



# MONETARY BULLETIN

2014 • 1

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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 by the Government of Iceland and the Central Bank of Iceland on 27 March 2001, it is explained that the Central Bank's aim shall be that annual inflation, measured as the twelve-month increase in the CPI, remains as close to 2½% as possible.

Professional analysis and transparency are important prerequisites for credible monetary policy. In publishing *Monetary Bulletin*, the Central Bank attempts to fulfil these principles. Twice a year, in early May and early November, *Monetary Bulletin* includes an in-depth analysis of economic and monetary developments and prospects. In February and August, an updated forecast is published together with an abbreviated report on economic and monetary developments and prospects. The Monetary Policy Committee of the Central Bank bases its interest rate decisions on this analysis, among other things. The publication of *Monetary Bulletin* also represents a vehicle for the Bank's accountability towards Government authorities and the public.

The framework of monetary policy and its implementation and instruments are described further on the Central Bank's website: [www.sedlabanki.is/?PageID=179](http://www.sedlabanki.is/?PageID=179).

**Published by:**

The Central Bank of Iceland, Kalkofnsvegur 1, 150 Reykjavík, Iceland

Tel: (+354) 569 9600, fax: (+354) 569 9605

E-mail: [sedlabanki@sedlabanki.is](mailto:sedlabanki@sedlabanki.is)

Website: [www.sedlabanki.is](http://www.sedlabanki.is)

**Editorial Board and staff:**

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Rannveig Sigurdardóttir

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**Icelandic letters:**

ð/Ð (pronounced like th in English this)

þ/Þ (pronounced like th in English think)

In *Monetary Bulletin*, ð is transliterated as d and þ as th in personal names, for consistency with international references, but otherwise the Icelandic letters are retained.

**Symbols:**

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

# Statement of the Monetary Policy Committee

## 12 February 2014

The Monetary Policy Committee (MPC) of the Central Bank of Iceland has decided to keep the Bank's interest rates unchanged.

GDP growth is estimated to have been considerably stronger in 2013 than the Bank projected last November. This is consistent with previous indications of a strong labour market recovery. According to the Bank's forecast published today, GDP growth will gain pace in the next two years and the slack in the economy will disappear earlier than previously expected.

The króna has appreciated in recent weeks, in spite of substantial foreign exchange purchases by the Central Bank. The increase in unit labour costs will be smaller in 2014 than was previously forecast, provided that the main results of the wage settlements concluded in late December 2013 apply to the labour market as a whole. Inflation will therefore be lower this year than previously anticipated and will be close to target. The inflation outlook for the coming two years has deteriorated since the November forecast, however, as the outlook is for the slack in the economy to give way to an output gap during the period.

Measures to reduce households' indexed debt will have some effect on the medium-term economic outlook. Other things being equal, they will stimulate private consumption and imports, and reduce national saving and the current account surplus, which will contribute to a weaker króna than would otherwise result.

In the absence of other changes, the outlook for stronger domestic demand growth will require that the monetary stance be tightened sooner and more than previously expected. This could be offset by other measures that support monetary policy, however. Medium-term fiscal policy will be very important in this context. Furthermore, measures that strengthen the supply side of the economy could ease supply constraints, thereby weakening the inflationary effects of increased demand.

To the extent that inflation continues to abate, the monetary stance will grow tighter without nominal interest rate increases. However, the Bank's forecast implies that, other things being equal, it will be necessary to raise nominal interest rates as spare capacity in the economy disappears and an output gap emerges. Developments in the Bank's nominal interest rates will therefore depend, as before, on the future path of inflation.



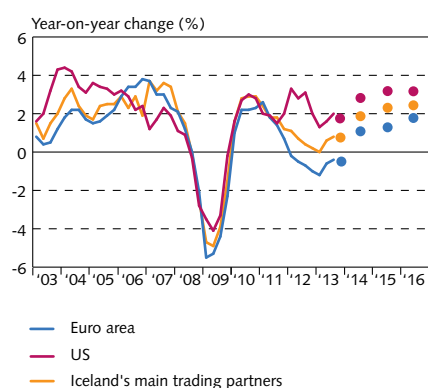
## Inflation outlook improving short-term but compromised by growing output gap in the long run

The global output growth outlook has improved since the publication of the November Monetary Bulletin, although considerable uncertainty remains, particularly in relation to recent headwinds facing emerging economies. The outlook for Iceland's terms of trade has improved as well, but the outlook for exports has deteriorated, owing in particular to poorer prospects for capelin fishing this year. Last year's GDP growth appears to have been considerably stronger than previously anticipated, or 3% instead of the 2.3% in the November forecast, due to a much stronger contribution from net trade, while domestic demand developed in line with the forecast. The economic outlook is coloured strongly by the effects of the Government's household debt relief measures and other stimulative policy measures. As is described in Appendix 2, the debt relief package is expected to boost private consumption considerably in the near future. The increased demand will also emerge in increased imports, reducing national savings and cutting into the current account surplus. The GDP growth effect of the measures will be less pronounced than the effect on domestic demand. As in November, GDP growth for 2014 is estimated at 2.6%, reflecting the stimulative effects of the Government debt relief package and the offsetting outlook for weaker export growth, coupled with delays in energy-intensive industrial development projects. The GDP growth outlook for the next two years has improved considerably, with growth projected at 3.7% in 2015 and 3% in 2016. If the forecast materialises, output growth will average 3.1% per year over the forecast horizon, which is above the 30-year average and well above the average projection for Iceland's main trading partners. The domestic labour market has also recovered more strongly than previously forecast. On the strength of unexpectedly robust output growth, the slack in the economy will narrow more quickly than previously projected, and an output gap could develop early next year. Inflation is expected to be lower this year than according to the November forecast because of a stronger króna and smaller rises in unit labour costs than were anticipated then. If assumptions concerning developments in wages and the exchange rate are borne out, inflation will approach the inflation target this year. When the effects of the recent appreciation taper off and the output slack turns into an output gap, inflation could gain pace again and remain above the target for a time. According to the forecast, it will peak at about 3½% late in 2015 and then taper off in 2016, due to countervailing monetary tightening. If the forecast materialises, inflation will be somewhat above target at the end of the forecast horizon, although the target is well within the 50% confidence band of the forecast.

### Global economic affairs and external trade

- Since the publication of the November *Monetary Bulletin*, economic indicators for the euro area have developed broadly in line with market expectations. GDP grew slightly quarter-on-quarter for the second consecutive quarter, although output contracted year-on-year by 0.4%. The strength of the recovery varies from country to country, although early signs of recovery can also be discerned in Southern Europe. It also appears that recovery is gaining ground in the US and the UK, with both countries reporting GDP growth of nearly 1% quarter-on-quarter in Q3. Annual output growth is still relatively weak, however, at 1.8% in the US and 1.5% in the UK. In Japan, GDP grew 0.5% between quarters, bringing annual growth to 2.6%.
- On the whole, the global output growth outlook appears to have improved. In its January 2014 forecast, the International

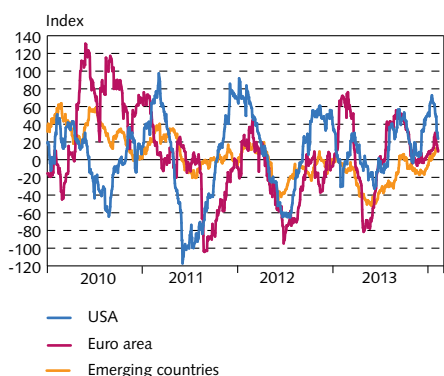
Chart 1  
GDP growth in selected industrialised countries<sup>1</sup>



1. The analysis appearing here is based in large part on the Bank's assessment of economic developments, published in November 2013 in *Monetary Bulletin* 2010/4, and on the updated forecast presented here. It is based on data available in early February.

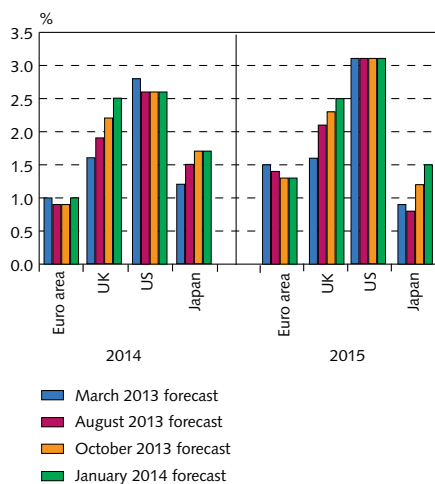
1. Points show forecast from Consensus Forecasts and Global Insight for 2013-2016.  
Sources: Consensus Forecasts, Global Insight, Macrobond.

Chart 2  
Economic surprise index<sup>1</sup>  
Daily data 1 January 2010 - 7 February 2014



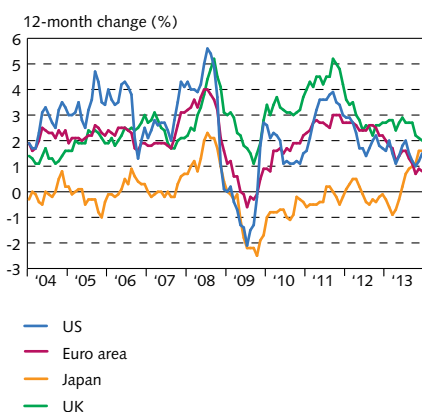
1. When the index is lower than 0, the indicators are more negative than expected; when the index is higher than 0, the indicators are more positive than expected. The index does not imply that the indicators are positive or negative.  
Source: Macrobond.

Chart 3  
GDP forecasts for 2014 and 2015<sup>1</sup>



1. Based on monthly forecasts from 250 forecasting agencies which are weighted together.  
Sources: Consensus Forecasts, Global Insight.

Chart 4  
Inflation in selected industrialised countries  
January 2004 - December 2013



Source: Macrobond.

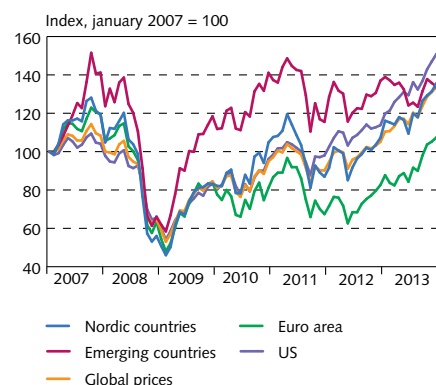
Monetary Fund (IMF) projects it at 3.7% in 2014 and 3.9% in 2015. The improvement since the Fund's October forecast is due primarily to a brighter outlook among industrialised countries. The GDP growth outlook for Iceland's main trading partners has improved as well, with 2% growth projected for this year instead of 1.8%, as in the November forecast. The outlook for 2015 has also improved slightly. GDP growth for the year is now projected at 2.3%, while the forecast for 2016 is unchanged since November, at 2.4%.

- The outlook is now for lower inflation in trading partner countries than was assumed in the last *Monetary Bulletin*. The greatest difference is in the euro area, where inflation measured only 0.7% in January. Inflation was also low in the US, measuring 1.5% in December, and in the UK it has tapered off relatively quickly and reached the Bank of England's 2% inflation target. In Japan, however, inflation has picked up rather rapidly after a prolonged deflation episode, climbing to a five-year high of 1.6% in December.
- In the euro area, the European Central Bank (ECB) lowered the policy rate by 0.25 percentage points, to 0.25%, shortly after the publication of the November *Monetary Bulletin*. The ECB also indicated that its balance sheet might be used for further monetary easing if necessary. The US Federal Reserve Bank has tapered off its bond purchase programme, however, in view of the improving economic outlook in the US. In addition, the Bank of England (BoE) decided to keep interest rates unchanged in February, although unemployment is approaching the level the BoE has defined as a reference for a possible rate increase.
- In the wake of the US Federal Reserve's decision to pull back on bond purchases, investors are setting their sights on emerging economies again, as they did last summer in response to early signs that the bank would begin pulling back its stimulus. Capital has fled emerging markets, with the associated pressure on currency exchange rates, increased inflationary pressures, and tighter financial conditions. Emerging countries with substantial foreign debt and current account deficits have felt the effects most keenly, as could be expected, and their central banks have responded with interest rate hikes and/or foreign exchange market intervention. Investors' concerns have also centred on the economic outlook in China, however, and the threat of declining GDP growth there, particularly due to potential financial instability associated with rapid lending growth in the shadow banking system.
- Even though GDP growth has gained momentum in industrialised countries and economic recovery has exceeded expectations in some economies, uncertainty about global GDP growth remains and unrest in the financial markets has increased again, particularly in connection with the situation in emerging countries. Share prices have risen steeply in industrialised countries in the past year, with stocks appreciating by over a third in the US and the

euro area, while they fell by an average of 2% in emerging market countries. Share price volatility has increased again, in tandem with growing tension in the financial markets.

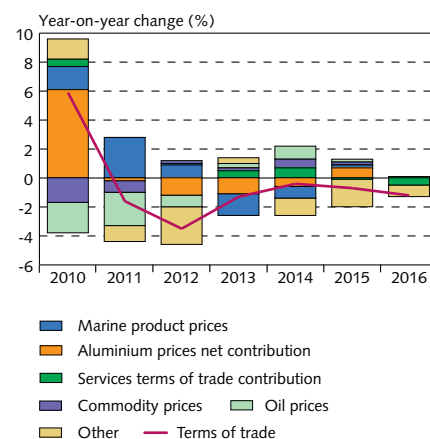
- Although the GDP growth outlook for Iceland's trading partners has improved slightly, trading partners' imports are expected to grow broadly in line with the November forecast, averaging 2½% per year in 2014-2016.
- Global commodity prices fell by 1% year-on-year in 2013, in line with the forecast in the last *Monetary Bulletin*. They are expected to fall by over 5% this year, as is assumed in the November forecast, with the decline driven by falling food prices. This is a slightly smaller decline than in the IMF's January forecast and notably smaller than in the Organisation for Economic Co-operation and Development's (OECD) November forecast. Oil prices are assumed to fall by 4½% this year, which is closely in line with the November forecast. They are expected to fall by 1-2% per year throughout the forecast horizon.
- The prospect of increased demand for fish products gives cause for greater optimism about marine product prices. Prices are now expected to rise by an average of 1% this year and next year instead of falling by 2% both years, as in the previous forecast. The outlook for developments in aluminium prices has worsened, however, with a decline of ½% expected this year, whereas an increase of over 3% was projected in November. The outlook for the coming two years is similar to the November forecast, however.
- Owing to the brighter outlook for marine product prices, terms of trade are now expected to deteriorate by just under ½% this year rather than nearly 1%, as in the November forecast. This will come in addition to the relatively positive developments from last year. As in November, terms of trade are assumed to deteriorate by an additional 2% in the next two years.
- The real exchange rate rose by nearly 10% year-on-year in December and by an average of 3.9% over 2013 as a whole, owing mainly to nominal appreciation of the króna at the beginning and end of the year, although higher inflation in Iceland than in trading partner countries is a factor as well. It remains low in historical context, however.
- Goods exports grew by nearly 3% last year, well in excess of the November forecast, owing to stronger-than-expected exports of marine products (driven by larger catches and improved utilisation) and aluminium. The outlook for goods exports in 2014 has worsened considerably, however, with a year-on-year contraction of almost 1% expected instead of a 2% increase. The deterioration is due to several factors, including the poorer outlook for capelin fishing and the proposed cutback in electricity to wholesale users, which will force aluminium manufacturers to scale down production in the first half of this year. Exports of marine

Chart 5  
Equity prices in selected markets<sup>1</sup>  
January 2007 - January 2014



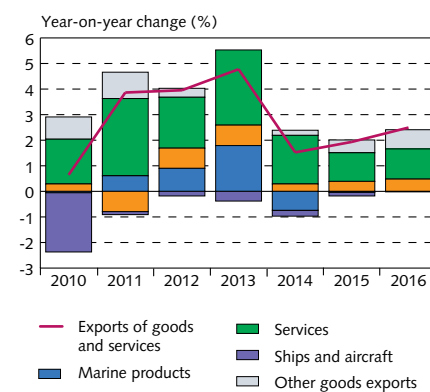
1. Monthly averages.  
Source: Macrobond.

Chart 6  
Terms of trade and their main components 2010-2016<sup>1</sup>



1. Central Bank baseline forecast 2013-2016. The contribution of the main sub-indices to year-on-year changes in terms of trade is determined by weighting the annual change in the sub-index concerned together with its weight in the import or export of goods and services. The item "other" is a residual.  
Sources: Statistics Iceland, Central Bank of Iceland.

Chart 7  
Export development and its main components 2010-2016<sup>1</sup>

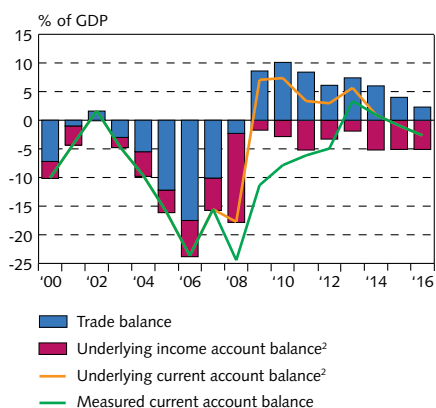


1. Central Bank baseline forecast 2013-2016.  
Sources: Statistics Iceland, Central Bank of Iceland.

and aluminium products will therefore be weaker than previously forecast. For the next two years, however, the outlook for goods exports is considered marginally better.

- Services exports are projected to have grown by 4.7% last year, well above the 3.4% assumed in the November forecast. Even though they are expected to grow even more strongly this year, total exports are projected to grow by only 1.4% instead of the more than 2% provided for in the November forecast, owing to the weaker outlook for goods exports. Growth is expected to pick up again in the next two years, averaging 2% per year, in line with the November forecast.
- Last year's goods trade surplus was some 20 b.kr. larger than was assumed in the November forecast, due to the aforementioned surge in exports and to slightly weaker imports than previous estimates had indicated. The 2013 surplus on combined goods and services trade is now estimated at about 7½% of GDP, about 1½ percentage points more than according to the forecast in the last *Monetary Bulletin*. The surplus is estimated to narrow this year, to 6% of GDP, and contract still further in the next two years. It is projected at just over 2% of GDP in 2016. Even though last year's surplus was stronger than expected, the outlook is for a smaller surplus than was forecast in November, owing largely to the stimulative effect of the Government's debt relief measures (for further discussion, see Appendix 2).
- The underlying current account balance showed a record Q3/2013 surplus of 62.5 b.kr. For the year as a whole, it is expected to show a surplus of 94.1 b.kr., or 5.3% of GDP, which is 2 percentage points more than was forecast in November. In addition to more favourable developments in goods and services trade, there are signs that the underlying deficit in the balance on income was smaller than previously thought. Factor expense on non-residents' equity securities holdings was smaller and residents' interest income on foreign assets was larger, and the net effect of the settlement of bankruptcy estates on the balance on income is no longer included in the income account for last year, as the settlement did not take place. As in previous forecasts, the surplus is expected to shrink this year. It is estimated at just under 1% of GDP, which is slightly larger than was forecast in November. The surplus will turn into a 1% deficit in 2015, although this is 1 percentage point less negative than was projected in November. Because the surplus on goods and services trade is expected to narrow, the deficit is projected to be somewhat larger in 2016, or nearly 3% of GDP instead of more than 2% provided for in the November forecast.<sup>2</sup>

Chart 8  
Current account balance 2000-2016<sup>1</sup>



1. Net current transfers are included in the balance on income. Central Bank baseline forecast 2013 - 2016. 2. Adjusted for calculated revenues and expenses of deposit money banks (DMBs) in winding-up proceedings and the effects of the settlement of their estates, and adjusted for the effects of the pharmaceuticals company Actavis until 2012.  
Sources: Statistics Iceland, Central Bank of Iceland.

2. The forecast of the underlying balance on income account is based on the estimated division of the estates' assets among creditors. The revenues and expenses deriving from the assets were then added to the balance on income. Because of this, the balance on income will be more negative throughout the forecast horizon than it would have been otherwise.

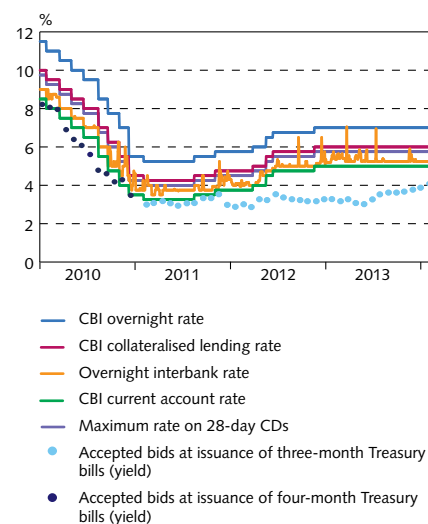


## Domestic financial markets

- The Central Bank of Iceland Monetary Policy Committee (MPC) decided to hold the Bank's interest rates unchanged at its November and December meetings. Prior to the publication of this *Monetary Bulletin*, the current account rate was 5%, the maximum rate on 28-day certificates of deposit (CDs) was 5.75%, the seven-day collateralised lending rate was 6%, and the overnight lending rate was 7%. The Bank's interest rates have been unchanged since November 2012.
- Demand for Central Bank liquidity facilities is limited due to abundant financial system liquidity; therefore, the simple average of the Bank's current account rate and the maximum rate on 28-day certificates of deposit (CD) is the closest approximation of the rate that determines money market interest rates. This rate is now 5.4%, whereas the overnight interbank rate is 5.25% and has developed broadly in line with Central Bank rates. Interest rates in Treasury bill auctions have also edged towards the Bank's interest rates and are now about 0.8 percentage points higher than they were a year ago; however, they remain almost a percentage point below the floor of the interest rate corridor.
- Although the Bank's nominal interest rates have remained unchanged since November 2012, the monetary stance has tightened, and the Bank's real rate is now 2.2% in terms of current inflation and 1.8% in terms of various measures of inflation and inflation expectations, or 0.3-0.5 percentage points higher than when the November *Monetary Bulletin* was published.
- According to the Bank's market expectations survey, last carried out in early February, market agents expect Central Bank nominal rates to be lower in 2014 than they did prior to the issue of the November *Monetary Bulletin*. However, they expect higher real rates. The survey results indicate that they expect the Bank's collateralised lending rate to remain unchanged at 6% until the end of 2014, 0.5 percentage points lower than in the previous survey. On the other hand, they now appear to expect a 0.25-point rate increase in Q1/2015 and that the collateralised lending rate will be 6.5% two years from now. Forward interest rates indicate, however, that market agents expect the Bank's policy rate to rise by 0.5 percentage points this year, to 6.5%, which is 0.25 percentage points higher than they indicated at the beginning of November.<sup>3</sup>
- Yields on indexed and non-indexed bonds have risen since the November *Monetary Bulletin*, indexed yields by 0.2-0.8 percentage points and non-indexed yields by 0.3-1.0 percentage points. The rise in real rates reflects the aforementioned increase in the

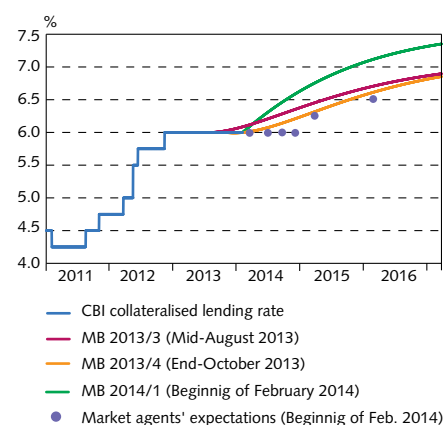
3. Measurement problems at the short end of the yield curve introduce a measure of uncertainty into the indications provided by the yield curve. Treasury bonds maturing in the next two years are not used, however, as their pricing is considered skewed by the effects of the capital controls.

Chart 9  
Central Bank of Iceland interest rates  
and short-term market interest rates  
Daily data 1 January 2010 - 7 February 2014



Source: Central Bank of Iceland.

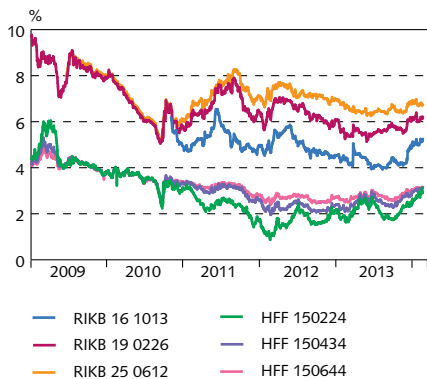
Chart 10  
Collateralised lending rate, forward market  
interest rates<sup>1</sup> and market agents' expectations  
concerning collateralised lending rate<sup>2</sup>  
Daily data 1 January 2011 - 31 March 2017



1. Interbank interest rates and Treasury bonds were used to estimate the yield curve. Treasury bonds maturing within two years are excluded, however, because their pricing is assumed to be affected by the capital controls. 2. According to the median response in the Central Bank's market expectations survey for the period 3-5 February 2014.

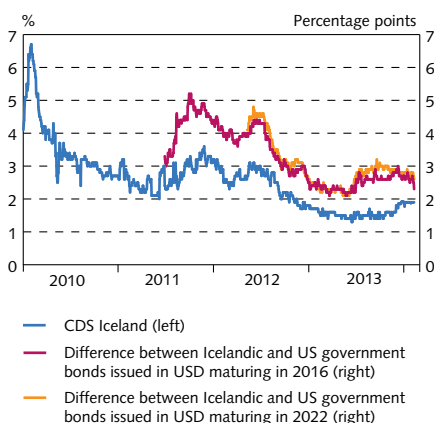
Source: Central Bank of Iceland.

Chart 11  
Nominal and indexed bond yields  
Daily data 2 January 2009 - 7 February 2014



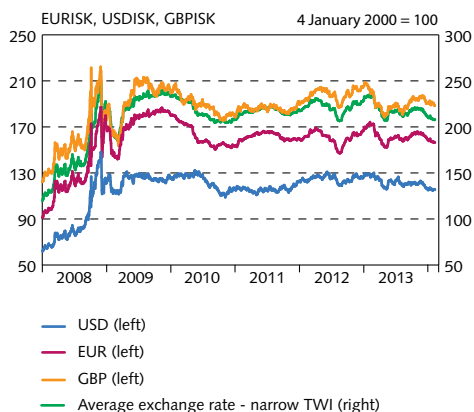
Source: Central Bank of Iceland.

Chart 12  
Risk premia on the Icelandic Treasury  
Daily data 1 January 2010 - 7 February 2014



Source: Bloomberg.

Chart 13  
Exchange rate of the króna  
Daily data 3 January 2008 - 7 February 2014



Source: Central Bank of Iceland.

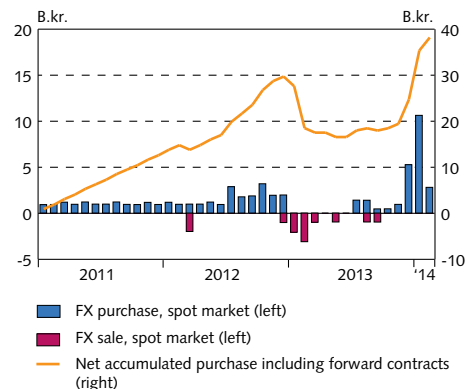
Central Bank's real rate. There could also be further effects due to expectations of increased supply in the wake of the 16 December announcement of the planned sale of the Central Bank of Iceland Asset Holding Company's (ESÍ) indexed bonds in the amount of some 100 b.kr. over the next five years. It could also reflect uncertainty about the effects of the Government's household debt relief package on economic activity and the Treasury's debt position. Finally, it may reflect reduced demand among non-residents, who have scaled down their Treasury bond holdings in the recent term.

- In line with international developments, the risk premium on Icelandic Treasury obligations rose at mid-year, in the wake of global market unrest stemming from uncertainty about the future of the US Federal Reserve Bank's bond purchase programme. In terms of the spread between the Icelandic Treasury's US dollar bonds and comparable bonds issued by the US Treasury, the risk premium has fallen since the November *Monetary Bulletin*, to just about 2½%, which is nonetheless higher than at the beginning of June. The CDS spread on five-year Treasury obligations has risen by about 0.3 percentage points since November, however, and now measures 1.9%. The decision by rating agency Standard & Poor's to change the outlook on Iceland's sovereign credit ratings from negative to stable in late January has not yet had any noticeable effect on developments in risk premia, which are higher by both criteria than they were a year ago.
- Towards the end of 2013, one of the three large commercial banks undertook its first foreign bond issue, making it the second Icelandic commercial bank since 2008 to seek foreign credit financing. Furthermore, two of the large commercial banks recently received credit ratings from international rating agencies, which should ease their access to international financial markets.
- Since the last *Monetary Bulletin*, the króna has appreciated by 5.4% in trade-weighted terms, 4.7% against the euro, and 5% against the US dollar. This is a radical departure from the steep depreciation a year ago. The króna is now 11.8% stronger in trade-weighted terms than at the same time last year. The trade surplus and the reduction in foreign loan payments by firms and municipalities have supported the exchange rate, although developments in terms of trade have pulled in the opposite direction.
- Exchange rate volatility has also diminished, in part due to action taken by the Central Bank. The Bank's net foreign exchange purchases in the interbank market totalled some 6.7 b.kr. in Q4/2013 and about 1 b.kr. for the year as a whole. Including payments on forward contracts, they totalled about 22.7 b.kr. The Bank has bought about 13.5 b.kr. in excess of sales so far this year.
- The króna was slightly weaker in Q4/2013 than was forecast in November, with the exchange rate index averaging just under 218 points. So far this year, however, the exchange rate index has averaged about 210. As before, the Bank's baseline forecast

is based on the assumption that throughout the forecast horizon, the exchange rate of the króna will remain broadly stable at the level prevailing when the forecast was prepared. If this assumption is borne out, the exchange rate will be roughly 2½% higher than according to the November forecast.

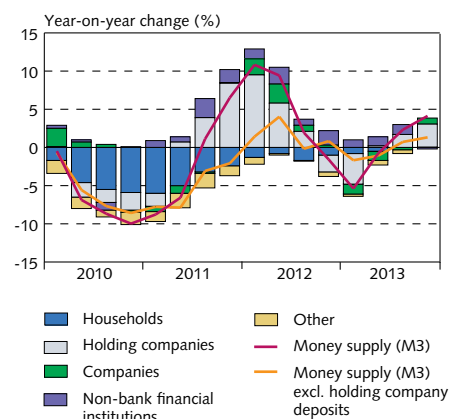
- Residents' deposits in deposit money banks (DMB) increased by about 4.1% year-on-year in Q4/2013. The lion's share of the increase is due to deposits owned by holding companies, including the estates of the failed financial institutions. Over the same period, corporate deposits increased by 3.3% and household deposits by about 1%.
- M3 was up 4.1% year-on-year in Q4/2013. Narrower measures of the money supply also grew year-on-year, for the fourth month in a row, following an uninterrupted contraction extending back to July 2012. The year-on-year increase measured 2-3¼% in Q4. A portion of money supply growth is due to holding companies; if their deposits are excluded, M3 grew 1.3% between years in Q4. Over the same period, Central Bank base money has increased by 4.2%
- In 2013, net new DMB lending (new loans net of prepayments) totalled 55 b.kr. in household loans and 84 b.kr. in non-holding company loans. Net new Housing Financing Fund (HFF) lending was negative by 4.4 b.kr. over the same period. The bulk of net new DMB lending to households and businesses has been non-indexed. The majority of new loans to households have been indexed, but prepayments of indexed loans are also higher. In spite of this growth in new credit, the inflation- and exchange rate-adjusted book value of the total loan stock continues to shrink. As before, the contraction is due for the most part to a smaller stock of exchange rate-linked DMB loans and indexed HFF loans.
- House prices rose by 6½% in 2013, while rent rose 10% and the number of registered purchase agreements was up 9½% year-on-year. The average time-to-sale for residential property was about five months in 2013, down from seven in 2012. Real house prices rose by 2½%, on average, between 2012 and 2013 and are now slightly higher than in autumn 2004, just before the major structural changes in the domestic mortgage market.
- Since the last *Monetary Bulletin* was published, the OMXI main list index has risen just under 10% and the OMXI6 by about 9%. The indices rose by nearly 28% and 19%, respectively, in 2013, and trading volume nearly trebled between years. The number of investment options available in the market continues to rise, and several companies are preparing for listing on the exchange in the next two years. Returns on several domestic mutual funds were considerably higher last year, at about 45%.
- Private sector financial conditions continue to move in the right direction. Households' and firms' net wealth has continued to rise

Chart 14  
Central Bank transactions in foreign exchange market  
January 2011 - February 2014<sup>1</sup>



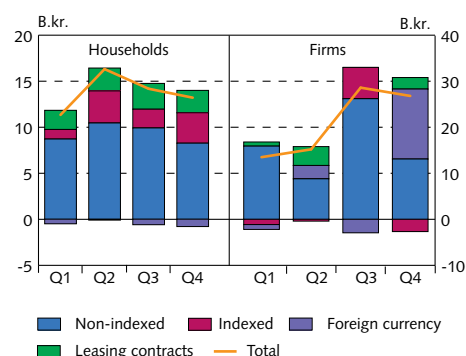
1. Based on data until 6 February.  
Source: Central Bank of Iceland.

Chart 15  
Components of money supply  
Q1/2010 - Q4/2013



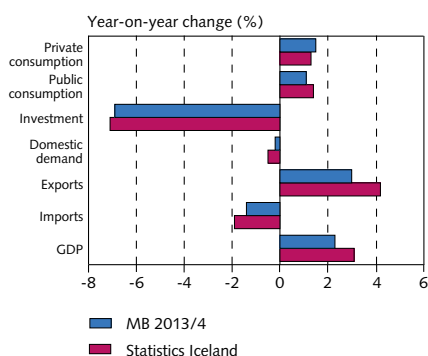
Source: Central Bank of Iceland.

Chart 16  
Net new lending<sup>1</sup> from the three commercial banks to households and firms<sup>2</sup>  
Q1/2013 - Q4/2013



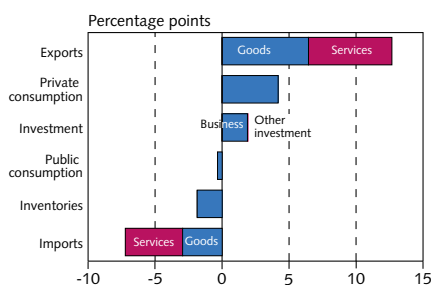
1. New loans net of prepayments. 2. Excluding holding companies.  
Source: Central Bank of Iceland.

Chart 17  
National accounts for Q1-Q3/2013 and Central Bank estimate



Sources: Statistics Iceland, Central Bank of Iceland.

Chart 18  
Contribution of GDP components to economic recovery<sup>1</sup>



1. 2010 H1 - Q3/2103, seasonally adjusted.  
Sources: Statistics Iceland, Central Bank of Iceland.

in line with rising asset prices and declining debt levels, in part due to the recalculation of illegal exchange rate-linked loans, some of which are still pending. Households' financial situation will improve still further in coming years because of measures to lower household mortgage debt. The delinquency rate of households at the three large commercial banks and the HFF has also declined in recent months. The number of individuals on the default register has fallen as well, although default is still widespread in comparison with the beginning of the economic contraction. The number of firms on the default register has risen slightly in recent months, and some firms' financial situation appears fragile, as is discussed in the last *Monetary Bulletin*.

## The domestic economy

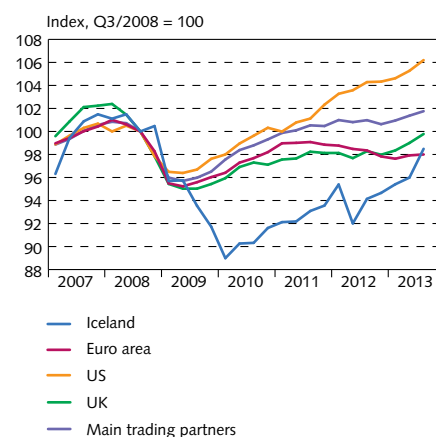
- In December, Statistics Iceland published the national accounts for Q3/2013 and the revised accounts for the first half of the year. According to the national accounts figures, year-on-year output growth measured 4.9% during the third quarter and 3.1% for the first three quarters, as compared with the same periods in 2012. Net trade was the main driver of growth during the first nine months of the year, with exports growing 4.2% and imports contracting by 1.9%. The contribution from domestic demand was negative, however, as it contracted by ½% year-on-year, owing to a steep contraction in investment in ships and aircraft, which was reflected in a contraction in investment of over 7%. Public and private consumption both grew by nearly 1½% during the period, however.
- In Q3/2013, output growth was considerably stronger than the 2.5% forecast in the November *Monetary Bulletin*. It outpaced the November forecast (which was 2.3%) for the first nine months of the year as well. The deviation is due primarily to stronger-than-expected exports, as well as to an unexpectedly large contraction in imports. Domestic demand developed in line with the Bank's forecast, although the contribution from net trade to output growth was substantially most positive than projected.
- Since the economic recovery took hold in Q2/2010, GDP has grown by nearly 11%, after having contracted by more than 12% from its pre-crisis peak.<sup>4</sup> This is a stronger recovery than in Iceland's main trading partner countries. Early on, the recovery was fuelled by growth in domestic demand, particularly private consumption and business investment, but in recent quarters, net trade has been the main driver.
- Private consumption grew by 2.4% year-on-year in Q3/2013, which is well in line with the November forecast of 2.2% growth. In the first half of the year, it was weaker according to revised

4. Based on seasonally adjusted figures from the Central Bank. See Box IV-1 in *Monetary Bulletin* 2012/4 for the reasons why the Bank uses its own method for seasonal adjustment of GDP.

figures from Statistics Iceland than according to earlier numbers. In the first three quarters of the year, growth measured 1.3%, as compared with the November forecast of 1.5%. Leading indicators suggest that private consumption growth in Q4 was broadly in line with that in the previous quarter. It is therefore assumed that year-on-year growth measured 2.5% during the quarter and 1.6% for the year as a whole.

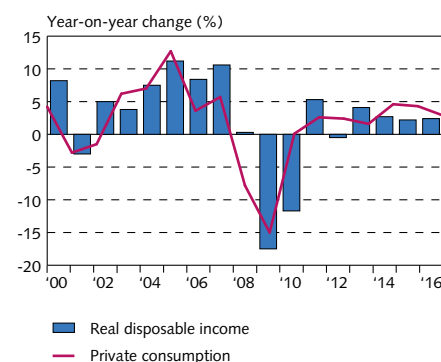
- The outlook for private consumption in 2014 and beyond is coloured by the Government's debt relief measures, which will foreseeably have some impact on households' economic position and spending decisions. Net household wealth will rise, and with increased collateral capacity, so will households' ability to take on additional debt to finance consumption. Households could also access their increased wealth by refinancing their current mortgages and use the proceeds to fund additional consumption, or they could also elect to spend other savings, owing to increased net housing wealth. The debt reduction will reduce households' debt service, thereby increasing the income available once they have paid their mortgages. On the other hand, the Government debt relief package provides for an increase in employees' third-pillar pension savings contribution, which will counteract the increase in disposable income, other things being equal. In addition, private consumption could surge temporarily in the near future, as many households may have chosen to postpone spending decisions until the announcement of the Government's debt relief plan.
- The debt relief measures are discussed in further detail in Appendix 2. As is stated there, private consumption can be expected to grow more rapidly in coming years as a result of the measures. The increase will crowd out investment to a degree, temporarily causing it to grow more slowly than it would otherwise. Imports will increase, and the current account balance will deteriorate. The GDP growth effect of the debt relief measures will therefore be less pronounced than the effect on domestic demand. As a result, GDP growth will be driven more by domestic demand, and gross national saving will be less than it would otherwise. A more pronounced output gap and a weaker króna will fuel inflationary pressures, although this will be offset by a tighter monetary stance, which will mitigate the stimulative and inflationary impact of the debt reduction plan. As is discussed in Appendix 2, the debt relief package is accompanied by a number of uncertainties. As a result, the ultimate impact of the measures comes with a wide confidence band. There is also some uncertainty about plans for a possible prohibition or restriction of household access to long indexed mortgages, and about the economic impact of such measures.
- In addition to the debt relief package that is supposed to take effect at mid-year, the authorisation for third-pillar pension savings withdrawals was extended and expanded at the beginning

Chart 19  
Post-crisis developments in GDP<sup>1</sup>



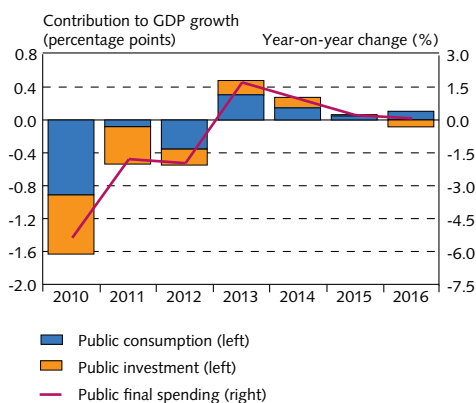
1. Seasonally adjusted data for Iceland are from the Central Bank of Iceland.  
Sources: OECD, Central Bank of Iceland.

Chart 20  
Private consumption and real disposable income 2000-2016<sup>1</sup>



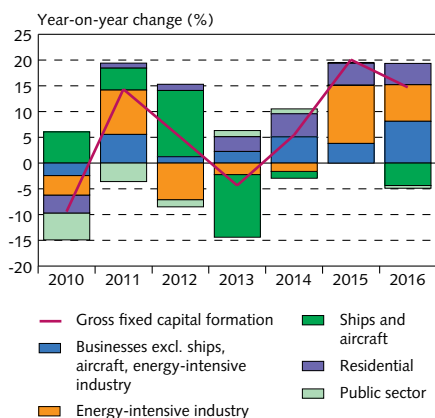
1. Central Bank baseline forecast 2013-2016.  
Sources: Statistics Iceland, Central Bank of Iceland.

Chart 21  
Public consumption and investment 2010-2016<sup>1</sup>



1. Central Bank baseline forecast 2013-2016.  
Sources: Statistics Iceland, Central Bank of Iceland.

Chart 22  
Gross fixed capital formation and contribution of its main components 2010-2016<sup>1</sup>



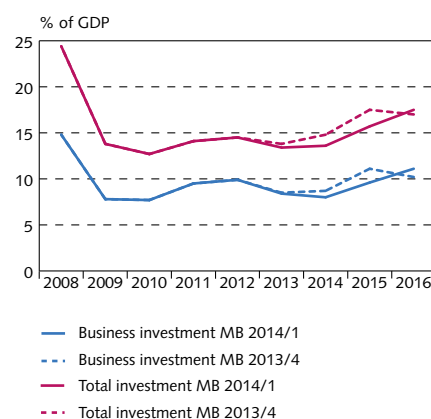
1. Central Bank baseline forecast 2013-2016.  
Sources: Statistics Iceland, Central Bank of Iceland.

of 2014. Private consumption growth in 2014 and the next few years will therefore be significantly stronger than was forecast in November. Private consumption is projected to grow by 4.6% this year and by an average of 3.9% over the forecast horizon, as opposed to 2½% according to the November forecast. If this forecast materialises, private consumption as a share of GDP will rise from 54% in 2013 to 56% in 2016.

- According to preliminary figures from Statistics Iceland, growth in public consumption was weaker than was provided for in the last forecast. The deviation is due to the fact that the price increase in public consumption was underestimated in Q3. The forecast for 2013 as a whole is unchanged, however. The forecast for developments in public consumption throughout the forecast horizon is broadly unchanged.
- Preliminary figures from Statistics Iceland for the first three quarters of the year indicate weaker growth in public investment than in the previous forecast. Soon after taking office, the current Government announced its intention to scale down the previous Government's investment plans as laid down in the *Investment Strategy 2013-2015*. It is difficult to estimate how successful plans to discontinue development projects have been, but at present, the forecast for investment growth in 2013 is similar to the November forecast, which assumed that some of the projects had been stopped. According to the 2014 budgets passed recently by Iceland's largest municipalities, investment at the municipal level will be somewhat stronger than was assumed in November.
- According to the National Budget for 2014, approved in December, the overall and primary balances will be more positive than in the original budget proposal by 0.4 b.kr and 1.5 b.kr., respectively. Revenues and expenditures are estimated to be 25 b.kr. higher because of the debt relief package, which was added during the third round of Parliamentary discussion. According to the Budget, the overall surplus will be 0.9 b.kr. and the primary surplus will be 57.5 b.kr. A budget supplement for 2013 was passed as well. The deficit on Government operations was projected at 3.7 b.kr. according to the 2013 National Budget but is now estimated at 19.7 b.kr. The Ministry of Finance and Economic Affairs had previously estimated a deficit of up to 30 b.kr.
- Investment grew by 5.3% year-on-year in Q3, somewhat less than the 7% increase forecast in November. In the first nine months of the year, investment contracted by 7.1%, in line with the November forecast. Residential and public investment grew year-on-year during the period, but business investment contracted by more than 13%. The downturn in business investment is due largely to the sharp contraction in investment in ships and aircraft. Energy-intensive investment is weaker than previously anticipated, however, although general business investment is stronger.

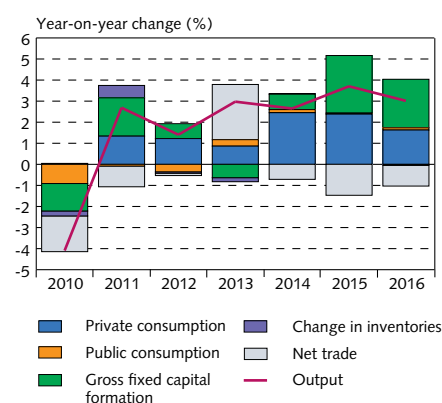
- This forecast assumes that business investment contracted by nearly 12% year-on-year in 2013 and that total investment contracted by 4.3%, which is well in line with the November forecast. The contraction in business investment is more than 2 percentage points less than was expected in November, but this is offset by the fact that growth in residential and public investment is now estimated to have been weaker than in the November forecast.
- The outlook for 2014 is for weaker business investment than in the November forecast, owing mainly to the assumption of a delay of about a year in the Helguvík aluminium smelter project, which reduces this year's investment in the energy-intensive sector. On the other hand, general business investment is expected to grow by over 13%, as opposed to the 10% assumed in the November forecast, and estimates of investment in ships and aircraft have been revised upwards since November. These items will not outweigh the changes in energy-intensive investment, however, and business investment is therefore projected to grow by just under 1% this year instead of 5%, as was forecast in November.
- In 2015 as well, the outlook is for considerably weaker business investment growth than was forecast in November, primarily because of weaker general business investment and a larger contraction in investment in ships and aircraft. On the other hand, energy-intensive investment will grow more, owing to the above-mentioned project postponement. If the forecast materialises, business investment will grow by about 25% in 2015 instead of 31%, as in the November forecast; however, it will grow more strongly in 2016 because the focus of energy-intensive investment will have shifted to that year.
- As is stated above, total investment is estimated to have contracted by 4.3% in 2013. It is expected to grow by 5½% this year, as opposed to the 9% assumed in the November forecast. Projections for residential investment are broadly unchanged since the last forecast. Over the forecast horizon, total investment is projected to grow by 13½%, on average, as opposed to 10%, as in the November forecast, and investment as a share of GDP will rise from 13½% in 2013 to 17½% in 2016, which is still about 2½ percentage points below the thirty-year average.
- As is stated above, GDP growth measured 4.9% year-on-year in Q3/2014 and 3.1% in the first three quarters of the year. GDP is assumed to have grown by 2.7% year-on-year in Q4, due to increased domestic demand and a stronger contribution from net trade. If this assumption is borne out, GDP growth measured 3% in 2013. According to the most recent figures from the International Monetary Fund (IMF), Iceland was the only country among the most developed countries to achieve a growth rate of 3% in 2013.
- As was forecast in November, GDP growth for 2014 is estimated at 2.6%. This reflects the offsetting effects of stronger growth in

Chart 23  
Investment relative to GDP 2008-2016<sup>1</sup>



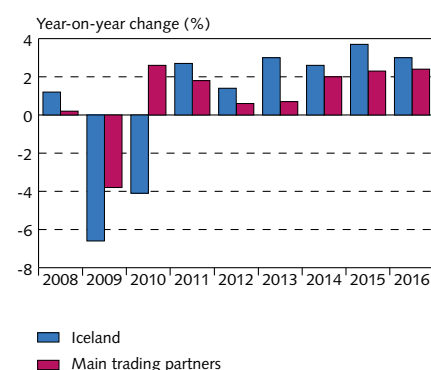
1. Central Bank baseline forecast 2013-2016.  
Sources: Statistics Iceland, Central Bank of Iceland.

Chart 24  
GDP growth and contribution of underlying components 2010-2016<sup>1</sup>



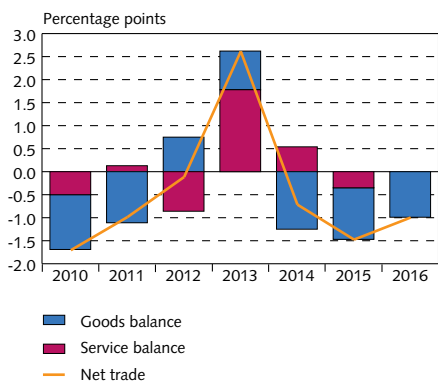
1. Central Bank baseline forecast 2013-2016.  
Sources: Statistics Iceland, Central Bank of Iceland.

Chart 25  
Output growth in Iceland and main trading partner countries 2008-2016<sup>1</sup>



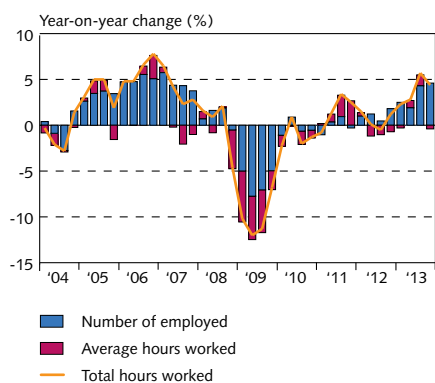
1. Central Bank baseline forecast 2013-2016.  
Sources: Statistics Iceland, Central Bank of Iceland.

Chart 26  
Contribution of net trade to GDP growth 2010-2016<sup>1</sup>



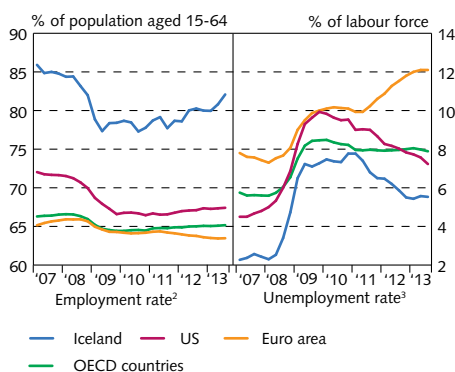
1. Central Bank baseline forecast 2013-2016.  
Sources: Statistics Iceland, Central Bank of Iceland.

Chart 27  
Changes in employment and hours worked Q1/2004 - Q4/2013



Source: Statistics Iceland.

Chart 28  
Employment rate and unemployment<sup>1</sup> Q1/2007 - Q3/2013



1. Seasonally adjusted figures. 2. Number of employed persons as a share of the population aged 15-64. 3. Number of unemployed persons as a share of the labour force aged 15-64 (harmonised OECD measure).  
Sources: OECD, Statistics Iceland, Central Bank of Iceland.

domestic demand, driven by private consumption growth, and weaker export growth, owing to a poorer outlook for capelin fishing and a downturn in aluminium exports. GDP growth in 2014 will be driven predominantly by domestic demand, with a much smaller contribution from net trade.

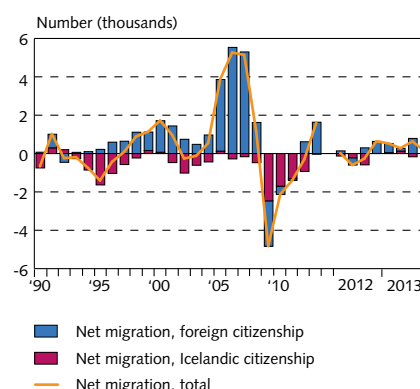
- In 2015, it is assumed that economic developments will be strongly coloured by the broad-based Government debt relief package, as it will be the first full year to see the impact of the measures. The same will be true when this forecast is compared with the November forecast: private consumption will be stronger and net trade will contribute less to output growth. On the whole, GDP growth is projected at 3.7% in 2015. It is estimated at 3% in 2016, due largely to the postponement of energy-intensive development projects until that year. If the forecast materialises, GDP growth will average 3.1% over the forecast horizon. This is above the thirty-year average and well above the average forecast for Iceland's trading partners.
- In view of the fact that year-2013 GDP growth is now estimated to have been somewhat stronger than previously forecast, it is also assumed that the output slack narrowed more than was assumed in November, to just under 1% instead of slightly more than 1%. As before, it is assumed that the slack will diminish further this year and virtually disappear by the year-end. An output gap is expected to develop gradually from 2015 onwards. The output gap will peak in 2016 at just under 1½% of potential output and then begin to taper off again, partly due to countervailing monetary tightening. Some output gap will still exist at the end of the forecast horizon, however. This is a substantial change from November, when the slack in the economy was not expected to disappear until late 2015. It should be noted, however, that estimates of potential output are highly uncertain.
- According to the Statistics Iceland labour market survey, labour demand was considerably stronger in Q4/2013 than in the November forecast, which provided for a 1% year-on-year increase in total hours worked instead of the actual 4.3%. As in recent quarters, the unexpectedly rapid increase is due to an increase in the number of employed persons (4.6%), while average hours declined by 0.4%. Although the increase in total hours worked for 2013 as a whole is due almost entirely to an increase in the number of employed persons (3.4%), average hours worked rose by 0.3%, after having contracted by 0.6% in 2012. Total hours worked therefore rose by 3.7% in 2013, the same percentage as in 2005 and 2007.
- All other measures of labour supply and demand pulled in the same direction in 2013. The employment rate rose by 1.4 percentage points year-on-year, the participation rate rose by 0.9 percentage points, and the number of persons outside the labour market fell by 3.3%.



- In Q4/2013, net migration was positive for the fifth quarter in a row. For the first time since the collapse of the banking system, the immigrants to Iceland therefore outnumbered emigrants for the year as a whole, with net migration for 2013 positive by 0.8% of the labour force. The net increase is due entirely to an increase in foreign immigrants, which supports other indicators of increased labour demand.
- The Capacent Gallup survey carried out in November and December among Iceland's 400 largest firms indicates that labour demand could grow more slowly in the first half of 2014 than in 2013. According to the survey, in November 2013 the number of executives interested in laying off staff was roughly equal to the number interested in recruiting, whereas the two surveys carried out in the first half of the year indicated that firms interested in recruiting outnumbered those wishing to downsize by about 10%.
- The updated forecast assumes that total hours worked will increase by just under 1%, as in the last forecast. The outlook for the upcoming two years is broadly unchanged as well, with growth projected to average 1% over the forecast horizon.
- Unemployment as registered by the Directorate of Labour (DoL) was somewhat lower in Q4/2013 than according to the Bank's last forecast. Seasonally adjusted unemployment as measured by the DoL was 4.1%, but it measured 5.3% according to the Statistics Iceland labour market survey.<sup>5</sup> Unemployment had fallen by 1.1 percentage point year-on-year according to the DoL, and by 0.2 percentage points according to the labour market survey. As could be expected, unemployment was therefore higher according to the labour market survey (5.4% in 2013) than the DoL (4.4%), as the survey includes those who have exhausted their unemployment benefits and the temporary provision extending benefits from three years to four was not extended last year.
- It can be assumed that unemployment as registered by the DoL will continue to be somewhat lower than the survey-based rate in 2014. Registered unemployment is forecast to measure 3.7% in 2014 and fall to 3.5% by 2016, which is somewhat below the 4% provided for in the November forecast.
- Wages rose somewhat more in Q4/2013 than was assumed in the November forecast. The wage index rose by just under 1% quarter-on-quarter and 6% year-on-year during the quarter.
- The direct increase due to the private sector wage settlements signed just before Christmas is estimated at 3.2% (2.8% due to pay scale increases and 0.4% due to additional increases in the lowest wage categories). In addition, the negotiating parties

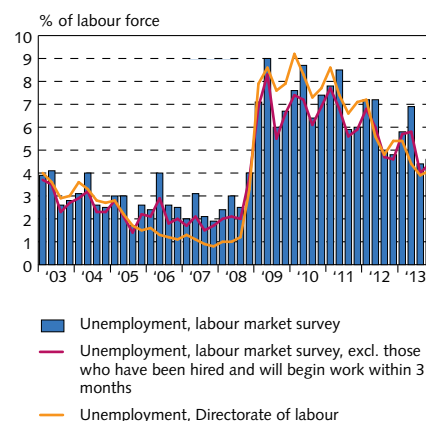
5. According to the labour market survey definition, workers who have been hired but have not yet started work are considered unemployed. Unemployment according to the labour market survey was 5%, excluding those who had been hired but had not started work.

Chart 29  
Migration



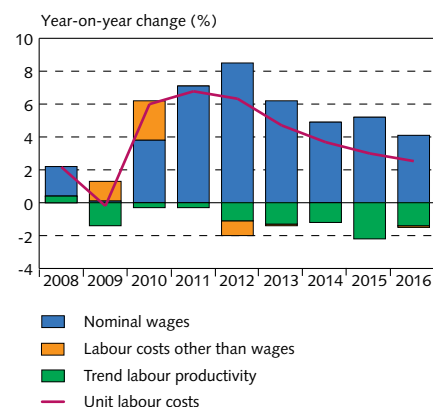
Source: Statistics Iceland.

Chart 30  
Different measures of unemployment  
Q1/2003 - Q4/2013



Sources: Directorate of Labour, Statistics Iceland.

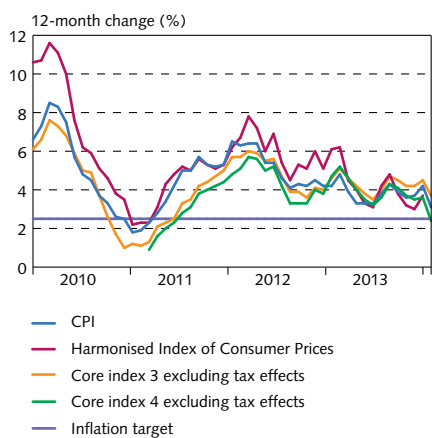
Chart 31  
Unit labour costs and contributions of underlying components 2008-2016<sup>1</sup>



1. Labour productivity growth is shown as a negative contribution to an increase in unit labour costs. Central Bank baseline forecast 2013-2016.

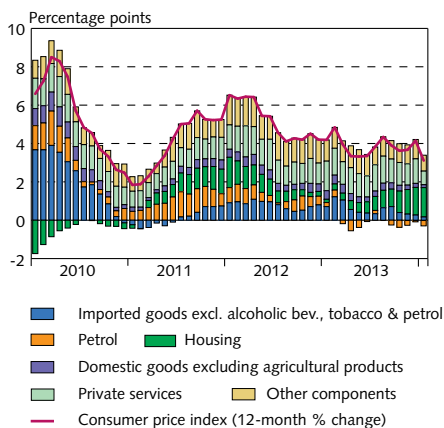
Sources: Statistics Iceland, Central Bank of Iceland.

Chart 32  
Various inflation measurements<sup>1</sup>  
January 2010 - January 2014



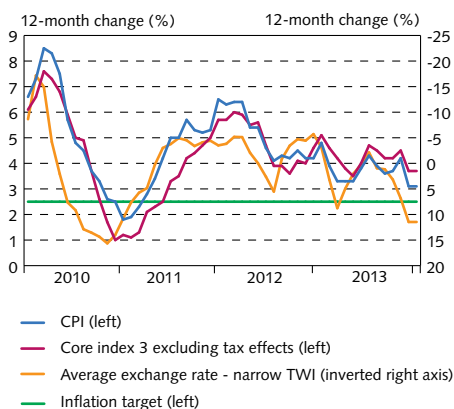
1. Core index 3 is the CPI excluding prices of agricultural products, petrol, public services and real mortgage interest expense. Core index 4 excludes the market price of housing as well.  
Sources: Statistics Iceland, Central Bank of Iceland.

Chart 33  
Components of CPI inflation  
Contribution to inflation January 2010 - January 2014



Source: Statistics Iceland.

Chart 34  
Inflation, core inflation and the exchange rate of the króna  
January 2010 - January 2014



Sources: Statistics Iceland, Central Bank of Iceland.

assume that other wage changes in connection with the implementation of the agreements during the year will be small enough to keep the rise in the Statistics Iceland wage index below 4% during the period from December 2013 through December 2014. If this is borne out, wages will increase by roughly ½ a percentage point more. In view of the fact that negotiated pay increases have accounted for an average of 60% of changes in the wage index since 1990, this could be underestimated.

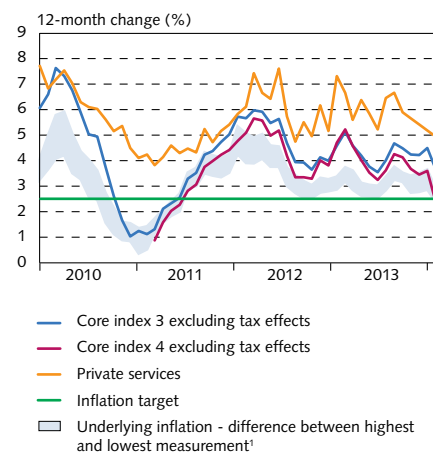
- Only half of the member organisations of the Icelandic Federation of Labour approved the wage settlements in the January vote. This forecast is based on the assumption that similar wage agreements will be reached with most of the groups that rejected the settlement and with public sector employees, whose contracts have expired or will do so in the near future. Furthermore, it is expected that wage drift will be somewhat more pronounced than the negotiating parties assume. Contractual wage increases will be somewhat smaller to than has been assumed in recent *Monetary Bulletin* forecasts, however. Next year's wage increases are expected to be similar to this year's but will probably take effect earlier in the year. The year-on-year increase in average wages will therefore be slightly larger in 2015 than in 2014. In 2016, however, it is assumed that negotiated pay increases will be somewhat smaller than in 2014 and 2015, as it is assumed that a relatively front-loaded two-year contract will be negotiated in 2015.
- The assumptions concerning other wage costs have changed slightly from the last forecast, as the settlements included a 0.1% increase in the employer contribution to employees' education and training funds, which in most cases took effect at the same time as the wage agreement. Also assumed is a 0.2% increase in employees' wage costs at mid-year, as additional employees will decide to take advantage of third-pillar pension savings in connection with the Government's debt relief package (for further information, see Appendix 2).
- In addition to a slightly smaller increase in wages during the forecast horizon, the outlook is for more rapid productivity growth than was assumed in the last *Monetary Bulletin*. Unit labour costs will therefore rise by just under 4% this year. In the next two years, annual wage growth will be broadly in line with the Central Bank inflation target, or about ½-1 percentage points less than was forecast in November.

## Inflation

- Inflation measured 3.8% in Q4/2013, in line with the November forecast. As before, most of the main drivers of inflation were of domestic origin – an increase in the housing component of the CPI and the price of private services – while the price of imported goods and fuel had an offsetting effect. Inflation averaged 3.9% for the year, down from 5.2% in 2012.

- The CPI fell by 0.72% month-on-month in January, after having risen for the two preceding months. The decline in January is due mainly to sales on clothing, footwear, and housewares, although last year's sales effects were stronger. Airfares and petrol prices declined, while health care, housing, heat, and electricity rose in price. The effects of indirect taxes pushed the CPI upwards by 0.08%, much less than previously anticipated. The CPI excluding tax effects therefore fell broadly in line with the overall index between months, or by 0.8%.
- Twelve-month inflation measured 3.1% in January, as opposed to 4.2% in December. Some base effects were present, as the CPI had risen by 0.3% in January 2013. About half of the January inflation figure is due to the housing component of the CPI, which has risen by 7.6% in the past twelve months. About a fifth of twelve-month inflation is due to increased private services prices, although imported inflation was limited, and the appreciation of the króna played a major role in the overall disinflation trend.
- Measures of underlying inflation have also subsided. For instance, core index 3 (which excludes volatile food items, petrol, public services, and real mortgage interest expense) without the effects of indirect taxes declined by 1% in January, and underlying annual inflation by that measure was 3.7%, down from 4.5% in December. Excluding the market price of housing as well (core index 4) gives an underlying inflation figure of only 2.4%. Other measures of underlying inflation also suggest that inflation has abated. The year-on-year change in the price of private services, which usually are good indicator of domestic inflationary pressures, were 3.3% in January, down from 6.1% in December. Statistical measures of underlying inflation also suggest that it lies in the 2½-3% range.
- Inflation expectations have subsided in the wake of the decline in inflation in January and increased expectations of modest wage increases this year. The two-year breakeven inflation rate has fallen by ¼ of a percentage point since November, while the five- and ten-year rate has fallen by just under 0.2 percentage points. The five-year breakeven inflation rate five years ahead has declined similarly. By all of these measures, inflation expectations now lie in the 3.3-3.7% range. Market agents' two-year inflation expectations have fallen slightly more, or by 0.5-0.7 percentage points, to 3.5%. Longer-term inflation expectations among market participants are unchanged since the last survey, however, averaging 4% over the next ten years. Households' and businesses' near-term inflation expectations are broadly unchanged, although this could reflect the fact that the last surveys were conducted before the wage settlements were finalised and before January inflation figures were published.
- Because of the steep rise in the CPI in February 2013, the outlook is for twelve-month inflation to fall still further in February and approach or align with the Bank's 2½% inflation target. Inflation

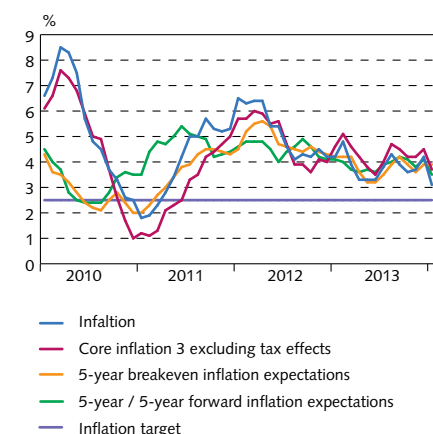
Chart 35  
Various measures of underlying inflation and inflationary pressure  
January 2010 - January 2014



1. The trimmed mean is measured as underlying inflation where 5%, 10%, 15% and 20% of components with the largest price changes are excluded.

Sources: Statistics Iceland, Central Bank of Iceland.

Chart 36  
Inflation, core inflation and long-term inflation expectations  
January 2010 - January 2014



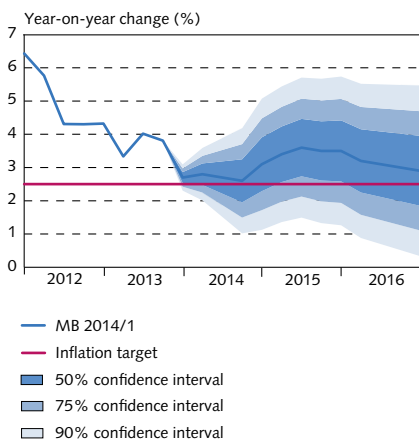
Sources: Statistics Iceland, Central Bank of Iceland.

Chart 37  
Inflation and inflation expectations  
Q1/2010 - Q1/2014



1. Businesses' inflation expectations were measured on an irregular basis before Q3/2006, so until then measurements are interpolated.  
 Sources: Capacent Gallup, Statistics Iceland, Central Bank of Iceland.

Chart 38  
Inflation forecast and confidence intervals

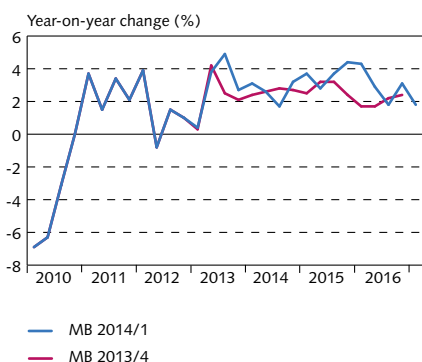


Sources: Statistics Iceland, Central Bank of Iceland.

is expected to fall to 2.7% in Q1/2014, roughly ½ a percentage point below the forecast in the November *Monetary Bulletin*. According to the forecast, inflation will remain at about that level for the remainder of the year, reflecting lower inflation at the beginning of the forecast horizon, a stronger króna, and smaller rises in unit labour costs than was forecast in November, all of which are offset by a smaller margin of spare capacity.

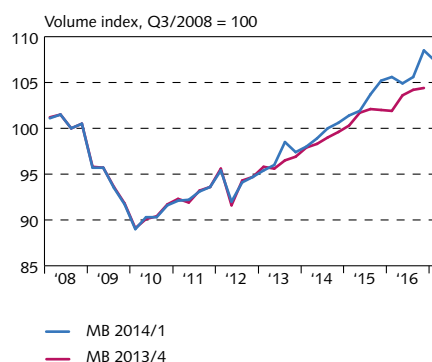
- According to the forecast, an output gap will begin to develop next year and continue to grow until the second half of 2016. If this materialises, the outlook is for inflation to pick up again early in 2015 and remain above 3% over the next two years, and then begin tapering off again towards the end of the forecast horizon, in part due to a tighter monetary stance. It will still be nearly ½ a percentage point above the target at the end of the forecast horizon, however, owing to the continued presence of an output gap fuelled by the Government's debt relief packages and increased economic activity in connection with energy-intensive development projects.
- The inflation outlook is highly uncertain, partly because of factors such as wage settlements, the exchange rate, and the impact of the debt relief package and other stimulative policy measures. There is also considerable uncertainty about potential output and about plans for energy-intensive development in the medium term. The uncertainty is exacerbated by the fact that inflation expectations remain somewhat above target, in spite of having fallen in the recent term. Chart 38 illustrates the probability distribution of the inflation forecast. The chart shows the range in which there is considered to be a 50%, 75%, and 90% probability that inflation will lie during the forecast horizon. According to the probability distribution, there is about a 50% likelihood that inflation will be between 2% and 3.3% in Q4/2014 and between 1.9% and 4% by the end of the forecast horizon. The uncertainties in the inflation forecast are broadly the same as in the November forecast, although the risk profile is roughly symmetric now, whereas it was tilted to the upside in November.

Chart 39  
GDP growth – comparison with MB 2013/4



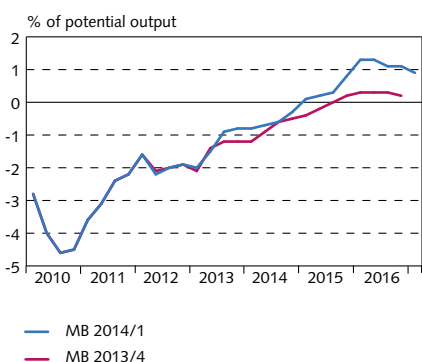
Sources: Statistics Iceland, Central Bank of Iceland.

Chart 40  
Seasonally adjusted GDP – comparison with MB 2013/4<sup>1</sup>



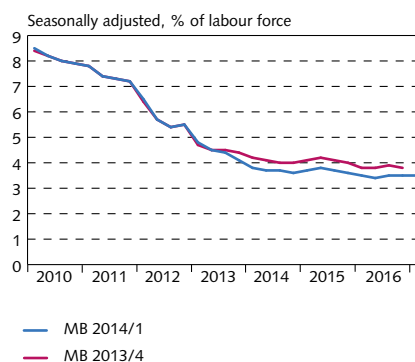
1. Seasonally adjusted Central Bank data.  
Sources: Statistics Iceland, Central Bank of Iceland.

Chart 41  
Output gap – comparison with MB 2013/4



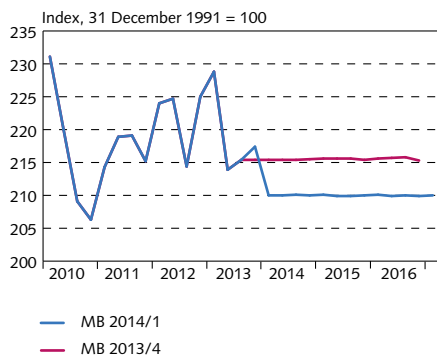
Source: Central Bank of Iceland.

Chart 42  
Unemployment – comparison with MB 2013/4



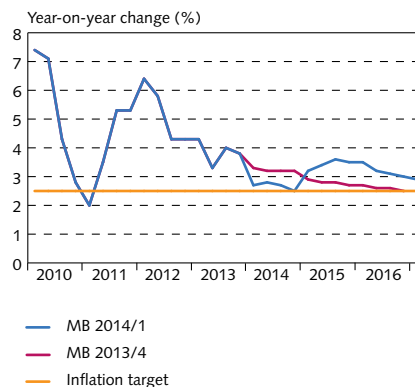
Sources: Directorate of Labour, Central Bank of Iceland.

Chart 43  
Trade-weighted exchange rate index of the króna - comparison with MB 2013/4



Source: Central Bank of Iceland.

Chart 44  
Inflation – comparison with MB 2013/4



Sources: Statistics Iceland, Central Bank of Iceland.

## Appendix 1

### Baseline macroeconomic and inflation forecast 2014/1

Table 1 Macroeconomic forecast<sup>1</sup>

	B.kr.	Volume change on previous year (%) unless otherwise stated				
		2012	Forecast			
<i>GDP and its main components</i>						
Private consumption	912.9	2.4 (2.4)	1.6 (1.9)	4.6 (2.3)	4.3 (2.5)	2.9 (2.5)
Public consumption	430.4	-1.4 (-1.4)	1.2 (1.2)	0.6 (0.7)	0.2 (0.4)	0.4 (0.6)
Gross fixed capital formation	246.9	5.0 (5.0)	-4.3 (-4.1)	5.4 (8.9)	20.1 (22.8)	14.7 (-1.3)
Business investment	168.6	7.8 (7.8)	-11.9 (-13.0)	0.8 (4.8)	25.8 (31.2)	17.7 (-5.8)
Residential investment	44.9	6.9 (6.9)	15.7 (20.1)	20.3 (24.5)	16.6 (14.1)	16.4 (14.5)
Public investment	33.5	-9.1 (-9.1)	8.8 (12.1)	6.1 (3.9)	0.7 (0.1)	-4.0 (-4.3)
National expenditure	1,594.6	1.6 (1.6)	0.4 (0.7)	3.6 (2.8)	5.5 (5.1)	4.2 (1.3)
Exports of goods and services	1,009.5	3.8 (3.8)	4.7 (3.4)	1.4 (2.2)	1.8 (1.6)	2.4 (2.5)
Imports of goods and services	905.5	4.7 (4.7)	0.3 (0.8)	3.1 (2.6)	5.1 (5.8)	4.6 (1.3)
Contribution of net trade to growth	-	-0.1 (-0.1)	2.6 (1.6)	-0.7 (0.0)	-1.5 (-2.0)	-1.0 (0.7)
Gross domestic product	1,698.5	1.4 (1.4)	3.0 (2.3)	2.6 (2.6)	3.7 (2.8)	3.0 (2.0)
<i>Other key figures</i>						
GDP at current prices (in b.kr.)		1,698 (1,698)	1,789 (1,771)	1,867 (1,865)	1,991 (1,963)	2,104 (2,052)
Trade account balance (% of GDP)		6.1 (6.1)	7.4 (6.1)	6.0 (5.4)	4.0 (2.9)	2.3 (3.1)
Current account balance (% of GDP)		-5.1 (-5.5)	3.0 (0.5)	0.8 (-2.3)	-1.0 (-4.7)	-2.8 (-4.7)
Underlying current account balance (% of GDP) <sup>2</sup>		2.8 (2.4)	5.3 (3.1)	0.8 (0.5)	-1.0 (-2.1)	-2.8 (-2.2)
Terms of trade (change in average year-on-year)		-3.5 (-3.5)	-1.3 (-2.0)	-0.4 (-0.7)	-0.7 (-0.8)	-1.2 (-0.7)
Total gross fixed capital formation (% of GDP)		14.5 (14.5)	13.4 (13.8)	13.6 (14.8)	15.7 (17.5)	17.5 (17.0)
Business investment (% of GDP)		9.9 (9.9)	8.4 (8.5)	8.0 (8.7)	9.6 (11.1)	11.1 (10.2)
Output gap (% of potential output)		-1.9 (-1.9)	-0.8 (-1.2)	-0.3 (-0.5)	0.8 (0.2)	1.1 (0.2)
Unit labour costs (change in average year-on-year) <sup>3</sup>		6.4 (6.3)	4.7 (4.4)	3.7 (4.0)	3.0 (3.5)	2.6 (3.5)
Real disposable income (change in average year-on-year)		-0.5 (-0.6)	4.1 (3.5)	2.7 (1.8)	2.2 (3.5)	2.4 (3.2)
Unemployment (% of labour force)		5.8 (5.8)	4.4 (4.5)	3.7 (4.1)	3.7 (4.1)	3.5 (3.8)
Average exchange rate - narrow TWI (31/12 1991 = 100)		222.0 (222.0)	218.9 (218.4)	210.1 (215.4)	210.1 (215.6)	210.1 (215.6)
Inflation (annual average, %)		5.2 (5.2)	3.9 (3.9)	2.7 (3.2)	3.4 (2.8)	3.2 (2.6)
Inflation excluding tax effects (annual average, %)		5.0 (5.0)	3.7 (3.7)	2.6 (2.9)	3.4 (2.8)	3.2 (2.6)

1. Figures in parentheses from forecast in *Monetary Bulletin* 2013/4. 2. Adjusted for the calculated income and expenses of banks in winding-up proceedings. As of 2014/1 it is also corrected for the effects of the settlement of their estates. In 2012, also adjusted for the effects of pharmaceuticals company Actavis on the balance on income. 3. Based on underlying productivity.

Table 2 Quarterly inflation forecast (%)<sup>1</sup>

Quarter	Inflation (change year-on-year)	Underlying inflation (excl. tax effects) (change year-on-year)	Inflation (annualised quarter-on-quarter change)
			Measured value
2012:4	4.3 (4.3)	4.1 (4.1)	3.9 (3.9)
2013:1	4.3 (4.3)	4.2 (4.2)	6.5 (6.5)
2013:2	3.3 (3.3)	3.2 (3.2)	4.1 (4.1)
2013:3	4.0 (4.0)	3.9 (3.9)	1.7 (1.7)
2013:4	3.8 (3.8)	3.7 (3.7)	3.1 (3.0)
			Forecasted value
2014:1	2.7 (3.3)	2.6 (3.0)	2.0 (4.5)
2014:2	2.8 (3.2)	2.7 (2.9)	4.5 (3.6)
2014:3	2.7 (3.2)	2.6 (2.9)	1.3 (1.7)
2014:4	2.6 (3.2)	2.5 (2.9)	2.5 (3.1)
2015:1	3.1 (2.9)	3.1 (2.9)	4.3 (3.1)
2015:2	3.4 (2.8)	3.4 (2.8)	5.5 (3.3)
2015:3	3.6 (2.8)	3.6 (2.8)	2.0 (1.7)
2015:4	3.5 (2.7)	3.5 (2.7)	2.4 (2.7)
2016:1	3.5 (2.7)	3.5 (2.7)	4.2 (3.2)
2016:2	3.2 (2.6)	3.2 (2.6)	4.2 (2.6)
2016:3	3.1 (2.6)	3.1 (2.6)	1.8 (1.9)
2016:4	3.0 (2.5)	3.0 (2.5)	2.0 (2.3)
2017:1	2.9	2.9	3.7

1. Figures in parentheses are from the forecast in *Monetary Bulletin* 2013/4.

## Appendix 2

# The economic impact of the Government's household mortgage relief measures

In accordance with the current Government's policy statement and a Parliamentary resolution from June 2013, the Prime Minister appointed an expert group whose task was to draft various methods of reducing indexed mortgage principal and to submit its recommendations of the most effective ways to achieve such reduction.

The group submitted its report on 29 November 2013 (see Prime Minister's Office, 2013). The proposal is in two main parts: first, direct reduction of households' indexed mortgages, to be funded through the Treasury; and second, tax-free withdrawals of third-pillar pension savings used to pay down mortgage debt. According to the expert group's estimates, it is assumed that, through these measures, borrowers can reduce their outstanding mortgage debt significantly over the next four years.

This Appendix presents the Central Bank of Iceland's assessment of the effects of these measures on economic activity and inflation during the period 2014-2018. No particular assessment is made of the effect on the Treasury's position, as it is assumed that the measures will be fully funded. Nor is there any particular assessment of the potential effect on the financial system, the resolution of Iceland's balance of payments problem, or the liberalisation of the capital controls. The present analysis is limited to the effects on overall demand and inflation and the potential monetary policy responses to these.<sup>1</sup>

### Direct reduction of indexed mortgage principal

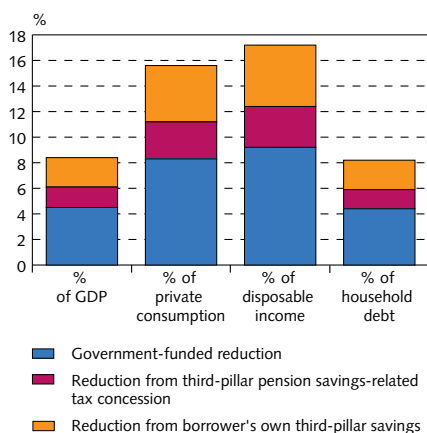
The expert group recommends that indexed mortgages be reduced by an amount corresponding to the indexation in excess of 4.8% (the average inflation rate for the period 2001-2007) that was applied during the period from December 2007 through August 2010. Indexation above this reference figure will be reimbursed, reducing the principal. It is estimated that the reimbursements will correspond to a reduction in principal of roughly 13%, whereas the consumer price index used for indexation rose by 14.9% in excess of the 4.8% reference limit per year during the period in question.

The group's proposals allow for a maximum of 4 m.kr. per household, with an estimated 90% of households able to benefit from the full amount of the reduction. Previous reduction of principal will be deducted, including write-downs from relief measures such as the 110% option, special mortgage interest subsidies, debt mitigation, or problem debt restructuring measures.

It is recommended that the write-down be implemented by dividing eligible mortgages into two parts: the "main portion" of the original loan and the "correction portion", which is estimated to av-

1. The potential effects of the measures on the financial system and the Housing Financing Fund will be discussed in the Bank's *Financial Stability* 2014/1 report, scheduled for publication on 9 April 2014.

Chart 1  
Scope of debt relief measures  
Percentage of estimated economic variables 2013



Sources: Prime Minister's Office (2013), Central Bank of Iceland.

erage up to 13% of the original loan principal. The borrower stops paying on the correction portion, although it is still assumed that he/she is liable for it, but instead the Treasury pays up the correction portion in equal instalments over a four-year period. According to the expert group's assessment, the indexed debt that households must pay will decline immediately by an estimated 72 b.kr., and the cost to the Treasury for this part of the debt relief package will total some 80 b.kr., which will be distributed over the four years. The 8 b.kr. difference is due to accrued interest and indexation, prepayment provisions on the bonds, and the difference between market value and nominal value of the loans, which households would otherwise have had to pay. As is described below, the intention is to finance this portion with a tax on financial institutions and the estates of failed financial institutions, and provisions on the first phase are already included in this year's National Budget.

### Reduction of indexed mortgage debt with third-pillar pension savings and tax incentives

The second part of the debt relief package involves authorising households with mortgage debt to use payments that would otherwise be allocated to third-pillar pension savings to reduce their loan principal. The expert group's report also mentions that those who do not own a home could allocate their third-pillar pension savings tax-free to a special mortgage savings account. In so doing, the Treasury is relinquishing income tax on up to the 4% employee contribution and the 2% employer contribution, provided that these amounts are used to reduce mortgage principal. It is recommended that the tax-free ceiling be set at 500,000 kr. per family per year and that the measure remain in effect for three years. The expert group recommends that the measure be restricted to those who had mortgages before 1 December 2013, but this could prove difficult to enforce, as it is also recommended that the measure be offered to renters as well. The scope of the measure is estimated by the expert group at 70 b.kr.<sup>2</sup> The Treasury's share, through the tax concessions, is therefore roughly 28 b.kr. (40% of 70 b.kr.), and the remainder, 42 b.kr., is the pension savers' own contribution towards the reduction of their debt.<sup>3</sup>

### Total scope of the debt relief package

The expert group estimates the total scope of the package at 150 b.kr., to be distributed over a four-year period. Of that total, the Government will contribute a total of 108 b.kr. (80 b.kr. for the reduction of mort-

2. The expert group's report contains a discrepancy relating to these variables. On p. 7 (Prime Minister's Office, 2013), the scope of this part of the package is estimated at 70 b.kr., the figure that is usually used in general discussion of the debt reduction measures. On pp. 45-46, however, it is stated that the third-pillar pension savings measure will reduce the debt of those who already have third-pillar pension savings by some 67 b.kr. and the debt of new participants by 15 b.kr., giving a total of 82 b.kr. The Bank's analysis is based on the former figure, as it appears to be the reference figure used by the authorities in their assessments.

3. Here it is assumed that if these savings had been paid out as other third-pillar pension savings has been, it would have been taxed as regular income falling in the middle tax bracket as it is in 2014. This assumption is somewhat uncertain, however, as a portion of this income could fall into the lowest tax bracket and a portion could fall into the highest bracket. Changing the assumptions about the peripheral tax brackets for third-pillar pension savings payouts does not radically change the main results, however.



gage principal and 28 b.kr. for the above-mentioned tax concessions), and the other 42 b.kr. will come from households' third-pillar pension savings. As Chart 1 shows, the scope of the package corresponds to approximately 8½% of estimated year-2013 GDP, or 15½% of private consumption and about 17½% of households' estimated disposable income. Of that total, the Government contribution is equivalent to approximately 6% of GDP, just over 11% of private consumption, and 12½% of estimated disposable income.<sup>4</sup> Household debt is estimated to decline by about 8% as a result. Other things being equal, it could therefore fall from nearly 102% of GDP in Q3/2013 to just under 94% by the time the full effect of the measures has surfaced. Because the direct reduction of principal is focused only on indexed debt, the share of indexed loans in household debt will decline still further from the present level (Chart 2).<sup>5</sup>

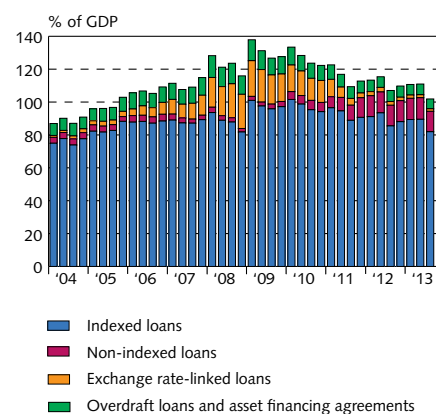
### Funding of the debt relief measures

The plan is to fund the debt relief package with a special bank tax on financial institutions and the estates of the failed financial institutions. The portion of the bank tax ear-marked for this debt reduction programme totals 23 b.kr. per year, or 92 b.kr. over the four-year period (Chart 3). Of that amount, 20 b.kr. per year, or a total of 80 b.kr., will be allocated to debt reduction. As is stated above, 72 b.kr. will be used to reduce indexed loan principal, and 8 b.kr. will be used for accrued interest and indexation, prepayment provisions, and the difference between the nominal and market value of the loans. The remainder, some 3 b.kr. per year (a total of 12 b.kr. over the four-year period), will be used to ensure full funding of the measures. This includes 1.8 b.kr. to offset the estimated reduction in Treasury revenues due to the increase in the third-pillar pension savings contribution from 2% to 4% this year, and 2 b.kr. for general expenses related to implementation of the measures. The remainder, 8.2 b.kr., is intended to meet expenses incurred by the Housing Financing Fund (HFF) as a result of accelerated prepayment and to cover other unforeseen expenses in connection with the measures.

The revenues from the bank tax itself are estimated to be somewhat higher, however, or 38.5 b.kr. per year (154 b.kr. over the four-year period). The 62 b.kr. in excess of the 92 b.kr. directly related to the debt reduction measures are a part of Treasury revenue generation and are not connected to the measures discussed here.

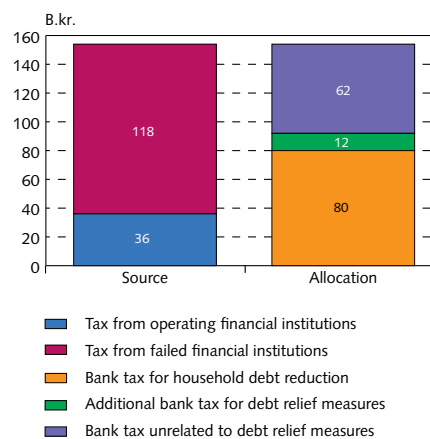
It is assumed that 36 b.kr. of the 154 b.kr. bank tax will come from currently operating financial institutions, whereas the bulk of the funding, or 118 b.kr., will come from the estates of the failed financial institutions (Chart 3). Therefore, it can be assumed that approximately 70 b.kr. of the 92 b.kr. intended to finance the debt reduction measures will come from the failed financial institutions.

Chart 2  
Household debt<sup>1</sup>  
Q1/2004 - Q3/2013



1. GDP seasonally adjusted by Central Bank.  
Sources: Statistics Iceland, Central Bank of Iceland.

Chart 3  
Estimated bank tax



Sources: Prime Minister's Office (2013), Ministry of Finance and Economic Affairs, Central Bank of Iceland.

4. Based on Statistics Iceland figures for the first three quarters of 2013 and on the Central Bank forecast in *Monetary Bulletin* 2014/1 for the fourth quarter.  
5. The scope of these measures can be compared with the scope of the debt reduction following the court judgments on the illegality of exchange rate-linked loans and other measures to reduce debt in 2010-2013. These are discussed in Box IV-1 in *Monetary Bulletin* 2013/2.

### Economic impact of the measures: overview of specific effects

Households' net wealth will increase as a result of the debt relief measures. Debt service will decline, and household income will rise. The measures also increase the effective money supply and raise employers' wage costs by the amount of the rise in their pension contributions as a result of wage-earners' increased use of third-pillar pension savings. The discussion below explores each of these factors and then analyses the overall impact of the measures on economic activity and inflation. It includes an assessment of the most likely impact of the measures on key economic variables and gives two alternative scenarios reflecting the possible upper and lower limits of the effects. As has been stated previously, it is assumed that the debt relief package will be fully funded with the above-specified bank tax, in accordance with the authorities' plans. As a result, it is not assumed that the cost of the measures must be defrayed later through subsequent taxation on households (which would prompt households to put extra money aside to cover their future tax burden, according to a Ricardian equivalence channel). Nor is it assumed that the measures will reduce operating financial institutions' profits enough to prompt them widen their interest rate spreads to cover the costs they will incur in the wake of the measures. If the interest rate spread widens significantly, however, it could somewhat mitigate the demand-side effects of the measures. Clearly, though, all of these assumptions are subject to some uncertainty.

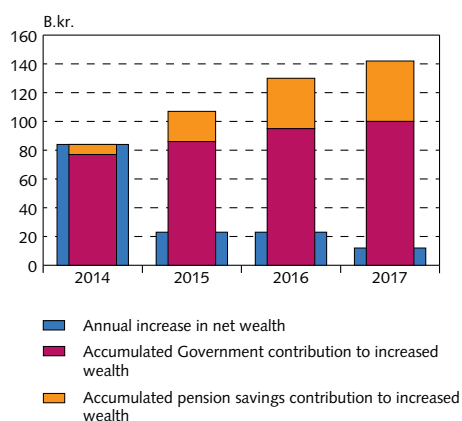
### Wealth effect

Net household wealth (assets in excess of liabilities) will increase as a result of the Government's transfers to households. Other things being equal, this should increase their willingness and ability to spend. Increased net household wealth will enable households to take on additional debt to finance increased private consumption, as their collateral capacity will have increased.<sup>6</sup> They could also choose to spend other savings, owing to increased net housing wealth.

According to the Central Bank's quarterly macroeconomic model (QMM), the direct wealth effect on private consumption will be relatively modest: for each 100 kr. in increased wealth, long-term private consumption will increase by approximately 5½ kr.<sup>7</sup> This figure is well in line with the international literature, which typically reports a wealth effect in the range of 3-10 kr. per 100 kr. in increased wealth (see, for instance, Davis and Palumbo, 2001; Carroll, Otsuka, and Slacalek, 2011; and Gilchrist and Zakrajsek, 2013).

As is stated above, it is assumed that the debt households must service will decline immediately by 72 b.kr. In addition, it should decline by another 70 b.kr. through the use of third-pillar pension savings. This part of the debt reduction measures entails the transfer to households of 28 b.kr. in tax concessions on third-pillar pension savings payouts. The

Chart 4  
Household debt reduction



Sources: Prime Minister's Office, (2013), Central Bank of Iceland.

- On p. 51 of the expert group's report (Prime Minister's Office, 2013), mention is made of possible measures to restrict households' mortgage refinancing options, but this idea is not explored further. Experience shows, however, that it is difficult to prevent increased wealth from leading to increased private consumption if households wish to step up consumption.
- See Danielsson *et al.* (2009). Using the updated estimation of the private consumption equation, part of Version 3.0 of the QMM (forthcoming).

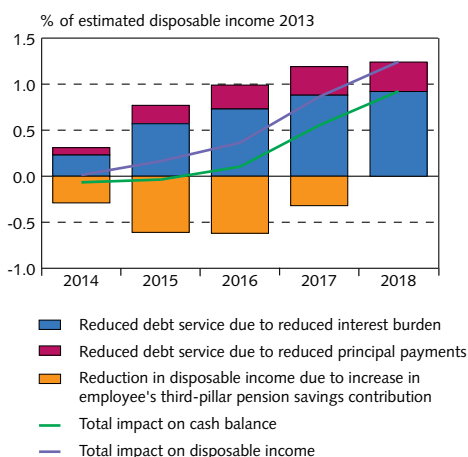
remaining 42 b.kr. will be funded by households themselves, with their pension savings. On a consolidated basis – that is, including households' holdings in the pension funds in their balance sheets – net wealth should increase by a total of 100 b.kr. Households' pension assets are not included in Statistics Iceland's household accounts (which are used in the QMM), however; therefore, the increase in assets measures larger, or 142 b.kr. (that is, the immediate transfer of 72 b.kr. and the additional 70 b.kr. that is distributed over this year and the next three years; see Chart 4). It is appropriate to remember that although household wealth including pension assets will increase by 100 b.kr., their net assets eligible as loan collateral will increase by a total of 142 b.kr., as pension assets are ineligible as loan collateral. However, it is not a given that households will consider their collateral capacity to have increase this much, and it can be argued that 142 b.kr. is the upper limit of this wealth effect and the 100 b.kr. direct transfer represents the lower limit. For the purposes of the present analysis, it is therefore assumed that the direct wealth effect lies between these two figures, at about 121 b.kr. (the 72 b.kr. immediate transfer and the 49 b.kr. distributed over this year and the next three years). According to the QMM, this could increase private consumption permanently by nearly 7 b.kr., or 0.7% of estimated year-2013 private consumption. The short-term effects could be somewhat greater, according to the model, although this is offset by the distribution of the measures over four years' time. Private consumption could increase by 8 b.kr. based on the upper limit, and by 5½ b.kr. based on the lower limit. The macroeconomic impact of the measures is assessed in terms of the average of the upper and lower limits, although it can be argued that the final effect will be closer to the upper limit. According to the findings from Sousa (2009), the wealth effect from debt reduction is usually greater than the increase in assets.

### **Impact on debt service**

According to the expert group's estimates, in mid-2014 households will stop servicing 13% of their indexed loan principal as it stood in December 2007. Their debt service on indexed mortgage loans will therefore decline immediately. In line with the assumptions on which the authorities' analysis is based, the assessment of the impact on debt service assumes that the average interest rate on indexed household debt is 4.5%, that 80% of the loans in question are 40-year loans and the other 20% are 25-year loans, and that, on average, the loans were taken in 2004 (see Analytica, 2013). As a result of the debt reduction part of the measures, household debt service will be reduced by 2½ b.kr. this year and by 5-5½ b.kr. per year thereafter.

Households' debt service burden will also be eased by the debt reduction from the third-pillar pension savings part of the measures. It is assumed here that the composition of indexed mortgage debt will be the same as before. In addition, it is assumed that 11% of the loans towards which payments are made with third-pillar pension savings are non-indexed loans bearing an average of 6.5% interest and with an average maturity of 25 years (see Analytica, 2013). It is assumed that the non-indexed loans were taken at mid-year 2010, on average. The debt service burden will therefore be reduced in stages as a result

Chart 5  
Impact of debt reduction measures on households' disposable income and cash balances



Sources: Analytica (2013), Prime Minister's Office (2013), Central Bank of Iceland.

of re-allocation of pension savings contributions: it will decline by 0.2 b.kr. in 2014 and by a total of 5.3 b.kr. by 2018. The total reduction in debt service as a result of the measures therefore increases from 2.7 b.kr. this year to 10.8 b.kr. by 2018.

### Impact on households' disposable income

A reduced debt service burden will increase households' disposable income by the amount corresponding to the interest portion of the debt service. As a result of this, households' disposable income is estimated to increase by 2 b.kr. this year and gradually rise to a total increase of 8 b.kr. by 2018.

Changes in the treatment of households' third-pillar pension savings also affect their disposable income, as the pension funds' assets and the returns on their assets are excluded from Statistics Iceland's disposable income accounts. If a wage-earner decides to increase his or her contributions to third-pillar pension savings and enjoy the tax deduction by paying into loan principal, the payment is deductible at the time it is paid in, and because it is not freely disposable, it is not added when it is paid out. Wage-earners' increased contribution to their third-pillar savings will therefore reduce measured disposable income by the amount of the additional contribution.

The impact of the third-pillar pension savings provision on disposable income is estimated based on the authorities' assumption that the total scope of the measures is 70 b.kr. If the average percentage contributed to third-pillar pension savings by those who currently have mortgages rises by 1½ percentage points in mid-2014 and this increased participation generates 13 b.kr. in savings (with the employer's contribution), households' contribution to this increase will total 8 b.kr. per year. Of that total, just over 3 b.kr. is due to tax concessions. Chart 5 shows the estimated total effect of the measures on disposable income as measured in terms of the expenditure accounts used by Statistics Iceland. The effects are slight or non-existent early on, as the increased pension contribution offsets reduced debt service. From 2017 onwards, however, the impact increases, owing to the growing effect of reduced debt service combined with the declining effect of the rise in pension contributions. The effects of increased third-pillar pension savings contributions will have disappeared by 2018, when disposable income has risen by 1% of estimated year-2013 income. The chart also shows the effect of the measures on households' "cash balances", which also reflects the effect of declining payment towards loan principal on their financial position. The impact on cash balances is therefore greater than the impact on measured disposable income.

In estimating the direct effects of changes in disposable income on households' consumption plans, it is important to keep in mind that the effects on disposable income tend to provide an incentive towards certain types of saving that are measured as a deduction from disposable income. It is not clear that this incentive will lead to an increase in net household saving, as it could prompt a reduction in other types of saving. The direct effect on disposable income could therefore entail an underestimation of the effect of the measures on household spending plans, especially early on.

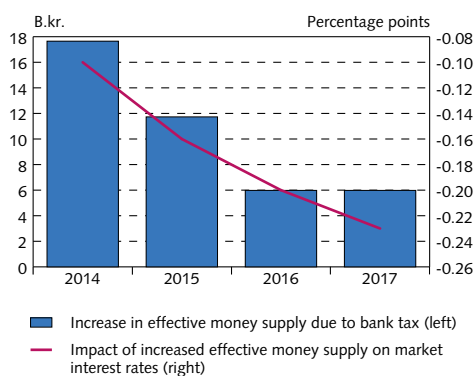
The ultimate effect will also be determined by the financial position of the households benefitting from the debt reduction. There is insufficient information available about the effects of the measures on different households with specific levels of income and assets. It does appear, however, that a share of the transfer will be received by households that are reasonably strong financially, have ready access to credit, and can offer sound collateral. These households are therefore less constrained by changes in their current income and cash position than are more heavily leveraged households (see, for example, the findings of Ólafsson and Vignisdóttir, 2012). In addition, the ceiling on the pension savings measure implies that households must avail themselves of their pension savings to varying degrees in order to benefit fully from the tax shelter afforded by the measure. Moreover, there are signs that households have been refraining from taking on expense, particularly in connection with larger purchases, until the uncertainty about the Government's debt relief measures was eliminated. Now that the measures have been announced and the uncertainty about household balance sheets has diminished, it can be expected that some of these households will move ahead with spending plans that had been put on hold. This would emerge in a pent-up effect on private consumption, but also in a reduction of other saving to offset increased third-pillar pension savings. In assessing the direct income effect of the measures on private consumption, it is therefore assumed that households will smooth their consumption plans over time, consuming in excess of the income effects early on but less than the increase in income in the latter part of the period.

The scope of this direct income effect is highly uncertain and will ultimately be determined in part by the magnitude of the increase in third-pillar pension savings. As has previously been stated, there is a discrepancy in the Government report (Prime Minister's Office, 2013) as regards how much debt could decline as a result of this part of the measures. The estimated income effect due to increased third-pillar pension savings participation is based on the assumption that debt will decline by a total of 70 b.kr., but on pp. 45-46 of the Government report it is stated that changed saving patterns could reduce debt by 82 b.kr. The estimate of the upper limit of the income effect is therefore based on this figure. The effects could also be less pronounced; for instance, because of the 500,000 kr. ceiling, fewer households might avail themselves of this option than is assumed in the Government's calculations. It is difficult to estimate the scope of this effect without an in-depth examination of the income distribution of participants in the measure. However, for this report, the estimate of the lower threshold assumes simply that it is symmetric with the upper threshold, which puts the scope at 58 b.kr.

#### **Interaction between the bank tax and the effective money supply**

As is mentioned above, the intention is to finance the debt reduction through a tax on operating financial institutions and the estates of the failed financial institutions. Of the 92 b.kr. to be taken from the bank tax to fund the debt relief package, an estimated 70 b.kr. (about 17.6 b.kr. per year) will come from the estates of the failed banks. Presum-

Chart 6  
Impact of debt relief measures on effective money supply and long-term market interest rates



Source: Central Bank of Iceland.

ably, the estates will use their króna-denominated balances in domestic credit institutions to satisfy this tax obligation, insofar as is possible. It should be borne in mind that a portion of these balances are now in term deposit accounts tied up by Central Bank liquidity rules and cannot be used by domestic credit institutions for lending, as other balances can be. Using these balances to pay the tax will increase the “effective” money supply, as the Government will use it to pay down mortgages in operating financial institutions. But the public will not want to hold this increased money supply unless the opportunity cost of money holdings diminishes; that is, unless market interest rates fall. The economic effect of this activation of new money supply can therefore be assessed by attempting to estimate how large an interest rate reduction corresponds to this increased money supply.

According to the Central Bank’s survey of the estates’ deposit balances and how much of them are in term deposit accounts, the portion of the bank tax used to fund the debt reduction package could increase the effective money supply by about 41 b.kr. over a four-year period. As M3 currently amounts to about 1,600 b.kr., this corresponds to an increase of about 2½%. According to the QMM’s money demand equation, this increase in M3 corresponds to an estimated 0.23 percentage point decline in market interest rates during the period, not taking into account any monetary policy responses.<sup>8</sup> According to the private consumption equation in the model, this rate reduction should increase private consumption by about ¼ of a percentage point, other things being equal. The estates’ fully tied deposits only cover the tax for the first years, however, making the effect on liquidity in circulation relatively front-loaded, as Chart 6 shows.

The upper and lower thresholds of this money supply effect are assessed using the standard deviation of the parameter estimation of the interest rate effect in the QMM’s monetary demand equation. According to this, the upper and lower limits of the liquidity effect are interest rate reductions of 0.37 and 0.17 percentage points, respectively. The size of the rate cuts is quite uncertain, however, in part because it is uncertain how much scope for lending the credit institutions already have.

### Impact on employers’ wage costs

Employers’ pension contribution expense will rise as more employees opt to avail themselves of third-pillar pension savings. Based on the above-mentioned assumptions concerning increased participation in the third-pillar scheme, it can be assumed that the employer contribution will increase by a total of 1.3 b.kr. per year for three years, or 0.2% of total wage costs. Unit labour costs will rise accordingly and, other things being equal, should raise inflation slightly. Firms can respond to higher wage costs by slowing down recruiting, however, which would tend to mitigate the impact on demand and inflation.<sup>9</sup>

8. See Danielsson *et al.* (2009). Using the long-term equilibrium of the updated estimation of the monetary demand equation, part of Version 3.0 of the QMM (forthcoming).

9. The labour supply could also increase if more workers enter the labour market in order to take advantage of the temporary tax incentive for third-pillar pension savings. It is difficult to estimate the magnitude of this effect, but the small amount of the tax concession indicates that it is unlikely to be large in scope.

It is assumed that the upper and lower limits of this effect lie in the 0.16-0.23% range, depending on the precise assumptions concerning the impact of the debt relief package on participation in third-pillar pension savings.

### **Economic impact of the measures: overall effect**

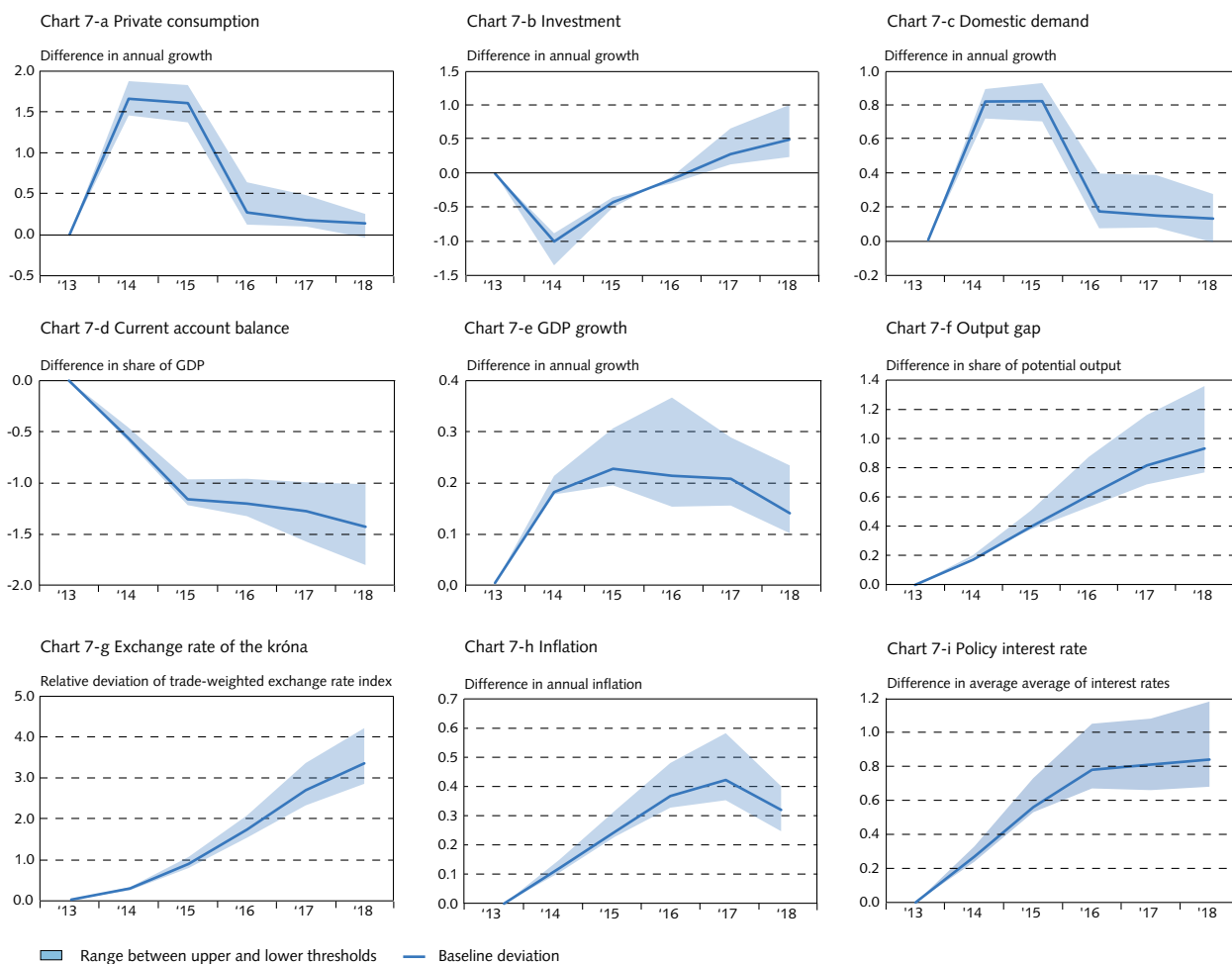
Chart 7 illustrates the overall impact of the debt reduction measures on domestic demand (private consumption, investment, and national expenditure), output growth, and the output gap. It also shows the effects on the current account balance, the exchange rate of the króna, and inflation. Finally, the effects of the measures on the Central Bank's policy rate are shown, as the impact on the economy is based on the assumption that the Bank's interest rate will respond in line with the QMM's monetary policy rule.<sup>10</sup> Without these responses, the impact on demand and inflation would be even greater. The charts present three examples that emphasise the uncertainty about the impact of the measures: the likeliest scenario and two alternative scenarios showing greater and lesser impact. In all instances, the charts represent deviations from the baseline scenario; that is, the situation without any Government debt relief package.

As Chart 7-a shows, private consumption will grow significantly faster in coming years with the debt relief measures than in the baseline scenario. According to the likeliest scenario, private consumption growth will be about 1½ percentage points stronger in 2014 and 2015, whereupon the effects will begin to taper off gradually.<sup>11</sup> It is estimated that, once the full effect of the measures has emerged, private consumption will be nearly 4% higher than in the baseline scenario. Chart 7-b shows the effects on investment. Because of the higher interest rates accompanying the measures, investment will grow more slowly than in the baseline forecast at first (see below). It will grow about 1 percentage point more slowly this year and about ½ a percentage point more slowly in 2015. The negative effect on investment will be greatest in 2016, when the investment level falls to 1½% below the baseline level. From 2017 onwards, however, investment will grow more rapidly than in the baseline scenario, as the effects of stronger economic activity will outweigh the negative effects of higher interest rates. In spite of weaker investment growth, domestic demand will grow more rapidly than in the baseline scenario as a result of the debt reduction measures (Chart 7-c). It will grow about 0.8 percentage points faster in 2014 and 2015 and then taper off gradually, in line with developments in private consumption. When the effects have emerged in full, it will be about 2% higher than in the baseline scenario.

10. The QMM's monetary policy rule is a simple, forward-looking Taylor rule where the Bank's interest rate is determined by expected developments in inflation and the output gap, where past interest rates weigh somewhat heavily and reflect the traditional smoothing of central bank interest rate movements. It should be noted that the analysis of the effects of the debt reduction package does not assume that it will affect long-term inflation expectations (which are determined by the inflation target).

11. It should be noted that the charts show deviations in annual averages from the baseline scenario. The impact on individual variables within a given year could therefore be greater than the charts indicate.

Chart 7  
Impact of debt relief measures on various economic variables 2014-2018  
Deviation from baseline forecast (percentage points)



Source: Central Bank of Iceland.

Increased domestic demand is associated with stronger import growth, which leads to a smaller current account surplus, as can be seen in Chart 7-d. According to the likeliest scenario, the current account balance will be about ½ a percentage point of GDP less than in the baseline scenario in 2014, and 1.2-1.4 percentage points smaller in subsequent years. Gross national saving relative to GDP (the sum of investment and the current account balance) will therefore decline by nearly 2 percentage points of GDP in the wake of the measures.

A relatively large part of the effect on domestic demand will therefore be directed at imports, which will cause the spurt in demand to leak out of the domestic economy to a large extent. The impact on domestic output will therefore be smaller than the effect on domestic demand. According to the likeliest scenario, output growth will be about 0.2 percentage points greater per year during the period (Chart 7-e). When the effects of the measures have emerged in full, GDP will therefore be about 1% higher than in the baseline scenario. The slack in the economy will be less than it would otherwise, as a result of stronger output growth, and the output gap will be about 1 percentage point greater than in the baseline scenario by 2018 (Chart 7-f).



The increase in imports and the smaller trade surplus will put downward pressure on the króna, other things being equal. This will be offset by higher domestic interest rates, which will support the króna, other things being equal, although the capital controls will weaken this monetary policy channel. As Chart 7-g shows, the exchange rate of the króna will be about 1% lower than in the baseline scenario in 2015 and about 3% lower by 2018.

Stronger domestic demand will lead to stronger domestic inflationary pressures in the wake of the measures. The impact on inflation will be greater than it would be otherwise because the measures are implemented when the slack has almost disappeared from the economy and there is greater risk that the increase in economic activity will contribute more strongly to inflation. The inflationary effects will be more than they would otherwise because the measures entail increased pressure on the exchange rate. In addition to this, unit labour costs will rise, which will lead to higher inflation, all else being equal. According to the likeliest scenario, the impact on inflation will be relatively modest in 2014, but in 2015 inflation will be about 0.2 percentage points higher than in the baseline scenario. The inflationary effects will rise even further in 2016 and peak in 2016-2017, when annual inflation will measure about 0.4 percentage points higher than in the baseline example (Chart 7-h).

As is stated above, it is assumed that the Central Bank's policy rate will be raised in accordance with the QMM's monetary policy rule. This will somewhat offset the effects of the measures on economic activity, the exchange rate, and inflation. Other things being equal, higher interest rates will impede domestic demand (private consumption and investment) and narrow the output gap that develops as a result of the measures. Higher interest rates also provide some support for the exchange rate, and both of these factors will ease the inflationary pressures accompanying the measures. According to the likeliest scenario, the Central Bank's interest rate will be roughly 0.3 percentage points higher in 2014 than in the baseline scenario, and about 0.6 percentage points higher in 2015 (Chart 7-i). By 2016, they will be nearly a percentage point higher than in the baseline scenario. That difference will remain in place through 2018.

### Summary

At the end of November 2013, an expert group submitted its proposals for the Government's debt relief measures. The measures are to be implemented over a four-year period, and their total scope is estimated at 150 b.kr., or 8½% of estimated year-2013 GDP.

The debt relief package is expected to have a significant effect on households' financial position and therefore on their spending decisions, as well as on domestic demand and the domestic economy as a whole. Considering all of these factors, the measures are estimated to cause private consumption to grow by a full 1½ percentage points more in 2014 and 2015 than it would otherwise. In part, this increase will crowd out investment, which will contract relative to the baseline scenario over the same period. Overall domestic demand will grow more rapidly than in the baseline scenario, but the composi-

tion of that growth will be different, in that private consumption will constitute a larger share and investment a smaller one. Imports will increase, the current account balance will therefore be about 1-1½ percentage points less favourable than in the baseline scenario, and the GDP growth effect will be less than the effect on domestic demand. GDP growth is estimated to be about 0.2 percentage points more per year. The composition of output growth will not be as favourable as in the baseline scenario, however, as domestic demand will account for a greater share and net exports a smaller one. The measures will also be accompanied by a reduction in gross national saving. Because potential output does not grow in line with demand, the increase in output growth will be reflected in a larger output gap than in the baseline example. A less favourable current account balance will also put increased pressure on the exchange rate of the króna, which is estimated to be about 1% lower than in the baseline scenario in 2015 and about 3% lower by 2018. A larger output gap and a weaker króna will stimulate inflation, which is estimated to be about 0.2 percentage points higher in 2015 and about 0.4 percentage points higher in 2016-2017 than in the baseline scenario. In part, the effects of the debt relief package are absorbed through higher interest rates. According to the QMM's monetary policy rule, the Central Bank's policy rate will be higher than in the baseline scenario by some 0.3 percentage points in 2014, 0.6 percentage points in 2015, and nearly 1 percentage point higher from 2016 onwards. Higher interest rates therefore offset the impact of the debt relief measures on domestic demand, the exchange rate of the króna, and inflation.

Finally, it should be noted that there is unavoidably a great deal of uncertainty about the total impact of the debt relief package, particularly because of the lack of historical precedent for such measures. It is difficult to predict how households will respond; they may save more than is assumed here, or they could step up spending even more. The impact on domestic demand will also depend on how much wage-earners change their participation in third-pillar pension savings schemes. Similarly, the GDP growth effect will depend on how much of the increase in demand is directed at imported goods and services and how much at domestic factors of production. The composition of the economic recovery will also affect the exchange rate, and exchange rate developments will depend in part on how the measures affect the credibility of domestic demand management. The same can be said about the impact on inflation. The inflationary effects will also depend on how much slack, if any, there is in the economy when the demand-side effects emerge, how monetary policy responds, and how credible that response is considered to be. In order to reflect this uncertainty, the analysis reports two alternative scenarios entailing stronger and weaker effects than in the likeliest scenario. According to this range, it appears somewhat likelier that the impact will be stronger than is described here rather than weaker. The uncertainty is probably greater than the difference between the two alternative scenarios indicates, however, as the range does not take account of model uncertainty and how well the macroeconomic model used can account for the effects of measures as broad-based as these. Finally, it is well

to bear in mind that this assessment does not take account of possible Government action to mitigate the negative effects of the measures. Other things being equal, all mitigating measures designed to soften the demand-side effects of debt reduction would ease the inflationary pressures caused by the measures and thereby diminish the need for a monetary policy response. In this context, it should be noted that the monetary policy response described here does not necessarily reflect the Central Bank Monetary Policy Committee's opinion of the best way to apply monetary policy in response to the effects of the debt relief measures. Monetary policy is always formulated on the basis of a comprehensive analysis of economic developments and prospects at the time in question. The impact of the debt reduction measures is only a part of the overall analysis and is not easily separated out from other effects. The fact that this analysis shows that the debt reduction measures will result in higher interest rates than would otherwise occur does not indicate with any certainty how much interest rates will change, or in what direction, at any given time.

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## Appendix 3

# Report to the Government on inflation in excess of tolerance limits, 7 January 2014

Twelve-month CPI inflation was 4.2% in December, according to measurements published by Statistics Iceland on 20 December 2013. Inflation therefore exceeded 4%, the upper tolerance limit for the inflation target. According to the joint declaration on the inflation target, issued by the Government of Iceland and the Central Bank on 27 March 2001, this obliges the Bank to submit a report to the Government. Previous reports submitted by the Bank on like occasions give a further explanation of the Bank's understanding of this obligation (see, for example, the last report, dated 12 September 2013, and the aforementioned declaration of 2001).

At its last two meetings, the Monetary Policy Committee has taken account of the Bank's November 2013 forecast, which indicated that inflation could rise temporarily above 4%. The recently concluded wage settlements and the appreciation of the króna in the past several weeks enhance the likelihood that inflation will subside quickly in the early months of 2014, as the Bank projected in November. Therefore, there is no reason at this time for a more detailed report than is included in this letter. This letter will be published on the Central Bank of Iceland website tomorrow, Tuesday 7 January 2014.

The increased inflation in December is due mainly to rising housing costs. Excluding the housing component, the CPI has risen by 3.3% in the past twelve months. However, service prices have risen well in excess of other prices, although this is offset by the fact that imported goods prices have risen by only 1.2% (or 0.6% excluding alcohol and tobacco) over the same period.

In Q4/2013, inflation measured 3.8%, as provided for in the Bank's November forecast, published in *Monetary Bulletin* 2013/4. According to that forecast, it will subside to 3.3% as early as Q1/2014. The króna has appreciated since the November forecast was prepared and was 2½% stronger by end-2013 than was assumed in the forecast. Furthermore, the newly finalised wage settlements imply that unit labour costs could rise somewhat less in 2014 than in the Bank's forecast, although this depends on successfully containing wage drift. On the other hand, household debt relief measures could stimulate inflation, but these effects will emerge over a longer period of time and will hardly have a noticeable effect in the next few months. On the whole, it is therefore highly likely that inflation will decline rapidly in the near term and that the current period of inflation in excess of tolerance limits will be very short.

According to the Bank's November forecast, inflation will subside only gradually towards the target after the rapid initial decline. The Bank's next inflation forecast, to be published on 12 February, will analyse the extent to which wage settlements, recent exchange

rate developments, debt relief measures, and other factors change this outlook.

The Monetary Policy Committee's statement from December states as follows: "A stronger economic recovery and the above-mentioned Government measures will require more rapid monetary tightening than previously expected, other things being equal. The degree to which such tightening takes place through changes in nominal Central Bank rates will depend on future inflation developments, which in turn will depend on wage developments and exchange rate movements."

The December CPI measurement does not change this, for the reasons specified above. When the next Monetary Policy Committee statement is published on 12 February, the effects of recent exchange rate developments, wage settlements, and debt relief measures on monetary policy will be further clarified.

