



# ECONOMY OF ICELAND

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# 1 Country and people

*This chapter gives an overview of the country of Iceland – its geography and the main characteristics of its people, society, and political and institutional structure – and of Iceland as a welfare state. It also reviews Iceland's external relations and its status in a global context.*

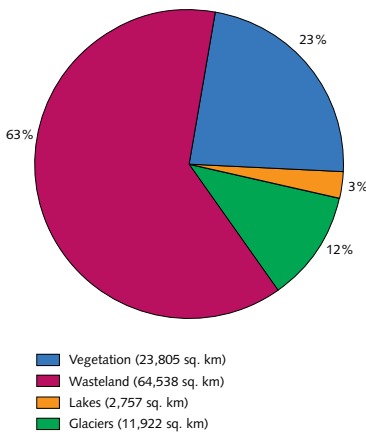
## Geography

Iceland is an island located in the North Atlantic, between Norway, Scotland, and Greenland. It is the second-largest island in Europe and the third-largest in the Atlantic Ocean, with a land area of roughly 103 thousand square kilometres, a coastline of 6,088 kilometres, and a 200-nautical-mile exclusive economic zone (EEZ) extending over 758 thousand square kilometres in the surrounding waters.

Iceland enjoys a warmer climate than its northerly location would indicate because a part of the Gulf Stream flows around the southern and western coasts of the country. In the capital, Reykjavík, the average temperature is about 12°C in July and just above 0°C in January.

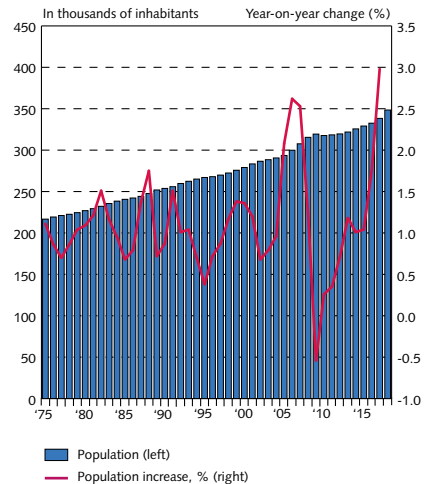
Iceland is mostly mountainous and of volcanic origin, with the highest peak reaching 2,110 metres. Lowlands stretch from the coast towards the interior, mainly in the south and the west. Several glaciers, one of them the largest in Europe, distinguish the landscape. The coasts are

Chart 1.1  
Geography of Iceland<sup>1</sup>



1. The size of Iceland is roughly 103,000 square kilometres.  
Source: Statistics Iceland.

Chart 1.2  
Population of Iceland<sup>1</sup>



1. Population 1 January each year.  
Source: Statistics Iceland.

rocky and of irregular outline, with numerous fjords and inlets, except for the south, where there are sandy beaches with no natural harbours. Only around 23% of the total land area is classified as vegetated land, most of it located in the southern and western part of the country and in several fertile valleys stretching from the coast.

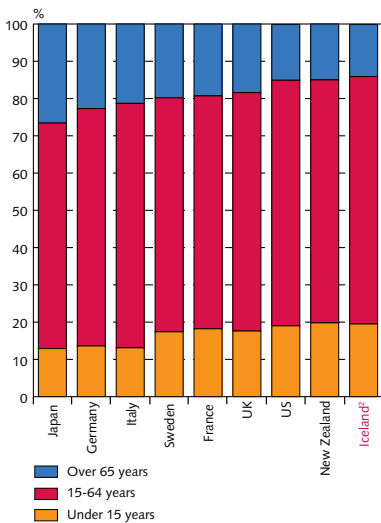
Iceland is endowed with abundant natural resources. These include the fishing grounds around the island, within and outside the country's 200-mile EEZ. Iceland also has abundant hydroelectric and geothermal energy resources.

**People**

Iceland was settled in the ninth century A.D. The majority of the settlers were of Norse origin, with a smaller Celtic element. A general legislative and judicial assembly, the Alþingi, was established in 930, and a uniform code of laws for the country was established at the same time. In 1262, Iceland entered into a union with the Norwegian monarchy. When the Kalmar Union was dissolved in 1523, Iceland came under Danish rule, which lasted for more than five hundred years. Iceland was granted a new constitution in 1874 and obtained home rule in 1904. With the Act of Union in 1918, Iceland became a sovereign state in a monarchical union with Denmark. In 1944, Iceland terminated this union with Denmark and founded a republic. The native language, Icelandic, belongs to the Nordic group of the Germanic languages.

With only 3 inhabitants per square kilometre, Iceland is one of the least densely populated countries in Europe. On 1 January 2018, Iceland's population was almost 350 thousand. In 2000–2017, annual average population growth was 1.2% and the natural increase (births less deaths)

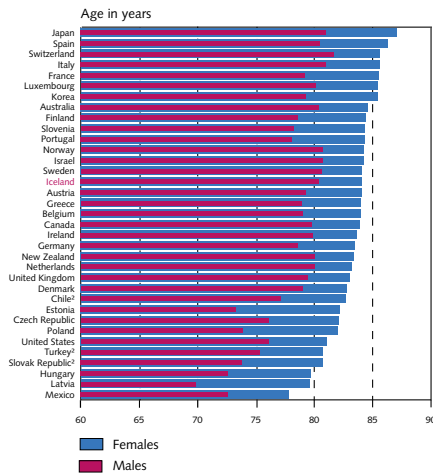
Chart 1.3  
Age structure of the population in selected countries 2016<sup>1</sup>



1. Ranked by share of population 65 and over. 2. Data for Iceland are for 2017.

Sources: World Bank, Statistics Iceland.

Chart 1.4  
Life expectancy at birth 2016<sup>1</sup>



1. 2016 figures or OECD estimate. 2. Data are for 2015. Source: OECD.

0.8%. Around 62% of the population live in the capital city of Reykjavík and its surrounding municipalities. The largest town outside the capital area is Akureyri, located in North Iceland, with a population of 19 thousand. Most of the remaining inhabitants live in small towns along the coast.

As in other advanced countries, the population of Iceland is ageing, but at a relatively slower pace than in most OECD countries. In 2016, despite high life expectancy, the ratio of the total population aged over 65 to the population of working age was 23%, ninth-lowest in the OECD.

### **Society and the welfare state**

Iceland is a modern welfare state that guarantees its citizens access to universal health care, education, and a high degree of social security. Public spending on health, education, social security, welfare, and other social affairs amounted to 23.7% of GDP in 2016.

Life expectancy, which is among the highest in the world, and one of the world's lowest infant mortality rates (2.7 per 1,000 live births in 2017) testify to the advanced state of health care in Iceland, both primary health care and hospitals. The Icelandic health care system is a tax-financed universal system for all persons who have had legal residence in Iceland for more than six months. Health care services are provided mainly free of charge, although user charges have been on the rise. The main exception is dental health care, where adult patients are charged the full cost of service, while children under 18 years of age pay only a nominal fee.

The standard of education is high, and public education is compulsory between the ages of 6 and 16. Good command of English and the Scandinavian languages is widespread. Education is offered free of charge or for a nominal fee at three levels. First, there are ten years of compulsory education at the primary level (age 6-16). This is followed by three years at the upper secondary level, which provides general education and vocational training in a wide range of fields. Finally, higher education is offered at several universities.

In Iceland, as in most OECD countries, university enrolment among those completing secondary education has increased substantially in recent years. In 2017, 42% of the adult population held a university degree, up from 29% in 2005. The ratio of pre-school enrolment is also one of the highest among OECD countries.

### **Institutional framework: the political, judicial, monetary, and financial supervisory structure**

Iceland is a constitutional republic with a multi-party parliamentary system of government. The Constitution was adopted on 17 June 1944, when the Republic was established. Legislative power is vested in Parliament (Alþingi) and the president, in that bills of legislation are passed by Parliament and submitted to the president for confirmation by his or her signature. Upon such confirmation, the bill in question acquires the force of law. The Government must be supported by a majority of Parliament in order to remain in power. The 63 members of Parliament are elected from six constituencies on the basis of proportional representation, for a term of four years. Over the past thirty years, the participation of women in politics has increased significantly, and their share of seats in Parliament has increased from 15% to roughly 38% in the most recent parliamentary elections. The president is the head of state and is elected for a term of four years by a direct vote of the electorate.

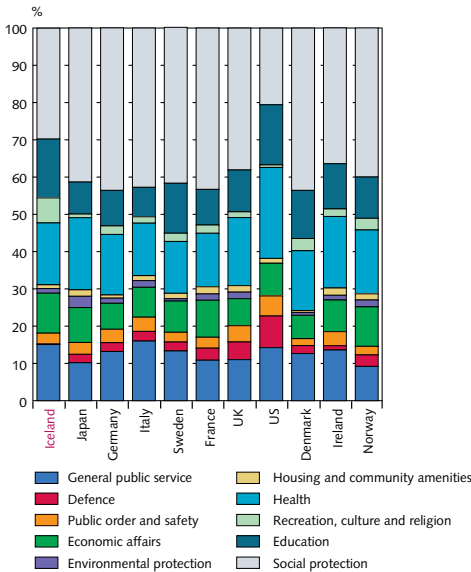
Since Iceland gained autonomy from Denmark in 1918, its governments have normally been formed by a coalition of two or more political parties that have together held a majority in

Parliament. The most recent election was held on 28 October 2017. The results of the election were as follows: the Independence Party obtained 25.2% of votes and 16 seats; the Left Green Movement 16.9% and 11 seats; the Social Democratic Alliance 12.1% and 7 seats; a new party, the Centre Party, 10.9% and 7 seats; the Progressive Party 10.7% and 8 seats; the Pirate Party 9.2% and 6 seats; the People’s Party 6.9% and 4 seats; and the Reform party 6.7% and 4 seats. A coalition government of the Independence Party, the Left Green Movement, and the Progressive Party (with a total of 35 seats) took office in December 2017. General elections are generally held every four years, although the Constitution allows for early dissolution of Parliament, which triggers early elections.

Iceland’s judicial system is divided into three levels: District Courts, which are the courts of first instance; a new court of second instance (Court of Appeal), introduced on 1 January 2018; and the Supreme Court, which holds the highest judicial power in Iceland. The Constitution provides for the courts’ independence, according to which judges have judicial power, shall only abide by the law in their official duties, and cannot be discharged from office except by judicial decision.

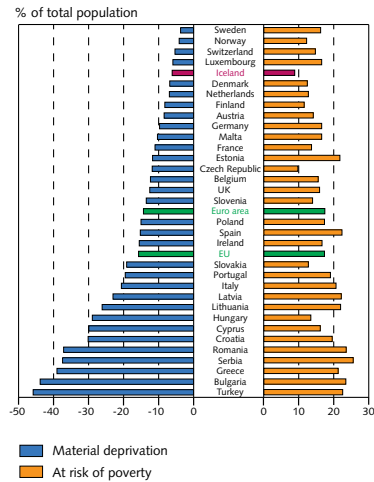
The Central Bank of Iceland was established by an Act of Parliament in April 1961. The Bank is an independent institution owned by the State but under separate administration. An inflation-targeting regime was formally adopted in 2001. Decisions on the use of monetary policy instruments are taken by a five-member Monetary Policy Committee (see Chapter 5). The Prime Minister’s Office oversees matters pertaining to the Central Bank, insofar as they belong to the political sphere. The Bank has a seven-member Supervisory Board elected by Parliament.

Chart 1.5  
General government expenditure by function in 2016<sup>1</sup>



1. Percentage breakdown of total expenditure.  
Source: OECD.

Chart 1.6  
Material deprivation and risk of poverty in Europe 2017<sup>1</sup>



1. 2017 or latest.  
Source: Eurostat.

The Financial Supervisory Authority (FME) is charged with supervising financial enterprises. Its mission is to safeguard the integrity and sound operation of the financial system. The Act on Official Supervision of Financial Activities states that the FME is an independent institution whose administration is entrusted to a board of directors. The FME falls under the auspices of the Ministry of Finance and Economic Affairs, but according to the Act, the Minister does not have the power to affect decision-making within the institution. Since May 2014, a high-level Financial Stability Council and a Systemic Risk Committee have served as the authorities' official forum for collaboration on financial stability (see Chapter 5).

### External relations

Iceland participates actively in international cooperation. It belongs to the group of Nordic countries that includes Denmark, Finland, Norway, and Sweden, as well as Greenland and the Faeroe Islands. The Nordic countries have wide-ranging cooperation in a variety of fields, including economic affairs and international representation, in which the Baltic countries also play an active part. Iceland is a member of the Nordic Council, the Nordic Council of Ministers, and specialised institutions such as the Nordic Investment Bank. Iceland is also a member of the Arctic Council and a number of other regional bodies.

Iceland became a member of the United Nations in 1946 and is an active participant in most of its affiliated agencies. It is a founding member of the Bretton Woods institutions established in 1945, the International Monetary Fund (IMF), and the World Bank. The Central Bank of Iceland is a shareholder in the Bank for International Settlements (BIS) and participates actively in its activities.

Iceland is one of the original members of the Organisation for Economic Cooperation and Development (OECD) and of the European Bank for Reconstruction and Development (EBRD). It joined the Council of Europe in 1950 and has participated in the Organisation for Security and Cooperation in Europe (OSCE) since the organisation's inception in 1975.

In 1964, Iceland became a party to the General Agreement on Tariffs and Trade (GATT), the predecessor to the World Trade Organization (WTO). Iceland joined the European Free Trade Association (EFTA) in 1970 and entered into a free trade agreement with the European Economic Community in 1972. In May 1992, the member states of EFTA and the European Union signed an agreement to establish a zone for the free movement of goods, services, capital, and persons, the European Economic Area (EEA), which took effect on 1 January 1994. Through this agreement, Iceland is a part of the single market of the European Union. Iceland is a party to numerous free trade agreements with other countries through its EFTA membership. Furthermore, Iceland has negotiated bilateral free trade agreements with China, Greenland, and the Faeroe Islands. Iceland is a founding member of the Asian Infrastructure Investment Bank and ratified its Articles of Agreement in 2016.

Iceland is a founding member of the North Atlantic Treaty Organization (NATO), established in 1949. The United States maintained a permanent military presence in Iceland from 1951 until 2006. The bilateral defence agreement between Iceland and the United States remains in effect.

Table 1.1 Iceland's membership of international organisations and institutions

	<i>Year of association</i>
International Monetary Fund (IMF)	1945
World Bank	1945
United Nations (UN)	1946
North Atlantic Treaty Organization (NATO)	1949
Organisation for Economic Cooperation and Development (OECD)	1949
Bank for International Settlements (BIS)	1950
Council of Europe	1950
Nordic Council	1952
International Finance Corporation (IFC)	1956
International Development Association (IDA)	1961
General Agreement on Tariffs and Trade (GATT)	1964
European Free Trade Association (EFTA)	1970
Nordic Investment Bank	1975
Organisation for Security and Cooperation in Europe (OSCE)	1975
European Bank for Reconstruction and Development (EBRD)	1990
Western European Union (WEU)	1992
Barents Euro-Arctic Council (BEAC)	1993
European Economic Area (EEA)	1994
Council of Baltic Sea States (CBSS)	1995
World Trade Organization (WTO)	1995
Arctic Council	1996
Asian Infrastructure Investment Bank (AIIB)	2015

## 2 Structure of the economy

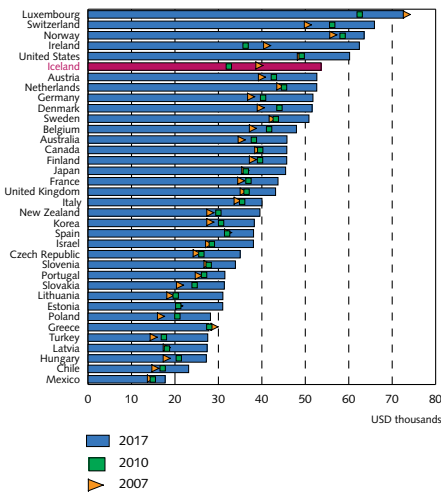
This chapter focuses on the structure of the Icelandic economy, with particular emphasis on size, composition of output and expenditure, and foreign investment. Different sectors of the economy are analysed, particularly to include recent developments and the contribution of each sector to GDP. Furthermore, the labour market and pension system in Iceland are discussed. The chapter also presents a review of Iceland's international investment position, describes changes in foreign direct investment, and provides figures on external debt and asset levels. Finally, it describes corporate and household balance sheets in Iceland. The Icelandic economy displays the characteristics of an advanced economy, with high income levels and a relatively large services sector. Its distinguishing features are its large marine and energy sectors based on ample resources, a large tourism sector, and a high labour participation rate.

### Macroeconomic framework

#### Size and income level

The Icelandic economy is the smallest within the OECD, generating GDP of 24.5 billion US dollars (2,615 b.kr.) in 2017. This amounted to around 1/1000 of the US economy, 1/14 of the Danish economy, and a little over 1/3 of the economy of Luxembourg, while it is more than

Chart 2.1  
Gross national income per capita in  
OECD countries 2017<sup>1</sup>



1. World Bank data on PPP-adjusted national income per capita.  
Source: Thomson Reuters.

Chart 2.2  
GDP in Iceland and its main trading  
partners 2008-2017



Sources: Statistics Iceland, Thomson Reuters, Central Bank of Iceland.



90% larger than the economy of Malta. The small size of the Icelandic economy mainly reflects the country's small population, which was about 350 thousand on 1 January 2018. According to World Bank data, GNI per capita measured in terms of purchasing power parities (PPP) amounted to roughly 53.5 thousand US dollars in 2017, the fourteenth-highest in the world and the sixth-highest among the OECD countries. Iceland's GNI per capita is lower than that in Norway but higher than in the other Nordic countries and above the EU average.

*Drivers of growth*

Historically, Iceland's prosperity has been built largely on its comparative advantages in abundant marine and energy resources, with investment and services the main drivers of growth. Following the financial crisis, the favourable competitive position sparked a growth spurt in tourism and related activity in Iceland. This affected other services and, later on, construction activity. In addition, terms of trade have developed favourably in recent years and, alongside growth in tourism, have boosted national income, which in turn has helped support a substantial increase in household demand and private consumption.

*Composition of output and expenditure*

As in other developed economies, services form the bulk of economic activity, accounting for nearly ¾ of GDP in 2017. The marine sector accounted for 7% of GDP in 2017 and remains one of the most important sources of export revenues, although its relative weight in total export revenues has declined in recent years, as energy-intensive exports and tourism-related services have increased more rapidly. Manufacturing (excluding marine products) accounted for roughly 11½% of GDP in 2017, and construction accounted for nearly 8%. Financial services (other than insurance services and pension funds) accounted for an average of 4½% of GDP in 2015-2017, half the share from the years before the financial crisis.

Private consumption contributed, on average, about 50% of GDP in 2015-2017, and public consumption and gross fixed capital formation contributed 23% and 21%, respectively. After the crisis struck in 2008, the investment-to-GDP ratio fell well below the long-term average of 21% of GDP, but it has been rising in recent years and exceeded 22% in 2017. The ratio of public consumption to GDP rose just after the crisis, as private sector activity contracted more than government activity. In recent years, however, it has returned broadly to the pre-crisis level.

*Foreign trade*

Iceland is a fairly open economy, with imports and exports of goods and services amounting to 42% and 46% of GDP, respectively, in 2017. In the period 2000–2017, trade openness, meas-

Chart 2.3  
Breakdown of GDP by sector 2017

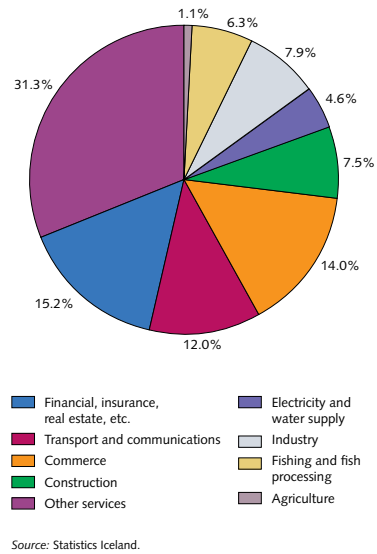
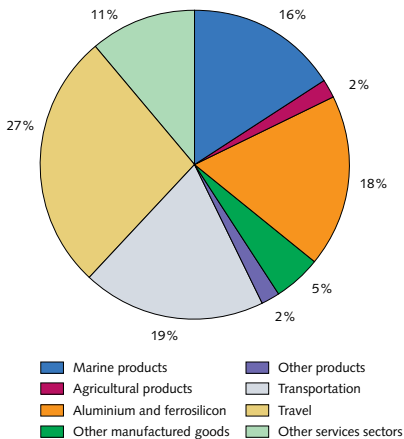
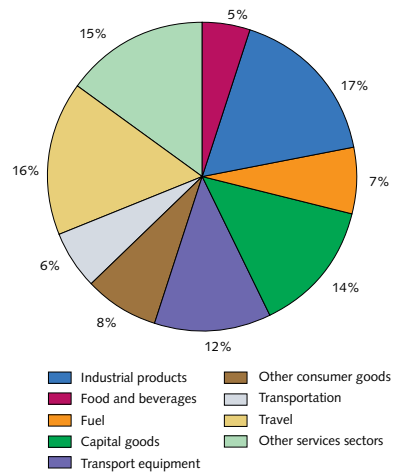


Chart 2.4  
Exports by type of goods 2017  
Percentage of total exports



Source: Statistics Iceland.

Chart 2.5  
Imports by type of goods 2017  
Percentage of total imports



Source: Statistics Iceland.

ured as the ratio of imports and exports of goods and services to GDP, averaged 86%, well above the OECD average. Although trade still involves a relatively large share of primary products and commodities, exports have diversified significantly since the beginning of the century. However, openness is restricted by factors such as geographic distance from major population centres, limited intra-industry and transit trade, and protection of domestic agriculture.

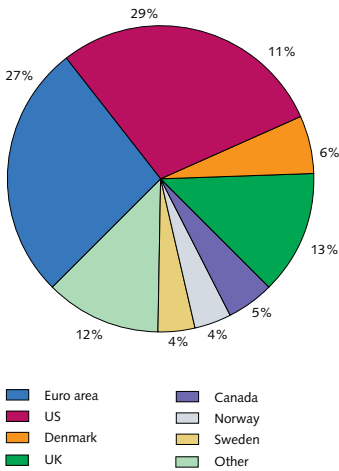
Fish and other marine products have traditionally been the mainstay of goods exports, although they have been declining as a share of total exports since the early 1990s. Exports of manufactured goods have grown in importance, however, led by aluminium. Furthermore, exports of services have increased as the economy has grown and become increasingly service-oriented. Tourism has soared over the past few years and has been one of the main drivers of export growth.

Iceland imports a wide range of manufactured goods and commodities, reflecting both the small size of the economy and the limited range of natural resources. Imports of industrial supplies accounted for 27% of total goods imports and 17% of total imports in 2017. Capital goods constituted 21% of total goods imports and consumer goods 30% (14% and 19%, respectively, of total imports in 2017), while services contributed 36% of total imports.

Iceland's ratio of services trade to total trade has risen in recent years. In 2017 it was 47%, one of the highest in the OECD, up from 34% at the beginning of the century. The US dollar and the euro are the most common currencies used for services exports in Iceland, with 27% and 25% of total services exports, respectively. The pound sterling, at 12%, is the only other currency with a share of 10% or more.

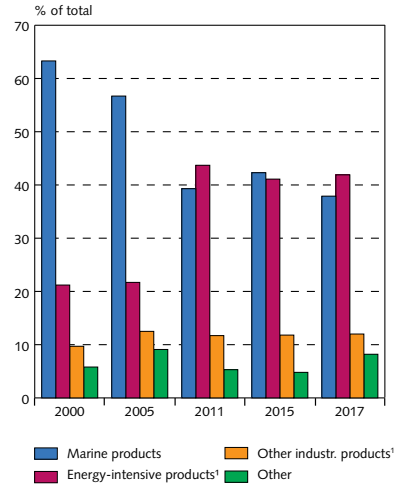
Free trade arrangements with Europe have stimulated Iceland's trade with the region. Most recently, the geography of exports has been influenced by an increased share of tourism in total exports, causing the share of North America to rise, as the largest proportion of visitors to Iceland

Chart 2.6  
Currency area share in services exports 2017



Source: Statistics Iceland.

Chart 2.7  
Composition of goods exports by product categories



1. Manufacturing services are included under energy-intensive industrial goods as in Statistics Iceland's trade figures.  
Source: Statistics Iceland.

are from the United States. The geographical composition of service exports differs from goods exports, which are concentrated to a greater extent in European countries. In 2016, 80% of goods exports went to European Economic Area (EEA) member countries, which were also the source of 67% of imports. Currently, Iceland's largest trading partner countries are the US, the UK, the Netherlands, Germany, Denmark, and Norway. Trade with China has increased over the past few years, and China is now Iceland's ninth-largest trading partner. In terms of currency, the euro area constitutes the largest trading area, accounting for 39% of imports and 33% of exports. In recent years, Iceland has generally had a trade surplus with the Netherlands, the Iberian countries, the US, France, the UK, and Saudi Arabia, but a deficit with its Nordic neighbours, Brazil, China, and Ireland.

**Sector developments**

*Manufacturing and energy-intensive industries*

The production structure of Iceland's manufacturing sector is unique among industrialised countries. First, the manufacturing sector is dominated by two sub-sectors – food processing, mainly seafood production for export, and aluminium production – which together accounted for roughly ¾ of total manufacturing in 2017. Second, production of machinery and other investment goods is relatively limited.

Iceland's aluminium industry is based primarily on competitive energy costs, strategic location, and a skilled labour force. Production rose sharply in 2008 and 2009 but has remained relatively stable in recent years, averaging around 870 thousand mtpy since 2014, or around 1½% of global aluminium production. Production is estimated to remain relatively stable in the coming

Chart 2.8  
Composition of manufacturing exports  
and share in total goods exports

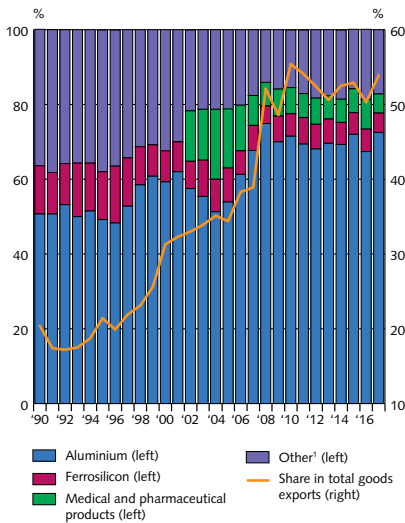
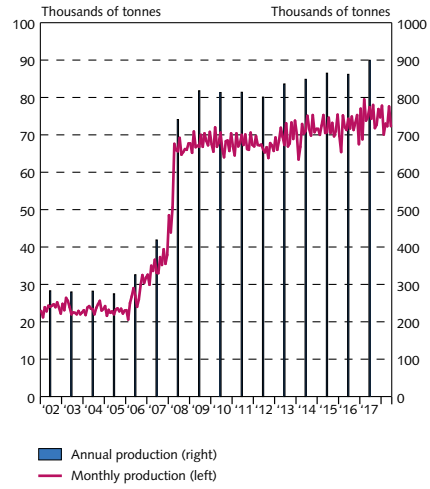


Chart 2.9  
Aluminium production



term. A number of other export-oriented manufacturing companies have emerged in the last two decades, most of them focusing on product innovation, R&D, information and communications technology (ICT), and strategic marketing.

### Marine sector

Throughout most of the twentieth century, the marine sector was of key importance to the Icelandic economy. Fisheries and fish processing are still one of the main pillars of export activities in Iceland: in 2017, 38% of goods exports and roughly 16% of all export earnings from goods and services came from fisheries, down from 26% of total export earnings in 2013, due to growth in services related to tourism. The sector's contribution to GDP has also fallen in recent years.

The marine sector is highly diversified in terms of species, processing methods, and markets. Fishing and processing of groundfish and pelagic species are the principal focus of Iceland's marine sector, and the importance of pelagic species has increased significantly in the last ten years. The introduction of value-added processing techniques and implementation of high-scale automation has helped to offset stagnant allowable groundfish catch volumes in recent years. Value has also been boosted by a shift towards fresh seafood products instead of frozen and salted products. Furthermore, fisheries companies have enhanced their efficiency through mergers, acquisitions, and vertical integration of all parts of the value chain in recent decades. The comprehensive fisheries management system (FMS) based on individual transferable quotas (ITQ) was implemented in 1990 to manage the fish stocks and promote sustainability and economic efficiency (see Box 2.1).

Box 2.1

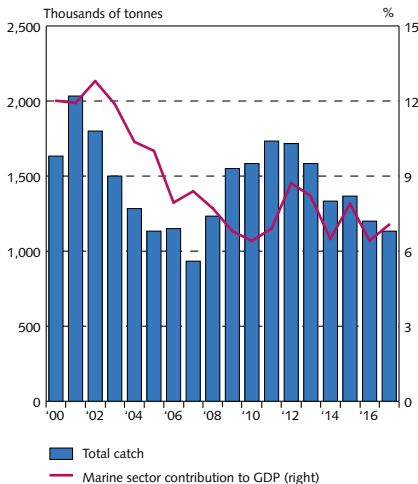
The individual transferable quota system

Fishing of all commercially important marine species is regulated under the individual transferable quota (ITQ) system. The current quota system is based on the following factors:

- Each year, the total allowable catch (TAC) is set by the Minister of Fisheries, after the Minister has received advice from the Marine Research Institute based on a biological assessment of the stocks and forecasts for their development in the near future.
- The quota shares that determine each year's quotas must be registered to a fishing vessel.
- A vessel's annual quota for a species is equal to its quota share for that species multiplied by the TAC, after adjusting for special allocations; e.g., for regional support and coastal fisheries of small vessels.
- Quota shares and annual quotas are transferable and can be traded on the quota market, subject to certain restrictions.

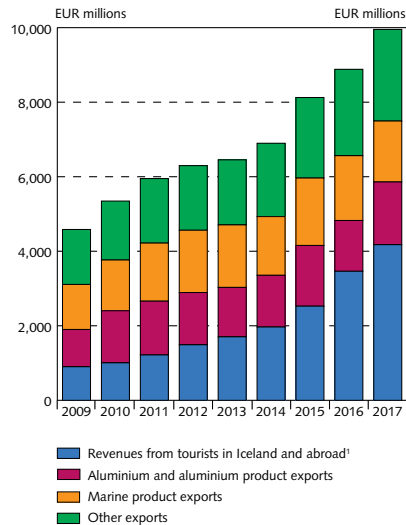
The law prescribes maximum holdings of quotas, or 12% of total quotas, by individual fishing companies. Regulations cover quota holdings both for individual species and in the aggregate. The fee is to be calculated on the basis of earnings before taxes (EBT) in fishing and fish processing in the past three years, using the most recent estimates published by Statistics Iceland. The fishing fee for the quota year 2017-2018 is estimated at approximately 90 million euros (10.8 b.kr.), or 10% of the total 2017 catch value. The fee is part of the State budget.

Chart 2.10  
Fish catch by Icelandic vessels and marine sector contribution to GDP



Source: Statistics Iceland.

Chart 2.11  
Goods and services exports



1. Revenues from tourists in Iceland and abroad is the sum of "travel" and "passenger transport by air".  
Sources: Statistics Iceland, Central Bank of Iceland.

## Box 2.2

## Sectoral limitations on foreign direct investment

The only restrictions on investment by non-residents in Iceland apply to foreign direct investment in fisheries and primary processing of fish, energy production and distribution, aviation companies<sup>1</sup> and real estate.<sup>2</sup> Restrictions on investment in the fisheries sector have the purpose of protecting the nation's exclusive rights to the fishing grounds surrounding Iceland. Direct foreign ownership of fisheries companies is prohibited, but domestic companies that are up to 25% foreign-owned (33% in certain circumstances) may own fisheries. Energy harnessing rights and production and distribution of energy are restricted to EEA entities. Entities domiciled outside the EEA may not own more than 49% of shares, either directly or indirectly, in Icelandic aviation companies. No one, save for EEA entities, may acquire the right to own or use real property in Iceland, including fishing and hunting rights, water rights or other real property rights, whether by free assignation or enforcement measures, marriage, inheritance or deed of transfer, unless an exemption is granted by the Minister.

1. Act on Foreign Investment in Enterprises, no. 34/1991.

2. Act on the Right of Ownership and Use of Real Property, no. 19/1966. Exemptions may be granted.

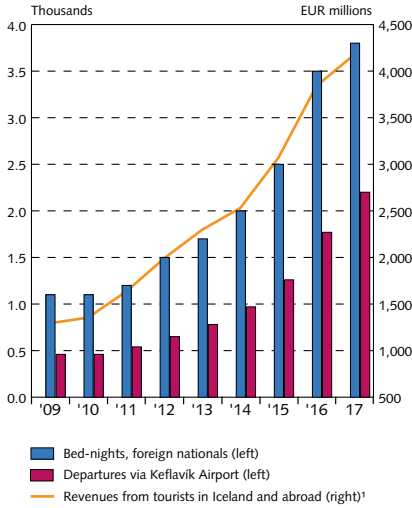
*Tourism and transport*

Tourism has grown very rapidly in Iceland in recent years and has established itself as the third main pillar of the Icelandic economy. The number of foreign tourists has increased from 470 thousand in 2008 to a projected 2.3 million in 2018. In addition to these figures, the number of cruise ship passengers visiting Iceland in 2017 was around 130 thousand. Of individual countries, the US and the UK accounted for the largest number of tourists, with a combined 41% of the total in 2017. The increase in the number of tourists has had a significant impact on the Icelandic economy. Tourism-generated foreign exchange revenues amounted to 42% of total export revenues in 2017, compared to 26% in 2013. From 2010 to 2016, operating income in tourism-related industries rose by nearly 76% in real terms, and the number of employees on tourism operators' payroll more than doubled over the same period.

The rapid increase in tourism is also reflected in the number of airlines flying to and from Keflavik Airport and the number of flight destinations offered. Three other, much smaller, international airports are operated as well. Three major international aircraft operating certificate (AOC) holders operate in Iceland, offering passenger service, international cargo service, and charter flights. In 2017-2018, a total of 12 airlines offered year-round flight services between Keflavik and 60 destinations, and in summer 2018 the total was 28 airlines and 96 destinations. In 2010, however, three airlines offered scheduled flights from Keflavik. In 2018, 63% of all passenger destinations of the two Icelandic airlines were in Europe, whereas 37% were in North America, up from around 20% in 2010.

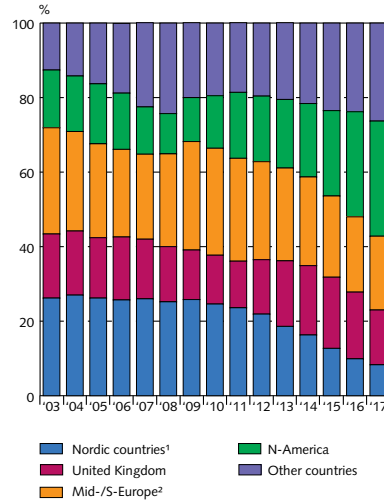
Iceland's two main shipping lines operate scheduled services to major ports in Europe and the east coast of the US. Both of them operate transport networks on land and sea in Iceland, Europe, and North America, as well as offering freight forwarding around the world.

Chart 2.12  
Number of foreign tourists, hotel bed-nights, and revenues from tourism



1. At constant 2017 exchange rates.  
Sources: Icelandic Tourist Board, Statistics Iceland, Central Bank of Iceland.

Chart 2.13  
Nationality of tourists



1. Norway, Denmark, Sweden, Finland. 2. France, Netherlands, Italy, Spain, Switzerland, Germany.  
Source: Icelandic Tourist Board.

*Financial sector*

Iceland's financial services sector is perhaps the sector of the economy that has undergone the greatest changes over the past few years. Four commercial banks and four savings banks are currently operating in Iceland, and the State is the majority owner of two of the commercial banks. In 2017, the financial sector (including insurance companies and pension funds) accounted for 5½% of GDP and 3½% of total employment (see Chapter 3 for further discussion of the financial system).

*Technology and communications*

The technological sector of the services industry has diversified and grown significantly in the last 10-15 years. Between 2010 and 2016, operating income in the ICT industry increased by about 50% in real terms, although its share of total operating income in the business economy remained relatively stable during this period.<sup>1</sup> Around 100 companies of varying size are active in the software sector, specialising in medical, ICT, computer games, logistics, and operating management systems. Most of the businesses in software technology are engaged in export activities, owing to the small size of the home market. Exports of ICT services have increased by over 90% in the past five years, to 245 million euros (29.5 b.kr.) in 2017.

Iceland's telecommunications infrastructure is extensive and reaches all parts of the country, and the mobile phone system reaches nearly 100% of the population. In 2017, 98% of Icelandic

1. The term *business economy* refers to all companies excluding pharmaceuticals, financial, and insurance firms.

households were internet-connected, and 98% of the population are regular users, the highest percentage in Europe.

Exportation of expertise in the development of renewable energy is growing, and several Icelandic companies are engaged in exporting geothermal and hydropower expertise and consultancy to a number of areas, including the US, China, Germany, Central America, and Southeast Asia.

Also, a number of engineering companies specialised in advanced high-tech processing systems provide services to the global fishing industry. These companies offer a range of state-of-the-art equipment and processing systems for fish processing plants.

### *Agriculture and farming*

Approximately a fifth of the total land area of Iceland is vegetated land or pasture. Less than 5% of this area is cultivated, with the remainder used for grazing or left undeveloped. Meat and dairy products are mainly for domestic consumption, and the principal crops are hay, cereals for animal feed, root vegetables, and green vegetables, which are cultivated primarily in greenhouses heated with geothermal water. Imports of meat, dairy products, and some vegetables that compete with domestic production are subject to tariffs, import quotas, and non-tariff import restrictions.

Icelandic agriculture is heavily subsidised, with total on-budget transfers to agriculture amounting to 1.2% of GDP in 2016. In terms of the OECD producers support estimate (PSE), Iceland was third-highest in the OECD in 2016, with a PSE of 60%, compared to the EU15 average of 21%.

## **Various other characteristics of the Icelandic economy**

### *Energy and the environment*

Iceland is at the forefront globally in the use of renewable energy resources. Of the total primary energy supply in Iceland, nearly 90% is from renewable resources, up from 77% in 2000, compared to an average of 1/3 in other Nordic countries. Iceland has large potential sources of renewable energy, and its hydropower and geothermal resources have only been partly harnessed. Iceland is the only country in Europe that still has a considerable amount of large-scale, competitively priced power from these sources. Electricity production per capita is the highest in the world, at 57 megawatt hours (MWh) per capita in 2017. At year-end 2017, total installed hydropower was 1,984 MW in 67 power plants with a combined capacity of 14,100 gigawatt hours (GWh), or over 70% of generated electricity. Combined installed geo-power for electricity generation was over 700 MW from seven plants with a total capacity of 5,200 GWh.

Iceland has been in the lead globally in the use of geothermal energy for purposes other than generating electricity. Geothermal energy accounts for 61% of primary energy used in Iceland. The total primary energy supply per unit of GDP is the highest in the world, nearly four times above the OECD average. Around 90% of all homes are heated by geothermal energy in the form of hot water at only a fraction of the heating cost in other Nordic countries. For the general public, the price of electricity is one of the lowest in the world, about half of the price to consumers in the European Union (EU27).

Sustainable use of fish stocks and other natural resources is an important part of Iceland's environmental policies. Iceland is relatively unpolluted compared to other developed countries, owing to its sparse population and heavy reliance on renewable energy. The marine environment surrounding Iceland is relatively unpolluted as well.



Chart 2.14  
Primary energy consumption by source  
in Iceland

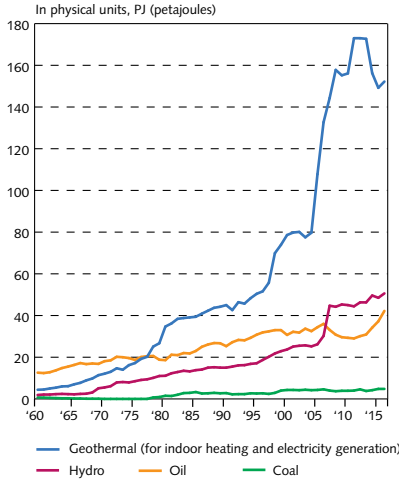
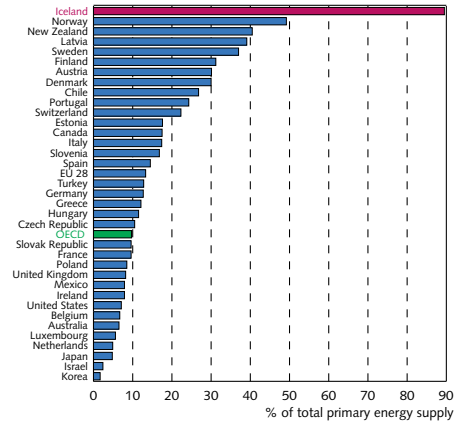


Chart 2.15  
Contribution of renewables to energy supply  
in OECD countries 2016



Although air pollution is generally low, some pollution – i.e., particulate matter – occurs in the greater Reykjavik area. Soil erosion has been a longstanding problem due to the cutting of woodlands and overgrazing on sensitive volcanic soil. The intensity of grazing has been falling, however, and a concerted effort is made to reclaim eroded land and plant trees. Iceland complied with its Kyoto commitments for 2008-2012. For the second commitment period, 2013-2020, Iceland is part of a joint fulfilment goal, together with the EU and its Member States, of a 20% reduction in emissions. Over 40% of Iceland’s greenhouse gas emissions are regulated under the EU Emissions Trading Scheme (ETS) due to the EEA Agreement. Joint fulfilment of Kyoto targets with the EU implies that greenhouse gas emissions from Icelandic industry are regulated in a manner comparable to that applying to EU Member States. Iceland ratified the Paris Agreement in September 2016 and aims, in joint fulfilment with EU Member States and Norway, to reduce emissions by 40% relative to 1990 levels by 2030.

Because almost 100% of Iceland’s stationary energy comes from renewable sources, climate mitigation actions focus on reducing emissions from transport and fisheries and increasing carbon uptake through afforestation and revegetation. The Icelandic government announced in 2017 that Iceland aims to be carbon-neutral before 2040.

Nature-based tourism has grown markedly in recent years, and funding for tourism infrastructure and nature conservation has increased. A new Master Plan on hydro and geothermal energy has been put in place in an attempt to strike a balance between new renewable energy projects and nature conservation concerns. Iceland’s wilderness areas and unique natural environment, characterised by glaciers, rivers, and volcanic activity, is increasingly recognised as an important economic asset as well as a part of natural heritage needing conservation.

*Labour market*

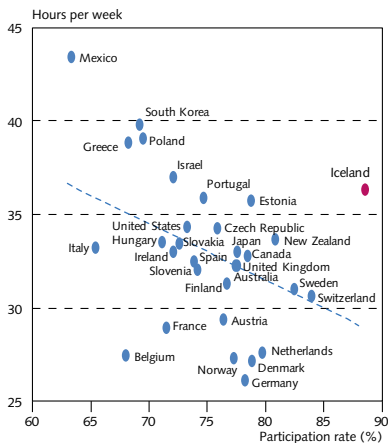
Over the past ten years, the Icelandic labour market has had a participation rate consistently well above 85%, the highest among OECD countries. The participation rate among women has also been very high by international comparison. In 2017, female participation was one of the highest in the OECD countries, with women accounting for 47% of the labour force and supplying 41% of total hours. Participation rates among the young (aged 15-24) and the elderly (aged 65 and over) are also the highest by far in the OECD. Furthermore, Icelanders tend to work long hours. In 2017, 42% of the adult population held a university degree, up from 28% in 2003.

The Icelandic labour market is quite flexible, with substantial labour mobility, flexible hours, and variable participation and wages. This was clearly manifested during the last cycle. A comparison with other OECD countries shows that Icelandic companies have considerable flexibility to lay off workers. Companies can easily adjust to changed demand by expanding or reducing staffing levels or by raising or lowering the number of hours worked by those already employed; furthermore, the number of part-time and full-time employed varies with the business cycle.

There is also some flexibility in labour force supply. In particular, there is a strong connection between net emigration of Icelandic nationals and output growth; moreover, migration of foreign nationals in tandem with the business cycle has increased substantially with the expansion of the pan-European labour market. Moreover, even in the case of significant shifts in sectoral or regional employment, a high degree of labour mobility prevents large differences in regional unemployment from emerging.

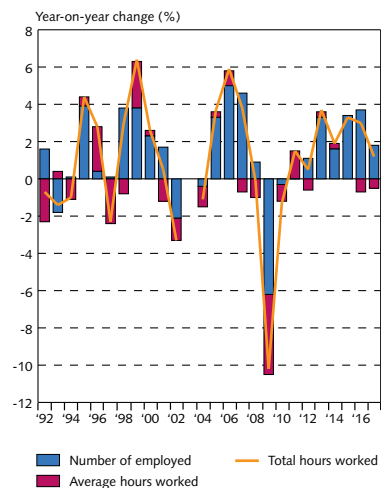
Some 90% of the labour force is unionised, and employers are highly organised as well. This has given rise to wage-setting that is characterised by significant centralisation and coordinated bargaining, most frequently by national federations, and it leads to more or less nationwide set-

Chart 2.16  
Participation rate and hours per week in OECD countries 2017<sup>1</sup>



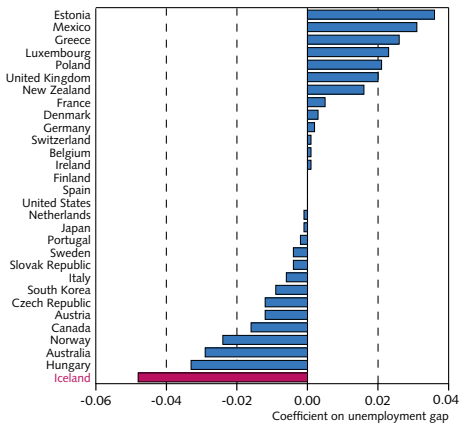
1. The chart shows labour participation among the population aged 15-64 in all countries except Iceland, which shows participation for the group aged 16-64. Hours per week are annual hours actually worked per worker for the total economy divided by 52 calendar weeks. 2017 figures or latest.  
Sources: OECD, Thomson Reuters.

Chart 2.17  
Changes in employment and hours worked



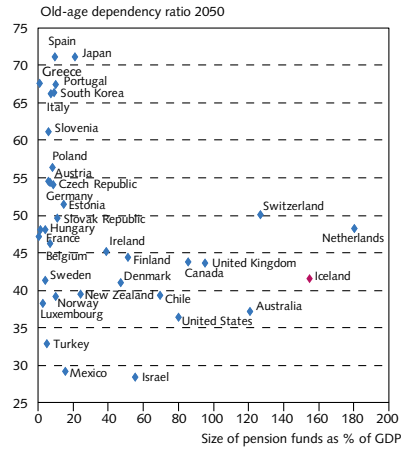
Source: Statistics Iceland.

Chart 2.18  
Real wage flexibility 1997-2011<sup>1</sup>



1. Quarterly data.  
Sources: OECD, Statistics Iceland, Central Bank of Iceland.

Chart 2.19  
Size of pension funds in 2016 and old-age dependency ratio in OECD countries 2050<sup>1</sup>



1. Population aged 65 years and over per 100 persons aged 15-64 years 2050. Value for the size of pension funds in Iceland is for 2017.  
Sources: OECD, United Nations.

lements that provide for the minimum wage increases. In addition, the tailoring of the national framework of wage agreements in sectoral and firm-level negotiations makes it possible to take specific local conditions into account. The Government has frequently been involved in wage settlements, either through tax concessions and social transfers or through legislative acts aimed at accomplishing moderate settlements. Notwithstanding the high degree of centralisation, real wages are flexible in comparison with other OECD countries (see Chart 2.18).<sup>2</sup>

*Pension system*

In the decades to come, Iceland will face fewer problems due to an ageing population than most other developed countries. There are three main reasons for this. First, the population is younger and will continue to be so during coming decades. The old-age dependency rate – i.e., over-65-year-olds as a ratio of 20- to 64-year-olds – was 23% in 2016, the ninth-lowest in the OECD and somewhat less than in the US (25%), but significantly below the average in the EU (30%). Second, labour participation rates among the elderly are high, and the pension system does not give special incentives for early retirement. While the official retirement age is 67, 38% of 65- to 74-year-olds worked at least one hour a week in 2017. Third, membership of a fully funded occupational pension fund is mandatory for all employees and self-employed persons.

The Icelandic old-age pension system is composed of a tax-financed public pension scheme, mandatory funded occupational pension funds, and voluntary pension saving with tax incentives and an extra contribution from the employer. Public pensions are fully financed by taxes and social

2. Chart 2.18 reports the coefficient on the unemployment gap; i.e., the deviation of unemployment from the non-accelerating inflation rate of unemployment (NAIRU), in a regression of a change in real wages on a constant, the unemployment gap, a change in productivity, and a lagged change in real wages.

security contributions. The public pension system provides an old-age pension, disability pension, and survivors' pension. In most cases, the old-age pension is paid from the age of 67, although the recipient may choose to delay applying for it until age 72 at the latest, and receive a larger amount. It is divided into a basic pension and a supplementary pension. Both are means-tested, but pensions received from other sources are treated differently from other income, as the level at which they begin to reduce the supplementary pension is higher than for other income. The maximum total old-age pension amounts to around 78% of the average earnings of unskilled workers.

Many of the occupational funds were established through a collective labour agreement in the late 1960s, and most are managed jointly by representatives from trade unions and employers. Occupational pension funds have been increasing their share in pensions relative to the public system as they approach maturity and means-testing reduces the public pension. Payments from the pension funds totalled 5.3% of GDP, or 1.1 billion euros (134 b.kr.), in 2017, whereas public system payments totalled 2.6% of GDP, or 543 million euros (65.5 b.kr.).

It is mandatory to pay at least 15.5% of total wages and salaries to pension funds. Employees contribute 4% of this share, and the rest is contributed by the employer. The funds have grown rapidly in recent decades, as their coverage has become almost total and the return on their assets has been strong, although fluctuating with the economic cycle. Assets were equivalent to about 150% of GDP at the end of 2017. By international comparison, pension funds in Iceland are large relative to GDP. In 2017, they were the second-largest in the OECD (after the Netherlands).

At the end of 2017, there were 24 fully operational pension funds in Iceland, including eight with employer guarantees from the State government and the municipalities; however, these eight funds are not accepting new members and will gradually wind down their operations.

The ten largest pension funds held about 87% of the net assets of all pension funds in 2017, and the two largest funds accounted for 37%. The average fund had net assets of around 1.3 billion euros (163.9 b.kr.), while the largest had assets of almost 6.4 billion euros (800 b.kr.).

The benefits paid by occupational pension funds without an employer guarantee will ultimately depend on their net returns and will therefore vary from one fund to another. However, the investment risk is borne collectively by the members of each fund, and there are no individual accounts, as in pure defined-contribution plans (DC plans). It has been estimated that, at full maturity, a typical general occupational pension fund will be able to pay a pension amounting to 56% of full-time earnings, giving a total replacement ratio of 60-70% when the basic public pension is added.

In the third pillar of pension savings, employees are allowed to deduct from their taxable income a contribution to authorised individual pension schemes ranging up to 4% of wages. Employers must match the supplementary contribution up to a limit of 2%. The pension schemes must be authorised by the Ministry of Finance and Economic Affairs. In most cases, they are defined-contribution individual accounts. The pension savings are redeemable at age 60. Around 66% of wage earners were paying into such schemes in 2017.

## External position

### *Net international investment position*

Iceland's net international investment position (NIIP) has improved radically in the post-crisis period, through debt repayment facilitated by the current account surplus, debt write-offs due

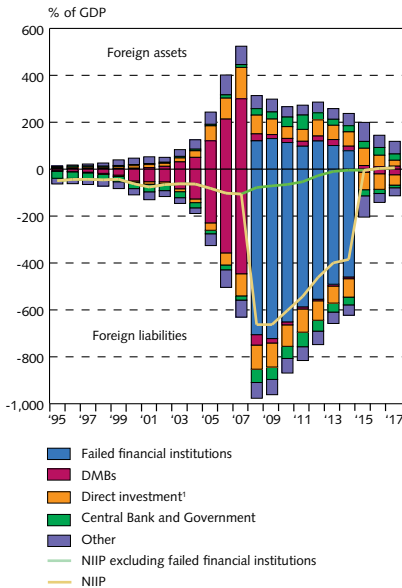
to bankruptcies of private sector entities and other factors, and the composition agreements of the failed financial institutions' estates in late 2015 (see Chapter 6).

Iceland's international balance sheet expanded rapidly after the capital account liberalisation of the 1990s and grew even further following the privatisation of the banks in 2002-2003. In 2008, before the financial crisis, gross external liabilities amounted to 870½% of GDP and gross external assets 686% of GDP, resulting in a negative NIIP in the amount of about 184½% of GDP. The NIIP continued to worsen as a result of the financial crisis. With the settlements of the failed financial institutions at year-end 2015, the NIIP improved to -4½% of GDP, the country's most favourable position in about half a century. Since then, the NIIP has continued to improve and, in 2017, it turned positive for the first time since measurements began. It was positive by almost 10% of GDP at the end of June 2018. Iceland's NIIP is rather favourable in comparison with other OECD countries and is now somewhat better than in the euro area as a whole.

*Foreign assets and liabilities*

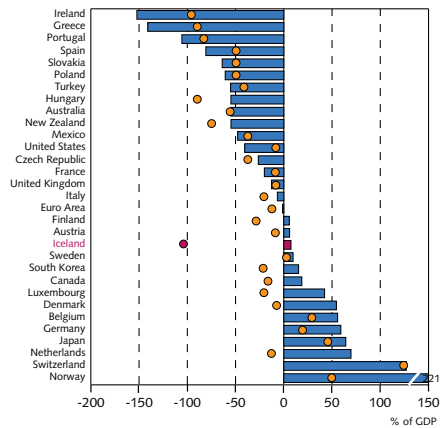
Iceland's gross external assets have declined over the past few years and are now at a level similar to that in 2004, although they consist of international reserves to a larger extent than before. At year-end 2017, gross external assets totalled 119% of GDP. This includes FDI assets and international reserves amounting to 21% and 23% of total assets, respectively, and portfolio assets (held to a large extent by pension funds) amounting to 39%. Other investment accounted for 17% of total assets, half of it in the form of deposits. Gross external liabilities have declined more

Chart 2.20  
Net international investment position (NIIP)  
1995-2017



1. Excluding failed financial institutions from 2008-2014 and special purpose entities from 2013.  
Sources: Statistics Iceland, Central Bank of Iceland.

Chart 2.21  
Net international investment position  
of OECD countries 2017<sup>1</sup>



1. The dots show the NIIP for Q4/2009.  
Sources: Thomson Reuters, Central Bank of Iceland.

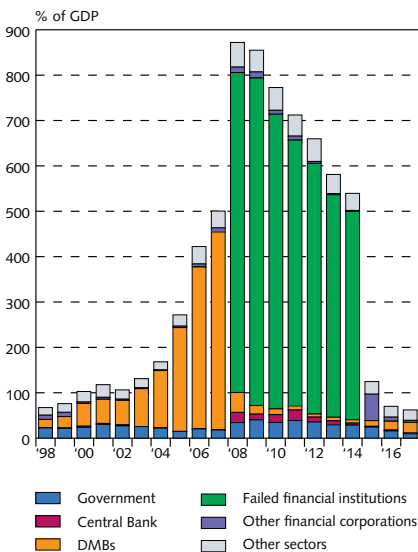
rapidly than external assets in recent years, due to debt write-offs and deleveraging by private entities, and amounted to 113% of GDP at year-end 2017, broadly the same as in 2000. The share of FDI liabilities was greater than in the pre-crisis era, however, at 39% of total liabilities. External portfolio debt amounted to 39% of total liabilities as well, and other investments (mostly loans) accounted for 21% of total liabilities at year-end 2017. In the past three years, the decline in external liabilities has gone hand-in-hand with the decline in external assets, as the process of winding up the failed financial institutions' holding companies progresses.

In recent years, currency depreciation has influenced the NIIP differently than it did in the pre-crisis period. At year-end 2017, 98% of external assets were denominated in foreign currency, as opposed to only 69% of external liabilities. As a result, a depreciation of the króna increases the value of external assets relative to liabilities, leading to a material improvement in Iceland's NIIP. This mitigates the risk associated with currency depreciation.

*Public sector foreign assets and liabilities*

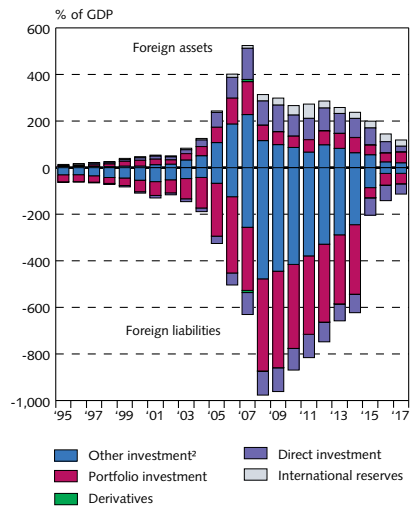
Iceland's positive current account balance has resulted in financial outflows. Since year-end 2014 these flows have been used, among other things, to build up the international reserves and reduce public sector debt. At year-end 2017, the reserves amounted to 27% of GDP, up from 12% at the end of 2007. The public sector retired a substantial amount of its debt during the pre-crisis period. The depreciation of the króna in 2008 and the need to strengthen the Central Bank's international reserves increased the external liabilities of the general government and the Central Bank from 18% of GDP at year-end 2007 to the post-crisis peak of 62% of GDP at year-end 2011 (see Chapters 4 and 5). Only a portion of the increase in public sector foreign debt had a

Chart 2.22  
Estimated foreign debt by sector<sup>1</sup>



1. External liabilities, excluding FDI, derivatives, equity and unit shares.  
Sources: Statistics Iceland, Central Bank of Iceland.

Chart 2.23  
Foreign assets and liabilities  
1995-2017<sup>1</sup>



1. Excluding special purpose entities from FDI since 2013. 2. Other investments are mostly deposits and loans.

Sources: Statistics Iceland, Central Bank of Iceland.

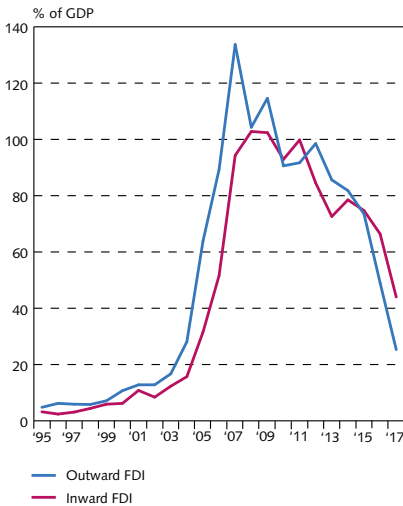
direct effect on the NIIP, however, as loans taken to expand the reserves were mostly offset by assets. By year-end 2017, public sector external liabilities had fallen to 11% of GDP.

*Private sector foreign assets and liabilities*

By end-2015, the private sector NIIP was at its most favourable in decades. After worsening slightly as the króna appreciated, it has improved in recent quarters to 1.3% of GDP at year-end 2017, with total foreign assets amounting to 90% of GDP and liabilities totalling 89% of GDP. The private sector NIIP has seen some major changes in the past fifteen years or so. In the years before the financial crisis, the deterioration in the NIIP was due mainly to a surge in private sector debt intermediated by the domestic banking sector. The NIIP worsened further as a result of the financial crisis but has recovered quickly since then, especially following the composition agreements reached with the failed financial institutions at year-end 2015.

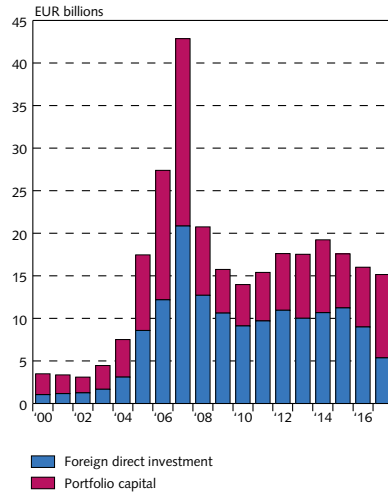
The capital controls introduced in 2008 were lifted almost entirely in March 2017 (see Box 5.1). Since then, there has been a sizeable improvement in the private sector NIIP, mainly as a result of asset accumulation by pension funds, which hold a large share of Iceland’s private sector external assets. By year-end 2017, the pension funds’ external asset holdings had reached a peak of 7.7 billion euros (960 b.kr.), or 38% of Iceland’s GDP, after rising by 5% of GDP from year-end 2015 despite the appreciation of the króna in the interim. In 2017, the pension funds owned nearly a third of Icelandic residents’ total external assets and 78% of total external portfolio holdings. Pension funds’ external debt amounted to 5% of GDP at year-end 2017, reflecting their obligations to residents abroad. Private sector NIIP excluding the pension funds was negative by

Chart 2.24  
FDI assets and liabilities<sup>1</sup>



1. Excluding special purpose entities (SPEs) from 2013.  
Sources: Statistics Iceland, Central Bank of Iceland.

Chart 2.25  
Foreign direct investment and portfolio capital owned abroad by residents  
At year-end



Source: Central Bank of Iceland.

31% of GDP at year-end 2017, a slight deterioration from year-end 2015 but a large improvement from the pre-crisis trough of -102% of GDP in 2008.

#### *Inward and outward foreign direct investment*

At the end of 2017, the outward stock of FDI assets was 25% of GDP and the inward stock 44% of GDP.<sup>3</sup> Capital flows during the post-crisis period have been influenced by the capital controls, which restricted capital outflows and therefore most likely influenced FDI inflows as well. Furthermore, certain types of investment by non-residents are restricted in Iceland; i.e., investment

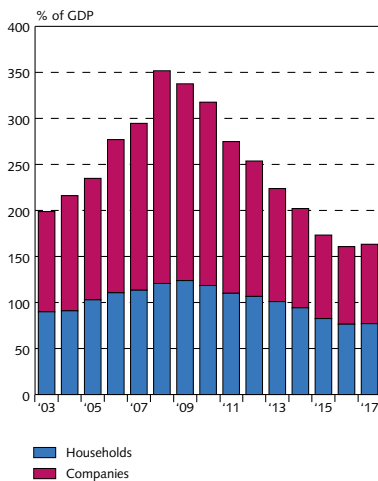
Table 2.1 Breakdown of external liabilities, loans, and debt securities

% of GDP	1999	2003	2007	2009	2013	2015	2017
Loans	42	43	158	311	223	15	11
Short-term lending	6	13	83	194	140	0	0
Long-term lending	36	30	75	117	83	15	11
Debt securities	32	85	245	410	293	93	39
Short-term bonds	4	14	8	4	0	1	0
Long-term bonds	28	70	237	407	293	38	39
Bonds denominated in krónur <sup>1</sup>			12	23	11	11	6

1. Data are not available before 2006.

Source: Central Bank of Iceland.

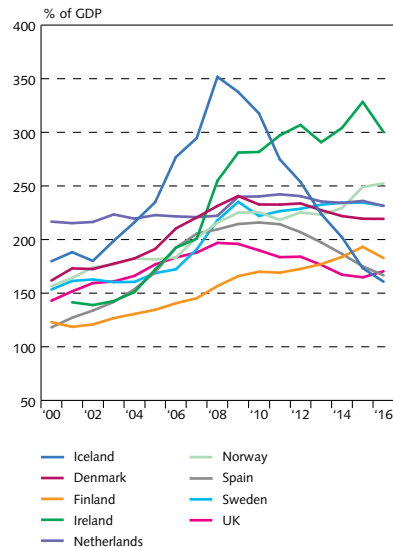
Chart 2.26  
Private sector debt<sup>1</sup>



1. Debt owed to financial undertakings and market bonds issued. Excluding debt owed by holding companies.

Sources: Statistics Iceland, Central Bank of Iceland.

Chart 2.27  
Private sector debt in selected European countries<sup>1,2</sup>



1. Non-financial corporations, households, and non-profit institutions serving households. 2. Loans and debt securities.

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

3. Excluding special purpose entities (SPEs).



in fisheries and energy companies (see Box 2.2). Most of the post-crisis FDI flows have been related to either the winding-up of the failed financial institutions or the restructuring of international pharmaceutical companies' position. Since year-end 2015, the pharmaceutical companies have made one major change to their balance sheet, when FDI assets and liabilities worth about 15% of GDP were moved to foreign identities within the same conglomerate. After the capital controls were lifted in March 2017, FDI inflows have averaged 1% of GDP per quarter, while outflows have averaged 0% of GDP.<sup>4</sup>

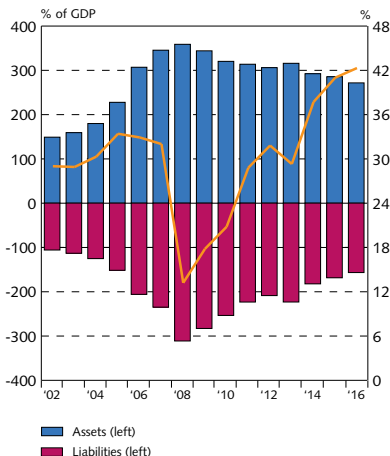
**Corporate and household balance sheets**

Iceland's private sector has seen dramatic improvements in its balance sheet in recent years, in line with improved economic activity, rising asset prices, reduced debt, and financial restructuring. The private sector debt-to-GDP ratio is now low compared to neighbouring countries, at around 163% in 2017, after having peaked at roughly 350% during the financial crisis in 2008. Non-performing loan ratios have hovered around 1.5-2.5% since year-end 2014, after having peaked at 20% in 2010.

*Corporate balance sheets*

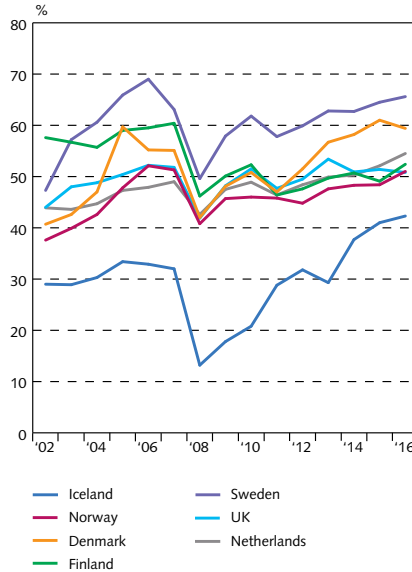
Strong economic growth in recent years, along with financial restructuring, has helped to strengthen and solidify the position of many firms. The equity ratio of Icelandic companies was

Chart 2.28  
Corporate assets and liabilities and equity ratio<sup>1</sup>



1. Commercial economy excluding pharmaceuticals, financial, and insurance companies (SAT no. 03-20, 20-63, 68-82, 95-96).  
Sources: Statistics Iceland, Central Bank of Iceland.

Chart 2.29  
Non-financial corporates' equity ratios in selected European countries



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

4. Excluding flows related to pharmaceutical companies, holding companies of failed financial institutions, and SPEs.

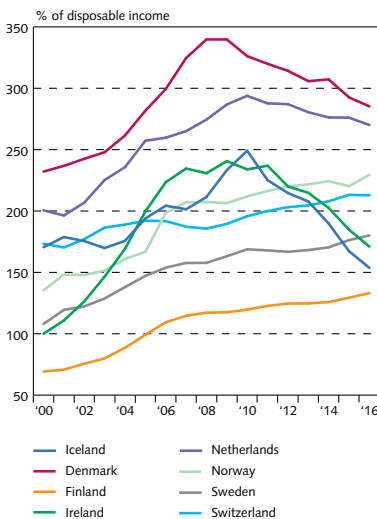
42.3% at year-end 2016, more favourable than it has been for decades, and is estimated at almost 44% in 2017. High corporate equity ratios are mainly the result of deleveraging and declining debt, although rising asset prices, mainly commercial real estate prices, have played an increasing role since late 2014.

At year-end 2017, total corporate debt<sup>5</sup> – i.e., loans from both domestic and foreign financial institutions and outstanding marketable bonds – totalled about 86% of GDP. The ratio has been stable around that level for the last two years and is similar to that in neighbouring countries. The proportion of foreign-denominated debt has declined markedly in recent years, in part due to the appreciation of the Icelandic króna. At the end of 2017, foreign debt accounted for 34% of total corporate debt, compared to 70% at year-end 2008.

*Household balance sheets*

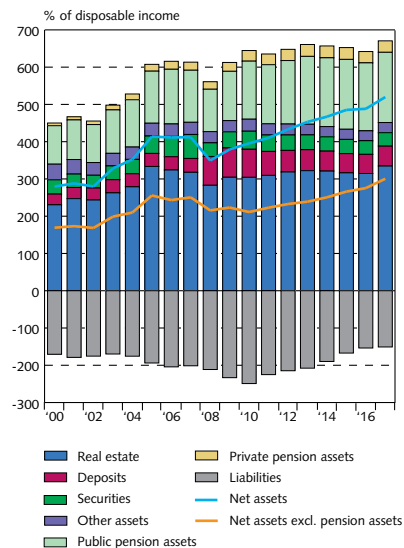
The ratio of household debt to GDP was 77% at the end of 2017, after falling by 48 percentage points from its peak of 125% in 2009. This is a dramatic change in comparison with other countries with high household debt levels. Debt restructuring, write-offs due to Supreme Court decisions on the legality of exchange rate-linked loans, and Government debt relief measures have been influential factors in reducing Iceland's household indebtedness. Furthermore, until recently, households have been more hesitant to take on debt than before, and many households have made extra payments on their outstanding loans. In 2017, the household debt-to-GDP ratio remained relatively stable, after a constant decrease each quarter since 2009.

Chart 2.30  
Household debt in selected European countries



Sources: OECD, Central Bank of Iceland.

Chart 2.31  
Household assets and liabilities<sup>1</sup>



1. Pension fund assets are based on payouts after deduction of 30% income tax.

Sources: Statistics Iceland, Central Bank of Iceland.

5. Excluding holding companies.

In 2014, the Government elected in 2013 enacted a general debt relief programme entailing a direct Treasury-financed reduction of households' indexed mortgages and authorising borrowers to allocate third-pillar pension savings tax-free towards mortgage debt. From then until year-end 2017, direct write-downs and the allocation of private pension assets to mortgage loans lowered household debt by 932 million euros (116.6 b.kr.). Household debt is expected to fall by an additional 168 million euros (21 b.kr.) by the time the programme concludes in mid-2019, bringing the total reduction to 5.4% of year-2017 GDP. Since mid-2017, it has also been possible for first-time buyers to allocate third-pillar pensions savings tax-free towards a down payment for a new home and then channel their private pension payments directly to their mortgage loans over a period of 10 years. As of March 2018, 0.4 million euros (53.6 m.kr.) of private pension savings have been used as down payments by first-time home buyers.

Households' financial position has improved considerably in recent years. Supported by strong GDP growth since 2011, employment growth has been robust, and real disposable income rose by an average of almost 5.5% per year from 2011 to 2017. Since 2014, growth in disposable income has outpaced growth in private consumption, owing to an increase in household saving. Higher asset prices have also strengthened households' equity position. Households' net wealth relative to disposable income has therefore increased markedly, or by 170 percentage points between 2008 and year-end 2017, when it stood at 520%. Excluding pension assets, households' net wealth amounted to 300% of disposable income at the end of 2017. Because of reduced debt and increased income, the debt-to-income ratio has fallen by 98 percentage points from its 2010 peak, to 151% by year-end 2017.

## 3 Financial system

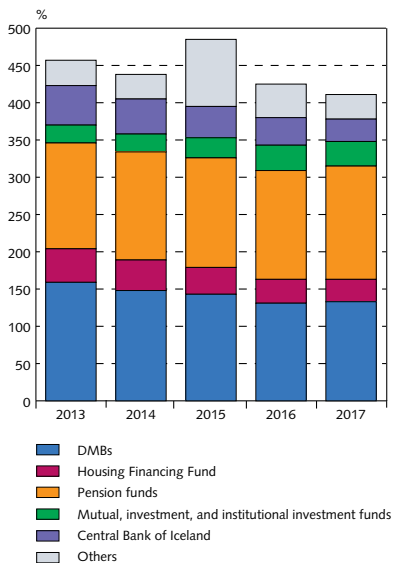
This chapter describes the Icelandic financial system. It covers the credit system, including deposit money banks (DMB), commercial banks' financial position, the Housing Financing Fund (HFF), and the pension funds, as well as Iceland's bond, equity, and foreign exchange markets.

### Overview of the credit system

At year-end 2017, total assets in the credit system<sup>1</sup> amounted to roughly four times Iceland's GDP. Pension funds have the largest share, or about 37% of financial system assets. The combined assets of DMBs were about one-and-a-third times GDP. The three largest banks represent 97% of the DMB sector and are classified as domestic systemically important banks (D-SIB) by the Financial Stability Council.

Chart 3.1

Financial system: Assets as % of GDP<sup>1</sup>

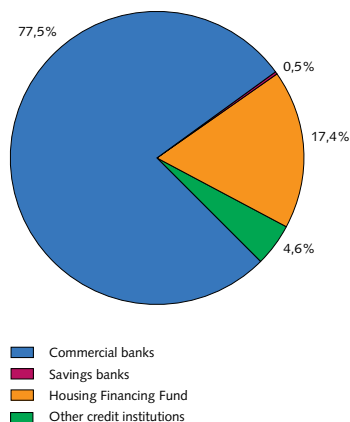


1. Parent companies.

Sources: Statistics Iceland, Central Bank of Iceland.

Chart 3.2

Credit institutions' total assets<sup>1</sup>



1. Parent companies. December 2017.

Source: Central Bank of Iceland.

- The credit system consists of the banking system, pension funds, insurance companies, mutual funds, investment and institutional funds, State loan funds, and other credit institutions, the largest of which is the Housing Financing Fund (HFF).

Table 3.1 Credit system assets

Assets, EUR billions (b.kr.)	31.12.2010	31.12.2012	31.12.2014	31.12.2016	31.12.2017
Central bank of Iceland	8.6 (1,328)	6.3 (1,075)	6.2 (957)	7.6 (901)	6.1 (765)
Deposit-taking corporations <sup>1</sup>	18.0 (2,765)	17.1 (2,909)	19.4 (2,997)	27.0 (3,222)	27.2 (3,405)
- Commercial banks	17.1 (2,627)	16.8 (2,850)	19.0 (2,939)	26.8 (3,199)	27.0 (3,381)
- Savings banks and other deposit taking corporations	0.9 (139)	0.3 (59)	0.4 (59)	0.2 (23)	0.2 (24)
Money market funds (MMFs)	0.1 (13)	0.1 (20)	0.3 (51)	1.5 (177)	1.3 (158)
Non-MMF investment funds	1.8 (271)	2.3 (390)	2.8 (437)	5.6 (668)	5.5 (686)
Other financial intermediaries	9.3 (1,428)	8.0 (1,352)	8.6 (1,328)	14.4 (1,720)	11.3 (1,407)
- Housing Financing Fund	5.4 (836)	5.2 (876)	5.3 (824)	6.6 (787)	6.1 (761)
Financial auxiliaries	0.2 (36)	0.3 (49)	0.4 (59)	0.4 (52)	0.4 (55)
Insurance corporations	0.9 (138)	0.9 (155)	1.1 (169)	1.5 (177)	1.5 (186)
Pension funds	12.9 (1,989)	14.4 (2,439)	19.0 (2,935)	30.1 (3,584)	31.1 (3,894)
Total assets	51.8 (7,969)	49.4 (8,389)	57.8 (8,932)	88.1 (10,500)	84.4 (10,556)

1. Except the central bank

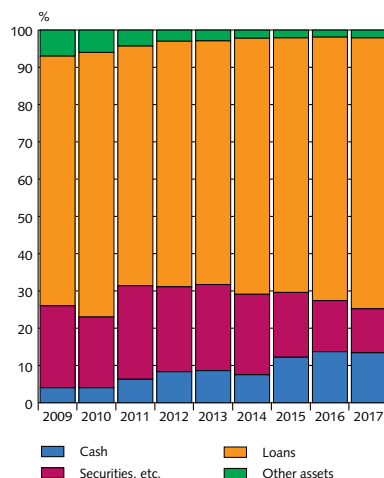
Source: Central Bank of Iceland.

At the end of 2017, there were four commercial banks and four savings banks operating in Iceland. Two of the three large commercial banks, Landsbankinn hf. and Íslandsbanki hf., are owned by Icelandic State Financial Investments (ISFI), which administers the Government of Iceland's holdings in financial institutions. The third large commercial bank, Arion Bank hf., is now wholly owned by private entities after the Icelandic government sold its 13% stake in the bank in February 2018. The savings banks are small compared to the commercial banks, with total assets amounting to less than 1% of total DMB assets. The activities of the commercial and savings banks are directed primarily towards serving the domestic economy.

### Commercial banks' financial position

The commercial banks' assets consist largely of loans. At year-end 2017, total lending amounted to the

Chart 3.3  
Commercial banks' assets<sup>1</sup>

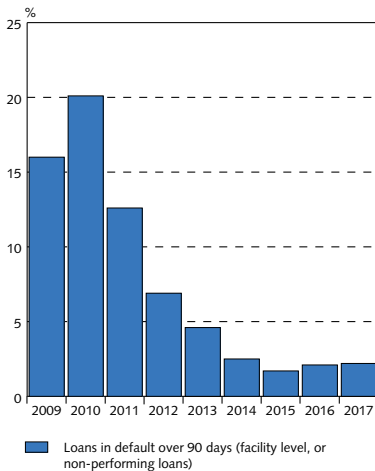


1. Parent companies.

Source: Central Bank of Iceland.

Chart 3.4

Default ratios of the three largest commercial banks<sup>1</sup>

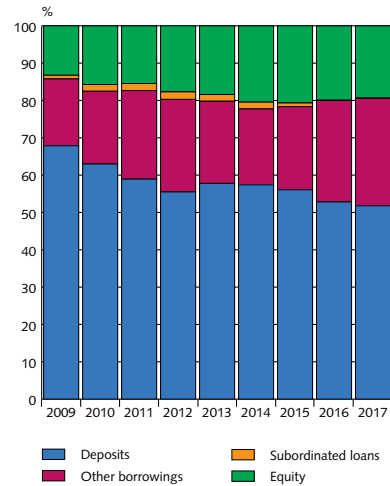


1. Parent companies, book value.

Sources: Financial Supervisory Authority, Central Bank of Iceland.

Chart 3.5

Commercial banks' funding<sup>1</sup>



1. Parent companies.

Source: Central Bank of Iceland.

equivalent of 19.7 billion euros (2,458 b.kr). The largest share was to domestic households and non-financial companies, with 41% indexed to the CPI, 44% non-indexed, and around 15% foreign-denominated. The commercial banks have undertaken extensive restructuring of their household and corporate loan portfolios since the financial crisis in 2008. The D-SIBs' default ratios were steady at around 2% in 2016 and 2017, after having peaked at 20% in 2010. Furthermore, D-SIBs' loan quality has improved, as collateral used to secure loans has risen more in value than the credit stock in the last two years.

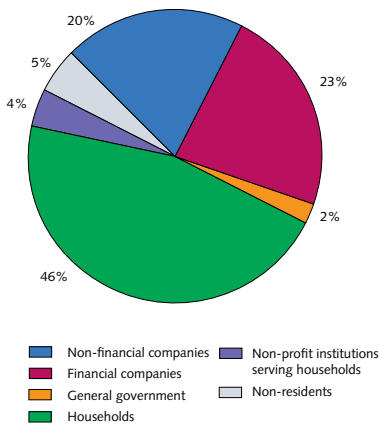
The Icelandic commercial banks are funded mainly by customer deposits. At the end of 2017, deposits comprised 52% of their total funding and their deposit-to-lending ratio was 66%, whereas equity amounted to 19% of funding. Most of the deposits (95%) were held by Icelandic residents. Of total deposits, 9% were indexed to the CPI and around 10% were foreign-denominated. The majority of deposits (72%) are payable on demand or within one month. The banks' market funding has increased in recent years and comprised more than 27% of total funding at year-end 2017. To an increasing degree, the banks fund their mortgage lending portfolios with covered bond issues, which accounted for 7% of total funding at year-end 2017. The banks have issued bonds in foreign credit markets under their medium-term note (MTN) programmes. They have issued mainly in euros, Norwegian kroner, Swedish kronor, and US dollars, and their borrowing terms have been steadily improving in recent years. This is due both to favourable foreign market conditions for bank funding and to the increasing strength of the Icelandic economy, which has been reflected in credit rating upgrades. In October 2017, the rating agency S&P Global upgraded all of the banks from BBB to BBB+ ratings, with a stable outlook.

In recent years, D-SIBs have generated strong profits, and their capital position is robust. Until 2017 a significant portion of the banks' profit stemmed from temporary items such as write-

ups and sales of holdings in companies and valuation increases in loans. The restructuring of the banks' asset portfolios is largely complete, and in 2016-2017 the banks saw a drop in irregular and estimated income, which in 2017 accounted for just under 9% of total income, as opposed to nearly 15% in 2016 and 24% in 2015. As a result, the banks must rely more on their core operations in the future to generate profits. At the end of 2017, their capital adequacy ratios were 25%, including 24.3% in Tier I capital, and had declined by about 2-3 percentage points in the last three years because of dividend payments. The D-SIBs' leverage ratio, a measure of equity relative to total non-risk-adjusted assets, was just under 17% at year-end 2017. Credit rating upgrades and improved access to market funding gives the D-SIBs greater scope to change their funding structure as regards the composition and size of their capital base. However, the D-SIBs will have to meet the Financial Supervisory Authority's (FME) required capital minimum, which was just over 20% as of year-end 2017. In addition, the banks will have to be prepared for an increase in required capital buffers as the financial cycle gains strength.

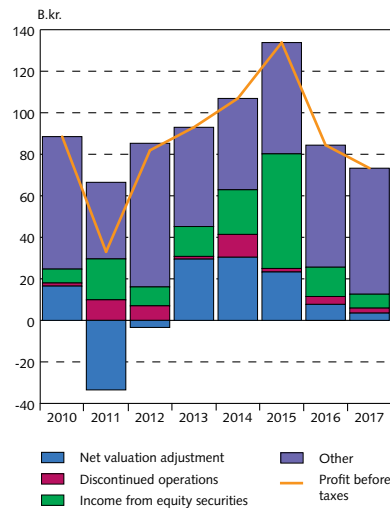
The Basel III capital buffers have been incorporated into the law. The capital conservation buffer is set by law at 2.5%. The Financial Stability Council (FSC) has recommended using the three other buffers and the FME has announced their implementation. The announced buffers are: a capital buffer for systemically important financial institutions, amounting to 2%; a buffer for systemic risk, amounting to 3% of risk-weighted domestic assets; and a countercyclical capital buffer, which is set at 1.25% as of late 2017 but is set to rise to 1.75% effective May 2019. When fully implemented in May 2019, the combined capital buffers imposed on the D-SIBs will be 9.25% of risk-weighted assets.

Chart 3.6  
Deposit owners<sup>1</sup>



1. Commercial banks, parent companies. December 2017. Source: Central Bank of Iceland.

Chart 3.7  
The three largest commercial banks' profit before tax and irregular and estimated items<sup>1</sup>



1. Consolidated figures. Sources: Commercial banks' annual accounts, Financial Supervisory Authority, Central Bank of Iceland.

The Central Bank of Iceland sets rules on credit institutions' minimum liquid assets (liquidity coverage ratio, LCR). The LCR rules assume that banks must always have sufficient high-quality liquid assets to cover net outflows for the next 30 days under stressed conditions. The banks must fulfil requirements for all currencies combined, as well as for all foreign currencies combined. The Central Bank also sets rules on credit institutions' funding ratios in foreign currency (net stable funding ratio, NSFR, in foreign currencies). Rules on credit institutions' minimum net stable funding ratio (NSFR) in foreign currencies took effect in December 2014. The funding ratio is intended to ensure a minimum level of stable one-year funding in foreign currencies, thereby restricting the degree to which the commercial banks can rely on unstable short-term funding to finance long-term foreign-denominated lending. All of Iceland's commercial banks met the liquidity and funding requirements, both in foreign currencies and overall, by an ample margin at the time this publication went to press. The Central Bank of Iceland also sets rules on credit institutions' foreign exchange balance so as to limit foreign exchange risk by preventing credit institutions' foreign exchange balances from exceeding defined limits. The permissible open foreign exchange balance is 10% of the capital base for D-SIBs and 15% for other credit institutions. All of Iceland's commercial banks met the foreign exchange requirements by a sizeable margin as of this writing.

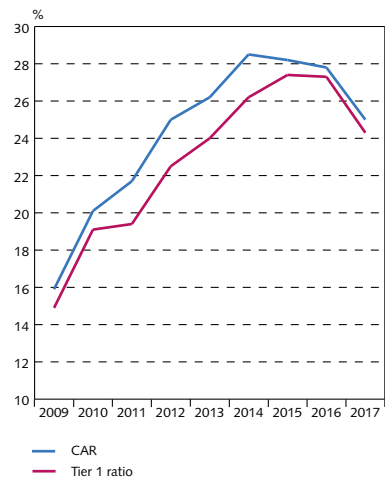
### The Housing Financing Fund

The HFF is an independent Government institution that previously served primarily as a lending institution granting mortgage loans to individuals, municipalities, companies, and organisations in order to finance house purchases and construction projects. In 2016, the role and main tasks of the HFF changed with the passage of amending legislation. The institution is now responsible for implementation of housing policies instead of functioning primarily as a credit institution. The HFF financed its mortgage lending by issuing indexed HFF bonds, which are backed by a Government guarantee. No HFF bonds have been issued since January 2012, however. In recent years, the HFF has been beset by large-scale retirement of loans, although the Fund has attempted to mitigate the negative effects of the prepayments on its interest rate spread by investing in asset-backed indexed bonds. In 2017, the HFF's capital ratio exceeded the long-term target of 5%, measuring 8.5% by the year-end.

### Pension funds

The Icelandic pension fund system consists of pension funds for public employees, on the one hand, and a number of occupational pension funds, on the other. Membership of pension funds

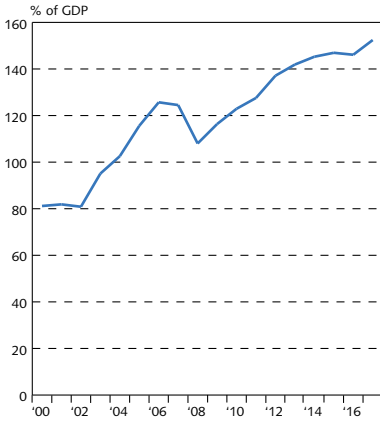
Chart 3.8  
Commercial banks' capital adequacy ratios<sup>1</sup>



1. Largest commercial banks, consolidated figures.  
Source: Commercial banks' annual reports.

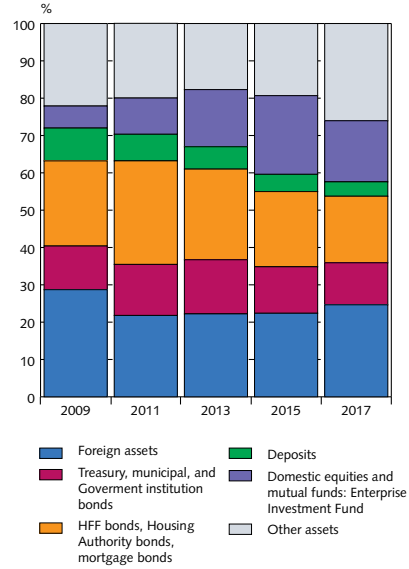


Chart 3.9  
Pension funds' total assets



Source: Central Bank of Iceland.

Chart 3.10  
Pension funds' assets



Source: Central Bank of Iceland.

is mandatory, and all wage earners and employers pay contributions to the funds (see Chapter 2). By and large, it is a funded system. About 90% of assets are held by coinsurance divisions, and about 10% consist of third-pillar pension savings held in custody by pension funds. At the end of 2017, there were 24 pension funds operating in Iceland, with total assets amounting to just over one-third of financial system assets. At that time, total pension fund assets amounted to 31.5 billion euros (3,933 b.kr.), or just over 1.5 times GDP. Since the financial crisis in 2008, pension fund assets have increased by 74% in real terms, owing to improved returns, robust employment growth, and rising wages. As of end-2017, the majority of the funds' assets were domestic, whereas foreign assets accounted for nearly 25% of total assets. The share of the funds' foreign assets declined somewhat following the adoption of capital controls in November 2008, but the share of foreign assets has increased since the controls were liberalised, as the pension funds have actively invested abroad. The pension funds' largest asset classes are marketable bonds and bills, at about 46% of total assets, and stocks and unit share certificates, at about 40%. Iceland's pension funds also participate in lending activity within the financial system, and just over 8% of their assets are loans granted to fund members, mainly housing-related. The pension funds' activities are supervised by the FME, and their investment policies are subject to strict criteria defined in the Act on Mandatory Pension Insurance and on the Activities of Pension Funds, no. 129/1997. Relative to GDP, Iceland's pension funds are the second-largest in the OECD, surpassed only by the Netherlands.

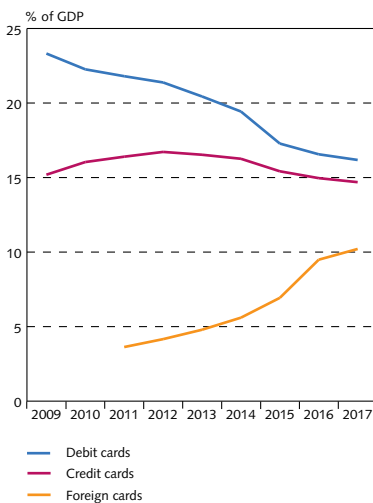
### Payment intermediation

The Central Bank is responsible for the operational soundness of systemically important payment systems. Furthermore, the Bank is responsible for oversight of systemically important financial market infrastructure, including the securities settlement system. The Bank applies the CPSS (now CPMI) and IOSCO's Principles for Financial Market Infrastructures (e. PFMI). The FME is responsible for supervising individual payment service providers and their infrastructure, as well as supervising centralised securities depositories.

Three systemically important payment and settlement systems are operated in Iceland: the Central Bank Real-Time Gross Settlement (RTGS) system; the retail payment system (netting system) owned by Greiðsluveitan ehf., a subsidiary of the Central Bank of Iceland; and the securities settlement system owned by Nasdaq CSD Iceland. The RTGS system plays a key role in the Icelandic financial system. It is used for settlement of high-value interbank payments amounting to at least 80 thousand euros (10 m.kr.), transferring customer payments between the Central Bank's account holders, settlement of monetary policy transactions in Iceland, and settlement of payments for other settlement systems in the Icelandic payment system infrastructure. Net inter-bank positions of the other two systemically important systems are settled in the RTGS system at predefined intervals: the retail payment system twice a day at 8:30 and 16:30 hrs. GMT, and the securities settlement system twice a day at 11:45 and 15:00 hrs. GMT, with delivery of securities versus payment (DvP). All three systems use Central Bank money during the settlement process.

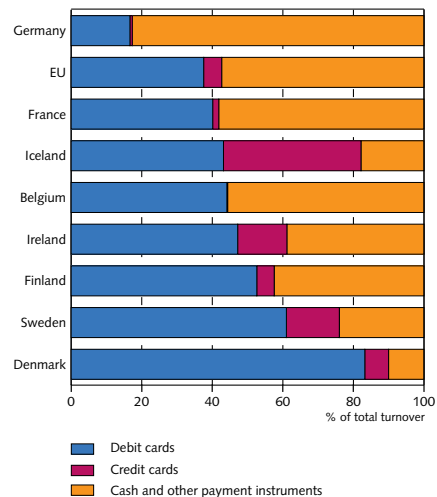
The Central Bank of Iceland has the exclusive right to issue banknotes and coin in Iceland. The currency is called the króna (pl. krónur). Five denominations of banknotes (10,000, 5000, 2000, 1000, and 500 kr.) and five denominations of coins (100, 50, 10, 5, and 1 kr.) are valid as

Chart 3.11  
Use of card payments and foreign cards in Iceland



Source: Central Bank of Iceland.

Chart 3.12  
Use of cash and other payment instruments in 2016



Sources: European Central Bank, Eurostat, Central Bank of Iceland.

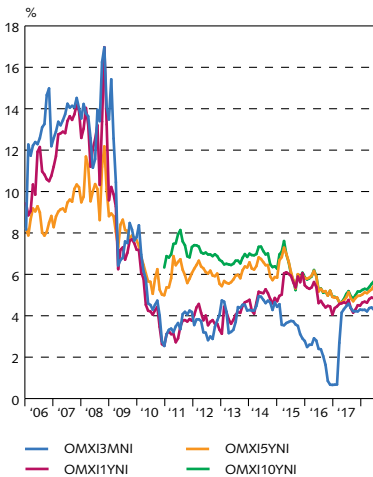
legal tender in Iceland. The value of banknotes and coin in circulation at year-end 2017 was 482 million euros (60.3 b.kr.), or around 2.4% of GDP. Payment cards are commonly used in Iceland by international comparison, and the share of payments made with foreign cards has risen considerably, concurrent with growth in tourism.

**The Nasdaq Iceland stock exchange and the Nasdaq Central Securities Depository**

Iceland currently has one authorised stock exchange, operated by Nasdaq Iceland hf., where public securities listing and securities trading are carried out. Nasdaq Iceland hf. is a part of the Nasdaq Group and is licensed to operate a regulated market as well as a multilateral trading facility (MTF), the First North Iceland market. Both issuer rules and trading rules are largely harmonised with the sister exchanges run by Nasdaq in the Nordic countries (Stockholm, Helsinki, and Copenhagen).

Nasdaq CSD Iceland hf. is one of five central securities depositories (CSD) owned by the Nasdaq Group. The CSD is a registry, depository, and clearing house for securities in dematerialised (electronic) form. The main role of the CSD is to provide centralised registration and notary services for dematerialised securities in the Icelandic market and to maintain securities accounts at the top-tier level. The CSD is responsible for settling transactions with dematerialised securities. It also provides shareholder registry services to issuers, processes corporate actions, and provides information services. Settlement is carried out using Central Bank money. The CSD is a national numbering agency (NNA) assigning international securities identification number (ISIN) codes to instruments issued in Iceland. It operates two national market practice groups (NMPG) whose aim is to develop and harmonise procedures in the Icelandic post-trade environment.

Chart 3.13  
Yields on non-indexed bond indices  
At month-end January 2006 - August 2018



Source: Nasdaq Iceland.

Chart 3.14  
Yields on indexed bond indices  
At month-end January 2006 - August 2018



Source: Nasdaq Iceland.

## Bond market

The Icelandic bond market consists of a primary market and a secondary market that is operated primarily on the Nasdaq Iceland exchange. Icelandic bond issues can be divided into three broad categories:

1. Nominal and inflation-indexed Treasury bonds. These are the largest bond series in the Icelandic market, amounting to 28.8% of market value as of end-June 2018 (5.7 billion euros, 707 b.kr).
2. Housing Financing Fund (HFF) bonds, which are inflation-indexed, interest-bearing bonds with an annuity format. Their market share was about 29% at the end of June 2018, and their market value was 5.8 billion euros (718 b.kr.).
3. Bond issued by Government agencies, private corporations, or institutions such as banks. Their share of the market was 40% at the end of June 2018 (7.9 billion euros, 977 b.kr.).

The Icelandic bond market has several features that set it apart from bond markets in other countries. First, public entities are the largest issuers of listed bonds. By mid-2018, the market value of bonds issued by public entities or firms owned by them amounted to 69% of total issuance. Second, indexed issues are prominent in Iceland's domestic market (36%), as all HFF bonds are indexed to the CPI, although indexed bond issuance has diminished in recent years. Third, secondary market turnover is concentrated in bonds carrying a State guarantee. Fourth, yields on the Icelandic bond market have been high in international comparison because interest rates have been higher in Iceland than in other industrialised countries, due to a wider positive output gap in recent years, higher inflation, and other factors. In the first half of 2018, ten-year inflation-indexed bond yields fluctuated between 1.90% and 1.93%, while ten-year nominal bond yields fluctuated between 5.11% and 5.42%. Bond market turnover amounted to 10.3 billion euros (1,240 b.kr.) in 2017.

Table 3.2 Bond market — market value 30.6.2018

	<i>Value in EUR millions</i>	<i>Share %</i>
Treasury securities	5,822	29
Treasury bills (3m and 6m)	126	
Treasury bonds	4,192	
Treasury bonds – CPI-indexed	1,505	
Housing Financing Fund	5,783	29
Corporate bonds	2,846	14
Financial institution securities	3,078	16
Municipal bonds	1,400	7
Foreign bonds	543	3
Bank bills	294	1
Total value	19,766	

Source: Nasdaq Iceland.

### Equity market

As of end-June 2018, eighteen companies were listed on the Nasdaq OMX Iceland Main List, and five were listed on the First North market. Össur hf.<sup>2</sup> was delisted from the Main List in November 2017, and the real estate company Heimavellir hf. and the commercial bank Arion Bank hf. were listed in Q2/2018. Companies on the Icelandic stock exchange market belong mainly to the industrial, financial services, real estate, and communication services sectors.

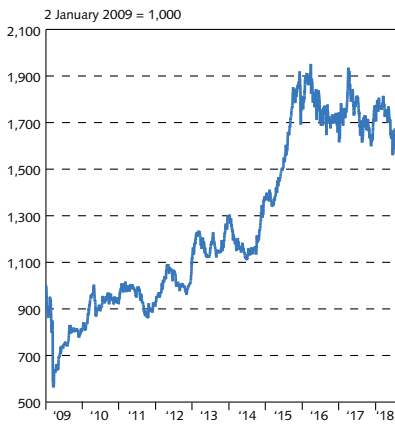
Since 2010, total turnover on the Icelandic stock exchange market has steadily increased. As of end-June 2018, the market value of Main List companies was 8 billion euros (995 b.kr.), or approximately 39% of year-2017 GDP, broadly the same as at end-June 2016. The OMXI8 index stood at 1,716 points as of end-June 2018.

### Money market

The money market consists of the interbank loan market and a secondary market. Secondary market trading is concentrated largely in very short-term Treasury bonds, Treasury-guaranteed bonds, and Treasury bills. Treasury bill turnover in the secondary market totalled 15.8 million euros (1.9 b.kr.) in 2017.

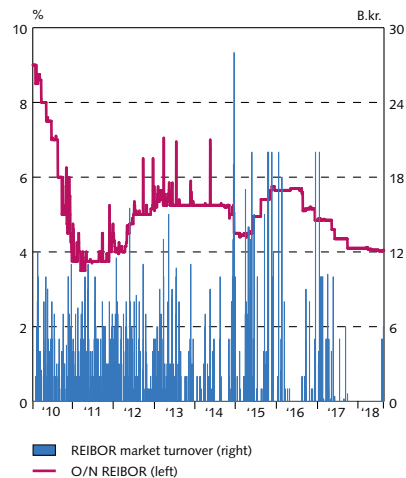
The Central Bank of Iceland oversees the interbank market for krónur, where trading consists of unsecured loans between market makers. Members must submit indicative bid and ask quotes on various maturities ranging from overnight to twelve months. The vast majority of trading on the market is for one week or less. Once a day, the Central Bank fixes REIBID and REIBOR rates for the market. As of this writing, there are four participants in the market: Arion Bank, Íslands-

Chart 3.15  
Equity market, OMXI8 index  
Daily data 2 January 2009 - 31 August 2018



Source: Nasdaq Iceland.

Chart 3.16  
REIBOR interest rate (O/N) and  
REIBOR market turnover  
Daily data 4 January 2010 - 31 August 2018



Source: Central Bank of Iceland.

2. Össur hf. shares are now listed only on Nasdaq Denmark.

banki, Kvika banki, and Landsbankinn. Kvika banki joined the interbank market in February 2017. Market turnover totalled 1 billion euros (123.8 b.kr.) in 2017.

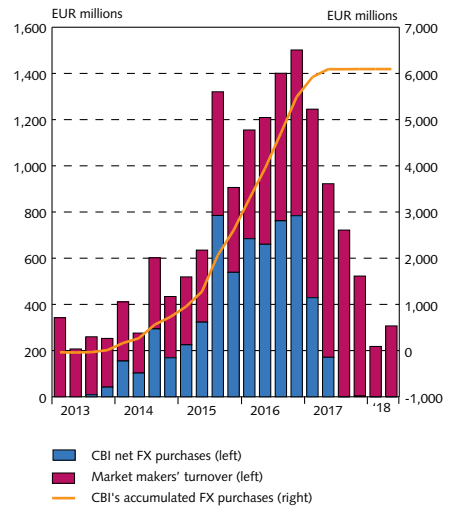
### Foreign exchange market

At present, there are three market makers in the foreign exchange market for Icelandic krónur: Arion Bank, Íslandsbanki, and Landsbankinn. Market makers conduct foreign exchange transactions among themselves during market hours and pledge to maintain continuous bids and offers in euros. Prices are quoted in krónur per euro, and each bid submitted is in the amount of one million euros. The market is open from 09:15 hrs. to 16:00 hrs. on weekdays.

The Central Bank oversees the interbank foreign exchange market, can trade with market makers, and publishes the daily official exchange rate of the króna based on the price offered by market makers. The Central Bank is not a market maker, however, and is therefore not obliged to conduct transactions with other market makers, even if requested to do so.

Turnover in the foreign exchange market totalled 3,380 million euros (407.4 b.kr.) in 2017, and the Central Bank's share was 690 million euros (83.1 b.kr.) (see Chapter 5).

Chart 3.17  
Interbank market for foreign exchange  
Q1/2013 - Q2/2018



Source: Central Bank of Iceland.

# 4 Public sector

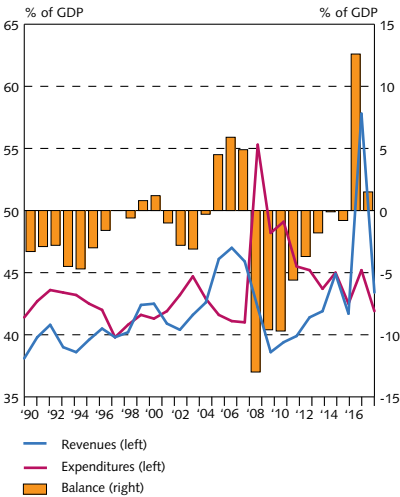
This chapter describes the public sector in Iceland, focusing on the division of responsibilities, central and local government finances, the structure of the tax system, and government balance sheets. Recent developments in Iceland's sovereign credit ratings are discussed as well.

## The size of the government sector

By 2017, Icelandic general government expenditure was back to the 1998-2008 twenty-year average of 42% of GDP, after peaking at 55% of GDP in 2008. Iceland's expenditure ratio is somewhat below the Nordic countries' range of 47-52% of GDP. Iceland is at a level similar to that in Luxembourg, but slightly higher than in Japan, UK and the US, where levels are below 40%.

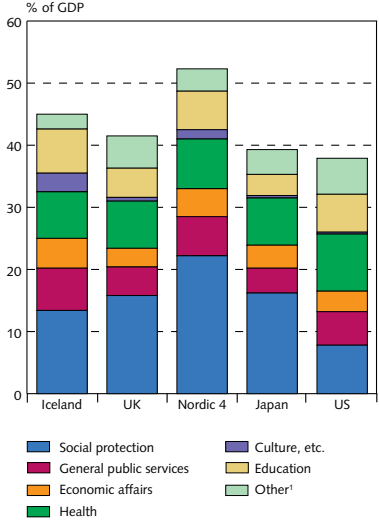
Several factors have allowed Iceland to function efficiently with a relatively small government sector: comparatively limited spending on social affairs, in part due to a relatively young population; historically low unemployment; and the historical absence of defence expenditure. Furthermore, fully funded private pension funds, organised by occupation, as opposed to a pay-as-you-go system in terms of benefit pay-outs, accounted for over 69% of pension payments in 2017, whereas public pensions are the dominant pillar in many other OECD countries (see

Chart 4.1  
General government finances<sup>1</sup>



1. Revenues for 2013 adjusted for reevaluation of the Treasury's share in Landsbankinn. The reevaluation implies an increase in revenues of 1.4% of GDP.  
Source: Statistics Iceland.

Chart 4.2  
General government expenditures 2016



1. Public order and safety, defence, environment protection, and housing.  
Source: OECD national accounts.

Chapter 2). The relatively young population and high retirement age also result in lower overall pension expenditure.

On the revenues side, there was rapid growth during the upswing prior to 2008, bringing the revenue ratio up to the euro area average of around 46% of GDP. The ratio fell as low as 39% of GDP in 2010 but began to inch upwards after the economic recovery started to take hold, measuring 43% of GDP in 2017.

The composition of government revenues in Iceland differs noticeably from that in the other Nordic countries and the euro area. Social security contributions are low by international standards, partly because of the strength of the second-pillar pension system. Taxes on goods and services in Iceland have been similar in size to those in comparison groups, with value-added tax carrying most of the weight. Revenues from taxes on individual income rose throughout the 1990s, however, and are now approaching the rates in the Nordic countries.

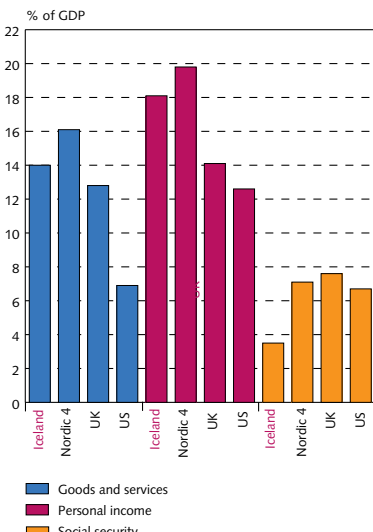
**Division of responsibilities**

Iceland’s government sector is organised on two levels, central and local. Separate sets of social security accounts are maintained, but social security expenditures and revenues are authorised through the central government budget.

The central government regulates local governments and their authority to collect revenues, and it actually collects around two-thirds of local government revenues for municipalities, mostly through income taxes. It also administers and finances the social security sector of government.

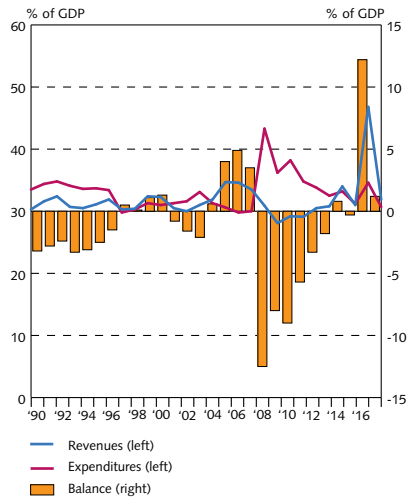
The central government is responsible for police, courts, foreign affairs, upper secondary and tertiary education, health services, institutional care for the elderly, general support and services

Chart 4.3  
Importance of tax categories 2016



Source: OECD, Central Bank of Iceland.

Chart 4.4  
Central government finances<sup>1</sup>



1. Revenues for 2013 adjusted for revaluation of the Treasury’s share in Landsbankinn. The revaluation implies an increase in revenues of 1.4% of GDP.  
Source: Statistics Iceland.



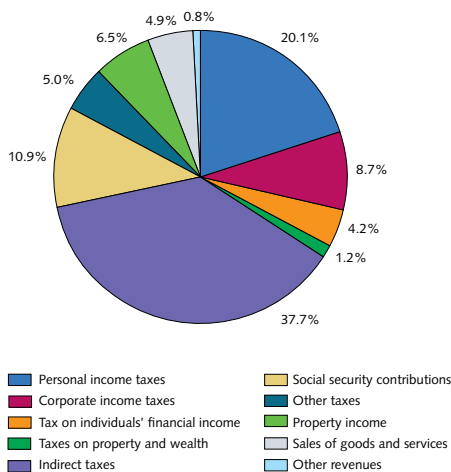
for industry, and most infrastructure construction and maintenance not obviously specific to particular municipalities. It administers benefit programmes for elderly and disabled persons, unemployment benefits, mortgage interest subsidy payments for owner-occupied housing, rent benefits for residential housing, child benefits, and parental leave at childbirth. The programmes are generally means-tested, although to varying degrees.

Local governments are responsible for local planning, most local infrastructure, day care and education from pre-school through the lower secondary level, care of disabled persons, and welfare services of various kinds, particularly to include services for the elderly apart from health care. They are also responsible for meeting the housing needs of low-income households. Local governments provide supplementary assistance to general pensions and income support programmes run by the central government, notably by paying benefits to people who have exhausted their unemployment benefits or who for other reasons are ineligible for them.

### General government finances

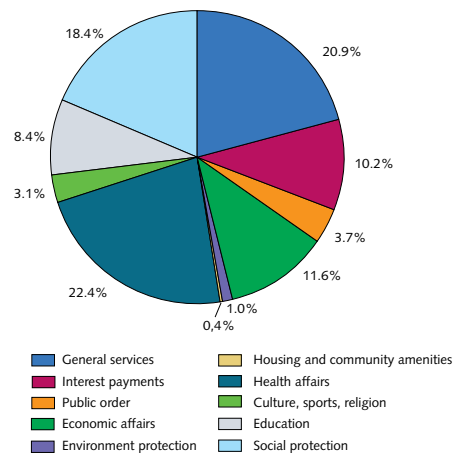
General government finances were in surplus in the period prior to the 2008 crisis. Gross general government debt, as defined by the Maastricht criteria, had fallen to 27% of GDP in 2007. In 2008, the Government assumed large liabilities and substantial consolidation became necessary. As a result, general government gross debt rose to 95% of GDP in 2011 but has fallen since, to 42% of GDP at the end of 2017. The outlook is for government debt to decline by a further 5% of GDP by 2020.

Chart 4.5  
Composition of central government revenues in 2017



Source: Statistics Iceland.

Chart 4.6  
Composition of central government expenditures in 2016



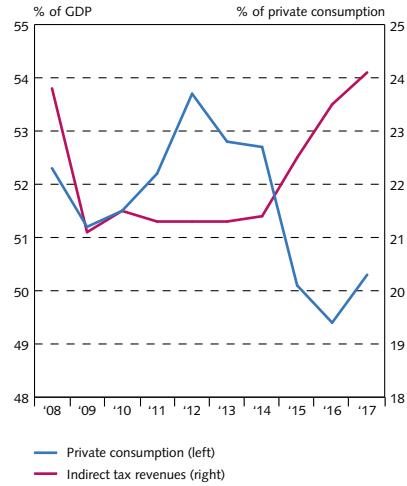
Source: Statistics Iceland.

### Central government finances

Since 1980, central government revenues have been fairly stable, fluctuating between 28% and 33% of GDP, in tandem with the business cycle. Only in the 2004-2007 upswing did they rise above that range.

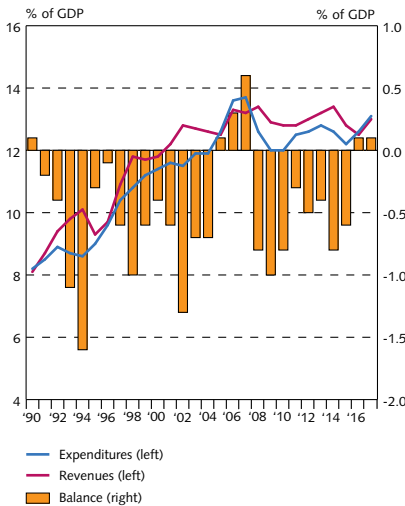
The composition of central government revenues in 2017 is shown in Chart 4.5. Direct taxes generate almost half of total revenues, while indirect taxes constitute 38%. By design, Iceland's central government revenues are strongly cyclical for three main reasons. First, the state personal income tax, which accounts for some 20% of central government revenues, has a progressive predetermined bracket structure (see Box 4.1). This implies that greater-than-expected income growth translates into a higher-than-expected ratio of taxes to total income. Second, 38% of central government revenues come from taxes targeting consumption of goods and services. These taxes fall most heavily on durables, most of which are imported. Such consumption has proven very sensitive to the business cycle, balance sheet effects, and the cyclical real exchange rate. Third, revenues from taxes on corporate profits, households' financial income, and certain financial transactions are by nature sensitive to the business cycle. These revenues grew from just under 2% of GDP in 2003 to almost 5½% at the height of the

Chart 4.7  
Procyclicality of indirect taxes



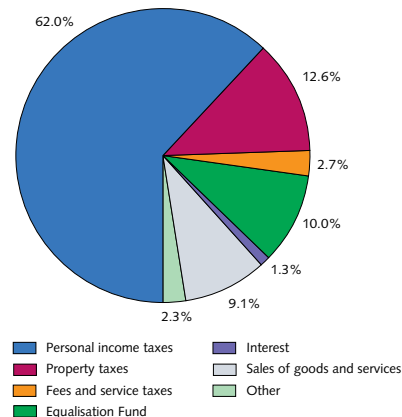
Source: Statistics Iceland.

Chart 4.8  
Local government finances



Source: Statistics Iceland.

Chart 4.9  
Composition of local government revenues in 2017



Source: Statistics Iceland.

upswing. In 2009-2013, they fell to below 3½% of GDP despite significantly increased tax rates, but then rose again to 4.1% of GDP in 2015. Combined central government revenues from taxes on consumption fell from 15½% in 2005-2007 to around 12% of GDP in 2009-2015. The payroll tax, or social security contribution, is far more stable.

The composition of central government expenditures is shown in Chart 4.6. Health and social protection account for almost half of expenditures. The recession after 2008 increased social protection expenses, chiefly through unemployment costs, which rose from 0.4% of GDP in 2008 to 1.7% in 2009 before starting to taper off again. Unemployment costs had fallen back to 0.4% by 2016.

Central government interest expense was around 2% of GDP in 2005-2007, in spite of steep increases in interest rates beginning in 2004. As a result of the debt burden imposed in 2008-2011, central government gross interest expense rose to 5.7% of GDP in 2009 but had fallen to 3.5% by 2016. Beginning in 1997, the central government made an effort to pre-fund civil service pension liabilities, which are not classified as debt under the Maastricht definition. This was discontinued in the wake of the crisis but resumed in 2017. Adding pension liabilities and short-term payable accounts raises the debt figure by 28 percentage points, to 63% of GDP at the end of 2017.

In December 2015, Parliament passed new legislation on public sector finances that imposes stringent rules on operational performance and developments in the debt level (see Box 4.2). The new medium-term fiscal framework is designed to address gaps in the previous legal framework from budget formulation to execution.

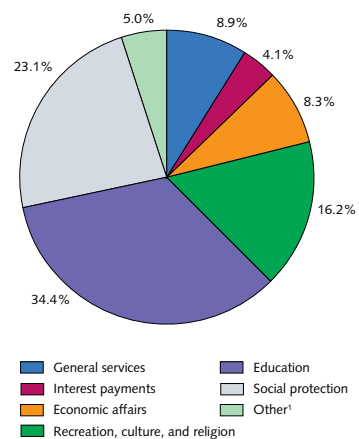
### Local government finances

Local government expenditures amounted to 13% of GDP in 2017. This ratio has risen over the years as local governments have assumed increased responsibilities for education and care for the disabled in 2016. Education, from pre-school to age 16, accounts for 42% of expenditures, with culture and recreation and welfare expenditures accounting for about 20% each.

The local government sector broke a fourteen-year string of deficits in 2005 and remained in surplus in 2006 and 2007. After the crisis, another eight-year string of deficits ensued, followed by a slight surplus in 2016 and 2017. The two largest local government revenue sources, the flat municipal personal income tax contributing 61% of local government revenues (close to 8% of GDP) in 2017 and a property tax contributing 13% of revenues (1.6% of GDP), have remained stable.

The depreciation of the króna in 2008 led to an increase in local government debt from just under 5% of

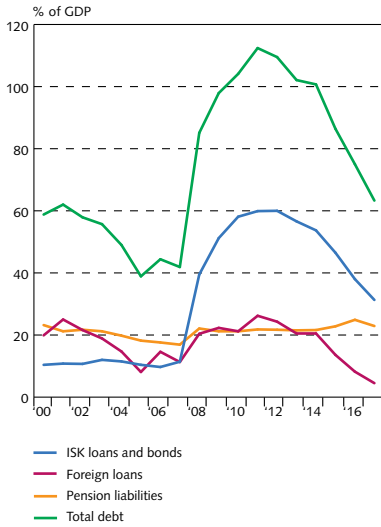
Chart 4.10  
Composition of local government expenditures in 2016



1. Health, housing, environment, and public order.  
Source: Statistics Iceland.

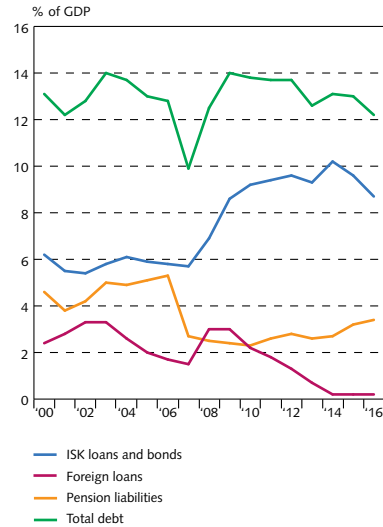
1. Debt as defined by the Maastricht criteria is total financial liabilities less insurance, technical reserves, and other accounts payable.

Chart 4.11  
Central government liabilities



Source: Statistics Iceland.

Chart 4.12  
Local government liabilities<sup>1</sup>



1. The Maastricht definition of gross government debt does not include pension liabilities and is more akin to loans and bonds.  
Source: Statistics Iceland.

GDP in 2007 to 9% of GDP in 2009. The debt level subsided to 6.6% of GDP in 2017.<sup>1</sup> Adding pension liabilities and short-term payable accounts raises the debt figure to just over 12% of GDP at the end of 2017.

Parliament passed a new Local Government Act in September 2011 (see Box 4.2). Multi-year budgeting was introduced, as were two fiscal rules. The new Act tightened budget procedures and financial oversight considerably.

Box 4.1  
The tax system

In 2017, the central government derived around 86% of its revenues (27.6% of GDP) from taxes and social security contributions, while the comparable number for local government was 77.3% (10.1% of GDP).

The personal income tax is levied jointly by the central and local governments. The local government tax, a flat percentage of total taxable income, varies slightly by municipality, averaging just below 14½% in 2017. The central government tax is progressive, with a rising marginal rate and a zero tax bracket structured as a rebate on taxes due. The result is a two-bracket overall tax structure. The rates and thresholds are shown in Table 1.

In principle, taxes are levied on each individual, but a couple may share the rebate (i.e., the zero bracket) and a higher-earning spouse may utilise up to half of the unused part of the 22.5% bracket of a lower-earning spouse.

The central government taxes individuals' financial income – dividends, rental income, interest, and capital gains – at a rate of 22%, with an exemption for interest income up to 1,200 euros per person per year (150 thousand kr.) and an exemption for 50% of rental income earned by individuals.

The corporate income tax is currently 20% of profits, after having been raised incrementally from a low of 15%. There is a payroll tax of 6.85% of the applicable wage bill. The payroll tax is earmarked for financing unemployment benefits, maternity/paternity leave, and other similar expenses. It was raised in increments from 5.34% to 8.65% between 2008 and 2011 in order to finance unemployment benefits, but was reduced to the current 6.85% in 2012.

Parliament has introduced three measures of taxation on financial enterprises: i) A tax based on the debt of financial enterprises, introduced for 2011 at 0.041%. In 2014, the rate was raised to 0.376% and the tax was extended to include financial institutions in winding-up proceedings in order to finance the Government's household debt relief programme. This tax is scheduled to be lowered in four increments to 0.145% by 2023; ii) An additional payroll tax on financial enterprises, introduced for 2012 at 5.45%, now 5.5%; iii) An additional 6% charge on profits in excess of 1 b.kr., also introduced for 2012. Taxation of property and financial transactions is in three main parts: i) Property taxes levied by local governments on the assessed value of real estate. In 2017, property taxes averaged 0.288% on residential property; 1.320% on schools, health care centres, and other like institutions; and 1.641% on commercial property; ii) A stamp tax collected by the central government, yielding around 0.2% of GDP. After a simplification in 2014, the stamp tax

Table 1 Main features of the Icelandic tax system in 2018

	2018 <sup>1</sup>	Revenue 2017 % of GDP
Central government personal income tax <sup>2</sup>		6.4%
Lower bracket/starts at <sup>3</sup>	22.5%/14,120 euros (1.75 m.kr.)	
Higher bracket/starts at	31.8%/ 86,340 euros (10.7 m.kr.)	
Local government personal income tax		8.1%
min/average/max <sup>4</sup>	12.44%/14.44%/14.52%	
Zero bracket for combined income tax <sup>3</sup>	14,120 euros / 1.75 m.kr.	
Tax on individuals' financial income <sup>5</sup>	22.0%	1.3%
Payroll taxes	6.85%	3.6%
Corporate income (profit) tax	20.0%	2.8%
Property taxes		1.6%
Residential property, average/max	0.288% <sup>6</sup> /0.625%	
Hospitals, schools and related, avg./max	1.32%	
Commercial property, average/max	1.641% <sup>6</sup> /1.650%	
Value-added tax		8.5%
General rate	24.0%	
Reduced rate <sup>7</sup>	11.0%	

1. Based on average EURISK exchange rate year-to-date. 2. Couples are taxed individually, except that a) a couple may share their rebates or double zero brackets; and b) a person may utilise up to half of a spouse's unused 22.5% bracket up to a maximum of 22,590 euros (2.8 m.kr.). 3. The zero bracket is due to the 645 thousand kr. Treasury rebate against the combined income tax rate of 22.5% +14.44%. 4. Maximum rate 14.52% (temporary maximum 15.05% in 2016). Municipalities under financial duress may raise their rate by an extra 10%. 5. Interest income up to 1,200 euros (150 thousand kr.) and 50% of rental income from residential housing is exempt. 6. Average from 2017. 7. For items in the 11% category and items exempt from the tax, see main text.

Sources: Association of Local Authorities, Directorate of Internal Revenue, Parliament of Iceland website ([www.althingi.is](http://www.althingi.is)), Statistics Iceland.

applies only to transfer of deeds. It is set at 0.8% of the value if the deed holder is an individual, but 1.6% for corporations and other legal entities; and iii) An estate tax with a main rate of 10% (0.1% of GDP).

The largest source of central government revenues is the value-added tax on domestic business, yielding 8.5% of GDP and 26.6% of revenues in 2017. A rate of 24% is charged on most goods and services, while food, accommodation, road tolls, books, newspaper and media subscriptions, audio recordings, indoor heating, and selected services are taxed at 11%. Some categories of goods and services are exempt, including financial services, travel agencies, health services, daycare, education, cultural and athletic events and services, passenger transportation, postal services, the activities of writers and composers, and the services of priests/ministers and funeral parlours.

There are central government excise taxes and customs duties on imports of motor vehicles and on fuel (earmarked in part for road construction), as well as an annual licence tax on vehicles. A general excise tax is levied on a range of goods at three rates – 15%, 20%, and 25% – while unit levies are charged on some goods. Alcoholic beverages and tobacco are also taxed. Customs duties range from 0% to 30% of the CIF value, although most imports from the EU, as well as Iceland's EFTA partners (Norway, Liechtenstein, and Switzerland), are exempt under the EEA Agreement. Higher duties apply to various agricultural products. Central government excise taxes (including those on motor vehicles and fuel), tariffs, and user taxes accounted for around 2.9% of GDP and 8.4% of central government revenues in 2017.

In all, the central and local government taxes and social security contributions described above accounted for 85% of general government revenues and over 98% of tax revenues in 2017. As for the remaining 15% (6.4% of GDP), other taxes accounted for 1.5% of revenues, grants for 0.2%, property income for 5.8%, sales of goods and services for 6.5%, and miscellaneous income for the remaining 1%.

### Government holdings in the business sector

In 1997-2007, the central government pursued an extensive programme of privatisation, which included companies in the banking sector. After the privatisation process came to an end, the State's most important business holdings were in Landsvirkjun (the National Power Company), the Housing Financing Fund (HFF), and a few smaller financial institutions.

After October 2008, the State recapitalised the banking system by establishing new banks. The original plan was that the new banks would initially be Government-owned, but according to agreements reached with the estates of the old banks, the estates took a significant equity stake in the new banks. Initially the State held 98% in Landsbankinn, 13% in Arion Bank, and 5% in Íslandsbanki, at a cost of 1.5 billion euros (196 b.kr.), or 12% of GDP. With the settlement of the Glitnir Bank estate through composition agreements based on stability conditions in late 2015, the State received a 95% stake in Íslandsbanki in addition to its previous 5%, making it the sole owner of the bank (see Chapter 6). In addition, through the stability conditions, the State received small shareholdings in various companies that are now in the process of being sold. By year-end 2017, the central government's business sector holdings were mainly in financial institutions, as a result of the settlement of the failed banks' estates.

Local government holdings are mainly in geothermal production of heat and electricity. Iceland's municipalities own almost all of the geothermal power companies, which supply heating to most homes in Iceland and, on an increasing scale, provide electricity to the aluminium industry. Several local governments also own operating companies for harbours.

Table 4.1 Republic of Iceland foreign bond issues<sup>1</sup>

Type	Issue date	Maturity	Currency	Loan facility amount	Outstanding amount
US Dollar bond (MTN)	2012	2022	USD	1,000	92
Eurobond (MTN)	2014	2020	EUR	750	352
Eurobond (MTN)	2017	2022	EUR	500	500

1. Figures are as of 30 June 2018. Amount in millions.

Source: Central Bank of Iceland.

### Government guarantees

State guarantees must be authorised explicitly in legislation and are generally confined to Government enterprises and institutions related to the Government. Local governments, on the other hand, are prohibited by law from granting loan guarantees except to their own subsidiary institutions.

As of year-end 2017, the central government's outstanding guarantees amounted to 39% of GDP. Some 82% of this represents Government backing of residential mortgages through the HFF, a State-owned investment fund with a sizable share of household mortgage lending in Iceland. Another 16% of the guarantees are for the debt of Landsvirkjun.

### Treasury foreign debt

Since 2014, the Republic of Iceland has been a modest borrower in the international markets, as it was before the financial crisis. Loans taken in connection with the post-crisis recovery programme were repaid in full in 2015.

In 2017, the Treasury bought back its 2022 US dollar bond, in the nominal amount of 908 million US dollars. The original amount of the bond was USD 1 billion. At the end of 2017, a new eurobond was issued alongside the buyback of an existing 2.5% bond maturing in 2020. The buyback totalled just over 398 million euros, and the outstanding balance of that bond is now 352 million euros. The new bond, a five-year 500 million euro issue, bears 0.5% fixed interest and was issued at a yield of 0.56%.

At the end of June 2018, three foreign bond issues were outstanding, leaving the Treasury's foreign debt at 934 million euros (115.6 b.kr.). Under a special agreement with the Minister of Finance and Economic Affairs, the Central Bank is responsible for the implementation of both domestic and foreign borrowing for the Treasury. The Republic of Iceland has never failed to honour its financial obligations and has always paid when due the full amount of principal, interest, and sinking fund instalments for all internal and external obligations.

### Republic of Iceland credit ratings

Iceland has received unsolicited credit ratings since 1986, but the first formal long-term credit ratings for the Republic of Iceland were issued in 1994, in the single-A category. In the years that followed, Iceland's credit ratings steadily improved, reaching the AA-AAA range in late 2008. Although ratings were downgraded during the 2008 recession, investment-grade ratings were maintained throughout by both Moody's and Standard & Poor's (S&P Global). The Republic of Iceland's credit ratings have been on an upward trajectory in recent years. Iceland is currently rated A3 by Moody's and A by S&P Global and Fitch Ratings.

Table 4.2 Republic of Iceland credit ratings

	Affirmed	Foreign currency		Domestic currency		Outlook
		Long-term	Short-term	Long-term	Short-term	
Moody's	July 2018	A3	...	A3	...	Positive
Standard & Poor's	June 2018	A	A-1	A	A-1	Stable
Fitch	June 2018	A	F1	A	F1	Stable

Source: Central Bank of Iceland.

Fitch Ratings upgraded Iceland's long-term foreign and local currency issuer default ratings (IDR) from A- to A in December 2017, with a stable outlook. The agency cited the considerable reduction in the Icelandic economy's external vulnerability as a main rating driver, noting strong current account surpluses and the downward trajectory of public debt ratios. Fitch stated that evidence of overheating or a weakened commitment to fiscal consolidation in the medium term could put downward pressure on the ratings. On the other hand, continued balanced growth and reductions in the public debt ratio could lead to a positive rating action.

Moody's Investors Service has maintained an A3 rating on Iceland's Government bond and issuer ratings since September 2016. Moody's most recent rating action for Iceland was in July 2018, when the outlook was changed from stable to positive. The rating agency concurrently affirmed Iceland's long-term issuer rating at A3. The key drivers cited for the change in outlook were improving economic resilience due to a net external creditor position, more balanced growth, and an increasingly robust domestic banking system. Moody's also noted greater-than-expected improvements in the Government's debt metrics. In its most recent annual credit analysis, Moody's stated that deteriorating competitiveness represented the most significant threat to the sustainability of Iceland's external position.

S&P upgraded Iceland's long-term foreign and local currency sovereign credit ratings from A- to A in March 2017, noting that the recent liberalisation of most of the remaining capital controls and the conclusion of an agreement with the owners of offshore króna assets had strengthened Iceland's external profile. This entailed the likelihood that balance of payments stress due to liberalisation of capital controls had been reduced and that the removal of controls on residents could facilitate access to foreign capital markets as well as providing the Central Bank of Iceland with increased policy flexibility. In its most recent publication, from June 2018, the outlook remained stable, reflecting S&P's view that risks stemming from the domestic economy overheating are balanced against the potential for more rapid improvements in Government and external balance sheets over the next few years.

### Government balance sheets

Iceland's general government gross debt was among the lowest in advanced IMF countries in 2007 (Chart 4.13). Gross debt rose substantially between 2008 and 2011, but it has fallen since then and was well below the average for IMF member countries in 2017. Furthermore, if projections of nominal GDP growth and a general government surplus are borne out, general government debt will be further reduced. According to a recent IMF forecast, by 2021 Iceland will again be among the advanced IMF countries with the lowest general government debt.<sup>2</sup>

2. International Monetary Fund (2018). *Fiscal Monitor*, April 2018.



The central government has by far the largest balance sheet, with assets and liabilities constituting almost 89% of the general government balance sheet, while the local government share is about 11%. Social security accounts constitute only a marginal share of general government accounts in comparison with central and local government. As a result, general government financial assets and liabilities are largely those of the central and local governments.

### Central government

The fiscal position of the central government was strong in 2007, as net financial assets became marginally positive. Net financial assets turned negative by 32.4% of GDP in 2009 and deteriorated further, bottoming out at -47.3% of GDP in 2012. Since then the position has improved, and in 2017 net financial assets stood at -26.1% of GDP.

After 2008, currency and deposits emerged as the central government's largest asset group, as foreign debt was used to build up the Central Bank's foreign exchange reserves. The second-largest asset group is shares and other equity holdings. Shares and equity held by the central government are still close to 20% of GDP, after the State received a 95% stake in Íslandsbanki in addition to its previous 5%, making it the sole owner of the bank. The increase in the two largest asset groups, plus the fact that the Treasury needed to hold more deposits to finance the deficit, explains why financial assets rose from 43% of GDP in 2007 to as high as 67% in 2011. They have since declined and stood at 37% of GDP in 2017.

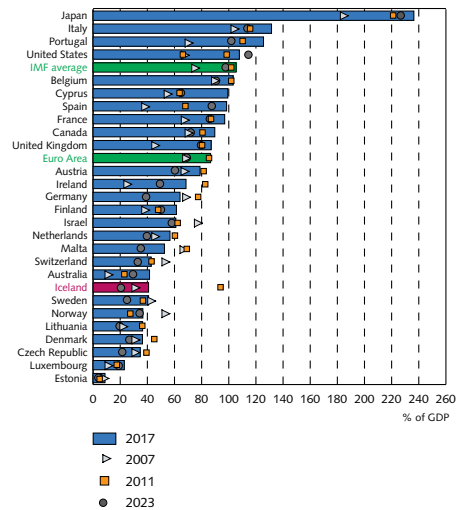
After bottoming out at 39% of GDP in 2005, central government financial liabilities soared, reaching a high of 112% of GDP in 2011; however, they had fallen to 63% by the end of 2017 and are projected to fall further still.

The depreciation of the króna in 2008 led to a rapid weakening of the gross debt position, as 33% of central government debt was denominated in foreign currency. The need to strengthen the Central Bank's foreign exchange reserves led to a further increase in the gross debt position. Consequently, central government gross foreign debt rose from 11.3% of GDP in 2007 to 26.2% of GDP in 2011. Gross debt has since declined, mainly because the loans from the IMF and the bilateral loans taken to strengthen the Central Bank's reserves have been paid in full. By 2017, gross debt had fallen to 4.5% of GDP.

As borrowed funds were used to acquire assets, net debt<sup>3</sup> increased less. While central government gross debt increased by 68% of GDP between 2007 and the 2011 peak, net debt

Chart 4.13

Gross general government debt in selected IMF countries



Source: IMF Fiscal Monitor April 2018.

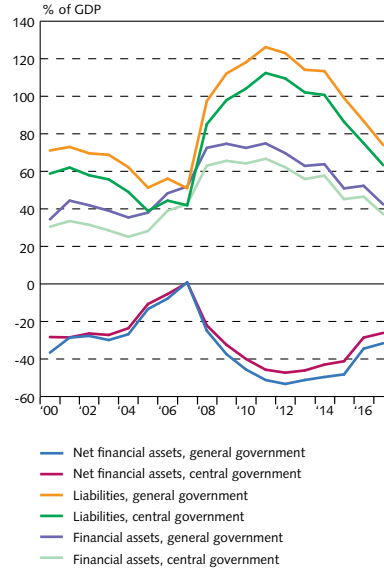
3. Net debt is defined here as gross debt less currency and deposits; i.e., readily available funds that can be used to pay down debt.

Chart 4.14  
General government debt<sup>1</sup>



1. Central Bank baseline forecast 2018-2020 from *Monetary Bulletin* 2018/2. Gross debt according to Maastricht criteria and net debt according to the definition in the Act on Public Sector Finances. Sources: Statistics Iceland, Central Bank of Iceland.

Chart 4.15  
Financial assets and liabilities



Source: Statistics Iceland.

increased by only 44% of GDP, to 66% of GDP. Net debt stood at just over 29% of GDP at year-end 2017.

Fiscal deficits were financed primarily in domestic financial markets following the financial crisis. Króna-denominated debt increased from 11.5% of GDP in 2007 to around 31% in 2017, after peaking in 2011 at 60%. At year-end 2017, króna-denominated liabilities, including pension liabilities, amounted to 59% of GDP, compared to 31% of GDP in 2007. Overall, total central government liabilities amounted to 63% of GDP in 2017 (36% according to the Maastricht criteria<sup>4</sup>), as opposed to 42% in 2007, after peaking at 112% in 2011.

### Local government

Since 2009, local government gross debt has been on a declining path, helped by a new fiscal debt rule stipulating that debt may not exceed 150% of regular revenues (see Box 4.2). By 2016 it had fallen to 6.6% of GDP. To minimise risk, most of local governments' foreign debt has been refinanced; it amounted to only 0.2% of GDP at year-end 2017.

As is the case with the central government, local governments have financed their deficit spending primarily in the domestic credit market, increasing their króna-denominated debt from 3.2% of GDP in 2007 to 7.3% in 2017.

Local governments' financial assets were stable at approximately 8-9% of GDP from 2005 through 2012 but had fallen to 5.4% in 2017, due mostly to a decline in outstanding loans and other accounts receivable. Cash and deposits declined because of improved asset management,

4. Debt as defined by the Maastricht criteria.

while the nominal value of shares remained stable over the period but declined as a share of GDP because of a rise in nominal GDP. Therefore, all asset groups declined as a share of GDP from 2012 onwards.

## Box 4.2

### Iceland's fiscal framework

The fiscal impact of the financial crisis and the extent of fiscal consolidation required thereafter helped to build the political consensus needed to implement reforms to the fiscal framework. Two new acts of law have been passed: the Local Government Act in September 2011 and the Act on Public Sector Finances in December 2015.<sup>1</sup>

#### The Local Government Act

Local government reforms were quite extensive. First, two numerical fiscal rules were adopted so as to provide a long-term anchor and a medium-term fiscal path that is quantified in a required multi-year budget. Second, municipalities are subjected to a three-tiered approach to external financial monitoring based on the principle of earned autonomy. Third, there are sanctions, ranging from mild to severe, for violating the fiscal rules. Fourth, local governments are monitored by an independent external body, the Municipal Fiscal Oversight Committee (MFOC).

The two numerical rules are a balanced budget rule and a debt ceiling rule, and both extend to Parts A and B<sup>2</sup> of the budget. The first rule prohibits municipalities from running operating deficits within a rolling period of three years. The second rule subjects municipalities to a maximum debt-to-revenue ratio of 150%. The definition of debt is broad and includes all liabilities and obligations.

The MFOC's task is to monitor local government finances, including accounting practices and budget proposals, and compare them to the criteria in the Local Government Act and any regulations deriving therefrom. The Committee subjects municipalities to three-tiered monitoring, which entails classifying the municipalities into one of three categories based on whether, and by how much, they are in breach of the rules. Both the autonomy and the degree of external monitoring to which a municipality is subjected vary, depending on its category. The MFOC has the authority to impose sanctions on municipalities that are in breach of the rules and to recommend to the Minister of Local Government that a municipality's fiscal powers be suspended and vested in a financial management board.

#### The Act on Public Sector Finances

The new Act on Public Sector Finances is a vast improvement over the previous legislation, as it addresses the gaps, loopholes, and inconsistencies in the old legal framework that weakened fiscal discipline. Many features of the former Financial Reporting Act were preserved, and a number of processes and best practice guidelines have been elevated to the statutory level.<sup>3</sup> The scope of

1. The IMF's Fiscal Affairs Department (FAD) played a key role in the process by providing numerous recommendations in the four reports prepared by technical advisory missions. The aim of the reports was to put Iceland's fiscal framework at the forefront of international budget practice.
2. Falling under Part A are activities operated directly through the Treasury or municipal account, while Part B includes the operations of Government-owned companies.
3. The FAD's third report contained 46 very specific recommendations. Most of the recommendations have been incorporated into the new Act on Public Sector Finances, some with variations.

the Act has been expanded to include all sections of central and local government budgets and all public corporations. Ministerial responsibilities are also expanded considerably.

The main objective of the new legislation is to provide for sound macro-fiscal policy based on comprehensive medium-term budgeting and reporting. The new medium-term fiscal framework (MTFF), the cornerstone of the new Act, is designed to address gaps in the old legal framework from budget formulation to execution. The objective is to set up a transparent and credible MTFF that serves the purpose of mapping out macroeconomic and fiscal policy-making. The Act establishes a procedural fiscal rule that maps out a five-year general government fiscal path with the following three fiscal rules:

1. The overall result over a five-year period must always be positive, and the annual deficit may not exceed 2.5% of GDP.
2. Total debt, excluding pension obligations and accounts payable, but including cash balances and deposits, may not exceed 30% of GDP.<sup>4</sup>
3. If the net debt ratio rises above 30%, the excess portion must decline by an average of at least 5% ( 1/20) per year in each three-year period.

Every new Government is obligated to formulate and submit to Parliament, as a proposed parliamentary resolution, a Statement of Fiscal Policy setting out the five-year fiscal path according to the procedural fiscal rule. Each year throughout the tenure of the five-year plan, the Minister of Finance and Economic Affairs shall present a fiscal plan or a medium-term fiscal strategy to Parliament.<sup>5</sup> An independent fiscal council assesses whether the fiscal policy and fiscal plan are in line with the fundamental values and fiscal rules in the legislation.

Parliament shall authorise budgetary allocations to various fields and functions, plus a contribution to a general contingency fund rather than to a large number of agencies. This will reduce budget items from approximately 900 items to 150-210.

When the fiscal budget is implemented, each minister must report to the Government and the Parliamentary Budget Committee on the implementation of the budget. Fiscal reporting is an important part of progressive fiscal responsibility laws. The scope of reporting is increased significantly with the new Act, and reports on budget outcome are moved forward so that the previous year's outcome is available well in advance of the fiscal plan.

4. This definition of debt is an approximation of the conventional definition of net debt, where all monetary assets are deducted from liabilities. Here, however, only cash and readily disposable monetary assets are deducted. This definition is used in part because the Treasury has taken account of loans taken, for example, to expand the Central Bank's foreign exchange reserves. Those funds have not been used for operations and are available for repayment of the loans. This definition gives a clearer picture of how much debt must be paid down with cash from operations.

5. This shall be done at the spring legislative session in the form of a parliamentary resolution.

## 5 Monetary and financial stability policies

*This chapter describes the frameworks for monetary policy and financial stability in Iceland. It explains the objectives and the role of the Central Bank's Monetary Policy Committee and describes the Bank's main monetary policy instruments, as well as the capital flow management measure currently in effect. It also elaborates on financial stability policies and the Central Bank's role in promoting an efficient and stable financial system. The chapter concludes with a box that reviews the imposition and liberalisation of the capital controls.*

### **The objective of monetary policy**

The Central Bank of Iceland was established as a separate institution in 1961. The current Act on the Central Bank of Iceland, no. 36/2001, entered into force in May 2001 and included substantial amendments from the previous Act. In the 2001 Act, price stability was defined as the Bank's single main objective. The Bank was also granted financial and instrument independence, and any direct access by the Government to Central Bank financing was prohibited.

In a joint declaration issued by the Government and the Central Bank on 27 March 2001, the price stability goal was further defined as an annual inflation rate of about 2½%, measured in terms of the twelve-month rate of change in the consumer price index (CPI). If inflation deviates from the target by more than 1½ percentage points in either direction, the Central Bank shall bring it inside that range as quickly as possible. In such circumstances, the Bank is obliged to submit a report to the Government, explaining the reasons for the deviations from the target, how the Bank intends to react, and how long it will take to reach the inflation target again, in the Bank's assessment. The report shall be made public.

Since the financial crisis in 2008, the Central Bank has used a wider range of monetary policy instruments than it did before the crisis (see Table 5.1). Until mid-2017, the Central Bank was an active buyer in the foreign exchange market, but it has reduced its intervention since then, as the foreign exchange reserves had become large enough and the exchange rate appeared to reflect underlying fundamentals. However, the Bank has stated that it will intervene in the market in order to mitigate volatility when it considers such intervention warranted. Furthermore, a capital flow management measure entailing a special reserve requirement (SRR) on a portion of new inflows of foreign currency to Iceland was introduced in June 2016.

### **The Monetary Policy Committee**

Amendments made to the Central Bank Act in 2009 included changes to the governance structure of the Bank, replacing the previous three-member Board of Governors with a single Governor and a Deputy Governor. The 2009 amendment also provided for the establishment of a five-member Monetary Policy Committee (MPC) that takes decisions on the application of monetary policy instruments. The MPC consists of the Governor, the Deputy Governor, a senior Central

Table 5.1 Monetary policy arrangements in Iceland since 1970

1970-1973	After the collapse of the Bretton Woods system, the Icelandic króna followed an adjustable peg to the US dollar.
1974-1983	Implementation of exchange rate policy became increasingly flexible and can be described as a managed float. The króna was first linked to the US dollar and then to various baskets of trading partner countries' currencies.
1984-1989	Exchange rate policy became more restrictive, with increasing emphasis on exchange rate stability. In 1989, however, the króna was devalued ten times in small increments.
1990-1995	More emphasis was placed on exchange rate stability as the anchor of monetary policy. Until 1992, the currency peg was specified vis-à-vis a basket of 17 currencies, weighted according to their share in merchandise trade, with $\pm 2\frac{1}{4}\%$ fluctuation bands. The basket was redefined in 1992, with the ECU given a weight of 76%, the US dollar 18%, and the Japanese yen 6%. The króna was devalued twice in this period, by 6% in November 1992 and by $7\frac{1}{2}\%$ in June 1993.  In September 1995, the fluctuation band was widened to $\pm 6\%$ , in response to the abolition of capital controls. The currency basket was also changed. The new basket contained 16 currencies, weighted by their share in Iceland's trade in goods and non-factor services.
1996-2000	Fluctuation of the króna within the bands increased as the foreign exchange market deepened and emphasis on price stability relative to exchange rate stability increased. Reflecting this, the exchange rate band was widened to $\pm 9\%$ in February 2000.
2001-2008	The exchange rate target was abolished in March 2001 and a formal $2\frac{1}{2}\%$ inflation target adopted. The Central Bank was granted full independence in the application of its monetary policy instruments. The currency was allowed to move freely, with limited intervention in the foreign exchange market.
2008-	Following the financial crisis, and as a part of Iceland's IMF programme in 2008-2011, monetary policy emphasised exchange rate stability together with the inflation target as a key ingredient in re-establishing nominal stability and securing low and stable inflation. Active use of foreign exchange intervention to lean against excessive exchange rate fluctuations has become an important part of the post-crisis monetary policy framework, dubbed "inflation targeting plus", which also emphasises the use of additional policy instruments such as macroprudential tools and capital flow management measures. <sup>1</sup>  Decisions on the application of the Central Bank's monetary policy instruments are taken by the Monetary Policy Committee, which was established by law in 2009.

1. For further discussion, see the Central Bank report "Monetary policy in Iceland after capital controls", *Special Report* no. 4, 2010.

Source: Central Bank of Iceland.

Bank official in the field of monetary policy, and two outside experts in the field of economic and monetary policy, who are appointed by the Prime Minister.

According to the amended Act, decisions by the MPC must be based on the Bank's objectives and a thorough assessment of the current situation and the outlook for the economy, monetary developments, and financial stability. In implementing monetary policy, the MPC bases its decisions in part on an appraisal of economic developments and the outlook for the domestic economy as presented in the Bank's quarterly *Monetary Bulletin*.

In order to enhance transparency, the 2009 Act also stipulated that the minutes of MPC meetings are to be made public and an account given of the Committee's decisions and the premises upon which they are based. Furthermore, the MPC is required to submit a written report on its activities to Parliament twice a year. The contents of the report are to be discussed in the parliamentary committee of the Speaker's choosing.

### Monetary policy instruments

The Bank's principal monetary policy instrument is its interest rates on transactions with credit institutions. Other policy instruments include open market operations, decisions on minimum reserve requirements, intervention in the foreign exchange market, and special reserve require-

ments on capital inflows. Financial institutions subject to reserve requirements – commercial banks, savings banks, and credit institutions – are eligible for access to Central Bank facilities. Icelandic branches of foreign financial institutions are eligible as well. According to the Rules on Central Bank Facilities for Financial Undertakings, securities issued in Icelandic krónur by the Republic of Iceland are the primary instruments eligible as collateral for Central Bank facilities.

Financial institutions' regular transactions with the Central Bank can be divided into two categories: standing facilities and open market operations. Financial institutions may avail themselves of standing facilities at any time and on their own initiative. The facilities offered by the Central Bank are deposits and overnight loans against acceptable collateral. Interest on overnight loans forms the ceiling of the Central Bank's interest rate corridor, while the current account deposit rate determines the floor.

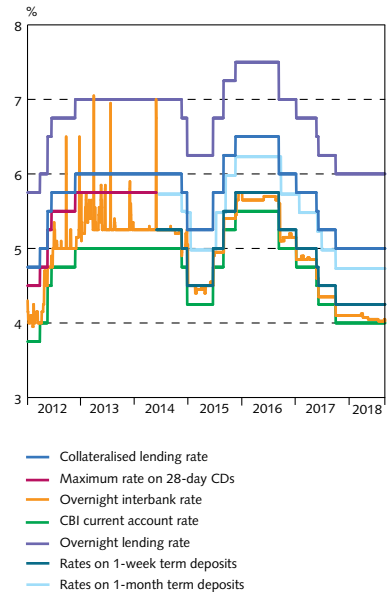
The Central Bank's open market operations take place once a week on Wednesdays. Since 2009, the Bank's counterparties have had abundant liquidity. From autumn 2009 through May 2014, the Bank offered 28-day certificates of deposit (CD) for sale; however, in May 2014 the Bank made modifications to its monetary policy conduct without changing the monetary stance. Instead of issuing CDs, the Bank now offers two types of term deposits: seven-day term deposits and one-month term deposits issued at the beginning of each month. The objective of these changes was to enhance the effectiveness of liquidity management and to increase efficiency from the standpoint of the Bank's balance sheet.

The key Central Bank interest rate – i.e., the rate that is most important in determining short-term market rates – may vary from time to time. As of this writing, the key rate is the rate on seven-day term deposits, owing to abundant financial system liquidity. As a general rule, the Bank does not offer its counterparties deposits and loan facilities at the same time. Thus counterparties do not currently have access to collateralised loans, except for emergency overnight loans. As of June 2018, the minimum reserve requirement is divided into two parts, a fixed non-remunerated 1% reserve requirement and a 1% requirement currently bearing an interest rate of 4%.

### Special reserve requirement on capital inflows

On 4 June 2016, the Central Bank of Iceland published new Rules on Special Reserve Requirements for New Foreign Currency Inflows, no. 490/2016, in accordance with a new Temporary Provision of the Foreign Exchange Act, no. 87/1992.<sup>1</sup> The Temporary Provision provides

Chart 5.1  
Central Bank of Iceland interest rates and short-term market rates  
Daily data 1 January 2012 - 31 August 2018



Source: Central Bank of Iceland.

1. A list of frequently asked questions and answers on the Rules can be found on the Central Bank website: <https://www.cb.is/foreign-exch/capital-flow-measures/>.

the Central Bank with a policy instrument, generally referred to as a capital flow management measure (CFM), which entails a special reserve requirement (SRR) on new inflows of foreign currency to Iceland in connection with specified types of capital, including new investment in registered bonds and bills and high-yielding deposits. The objectives of introducing the SRR were to mitigate the risk that can accompany large-scale capital inflows and to promote more effective monetary policy transmission by attempting to temper cross-border inflows and affect their composition. The SRR therefore serves as a macroprudential tool that can impede the build-up of systemic risks, supporting other aspects of domestic economic policy, and contributing to overall macroeconomic and financial stability. The use of the SRR is not intended to be a substitute for appropriate implementation of conventional macroeconomic policy and micro- and macroprudential tools but rather to complement and support it as a third line of defence.

### **Financial stability and the Central Bank**

In performing its role of promoting financial stability and a sound and efficient financial system, including domestic and cross-border payment systems, as is stipulated in the Central Bank Act, the Bank focuses on assessing risks among systemically important financial institutions, identifying imbalances, and securing safe and sound operation of payment and securities settlement systems. The Bank regularly analyses the risks and threats to the stability of the Icelandic financial system in order to detect changes and vulnerabilities that could lead to a serious crisis, and it communicates its overall assessment to markets and decision-makers through the publication of its semi-annual *Financial Stability* report. The Bank also publishes an annual report entitled *Financial Market Infrastructure*.

To promote financial stability, the Central Bank sets prudential rules on credit institutions' liquidity, funding, and foreign exchange balance. In its work on financial stability, the Central Bank takes into account international agreements and standards for best practice.

### **Prudential framework**

Iceland's European Economic Area (EEA) membership entails that financial regulation is based on EU regulations and directives. Also, technical standards and guidelines are provided by the three European supervisory authorities: EBA, EIOPA, and ESMA.

The Financial Supervisory Authority (FME) supervises financial undertakings and entities operating in the financial and insurance sectors, while the Central Bank issues liquidity regulations and carries out liquidity supervision. The FME and Central Bank of Iceland have a cooperation agreement whose main aim is to promote a healthy financial system. The agreement also strengthens cooperation and exchange of information between the two institutions and coordinates their responses to systemic risks or crises.

A Financial Stability Council (FSC) was established in 2014. The Council serves as a forum for cooperation, information sharing, and policy-making regarding financial stability, and it coordinates Government responses in the event of a financial crisis. The Council makes recommendations concerning macroprudential policy to the appropriate authorities. Members of the Council are the Minister of Finance and Economic Affairs (chair), the Governor of the Central Bank, and the Director General of the FME.



A Systemic Risk Committee (SRC) works for the FSC. The SRC evaluates the current situation and outlook for the financial system, systemic risk, and financial stability. It examines the interaction of the application of the FSC member institutions' policy instruments that affect financial stability (with the exception of the Central Bank of Iceland's monetary policy instruments) and presents proposals to the FSC. The SRC comprises five members: the Governor of the Central Bank (chair), the Director General of the FME (vice-chair), the Deputy Governor of the Central Bank, the Deputy Director General of the FME, and one expert appointed for a term of five years by the Prime Minister.

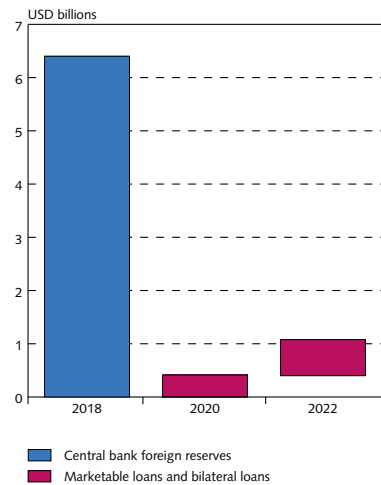
### International reserves

One of the Central Bank of Iceland's legally mandated functions is to manage Iceland's international reserves. The Central Bank's international reserves enable it to achieve its goals and fulfil its duties according to the Central Bank Act. The reserves mitigate the effects of external risks related to changes in access to foreign credit and fluctuations in capital flows to and from Iceland. They enable the Bank to help the Treasury meet its need for foreign currency and fulfil its foreign debt obligations. Adequate reserves also facilitate market confidence by ensuring that Iceland is able to service its foreign debt. They can also be used to support monetary policy and lean against excessive exchange rate volatility.

The size of the reserves is generally determined with reference to the scope of external trade, the monetary and exchange rate regime, regulatory provisions on capital movements and foreign exchange transactions, and Iceland's foreign liabilities. At any given time, the size of the reserves is also determined by the balance of payments outlook.

The international reserves have grown in recent years, mainly due to Central Bank purchases of foreign currency through market intervention, which was part of the Bank's policy of mitigating excess short-term exchange rate volatility and building up the reserves during the run-up to capital account liberalisation. The size of the reserves peaked in early 2017, when important steps towards capital account liberalisation were taken and the Bank purchased offshore króna assets. Following these steps, the need to continue building up the international reserves receded. Since June 2017, the size of the reserves has been steady at around 6.5 billion US dollars, and close to 150% of the IMF's reserve adequacy metric (RAM). At the end of June 2018, the reserves amounted to the equivalent of 27% of GDP and 38% of M3, and covered eight months of goods and services imports.

Chart 5.2  
Central Bank foreign reserves and  
repayment profile of Treasury foreign debt  
Position 30 June 2018



Source: Central Bank of Iceland.

## Box 5.1

## Imposition and liberalisation of capital controls 2008-2017

**The policy response and objectives of the capital controls**

In October 2008, Iceland suffered a systemic currency and banking crisis of major proportions. The passage of the so-called Emergency Act (the Act on the Authority for Treasury Disbursements due to Unusual Financial Market Circumstances, etc., no. 125/2008) provided, among other things, for immediate intervention in the operations of the collapsing banks. Capital controls were introduced in late November 2008, following the formal adoption of the IMF Stand-By Arrangement with Iceland.

The objective of the capital controls was to place temporary restrictions on certain types of cross-border capital transfers and foreign exchange transactions that could cause monetary and exchange rate instability while the resurrection of the Icelandic economy and financial system was underway. The capital controls played an important role in achieving and safeguarding the objectives of the policy response developed by the domestic authorities with the support of the IMF.

The capital controls prevented further depreciation of the currency by limiting disorderly outflows. They also supported asset prices by limiting fire sales by financially distressed financial institutions, firms, and households. In addition, they allowed monetary policy to be more accommodative than would otherwise have been possible, thereby reducing the Government's cost of financing, supporting asset prices, limiting the depth of the recession, and expediting economic recovery. They provided shelter for necessary private sector balance sheet restructuring and gave the authorities time to strengthen the policy framework in order to reinstate and safeguard macroeconomic and financial stability. The country's exposure to global financial conditions diminished, as the capital controls weakened the financial channel through which external shocks could affect the domestic financial system and economy. Finally, the capital controls eventually served as an instrument to affect the resolution of the failed banks' estates and prevent a disorderly resolution involving undue risk to macroeconomic and financial stability.

Although the controls were instrumental in preserving financial stability and safeguarding Iceland's medium-term balance of payments in the wake of the crisis, the longer they remained in effect, the more the costs began to catch up with the benefits, ultimately necessitating liberalisation.

**The capital account liberalisation strategy**

Icelandic economic factors, as well as relevant external factors that could affect capital outflows, were relatively favourable when the revised liberalisation strategy was presented in June 2015 (for a more detailed discussion, see Chapter 8 in *Economy of Iceland 2016*). It proposed a phased lifting of the controls, with the first phase focusing on the failed banks' estates, the second on offshore krónur, and the third on households and businesses. The strategy involved reducing the size of outflows through the foreign currency market in connection with the resolution of the failed banks' estates, while reducing the externalities associated with outflows from offshore króna owners through an auction and effecting a secure segregation of the onshore and offshore markets during the liberalisation process.

The total scope of the risk addressed by the strategy amounted to as much as 56% of GDP. The assets concerned consisted of krona-denominated assets held by the insolvent estates of the failed commercial banks and savings banks (23% of GDP), foreign-denominated claims held by these estates against domestic parties (18% of GDP), and offshore krónur owned by non-residents (15% of GDP). The actions comprising the authorities' liberalisation strategy prevented the sales proceeds of these assets from flooding the foreign exchange market and thereby undermining economic, monetary, and financial stability.

### *The failed banks' estates and offshore krónur*

The failed banks' estates were presented with two options: conclude composition agreements in accordance with specific stability conditions before year-end 2015 (later extended to 15 March 2016), or face a one-off stability tax of 39% on their total assets. The stability conditions aimed to reduce the size of potential capital outflows in connection with the distribution of the estates' domestic assets and thereby neutralise, to the extent possible, their effects on Iceland's balance of payments. The estates opted for the composition agreements.

The balance of payments effect of distributions from the estates was mitigated when króna-denominated assets were reduced. The stability contribution amounted to 17.2% of year-2015 GDP, thus reducing the estates' domestic assets and limiting outflows. The settlement of the estates through composition agreements based on stability conditions was more or less finalised between June 2015 and May 2016. With the composition agreements, the estates' liabilities were written off with reference to their assets. The NIIP improved markedly because of the estates' stability contributions, as well as a revaluation of the estates' liabilities.

The revised liberalisation strategy also addressed offshore krónur. The stock of offshore krónur had shrunk markedly during the years prior to the presentation of the revised strategy in June 2015, mainly due to Central Bank auctions. However, uncertainty still remained concerning the extent to which offshore króna owners would choose to reduce their exposure once controls were lifted. Therefore, in June 2016, the Central Bank offered to use part of its foreign exchange reserves to buy offshore krónur in a single-price auction, the last auction of this type before removal of capital controls on domestic firms and households. The auction helped to facilitate the exit of offshore krónur without negative effects on the foreign exchange market.

In August 2016 the Central Bank temporarily authorised withdrawal of part or all of the funds from accounts subject to special restrictions so that the account owners could use the funds for foreign exchange transactions with the Bank. The authorisation remained in effect until 1 November 2016. Some 70.5 million euros (15.5 b.kr.) were exchanged in this manner. Furthermore, the Bank bought offshore króna assets in two stages, between March and June 2017, for a total of 817.5 million euros (112.4 b.kr.). The stock of offshore króna assets was estimated at about 770 million euros (88 b.kr.) following the trades.

With the passage of Act no. 27/2017 on 27 May 2017, as a part of the liberalisation strategy, the authorisation to make withdrawals from accounts subject to special restrictions was changed. As a result of this, individuals were authorised to withdraw up to 0.9 million euros (100 m.kr.) per calendar year from accounts subject to special restrictions if they could demonstrate continuous ownership of the offshore króna assets since 28 November 2008.

### *Households and businesses*

In accordance with the revised liberalisation strategy of June 2015, Parliament passed an amendment to the Foreign Exchange Act, no. 87/1992, in October 2016. The amendment gave businesses and individuals considerably greater freedom to transfer capital to and from Iceland and engage in foreign exchange transactions. This represented an important step towards general liberalisation of the capital controls. The amendment removed certain restrictions on foreign exchange transactions and cross-border movement of capital and expanded specified authorisations under the Act.

According to the amended Act, general liberalisation was sequenced as follows: Outward foreign direct investment was permitted and restrictions on long- and short-term portfolio investment eased up to a limit of 226 thousand euros (30 m.kr.) immediately upon passage of the amendment. Effective 1 January 2017, the limit was raised to 754 thousand euros (100 m.kr.) per party and expanded to include cross-border deposit transfers. The Central Bank was authorised to ease these limits until they are abolished, along with limitations on derivatives, other instruments, and other remaining restrictions. This phase of liberalisation excluded both offshore króna holdings and pension funds (in excess of the limits stated above); however, due to their size, pension

funds continued to invest abroad on an exemption basis. From mid-2015 through end-2016, pension funds were granted exemptions for foreign investment in the amount of about 797 million euros (95 b.kr.), or 3.9% of GDP. These exemptions met some of their pent-up need for foreign investment.

Upon the adoption of the measures provided for in the amended Act, the capital controls placed only minor restrictions on most individuals, and by year-end 2016, very few individuals were affected. The amendment did not have any impact on offshore króna holders' authorisations.

After the second step was taken to ease restrictions on households and businesses, the Central Bank reassessed conditions for further liberalisation of the capital controls. The risk of balance of payments disequilibrium that could cause monetary, exchange rate, or financial instability had diminished significantly. First of all, restrictions on capital transfers in excess of specified maximum amounts had been lifted without discernible impact on the foreign exchange market or on cross-border movement of capital. When the ceiling on such transfers was raised at the turn of the year, the vast majority of individuals and companies were effectively unrestricted by the Foreign Exchange Act. Second, the Central Bank's international reserves had increased markedly during the preceding twelve months, to a total of about 7 billion euros (800 b.kr.), or 33% of GDP, as of end-February 2017. The expansion of the reserves stemmed from a current account surplus in the amount of 7.5% of GDP in 2016, well in excess of forecasts. The risk of instability was further reduced by the outlook for a continuing current account surplus, reduced foreign liabilities, and a positive net international investment position for the first time in the history of measurements. In addition, conditions in the global economy were favourable for liberalisation of the capital controls. Third, it was foreseeable that the Bank's purchase of offshore krónur from the largest holders would reduce risk in the long run and facilitate full liberalisation of the capital controls.

New Rules on Foreign Exchange, No. 200/2017, were published 14 March 2017. The new Rules granted general exemptions from nearly all of the restrictions in the Foreign Exchange Act and abolished the repatriation requirement for foreign currency. With the introduction of the Rules, households and businesses were, for the most part, no longer subject to the restrictions that the Foreign Exchange Act places on foreign exchange transactions, foreign investment, hedging, and lending activity, among other things. The new Rules also authorised unrestricted foreign investment by pension funds, funds for collective investment (UCITS), and other investors in excess of the maximum amounts provided for in the Foreign Exchange Act. Until then, such foreign investment had been subject to explicit exemptions by the Central Bank.

#### *The remaining restrictions*

During the liberalisation process described above most of the capital controls that were imposed during and in the wake of the financial crisis have been lifted. For households and businesses virtually all controls are gone. Overall, what remains of capital controls are two kinds of restrictions. First, those that cannot be lifted without changes in legislation. That applies to the release of the remaining offshore krónur amounting to 703 million euros (87 b.kr.), or 3.2% of GDP. Second, those restrictions that are needed to ensure the continued effectiveness of the SRR on capital flows into the bond market and high yielding deposits. That includes mainly derivative trading for other purposes than hedging and certain specific cross-border capital transfers and foreign exchange transactions that are restricted in order to reduce the risk of carry trade associated with investments outside the scope of the SRR.

## 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.*

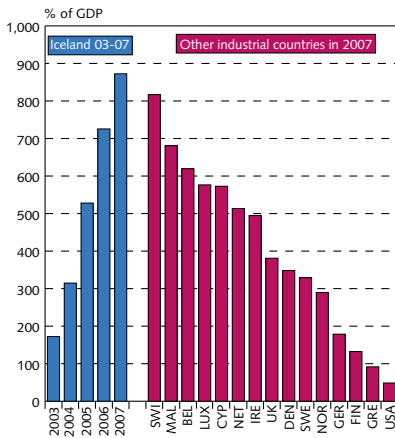
### **The financial crisis in Iceland**

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

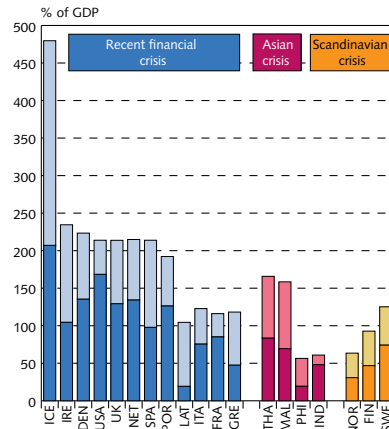
Banking system size in the run-up to the international financial crisis in selected industrial countries<sup>1</sup>



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. Odor. Cambridge University Press.

Chart 6.2

Domestic credit to the private sector in the run-up to three financial crises<sup>1</sup>



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).<sup>1</sup> 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.<sup>2</sup> 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.<sup>3</sup>

### 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 Reykjavik 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 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.<sup>4</sup>

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.

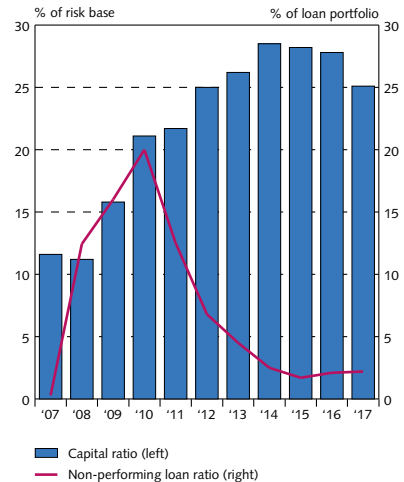
### Policy and institutional changes in the aftermath of the crisis

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-

Chart 6.3  
Commercial banks' capital and non-performing loan ratios 2007-2017<sup>1</sup>



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.

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 (DGS). The DGS has not been introduced, the BRRD has been partly introduced, and CRD IV mostly introduced. Among the tools already in place 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, and to issue so-called "comply-or-explain" recommendations aimed at the relevant authorities and agencies. Both the FSC and the SRC meet several times a year.

#### *Monetary policy framework*

Significant changes to the monetary policy framework were implemented in early 2009. The Act on the Central Bank of Iceland was amended so that monetary policy decisions on the application of the Bank's policy instruments would thenceforth be taken 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.<sup>5</sup>

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.<sup>6</sup>

### *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*

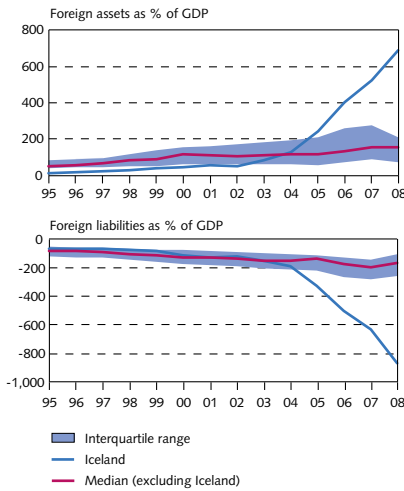
The growing macro-financial imbalances in the run-up to the 2008 financial crisis were crystallised in the scale and composition of the Icelandic economy's external balance sheet. Although Iceland's international balance sheet had expanded rapidly after the capital account liberalisation of the 1990s (see also Chapter 2), foreign assets and liabilities as a share of GDP were broadly

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 in this publication, the Central Bank's *Monetary Bulletin* 2016/4, Box 1, and *Monetary Bulletin* 2017/4, Box 2.

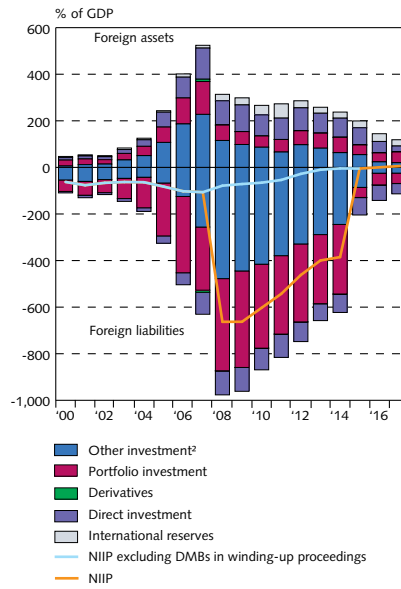
in line with the median in other developed countries until 2003 (Chart 6.4).<sup>7</sup> At the beginning of 2002, two of Iceland's three major commercial banks were owned by the State, but after they were all privatised in 2003 they adopted a business model that emphasised investment banking and international 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<sup>1</sup>



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<sup>1</sup>



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.

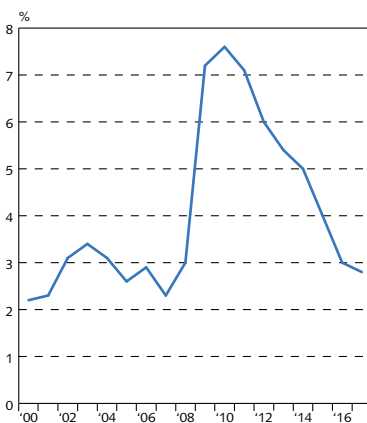
mini-crisis in 2006 – and then increasingly so as the GFC gained momentum. Hence the international balance sheet was characterised by financial fragility in the form of significant liquidity and currency mismatches stemming from the difference between the possible difficulty of selling assets in a crisis 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

Chart 6.6  
Unemployment rate 2000-2017



Source: Statistics Iceland.

Chart 6.7  
Wages 2000-2017



Sources: Statistics Iceland, Central Bank of Iceland.

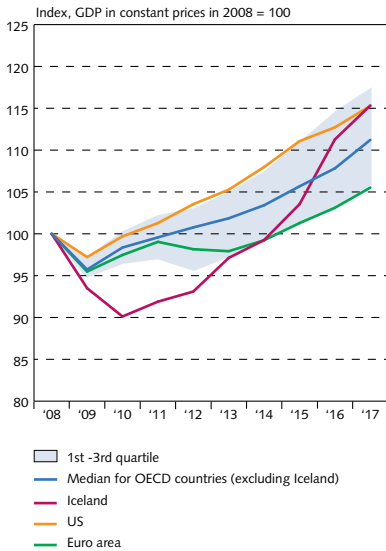
pre-crisis peak to the trough in 2010. This had severe repercussions for the labour market, sending unemployment soaring to 7.6% by 2010. This rise in unemployment occurred despite a significant reversal of labour migration following the crisis (Chart 6.6).

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.

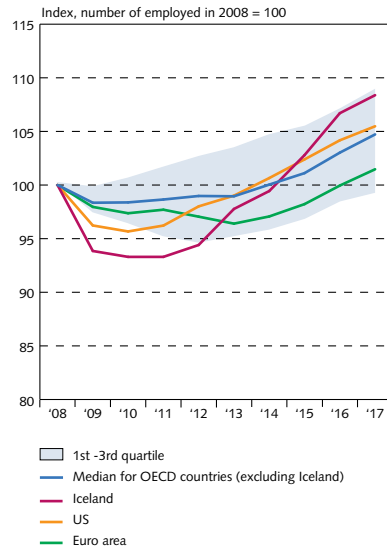
In 2004-2008, economic imbalances manifested themselves in the labour market, as low unemployment put pressure on labour costs. As a result, the wage share reached a local high

Chart 6.8  
Post-crisis economic recoveries in selected countries<sup>1</sup>



1. Estimates for 2017 based on IMF's WEO database.  
Sources: IMF, Central Bank of Iceland.

Chart 6.9  
Post-crisis economic recoveries in employment in selected countries<sup>1</sup>



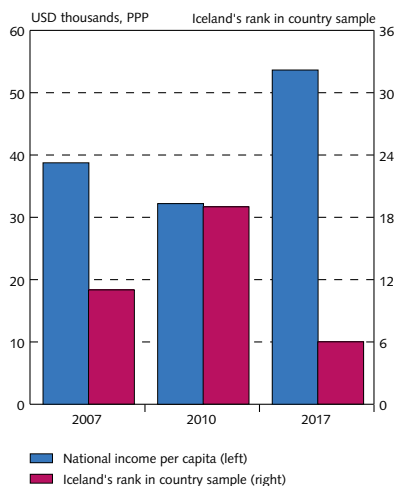
1. Estimates for 2017 based on IMF's WEO database.  
Sources: IMF, Statistics Iceland.

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 11<sup>th</sup>-highest among the current 36 OECD countries. At its lowest level, GNI ranked 19<sup>th</sup>, 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 6<sup>th</sup> in the OECD in 2017 (Chart 6.10).

Chart 6.10  
Iceland's national income per capita 2007, 2010 and 2017<sup>1</sup>



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

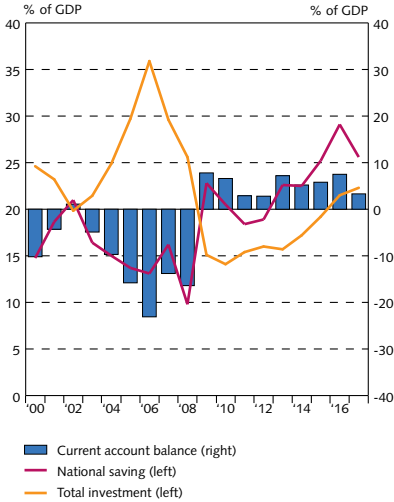
### *National saving, investment, and current account balance*

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 by the

Chart 6.11  
Investment, saving and current account balance 2000-2017<sup>1</sup>



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.

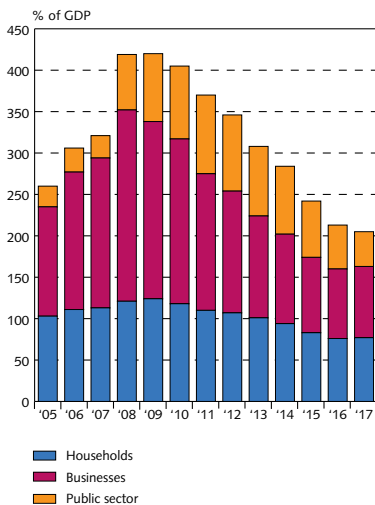
end of the period (Chart 6.12). This was driven by strong growth in tourism, a substantial improvement in terms of trade, a continued high national saving rate, and the shift in the NIIP from negative to positive. Positive supply shocks played a large role in this development. Deep and long-lasting behavioural 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.<sup>8</sup>

*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.

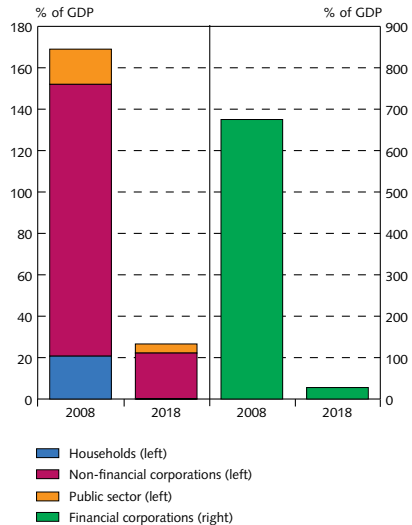
8. Therefore, to an extent the rise in the real exchange rate reflects a rise in the equilibrium real exchange rate; i.e., the real exchange rate consistent with internal and external balance (see, for example, Box 3 in *Monetary Bulletin* 2016/2).

Chart 6.13  
Public and private sector debt 2005-2017<sup>1</sup>



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 gov-

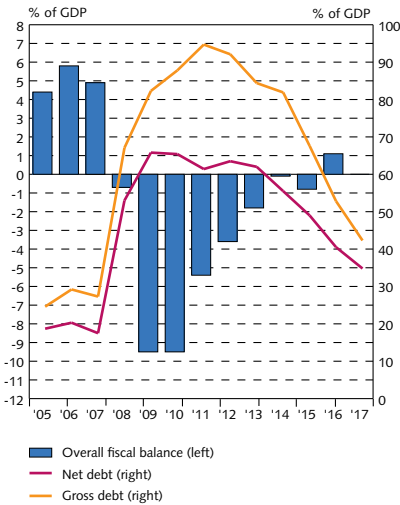
ernment overall balance fell to -13% of GDP. According to the fiscal consolidation plan in the three-year Stand-by Arrangement (SBA) negotiated by the Government and the IMF in autumn 2008, the main fiscal policy goals were to balance the general government primary budget by 2012 and balance the overall 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*

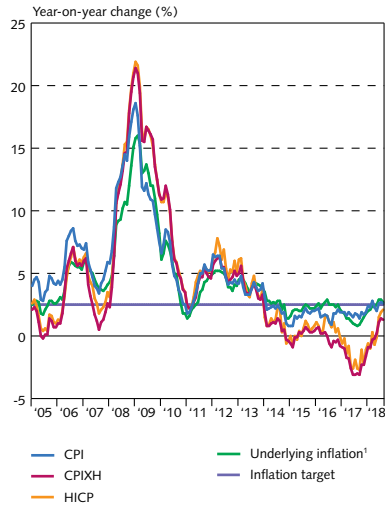
CPI inflation has averaged 4.8% in the 17-year period since the adoption of the inflation-targeting regime in 2001. Other measures of inflation tell a similar tale. According to the harmonised index of consumer prices (HICP), which excludes housing, inflation averaged 4.4% over the same period (Chart 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<sup>1</sup>



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 the 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.

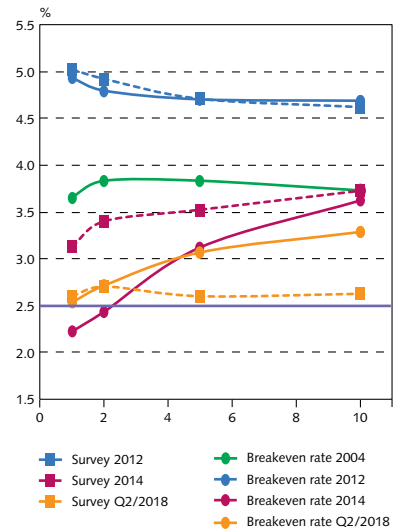


tion of factors, including abundant liquidity and cheap credit in international financial markets, the structure of the Icelandic economy, imperfections in the formulation and transmission mechanism of monetary policy, poor coordination of monetary and fiscal policies, insufficient restraint in fiscal 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.<sup>9</sup>

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.

Chart 6.17  
One- to ten-year inflation expectations<sup>1</sup>  
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.

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.

## 7 Appendix<sup>1</sup>

Table A1 Economic developments<sup>2</sup>

	2017		2017
Population at year-end (thousands)	348.6	Labour force participation rate, males (%) <sup>3</sup>	86.2
		Labour force participation rate, females (%) <sup>3</sup>	78.7
<i>Average annual population growth (%)</i>		Rate of unemployment (% of labour force) <sup>3</sup>	2.8
in last 10 yrs.	1.1	Infant mortality (per 1,000 live births)	1.7
in last 20 yrs.	1.3	Life expectancy (males)	80.6
in last 30 yrs.	1.2	Life expectancy (females)	83.9
GDP in billions of ISK	2,615.2	Live births per 1,000 inhabitants	13.7
GDP in billions of EUR	21.7	Energy consumption per 100,000 inhabitants (PJ) (2014)	74.8
GDP in billions of USD	24.5	Physicians per 1,000 inhabitants (2014)	3.8
GDP/capita in thous. EUR	47.8	Passenger cars per 1,000 inhabitants (2014)	717.0
GDP/capita in thous. USD in terms of PPP	54.0	Access to Internet (% of population)	98.2
Rank among OECD countries (2017)	6	Exports as a share of GDP	46.1
<i>Average annual growth rate of GDP (%)</i>		International investment position at year-end as a share of GDP	5.2
in last 10 yrs.	2.0	Government revenue as a share of GDP	43.4
in last 20 yrs.	5.7	Government expenditures as a share of GDP (2014)	41.9
in last 30 yrs.	2.7	General government gross debt as a share of GDP	42.3
<i>Average annual inflation rate (%)</i>			
in last 10 yrs.	5.0		
in last 20 yrs.	4.5		
in last 30 yrs.	6.3		

1. The information in the appendix is based on data available in mid-September and/or August 2018. 2. Data refer to 2017 unless otherwise indicated. 3. Age 16-64.

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

Table A2 Structure of the economy

A Components of GDP	At current prices (EUR millions)			% of GDP			Average volume change (%)	
	1990	2000	2017	1990	2000	2017	1975-2017	1995-2017
Private consumption	2,990	5,792	10,915	59.8	59.4	50.3	2.0	3.3
Public consumption	996	2,193	5,060	19.9	22.5	23.3	2.5	2.2
Gross capital formation	973	2,400	4,829	19.5	24.6	22.3	2.1	6.6
National expenditure	4,934	10,421	20,810	98.7	106.9	95.9	2.9	3.5
Exports of goods and services	1,682	3,139	10,008	33.6	32.2	46.1	3.9	5.5
Imports of goods and services	1,617	3,813	9,122	32.3	39.1	42.0	2.6	6.0
GDP	5,000	9,748	21,696	100.0	100.0	100.0	2.4	3.4
Current account balance	-104	-997	732	-2.1	-10.2	3.3	.	.

Sources: Statistics Iceland, Central Bank of Iceland.

B GDP by sector	% of GDP				
	1997	2000	2007	2009	2017
Agriculture, forestry and fishing	9.5	8.3	5.1	6.6	5.7
Mining and quarrying	0.2	0.1	0.1	0.1	0.1
Manufacturing	16.3	13.5	9.8	12.4	10.1
Electricity, gas, steam and air conditioning supply	3.6	3.2	3.2	4.1	3.6
Water supply; sewerage, waste management and remediation activities	0.9	0.7	0.8	0.9	1.1
Construction	8.6	9.2	10.7	4.7	7.7
Wholesale and retail trade; repair of motor vehicles and motorcycles	11.8	11.4	10.4	8.9	9.9
Transportation and storage	6.1	5.8	4.8	5.1	7.2
Accommodation and food service activities	1.5	1.8	1.7	1.8	4.3
Information and communication	5.2	5.6	4.0	3.8	4.8
Financial and insurance activities	4.6	6.0	12.1	12.2	5.6
Real estate activities	6.1	6.9	9.8	10.6	9.2
Professional, scientific and technical activities	3.7	4.1	4.5	4.3	4.9
Administrative and support service activities	1.8	2.1	2.2	2.6	4.6
Public administration and defence; compulsory social security	4.7	5.6	5.9	5.1	4.9
Education	5.0	5.0	5.5	6.5	6.0
Human health and social work activities	7.9	8.2	6.5	7.6	7.7
Arts, entertainment and recreation	0.9	0.9	1.2	1.3	1.3
Other service activities	1.3	1.4	1.5	1.5	1.3
Activities of households as employers; undifferentiated goods- and services-producing activities of households for own use	0.1	0.1	0.1	0.1	0.1
Activities of extra-territorial organisations and bodies	0.0	0.0	0.1	0.0	0.0
Total	100.0	100.0	100.0	100.0	100.0

Sources: Statistics Iceland, Central Bank of Iceland.

Table A2 (continued) Structure of the economy<sup>1</sup>

<i>C Breakdown of employment by industry</i>	<i>Thous.</i>	<i>Percentage breakdown</i>						
	<i>man-years</i>	1963	1970	1980	1990	2000	2010	2017
	2017							
Agriculture	3,100.0	13.4	12.4	7.9	4.9	4.4	2.6	2.0
Fisheries	4,100.0	6.6	6.4	5.3	5.7	3.9	3.2	2.2
Fish processing	2,800.0	9.7	7.8	9.1	6.1	4.3	2.0	2.0
Manufacturing industry	16,000.0	15.6	15.2	15.2	12.5	11.2	8.4	8.3
Construction, electricity and water	15,000.0	11.1	11.4	11.0	10.8	7.5	7.6	7.5
Wholesale & retail trade, restaurants & hotels	36,400.0	13.7	13.5	13.4	14.5	18.1	17.0	19.0
Transport, storage and communication	23,200.0	9.6	8.5	7.3	6.7	6.8	9.6	11.2
Finance, insurance, real estate, business services	27,300.0	2.7	4.0	5.4	8.1	12.5	13.6	13.2
Public administration	8,400.0	3.6	4.0	4.5	5.1	4.5	5.1	4.1
Health & social services	22,300.0	3.3	5.1	7.7	10.9	13.2	12.7	11.4
Education	24,100.0	3.0	3.9	5.0	6.0	6.3	12.3	12.8
Other services	11,100.0	7.6	7.8	8.2	8.5	7.3	5.8	6.2
Total employment	194,000.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

1. Figures for the period 1963-1990 are based on Statistics Iceland's domestic classification of man-years by industry. Year-2000 figures are based on the NACE Rev. 1 classification of labour force survey main job employment. Figures for 2010 onwards are based on the NACE Rev. 2 classification of labour force survey main job employment. The figures are not entirely comparable because of differences in classification standards. Sources: Statistics Iceland, Central Bank of Iceland.

Table A3 Structure of foreign trade

## A Exports and imports by basic category 1995-2017

	At current prices (EUR millions)				% of total exports or imports			
	1995	2005	2010	2017	1995	2005	2010	2017
Exports of goods and services	1,925	4,280	5,735	8,171	100.0	100.0	100.0	100.0
Imports of goods and services	1,718	5,645	4,367	7,522	100.0	100.0	100.0	100.0
Merchandise exports (fob value)	1,392	2,487	3,466	3,552	72.3	58.1	60.4	43.5
Marine products	1,001	1,409	1,362	1,347	52.0	32.9	23.7	16.5
Manufacturing goods	299	855	1,921	1,913	15.5	20.0	33.5	23.4
Other goods	92	223	182	292	4.8	5.2	3.2	3.6
Merchandise imports (fob value)	1,236	3,697	2,723	4,758	72.0	65.5	62.4	63.3
Consumption goods	401	1,135	686	1,431	23.4	20.1	15.7	19.0
Capital goods	264	860	617	1,018	15.3	15.2	14.1	13.5
Industrial supplies	345	884	898	1,277	20.1	15.7	20.6	17.0
Services exports	533	1,792	2,270	4,619	27.7	41.9	39.6	56.5
Transportation	0	0	0	1,561	0.0	0.0	0.0	19.1
Travel	0	0	0	2,199	0.0	0.0	0.0	26.9
Other services	0	0	0	859	0.0	0.0	0.0	10.5
Services imports	481	1,948	1,644	2,764	28.0	34.5	37.6	36.7
Transportation	0	0	0	450	0.0	0.0	0.0	6.0
Travel	0	0	0	1,210	0.0	0.0	0.0	16.1
Other services	0	0	0	1,104	0.0	0.0	0.0	14.7

Sources: Statistics Iceland, Central Bank of Iceland.

## B Merchandise exports by commodity group (fob value) 1995-2017

	At current prices (EUR millions)				% of total exports or imports			
	1995	2005	2010	2017	1995	2005	2010	2017
Total merchandise exports	1,392	2,487	3,466	4,311	100.0	100.0	100.0	100.0
Marine products	1,001	1,409	1,362	1,635	71.9	56.7	39.3	37.9
Salted and/or dried fish	161	254	194	171	11.6	10.2	5.6	4.0
Fresh fish	82	253	158	381	5.9	10.2	4.6	8.8
Whole-frozen fish	149	153	196	228	10.7	6.1	5.7	5.3
Frozen fish fillets	278	375	359	400	20.0	15.1	10.3	9.3
Frozen shrimp	184	101	69	59	13.2	4.1	2.0	1.4
Fish meal	56	110	87	149	4.0	4.4	2.5	3.4
Fish oil	29	34	55	82	2.1	1.4	1.6	1.9
Other marine products	64	131	244	165	4.6	5.3	7.0	3.8
Agricultural products	25	48	55	168	1.8	1.9	1.6	3.9
Manufacturing products	299	855	1,921	2,322	21.4	34.4	55.4	53.9
Aluminium	147	461	1,374	1,683	10.6	18.5	39.6	39.0
Ferrosilicon	38	78	116	121	2.8	3.1	3.3	2.8
Other manufacturing products	113	316	431	518	8.1	12.7	12.4	12.0
Other products	68	175	127	186	4.9	7.0	3.7	4.3
Ships and aircraft	49	123	53	94	3.5	5.0	1.5	2.2
Other products	19	52	74	92	1.3	2.1	2.1	2.1

Sources: Statistics Iceland, Central Bank of Iceland.

Table A3 (continued) Structure of foreign trade

## C Merchandise imports by economic category (fob value) 1995-2017

	At current prices (EUR millions)				% of total merchandise exports			
	1995	2005	2010	2017	1995	2005	2010	2017
Total merchandise imports	1,236	3,697	2,723	4,758	100.0	100.0	100.0	100.0
Food and beverages	123	252	264	388	10.0	6.8	9.7	8.2
Primary, mainly for industry	29	62	12	12	2.4	1.7	0.4	0.3
Primary, mainly for household consumption	16	37	83	109	1.3	1.0	3.0	2.3
Processed, mainly for industry	11	13	21	33	0.9	0.4	0.8	0.7
Processed, mainly for household consumption	67	140	148	234	5.4	3.8	5.4	4.9
Industrial supplies not elsewhere specified	345	884	898	1,277	27.9	23.9	33.0	26.8
Primary	14	38	38	47	1.2	1.0	1.4	1.0
Processed	330	846	859	1,230	26.7	22.9	31.6	25.9
Fuels and lubricants	87	346	357	546	7.1	9.4	13.1	11.5
Primary	3	12	13	15	0.3	0.3	0.5	0.3
Motor spirit	18	70	81	56	1.4	1.9	3.0	1.2
Other	67	265	263	475	5.4	7.2	9.7	10.0
Capital goods (except transport)	264	860	617	1,018	21.3	23.3	22.6	21.4
Capital goods (except transport)	169	568	293	619	13.7	15.4	10.8	13.0
Parts and accessories	94	292	323	399	7.6	7.9	11.9	8.4
Transport equipment	154	745	185	896	12.4	20.1	6.8	18.8
Passenger motor cars (excl. busses)	55	334	49	437	4.4	9.0	1.8	9.2
Transport equipment (excl. ships, aircraft)	17	141	14	132	1.4	3.8	0.5	2.8
Other, non-industrial	3	18	6	21	0.2	0.5	0.2	0.4
Parts and accessories	35	97	74	129	2.8	2.6	2.7	2.7
Ships	35	31	18	155	2.9	0.8	0.7	3.3
Aircraft	10	124	24	23	0.8	3.3	0.9	0.5
Consumer goods not elsewhere specified	261	606	400	630	21.1	16.4	14.7	13.2
Durable	54	174	68	148	4.3	4.7	2.5	3.1
Semi-durable	104	216	146	252	8.4	5.8	5.4	5.3
Non-durable	103	216	186	231	8.4	5.8	6.8	4.8
Goods not elsewhere specified	3	4	3	3	0.2	0.1	0.1	0.1

Sources: Statistics Iceland, Central Bank of Iceland.

Table A3 (continued) Structure of foreign trade

D Geographic distribution of foreign trade 1970-2017<sup>1</sup>

<i>Merchandise exports, fob</i>	<i>Share of total</i>					<i>EUR millions</i>
	1970	1980	1990	2000	2017	2017
European Union	52.8	52.3	70.7	67.4	73.4	3,816
Euro area	25.4	30.2	37.6	42.3	58.7	2,980
Other EU countries	27.4	22.0	33.1	25.1	14.7	836
United Kingdom	13.2	16.5	25.3	19.3	9.4	603
Other Western European countries	2.8	2.3	3.4	7.8	5.8	302
Other Eastern Europe and former Soviet Union	9.6	8.8	2.9	1.4	2.3	132
Russia	6.8	5.4	2.5	0.4	1.3	105
United States	30.0	21.6	9.9	12.2	7.0	294
Japan	0.1	1.5	6.0	5.2	1.9	104
Other OECD countries	0.5	0.6	0.5	2.0	2.6	155
Developing countries <sup>2</sup>	4.2	12.9	5.5	3.0	4.9	291
Other countries	-	-	1.1	1.0	2.2	101
<b>Total</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>5,194</b>
<i>Merchandise imports, cif</i>						
European Union	64.9	58.0	59.9	57.0	52.5	3,229
Euro area	32.0	33.2	35.5	33.5	31.7	1,949
Other EU countries	33.0	24.8	24.4	23.6	20.8	1,280
United Kingdom	14.3	9.5	8.1	9.0	5.8	358
Other Western European countries	5.4	8.1	5.2	9.7	10.1	622
Other Eastern Europe and former Soviet Union	10.4	10.9	6.5	5.7	0.3	18
Russia	7.2	9.7	5.0	1.8	0.2	15
United States	8.2	9.4	14.4	11.0	6.4	393
Japan	2.9	4.0	5.6	4.9	2.4	148
Other OECD countries	0.4	5.8	3.7	4.5	9.7	598
Developing countries <sup>2</sup>	7.2	2.7	3.1	5.6	13.9	856
Other countries	0.6	1.1	1.4	1.5	4.7	287
<b>Total</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>6,150</b>

1. In data prior to 2000, country groups are based on the year 2000.

Sources: Statistics Iceland, Central Bank of Iceland.

Table A4 National accounts overview

	At current prices (EUR millions)					Volume change year-on-year (%)				
	2013	2014	2015	2016	2017	2013	2014	2015	2016	2017
Private consumption	6,372	7,060	7,837	9,252	10,915	0.9	3.2	4.5	7.2	7.9
Public consumption	2,907	3,205	3,659	4,271	5,060	0.7	1.3	1.1	1.9	3.1
Gross fixed capital formation	1,888	2,302	3,001	4,025	4,829	2.2	15.9	19.7	21.7	9.5
Industries	1,247	1,527	2,175	2,948	3,325	-2.0	16.9	31.2	25.1	4.8
Housing	313	382	401	594	813	10.8	15.4	-3.2	26.4	18.4
Public works and buildings	328	394	425	484	690	12.1	12.5	-2.6	-0.1	26.9
National expenditure	11,137	12,580	14,521	17,570	20,810	0.5	5.3	6.4	8.8	7.0
Exports of goods and services	6,453	6,899	8,123	8,882	10,008	6.7	3.2	9.1	10.9	5.5
Exports of goods	3,455	3,670	4,200	4,044	4,401	3.7	1.7	3.3	3.7	1.4
Exports of services	2,998	3,229	3,924	4,839	5,606	10.6	4.9	15.7	18.7	8.8
Imports of goods and services	5,527	6,089	7,004	7,718	9,122	0.1	9.8	13.8	14.5	12.5
Imports of goods	3,407	3,736	4,442	4,805	5,767	-0.3	9.3	18.6	13.7	11.5
Imports of services	2,120	2,352	2,562	2,913	3,355	0.8	10.5	6.1	15.9	14.1
Gross domestic prod. (GDP)	12,064	13,390	15,640	18,734	21,696	4.1	2.1	4.5	7.4	4.0
Current account balance	696	526	810	1,407	723	.	.	.	.	.
Current account balance, % of GDP	.	.	.	.	.	5.8	3.9	5.2	7.5	3.3

Source: Statistics Iceland.

Table A5 Financial sector indicators

<i>Financial institutions (number, unless otherwise indicated)</i>	2005	2010	2015	2017
Commercial banks	4	5	4	4
Savings banks	24	10	4	4
Number of employees in commercial banks and savings banks, year-end <sup>1</sup>	3,884	3,541	3,037	3,419
Total assets of commercial and savings banks (EUR billions) <sup>1</sup>	52	18	23	27
Credit undertakings	11	8	5	5
Undertakings engaged in securities	11	10	10	9
Pension funds	45	33	26	24
Insurance companies	12	10	12	11
<i>Financial markets</i>				
Listed companies on Iceland Stock Exchange (ICEX), now OMXI	24	8	17	16
Market capitalisation of listed companies at end of period (EUR billions)	24.3	0.9	7.3	6.4
Market capitalisation of listed companies at end of period (% of GDP)	182.3	12.5	47	30
Annual turnover in listed equities (EUR billions)	15.2	0.1	2.7	5.2
Annual turnover in listed bonds (EUR billions)	16.7	17.5	13.6	10.3
Annual turnover on the Icelandic interbank market for foreign exchange (EUR billions)	26.3	0.3	3.4	3.4
Annual turnover on the interbank currency swap market (EUR billions)	0.6	0.0	0.0	0.0
Annual turnover on the interbank market for krónur (EUR billions)	20.0	2.5	2.4	1.0

1. Parent company basis.

Sources: Financial Supervisory Authority, OMX Nordic Exchange Iceland, Central Bank of Iceland.



Table A6 Government sector indicators

<i>A General government revenues and expenditures</i>								
<i>% of GDP</i>	2007	2009	2011	2013	2014	2015	2016	2017
Revenue	45.5	37.9	38.8	40.6	43.7	40.7	56.7	42.5
Taxes	35.8	28.4	29.5	30.9	33.8	32.0	47.2	33.5
on income and wealth	20.1	17.3	18.0	19.4	22.2	20.5	35.3	21.2
on production/imports/consumption	15.7	11.1	11.5	11.6	11.6	11.5	11.8	12.2
Social contributions	2.9	2.8	3.8	3.6	3.5	3.5	3.4	3.4
Interest	2.1	2.9	1.4	1.1	1.0	0.8	1.0	1.0
Sales of goods and services	3.0	2.9	2.8	2.9	2.9	2.9	2.7	2.8
Other income	1.7	0.9	1.2	2.1	2.4	1.5	2.4	1.9
Expenditure	40.6	47.4	44.2	42.4	43.8	41.5	44.3	42.5
Wages	13.6	13.3	13.0	13.1	13.3	13.4	13.3	13.9
Purchases of goods and services	10.4	11.8	11.7	11.3	11.1	10.6	10.1	10.2
Interest	2.4	5.9	4.0	4.4	4.6	4.4	3.9	3.8
Subsidies	1.7	1.7	1.7	1.6	1.4	1.3	1.4	1.5
Current transfers	5.5	7.5	7.9	6.8	6.7	6.2	5.9	6.6
Fixed investment	4.7	4.0	2.6	2.8	3.0	2.8	2.7	3.2
Capital transfers	2.2	2.9	3.0	2.1	3.5	2.5	6.8	3.2
Other	0.2	0.3	0.3	0.2	0.2	0.2	0.2	0.2
<i>General government, % of GDP</i>								
Expenditure	40.6	47.4	44.2	42.4	43.8	41.5	44.3	42.5
Administration, safety, defence <sup>1</sup>	4.3	4.7	5.2	4.8	4.7	4.4	8.3	...
Education	7.8	8.0	7.5	7.3	7.4	7.2	7.0	...
Health services	7.5	7.7	7.1	7.1	7.3	7.2	7.3	...
Social security	8.1	10.5	10.8	9.8	9.8	9.2	8.9	...
Other social affairs <sup>2</sup>	4.7	4.5	3.9	4.2	3.9	4.1	4.0	...
Economic affairs	5.6	5.9	5.5	4.6	6.1	4.8	4.8	...
Interest expenditure	2.6	6.2	4.2	4.5	4.7	4.5	4.0	...
<i>Central government, % of GDP</i>								
Expenditure	29.7	35.6	33.8	31.6	32.3	30.5	33.9	30.0
Administration, safety, defence <sup>1</sup>	4.5	4.7	5.2	4.8	4.6	4.4	8.3	...
Education	3.1	3.3	3.0	3.0	2.9	2.9	2.8	...
Health services	7.4	7.9	7.2	7.3	7.4	7.3	7.6	...
Social protection	6.9	7.5	8.6	7.1	6.6	6.3	6.2	...
Other social affairs <sup>2</sup>	1.7	1.7	1.5	1.7	1.4	1.5	1.5	...
Economic affairs	4.2	4.9	4.7	3.6	5.2	4.1	3.9	...
Interest expenditure	2.0	5.6	3.6	4.1	4.2	4.1	3.5	...
<i>Local government, % of GDP</i>								
Expenditure	13.0	12.7	12.5	12.8	13.1	12.5	12.3	13.0
Administration and safety <sup>1</sup>	1.0	0.9	1.1	1.1	1.2	1.1	1.0	...
Education	4.7	4.7	4.5	4.3	4.5	4.3	4.2	...
Health services	0.1	0.1	0.1	0.1	0.1	0.1	0.1	...
Social protection	2.0	2.4	2.9	3.0	3.2	3.0	2.8	...
Other social affairs <sup>2</sup>	3.1	2.9	2.5	2.6	2.6	2.7	2.5	...
Economic affairs	1.5	1.1	0.9	1.3	1.1	0.9	1.0	...
Interest expenditure	0.6	0.6	0.6	0.5	0.5	0.5	0.6	...

1. Excluding interest expense. 2. Culture, religion, recreation, housing and community affairs, environment protection.

Source: Statistics Iceland.

Table A6 (continued) Government sector indicators

*B General government financial assets and liabilities*

<i>% of GDP</i>	2007	2009	2011	2013	2014	2015	2016	2017
Financial assets	51.9	74.7	74.9	62.9	63.8	50.9	52.3	42.4
Currency and deposits	9.8	16.5	33.3	22.4	26.4	18.6	12.3	7.5
Securities other than shares	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Loans	14.4	24.8	10.4	10.3	9.7	6.8	7.7	4.8
Shares and other equity	16.5	23.1	21.5	21.1	19.1	17.2	21.9	21.1
Other accounts receivable	11.2	10.4	9.8	9.0	8.6	8.3	10.4	9.0
Liabilities	51.0	112.1	126.2	114.1	113.4	99.1	86.8	74.0
Securities other than shares	9.2	39.0	46.2	44.4	43.5	39.9	34.6	28.8
Loans	18.1	43.3	48.5	40.0	38.4	27.7	18.2	13.5
Domestic loans	5.4	18.0	20.5	18.8	17.6	13.8	9.8	8.8
Foreign loans	12.8	25.3	28.0	21.2	20.7	13.8	8.4	4.7
Insurance technical reserves	19.6	23.6	24.4	24.1	24.3	26.0	28.3	26.2
Other accounts payable	4.1	6.2	7.1	5.7	7.3	5.6	5.8	5.4
Net financial assets	0.9	-37.4	-51.2	-51.2	-49.6	-48.2	-34.5	-31.6

Source: Statistics Iceland.

*C Central government financial assets and liabilities*

<i>% of GDP</i>	2007	2009	2011	2013	2014	2015	2016	2017
Financial assets	42.5	65.6	66.7	55.9	57.7	45.2	46.5	37.2
Currency and deposits	7.6	14.2	31.3	21.3	25.4	17.8	11.2	6.6
Securities	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Loans	12.8	22.6	8.7	8.6	8.3	5.5	6.6	3.8
Shares and other equity	14.1	20.9	19.4	19.2	17.4	15.7	20.5	19.6
Other accounts receivable	8.0	7.9	7.4	6.8	6.6	6.2	8.2	7.1
Liabilities	41.9	97.9	112.4	102.1	100.7	86.4	75.0	63.3
Securities other than shares	9.2	39.0	46.2	44.4	43.5	39.9	34.6	28.8
Loans	13.6	34.5	40.0	32.7	30.7	20.3	11.6	7.0
Domestic loans	2.2	12.2	13.7	12.2	10.2	6.6	3.4	2.5
Foreign loans	11.3	22.3	26.2	20.5	20.5	13.6	8.2	4.5
Insurance technical reserves	16.9	21.2	21.8	21.5	21.6	22.8	24.9	22.9
Other accounts payable	2.3	3.2	4.4	3.6	5.0	3.5	4.0	4.5
Net financial assets	0.6	-32.4	-45.7	-46.1	-43.0	-41.2	-28.6	-26.1

Source: Statistics Iceland.

Table A7 Balance of payments

<i>EUR millions</i>	1995	2000	2005	2008	2017 <sup>1</sup>
Current account	10	-997	-2,137	-2,754	723
Goods	138	-637	-1,442	-517	-1,367
Goods exports	1,393	1,977	2,327	3,158	4,400
Goods imports	1,255	2,614	3,770	3,675	5,767
Services	52	-36	-155	250	2,252
Services exports	533	1,162	1,792	1,862	5,606
Services imports	481	1,199	1,948	1,611	3,355
Primary income	-175	-309	-543	-2,461	5
Receipts of primary income	44	119	1,160	1,072	706
Expenditures of primary income	219	428	1,703	3,533	701
Secondary income - Balance on secondary income	-4	-15	3	-26	-167
Receipts of secondary income	16	17	59	69	199
Expenditures of secondary income	20	32	56	95	365
Capital account	-3	-3	-5	-8	-12
Receipts	0	0	0	0	0
Expenditures	3	3	5	8	12
Financial account <sup>2</sup>	-27	-1,161	-1,846	-9,096	672
Assets	27	1,060	18,328	-3,777	-6,486
Direct investment	19	427	5,715	-2,904	-6,253
Portfolio investment	49	599	3,773	-3,384	1,174
Financial derivatives, net	0	0	0	-1	60
Other investment	-44	113	8,781	1,724	-752
Reserve assets	3	-79	60	789	-715
Liabilities	54	2,220	20,174	5,319	-7,158
Direct investment	-7	185	2,483	633	-6,164
Portfolio investment	169	1,288	13,599	37	-1,138
Other investment	-107	747	4,092	4,649	144
Net errors and omissions	-34	-160	297	-6,335	-39

1. Preliminary figures. 2. Positive number represents inflow of capital due to foreign borrowing or decrease in assets. Negative number accounts for outflow of capital, debt repayment, or increase in assets.

Source: Central Bank of Iceland.

Table A8 Projected external debt service<sup>1</sup>

<i>EUR millions</i>	2016	2017	2018	2019	2020	2021	<i>Principal thereafter</i>	<i>Total</i>
<b>Government</b>								
Principal	0	0	341	0	558	0	0	898
Interest <sup>2</sup>	8	15	12	7	4	0		0
Total	8	15	352	7	562	0		0
<b>Monetary authorities &amp; Treasury</b>								
Principal	0	0	341	0	558	0	0	898
Interest <sup>2</sup>	8	15	12	7	4	0		0
Total	8	15	352	7	562	0		0
<b>Local government</b>								
Principal	0	0	0	0	0	0	0	0
Interest <sup>2</sup>	0	0	0	0	0	0		0
Total	0	0	0	0	0	0		0
<b>Banks</b>								
Principal	400	513	1,149	982	404	624	405	4,477
Interest <sup>2</sup>	38	62	53	34	21	12		0
Total	437	575	1,202	1,017	424	636		0
<b>Other credit institutions</b>								
Principal	14	6	16	5	4	4	7	54
Interest <sup>2</sup>	0	0	0	0	0	0		0
Total	14	6	16	5	4	4		0
<b>Other sectors</b>								
Principal	259	298	381	501	207	187	1,129	2,962
Interest <sup>2</sup>	34	64	59	49	33	28		0
Total	293	362	440	550	241	215		0
<b>Grand total</b>								
Principal	672	816	1,886	1,488	1,172	815	1,541	8,391
Interest <sup>2</sup>	79	142	124	90	58	40		0
Total	751	958	2,010	1,578	1,230	855		0

1. Based on debt outstanding at end of June 2018. 2. Floating interest rate is assumed according to latest market rates available.

Source: Central Bank of Iceland.