism among households, which causes household saving to remain higher than in the baseline by 1 percentage point of disposable income until well into 2022 (see also Box 1 in *Monetary Bulletin* 2020/4). Credit spreads on corporate financing remain as much as 1 percentage point higher than in the baseline forecast over the same period.

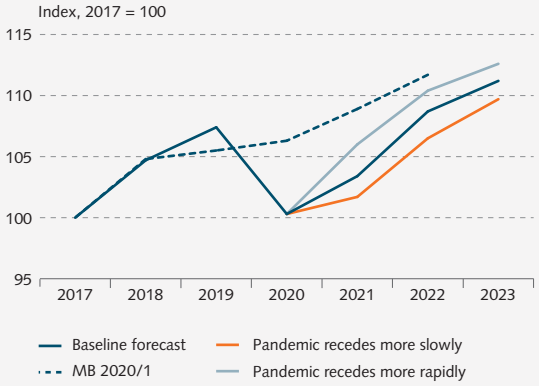
The persistence of the pandemic causes more widespread company failures, more people exit the labour market, unemployment falls more slowly, and productivity growth is more sluggish. The scarring of potential output is therefore deeper (see Boxes 3 and 4).

Although domestic economic policy measures pull in the opposite direction, the alternative scenario assumes that the economic outlook will deteriorate relative to the current forecast.[2] Private consumption grows by 2½ percentage points less in 2021 and ½ a percentage point less in 2022 (Chart 2b). GDP growth is weaker by 1½ percentage points this year and ½ a percentage point next year (Chart 2c). As a result, GDP will be 1½% below the baseline forecast level in 2023 and will return to its 2019 level roughly a year later than is currently assumed (Chart 3).

Because of poorer external conditions and lower interest rates, the króna is weaker than in the baseline forecast. Year-2021 inflation is broadly in line with the baseline, however, owing to the offsetting effects of a larger slack in the economy versus a lower exchange rate, as is reflected in higher unemployment and slower wage rises, among other things. Over the course of 2022, the impact of greater spare capacity will weigh heavier, and inflation will be lower than in the baseline forecast (Chart 2d).

Chart 3

GDP according to various scenarios[1]



1. GDP according to the Central Bank baseline forecast for 2021-2023 and various assumptions concerning the COVID-19 pandemic

Sources: Statistics Iceland, Central Bank of Iceland.

The economic recovery could turn out stronger if the pandemic subsides faster

In the latter alternative scenario, it is assumed that the production and distribution of vaccines will proceed more quickly than in the baseline forecast, resulting in greater success in controlling the pandemic. This scenario assumes that widespread vaccination will be achieved quickly throughout the developed world and that public health measures will be relaxed relatively rapidly. Reduced fear of the pandemic will boost the general public's appetite for various activi-

2 It is assumed that monetary policy will respond with lower interest rates than in the baseline, in line with the monetary policy rule in the Bank's macroeconomic model, and that automatic fiscal stabilisers will be allowed to work unimpeded. Conversely, the economic policy stance is correspondingly tighter in the more optimistic alternative scenario.

ties, including travel. Demand will therefore grow quickly in services sectors, and tourism will recover sooner than in the baseline forecast. With increased optimism, households will tap deeper into their savings, and the household saving ratio will be lower than in the baseline by about 1 percentage point of disposable income starting in H2/2021. Credit spreads on corporate financing remain as much as 1 percentage point lower over the same period. As a result, domestic demand rebounds more rapidly, compounded by a speedier recovery in trading partner countries. It is assumed that a total of 1 million tourists visit Iceland in 2021, services exports more than double during the year, and total exports grow by 11 percentage points more than in the baseline forecast (Chart 2a).

The turnaround in private consumption will therefore be considerably stronger than in the baseline. It will increase by over 2 percentage points more this year, and slightly more in 2022 (Chart 2b). GDP growth will therefore be 2.7 percentage points stronger in 2021 than is currently forecast, or just under 6%, whereas in 2022 it will be weaker than in the baseline because of base effects from this year's strong export growth (Chart 2c). A more rapid turnaround in the domestic economy also means that supply-side disruptions and long-term damage to the domestic economy will be less pronounced. GDP will return to its 2019 level somewhat earlier than in the baseline forecast and will be about 1½% higher than the baseline level in 2023 (Chart 3).

The swifter economic turnaround and more rapid interest rate hikes to ensure that inflation remains at target over the medium term will support the króna, offsetting the impact of the faster elimination of spare capacity relative to the baseline scenario. As 2022 progresses, increased domestic demand and more rapid pay rises will push inflation slightly above the currently forecasted level (Chart 2d).

Other uncertainties

A number of other factors could change the economic outlook …

The medium-term economic outlook is subject to a number of other uncertainties. Uncertainty lies not only in how long the pandemic persists and how it affects demand and GDP growth in 2021 and 2022, but also in its potential impact on the long-term GDP growth and employment outlook (see Boxes 3 and 4). Changes in fiscal policy following the upcoming Parliamentary elections could also affect the economic outlook. The same applies in the event of sudden changes in financial conditions; i.e., if uncertainty increases even more, prompting investors to reassess risk and reprice financial products. Moreover, the global economic outlook is highly

uncertain, and it is not known whether and how quickly world trade will recover from the damage done by trade disputes in recent years. In addition, the recovery of GDP growth in the coming term will depend on the pace at which households tap the savings they have accumulated recently (for further discussion, see Box 1 in *Monetary Bulletin* 2020/4). The GDP growth outlook will also depend on the extent to which households' and businesses' increased willing to spend is directed at domestic production rather than imported goods and services. Furthermore, the pandemic could accelerate shifts already underway in areas such as e-commerce and telework, leading to structural changes in demand for certain types of residential and commercial real estate, with broad-based impact on relative prices.

… and affect inflation during the forecast horizon

According to the baseline forecast, the slack in the economy will cause inflation to ease over the course of this year and align with the target around mid-2022. But because of the pandemic, there is considerable uncertainty about inflation, both in the next few months and further ahead.

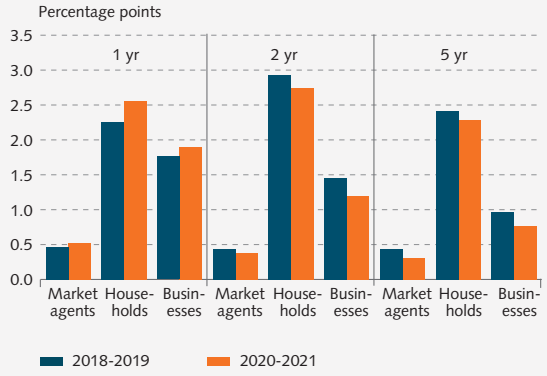
For example, the pandemic has made it unusually difficult to estimate potential output and the amount of spare capacity that is considered to exist. Estimating underlying inflationary pressures is also challenging, as the pandemic has affected different sectors to differing degrees, thereby bringing about significant changes in relative prices (see Box 2 in *Monetary Bulletin* 2020/4).

The pandemic has also caused widespread disruptions in production, thrown global value chains into disarray, and impeded domestic and cross-border distribution of goods. Manufacturing and transport costs have therefore risen steeply in the recent term, and far more than was previously forecast (see Chapter V). There is considerable uncertainty about how these factors will develop in the coming term, as the recent situation is unprecedented. As a result, the possibility cannot be excluded that continued supply-side woes will cause input prices to rise higher, making inflation more persistent than is assumed in the baseline forecast. This increased uncertainty about the short-term inflation outlook shows clearly in inflation expectations surveys. As Chart 4 indicates, the dispersion of one-year inflation expectations has increased since the pandemic struck Iceland, particularly among households, but also among businesses and market agents. The dispersion of medium- and long-term expectations has continued to decline, however.

Developments in inflation over the forecast horizon will also be affected by the exchange rate of the króna. According to the baseline forecast, the average exchange

Chart 4

Dispersion of inflation expectations[1]



1. Standard deviation in market agents', households', and businesses' responses on inflation expectations 1, 2, and 5 years ahead. Data for 2021 are from Q1 for households and businesses and from Q2 for market agents.

Sources: Gallup, Central Bank of Iceland.

rate will hold broadly steady at the current level throughout the forecast horizon. However, inflation could taper off faster if the króna appreciates further, both by reducing imported inflation and by directing a larger share of domestic spending abroad, thereby easing strains on domestic factors of production. On the other hand, if the króna depreciates again, inflation would decline more slowly than is currently forecast, all else being equal.

The baseline forecast also assumes that inflation expectations will remain anchored to the target, even though inflation has been above target in the recent term. If they become unmoored, however, the inflationary impact of temporary cost increases could become more firmly entrenched than is currently forecast. The inflationary effects of last year's depreciation could also turn out stronger and taper off more slowly.

The path of the pandemic and the sustainability of the recent turnaround in demand will also weigh heavily in inflation developments over the forecast horizon. If the pandemic persists longer than is assumed in the baseline forecast and a setback occurs in the economic recovery, inflation could decline faster and to a lower level than in the forecast. On the other hand, the slack in the economy could be overestimated if the negative impact of the pandemic on potential output is greater than is currently assumed; therefore, underlying inflationary pressures could actually be stronger than is estimated at present. The same applies if the economic recovery proves stronger, causing demand pressures on domestic prices to be stronger. This will also be the case if housing market activity continues to grow at the current pace.

Consequently, the inflation outlook is unusually uncertain at present, and although inflation has been more persistent recently than was forecast in February and various uncertainties have therefore materialised, the risk profile is still considered to be tilted to the upside. ■

Box 2

The economic contraction in the wake of the pandemic

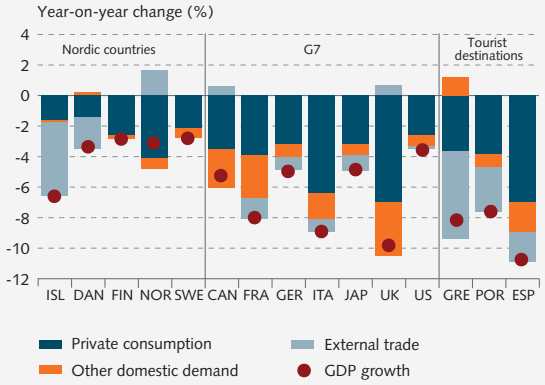
The COVID-19 pandemic that began spreading all over the world in early 2020 has left economic turmoil in its wake, with global GDP contracting by an estimated 3.3% and 4.7% in advanced economies, the largest contraction since the end of World War II. The contraction was greatest in Q2, when a sizeable share of the global economy came temporarily to a halt. The magnitude of the shock varied widely from one country to another, however. Economic activity in Iceland's main trading partner countries declined by an average of 5.2% in 2020, particularly in Spain (10.8%), the UK (9.9%) and Italy (8.9%). The contraction was considerably smaller in the US (3.5%) and the Nordic countries (2.8%, on average). In Iceland, the contraction measured 6.6% last year, and its composition was different from that in most other advanced economies. It need come as no surprise that the difference largely reflects the impact of the pandemic on the tourism industry, which is much more important to the Icelandic economy than to most other advanced economies.

Domestic demand contracted less in Iceland than in most other advanced economies ...

As can be seen in Chart 1, the 2020 economic contraction in most advanced economies was due to a steep decline in domestic demand. This is particularly true of private consumption, which contracted by an average of 13.5% year-on-year in Q2, when the first wave of the pandemic struck, and while private consumption shrank markedly in Iceland, too, it contracted less than in most other advanced economies (Charts 1 and 2). The difference may be due to a number of interrelated factors, although presumably, the scope of public health measures imposed by governmental authorities is probably the most important of them. As can be seen in Chart 3, there was a strong correlation between changes in the scope of these measures and developments in household consumption spending in 2020: when more onerous measures were imposed, private consumption contracted between quarters, and when they were relaxed, consumption picked up again. In addition, many firms found their activities disrupted by public health measures, and investment projects and plans were either abandoned or significantly delayed. Therefore, the smaller contraction in domestic demand in Iceland probably reflects in large part the fact that the Icelandic authorities did not need to impose exceedingly stringent and protracted restrictions in order to curb the

Chart 1

Size and composition of 2020 economic contraction[1]

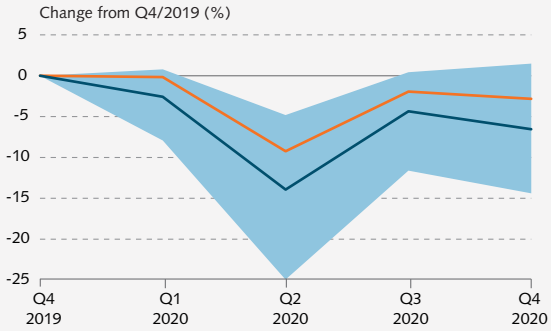


1. The contribution from other domestic demand is the sum of the contributions from public consumption, gross capital formation, and inventory changes, plus possible errors and omissions, as the sum of components may not equal GDP growth because of chain-volume linking in the national accounts. Figures for Norway exclude the production and shipping of oil and gas.

Sources: Norges Bank, OECD, Statistics Iceland.

Chart 2

Developments in private consumption in the wake of the pandemic[1]



1. Seasonally adjusted volume indices.

Source: OECD.

spread of the disease. As a result, the impact on households' willingness and opportunity to spend and on firms' operations was milder than in countries where stricter measures were adopted, such as the UK and many eurozone countries, where curfews were imposed and schools, retail stores, and other services were closed for an extended period. Also important in this context is the extent to which consumption spending is concentrated in contact-intensive sectors and the degree to which it shifted to other spending categories. It is also possible that individuals in Iceland took fewer and less aggressive personal disease-prevention measures because of the relative success in curbing the pandemic (especially in comparison with more densely populated countries that rely more heavily on public transportation). This is supported by traffic data, which, among other things, indicate that after restrictions were eased in summer 2020, appetite for travel rebounded more quickly in Iceland than in many trading partner countries (see Charts 1 and 2 in Appendix 1).

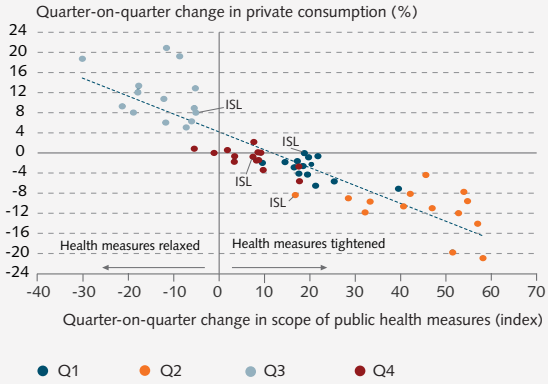
… but the contraction in exports was the largest in the OECD, and the main driver of the economic contraction

The main reason economic activity in Iceland contracted as much as it did in 2020 was the steep decline in exports. This is particularly the case for tourism-related exports, as international passenger flights have been severely limited since the pandemic struck, owing to tight travel restrictions and border closures all over the world. Pandemic-related restrictions on international travel were felt more in Iceland than in most other advanced economies, as the weight of tourism in the domestic economy was about double the OECD average before the COVID crisis (Chart 4).

Iceland's tourism exports contracted by 76% in 2020, and total services exports fell by 51%. The pandemic also triggered contractions in other export sectors. Exports of goods and services shrank by over 30% during the year, about three times the OECD average (Chart 5). Other tourism-dependent countries such as Greece, Spain, and Portugal also suffered severe export shocks. Even though imports also contracted more in Iceland than elsewhere in the OECD, or by 22%, the contribution of net trade to output growth was negative by nearly 5 percentage points. Therefore, about ¾ of Iceland's economic contraction in 2020 was due to a negative contribution of external trade. The composition of the contraction in GDP was therefore different in Iceland than in most other advanced economies but similar to that in countries that rely heavily on tourism (Chart 1). ■

Chart 3

Private consumption and scope of public health measures 2020[1]

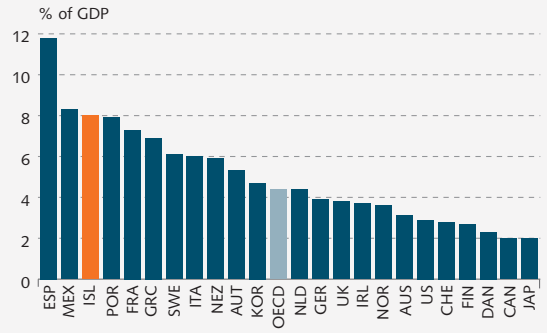


1. The countries are the US, the UK, Denmark, Finland, France, Iceland, Italy, Japan, Norway, Spain, Switzerland, Sweden, and Germany. Scope of public health measures weights together various measures of the extent of government restrictions in order to curb the spread of COVID-19.

Sources: OECD, Oxford COVID-19 Government Response Tracker.

Chart 4

Weight of tourism in GDP in selected OECD countries[1]

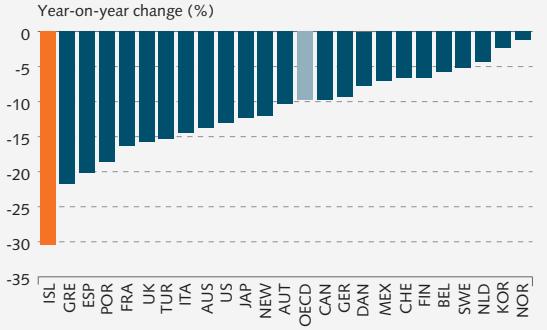


1. Weight of tourism in GDP in 2019, or previous years if 2019 data are not available. Weight in total gross value added instead of GDP for Canada, Denmark, Finland, Germany, Greece, Italy, Mexico, Netherlands, New Zealand, Portugal, Switzerland, United Kingdom and the United States. Data for South Korea and Spain includes indirect effects of tourism.

Sources: OECD, Statistics Iceland.

Chart 5

Exports in 2020 in selected OECD countries[1]



1. Seasonally adjusted volume indices for exports of goods and services.

Source: OECD.

Box 3

Why has Iceland's growth potential slowed?

In the past decade, growth in both output and productivity has gradually lost pace in Iceland and other advanced economies, and there are signs that productivity growth will remain slow in the industrialised world. This Box focuses on these trends and explores why a similar pattern can be expected in Iceland. The rate of output growth that can be maintained with normal resource utilisation has therefore been revised downwards from 2¾% to 2¼% in the Bank's baseline forecast.

What is potential output?

An economy's potential output is the level of production (measured in terms of GDP) that can be achieved with "normal" utilisation of the available resources, or factors of production (such as labour and capital). If resource utilisation exceeds this normal level, excess demand develops and an output gap opens up. Excess demand pushes prices of these factors upwards and ultimately leads to higher inflation. If resources are not fully utilised, however, a slack develops in the economy and prices of these factors rise less, or may even fall.[1]

Growth in potential output indicates the pace at which the economy can grow without putting undue strain on its factors of production. As a result, estimating the economy's potential output and determining whether there is an output gap or slack plays a key role in the Bank's assessment of underlying inflationary pressures and monetary policy formation at any given time.

What determines an economy's potential output?

Potential output generally increases over time because, as the working-age population grows, there are more people at work, making it possible to produce more. Potential output also rises over time in line with growth in productivity, which reflects how much production can increase for a given amount of inputs.[2] This can be shown by defining labour

1 Potential output cannot be measured directly in the way that, for instance, GDP can be; therefore, it must be estimated using economic models. In estimating Iceland's potential output, the Central Bank considers a number of indicators and uses various statistical methods to arrive at its final estimate (see, for example, Box IV-1 in *Monetary Bulletin* 2011/4 and Box 3 in *Monetary Bulletin* 2018/2).

2 Fluctuations in the resource utilisation ratio can also cause fluctuations in potential output. For instance, it is estimated to have declined in the wake of the financial crisis just over a decade ago, when workers emigrated from Iceland, manufacturing equipment was sold out of the country, and equilibrium unemployment rose. For further discussion, see Box IV-1 in *Monetary Bulletin* 2011/2.

productivity as GDP per hour worked – i.e., $Q = Y/N$ where Q is labour productivity, Y is GDP, and N is total hours worked, or labour volume (i.e., the number of working persons multiplied by their average working hours). If small letters denote logarithms and Δ the annual change, the economy's potential output growth rate Δy, can be expressed as the sum of productivity growth, Δq and growth in labour volume, Δn:

$$(1)\ \Delta y = \Delta q + \Delta n$$

It can be seen from Equation (1) that a key driver of long-term GDP growth – and therefore of overall living standards – is productivity growth. In order to understand more fully what determines productivity growth, it is possible to use a simple production function such as the Cobb-Douglas production function in the Bank's macroeconomic model. According to the Cobb-Douglas function, the inputs – labour volume (N) and capital (K) – are used in fixed proportions (β and $1-\beta$) to create the economy's total output (Y):

$$(2)\ Y = AN^{\beta} K^{1-\beta}$$

In addition, it is possible to boost output by enhancing the efficiency of the production, which is expressed in terms of total factor productivity (A).[3]

Using the production function, it is easy to see that productivity growth is determined by two factors: growth in total factor productivity, Δa, and growth in the capital stock per hour worked, $\Delta(k - n)$, or what is often referred to as capital deepening:

$$(3)\ \Delta q = \Delta a + (1-\beta)\Delta(k-n)$$

It is therefore possible to increase labour productivity by investing in tangible assets (factories, tools, and equipment) that boost the performance of the labour force, and by utilising currently available labour and equipment more effectively. This can be done, for instance, through research and development, which leads to technological advances and streamlining of production. The same happens as the labour force's expertise and specialisation increase. Better infrastructure also fosters increased production capacity, whether it takes the form of road systems, broadband connections, or healthcare and education systems. All of these factors bolster the knowledge, flexibility, and production capacity of the labour force and reduce the cost of transport and trade.

3 Total factor productivity is not measured directly but instead is calculated as a residual using the production function, $A = Y/(N^{\beta} K^{1-\beta})$, and is often called the Solow residual.

Finally, increased competition can provide incentives for innovation and technological advances. The same applies to cross-border trade, which fosters more efficient resource utilisation and provides an important channel for the worldwide flow of new technologies and expertise.

GDP growth has slowed alongside reduced productivity growth

Chart 1 shows how GDP growth in Iceland has gradually lost pace in the last four decades. Early in this period, twenty-year average GDP growth was about 5% per year, but by the end of the twentieth century it had fallen to just under 3%. In the twenty-first century, economic activity has been volatile, with strong upswings in the mid-2000s and mid-2010s followed by deep recessions, the first in the wake of the financial crisis and the second in the wake of the COVID-19 pandemic. Twenty-year average GDP growth has therefore declined still further and now measures about 2½% per year.

At the same time, trend population growth has been relatively stable at roughly 1% per year, apart from temporary pick-ups during the two aforementioned economic upswings when labour immigration increased. GDP growth per capita has therefore developed broadly in line with overall GDP growth, declining from 2% per year around the turn of the century to 1¼% in the past twenty years.

Chart 1 therefore suggests that long-term average GDP growth has slowed. This also accords with growth in potential output as estimated using the Bank's macroeconomic model. As Chart 2 indicates, average yearly growth in potential output has fallen from 3% over the period from 1991-2010 to 2.6% in the past ten years. The shift in productivity growth is even more pronounced: during the former period, labour productivity grew by an average of 1.8% per year, while in the last ten years, productivity growth has fallen by half to only 1%.

Comparable trends in other advanced economies

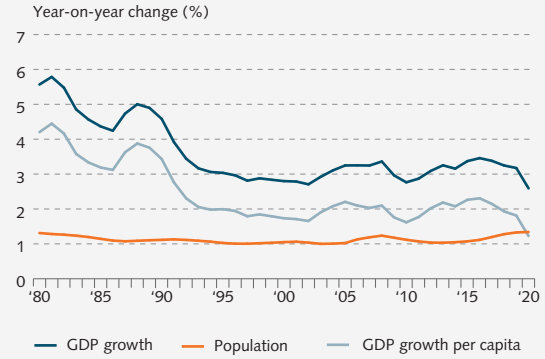
This aligns with the trend in other advanced economies (Chart 3).[4] Long-term average productivity growth was over 3% per year until the late 1980s but then gradually fell to about 2% by the end of the century. It remained there until the mid-2000s but has declined even further since then, to about 1% per year by the end of the 2010s.

Average productivity growth has therefore been about half as strong in the past decade as it was in the two decades beforehand (Chart 4), both in Iceland and in other advanced

4 The countries are Australia, Austria, Belgium, Canada, Denmark, Finland, France, Germany, Greece, Ireland, Israel, Italy, Japan, Luxembourg, the Netherlands, New Zealand, Norway, Portugal, Spain, South Korea, Sweden, Switzerland, the UK, and the US.

Chart 1

GDP growth and population growth, long-term trend 1980-2020[1]

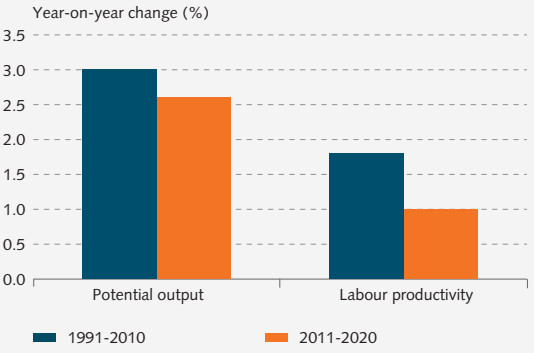


1. 20-year moving average of GDP growth and population growth. Population based on annual averages.

Source: Statistics Iceland.

Chart 2

Potential output and labour productivity[1]

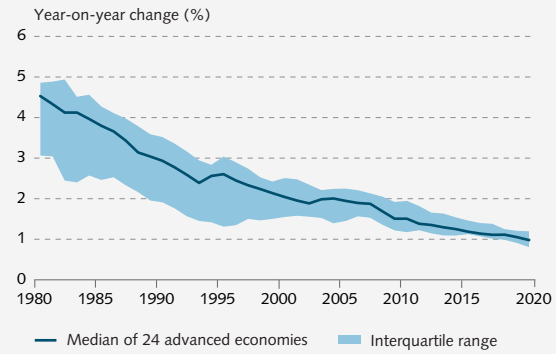


1. Labour productivity measured as GDP per hour worked.

Sources: Statistics Iceland, Central Bank of Iceland.

Chart 3

Labour productivity in advanced economies 1980-2020[1]



1. 20-year moving average of annual growth in GDP per hour worked. For most countries, data are obtained from Penn World Tables (PWT) until 1970 and from the OECD thereafter (PWT data are only available from 1971 for Luxembourg and New Zealand, and from 1982 for Israel; and OECD data are only available from 1996 for Austria, from 1984 for Greece, and from 1982 for Israel).

Sources: OECD, Penn World Tables, vol. 10.0 (Feenstra et al., 2015).

economies (in terms of both the group average and the five top-performing countries). Average GDP growth has fallen even more, as reduced productivity growth is compounded by slower growth in the working-age population. This is less applicable to Iceland, which reflects both a relatively young population and robust immigration in recent years.

Why has productivity growth slowed down in advanced economies?

As Equation (3) shows, there are two factors that could explain the general slowdown in productivity growth among developed countries. On the one hand, it is possible that growth in total factor productivity has declined; i.e., companies have not been able to improve their utilisation of labour and capital at the same pace as before. On the other hand, it could be that growth in the capital stock per hour worked has slowed; i.e., investment in equipment and new technology has lost pace.

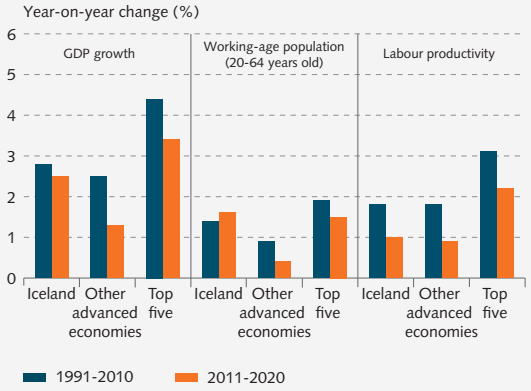
Chart 5 shows that growth in total factor productivity has slowed somewhat in advanced economies: in the past ten years, the growth rate has been around 0.3% per year, as compared with an average of 0.8% per year in the two decades beforehand. The same is true of the five top-performing countries. This reversal in total factor productivity growth is considered to have begun in the mid-2000s, owing in part to a slowdown in technological advances among companies and countries at the technological frontier, and a slowdown in the diffusion of technology to those not at the frontier (for further discussion, see, for instance, Fernald, 2014, and International Monetary Fund, 2018).

As Chart 5 illustrates, the pace of capital deepening has also slowed. In the past ten years, the growth rate has been a full 2 percentage points lower than in the two decades beforehand, both in terms of the advanced economies' average and in terms of the five top performers. A major factor here is the slow pace at which investment recovered after the financial crisis just over a decade ago, with impaired corporate balance sheets, high corporate and government debt levels in many advanced economies, and weak demand undermining investment capacity and appetite. This can be seen in Chart 6, which shows that over the past ten years, investment in advanced economies has been weaker than in the previous two decades by an average of just over 1 percentage point of GDP.

Although labour productivity growth has slowed in Iceland as it has in other advanced economies, the composition of Iceland's slowdown is different. Growth in total factor productivity has not given way – instead, it has continued to measure just over 1% per year – but the growth rate of

Chart 4

GDP growth, population growth, and labour productivity[1]

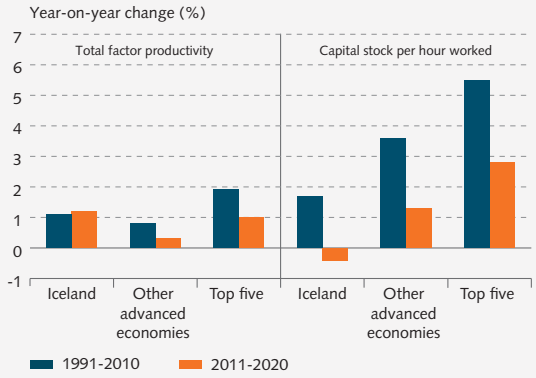


1. Comparison of average growth in Iceland, in 24 other advanced economies, and in the five advanced economies with the strongest growth during the period in question. Labour productivity measured as GDP per hour worked.

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

Chart 5

Total factor productivity and capital stock per hour worked[1]



1. Comparison of average growth in Iceland, in 24 other advanced economies, and in the five advanced economies with the strongest growth during the period in question. Total factor productivity is estimated using the production function in the Bank's macroeconomic model.

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

Chart 6

Gross capital formation[1]

1. Comparison of investment spending in Iceland with the average of 24 other advanced economies and the average of the five advanced economies with the largest share during the period in question.

Sources: OECD, Statistics Iceland.

capital per hour worked has turned negative by an average of 0.4% per year in the past ten years, whereas in 1991-2010 it was positive by nearly 2% per year. Investment has also been weaker in Iceland in the past ten years (Chart 6). This is compounded by the fact that the post-crisis upswing was based to a large degree on rapid growth in tourism, a relatively labour-intensive and non-capital-intensive sector. As a result, the labour force has grown significantly and the capital stock per hour worked has contracted.

Global productivity growth likely to remain weak in coming years

Although weaker growth in potential output among advanced economies can be attributed in part to legacy effects of the financial crisis more than a decade ago, there are other causes as well, as the slowdown had already begun when the crisis struck. The causes are not solely cyclical, either; in fact, it appears that the trend can also be traced to structural factors with a long-term impact. For instance, growth in the working-age population will probably continue to lose pace in advanced economies, and in some countries the working-age population has already begun to shrink. Furthermore, it is possible that the scarring effects of the COVID-19 pandemic on advanced economies' potential output will be felt for some time to come. Previous experience of economic crises gives cause to assume that the impact on unemployment and labour participation could prove long-lasting, and corporate insolvencies and financial distress could cause the effects of the pandemic on business investment and development to persist as well (see also Box 4). The impact could be even greater than in previous crises if there is a permanent contraction among contact-intensive companies and sectors; on the other hand, the problem may spread less readily to other sectors than it would among manufacturers in dense global value chains (see International Monetary Fund, 2021).

Therefore, most studies indicate that potential output among advanced economies will grow somewhat lower than at the turn of the century. The findings of Celic et al. (2020) indicate, for instance, that potential output growth among advanced economies has declined by ½ a percentage point to an average of 1½% per year (see also Reifschneider et al., 2015, and International Monetary Fund, 2021).[5]

5 Although the impact of the still-ongoing digital revolution cannot be seen clearly in productivity figures, it could imply the hope of stronger productivity growth once digitisation has been better incorporated into businesses' activities.

There is no obvious reason why Iceland should be different: for one thing, innovation is not stronger here than in other advanced economies …

It is difficult to envision a vastly different scenario for Iceland. With weaker investment, for instance, one of the main drivers of productivity growth has lost momentum, and investment spending is now proportionally lower than in other advanced economies (Chart 6). Nor does a comparison of spending on research and development (R&D) give cause to assume that productivity growth will develop more favourably in Iceland than in other advanced economies (Chart 7). Although the ratio of R&D spending to GDP in Iceland is close to the advanced economies' average, it has not risen in the past decade, as it has elsewhere; furthermore, Iceland's R&D spending ratio is considerably below that in the five countries that spend the most.

R&D spending is not a flawless metric of innovation and development, however, as it only measures the amount of money spent on R&D, not the innovations derived from it. Another common way to view the scope of innovation and development is to examine the number of patent applications filed, as this should reflect the frequency of new discoveries that foster innovation and increased productivity. But even by this metric, there is little to indicate that productivity growth in Iceland stands apart from the global trend described above (Chart 8).

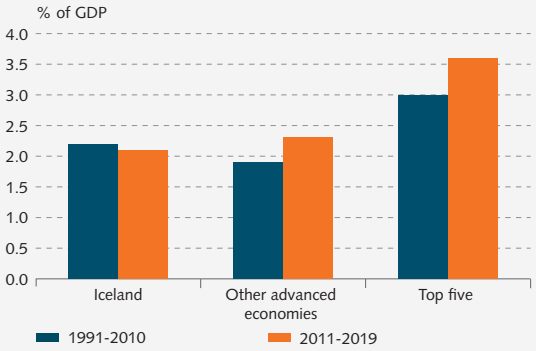
… Iceland is not more open to international trade and foreign investment …

It is possible to boost productivity by importing knowledge from abroad in the form of new technology or new management and manufacturing techniques. Research shows that the flow of global expertise and equipment takes place primarily through world trade and foreign investment in domestic businesses (see, for instance, Keller, 2010). In addition, increased activity along global value chains has become an ever more important channel for the flow of expertise across borders, as large international companies are often at the technology frontier, and the knowledge they possess is diffused to domestic participants in the value chain (see, for example, International Monetary Fund, 2018).

It cannot be seen that Iceland has an advantage over other advance economies in this regard, either (Chart 9): the scope of international trade in Iceland is marginally below the advanced economies' average, and well below that in the five top performers. There is less inward foreign direct investment (FDI) in Iceland than in other advanced economies, as FDI faces more barriers in Iceland than are generally

Chart 7

Research and development spending[1]

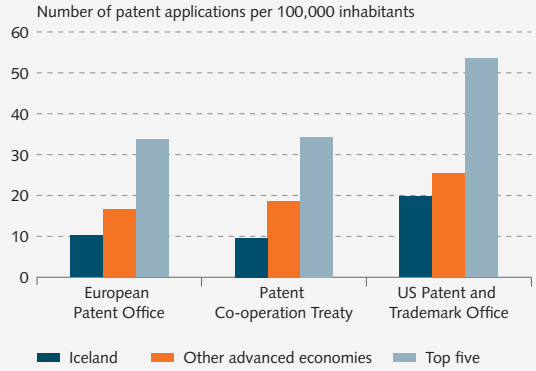


1. Comparison of research and development spending in Iceland with the average of 24 other advanced economies and the average of the five advanced economies with the largest share during the period in question.

Sources: OECD, Statistics Iceland.

Chart 8

Number of patent applications 2017[1]

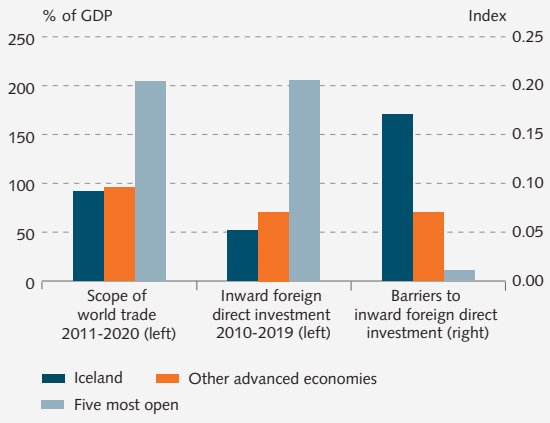


1. Number of patent applications with the European Patent Office (EPO), and the US Patent and Trademark Office (USPTO) and according to the international patent system under the Patent Cooperation Treaty (PCT).

Source: OECD.

Chart 9

Scope of world trade and foreign investment[1]



1. Scope of world trade calculated as the ratio of exports and imports to GDP. Barriers to inward foreign direct investment obtained using the OECD's FDI Restrictiveness Index for 2019. The index value rises as restrictiveness increases and is subject to a maximum value of 1. VANTAR.

Sources: OECD, Statistics Iceland.

found elsewhere.[6] As a result, the openness of the Icelandic economy to trade and foreign direct investment does not appear to give cause to expect productivity to develop differently here than in other advanced economies.

… and barriers to competition are generally greater in Iceland than in other advanced economies

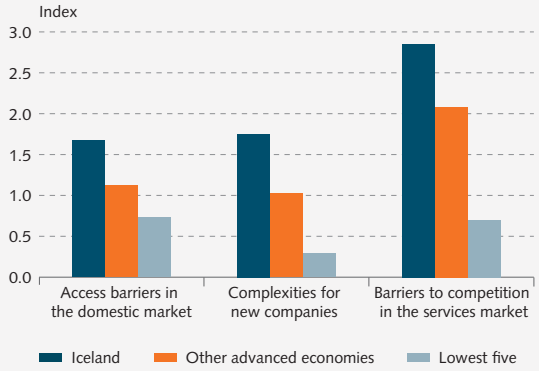
Stronger competition and ready access for new market participants can also be important catalysts of innovation and development. Under such circumstances, incumbent market participants should have a stronger incentive to invest in innovation so as to maintain their competitive advantage. Furthermore, easy market access for new companies can be an important channel for bringing new knowledge into the market and spreading it across borders (see, for example, International Monetary Fund, 2018). Accordingly, countries with few barriers to access and a relatively accommodating structure for business start-ups should be able to maintain stronger productivity growth through their own innovations or through inflows of new expertise from abroad. Iceland does not fare particularly well in this respect. There are relatively more barriers to competition and market access in Iceland than in other advanced economies (Chart 10). For instance, it is more complicated to start a business in Iceland than is typically the case in other advanced economies, and there are more barriers in the service sector. Again, these measures do not suggest that productivity growth in Iceland will be more favourable than is expected in other advanced economies.

Summary

Productivity growth has slowed in all major advanced economies in recent decades, and the factors that cause this are likely to remain in play over the next several years. Iceland has not been excluded from these developments, with annual labour productivity growth 1 percentage point lower over the past ten years compared to the two previous decades. As a consequence, the economy's potential growth rate – i.e., the GDP growth rate that can be sustained with normal resource utilisation – has probably declined. It is now estimated at 2¼%, or ½ a percentage point below the previous level of 2¾%. ■

Chart 10

Regulatory burden in domestic markets[1]



1. Indices ranging from 0-6 (higher values indicate broader restrictions). Comparison of Iceland, the average of 24 other advanced economies, and the five advance economies with the least restrictive barriers and regulatory framework. Measurements for 2018.

Source: OECD.

6 Furthermore, Icelandic companies' participation in global value chains appears limited, which is not surprising given the strong correlation between global value chain participation and the scope of inward FDI (see, for example, International Monetary Fund, 2018).

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Box 4

How rapidly will unemployment decline as the economy recovers?

The global COVID-19 pandemic struck Iceland early in 2020, causing severe economic turmoil. It brought on a sharp contraction in tourism, the country's largest export sector, where nearly half of jobs were lost by the year-end. Registered unemployment (excluding recipients of part-time unemployment benefits) more than doubled in less than a year. It reached an all-time high of 11.5% in January 2021, adjusted for seasonality. Since then, the jobless rate has eased marginally, a trend that the Bank's baseline forecast assumes will continue throughout the forecast horizon (see Chapter IV). However, if tourism picks up strongly and the damage to potential output is not too severe, the recovery could be a rapid one. In that case, unemployment could fall swiftly, although other factors could pull in the opposite direction. This Box attempts to shed light on underlying factors and key uncertainties in the Bank's unemployment forecast.

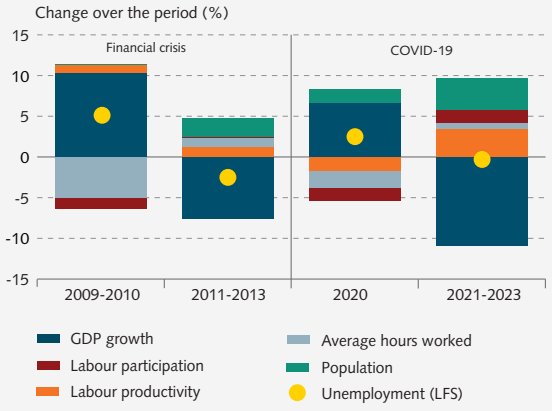
Different developments in unemployment now and in the wake of the financial crisis

The results of the Statistics Iceland labour force survey (LFS) and the national accounts make it possible to split changes in unemployment into the contributions from GDP growth, labour productivity, average hours worked, the labour participation rate, and the population.[1] Chart 1 shows this breakdown for 2020, together with the recovery in 2021 and the two years thereafter, as presented in the baseline forecast. It also gives a comparison with the post-crisis contraction just over a decade ago, when GDP contracted for two years in a row (2009 and 2010), and the recovery over the ensuing three years (2011-2013). It can be seen that the causes of the post-pandemic and post-crisis surges in unemployment differed in some respects. Job-seeking was more difficult in the wake of the pandemic than in a conventional recession, and fear of contagion further discouraged people from looking for work. As a result, the labour participation rate declined more in 2020 than in the wake of the financial crisis, even though GDP contracted far more in the earlier crisis. Notably, labour productivity rose by nearly 1% during the post-crisis contraction, whereas during the current downturn it has fallen by nearly twice that amount. This is partly because, in relative terms, average hours worked declined by more than half as much in 2020 as in the post-crisis recession. The

1 This factorisation of unemployment is discussed in greater detail in Box VI-1 in *Monetary Bulletin* 2012/4.

Chart 1

Changes in unemployment and contribution of components during the financial crisis and the pandemic[1]



1. Negative GDP growth shows as a positive contribution to changes in unemployment. Labour productivity is measured as GDP per hour worked, based on total hours worked according to the LFS. Central Bank baseline forecast 2021-2023.

Sources: Statistics Iceland, Central Bank of Iceland.

number of employed persons developed in a similar manner, partly because of the Government's part-time unemployment benefits programme, which maintained employment levels at the beginning of the pandemic.

There is scope to improve factor utilisation as the economic recovery gains steam …

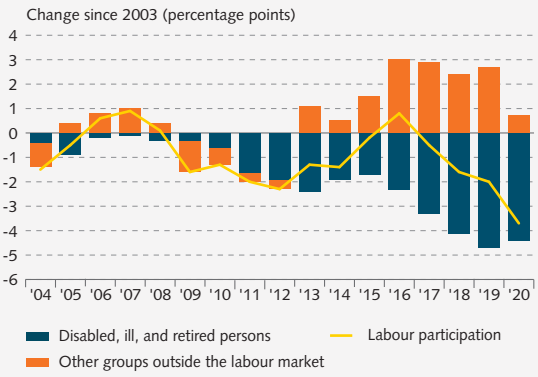
According to the Bank's baseline forecast, GDP will grow by roughly 3% this year, but firms will probably try to improve factor utilisation before taking on new employees in large numbers. Better resource utilisation would therefore show in improved labour productivity and/or an increase in average hours worked. The Bank's forecast assumes that labour productivity will rise this year after falling sharply in 2020, but that productivity growth will be sluggish and somewhat below its historical average over the forecast horizon (see Chapter IV and Box 3). It is difficult to interpret recent developments in average hours worked, but usual weekly working hours declined somewhat less in 2020 than other measures of average hours did. Furthermore, there is some uncertainty about the impact of the contractually agreed shortening of the work week and how it will show in LFS measurements. The baseline forecast assumes that the average work week will grow marginally longer both this year and over the forecast horizon, but will still be somewhat shorter than before the pandemic at the end of the forecast period.

… and labour supply increases …

As the economy recovers, the supply of labour can be expected to increase again. Statistics Iceland's population forecast assumes that the working-age population will grow markedly in the years 2021 through 2023, and much more than over an equally long period following the financial crisis. Furthermore, the labour participation rate fell significantly in the wake of the pandemic, reaching a historical low in Q2/2020 and then rising again slightly. Long-term developments in groups outside the labour market indicate, however, that the recovery could prove weaker during the forecast horizon. The number of ill, disabled, and retired persons has risen significantly over the period covered by LFS measurements, but labour participation among these groups is probably less sensitive to the business cycle (Chart 2). The baseline forecast assumes that the working-age population will develop broadly as in Statistics Iceland's population projection and that the labour participation rate will be higher this year and increase throughout the forecast horizon, although it will still be slightly below its historical average at the end of the period.

Chart 2

Labour participation and contribution of groups outside the labour market 2004-2020[1]



1. An increase in groups outside the labour market shows as a negative contribution to changes in labour participation.

Sources: Statistics Iceland, Central Bank of Iceland.

… but the recovery of GDP will not bring about a commensurate decline in unemployment

The recovery of output is expected to be much faster than in the wake of the financial crisis. The decline in unemployment according to the LFS will be broadly similar to that in the post-crisis period, however. A breakdown over the forecast horizon shows that increased labour supply, population growth, and a higher labour participation rate are the main factors offsetting the positive impact of GDP growth on unemployment, with improved resource utilisation pulling in the same direction. Unemployment is projected to measure around 6% in the last year of the forecast horizon, therefore declining by only 0.3 percentage points from the 2020 average but 1½ percentage points from its Q1/2021 level.

Registered unemployment rose higher but is set to fall faster

While registered unemployment cannot be broken down effectively in the way that LFS unemployment can, it is clear that the factors affecting its development are broadly similar, albeit with some exceptions. A recent study by Statistics Iceland revealed, for instance, that roughly one-fourth of those who received conventional unemployment benefits were classified as employed, not unemployed, in the LFS. Another fifth were classified as outside the labour market. Registered unemployment therefore rose more than the survey-based rate in the wake of the pandemic, as some individuals on the unemployment register did not meet the survey definition of unemployed persons.[2] As the economic recovery advances, this trend will probably turn around, with registered unemployment rate falling faster than the survey-based rate.

Higher long-term unemployment could slow the decline in the unemployment rate …

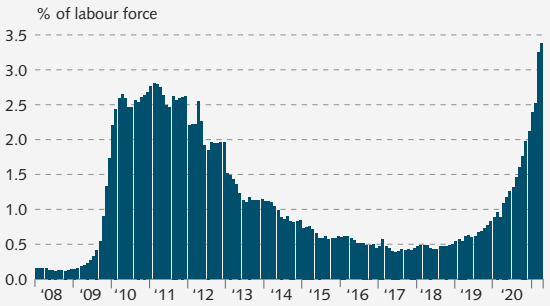
This surge in unemployment in the wake of the pandemic does not fully reflect the increased slack in the labour market because there are indications that the supply side of the labour market suffered shocks as well. For example, long-term unemployment has risen steeply, as the pandemic struck Iceland just over a year ago and airline WOW Air failed just over two years ago. As of April, nearly 6,500 people, or 3.4% of the labour force, had been on the unemployment register for more than a year, and long-term unemployment by this measure was therefore somewhat above the post-financial crisis peak (Chart 3). Long-term unemployment erodes work-

2 In order to be classified as unemployed for the purposes of the LFS, the person must be out of work, seeking work, and able to start work within two weeks.

Chart 3

Long-term unemployment[1]

January 2008 – April 2021



1. Number of persons on the unemployment register longer than 12 months.
Source: Directorate of Labour.

ers' skills, determination to look for work, and likelihood of being hired, indicating that equilibrium unemployment has risen and a relatively slow decline in the jobless rate lies ahead.

… and so could a growing mismatch between labour supply and demand

The Beveridge curve, which measures labour market efficiency and shows the relationship between job vacancies and unemployment, appears to have shifted to the right (Chart 4). This could mean that matching jobs and job-seekers has become more difficult than it was before the pandemic but it is unclear whether this mismatch is long-lasting or only temporary.

As is discussed in Chapter IV, productivity declined sharply in the tourism industry in 2020. The International Monetary Fund (2021a, 2021b) found that negative productivity shocks in a given sector tend to persistently reduce the share of that sector in GDP, and that workers are more likely to switch sectors and/or occupations following a period of long-term unemployment. As a result, some of those previously employed in the tourism industry could be forced to switch to a different line of work. The number of unskilled workers is high in tourism-related sectors, which could become a drag on the post-pandemic adjustment of the labour market (Chart 5). If tourism does not recover its previous strength, this group could have greater difficulty finding suitable jobs, and the mismatch in the labour market could prove a lasting one.

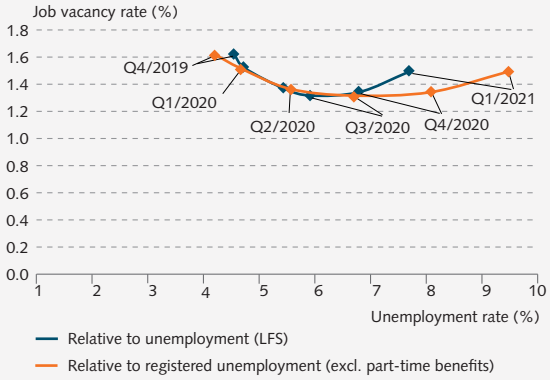
Real wages have risen since the onset of the pandemic, which could also slow the decline in unemployment …

Two contractual wage rises have taken effect since the pandemic reached Iceland: in April 2020 and January 2021. Both nominal and real wages have risen and diverged from productivity (Chart 6). Because the wage rises were unit-based and not percentage-based, lower wages rose proportionally more than higher wages; therefore, cost pressures are even stronger in sectors with a high percentage of low-paid jobs. For example, the wage index for the accommodation and restaurant sector, which has seen the sharpest decline in worker numbers, was up by 11.1% year-on-year in January 2021, as compared with 8.5% for the private sector as a whole. However, in the same sector, the rise in the total wage index was only half the rise in the general wage index in 2020, although the steep decline in job numbers makes this more difficult to interpret. This trend in wages is compounded by reduced labour productivity, as is discussed in Chapter IV and Box 3. As a consequence, there is some uncertainty

Chart 4

The Beveridge curve[1]

Q4/2019 – Q1/2021

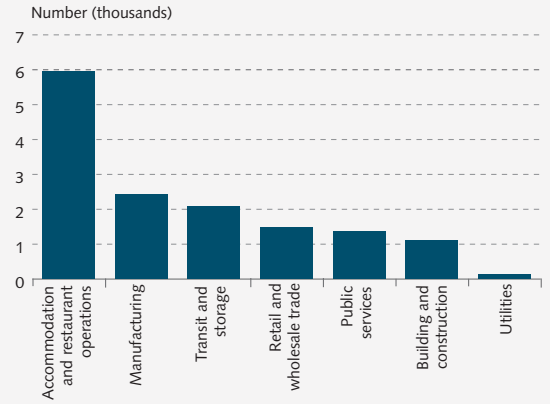


1. Four-quarter moving average of unemployment and the job vacancy rate.

Sources: Directorate of Labour, Statistics Iceland, Central Bank of Iceland.

Chart 5

Estimated number of workers in elementary occupations in selected sectors 2019[1]



1. The estimate is based on weights in the Statistics Iceland wage study and the number of wage-earners according to the Iceland Revenue and Customs PAYE register. Public services includes jobs in public administration, education, healthcare, and social services.

Sources: Statistics Iceland, Central Bank of Iceland.

Chart 6

Real wages and productivity 1997-2020[1]

1. Real wages are the wages portion of "wages and related expenses" from the production accounts per total hours worked according to the LFS. Labour productivity is measured as GDP per hour worked, based on total hours worked according to the LFS.

Sources: Statistics Iceland, Central Bank of Iceland.

about how firms, particularly those in tourism, will address these cost increases when they need to hire workers. It could prove difficult to pass costs through to prices, as international competition places constraints on the tourism sector. Significant wage cost increases in tourism could therefore prompt firms either to streamline in order to boost productivity or to negotiate cuts in wages or differentials.

… and accelerate automation

The ongoing economic headwinds and the rise in wage costs could also lead to reallocation of jobs by further accelerating the shift towards automation. The share of jobs vulnerable to automation has fallen in the past three decades, and the trend accelerated last year (Chart 7). Therefore, some of those who were laid off in these industries may need to switch sectors and may even need reskilling, slowing the job recovery even further.[3]

But unemployment could fall faster than is forecast if tourism recovers strongly

Unemployment could also fall faster than is assumed in the baseline forecast. There are few indications that tourists' interest in Iceland as a destination has diminished, and the number of flights to and from the country could well increase even further, in part due to entry of a new domestic airline. As a result, tourism could recover relatively quickly if there are no major setbacks in the fight against the pandemic. If the recovery is swift, the imbalance that has developed in matching jobs and job-seekers could reverse in full, and relatively rapidly. Furthermore, the adverse effects of long-term unemployment could turn out less pronounced than often before, particularly if employers attribute long-term unemployment less to poorer applicant quality than to external circumstances.

Summary

There are signs that the labour market has begun to recover and that unemployment will fall in coming years. But the decline could prove sluggish if the tourism industry and the supply side of the labour market have been scarred by the pandemic. Furthermore, wages have risen out of line with productivity, and jobs could change in coming years because of increased automation. This is all highly uncertain, however. As is discussed in Box 1, economic developments, including developments in unemployment, will depend to a large degree on how successful efforts to control the pan-

3 A similar trend can be seen in other advanced economies (International Monetary Fund, 2021b).

Chart 7

Jobs vulnerable to automation 1995-2020[1]

1. Jobs considered vulnerable to automation according to IMF sectoral classification (see Appendix table 3.1.3 in Chapter 3 of the April 2021 issue of World Economic Outlook). The calculation is based on the number of persons employed (main and second job) according to the LFS.

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

demic prove to be. Developments in unemployment will also depend on how quickly the tourism industry recovers. If comparable jobs become available again, unemployment could fall more rapidly than is assumed in the baseline forecast. If not, the imbalance between supply and demand in the labour market could persist and unemployment could become more firmly entrenched. This could be offset, however, either by a decline in the labour participation rate because people give up looking for work and leave the labour market, or by emigration of workers from Iceland. ■

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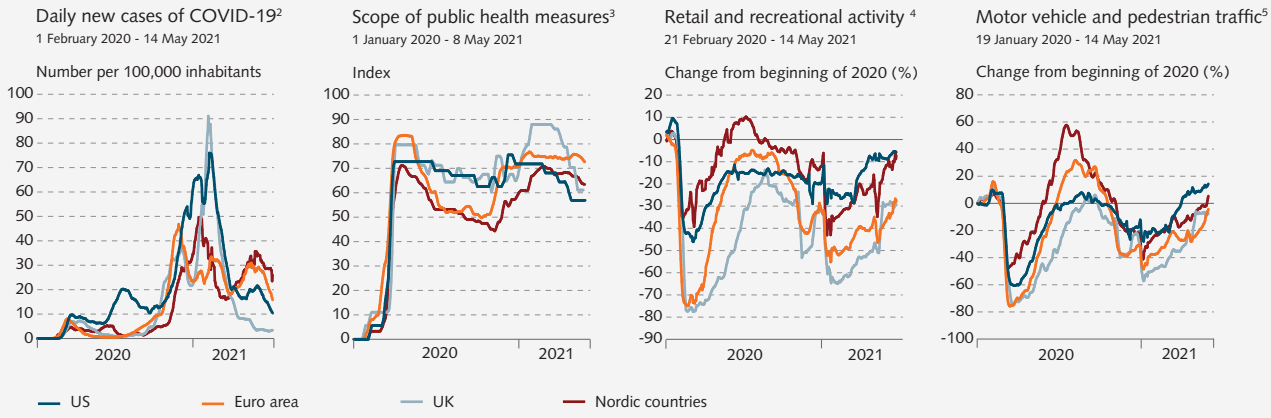
Appendix

1 Snapshots of domestic and foreign economic activity in the midst of a global pandemic

Chart 1

Indicators of global economic activity[1]

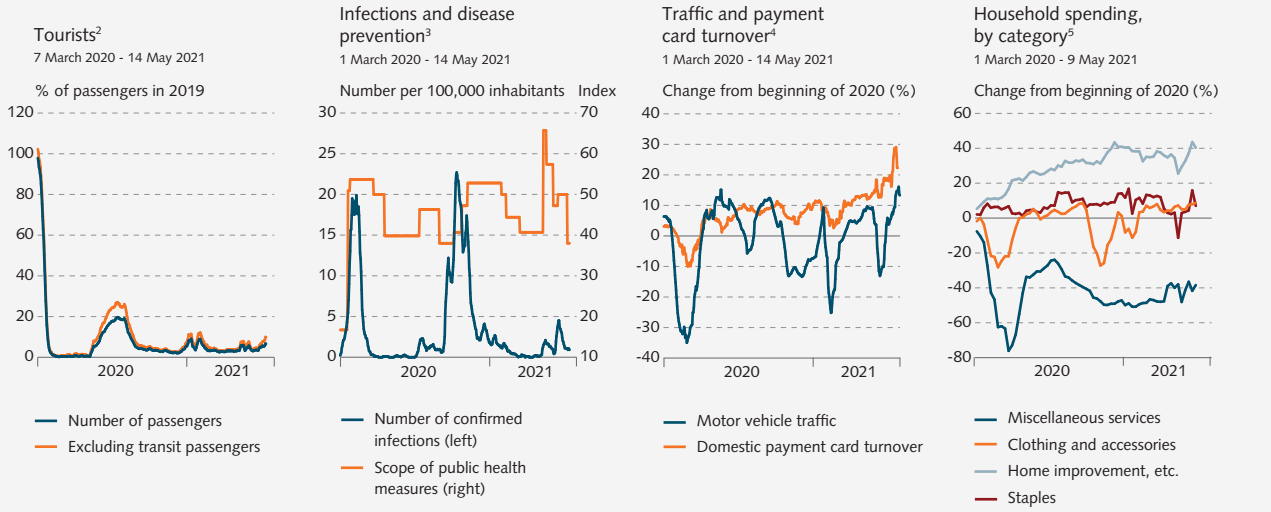


1. Seven-day moving average. Nordic countries include Denmark, Norway, and Sweden. 2. Confirmed new infections. 3. Scope of public health measures weights together various measures of the extent of government restrictions in order to curb the spread of COVID-19. 4. Number of visits to restaurants, cafés, shopping centres, amusement parks, museums, and cinemas, according to Google. Change from the period 3 January-6 February 2020. 5. Vehicle and pedestrian traffic according to Apple Mobility Trends. Change since 19 January 2020.

Sources: Apple Mobility Trends, Google, Johns Hopkins University, OECD, Oxford COVID-19 Government Response Tracker, World Health Organization.

Chart 2

Indicators of domestic economic activity[1]



1. All data are seven-day moving averages except scope of public health measures (primary data), motor vehicle traffic (14-day), and domestic payment card turnover and household spending, by category (28-day). 2. Daily number of passengers travelling through Keflavík Airport. Figures for 2019 excluding WOW Air. 3. Scope of public health measures weights together various measures of the extent of government restrictions in order to curb the spread of COVID-19. 4. Daily motor vehicle traffic along three main routes in the capital area. Change from Jan-Feb 2020 average. Payment card figures are the sum of domestic-issued debit and credit cards (seasonally adjusted data). Change from Jan-Feb 2020 average. 5. Miscellaneous services includes restaurants, theatres, fitness centers, travel expenses, etc. Household spending includes electrical equipment, furnitures, and purchases in home improvement stores (seasonally adjusted data). Change from Jan-Feb 2020 average.

Sources: Covid.is, Iceland Road Administration, Isavia, Meniga MarketWatch, Oxford COVID-19 Government Response Tracker, Statistics Iceland, Central Bank of Iceland.

Chart 3

Indicators from the domestic labour market

1. Based on Statistics Iceland labour force survey. Three-month moving average. 2. Seasonally adjusted figures. 3. The resource utilisation indicator (RU indicator) is the first principal component of selected indicators of factor utilisation; it is scaled so that its mean value is 0 and the standard deviation is 1. A more detailed discussion can be found in Box 3 in MB 2018/2.

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

2 Forecast tables

Table 1 Key economic variables[1]

	2019	*2020*	*2021*	*2022*	*2023*
Private consumption	1.9 (1.8)	-3.3 (-4.4)	5.2 (3.7)	3.6 (3.2)	2.9 (3.5)
Public consumption	3.9 (4.2)	3.1 (3.8)	1.5 (1.4)	1.1 (2.2)	1.2 (2.5)
Gross capital formation	-3.7 (-6.9)	-6.8 (-11.7)	4.9 (6.0)	2.4 (4.8)	2.6 (7.7)
Business investment	-12.8 (-18.0)	-8.7 (-15.9)	0.7 (2.9)	3.5 (6.4)	6.0 (12.4)
Residential investment	31.1 (31.1)	-1.2 (-6.1)	-3.1 (-4.0)	3.6 (3.9)	5.5 (5.7)
Public investment	-10.8 (-11.5)	-9.3 (-7.2)	32.0 (30.6)	-1.8 (2.2)	-10.1 (-0.9)
National expenditure	0.7 (0.1)	-1.9 (-3.2)	3.5 (3.0)	2.6 (3.2)	2.4 (4.1)
Exports of goods and services	-4.6 (-4.6)	-30.5 (-30.3)	11.2 (9.8)	23.8 (22.5)	5.5 (6.9)
Imports of goods and services	-9.3 (-9.3)	-22.0 (-22.5)	12.4 (11.3)	16.4 (17.0)	5.7 (6.8)
Gross domestic product (GDP)	2.6 (1.9)	-6.6 (-7.7)	3.1 (2.5)	5.2 (5.1)	2.3 (4.1)
Contribution of net trade to GDP growth (percentage points)	1.9 (1.9)	-4.9 (-4.6)	-0.5 (-0.5)	2.5 (1.9)	0.0 (0.1)
Unemployment (LFS, % of labour force)[2]	3.9 (3.6)	6.4 (5.5)	6.7 (7.3)	6.3 (6.7)	6.1 (6.3)
Registered unemployment (% of labour force)[3]	3.6 (3.6)	7.9 (7.9)	9.1 (10.2)	7.8 (8.3)	6.1 (6.5)
Output gap (% of potential output)	2.1 (1.8)	-5.1 (-5.6)	-2.0 (-2.1)	0.4 (-0.6)	0.2 (-0.2)
Current account balance (% of GDP)	6.4 (6.4)	1.0 (1.2)	-0.2 (0.1)	1.8 (1.2)	1.4 (1.0)
Trade-weighted exchange rate index[4]	181.0 (181.0)	201.0 (201.0)	196.8 (204.8)	197.0 (206.7)	198.7 (205.3)
Inflation (consumer price index, CPI)	3.0 (3.0)	2.8 (2.8)	4.1 (3.1)	2.6 (2.2)	2.5 (2.2)
Inflation in main trading partners[5]	1.5 (1.5)	0.7 (0.7)	1.8 (1.3)	1.6 (1.7)	1.7 (1.7)
GDP growth in main trading partners[5]	1.8 (1.9)	-5.2 (-5.7)	4.8 (4.3)	4.1 (3.8)	2.2 (2.3)

1. Year-on-year change (%) unless otherwise specified (figures in parentheses are from the forecast in MB 2021/1).
2. Unemployment according to the Labour Force Survey of Statistics Iceland (LFS).
3. Registered unemployment is from the Directorate of Labour and excludes persons on the partial unemployment benefit programme.
4. Narrow trade-weighted basket. The index has been recalculated so that on 2 January 2009 it was assigned a value equivalent to that of the now-discontinued Exchange Rate Index.
5. Forecast based on Consensus Forecasts, IHS Markit, IMF and OECD.

Sources: Consensus Forecasts, Directorate of Labour, IHS Markit, International Monetary Fund, OECD, Refinitiv Datastream, Statistics Iceland, Central Bank of Iceland.

Table 2 Quarterly inflation forecast (%)[1]

Quarter	*Inflation (year-on-year change)*	*Inflation (annualised quarter-on-quarter change)*
	Measured value	
2020:2	2.5 (2.5)	6.0 (6.0)
2020:3	3.2 (3.2)	4.3 (4.3)
2020:4	3.6 (3.6)	3.8 (3.8)
2021:1	4.2 (3.9)	2.9 (1.7)
	Forecasted value	
2021:2	4.4 (3.3)	6.6 (3.2)
2021:3	4.0 (2.7)	2.7 (2.2)
2021:4	3.8 (2.6)	3.1 (3.3)
2022:1	3.3 (2.3)	0.8 (0.6)
2022:2	2.6 (2.3)	3.7 (3.1)
2022:3	2.4 (2.2)	2.0 (2.0)
2022:4	2.3 (2.1)	2.7 (2.9)
2023:1	2.4 (2.1)	1.3 (0.6)
2023:2	2.4 (2.2)	3.8 (3.5)
2023:3	2.5 (2.3)	2.2 (2.1)
2023:4	2.7 (2.4)	3.4 (3.5)
2024:1	2.7 (2.5)	1.4 (1.0)
2024:2	2.6	3.3

1. Figures in parentheses are from the forecast in MB 2021/1.

Sources: Statistics Iceland, Central Bank of Iceland.

3 Report to the Government on inflation above the deviation threshold

According to measurements published by Statistics Iceland on 26 January 2020, twelve-month inflation in terms of the consumer price index (CPI) was 4.3%. The Central Bank of Iceland's inflation target is 2½%, according to the declaration issued by the Government and the Central Bank on 27 March 2001, which also specifies a deviation band of 1½% from the target in either direction. Thus, inflation exceeded the 4% upper deviation threshold for the Central Bank's inflation target.

According to the March 2001 declaration, the Central Bank is to send a report to the Government if inflation rises above or falls below the deviation thresholds. The report is to explain the reasons for the deviation, how the Bank intends to respond, and how long the Bank anticipates that it will take to bring inflation back to the target. The report of the Bank shall be made public. The Bank last sent a report on inflation above the upper deviation threshold on 3 January 2014, and on 9 September 2016 it submitted a report when inflation fell below the lower threshold. [1]

The January 2021 inflation measurement was slightly above the Bank's forecasts but nevertheless did not come entirely as a surprise. A key factor in this is highly unfavourable base effects, as the CPI fell much more between months in January 2020 than it did in January 2021. This year's winter sales were smaller in scope than those a year ago, perhaps due to some extent to stronger-than-expected domestic demand during the run-up to the Christmas holidays. In addition to the weaker seasonal sale effects, the price of housing, food, and petrol rose, pushing inflation upwards.

The inflation seen over the past twelve months is due in large part to the depreciation of the króna in 2020, and the CPI components that are most sensitive to exchange rate movements have risen the most. For instance, prices of imported goods excluding alcoholic beverages and tobacco had risen by 7.1% year-on-year in January. In Q4/2020, the króna depreciated by 12.5% year-on-year in trade-weighted terms, but the largest depreciation occurred in Q1. In recent months, the króna has appreciated again, and there are signs that the exchange rate pass-through from the depreciation of the króna to imported goods prices has weakened. The inflationary effect of a lower exchange rate should therefore continue to diminish.

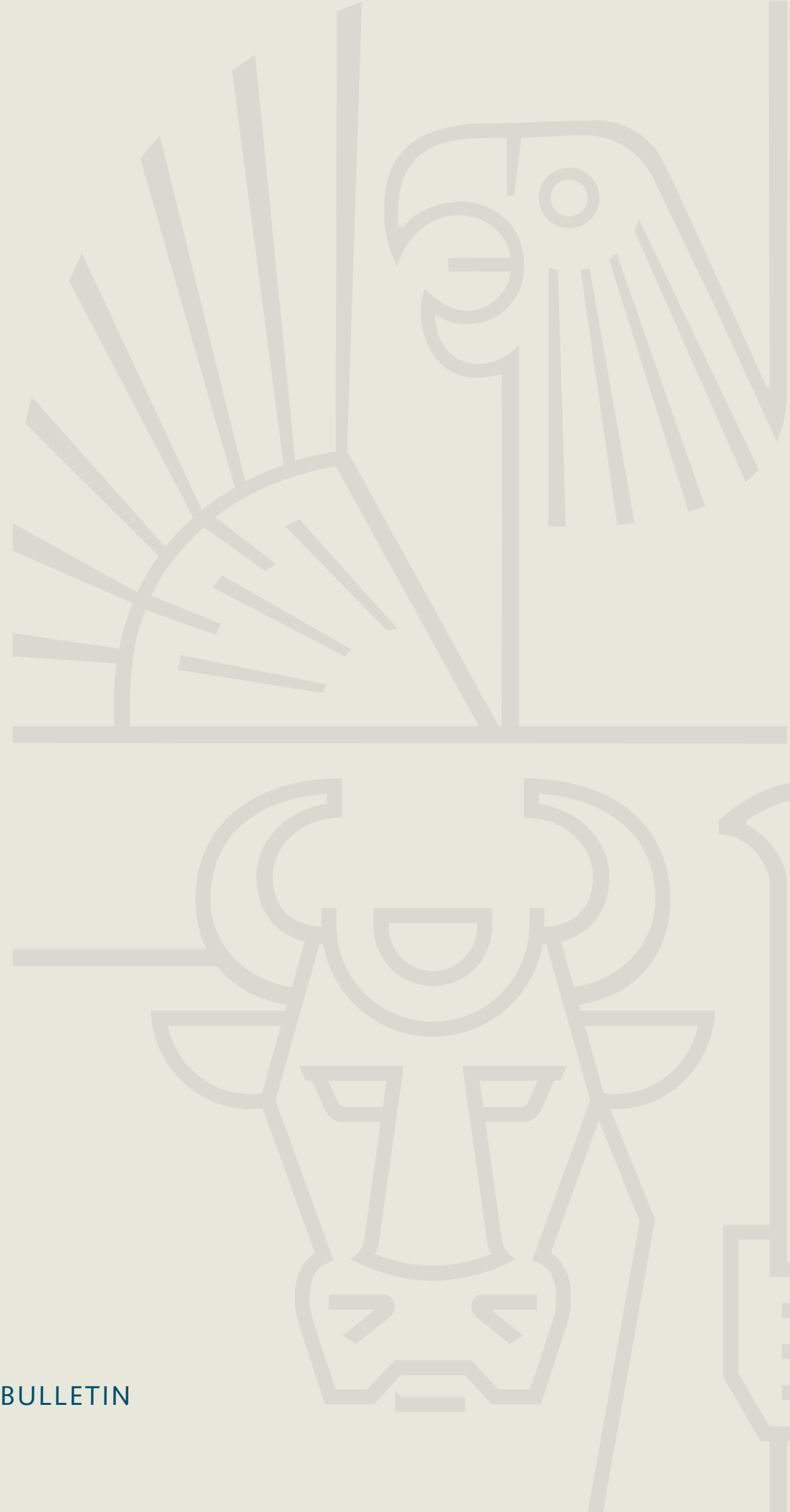
House prices have also risen in the recent term, or by 8.9% over the past twelve months. It is clear that economic policy actions by the Government and interest rate reductions by the Central Bank have stimulated demand in the real estate market. The housing component of the CPI has only risen by 3.6%, however, as rent has risen much less than house prices have, and lower real interest expense has pulled in the opposite direction. Domestic goods prices have risen as well, to some extent reflecting the resilience of domestic demand, which in turn is supported in part by sizeable wage increases, although rising prices of imported inputs also affect the price of domestic goods. Private services prices have not risen substantially in the past year, however, as various services – in the tourism sector, for instance – have suffered as a result of the pandemic and public health measures.

The outlook is for inflation to fall relatively quickly in coming months as the exchange rate pass-through effect from last year's depreciation subsides, especially if the króna remains stable or appreciates. High unemployment and a slack in output should also tend to reduce inflation. According to the Central Bank's most recent forecast, published on 3 February 2021, inflation will peak in Q1/2021 and then taper off relatively quickly over the course of the year, approaching the target by the year-end. According to this, inflation will only be above the 4% deviation threshold for a short time. Inflation expectations have remained relatively stable in the recent term, and long-term inflation expectations are at target by most measures, which is important.

As the Central Bank has stressed repeatedly, the economic outlook – including the inflation outlook – is unusually uncertain at present, owing largely to uncertainty about the COVID-19 pandemic and its impact on global economic activity.

Responses to a breach of the deviation threshold are under the auspices of the Monetary Policy Committee (MPC). The MPC statement of 3 February 2021 specifies that the Committee has decided to keep the Bank's interest rates unchanged and will apply the tools at its disposal to ensure that inflation eases back to the target within an acceptable time frame.

1 In October 2016, the Bank sent the Minister a letter explaining that, because of an error in Statistics Iceland's measurements, inflation had actually not fallen below the 1% deviation threshold and there had been no need to send the report.



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