6 Ten years later – Iceland's crisis and recovery

This chapter gives an overview of the main changes that have taken place in Iceland over the ten years that have passed since the financial crisis as regards the economic situation, financial system, and institutional framework. It reviews the overall macroeconomic conditions prevailing in the years before the crisis and gives a comparison to the situation ten years later.

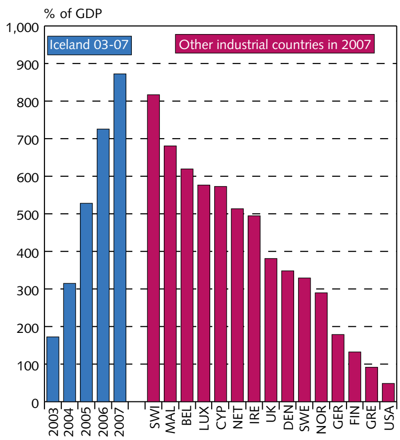
The financial crisis in Iceland

Iceland was among the countries hit hardest by the 2008 great financial crisis (GFC), when the massive external shock coincided with a combination of large macroeconomic imbalances, which had built up in the pre-crisis period, and an oversized banking system. In the run-up to the GFC, the Icelandic banking system grew to almost nine times Iceland's GDP by the end of 2007, exploiting easy access to cheap foreign credit facilitated by favourable international credit ratings and Iceland's membership of the European Economic Area (EEA), under which Iceland participates fully in the single market of the European Union. The EEA Agreement offered the banks a "European passport" that enabled them to open branches anywhere in the EEA and to expand their international activities. The banks' gross foreign debt rose from the equivalent of 43% of GDP in 2002 to over 700% of GDP by the end of September 2008. In addition, there was a significant mismatch between the macro-financial imbalances and the domestic financial support capacity in spite of Iceland's favourable fiscal debt position. As the international financial crisis escalated, the Icelandic banks' access to foreign financing became increasingly difficult, leading to severe liquidity problems. The currency depreciated sharply from early 2008 as conditions deteriorated. The loss of confidence resulted in withdrawals of foreign deposits and other short-term funding in foreign currency (Charts 6.1 and 6.2).

The three Icelandic cross-border banks collapsed within a week in early October 2008, shortly after the fall of Lehman Brothers. On 6 October, the Parliament of Iceland passed Act no. 125/2008, the so-called Emergency Act, which authorised the Financial Supervisory Authority (FME) to take control of financial undertakings experiencing extraordinary financial and/or operational difficulties. The Emergency Act also designated domestic and foreign deposits as priority claims. Crisis management successfully emphasised protecting the credit of the sovereign and maintaining uninterrupted domestic banking operations, including payment intermediation. Three new banks – Íslandsbanki, Arion Bank, and Landsbankinn – were established. These new banks took over the domestic activities of the three old ones. In order to instil confidence, the Government declared that all deposits in Iceland were guaranteed in full; this did not include deposits in foreign branches, which were in foreign currencies, as such a guarantee would not have been credible given Iceland's balance of payments crisis. The Government adopted an

Chart 6.1

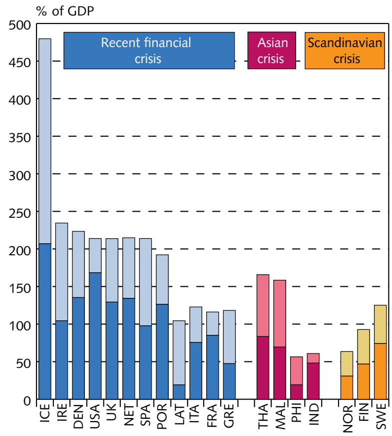
Banking system size in the run-up to the international financial crisis in selected industrial countries[1]



1. The figure shows the development in Iceland in 2003-2007 but the position in 2007 in other countries.
Sources: Central Bank of Iceland, Thorvardur Tjörvi Ólafsson and Thórarinn G. Pétursson (2011). Weathering the financial storm: The importance of fundamentals and flexibility. In *The Euro Area and the Financial Crisis*. Editors M. Bablavý, D. Cobham and L. Ódor. Cambridge University Press.

Chart 6.2

Domestic credit to the private sector in the run-up to three financial crises[1]



1. Darker-shaded bars show the debt level of the non-financial private sector in 2000 in the current crisis, 1990 in the Asian crisis, and 1980 in the Scandinavian crisis. Lighter-shaded bars show the increase in debt to the peak level during the crisis..
Sources: Macrobond, Central Bank of Iceland.

economic stabilisation programme in co-operation with the International Monetary Fund (IMF).[1] The IMF programme had three key goals: stabilisation of the exchange rate, fiscal sustainability, and reconstruction of the financial sector. In November 2008, as part of the programme, the Government introduced capital controls in order to prevent excessive capital outflows and stabilise the króna.[2] The economic consequences of the unavoidable unwinding of macroeconomic imbalances in Iceland and the twin currency and systemic banking crisis proved severe: output contracted by 10% between its pre-crisis peak in 2008 and its post-crisis trough in 2010; the collapse in consumption was even greater, at 23%; and unemployment rose from 2.3% in 2008 to 7.6% in 2010.[3]

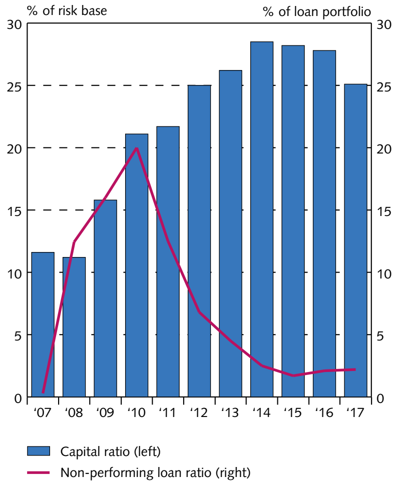
Changes in the financial system

The financial system has undergone radical changes since 2008, and its activities have shrunk significantly in scale. At the end of 2017, total banking system assets amounted to roughly 130% of GDP, as opposed to nine times GDP at the end of 2007. After the crisis, the State became a majority owner of Landsbankinn and a minority owner of Íslandsbanki and Arion Bank. It injected share capital into the three new banks and several smaller financial institutions and, along with the Central Bank, took on losses due to collateralised lending to the financial system.

1. For a review of the IMF program see for example, Poul Thomsen: Ragnarök: Iceland's Crisis, its Successful Stabilization Program, and the Role of the IMF; Speech in Reykjavík September 15, 2018; https://www.imf.org/en/News/Articles/2018/09/15/sp091518-ragnarok-iceland-s-crisis-its-successful-stabilization-program-and-the-role-of-the-imf
2. See the discussion in Box 5.1 in this publication and Chapter 8 in *Economy of Iceland*, 2016.
3. The impact was even larger in terms of quarterly figures: output contracted by 13% from its pre-crisis peak in Q4/2007 to its post-crisis trough in Q1/2010, and unemployment peaked at 8% in Q4/2010.

In the aftermath of the crisis, restructuring of the financial system was intertwined with the liberalisation of capital controls and the winding-up of the old banks' estates. Following a revised and sequenced liberalisation strategy, including the finalisation of composition agreements for the failed banks' estates upon fulfilment of specified conditions, it became possible to lift virtually all of the capital controls on households and businesses in early 2017. An important part of the strategy was the subsequent build-up of the Central Bank's international reserves in order to boost confidence in the credibility of the overall strategy and underpin a smooth liberalisation process. The removal of restrictions on businesses and households in 2017 was followed by a temporary increase in exchange rate volatility, but the financial markets were orderly and financial stability was not adversely affected. As of end-2017, Landsbankinn and Íslandsbanki are owned by the Government, while Arion Bank is entirely owned by private parties.[4]

Chart 6.3
Commercial banks' capital and non-performing loan ratios 2007-2017[1]



1. The largest commercial banks' capital ratios (consolidated). Figures for 2008 are based on the initial balance sheets of the reconstructed banks, which were determined pursuant to agreements with creditors in 2009. Non-performing loan ratios for households and businesses as a share of gross loan portfolios, without write-downs. Figures for 2007 are estimated from the failed banks' annual accounts, and figures for 2008 are based on Central Bank estimates.
Sources: Financial Supervisory Authority, Central Bank of Iceland.

The basic structure of the financial system has also changed. The pension funds had grown to the equivalent of roughly 1.5 times GDP by the end of 2017, while assets held by the Housing Financing Fund and deposit money banks have contracted relative to GDP. The quality of the banks' assets has improved significantly, and non-performing loan ratios are low in historical terms. The domestic banking system has grown more resilient, and the banks' capital ratios remain relatively high in both historical and international context (Chart 6.3). The banks' liquidity position remains strong, and well in excess of the minimum levels required under the Central Bank's liquidity rules, both as a whole and in foreign currency, and they have successfully tapped funding markets in Iceland and abroad. Finally, the banks' international credit ratings have improved following upgrades in the Republic of Iceland's credit ratings.

Policy and institutional changes in the aftermath of the crisis

Following the financial crisis, both in Iceland and elsewhere, it was considered important to strengthen the framework for financial stability and monetary policy, macroeconomic policy-making in general, and financial regulation and supervision in particular. Significant improvements have taken place in these areas, including in public finances and the formulation of fiscal policy.

Financial stability framework

The financial stability framework has been significantly strengthened and parts of macroprudential tools have already been implemented, while others remain in the development stage. Finan-

4. The transfer of Íslandsbanki from the old bank's estate to the Government was part of the stability contributions agreed upon with the failed banks' estates.

cial supervision and regulations have also been strengthened. As Iceland is a part of the EEA, the European legal and regulatory framework regarding the financial market has to be implemented, including the capital requirement directive (CRD), the framework regarding bank recovery and resolution (BRRD), and the deposit guarantee scheme (DSG). The DSG has not been introduced, the BRRD has been partly introduced, and CRD IV has been mostly introduced. Among the tools already introduced are additional layers of capital and liquidity buffers for banks, some of which have been activated. Furthermore, there are requirements regarding banks' liquidity coverage and stable funding in foreign currencies, limits on banks' net open position in foreign currency, a cap on loan-to-value ratios for household mortgages, and the authorisation to limit foreign-denominated lending to unhedged domestic borrowers. Overall, financial sector legislation and regulation has been amended and supervision has been improved and strengthened.

The Financial Stability Council (FSC) was established in 2014. It is chaired by the Minister of Finance and Economic Affairs; the other members are the Governor of the Central Bank and the Director General of the Financial Supervisory Authority (FME). Working for the Financial Stability Council is a Systemic Risk Committee (SRC) chaired by the Governor of the Central Bank, with the Director General of the FME serving as deputy chairman. The role of the FSC is to monitor risks to financial stability and activate macroprudential tools, mostly to comply with and explain recommendations aimed at the relevant authorities and agencies. Both the FSC and the SRC meet several times a year.

Monetary policy framework

The financial crisis unveiled important weaknesses in the monetary policy framework and shortcomings in the conduct of overall macroeconomic and financial stability policy in Iceland. Significant changes to the monetary framework were implemented in early 2009. The Act on the Central Bank of Iceland was amended so that monetary policy formulation and decisions on the application of the Bank's policy instruments would thenceforth be carried out by a five-member Monetary Policy Committee (MPC) instead of the previous three-member Board of Governors. The MPC comprises three representatives of the Central Bank – the Governor, the Deputy Governor, and a senior Bank official (currently the Chief Economist) – and two external experts in the field of macroeconomics and monetary policy. The MPC meets at least eight times a year, and the minutes of its meetings are made public two weeks after each decision. The votes cast by each Committee member are revealed in the Bank's *Annual Report* the following year. The transparency of monetary policy has therefore greatly improved. Monetary policy communication has also been strengthened, as the MPC submits a written report on its activities to Parliament twice a year and is required to appear in front of a parliamentary committee to discuss the report.

A new policy framework

It was evident from the experience during the years leading up to the crisis that it was necessary to implement economic policy that would impede rapid, unsustainable asset price inflation, usually accompanied by excessive credit expansion, increased indebtedness, and risk-taking. The new monetary policy framework in Iceland, *Inflation Targeting Plus*, emphasises greater flexibility of the inflation target while moving away from a completely free-floating exchange rate to a more managed float. Furthermore, the new framework includes active use of sterilised foreign exchange market intervention to reduce excess exchange rate volatility and lean against possible destabilising capital flow cycles. As is mentioned above, the new framework includes an important role for macroprudential tools to lean against financial cycles and enhance the resilience of the economy and the financial system against potentially destabilising macro-financial dynamics. The new framework therefore provides greater emphasis on financial stability by fostering interactions between conventional monetary policy focusing on price stability and macroprudential policy focusing on financial stability.[5]

From 2014 onwards, the Central Bank actively used foreign exchange intervention to mitigate short-term exchange rate fluctuations and lean against strong appreciation pressures on the króna at a time when inflation was below the inflation target. This created the scope to build up the Bank's international reserves. The intervention eased in H1/2017 as the currency stabilised and reserves reached a historically high and comfortable level. Some potential foreign exchange market pressures may have been absorbed by the capital flow management measure introduced in 2016 in the form of an unremunerated special reserve requirement of 40%, with a holding period of one year, on capital inflows into the bond market and high-yielding deposits.[6]

Public finances

The fiscal framework was significantly reformed both at the local and central government levels. Now the central government is required to present both a five-year fiscal plan and a five-year fiscal strategy (see Box 4.2). This entails increased discipline in the formulation and implementation of fiscal policy. According to the current plan and strategy, the general government is to return a surplus of around 1% of GDP each year for the next five years.

The macroeconomy – what has changed?

Economic conditions in Iceland have changed considerably over the ten years since the GFC bottomed out in autumn 2008. The imbalances in the Icelandic economy and financial system in the years leading up to the crisis were large. An unsustainable boom and serious overheating characterised the economy during 2005-2007, and it was inevitable that the large current account deficit and positive output gap would correct in some fashion – a process that would likely be associated with a significant slowdown in growth or an outright recession. The shocks that hit Iceland in 2008 and the subsequent correction of unsustainable balances shaped macroeconomic developments in the years that followed, including the above-mentioned policy responses. This section highlights the main changes that have taken place in the macroeconomy and compares pre-crisis conditions to the situation ten years later.

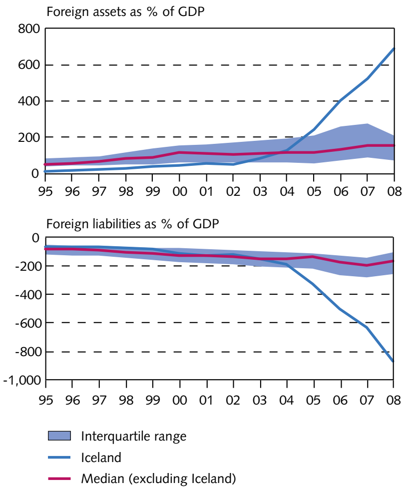
External balance

The growing macro-financial imbalances in the run-up to the 2008 financial crisis were crystallised in the scale and composition of the Icelandic economy's external balance sheet. Although Iceland's international balance sheet had expanded rapidly after the capital account liberalisation

5. See Pétursson, Thórarinn G. (2018). Post-crisis monetary policy reform: Learning the hard way. Forthcoming in *The 2008 Global Financial Crisis in Retrospect*, Palgrave MacMillan.
6. For further information on the special reserve requirement, see Chapter 5, the Central Bank's *Monetary Bulletin* 2016/4, Box 1, and *Monetary Bulletin* 2017/4, Box 2.

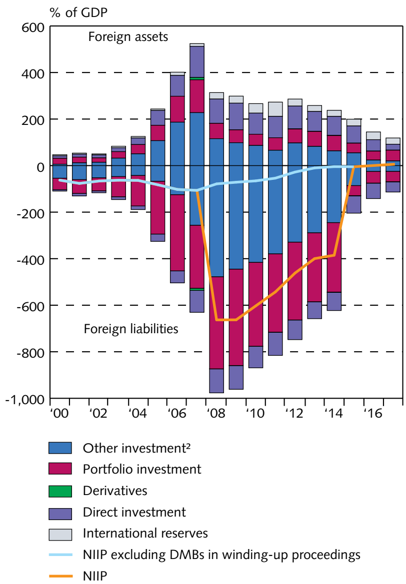
of the 1990s (see also Chapter 2), foreign assets and liabilities as a share of GDP were broadly in line with the median in other developed countries until 2003 (Chart 6.4).[7] At the beginning of 2002, two of Iceland's three major commercial banks were owned by the State, but after they were all privatised in 2003 they adopted a business model that emphasised investment banking and international expansion as a key part of their operations. During the upswing preceding the collapse of Iceland's large commercial banks, the output gap widened and the net external position deteriorated rapidly, in tandem with mounting current account deficits. Large acquisitions by Icelandic investment companies abroad and lending by the large banks, funded in the international markets with debt issuance, caused the country's international balance sheet to expand far beyond that in most other countries. Foreign assets increased from about 50½% of GDP at year-end 2002 to 686% of GDP by Q3/2008. Foreign liabilities grew even more, increasing from 116½% of GDP to about 870½% of GDP over the same period, causing Iceland's net international investment position (NIIP) to deteriorate by about 118 percentage points (from -66% of GDP in 2003 to -184½% in Q3/2008). The degree to which this expansion was bank-driven is evident in the balance sheet composition: assets consisted first and foremost of bank-financed FDI flows and bank loans, and these (relatively long-term) assets were funded with exceptionally large shorter-term debt issuance abroad, which became more difficult to roll over during Iceland's

Chart 6.4
Foreign assets and liabilities in 30 developed countries in the run-up to the financial crisis[1]



1. Figures for Iceland are from the Central Bank and Statistics Iceland. The value for Iceland in 2008 is for Q3/2008. Figures from the other countries are from the Lane and Milesi-Ferretti database.
Sources: Lane, P. R., and G. M. Milesi-Ferretti (2007), The external wealth of nations mark II: Revised and extended estimates of foreign assets and liabilities, 1970–2004, Journal of International Economics, 73, 223-250, Statistics Iceland, Central Bank of Iceland.

Chart 6.5
Net international investment position (NIIP) 2000-2017[1]



1. Excluding special purpose entities from FDI since 2013. 2. Other investments are mostly deposits and loans.
Sources: Statistics Iceland, Central Bank of Iceland.

7. For further information on Iceland's external position in historical and international context, see the Central Bank's *Monetary Bulletin* 2016/2, Box 4.

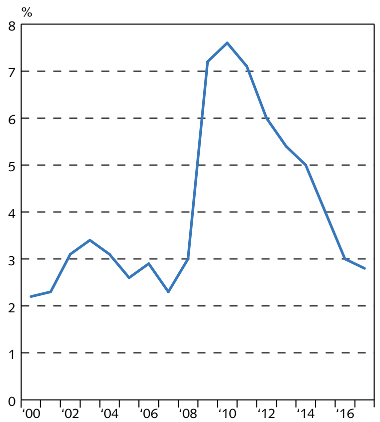
mini-crisis in 2006 – and then increasingly so as the GFC gained momentum. Hence the international balance sheet was characterised by financial fragility in the form of significant liquidity and currency mismatches stemming from the difference between the possible difficulty of selling assets in a crisis situation and the reliability of continued access to funding in such times. The country's external balance sheet was therefore exposed to risks of falling asset prices and runs, both conventional depositors' runs and more modern runs on secured and unsecured funding markets (including foreign exchange swap markets).

Iceland's NIIP has improved radically in the post-crisis period, owing to large trade surpluses; the composition agreements with the failed financial institutions' estates in late 2015; and asset revaluations, debt restructuring, and write-offs due to private sector bankruptcies (Chart 6.5). In fact, Iceland's external debt position has reversed, turning Iceland into a net creditor to the rest of the world for the first time since measurements began. Although foreign assets have declined since autumn 2008, foreign liabilities have declined even further, resulting in a positive NIIP of almost 10% of GDP at the end of June 2018. The composition of assets and liabilities is also radically different from the pre-crisis era, and much less bank-driven. Foreign currency reserves weigh much more heavily on the assets side, and the share of debt claims is significantly lower on both the assets and liabilities sides.

Output and labour market

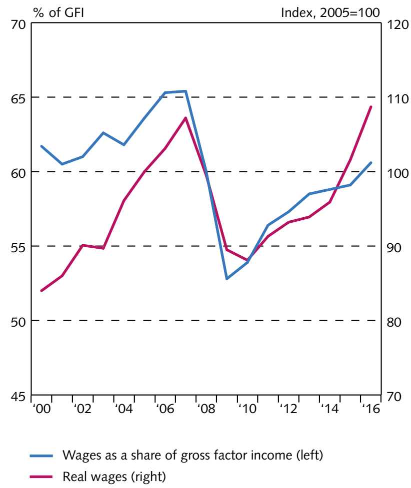
When the financial crisis struck, the Icelandic economy had gone through a period of unusually strong growth, with high consumption and investment levels and large external imbalances, as is mentioned above. At the same time, unemployment was very low and the demand for labour was met with importation of foreign workers. After the crisis, GDP contracted by 10% between 2008 and 2010, and domestic demand declined even more sharply, or by 27% from its 2007 pre-

Chart 6.6
Unemployment rate 2000-2017



Source: Statistics Iceland.

Chart 6.7
Wages 2000-2017



Sources: Statistics Iceland, Central Bank of Iceland.

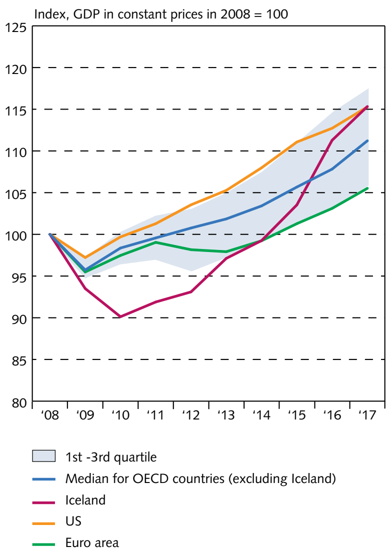
crisis peak to the trough in 2010. This had severe repercussions for the labour market, sending unemployment soaring to 7.6% by 2010, as compared to 2.3% in 2008. This rise in unemployment occurred despite a significant reversal of labour migration following the crisis (Chart 6.6).

The economy began to recover in Q2/2010 as domestic private sector demand improved and export growth gained momentum, not least due to an improved competitive position with a lower real exchange rate. As economic conditions continued to improve, aided by Government-initiated support measures, household spending strengthened and investment levels rose steadily. The post-crisis output loss was finally regained in 2015, and by 2017 GDP was 15% above the pre-crisis peak and nearly 28% above the post-crisis trough from 2010. In per capita terms, the recovery has been more muted, as GDP per capita had grown by 20% in 2017 from the post-crisis low and was nearly 7% above the pre-crisis peak from 2007.

The key driver during the most recent growth period has been the booming tourism industry. The number of foreign visitors to the country rose from 470 thousand in 2008 to a projected 2.3 million in 2018. This development has had an economy-wide impact. Jobs have been created within the services sector, giving households a large boost in income, and the rise in the number of tourists has also prompted increased investment. Another important factor has been the overall improvement in terms of trade, which has bolstered Iceland's economic prosperity even more than is reflected in robust GDP growth figures.

In 2004-2008, economic imbalances manifested themselves in the labour market, as low unemployment put pressure on labour costs. As a result, the wage share reached a local high

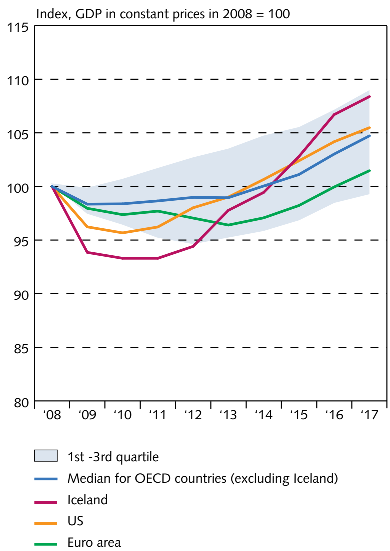
Chart 6.8
Post-crisis economic recoveries in selected countries[1]



1. Estimates for 2017 based on IMF's WEO database, except for Ireland. Modified GDP for Ireland, (GDP excluding factor income of re-domiciled companies and depreciations on R&D related IP imports and aircraft leasing).

Sources: IMF, Central Bank of Iceland.

Chart 6.9
Post-crisis economic recoveries in employment in selected countries[1]



1. Estimates for 2017 based on IMF's WEO database.

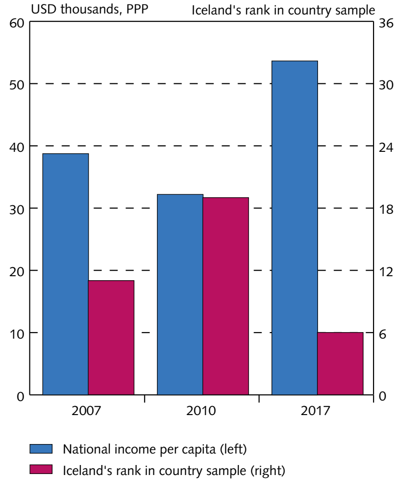
Sources: IMF, Statistics Iceland.

in 2007. Following the crisis, these imbalances were unwound as real wages and GDP contracted. Since the recovery began, the slack in the labour market has disappeared, as unemployment has stabilised. Generous wage growth during the recovery period has also raised the wage share of GDP (Chart 6.7).

In the years prior to the crisis, a large share of GDP growth stemmed from financial market activities, domestic services, and construction. The contraction following the crisis was most pronounced in the construction sector. During the recovery period, the largest contribution came from the tradable sector and domestic services. Until 2017, the financial sector made a negative contribution to income growth, as the crisis has unwound gradually.

The impact of the crisis on the Icelandic economy was larger than in most other advanced economies, and the recovery has also been stronger (Charts 6.8 and 6.9). In 2007, Iceland's gross national income (GNI) per capita was the 11th-highest among the current 36 OECD countries. At its lowest level, GNI ranked 19th, showing the forceful impact of the crisis in comparison with other countries. Although the global economy has recovered during the post-crisis period, Iceland's recovery has been stronger, as its GNI per capita ranked 6th in the OECD in 2017 (Chart 6.10).

Chart 6.10
Iceland's national income per capita 2007, 2010 and 2017[1]



1. World Bank Data on PPP-adjusted national income per capita in the OECD countries.
Source: Thomson Reuters.

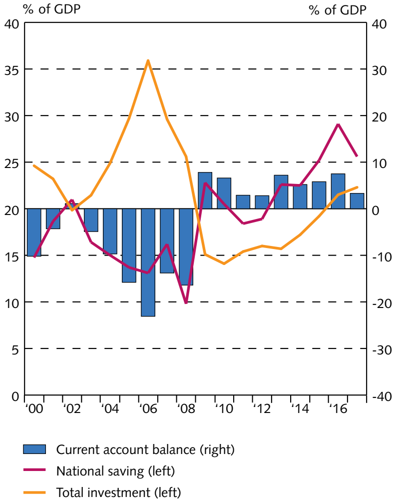
National saving, investment, and current account balance

Prior to the financial crisis, alongside the rise in domestic demand and the strong real exchange rate sustained by large capital inflows, the current account balance deteriorated significantly and the deficit became large and persistent. The current account showed its largest deficit in 2006 as large-scale energy-intensive investments reached their peak. In 2007, these investments started to pay dividends in the form of increased exports, reducing the deficit that year. In 2008, exports increased further, yet the deficit deepened to more than 16% of GDP, as the interest burden increased. This was due in large part to a roughly 10% deterioration in terms of trade that year.

The large increase in national saving and the shift from the highly negative current account balance to a sizeable positive balance is one of the key features of the post-crisis period (Chart 6.11). From 2009 to 2017, gross national saving averaged 23% of GDP, compared to 14.7% during the nine-year period ending in 2008. The comparable numbers for the current account balance are 5.5% of GDP in the post-crisis period and -11.4% in the pre-crisis period.

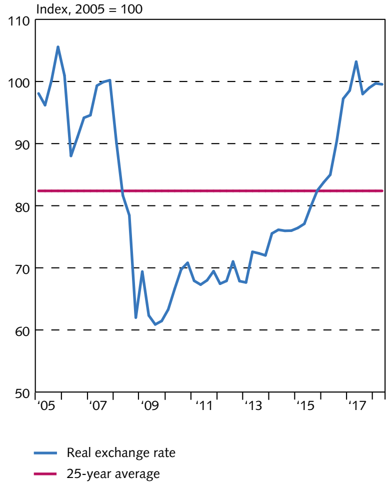
The turnaround in national saving and the current account balance in 2009-2015 was supported by the historically low real exchange rate, which was particularly low in the first years after the financial crisis, as it had fallen by 42% from pre-crisis peak to Q3/2009 trough. A high national saving rate and a positive current account balance have been sustained over the last few years, however, with the real exchange rate rising well above its twenty-five year average

Chart 6.11
Investment, saving and current account balance 2000-2017[1]



1. Secondary income included with primary income. Current account balance excluding effects of failed financial institutions in 2008-2015 and of pharmaceuticals company Actavis in 2009-2012 on the primary income balance. Adjustments have also been made for financial intermediation services indirectly measured (FISIM). Underlying national saving 2008-2015, based on the estimated underlying current account balance.
Sources: Statistics Iceland, Central Bank of Iceland.

Chart 6.12
Real exchange rate
Q1/2005 - Q2/2018



Source: Central Bank of Iceland.

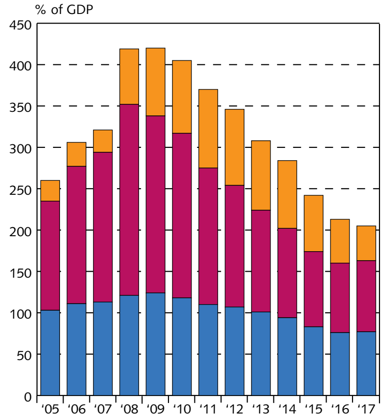
by the end of the period (Chart 6.12). This was driven by strong growth in tourism, a substantial improvement in terms of trade, a continued high national saving rate, and the shift in the NIIP from negative to positive. Positive supply shocks played a large role in this development. Deep and long-lasting behavioural changes prompted by the traumatic experience of the financial crisis are also important in this connection. They have resulted in greater prudence, a stronger propensity to save, and less leveraged growth. At present, the real exchange rate is associated with a current account surplus and is broadly deemed consistent with underlying economic fundamentals, whereas the pre-crisis real exchange rate peak was significantly misaligned due to strong capital inflows.[8]

Public and private sector debt levels

Notable differences are evident in public and private sector debt levels in the run-up to the crisis compared to the recent period. From 2003 to 2008, household and business debt levels increased from 200% of GDP to 350%, a development triggered not least by changes in the mortgage market in 2004, easy access to funding, and large-scale borrowing by Icelandic investment companies investing in Iceland and abroad. Borrowing in foreign currency became widespread, exposing some balance sheets to exchange rate risk.

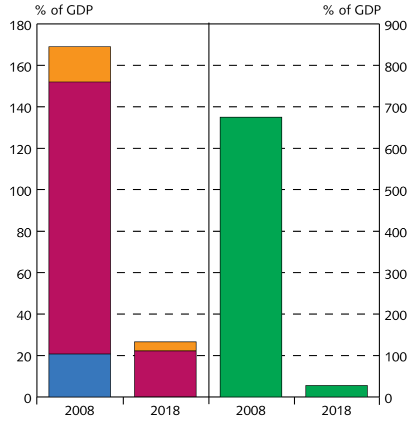
8. Therefore, to an extent the rise in the real exchange rate reflects a rise in the equilibrium real exchange rate; i.e., the real exchange rate consistent with internal and external balance (see, for example, Box 3 in *Monetary Bulletin* 2016/2).

Chart 6.13
Public and private sector debt 2005-2017[1]



1. Debt to financial institutions and issued marketable bonds. Non-financial corporations (excluding holding companies).
Sources: Statistics Iceland, Central Bank of Iceland.

Chart 6.14
Foreign-denominated liabilities



1. Liabilities denominated in or linked to foreign currencies. Non-financial corporations (excluding holding companies). 2008 figures are from September 2008 for households and businesses and August 2008 for the public sector. 2018 figures are from March 2018 for households and businesses and August 2018 for the public sector (year-end estimates from *Monetary Bulletin* 2018/3 for municipalities).
Sources: Statistics Iceland, Central Bank of Iceland.

Public and private sector debt levels relative to GDP have fallen significantly since the crisis (Chart 6.13). Total public and private debt fell by roughly half as a percentage of GDP, from 420% of GDP in 2008 to about 200% at the end of 2017. At the same time, the composition of domestic balance sheets has improved, and foreign currency-denominated liabilities are greatly reduced (Chart 6.14). Currency mismatches in the household sector have more or less disappeared. The decline in the private sector debt-to-GDP ratio was due to several factors, including debt write-downs, court decisions deeming foreign-denominated lending to households illegal, Government-initiated debt relief measures, a rising GDP level, and increased saving by households.

Public sector

During the pre-crisis boom, Iceland's fiscal stance was typically procyclical. Government finances were in good order, however, between 2000 and 2007, following a period of large deficits in the 1990s. Strong growth in tax revenues led to an average surplus of 5.5% on the general government overall budget in 2005-2007. Gross general government debt as a share of GDP, as defined by the Maastricht criteria, fell from 44% in 2001 to 29% in 2007. Net debt even became slightly negative in 2007 (Chart 6.15). Nevertheless, fiscal policy provided insufficient restraint in the years preceding the crisis.

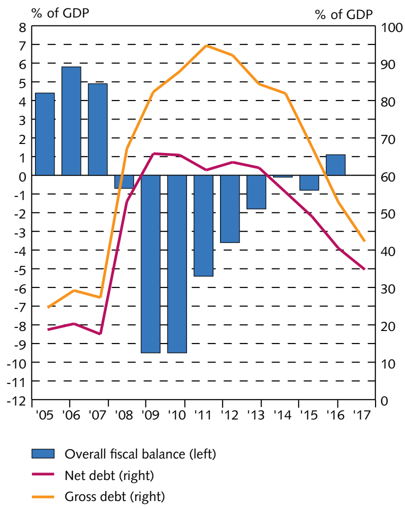
When the financial crisis culminated in autumn 2008, the Government assumed large liabilities and was forced to tighten the fiscal stance substantially. This resulted in a continued procyclical fiscal stance (albeit now during a recession), necessitated by the high government debt level following the crisis. Tax revenues declined and unemployment rose. The general government overall balance fell to -13% of GDP. According to the fiscal consolidation plan in the three-year Stand-by Arrangement (SBA) negotiated by the Government and the IMF in autumn 2008, the main fiscal policy goals were to balance the general government primary budget by 2012 and balance the overall budget a year later. Reviews of the SBA in April 2010, and again in June 2011, showed that all the relevant performance criteria had been met, and a better outlook for Government debt allowed for more gradual fiscal consolidation than was envisaged in the programme. Government gross debt reached a high of 95% of GDP in 2011, much lower than first anticipated.

As the real economy started to recover, general government debt began to decline and in 2017 gross debt was 42% of GDP. At the same time, cash and deposits readily available to pay down debt amounted to 7.5% of GDP. The overall balance of the general government was back in surplus by 2016. Upgrades of the Republic of Iceland's credit ratings followed.

Inflation and inflation expectations

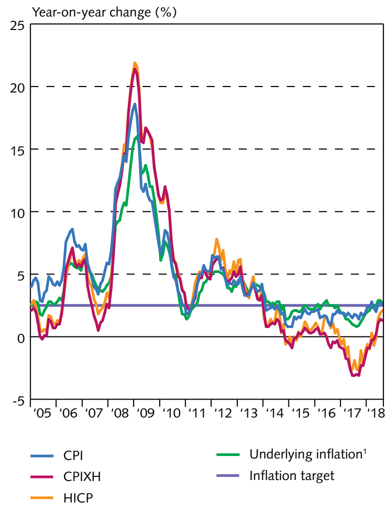
CPI inflation has averaged 4.8% in the 17-year period since the adoption of the inflation-targeting regime in 2001. Other measures of inflation tell a similar tale. According to the harmonised index of consumer prices (HICP), which excludes housing, inflation averaged 4.4% over the same period (Chart 6.16). In the years leading up to the financial crisis, inflation was well above target as economic imbalances mounted. The poor outcome can be attributed to a combina-

Chart 6.15
Gross and net general Government debt and overall balance 2005-2017[1]



1. Adjusted for 192.2 b.kr. payment to Central Bank 2008/Q4. Treasury revenues are adjusted for 384.3 b.kr. stability contributions in Q1/2016. Treasury expenditures are adjusted for 105.1 b.kr. special payment to LSR A-division in Q4/2016.
Sources: Statistics Iceland, Central Bank of Iceland.

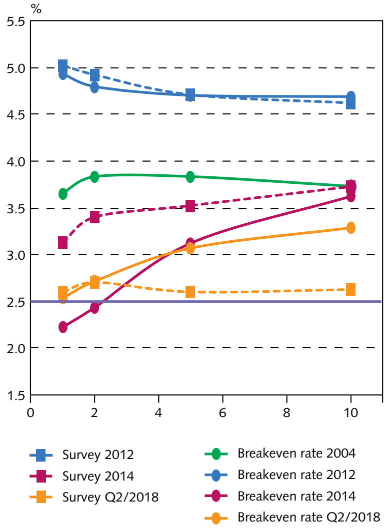
Chart 6.16
Inflation based on various measures



1. In 2005-2006 underlying inflation is estimated from the median of six statistical measures. From 2007,underlying inflation is estimated using a median of a core index (which excludes the effects of indirect taxes, volatile food items, petrol, public services and real mortgage interest expense) and four statistical measures (weighted median, trimmed mean, a dynamic factor model, and a common component of the CPI).
Sources: Statistics Iceland, Central Bank of Iceland.

tion of factors, including abundant liquidity and cheap credit in international financial markets, the structure of the Icelandic economy, imperfections in the formulation and transmission mechanism of monetary policy, poor coordination of monetary and fiscal policies, insufficient restraint in fiscal policy, the timing of changes in the mortgage market, and wage-setting decisions in the labour market, resulting inter alia in an unprecedented increase in real disposable income.[9]

Chart 6.17
One- to ten-year inflation expectations[1]
Period averages



1. Inflation expectations 1, 2, 5, and 10 years ahead, estimated from the breakeven inflation rate in the bond market and market survey responses. Period averages.
Source: Central Bank of Iceland.

Inflation was just under 6% at the beginning of 2008 and rose even further as the exchange rate fell, peaking at 18.6% in January 2009. From then on, it subsided, aligning with the target late in 2010 and remaining there until spring 2011, whereupon it picked up yet again in the wake of wage settlements providing for large pay increases. Inflation peaked at 6.5% in January 2012 but was brought back to target early in 2014 through a tight monetary stance. It has remained close to or below the target of 2½% since then. Increased price stability has been achieved in spite of considerable domestic inflationary pressures stemming from large pay increases, and this stability is due largely to a steep decline in import prices and greater credibility of monetary policy. Deviations from the inflation target have also diminished and are now much more in line with those seen in other advanced inflation-targeting economies.

Inflation expectations, both short- and long-term, have fluctuated widely since 2003 and have usually been above target, owing mainly to the aforementioned challenges of the inflation-targeting framework. They rose steeply after the crisis but have declined over time, and they have been close to the inflation target by most measures since 2016 (Chart 6.17). During this period, inflation expectations grew less volatile, and uncertainty about future developments in inflation appear to have subsided as well.

9. See Central Bank of Iceland (2010), "Monetary policy in Iceland after capital controls", *Special Publication* no. 4, and Central Bank of Iceland (2017), "Monetary policy based on inflation targeting: Iceland's experience since 2001 and post-crisis changes", *Special Publication* no. 11.