



This project has received funding from the European Union's Seventh Framework Programme for research, technological development and demonstration under grant agreement no 266800



FESSUD

FINANCIALISATION, ECONOMY, SOCIETY AND SUSTAINABLE DEVELOPMENT

Studies in Financial Systems

No 34

Financialisation and the Financial and Economic

Crisis: The Case of Iceland

Björn Rúnar Guðmundsson

Financialisation and the Financial and Economic Crisis: The Case of Iceland

Author: Björn Rúnar Guðmundsson

Affiliations of author: University of Iceland, Statistics Iceland

Abstract: Financialisation in Iceland should be seen as an evolving process driven by a mixture of global and domestic forces. Responding to fundamental issues underlying macroeconomic imbalances, the authorities introduced policies that proved particularly supportive of financial expansion at a time when cross-border capital movements were rapidly on the rise. Consequently, the rise in financial activity has had profound effects on income distribution and corporate and household behavior. Following the 2008 financial meltdown, which was triggered by excessive growth of the financial sector, financialisation in Iceland has reversed to a degree, allowing for a shift away from financial-led towards increasingly export-led growth.

Key words: Economic development, financialisation, financial crisis

Date of publication as FESSUD Working Paper: July 2015

Journal of Economic Literature classification: E02, E21, E22, E25, F36, G01, O11

Contact details: Björn Rúnar Guðmundsson, email: bjorn.gudmundsson@hagstofa.is

Acknowledgments: The study on Iceland is a part of a RANNÍS project No. 130551-052, SFC Model for Iceland.

Website: www.fessud.eu

Introduction

Iceland's recent experience of the 2007-2008 financial crisis has brought about a fundamental reassessment of the role of finance in the economy and the ways in which financialisation has affected some of the most basic economic functions in the country. In the current setting, financialisation is seen as the expanded role of financial markets and motives across a wide spectrum of agents and institutions, resulting from the transformation of Iceland's economic landscape in the late 1990s and early 2000s. The political motives behind these developments are well known and resonate fully with the global rise and triumph of neo-liberal policies in the late 1970s and early 1980s. In this respect, the Icelandic experience is similar to that of many other countries, except that Iceland perhaps lagged behind in trade liberalisation and maintained protectionist elements somewhat longer than most of its trading partners. Once the road towards global finance was taken, a transformation was underway, turning Iceland into a finance-dominated economy that collapsed in 2008, making the rise and fall of Icelandic finance one of the most spectacular in history.

The first chapter traces early moves towards financialisation, focusing on domestic issues such as the fishing industry and the implementation of market discipline in this most important export sector. Also examined is the role of pension funds, along with fiscal policy and financial sector liberalisation in the 1990s. Chapter 2 centers on economic performance during the 1980s and 1990s and the contribution of various components to GDP growth. Labour markets and interest rate setting are examined as well. Chapter 3 explores the long-run impact of financialisation, focusing on income distribution, investment, personal consumption, and the current account. Chapter 4 contains a discussion of the financial crisis and its effects, and Chapter 5 concludes.

Setting the stage – diversification and economic stability

In 1970, Iceland became a member of the European Free Trade Association (EFTA), finally taking the path towards economic and financial integration after decades of indecision and

political conflict. The economy was still highly dependent on the fishing industry, which provided around 80 per cent of goods export revenues. Services exports were limited, except perhaps for revenues from the US Navy base in Keflavík. Industrial exploitation of Iceland's second most important natural resource, hydro and geothermal energy, had just begun in 1969 with the opening of an aluminium plant owned by Alusuisse, providing vital export diversification without altering the dependence on natural resource sectors. EFTA membership represented a commitment to embrace trade liberalisation in order to enhance competition, particularly in the manufacturing sector, which had previously enjoyed almost complete protection through a complex system of import quotas and tariffs. Securing market access for fisheries products and participating formally in the ongoing economic integration process was seen as an important step towards Iceland's modernisation.

Preparations for this step away from protectionism had long been underway. The possibility of joining the EEC¹ had been actively considered in the early 1960s but finally rejected, as it would have called for more political integration than seemed warranted at that point.² Nevertheless, important reforms were undertaken at the time. The system of import and export licensing was replaced, allowing for a unified exchange rate determination of the Icelandic króna. Furthermore, a steep devaluation was implemented, bringing the current account back into balance.

1 The European Economic Community was established by the Treaty of Rome in 1957 and became the European Union with the Maastricht Treaty of 1993.

2 The creation of the EEC in 1957 and EFTA in 1960 effectively divided Europe into two major trading blocs, leaving several countries, Iceland among them, without a clear trade policy alternative. The issue of fishing rights and tariffs on fish imports played a major role for Iceland, particularly as regards relations with other European countries for which fishing was an important issue; for instance, the UK.

When Iceland finally abolished most barriers of trade and capital flows³ in the 1990s, after joining the European Economic Area (EEA) in 1994, the stage was finally set for full-scale integration with global financial markets.

First steps towards financialisation

Economic developments in late twentieth-century Iceland stand out in several respects. Strong growth, rapid rises in real disposable income, and low unemployment coincided with high inflation and chronic current account deficits. In the early 1980s, the Icelandic economy was seen as extremely unbalanced, struggling with excessive domestic demand leading to an overvalued currency and inflation, as well as a dysfunctional financial system. With strong exchange rate pass-through, the domestic price level was highly sensitive to movements in the exchange rate, introducing a strong bias towards frequent currency devaluations, mostly in response to business conditions in the fisheries sector. On top of these real sector disturbances, widespread indexation (both wage indexation and financial indexation)⁴ made the economy even more prone to inflationary pressures.

Figure 1: Inflation in Iceland 1990-2014

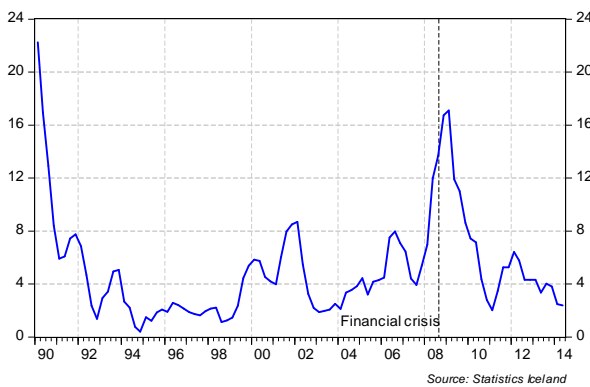
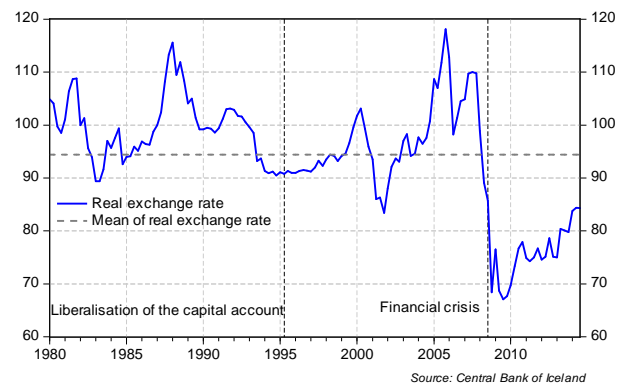


Figure 2: Real exchange rate 1980 - 2014, 2000=100



Like many other countries, inflation increased rapidly in the 1970s in the aftermath of the oil crisis averaging almost 30 per cent annually over the decade. During the 1980s and 1990s (Figure 1), inflation was gradually brought under control, partly through the abolition

³ Iceland has adopted a special regulatory environment for investment in the fishing industry, effectively prohibiting foreign ownership. Imports of agricultural products are restricted as well.

⁴ Financial indexation was introduced by law in 1979 in an effort to stimulate financial savings, which had declined significantly in the 1970s due to negative real interest rates. Financial indexation still remains the dominant form of financial contract in Iceland, even though it has diminished in importance recently.

of wage indexation in 1983 and partly through labour market partners' efforts to expand the role of Scandinavian-style centralised wage bargaining. Real exchange rate volatility (Figure 2) remained more or less unchanged, however, with periodic ups and downs depending on internal and external conditions.

In the 1990s and into the early 2000s, the rise of the financial sector from a network of State-controlled banks to a handful of large, privately owned, internationally active financial firms changed the dynamics of the Icelandic economy in a fundamental way. All of a sudden, previously insurmountable financing constraints evaporated into thin air, making expansion beyond Icelandic borders possible for companies formerly confined to the domestic market. What made this transformation possible in such a short period of time? Why were Icelandic banks given triple-A ratings by international rating agencies in early 2008 just moments before the financial system collapsed, and why was it possible for such a small economy to accumulate such colossal debt so rapidly?

Apart from the political and ideological issues relating to neo-liberalism, privatisation, and the exceptional timing to enter the world of free capital movements, early financialisation in Iceland rested on several pillars. Three of these are examined here in some detail. The first is the application of private property-based policies in the fisheries sector, which allowed the country's most important export industry to escape the inefficiencies often embedded in natural resource-based industries. Also examined is the accumulation of financial wealth in the pension fund system, which became a major force in the Icelandic financial system in the last two decades of the twentieth century. And third, we have the effect of exceptionally stringent fiscal policies during the 1990s, when the public sector deficit was kept under control and public debt declined rapidly in spite of an otherwise difficult economic environment. These pillars provided the background necessary for foreign investors to accept Iceland as a legitimate international player benefiting from liberal policies and free movement of capital.

The role of political and ideological factors should not be underestimated, however. The evolving legal and institutional framework that made financialisation possible resulted

from strong political commitment and commercial action in the late 1980s and 1990s. Two overarching issues stand out in this respect. Firstly, we have the gradual transformation of corporate ownership from family-style capitalism, co-operatives, and public ownership into limited liability companies more adapted to a market oriented environment.⁵ The culmination of this process was the privatisation of the banking sector, when large-scale privatisation of the commercial and investment banking institutions was completed.⁶ The second issue relates to the financial sector reforms undertaken, primarily in the 1990s, in order to comply with the regulatory framework imposed by the EEA Agreement, enhancing financial sector efficiency, and clarifying monetary policy conduct.⁷ These reforms concluded in 2001, with the introduction of inflation-targeting by the Central Bank of Iceland.

Seen from a global perspective, policy-making in Iceland more or less followed the pattern observed in many other countries where State control or price regulation was substituted for private ownership and market discipline. These market-oriented reforms resonated fully with the structural reform agenda pursued strongly at the time, not least because of the ongoing shift towards a market-based economy in Eastern Europe. For Iceland, the time was right to take the leap away from old-fashioned protectionism towards an environment that could potentially take the country to the top of the global income ladder.⁸

Transforming the fisheries sector

Following the expansion of Iceland's territorial fishing waters to 200 miles in 1976, a policy of quantitative restrictions on the total fish catch was gradually implemented. The economic rationale behind such a policy was strong, as the fisheries sector suffered from obvious symptoms of "the tragedy of the commons", with overexploitation of important

5 See Appendix 5 to the Special Investigation Commission (SIC) Report: Helgason M.S, Íslenskt viðskiptalíf – breytingar og samspil við fjármálakerfið (Icelandic Businesses – changes and links to the financial sector), 2010.

6 SIC Report, Volume 1. Chapter 6. 2010, (In Icelandic). See also: Bergmann E., Iceland and the International Financial Crisis, Palgrave Macmillan, 2014, Chapter 4.

7 Guðmundsson M., Y.Ö. Kristinsson, "Monetary policy in Iceland during the Nineties", BIS, 1997. OECD Economic Surveys – Iceland, Ch. III. Deregulation of the financial sector. 1998.

8 Gissurarson H.H. Hvernig getur Ísland orðið ríkasta land í heimi? [How can Iceland become the world's richest country?] Nýja Bókafélagið, 2001.

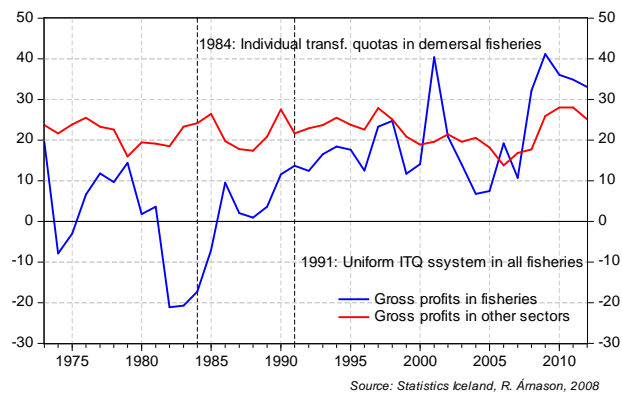
species, excessive investment, and poor profitability. Major steps towards a new fisheries management system were taken in the 1980s and early 1990s, with the establishment of a system of individual transferable catch quotas (ITQ) based on the total allowable catch determined by the authorities.⁹ It soon became apparent that the Icelandic quota system was a major success in many respects, as the property rights elements of the system supported economic incentives towards greater efficiency and higher profitability. One of the most important aspects of the system was to guarantee sustainable exploitation of fishing resources, while at the same time enhancing efficiency in this most important export sector of the economy.¹⁰ From a macroeconomic point of view, this implied a decoupling of financial conditions in the fisheries sector from developments in the foreign exchange market. As the fisheries sector became more efficient, profitability increased. Therefore idiosyncratic shocks originating in the fisheries sector previously had economy-wide consequences as exchange rate policy was geared towards the fisheries financial situation.¹¹ Figure 3 shows the evolution of gross profitability (EBIT as per cent of total income) in the fisheries sector compared with other sectors, demonstrating clearly how the gradual implementation of the quota system boosted profits. Gross profits in the fisheries sector fluctuated strongly in the 1970's and the 1980's averaging close to zero while other sectors performed better with gross profits close to 20 per cent of total income. With the implementation of the quota system in the mid 1980's and onwards, profitability in the fisheries sector improved substantially even though volatility remained high.

9 Runolfsson, B.T., R. Arnason (2001), The Effects of Introducing Transferable Property Rights on Fleet Capacity and Concentration of Ownership of Harvesting Rights in the Iceland's Fisheries, in R. Shotton (ed.): Case studies on the effects of transferable fishing rights on fleet capacity and concentration of quota ownership, FAO Fisheries Technical Paper 412, Rome, pp. 28-43.

10 Arnason R, (2008), Iceland's ITQ system creates new wealth, The Electronic Journal of Sustainable Development, (2008) 1(2)

11 Daníelsson A, (2004), Íslenskur sjávarútvegur – auðlindin, hagvöxtur og arðsemi, Afmælisráðstefna Fjármálatíðinda (Icelandic fisheries – the resource, GDP growth, and profitability).

Figure 3: Gross profits in fisheries and other sectors



Newly created wealth based on the quota system changed business conduct and provided financial incentives previously non-existent in the fisheries sector. Arnason (2008, p.38) points out that the wealth created by the ITQ system allowed fishing companies to raise financial capital that could be exploited in other sectors. Given that the implicit market value of the fishing quota exceeded 40 per cent of GDP as early as the late 1990s, it stands to reason that internationally competitive fishing companies with significant quota shares were attractive customers for the financial industry at the height of financial boom in the mid-2000s.

Unsurprisingly, firms in the fishing industry played a key role in the early phase of the Icelandic stock market during the 1990s. From 1994 to 1999, the share of fisheries companies in total market capitalisation on the Icelandic stock market increased from 5 per cent to nearly 40 per cent.¹² However, most of the firms in the fishing industry decided to exit the stock market following a series of mergers and acquisitions in the late 1990s and early 2000s. In 2008, only one fisheries company was listed on the Icelandic stock exchange, and no fishing company has been listed since then.¹³

¹² Arion Bank, Af samleið sjávarútvegs og hlutabréfamarkaðar [Fisheries and the stock market], Markaðspunktur,, 30/09/2014.

¹³ Restrictions on foreign ownership of fishing companies and volatile profitability are among the reasons given for the absence of fisheries companies from the stock market.

Pension funds

Following the severe economic crisis in the late 1960s, labour unions agreed to trade wage increases for the establishment of mandatory, fully funded occupational pension funds.¹⁴ For the labour unions, this was seen as an important step towards social justice, as the public welfare system provided inadequate old-age pension coverage.¹⁵ For these historical reasons, the Icelandic pension funds remain strongly embedded in the labour market, while later developments have shifted the pension system in general towards a three-pillar structure.¹⁶ Through a series of legal reforms, pension fund rights and obligations have moved towards full coverage of those active in the labour market and self-employed, with pension fund contributions gradually increasing. Since 1998, the legal minimum pension fund contribution has been 10 per cent of total wages and salaries – and substantially higher in some cases.

Pension fund assets have increased enormously during the last few decades, from 15 per cent of GDP in 1980 to 149 per cent in 2013 (Figure 4). Favourable demographics and strong returns have allowed pension funds to accumulate assets, albeit with occasional setbacks during major economic crises. Since 1991, the real rate of return on assets has been 5 per cent on average (Figure 5).¹⁷ The number of operating pension funds has declined dramatically in recent years – from 56 in 2000 to 27 in 2013 – as smaller funds have been consolidated or overtaken by larger funds, leading to increased concentration of assets. Currently, the 10 largest funds control over 80 per cent of total assets.

¹⁴ Ísleifsson Ó., *The Icelandic Pension System*, Chapter 1. Ph.D. Dissertation, University of Iceland, 2013.

¹⁵ Guðmundsson, M. "The Icelandic Pension System", National Association of Pension Funds, 2001.

¹⁶ The three-pillar pension fund concept was proposed in a World Bank policy research report in 1994: *Averting the Old Age Crisis*, with two mandatory pillars, one public and one private, and a third (voluntary) pillar.

¹⁷ Magnússon G., *Söguleg ávöxtun íslenskra lífeyrissjóða*, [Historical rates of return among Icelandic pension funds], University of Iceland, 2013.

Figure 4: Pension fund assets as per cent of GDP

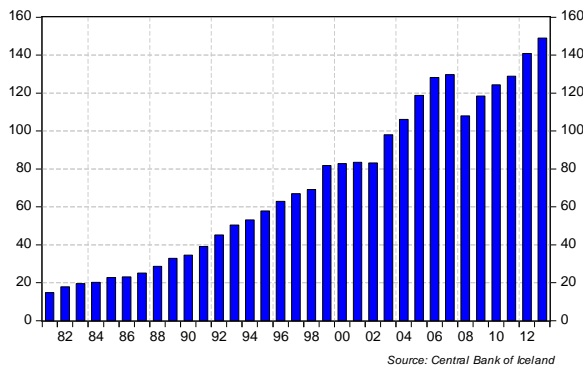
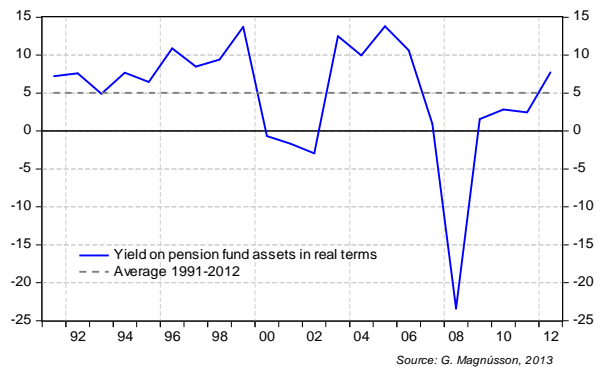


Figure 5: Rate of return on pension fund assets in real terms



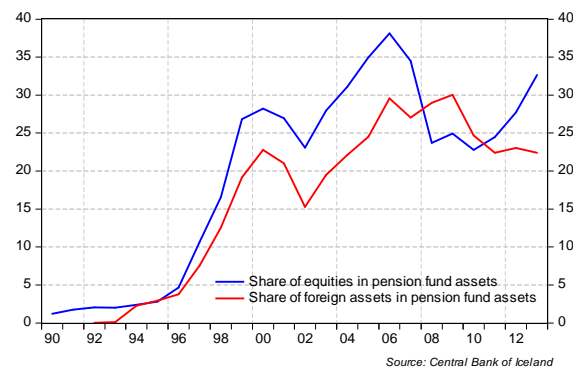
Icelandic pension fund assets are among the highest in the OECD, with only the Netherlands reporting higher share of assets to GDP and only a handful of countries having accumulated pension fund assets in excess of 100 per cent of GDP.¹⁸

The emergence of Icelandic pension funds supported subsequent financialisation in a number of ways. Perhaps the most obvious effect was to provide a kind of early training ground for financial activity. The rapid accumulation of assets in the during the 1990s through pension savings created demand for financial services and promoted the development of financial instruments catering to the demand of the growing pension funds. Portfolio diversification from bonds to equities, first in the domestic market and then abroad, stimulated the newly created stock market as pension funds increased their share of equities from around 3 per cent of total assets in 1995 to around 30 per cent in 2000 (Figure 6). After gaining access to foreign capital markets in 1994, Icelandic pension funds began to invest abroad, mainly in equities, and by 2000 their foreign assets accounted for over 20 per cent of total assets (Figure 6).¹⁹

¹⁸ Pension Markets in Focus, OECD, 2013.

¹⁹ Foreign assets continued to grow after the dot-com bubble burst in the early 2000s, reaching 30 per cent of total assets in 2008. However, with the introduction of capital controls following the financial crisis, pension funds have been prohibited from investing abroad.

Figure 6: Pension fund assets, equities and foreign



As the newly privatised commercial banks established their operations in the early 2000s, the existence of a large institutional investor generating guaranteed demand for financial services was invaluable in creating a viable business environment. In this way, the pension funds directly supported financialisation and contributed to the momentum that the Icelandic financial sector was able to build up in order to access the international capital market.

The pension funds provided indirect support as well, by imbuing the Icelandic financial sector with an image of strength. This element was often mentioned by those expounding the positive aspects of Iceland as a credible player in the financial market.²⁰

Macheda (2012)²¹ takes a more critical view of pension fund involvement in finance, however, arguing that as labour union leadership became increasingly involved in the pension funds' financial affairs, their traditional emphasis on wage bargaining gave way to increased focus on economic stability and financial conditions in order to maintain a favorable investment environment for the pension funds.²²

²⁰ The Icelandic pension fund system is listed as the country's number one strength in a Government report on Iceland and international financial activity: International Financial Activity, Prime Minister's Office, 2006 (In Icelandic). See also: Mishkin F.S., T. Herbertsson, Financial Stability in Iceland, Iceland Chamber of Commerce, 2006.

²¹ Macheda F., "The role of pension funds in the financialisation of the Icelandic economy", Capital & Class 36(3), 2012.

²² See also, Baldvinsdóttir H.D., Networks of Financial Power in Iceland – The Labour Movement Paradox, PhD Thesis, Lancaster University, (1998).

Creating fiscal space

Following excessive growth and debt accumulation in the late 1980's Iceland, like many other OECD countries, faced economic difficulties in the early 1990s, when GDP declined or remained flat while unemployment increased considerably. The fiscal situation deteriorated significantly, with general government debt rising to unprecedented levels in the mid-1990s as the budget deficit soared. In the midst of the crisis, strong emphasis was placed on fiscal consolidation in the international economic debate. To a large extent, this reflected increasing concerns in many OECD countries following the gradual deterioration of fiscal positions during the 1970s and 1980s.²³ Further impetus towards greater fiscal discipline in Europe came from the single market project and preparations for a monetary union within the EU.²⁴

Icelandic authorities responded strongly to these challenges in the early 1990s and implemented a successful fiscal consolidation program, reducing public expenditure and keeping revenues constant or slightly increasing them. As early as 1997, the public sector financial balance had improved enough to eliminate the deficit, and in the ensuing years a small surplus emerged, partly supported by increased growth in the late 1990s during the run-up to the dot-com bubble. Offsetting the public sector improvement was an increased financial deficit for both the foreign sector (current account deficit) and the private sector. In 2000, for example, the public sector financial balance was positive to the tune of 1.3 per cent of GDP while the financial deficit of the private and foreign sectors was 11.6 and 10.3 per cent of GDP respectively.

23 Leibfritz W, D. Roseveare, P. van den Noord, Fiscal Policy, Government Debt and Economic Performance, OECD, 1994.

24 De Haan, J.C., G.M. Sterks, C.A. De Kam, "Towards budget discipline: an economic assessment of the possibilities for reducing national deficits in the run-up to EMU", Economic Papers, Commission of the European Communities, No. 99, 1992.

Previously, fiscal policy had been more or less neutral over the business cycle,²⁵ as discretionary expenditure compensated fully for pro-cyclical and discretionary revenue effects. Studying the correlation between public sector savings, excluding public sector enterprises, and GDP, Guðmundsson and Zoëga (1998) found strong overall co-movements in revenues and expenditures resulting in fiscal neutrality for the period 1960-1998 in the sense that discretionary expenditures were balanced by the effect of automatic stabilisers and discretionary revenue measures. A re-examination would most likely show a significant change around the mid-1990s towards a more counter-cyclical pattern of public finances.

Figure 7: General government revenue and expenditure

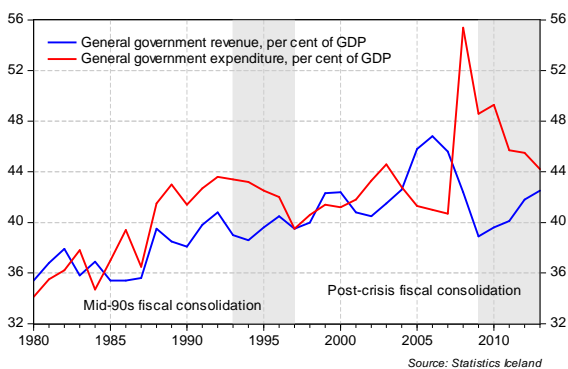


Figure 8: General government financial balance, per cent of GDP

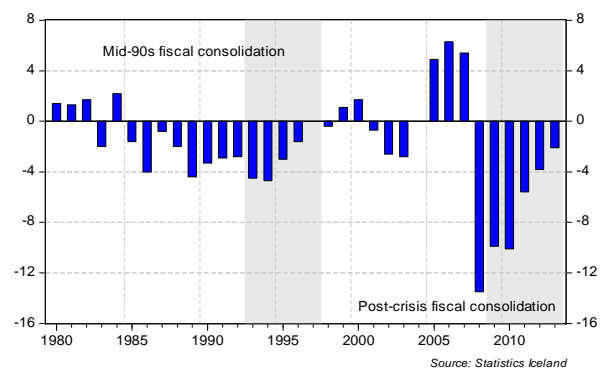


Figure 7 shows the evolution of government revenues and expenditures as a share of GDP since 1980. During the mid-90's fiscal consolidation in 1993-1997 (shaded grey), expenditure fell by 4 per cent of GDP while revenues remained constant. The effect on the public sector financial balance (Figure 8) was strong and the deficit was quickly removed. In retrospect, the mid-90's fiscal consolidation seems small compared with the 2009-2013 post-crisis fiscal consolidation when a much larger fiscal gap was closed.

By improving public finances and introducing significant modification of taxes and benefits,²⁶ the Icelandic authorities were able to enhance the confidence of the financial community, both in Iceland and abroad, resulting in sovereign credit rating upgrades from low investment-grade ratings in the mid-1990s to the highest grade (Aaa from Moody's) in 2002.

25 Guðmundsson B.R, G. Zoëga, Fjármálastefna íslenskra stjórnvalda, 1960-1998 (Fiscal policy in Iceland 1960-1998), Fjármálatíðindi Vol. 45.II, 1998. [in Icelandic]

26 OECD Economic Surveys, Iceland, 1998.

These achievements helped Iceland establish itself as a credible player in the international financial market. In early 2000s, Iceland's public sector debt was among the lowest in the OECD, and the general government's net financial liabilities had disappeared as privatisation proceeds were used to retire public debt. This enabled the private sector to take advantage of strong sovereign credit ratings, as the newly privatised banks maintained unchanged ratings in the early 2000s, allowing easy access to international capital markets.²⁷

Macroeconomic development 1980 - 2013

Economic performance during the 1980s and 1990s was very much a real sector story, as export sector conditions dominated yearly fluctuations in growth. On average, the economy performed well, with GDP growth around 3 per cent per year and rising to 5 per cent per year in the 2000s, before falling to -0.7 per cent in the aftermath of the crisis.

Table 1: Economic growth and contribution to growth (per cent).

	1980-1990	1991-2000	2001-2007	2008-2013
Private final consumption expenditure	1.6	2.1	2.5	-0.5
Government final consumption exp.	1.1	0.6	0.9	-0.2
Gross fixed capital formation	0.4	1.2	2.0	-2.0
Net export of goods and services	0.0	-0.9	-0.4	2.1
Gross Domestic Product	3.1	3.0	5.0	-0.7

Source: Statistics Iceland

On the demand side, private consumption contributed strongly to growth throughout the period. It was not until after the financial crisis that its contribution turned negative. In fact, for all of the periods shown in Table 1 apart from 2008-2013, private consumption is the

²⁷ The two largest rating companies, Moody's and S&P, have assigned sovereign ratings to Iceland since the late 80s. Fitch followed suit in the early 2000s. In 2002, Moody's assigned a triple-A rating to the Treasury, while the three commercial banks (Landsbanki, Glitnir, and Kaupthing) were rated as single-A banks at the time. The ratings of the commercial banks were successively upgraded following privatisation, peaking in early 2007 when Moody's placed all three banks in the highest rating category.

dominant contributor to GDP growth. From that perspective, the growth process in Iceland can be defined as consumption-driven. Government final consumption and capital formation also contributed positively to growth until 2007, while net exports were growth-neutral in the 1980s and then turned negative until after the 2008 financial crisis. Since then, however, net exports have been the main driver of GDP growth.

Obviously, the negative net export position prior to the financial crisis reflects the almost perpetual negative current account position during the pre-crisis period. Hence, an alternative characterisation of the Icelandic growth process would emphasise the role of capital inflows financing the negative net export position and supporting the growth of the non-tradable sector. Behind this rather smooth-looking overall growth performance lies a much more volatile pattern of ups and downs making the Icelandic growth process considerably more bumpy than in neighbouring countries (Figure 9). GDP growth in Iceland averaged 2.8 per cent over this period, as compared with 2.1 per cent in neighboring countries.

Figure 9: Real GDP growth 1980 - 2013

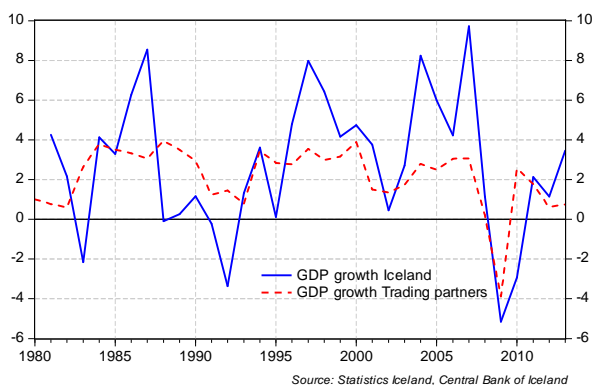
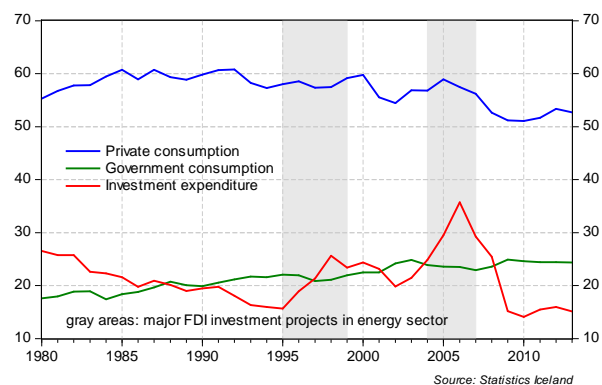


Figure 10: Components of total domestic demand, % of GDP



On the supply side, major variations were caused by a severe negative shock to the fish catch in the early 1980s and two major investment booms in energy-related industrial projects, first in the mid-1990s and again the mid-2000s.²⁸ These two investment booms are clearly indicated in the rising investment-to-GDP ratio shown in Figure 10. Despite these

²⁸ The first large FDI project in the aluminium industry was undertaken by Alusuisse in the late 1960s. Successive expansions of existing plants and new investment projects by other foreign-owned companies, Century Aluminium in the 1990s and Alcan in the 2000s, have elevated Iceland to a rank of 11th worldwide in production of aluminium as of 2012.

idiosyncratic shocks, the Icelandic growth pattern remains influenced by economic conditions in neighbouring countries through external trade, and with growing financialisation in the 2000s, global conditions became even more important.

A closer look at the components of domestic demand (Figure 10) reveals that the ratio of private consumption to GDP rose in the early 1980s and remained roughly constant until around 2005. Since then it has declined. On the other hand, public consumption has been stable and rising until recently. As for investment expenditure, Iceland is no exception to the rule of investment volatility, as this component of total domestic demand has been far more volatile than private and public consumption. The impact of financialisation on demand components is analysed below.

Volatility is also prominent on the external side, as both exports and imports have fluctuated in line with underlying economic conditions. Imports and exports of goods and services moved in harmony as a share of GDP during the 1980s and well into the 1990s but diverged thereafter (Figure 11).

Figure 11: Share of exports and imports, % of GDP

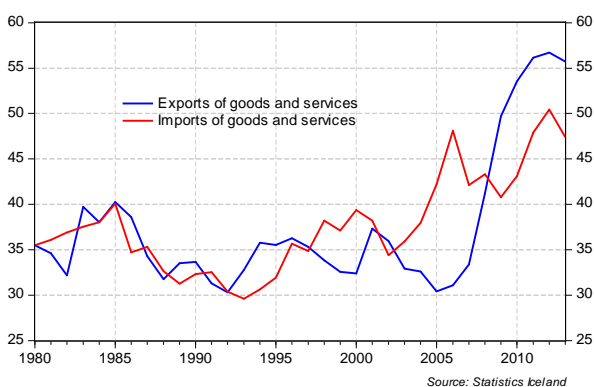
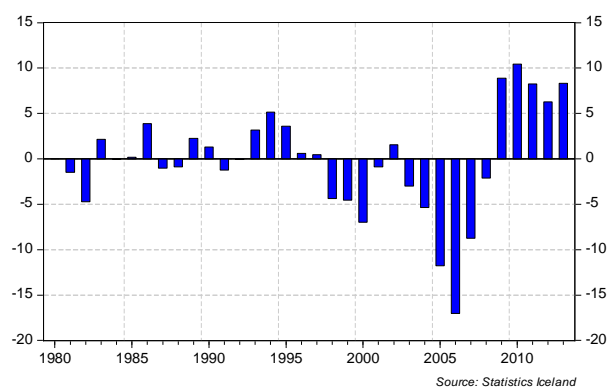


Figure 12: Balance on goods and services, % of GDP



Apart from the small size of the economy, the relatively small share of exports and imports until the mid-2000s is explained by the fact that, despite a relatively liberal trade regime since the 1960s, exports and imports are composed primarily of finished goods. For most other OECD countries, however, external trade in intermediate goods increases the size of the tradable sector relative to the domestic sector.²⁹ Furthermore, the changing composition of goods and services in external trade is important. Although exports of goods

²⁹ Krugman, P., "Iceland's Exchange Rate Regime", Memorandum, 1991.

continued to fall as a share of GDP, falling from 28 per cent in 1980 to 17 per cent in 2005, the rising share of services exports has compensated somewhat for the decline (Figures 13 and 14). On the import side, no clear trend is observed until early 2000s, when goods imports begin rising during the prelude to the financial crisis.

Figure 13: Exports and imports of goods, % of GDP

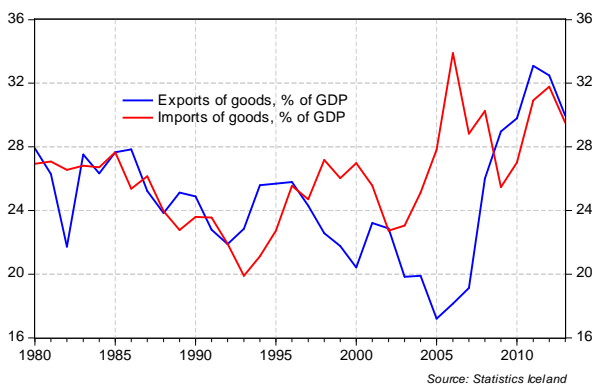


Figure 14: Exports and imports of services, % of GDP



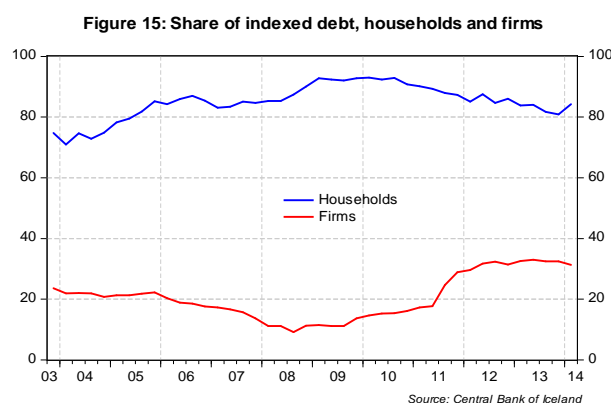
In recent years, exports have increased tremendously as a share of GDP, rising from 30 per cent in 2005 to 56 per cent in 2013. Initially, export revenues from aluminium start-ups contributed strongly, while export revenues from the tourism industry grew to dominance in the aftermath of the financial crisis, as is shown by the rising share of services exports after 2008.

Rising import penetration since the mid-1990s, for both goods and services, reflects the underlying currency appreciation pressure from capital inflows, as well as the pro-cyclical character of import demand and the continuous growth of services in the economy. On average, the balance on goods and services was close to zero until the mid-2000s, notwithstanding periodic imbalances in both directions (Figure 12). It was only after the full impact of financialisation was felt that extreme imbalances emerged. In part, the extreme trade imbalances during the run-up to the financial crisis reflect weak exports and the strong rise in imports during the boom years.

As regards the labour market and affiliated institutions, Iceland displays many characteristics similar to those in other Nordic countries. Union membership is high and wage contracts are often negotiated at the central level, with direct or indirect participation by the State. Direct political influence of labour market institutions has been much less

important in Iceland than in other Nordic countries, however.³⁰ Owing to the high level of labour market flexibility with regard to real wages and labour mobility, Iceland has benefitted from low unemployment levels despite an otherwise unstable economic environment, which gradually became less of an issue as inflation was brought under control.

A rather complex and delicate issue relates to the determination of interest rates in Iceland, particularly on the long end of yield curve, and the role of the pension funds in this respect. Unlike most other countries, long term-financial contracts are predominantly indexed to the consumer price index. Financial indexation was introduced in the late 1970s in order to stimulate financial savings following a protracted period of negative real interest rates. Along with liberalisation of interest rates, financial savings increased again and CPI-indexed debt slowly became the dominant form of long-term debt in Iceland, particularly among households. In 2013, around 33 per cent of corporate debt and around 84 per cent of household debt was CPI-indexed (Figure 15). Because pension funds provide the lion's share of long-term mortgage financing, it has been argued that high real interest rates may at least partly reflect the funds' dominant position in the bond market.³¹



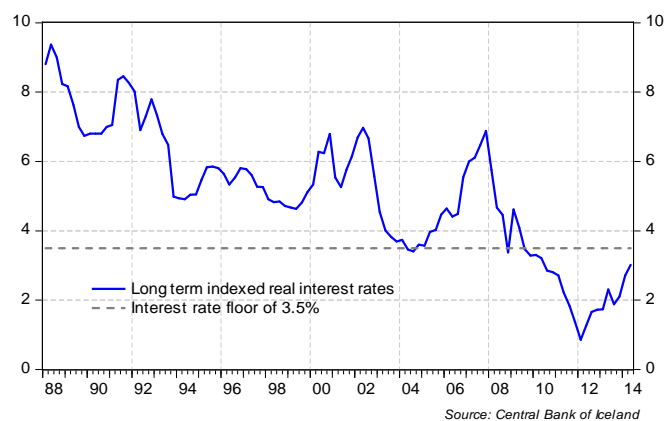
According to current regulations, pension funds are obliged to revalue their pension obligations annually, according to a present-value method involving a 3.5 per cent real rate

³⁰ Assessment of the Labour Market in Iceland, Danish Technological Institute, 2011.

³¹ Margeirsson Ó, <http://icelandicecon.blogspot.com/2013/07/icelandic-pension-system-only-700.html>

of return. If the real rate of return is lower, pension funds are obliged to revalue their members' pension rights accordingly.³² As it happens, Icelandic pension funds have reported real rates of return in excess of the 3.5 per cent benchmark for the last decade, with few exceptions (Figure 5), partly because real interest rates in Iceland have been high (Figure 16) and partly because of strong returns on other investments.³³ Nevertheless, the pension funds' dominant role in the bond market is an important structural characteristic of the Icelandic financial market, and it was only in late 2009 that long real rates fell below 3.5 per cent after bouncing back to nearly that value on two occasions, first in 2004 and then in late 2008.

Figure 16: Long term real interest rates



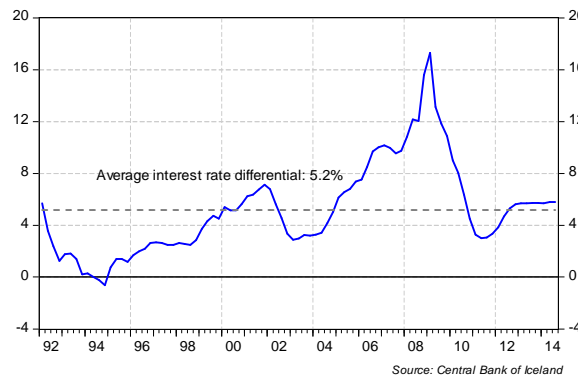
The traditional explanation of Iceland's high interest rates has been based in part on the argument that a country such as Iceland must accept a certain interest premium due to country-specific risk that investors in the international market require in order to undertake lending to Icelandic firms and households. The second argument is that given persistent current account deficits, the lack of savings will push up interest rates domestically. Whatever the reason, the fact remains that interest rates, both real and nominal, have been high in Iceland over the past two decades. Furthermore, even though real rates have fallen throughout this period, albeit with temporary setbacks, the interest

³² In the current legislation, there is a rule allowing pension funds to carry a real rate of return below 3.5 per cent real for a while before adjusting pension rights or increasing pension fund contributions. Because many pension funds' real returns exceeded the regulatory minimum before the financial crisis, many of them augmented pension rights accordingly.

³³ In the wake of the financial crisis in late 2008, a special investigation commission was established to inquire into the investment practices of the pension funds and explain the massive losses incurred by most of them.

rate differential between Iceland and trading partner³⁴ countries was on a rising trend until after the 2008 financial crisis, and it remains above 5.2 per cent, the historical average since 1992 (Figure 17).

Figure 17: Short term interest rate differential: Iceland and trading partners



Long-run impact and channels of financialisation

Distribution of income and financialisation

For a long time, income distribution was a secondary issue in Iceland, as the country displayed relative income equality³⁵ and functional distribution shifted broadly in line with the overall economic environment. Until recently, relatively narrow income differentials were considered natural for an economy with an exceptionally high labour market participation rate and an egalitarian culture. All of this changed with the rise of the financial sector in the late 1990s and early 2000s.

At the global level, income distribution – or, more specifically, increasing inequality – has become a topical issue, as numerous studies have found that economic development in recent decades has tilted income and wealth distribution towards greater inequality in virtually all countries.³⁶ Furthermore, Thomas Piketty's³⁷ ground-breaking study of the

34 Foreign short term interest rates are calculated by the Central Bank of Iceland based on 3 months Treasury Bill interest rates of Iceland's main trading partners.

35 Ólafsson S, A.S. Kristjánsson, "Income Inequality in Boom and Bust – A Tale from Iceland's Bubble Economy", in Gornick J.C, M. Jänatti (ed.) *Income Inequality*, Stanford University Press, 2013.

36 Lakner C, B. Milanovic, *Global Income Distributions – From the Fall of the Berlin Wall to the Great Recession*, World Bank, WPS6719, 2013. Cingano F. "Trends in Income Inequality and its Impact on Economic Growth", OECD Working Papers No. 163, 2014.

historical evolution of income and wealth has contributed to enhanced awareness of the rise in inequality as one of the most striking consequences of late capitalism.

Functional distribution

In the theoretical literature, using a Kaleckian approach,³⁸ the most relevant medium- to long-run channels of influence on functional distribution have been identified as those affecting firms' mark-up pricing in incompletely competitive markets. The degree of concentration, the relevance of price competition, the power constellations in the labour market between trade unions and employers, and finally, the evolution of overhead costs have all been identified as important drivers of changes in functional income distribution. Several studies have concluded that financialisation has indeed tilted income distribution towards a declining share of wages³⁹ and increased income disparities among wage-earners.

Data on the share of wages in gross factor income in Iceland are available from 1973 onwards, albeit with breaks due to statistical revisions in 1990 and 1997. Figure 18, which illustrates overall developments, reveals a clear pro-cyclical tendency, with the wage share rising during upswings and bottoming out during periods of economic distress: 1976, 1984, 1994, 2001, and 2009. There appears to be no clear long-term trend in either direction for the entire period, which could indicate that the above-mentioned drivers of changed functional distribution were not as strong in Iceland as they were elsewhere. The data do suggest that the wage share in the 1990s was below that in previous decades, but due to statistical uncertainties, no strong conclusions can be drawn.

37 Piketty T. *Capital in the Twenty-First Century*, The Belknap Press of Harvard University Press, 2014.

38 Hein E. *The Macroeconomics of Finance-dominated Capitalism and its Crisis*, Edward Elgar, 2012.

39 Hein E. Shareholder value orientation, distribution and growth – short and medium-run effects in a Kaleckian model, *Metroeconomica*, 61, 2010. Epstein G.A, D. Power, "Rentier incomes and financial crisis: and empirical examination of trends and cycles in some OECD countries", Working Paper Series No. 57, Political Economy Research Institute, University of Massachusetts, Amherst. Dumenil G. D. Levy, D. Levy. "Costs and benefits of neoliberalism: a class analysis", in G.A. Epstein (ed.), *Financialisation and the World Economy*, Edward Elgar, 2005.

Figure 18: Share of wages in factor income 1973-2012

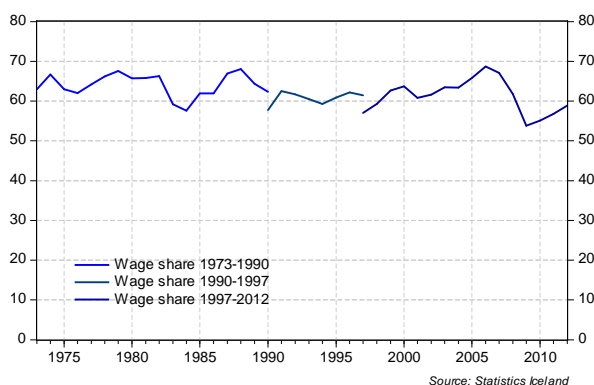


Figure 19: Share of wages in factor income 1997-2012

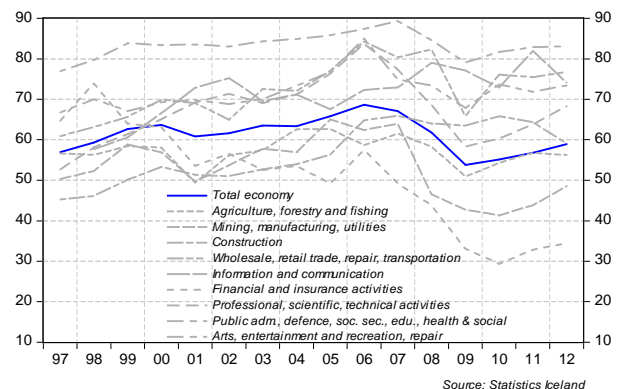


Figure 19 shows the wage share for 1997-2012, the period of financialisation in Iceland for the economy as a whole (blue solid line) and its main sectors (grey dotted lines). Overall, the pattern remains the same as before: a rising wage share during the boom years and a steep decline following the financial crisis. A noticeable variation exists between the sectors with the highest wage share – such as the public sector – and the financial sector. Wages remained relatively stable in the public sector but fell more strongly in all other sectors. Evidently, the variation across sectors has grown greater since the crisis, as some sectors were more affected than others. In the most exposed sectors, such as finance and construction, the fall in wages was most pronounced, leading to increased disparity between sectors. Clearly, this has tilted functional income distribution towards profits at the cost of wages, but whether this development has significantly altered the income distribution among wage earners may not be obvious. This is examined later in this paper. Closer examination of the financial sector reveals that its contribution to GDP, measured as a share in gross factor income, increased from around 4 per cent in the late 1990s to almost 8 per cent at the height of the financial bubble in 2007-2008 and then continued to rise to around 10 per cent in the aftermath of the crisis. The sector's high post-crisis GDP share is explained by the fact that Icelandic authorities rescued the domestic part of the financial system with a “new bank/old bank” split carried out in early October 2008 (see p. 24 below), ring-fencing a significant share of the operations carried out domestically. With the rest of the economy in rapid decline, the GDP share of the financial sector increased.

On the other hand, the wage share in the financial sector declined throughout the period, from around 70 per cent of gross factor income in the late 1990s to around 50 per cent when the Icelandic financial system peaked in size and activity in 2008. During this period, the average wage level in the financial industry rose rapidly, as highly paid investment banking operations became more and more dominant. However, the overall expansion in the sector outpaced the rise in nominal wages as profits rose faster than wages, leading to a fall in the wage share. In the aftermath of the financial crisis, the continued decline in the wage share to 30 per cent of gross factor income in 2010 is explained in part by the return to “normal banking,” as most of the investment banking activities were scaled down, while high interest rates and portfolio revaluation of bank assets has resulted in high profitability in the Icelandic banking sector.

Since 2009, the overall wage share has risen slowly, as the economic recovery advances and as the effects of the financial crisis taper off, yet by 2012 it was still nearly 4 percentage points below its historical average.

Personal income distribution

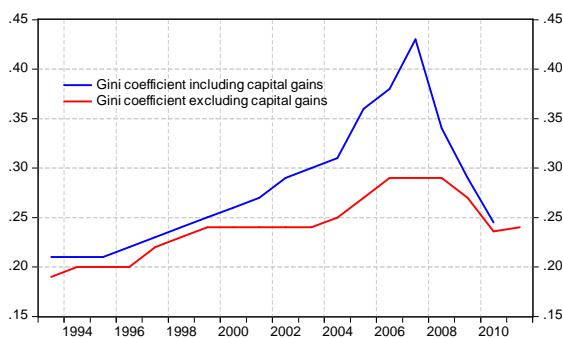
While financialisation in Iceland has not fundamentally altered the overall historical pattern of functional distribution, personal income distribution has undergone profound changes during this period. As in most other high-income countries, income inequality has grown since the late 1990s, mostly due to an increase in financial earnings such as interest income, dividends, rents, and capital gains. Obviously, the rapid financialisation of the Icelandic economy from the late 1990s until 2008 played the most important role in this respect. That said, government policy may have contributed to this change as well, particularly the implementation in 1997 of a two-tiered income tax system where financial income was taxed separately at a flat rate of 10 per cent, while income from other sources was taxed at a considerably higher rate.⁴⁰

⁴⁰ The average personal income tax rate in 2012 was around 27 per cent. Apart from minor changes, the personal income tax system in Iceland has remained broadly unchanged over the past few decades. Personal income other than financial income is taxed jointly by local authorities by a flat rate of approximately 14 per cent and by the central government according to a three-bracket

Income inequality (Ólafsson S., and A.S. Kristjánsson, 2013) as measured by the Gini coefficient⁴¹ including capital gains rose from 0.21 in 1993 to 0.43 in 2007. Since then, it has fallen back considerably. If capital gains are excluded, the rise in the Gini coefficient is still enormous, from 0.19 in 1993 to 0.31 in 2007.⁴² Furthermore, by this criterion, inequality has subsided sharply since 2007, with the Gini coefficient excluding capital gains measuring 0.24 in 2012 (Figure 20).

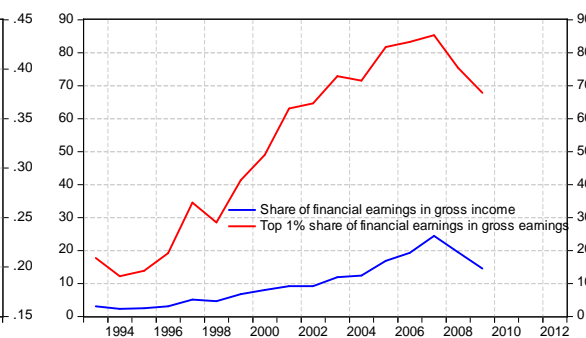
The pre-crisis surge and post-crisis decline in income inequality places Iceland in a class by itself among OECD countries despite similar trends among most member countries.⁴³

Figure 20: Measures of income inequality in Iceland



Source: S. Ólafsson, A.S. Kristjánsson, 2013

Figure 21: Share of financial earnings in gross income and top 1% share



Source: S. Ólafsson, A.S. Kristjánsson, 2013

There is little doubt that the extraordinary growth of income inequality in the early 2000s is due mainly to the concentration of rising financial income among the highest-income groups. However, other factors, such as higher management remuneration – both higher salaries and larger bonuses to top and middle management – benefited those at the top of the income ladder disproportionately. These factors were driven by the financialisation process in that the expansion of Iceland's financial sector and rising wage levels among financial sector employees exerted upward pressure on wages in other sectors, with the

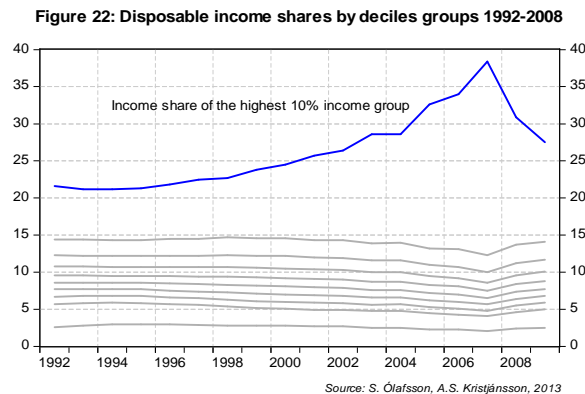
scheme, after allowing for a fixed personal deduction. The financial income tax was increased in stages from 10 per cent in 2009 to 20 per cent in 2011.

41 The Gini coefficients refer to disposable earnings; i.e., all taxable income net of direct taxes and transfers.

42 In most studies of this kind, capital gains are not included. The study by Ólafsson S., and A.S. Kristjánsson, 2103, included capital gains in order to highlight the spectacular role of this income component in Iceland during the financial boom.

43 Divided We Stand – Why Inequality Keeps Rising, OECD, 2011.

effects concentrated at the top of the pay scale. In fact, the top 10 per cent of income distribution had an increasing share of total disposable income from 1992 to 2007 (Figure 21), at the expense of all other income deciles (Ólafsson S., and A.S. Kristjánsson, 2013).



Perhaps the most compelling evidence of the role of financial factors as a drivers of increased personal income inequality is the rapid decline in inequality following the collapse of the financial system in the late 2008, when the Gini coefficient, with or without capital gains, fell back to levels not seen since before the start of financialisation in the late 1990s. The income earned by the top 10 per cent declined sharply (Figure 22), whereas other income groups gained. In absolute terms, however, real disposable income fell across the board as the economy went into a deep recession immediately after the crisis. As it happened, the lowest income groups benefited from an income policy designed to protect the bottom end of the income spectrum.

As in other countries where income inequality has been growing, the highest-income workers gained disproportionately during the upswing: the top 1 per cent earned almost 20 per cent of disposable income in 2007, four times the percentage they earned in the late 1990s (Ólafsson S., and A.S. Kristjánsson, 2013). Again, most of the increase was caused by extremely skewed distribution of financial income (Figure 21), as the top 1 per cent took home roughly 85 per cent of financial income at the height of the boom in 2007.

Investment and financialisation

Theoretical studies on the effects of financialisation on investments often begin by examining the conflict between managers, on the one hand, and owners or shareholders,

on the other.⁴⁴ Obviously, this framework is better suited to a study of large corporations than of smaller firms, where the separation of the two functions may be less important. The underlying idea is that shareholders' short-term profit motives are at odds with management's long-term growth objectives. Consequently, the corporate focus will be on short-term profitability and dividend payments, encouraging financial speculation and downsizing. Creating incentives for management via stock options and performance bonuses can minimise or eliminate these internal conflicts, creating the foundation for the current shareholder capitalism. In this way, financialisation will ultimately have a negative effect on material investments by draining internal financial resources and diverting corporate focus away from productive investments and capacity improvements.⁴⁵

How does Iceland fit into this picture? Overall, Iceland's investment-to-GDP ratio has been on a declining trend since the mid-1970s, apart from a temporary surge due to major FDI projects in the metallurgy and energy sectors (Figure 23). This decline affected business sector investment as well as housing investment (Figure 24), particularly until the mid-1990s.

Figure 23: Investments as % of GDP 1970 - 2013

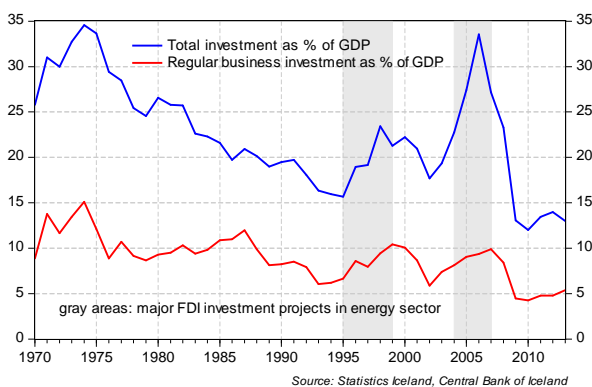
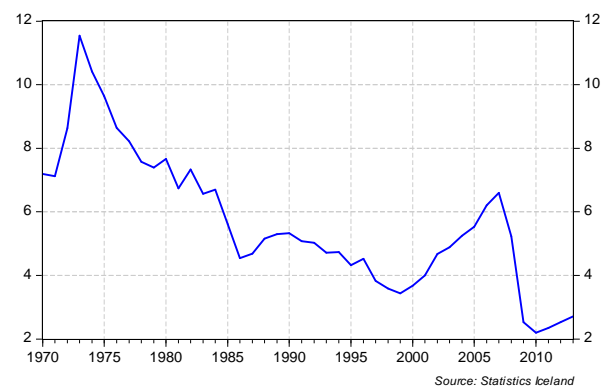


Figure 24: Housing investment as % of GDP 1970 - 2013



44 Crotty J., "Owner-management conflict and financial theories of investment instability: a critical assessment of Keynes, Tobin and Minsky", *Journal of Post-Keynesian Economics*, 12 1990. Stockhammer E., "Financialisation and the Slowdown of Accumulation", Working Paper No. 14, *Wirtschaftsuniversität Wien*. Orhangazi Özgür, "Financialization and Capital Accumulation in the Non-Financial Corporate Sector". Working Paper Series No. 149, University of Massachusetts Amherst, 2007.

45 Hein E. "'Financialisation', distribution and growth", in Eckhard H, and Stockhammer E. (Ed.) *A Modern Guide to Keynesian Macroeconomics and Economic Policies*, Edward Elgar, 2011.

The decline in investment from around 30 per cent of GDP in the mid-1970s to around 15 per cent in the mid-1990s can be explained by several factors, some of them unrelated to financialisation. The housing sector accounts for roughly half of the decline, while regular business investment (excluding energy-related mega-projects) fell from around 15 per cent of GDP in the mid-1970s to around 8 per cent in the mid-1990s.

Rapid growth beginning in the 1950s led to exceptionally high rates of accumulation, primarily in relatively capital-intensive sectors such as agriculture, fisheries, and manufacturing. These sectors were largely protected from international competition until the early 1970s, when industrial policy gradually became more outward-oriented as Iceland joined EFTA. The first “victim” of this policy regime was the domestic manufacturing industry, which more or less disappeared during the 1970s as tariffs on manufacturing imports were gradually removed. Also, as resource management in the fisheries sector became more efficient, the capital stock in the sector was aligned accordingly. Consequently, it might well be argued that the decline in investment can be explained at least partly by “overinvestment” in the past.

The fact that financialisation only arrived in Iceland in the 1990s does not exclude financial variables, particularly interest rates, as a factor in this development. Following long spells of negative real interest rates prior to the liberalisation of bank interest rates in the mid-1980s, the long-term real interest rate peaked at around 9.5 per cent in 1988 and remained above 4 per cent until the early 2000s (Figure 16). These high rates undoubtedly contributed to the decline in business and residential investment. Additional factors may have contributed as well, such as the rise of the services sector, but these are beyond the scope of the present work.

Strengthening the equity market was an important element in deregulating the financial market in the 1990s: first, with the launch of an over-the-counter market in 1985 and, eventually, with the establishment of a fully independent stock exchange in 2003. Supported

by the Government's privatisation policy from the late 1990s onwards, the stock market became an important vehicle for financialisation in Iceland, as many of the largest companies were listed on the exchange following legal reforms in the early 1990s. Given the small size of the Icelandic economy, the number of listed firms has remained small, even falling to 10 after the financial collapse, when Iceland's three large commercial banks were declared insolvent in late 2008.

The role of the equity market in the financialisation process in Iceland can be seen in the enormous rise in the Icelandic stock market index (Figure 25), which appreciated by 670 per cent from late 2001 until its peak in 2007, and in market capitalisation, which rose from 54 per cent of GDP in 2001 to over 200 per cent in 2006-2007 (Figure 26). Share prices plummeted after the financial collapse, as the three large commercial banks had accounted for an overwhelming share of stock market capitalisation.

Figure 25: Stock market prices 2000-2014

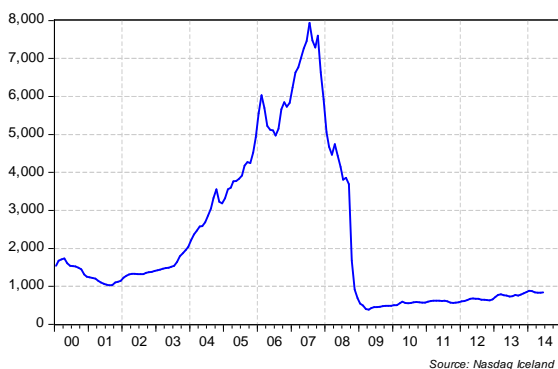
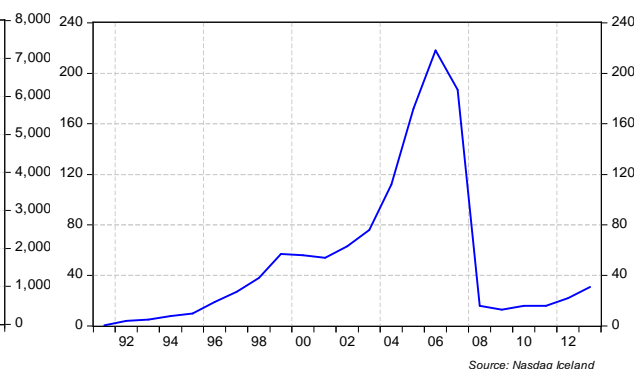
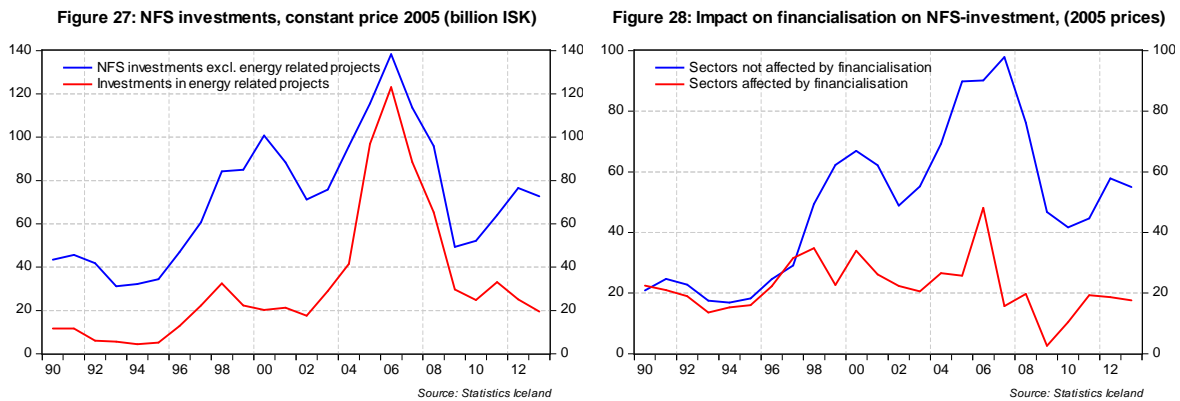


Figure 26: Market capitalisation, Nasdaq Iceland, % of GDP



We have already noted the importance of large FDI projects in the metallurgy sector, predominantly aluminium, and associated energy projects as drivers of business investment in Iceland. A huge investment project of this kind was undertaken in the early 2000s and peaked in 2007, at the height of the economic boom. Other business investment followed a broadly similar pattern, although it began increasing in the mid-1990s and suffered a minor setback during the 2000-2002 recession (Figure 27). This development gives the impression that business investment in Iceland followed the typical pro-cyclical pattern and that buoyant financial conditions may have stimulated investment in general. While there may be some foundation for this hypothesis, particularly as regards residential investment and financial speculation in general, a closer look at the sectoral composition of

business investment reveals a clear difference between investment in the sectors most affected by financialisation⁴⁶ and investment in other sectors (Figure 28).



It seems that, for companies most affected by financialisation and where management changes and shareholder interests played a leading role, regular investment activity lagged behind compared with companies in other, less affected sectors. A more detailed study would be needed to verify this result at the micro level, but as a first approximation, this result is consistent with studies that have found a negative correlation between financialisation and non-financial sector investments.

Given the important role of holding companies in the Icelandic financialisation process,⁴⁷ the predominance of financial investments rather than old-fashioned investments in productive capacity and research is in line with expectations.

Impact on consumption

Over the years, private consumption has been a volatile component of total demand, persistently showing variability greater than that of GDP, which is typically not the case among high-income countries where consumption usually remains relatively stable (Figure 29). Among OECD countries, Iceland is a clear outlier in this respect. This pattern of private

46 For the purposes of this paper, the sectors affected by financialisation are fisheries, food and beverage, retail, and transportation and communications. These sectors are selected on an ad hoc basis based on the fact that leading firms in these sectors were dominant players during Iceland's financial boom.

47 In early 2008, 46% of total lending of the three largest Icelandic banks was to holding companies. SIC Report, Volume 5. p. 30.

consumption volatility is most likely caused by the inherent instability embedded in a resource-based economy where households are given few opportunities to smooth their consumption over the business cycle. Consequently, private consumption and real disposable income vary strongly with one another (Figure 30).

Figure 29: Volatility: GDP and Cons.1990-2013

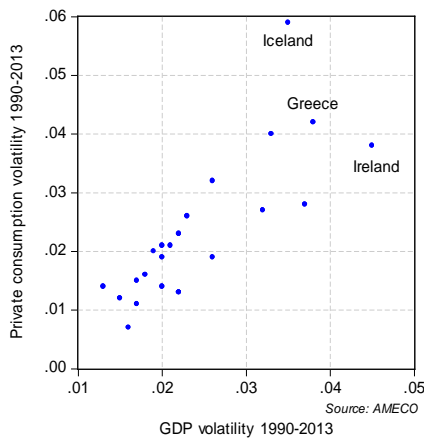
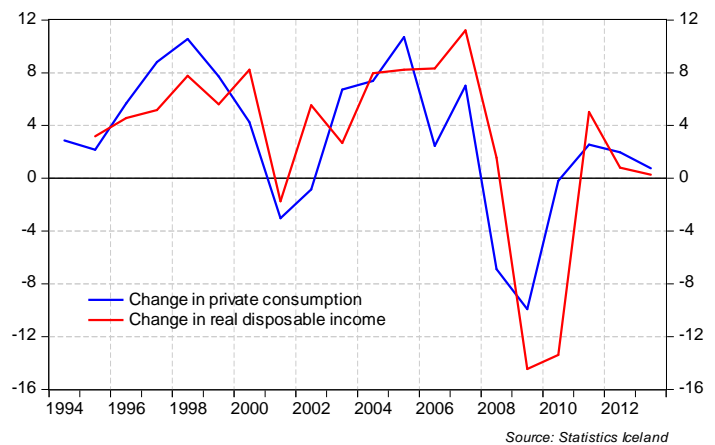


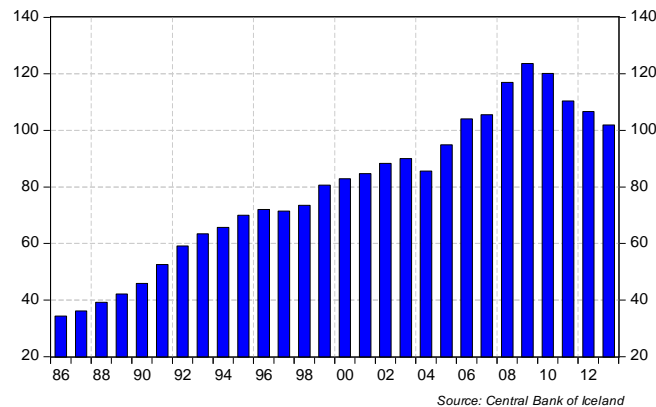
Figure 30: Change in private cons. and real disposable income



It seems that the emergence of finance-based capitalism in Iceland has not fundamentally altered the underlying tendency towards a highly cyclical consumption pattern. In fact, it may have enhanced this characteristic, as increased availability of financial products pushed households towards debt-financed consumption. The fact that household gross debt should rise in tandem with the introduction of new financial products such as credit cards, consumer overdrafts, housing mortgages, and exchange rate-linked loans seems to confirm this hypothesis (Figure 31). Over the years, Icelandic households have been exceptionally quick to embrace new forms of financial services as soon as they become available. As household debt rises, so does overall vulnerability to macroeconomic shocks, as was demonstrated so clearly during the recent downswing, when private consumption fell by over 15 per cent following a similar decline in real disposable income.



Figure 31: Total household debt, % of GDP



In this respect, the effects of increased financial exposure on households appear similar to those observed in other countries even though the strong link between the change in consumption and disposable income has remained intact. Studies of the relationship between household debt, wealth, and consumption have confirmed the link between debt and consumption through the increased use of financial services available to households.⁴⁸

Icelandic consumer behaviour fits well into the Cynamon and Fazzari (2008) framework of habit formation, where evolving consumer preferences adapt to a changing environment. In fact, the Icelandic experience during the boom years, when consumer and corporate spending reached unprecedented levels, may well be one of the better examples of how financialisation can alter consumer behaviour and provoke excessive risk-taking.

One particularly important aspect of the impact of financial factors on consumption relates to households' increased exposure to foreign currency-related risk. Under conditions of soft credit standards, foreign-denominated borrowing can allow households to become "carry traders", engaging in financial speculation, often in connection with mortgage lending, as recent experience in Iceland⁴⁹ and in other European countries⁵⁰ has shown. In

48 For the US, see Cynamon B.Z., S.M. Fazzari, "Household Debt in the Consumer Age: Source of Growth – Risk of Collapse", *Capitalism and Society* 3(2), 2008.

49 Households' foreign debt, in *Financial Stability*, Central Bank of Iceland, 2008.

50 Beer Christian, Ongena Steven, Peter Marcel, "Borrowing in Foreign Currency: Austrian Households as Carry Traders", SNB Working Paper, 2008. McCauley Robert N, "Foreign currency borrowing in emerging Europe: households as carry traders", *BIS Quarterly Review*, September 2010.

Iceland, the share of foreign-denominated debt rose from around 2 per cent of total household debt in the early 2000s to over 10 per cent in 2007 before spiking to almost 17 per cent as the currency depreciated during the financial collapse in 2008⁵¹ (Figure 32).

Without income in foreign currency, the household sector is particularly vulnerable during economic downturns when currency depreciation pushes up the nominal value of debt while the accompanying decline in real estate prices (Figure 33) produces a “double whammy” and households are forced to cut back consumption in order to service their debt.

Figure 32: Household foreign currency debt, % of total debt

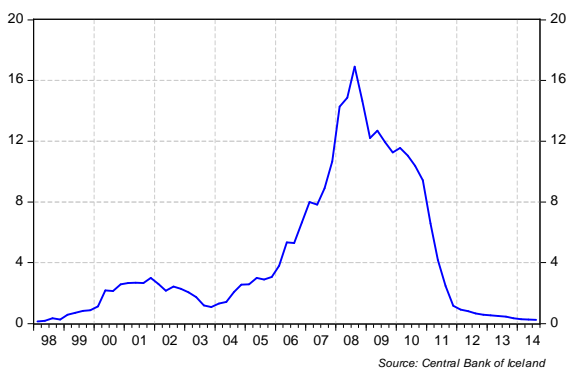
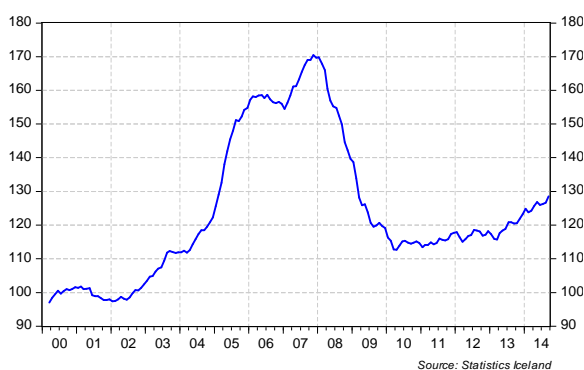


Figure 33: House prices in real terms, 2000=100



With a high rate of home ownership,⁵² a combination of overleveraging and a dramatic depreciation of the domestic currency turned the recent financial crisis into one of the most

51 Foreign-denominated and exchange rate-linked lending to the household sector has been a major issue in debt restructuring following a court ruling in 2012 declaring most forms of such loans illegal.

52 The rate of home ownership in Iceland is around 70 per cent.

difficult episodes of household debt crisis in Iceland, giving rise to extensive debt relief efforts that are still ongoing.⁵³

The current account in the age of financialisation

Dependence on natural resources as the main source of export income has proven to be a mixed blessing for many economies. Low-income countries have often suffered deeply from volatile terms of trade and prolonged depressions, as they have been unable to sever the link between resource dependency and underdevelopment. Other natural resource-dependent countries, such as Iceland, which have managed to climb to the top of the income ladder, have had to deal with other consequences embedded in the natural resource environment.

The inherent volatility that comes with natural resource dependence has already been discussed at some length, but another issue, somewhat related, is the resource sector's potential crowding-out effect on other sectors, particularly the export sector, by pushing up the real exchange rate. The "Dutch disease" element⁵⁴ is well documented for Iceland⁵⁴ as well as for other countries with similar characteristics.⁵⁵ The basic conclusion is that, in the presence of a large and volatile natural resource sector, other export sectors are adversely affected through a rising real exchange rate and rising real wages.⁵⁶ The prevalence of a high real exchange rate and persistent current account deficits (Figure 34) clearly reflects this situation in Iceland.

53 World Economic Outlook, Chapter 3: Dealing With Household Debt, IMF, 2012.

54 Herbertsson T.Th., M. Skúladóttir, G. Zoëga, "Three Symptoms and a Cure: A Contribution to the Economies of Dutch Disease", CEPR Discussion Paper No. 2364, 2000. Gylfason Th., G. Zoëga, "Natural Resources and Economic Growth: The Role of Investment", World Economy, Vol. 29, No. 8, 2006.

55 Gylfason Th., G. Zoëga, A Mixed Blessing: Natural Resources and Economic Growth, Macroeconomic Dynamics 3, 1999.

56 Gylfason Th., G. Zoëga, "The Dutch Disease in Reverse: Iceland's Natural Experiment", OxCarre Research Paper 138, 2014.

Figure 34: Current account balance, % of GDP

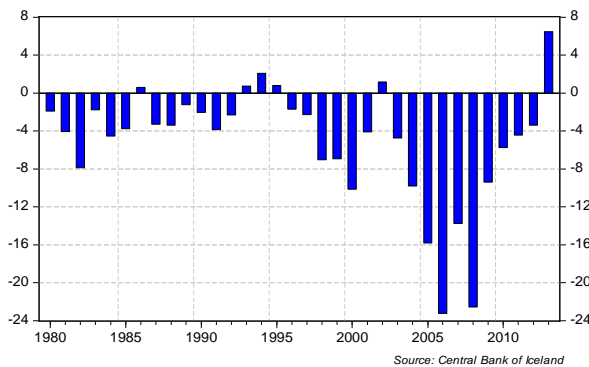
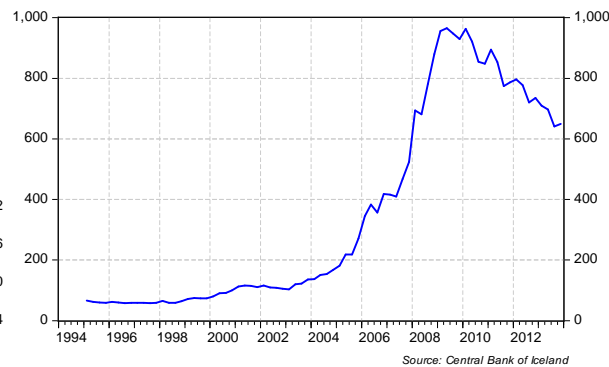


Figure 35: Gross foreign debt, % of GDP



If anything, financialisation has exacerbated the underlying tendencies towards currency appreciation and exchange rate volatility by adding an element of currency and carry trade speculation to the previous palate of real sector volatility, mainly by transforming Iceland into a playground for global speculation in the financial market.

This did not happen overnight, however. As early as the mid-1990s, full capital account convertibility had been achieved without much effect on the real exchange rate beyond the short-lived effects of the dot-com bubble in the late 1990s and early 2000s. It was only after Iceland's wholesale entry into international banking, following the privatisation of the commercial banks beginning in the early 2000s, that the full force of capital mobility was felt, as the evolution of gross foreign debt demonstrates clearly (Figure 35).

Foreign debt grew slightly in the early 2000s before exploding from around 150 per cent of GDP in 2004 to almost 800 per cent by the time the financial system collapsed in late 2008. Most of this increase was directly related to market financing of the newly privatised commercial banks operating from Iceland. Other types of international financial transactions – such as carry trade, which mainly targeted the short-term interest rate differential (see Figure 17 above) between Iceland and other countries – also played an important role by adding fuel to the already overheated economy. This experience supports the view that too much exposure to uncontrolled capital flows can magnify the negative effects associated with the “natural resource curse” by adding a “financial resource

curse”⁵⁷ that highlights the financial channel as a source of structural inefficiencies, along the lines of the traditional Dutch disease literature.

In their study of financialisation in small, open economies with a focus on Ireland and Iceland, Raza H., et al.⁵⁸ find in both Ireland and Iceland a positive link between financialisation and foreign rentiers’ income shares in the current account. While FDI flows dominate the scene in Ireland, the Icelandic case is much more dependent on interest payments to non-residents, reflecting the role of debt-based financing of the current account deficit.

Perhaps the most important aspect of financialisation and current account issues relates to the associated risk of financial crisis. Here the Icelandic experience is exceptional, for few countries have experienced such an extreme outcome over such a short period of time. The evolution of gross foreign debt (Figure 35) brings the main elements of the story into sharp relief: the rapid build-up of financial liabilities in 2004-2008, and the subsequent decline following the winding down of the failed commercial banks.

Seen from this angle, financialisation in Iceland supports the financial instability hypothesis proposed by Hyman Minsky,⁵⁹ where endogenous properties of capitalist economies produce instability as financial speculation replaces risk-averse behaviour. Introducing open economy elements into the Minsky setting⁶⁰ only reinforces the argument, as exchange rate volatility and free capital movements paved the way towards financial meltdown.

57 Benigno G, L. Fornaro, “The Financial Resource Curse”, CPE Discussion Paper No. 1217, 2013.

58 Raza H, B. Guðmundsson, S. Kinsella, G. Zoëga, Experiencing financialisation in small open economies: An empirical investigation of Ireland and Iceland, FESSUD Working Paper No 84, January 2015.

59 Minsky H. *Stabilizing An Unstable Economy*, Yale University Press, 1986.

60 Wolfson M.H., *Minsky’s Theory of Financial Crisis in a Global Context*, *Journal of Economic Issues*, Vol. XXXVI No. 2, 2002. Wray L.R., *Extending Minsky’s Classification of Fragility to Government and the Open Economy*, Working Paper No. 450, The Levy Economics Institute, 2006. Wolfson M.H., G.A. Epstein, *The Handbook of The Political Economy of Financial Crisis*, Oxford University Press, 2013.

In terms of overall growth performance it seems clear that private sector demand was driven to a large extent by rising debt made possible by the expansion of financial services. For the household sector as well as the corporate sector debt levels reached unprecedented heights stimulating private demand and GDP growth. In this sense, Iceland was characterised by debt-led private demand regime before the crisis.

Financial crisis and beyond

The collapse of the financial system in October 2008 was an economic event without precedent in Iceland's economic history. It is not the dramatic fall in GDP and domestic demand in 2008-2009 – after all, macroeconomic fluctuations have long been a feature of the Icelandic economy – but the complexity of these events and the way the economic crisis triggered social and political unrest that seems to challenge the fundamental regime of finance-led capitalism that triggered these events in the first place⁶¹

Apart from the political and the institutional crisis that developed, Iceland faced a twin banking and currency crisis of unprecedented magnitude. In addition, these events took place in an international environment where other countries were also dealing with dramatic events as the global financial system trembled. Furthermore, Iceland was facing challenging diplomatic issues⁶² that limited the authorities' room for manoeuvre. In the end, a series of unconventional policy actions, taken immediately during the crisis or shortly afterwards, turned out to be of paramount importance in the aftermath, when the Icelandic financial system found itself without a lender of last resort.

Probably the most important decision in this regard was the passage on 6 October 2008 of the so-called Emergency Act, which authorised the Financial Supervisory Authority to

61 A description of these events is given in Bergmann E., *Iceland and the International Financial Crisis*, Palgrave Macmillan, 2014. Johnsen G., *Bringing Down the Banking System*, Palgrave Macmillan, 2014.

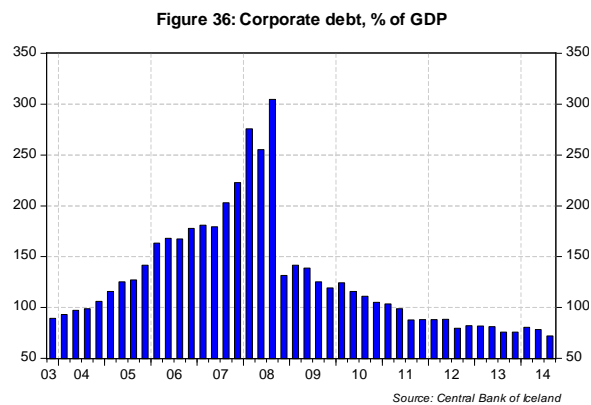
62 At the height of the financial crisis, the British government accused Icelandic banks operating in UK of illegal activities and invoked its anti-terror legislation against them. See: SIC Report, Volume 7, Chapter 20 (In Icelandic).

break up each of the three large commercial banks into two separate entities, a “new” bank for all domestic financial activities and an “old” bank for all international activities. The Act also stipulated that bank deposits would be given priority over other claims against the banks. On top of this, the Government issued a verbal pledge providing for a blanket guarantee of all bank deposits.

As it turned out, these actions proved sufficient to prevent panic in the financial market, which was by no means evident at the outset. The second most important decision was the introduction of capital controls in late November 2008, when all capital account transactions were prohibited in order to prevent the exit of financial assets, most of which were held by foreign investors. Contrary to common perception, this policy was enacted with the consent and participation of the IMF, as Iceland had already entered into a Stand-By Arrangement with the Fund by the time the capital controls were imposed.

What eventually emerged out of this transformation was a “back-to-basics” situation with minimum investment banking and impaired asset markets. Market turnover in the foreign exchange market, the equity market, and the bond market plummeted. The new banks were all recapitalised with high capital adequacy ratios in order to strengthen their capacity to deal with the new economic situation, as non-performing loans from firms and households had skyrocketed along with damaged balance sheets. In addition, the loan portfolios transferred to the new banks had all been revalued on a fair value basis, providing a significant safety margin should the expected recovery be delayed. Consequently, banking activity became focused primarily on debt restructuring and balance sheet repair.

Given the excessive leverage in the business sector, most write-downs and write-offs have taken place in the non-financial corporate sector. At the height of the financial bubble in 2007, non-financial corporate loans were in excess of 250 per cent of GDP (Figure 36). By 2013, this ratio had declined to around 80 per cent of GDP.



For the household sector, debt restructuring has been slower and has taken longer to materialise, partly because of differences in loan composition and partly because the bulk of household lending resides with non-bank financial institutions such as the public Housing Financing Fund⁶³ and the pension funds,⁶⁴ which are more reluctant to write off debt. Nevertheless, restructuring efforts have already lowered household debt significantly and brought it back to the 2005 level.

In these circumstances, scope for new lending and financial expansion has been limited. Bank profitability has been exceptionally strong, however, as successful debt restructuring has allowed banks to revalue their portfolios upwards and report profits accordingly. In this way, the originally impaired loan portfolios have over performed relative to expectations in the wake of the crisis.

Table 2 illustrates developments in the main macroeconomic variables in 2007-2013. While domestic demand fell by more than 28 per cent in real terms in 2008-2010, GDP fell only by 7 per cent, largely because of export growth and a shift from imports to domestic production. Unemployment rose sharply to 8 per cent in 2009-2010 as key sectors such as construction and some import-related service sectors suffered. It has declined again in the recent term, however, as other industries, particularly in the export sector, have taken

⁶³ The Housing Financing Fund (HFF) is an independent government institution that grants mortgage loans to individuals, companies, municipalities, and organisations in order to finance housing and construction.

⁶⁴ Pension funds are allowed to extend long-term CPI-indexed loans to their members. In 2013, such loans comprised approximately 6.5 per cent of their total assets.

advantage of the improved competitiveness brought about by the exceptionally low real exchange rate.

There is no doubt that a key reason for this positive result is the shift in relative prices resulting from the devaluation of the Icelandic króna following the financial crisis and the subsequent rise in export revenues, most spectacularly in the tourism industry. In fact, it seems that Iceland's growth regime now has more in common with the export-led growth regime of countries such as Germany rather than the previous debt-led private demand regime before the crisis.

Table 2: Economic Indicators, volume change.

	2007	2008	2009	2010	2011	2012	2013
Private final consumption expenditure	7.0	-6.9	-9.9	-0.2	2.5	2.0	0.8
Government final consumption exp.	4.5	4.7	-1.7	-3.0	0.2	-1.2	0.8
Gross fixed capital formation	-11.2	-18.9	-47.7	-8.6	11.6	4.3	-2.2
Gross domestic final expenditure	1.0	-7.6	-17.9	-2.3	3.6	1.4	-0.3
Exports of goods and services	23.8	2.8	8.3	1.8	3.4	3.9	6.9
Goods, fob.	17.5	11.8	9.0	-8.0	6.8	3.4	3.7
Services	32.6	-9.4	7.0	15.4	-0.8	4.4	11.3
Imports of goods and services	-2.3	-20.2	-22.4	4.3	6.8	4.9	0.4
Goods, fob	-5.7	-18.9	-27.7	2.8	6.8	2.3	-0.3
Services	5.7	-23.2	-10.1	6.9	6.7	9.5	1.5
Gross Domestic Product	9.7	1.1	-5.1	-2.9	2.1	1.1	3.5
Unempl. rate, per cent of labour force	1.0	1.6	8.0	8.1	7.4	5.8	4.4
Unit labour cost,	2.6	8.4	-4.0	7.5	5.8	6.4	3.6
Inflation	5.0	12.4	12.0	5.4	4.0	5.2	3.9
General gov. fin. balance, per cent of GDP	5.4	-13.5	-9.9	-10.1	-5.6	-3.8	-2.1
Current account balance, per cent of GDP	-13.7	-22.8	-9.9	-6.4	-5.2	-4.2	5.6
Short-term interest rate	14.3	17.1	14.6	7.9	4.5	5.6	6.2

Source: *Statistics Iceland*

In the post-crisis recovery so far, the role of the financial sector has been limited in that pre-crisis financial speculation has not reappeared. Contrary to initial expectations,⁶⁵ capital controls have remained in place, barring cross-border financial transactions and impeding general financial sector recovery. This has raised concerns domestically that financial capital locked in by the capital controls might lead to asset bubbles, particularly in the real estate market.

The main obstacle to capital account liberalisation centres on potential threats to financial stability from excessive capital outflows. The legacy issues from the financial crisis therefore have yet to be resolved, making the future of finance in Iceland very uncertain.

⁶⁵ When capital controls were introduced in November 2008, the intention was to lift them within two years. Icelandic authorities have recognised that the current regime is not compatible with EEA principles and that capital controls will have to be removed. A ruling by the EFTA Court in 2011 deemed that, under certain conditions, temporary capital controls were in compliance with the EEA Agreement.

Conclusions

The liberalisation of Iceland's financial sector in the 1990s and early 2000s coincided with exceptional global circumstances that allowed Icelandic banks to expand their operations globally, metamorphosing the Icelandic economy into a finance-dominated entity. In the early stages, financialisation in Iceland was supported by domestic developments, as long-standing protectionist policies were substituted for a more market-oriented approach and trade and, finally, capital movements became more globally integrated. Apart from the obvious political and ideological links to neo-liberalism, important reforms like private property-based policies in the fisheries sector, accumulation of financial wealth of pension funds, and fiscal austerity allowed Iceland to emerge as a viable player in global finance in the early 2000s.

Although it is difficult to establish a long-term trend for the share of wages in factor income because of data imperfections, there is some evidence that the wage share fell in the 1990s as compared with the 1970s and 1980s. During the financial boom, however, the wage share increased relatively quickly as the financial sector expanded, only to fall sharply in the aftermath of the financial crisis. The effects of financialisation on personal income distribution are well documented and clear. Income inequality in Iceland rose sharply, primarily because of the rise in financial earnings such as interest income, dividends, rents, and capital gains driven by asset price inflation. Most of this gain accrued to the highest-income group, resulting in an unprecedented rise in income inequality as measured by the Gini coefficient. The importance of financial income and financialisation in general as a driver of this development is borne out by the subsequent decline in income inequality following the collapse of the financial sector after 2008, even though a more progressive income policy played a role as well.

Investment in Iceland has been on a strong declining trend for a long time, albeit with temporary surges caused by large FDI projects. Financialisation played a limited role in this development early on, although high real interest rates may have accelerated it to some

extent. In the sectors most strongly affected by financialisation from the late 1990s onwards, investment was much lower than in the sectors that were less affected. This pattern is consistent with the overall theoretical assumption regarding financialisation and investment, highlighting the conflict between shareholder interests and managerial interests. For Iceland, this framework is well suited to explain the rise of financial holding companies pursuing aggressive investment strategies, both domestically and abroad, at the height of the financial bubble.

Icelandic households have responded strongly to an increased supply of financial products such as consumer credit instruments and foreign-denominated loans. In this way, financialisation has not only followed the traditional pattern seen in many countries where household debt has risen in order to maintain ever-increasing standards of living; it seems that, in Iceland, the effect of financialisation on household has also contributed to foreign currency speculation and led to increased financial fragility.

Similarly, for the current account, financialisation has exposed the Icelandic economy to increased risk, as capital movements gradually magnified the underlying weaknesses embedded in a natural resource-dependent economy. Rising foreign debt, particularly when foreign liabilities are associated with banking operations and speculative interest rate arbitrage, will inevitably increase the likelihood of a financial crisis, supporting the Minsky financial instability hypothesis. Overall the pre-crisis growth regime should be characterised as strongly debt-led.

Finally, the study examines Iceland's evolution in the aftermath of the financial crisis of late 2008. Following a series of conventional and unconventional policy actions, financialisation in Iceland was turned around, and a certain degree of de-financialisation has taken place. This "back-to-basics" approach has been successful so far and has allowed the Icelandic economy to recover some of the ground lost during and after the financial meltdown. Increased competitiveness in the export sector following a sizeable drop in the real

exchange rate has contributed to a change in the growth regime from a consumption- and finance-led scenario to more export-led growth. Furthermore, the corporate sector has undergone extensive debt restructuring, as bank assets were revalued as a consequence of the dismantling of the pre-crisis financial system. This balance sheet clean-up has further strengthened economic fundamentals and contributed to recovery.

However, capital controls remain in place. Efforts are currently being introduced to dismantle the capital controls in order to return to the neo-liberal settings to which Iceland is committed under the EEA Agreement. Whether or not liberalising financial markets will be more successful this time around, remains to be seen.

References

Arion Bank, (2014), Af samleið sjávarútvegs og hlutabréfamarkaðar [Fisheries and the stock market], Markaðspunktur, 30/09/2014

Arnason R, (2008), Iceland's ITQ system creates new wealth, *The Electronic Journal of Sustainable Development*, 1(2)

Baldvinsdóttir H.D., (1998), Networks of Financial Power in Iceland – The Labour Movement Paradox, PhD Thesis, Lancaster University.

Beer Christian, Ongena Steven, Peter Marcel, (2008), Borrowing in Foreign Currency: Austrian Households as Carry Traders, *SNB Working Paper*

Benigno G, L. Fornaro, (2013), The Financial Resource Curse, *CPE Discussion Paper No. 1217*

Bergmann E., (2014), Iceland and the International Financial Crisis, Palgrave Macmillan

Central Bank of Iceland, (2008), Households' foreign debt, Box 2 p. 26, Financial Stability

Cingano F., (2014), Trends in Income Inequality and its Impact on Economic Growth, *OECD Working Papers No. 163*

Crotty J., (1990), Owner-management conflict and financial theories of investment instability: a critical assessment of Keynes, Tobin and Minsky, *Journal of Post-Keynesian Economics*, 12

Cynamon B.Z., S.M. Fazzari, (2008), Household Debt in the Consumer Age: Source of Growth – Risk of Collapse, *Capitalism and Society* 3(2)

Daniélsson Á, (2004), Íslenskur sjávarútvegur – auðlindin, hagvöxtur og arðsemi, *Afmælisráðstefna Fjármálatíðinda* [Icelandic fisheries – the resource, GDP growth, and profitability]

Danish Technological Institute, (2011), Assessment of the Labour Market in Iceland, http://thjodmalastofnun.hi.is/sites/thjodmalastofnun.hi.is/files/assessment_of_the_labour_market_in_iceland_2011-andersen_hougaard_and_olafsson_0.pdf

De Haan, J.C., G.M. Sterks, C.A. De Kam, (1992), Towards budget discipline: an economic assessment of the possibilities for reducing national deficits in the run-up to EMU, *Economic Papers*, Commission of the European Communities, No. 99

Dumenil G. D. Levy, D. Levy, (2005), Costs and benefits of neoliberalism: a class analysis, in G.A. Epstein (ed.), *Financialisation and the World Economy*, Edward Elgar

Epstein G.A, D. Power, (2003), Rentier incomes and financial crisis: and empirical examination of trends and cycles in some OECD countries, *Working Paper Series No. 57*, Political Economy Research Institute, University of Massachusetts, Amherst

FAO Fisheries *Technical Paper 412*, Rome, pp. 28-43, (2001).

Gissurarson H.H.. (2001), Hvernig getur Ísland orðið ríkasta land í heimi? [How can Iceland become the world's richest country?] Nýja Bókafélagið

Guðmundsson B.R, G. Zoëga, (1998), Fjármálastefna íslenskra stjórnvalda, 1960-1998 (Fiscal policy in Iceland 1960-1998), *Fjármálatíðindi Vol. 45.II*, (In Icelandic)

Guðmundsson M., Y.Ö. Kristinsson, (1997), Monetary policy in Iceland during the Nineties, Bank of International Settlements

Gylfason Th., G. Zoëga, (2006), Natural Resources and Economic Growth: The Role of Investment, *World Economy, Vol. 29, No. 8*

Gylfason Th., G. Zoëga, (2014), The Dutch Disease in Reverse: Iceland's Natural Experiment, *OxCarre Research Paper 138*

Hein E., (2011), Financialisation, distribution and growth, in Eckhard H, and Stockhammer E. (Ed.) *A Modern Guide to Keynesian Macroeconomics and Economic Policies*, Edward Elgar

Hein E., (2010), Shareholder value orientation, distribution and growth – short and medium-run effects in a Kaleckian model, *Metroeconomica, 61*

Hein E., (2012), *The Macroeconomics of Finance-dominated Capitalism and its Crisis*, Edward Elgar

Helgason M.S, (2010), *Íslenskt viðskiptalíf – breytingar og samspil við fjármálakerfið* [Icelandic Businesses – changes and links to the financial sector], Appendix 5 to the Special Investigation Commission (SIC) Report

Herbertsson T.Th., M. Skúladóttir, G. Zoëga, (2000), *Three Symptoms and a Cure: A Contribution to the Economies of Dutch Disease*, *CEPR Discussion Paper No. 2364*

IMF, (2012), *World Economic Outlook*, Chapter 3: Dealing With Household Debt,.

Ísleifsson Ó., (2013), *The Icelandic Pension System*, Ph.D. Dissertation, University of Iceland

Johnsen G., (2014), *Bringing Down the Banking System*, Palgrave Macmillan

Krugman, P., (1991), *Iceland's Exchange Rate Regime*, Memorandum

Lakner C, B. Milanovic, (2013), *Global Income Distributions – From the Fall of the Berlin Wall to the Great Recession*, World Bank, WPS6719

Leibfritz W, D. Roseveare, P. van den Noord, (1994), *Fiscal Policy, Government Debt and Economic Performance*, OECD

Macheda F., (2012), *The role of pension funds in the financialisation of the Icelandic economy*, *Capital & Class 36(3)*

Magnússon G., (2013), *Söguleg ávöxtun íslenskra lífeyrissjóða*, [Historical rates of return among Icelandic pension funds], University of Iceland

Margeirsson Ó, (2013), *Icelandic Pension System: Only 700 billion missing*
<http://icelandicecon.blogspot.com/2013/07/icelandic-pension-system-only-700.html>

McCauley Robert N, (2010), *Foreign currency borrowing in emerging Europe: households as carry traders*, *BIS Quarterly Review, September*

Minsky H., (1986), *Stabilizing An Unstable Economy*, Yale University Press

Mishkin F.S., T. Herbertsson, (2006), *Financial Stability in Iceland*, Iceland Chamber of Commerce

OECD, (2011), *Divided We Stand – Why Inequality Keeps Rising*

OECD, (1998), Economic Surveys, Iceland

OECD, (1998), Economic Surveys – Iceland, Ch. III. Deregulation of the financial sector

OECD, (2013), Pension Markets in Focus,

Orhangazi Özgür, (2007), Financialization and Capital Accumulation in the Non-Financial Corporate Sector. *Working Paper Series No. 149*, University of Massachusetts Amherst

Ólafsson S, A.S. Kristjánsson, (2013), Income Inequality in Boom and Bust – A Tale from Iceland's Bubble Economy, in Gornick J.C, M. Jänatti (ed.) *Income Inequality*, Stanford University Press

Piketty T., (2014), *Capital in the Twenty-First Century*, The Belknap Press of Harvard University Press,

Prime Minister's Office, (2006), Government report on Iceland and international financial activity: International Financial Activity, (In Icelandic)

Raza H, B. Guðmundsson, S. Kinsella, G. Zoëga, (2015), Experiencing financialisation in small open economies: An empirical investigation of Ireland and Iceland, *FESSUD Working Paper No 84*

Runolfsson, B.T., R. Arnason, (2001), The Effects of Introducing Transferable Property Rights on Fleet Capacity and Concentration of Ownership of Harvesting Rights in the Iceland's Fisheries, in R. Shotton (ed.): *Case studies on the effects of transferable fishing rights on fleet capacity and concentration of quota ownership*, *FAO Fisheries Technical Paper 412*, Rome, pp. 28-43

Special Investigation Commission (SIC), (2010), Report on collapse of the banks in Iceland in 2008, Volume 1 – 9, (In Icelandic)

Stockhammer E., , (2000), Financialisation and the Slowdown of Accumulation, *Working Paper No. 14*, Wirtschaftsuniversität Wien

Wolfson M.H., G.A. Epstein, (2013), *The Handbook of The Political Economy of Financial Crisis*, Oxford University Press

Wolfson M.H., (2002), Minsky's Theory of Financial Crisis in a Global Context, *Journal of Economic Issues*, Vol. XXXVI No. 2

World Bank, (1994), *Averting the Old Age Crisis – A World Bank Policy Research Report*, Oxford University Press



This project has received funding from the European Union's Seventh Framework Programme for research, technological development and demonstration under grant agreement no 266800



Wray L.R., , (2006), Extending Minsky's Classification of Fragility to Government and the Open Economy, *Working Paper No. 450*, The Levy Economics Institute

Financialisation, Economy, Society and Sustainable Development (FESSUD) is a 10 million euro project largely funded by a near 8 million euro grant from the European Commission under Framework Programme 7 (contract number : 266800). The University of Leeds is the lead co-ordinator for the research project with a budget of over 2 million euros.

THE ABSTRACT OF THE PROJECT IS:

The research programme will integrate diverse levels, methods and disciplinary traditions with the aim of developing a comprehensive policy agenda for changing the role of the financial system to help achieve a future which is sustainable in environmental, social and economic terms. The programme involves an integrated and balanced consortium involving partners from 14 countries that has unsurpassed experience of deploying diverse perspectives both within economics and across disciplines inclusive of economics. The programme is distinctively pluralistic, and aims to forge alliances across the social sciences, so as to understand how finance can better serve economic, social and environmental needs. The central issues addressed are the ways in which the growth and performance of economies in the last 30 years have been dependent on the characteristics of the processes of financialisation; how has financialisation impacted on the achievement of specific economic, social, and environmental objectives?; the nature of the relationship between financialisation and the sustainability of the financial system, economic development and the environment?; the lessons to be drawn from the crisis about the nature and impacts of financialisation? ; what are the requisites of a financial system able to support a process of sustainable development, broadly conceived?'

THE PARTNERS IN THE CONSORTIUM ARE:

Participant Number	Participant organisation name	Country
1 (Coordinator)	University of Leeds	UK
2	University of Siena	Italy
3	School of Oriental and African Studies	UK
4	Fondation Nationale des Sciences Politiques	France
5	Pour la Solidarite, Brussels	Belgium
6	Poznan University of Economics	Poland
7	Tallin University of Technology	Estonia
8	Berlin School of Economics and Law	Germany
9	Centre for Social Studies, University of Coimbra	Portugal
10	University of Pannonia, Veszprem	Hungary
11	National and Kapodistrian University of Athens	Greece
12	Middle East Technical University, Ankara	Turkey
13	Lund University	Sweden
14	University of Witwatersrand	South Africa
15	University of the Basque Country, Bilbao	Spain

The views expressed during the execution of the FESSUD project, in whatever form and or by whatever medium, are the sole responsibility of the authors. The European Union is not liable for any use that may be made of the information contained therein.

Published in Leeds, U.K. on behalf of the FESSUD project.