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The Icelandic response to the collapse of the financial sector in October 2008[1]

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Abstract

The debt-relief measures taken by the Icelandic government have proven to create a win-win situation for the financial sector, the business sector, families and the Icelandic economy in general. By taking a concerted effort to clean out the bad firms and correct the balance sheet of liveable firms a signal was sent to all suppliers to Icelandic firms: Bankruptcy risk has been minimalized. Thus, write downs of debt helped to rebuild trust that had been lost as a consequence of the collapse of the Icelandic banks. Other measures taken by the Icelandic government with the help and approval of the IMF has also alleviated the adjustment to the post-collapse realities. Emphasis on social services, health and education has been helpful in enhancing investment in human capital. The fact that the Icelandic unemployment rate has fallen below 5% can serve as an illustration that those endeavours have not been in vain. The Icelandic economy still faces problems. Capital controls are in place and will be hard to lift. Icelanders disagree on how to organize their currency policy in the future. Lastly, productivity is still very low in many sectors.

Keywords: Iceland, collapse, financial sector.

JEL Classification: E40, E59, G01.

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Introduction

Iceland, famously, was one of the first country to be victim of the Financial Crisis of 2008. Iceland did not have the "luxury" of throwing some money at failing financial institutions hoping that the problem would vanish along with the snow next spring. The three big Icelandic banks had a combined balance sheet 8-10 times the size of the Icelandic economy, dwarfing what ever productive assets there might have been around. The three banks were also heavily interconnected so it was obvious that the failure of one would throw at least one other on the ground.

Hence, the start of the collapse was not by design. But as things developed decisions-makers tried to bring more reason to their decisions. This paper is an attempt to tell part of the story.

What happened?

A special investigation unit was put up by parliament to uncover the gory details of the collapse, an overview in English is given on the homepage of Althingi, see (Rannsóknarnefnd Alþingis, 2010). The Icelandic banking sector grew extremely fast in wake of privatization of the two biggest banks in Iceland. The privatization effort started in 1998 and was completed in 2003. Total assets increased by 61-73% in ISK (50-61% in EUR) from 2003 to 2008, see Chapter 8 of the Report of the Special Investigation Committee (Rannsóknarnefnd Alþingis, 2010). A considerable part of the growth took place outside of Iceland enabling the banks to have combined balance-sheets 8-10 times Icelandic GDP. Equity to support the fast growth was acquired from the domestic sector (Pension funds, private investors and private speculators). Some of it was of bad quality, based on low margin loans with the newly issued shares as collateral. The oversight was (and is) in the hands of the Icelandic Financial Oversight Authority. Lender of last resort was the Central Bank of Iceland. Both lacked resources and instruments to support and constrain the fast-growing and big sector. As the banks started to grow abroad they faced extremely favourable conditions: Short term interest rates were low, the Icelandic sovereign had paid up most of its loans, the newly privatized banks had inherited the triple A rating of their state-owned predecessors. Money was cheap and Icelandic business tycoons [who semi-officially called themselves Vikings partially inspired by a speech given by the President of Iceland at the Walbrook Club in London May 3ed 2005, see (Grímsson, 2005)] were more than willing to seek out high-risk, high-income investment opportunities. A considerable part of the balances of the banks were consequently in foreign currency. This fact became problematic both in 2006 and then through out the year 2008 as their lender of last resort had limited access to convertible currency.

The business model of the Icelandic banks came under scrutiny in early 2006. Investors and analysts asked where the money originated, criticized the complex ownership structure of the Icelandic financial sector etc. By concerted effort the government and the banks sidestepped the critique by "solving" one of the problems, the ownership structure. Cross ownership between Kaupthing and Bakkavör was resolved. But a much more serious problem of "cross-financing", i.e. where one bank had given loans for purchase of shares in another bank with the shares of that bank as collateral was not addressed!

The government and the banks went on a road-show to New York, London and Copenhagen and managed to cool the markets. The government and the Icelandic financial sector believed that they had come up with a solution applicable to future problems. And restarted the music, the combined size of the balance sheets of the 3 big banks almost doubled in ISK (increased by 50% in EUR) from mid year 2006 till beginning of 2008. Most of the growth was foreign as the scope for internal growth was limited. But it is important to note that the business model of short term financing of long term commitments on behalf of the Icelandic banks was still applied.

The Icelandic banks came under increasing pressure through out the year 2008. It became increasingly difficult to roll over their foreign portfolio of loans. Landsbanki and Kaupthing had started deposit schemes in the UK, the Netherlands and elsewhere earlier on but increased their marketing of those products in order to fill in gaps in their balance sheets. Glitnir was late to join that game but had some advances in Scandinavia. In the UK the Icelandic banks attracted customers that a) were spreading their savings around in order to stay clear under the maximum amount insured in each bank or b) were seeking the highest interest rate offered by (a non-Nigerian?) bank. Hence, their customer-base was not characterized by loyalty. Outflow of funds from the Landsbanki IceSave accounts was bigger than inflow in London during 2008. The ponzi-like response was to open up operation in the Netherlands. Plans for IceSave advancements were in the pipes for Luxemburg, Germany and other countries in Europe when Landsbanki declared bankruptcy in October.

The Central Bank of Iceland tried unsuccessfully through out the year 2008 to arrange SWAP agreements with the Federal Reserve, the Bank of England and the independent Scandinavian central banks. With limited luck. But Mervin King of the Bank of England offered in a letter, now well-known, to help the

Central Bank of Iceland to reduce the balance sheet of the Icelandic financial sector.

With the fall of the Lehman brothers in September 15, 2008 liquidity dried up in the international financial system. Icelandic banks, with weak balance sheets and access only to ISK from their lender of last resort were among the first to follow suit three weeks later.

Iceland was not well prepared for handling collapse of big financial institutions. The need for resolution measures had been minimal while the sector was mostly state-owned. The speed of the privatization was such that it was not until few hours before the first bank fell that the Parliament put down the rules for the game in the so-called Emergency Act of 2008. That act empowered the Financial Supervisory Authority to suspend the General Assembly, the Board and the CEO of an insolvent bank and overtake the functions of those bodies. The Act also empowered the Minister of Finance to establish a new bank, including supply of equity, overtaking the operations of one in resolution. The Act came into full use just a day after it was rushed through Parliament.

The value of the currency collapsed along with the banks, see Figure 1. The euro had fetched 94 kronur in January of 2008, but commanded 172 ISK in November that year. The policy rate of the Central Bank was increased from 15,5% to 18% (a temporary reversion and fixing the exchange rate was a failure). To make matters worse the British Government reacted with full force against what they saw as Icelandic attempts to dodge their obligations towards depositors in the British branches of the Icelandic banks.

Iceland imports most of her consumption goods. Hence, the fall of the currency quickly manifested itself as increase in consumer prices. The annualized inflation rate jumped as high as 20% in some of the months following the collapse of the banks.

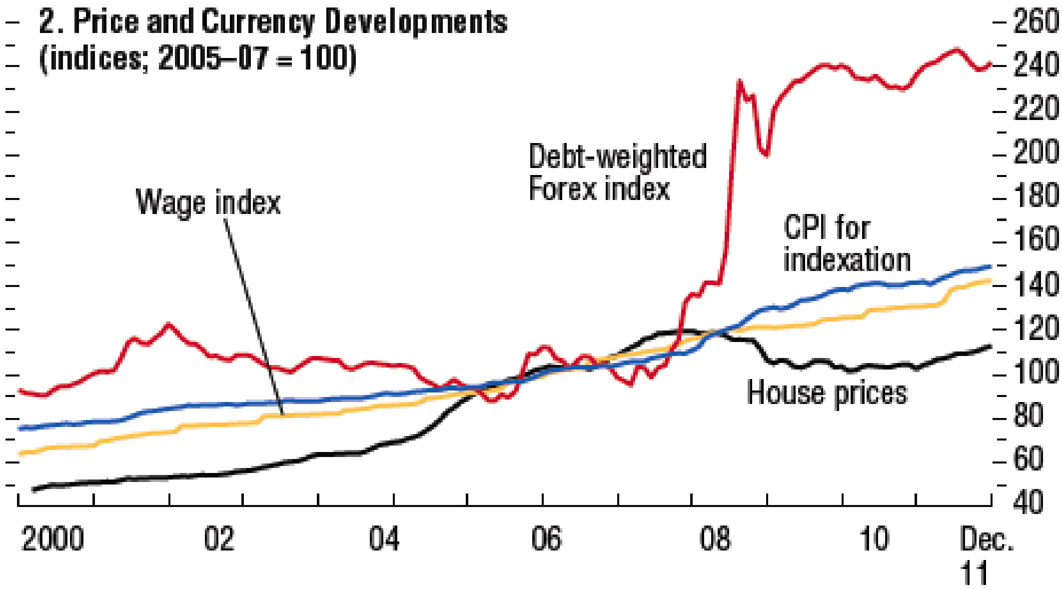

Figure 1: Development of wages, the CPI used for indexation of morgages and the debt weighted FX index. Source: IMF 2011

The consequences for businesses, the general public and the public purse

According to the Central Bank the liabilities of the Icelandic business sector was almost 4 times GDP (383% to be exact) in the Q3 of 2008. About 6,5% of the sectors debt was indexed to the CPI. Almost 20% were non-indexed ISK loans or bonds while the rest, more than 70% of the business sector liabilities were FX loans, see the Financial Stability report of the Central Bank of Iceland for 2013 (Seðlabanki Íslands, 2013), table IV-35. The leverage of the sector had almost doubled from two years earlier partially as a consequence of the heavy weight of the FX loans and the devaluation of the ISK.[2] There is no doubt that the business sector was leverage above its ability to service its debt before the collapse of the financial sector. But the collapse of the financial sector of cause implied a sudden fall in expected income for many businesses. Businesses importing cars, businesses in construction, businesses in retail, real-estate businesses all saw their income sink or disappear. Businesses in fishing and tourism saw their debt level in ISK increase, but were more fortunate than others as their incomeprospects in ISK were considerably better. Nobody did

[2] The Icelandic banks received currency in exchange for kronur as foreigners bought into the high yield Icelandic bond market. The banks unloaded their currency surpluses on the Icelandic business sector as businesses were seeking low cost financing! ISK bonds were issued by high-riskseeking Icelandic firms that were among the first offers of the financial collapse of 2008. In hindsight it is clear that the circulation of funds was based on a non-sustainable model as the bond-issuing firms would not be able to repay the money at the going interest rate at the ISK exchanges rate at the date of issue.

take stock, but the feeling in the business community was that many businesses, maybe most businesses in Iceland were technically bankrupt in Q4 of 2008!

Icelandic households were heavily indebted in international comparison in Q3 in 2008 or 130% of GDP. The currency mix is very different from the business sector, 23% of loans are FX loans, while 71% was in the form of CPI indexed loans.

Now, while firms may have a mixture of indexed and FX loans most households were more exposed to one type of loans. Hence, the problems individual households faced varied considerably. Households facing reduced income due to reduced restricted working hours and with FX mortgages and a FX nominated car-lease contract were obviously in an impossible situation while a household that had paid down most of its mortgage and did not suffer working hours restrictions was much better off. The Central Bank, the Ministry of Commerce and Trade and the Prime Ministers Office all did some work in order to estimate the size and the scope of the debt problems facing individuals. A committee reporting to the Prime Minister (Sérfræðingahópur um skuldavanda heimilanna, 2010) unearthed that 3.470 out of 44.248 families (at least 2 grown-ups with or without children) had problems serving their mortgages. Individuals with or without children were more exposed, 7.218 out of 28.513 such entities had problems. The committee also reported that 70% of those that had problems had bought their property in the years 2005 to 2009. The problem was also narrowly defined geographically as over 80% of the families and individuals in trouble lived in the capital region. Later reports confirmed that even if the share of mortgage payment to income had increased due to the collapse of the króna and CPI-inflation in excess of wage inflation then the distribution of trouble was skewed towards new entrants into the housing market.

Costs accruing to the public purse, narrow defination[3]

Bank facilities that the Central Bank of Iceland had accepted as collaterals against repo loans became worthless overnight when the three big banks collapsed (Report of the Special Investigative Commission, SIC, vol. 2, p43 and 44). The Central Bank was in reality bankrupt and had to be recapitalised by the state. The Government also had to step in to secure the operations of several smaller financial institutions and of one major insurance company. Most importantly, the Government had to supply equity for the operations of the "new" banks, set up on the ruins of the fallen ones. Government

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[3] This passage is based on joint work with Sigrun Davidsdottir, see http://www.economonitor.com/blog/2012/12/state-costs-of-the-2008-icelandic-financial-collapse/

involvement was in form of direct transfers, state guarantees and of providing equity in return for shares in the new banks.

Some of the guarantees will never be tested, shares in banks will be sold and some funds will have to be written off. Hence, calculating the expected real cost of the collapse of the Icelandic financial sector involves assigning probabilities for bank sector repayments. Table 1 gives a rudimentary estimate for these probabilities together with the estimates from the National Audit Office regarding the size of funds transferred to the financial sector from the Icelandic State, see http://www.rikisendurskodun.is/fileadmin/media/skyrslur/fyrirgreidsla_vid_fjarmalafyrirtaeki2.pdf

Table 1:

Institution	Share-capital	Non-prioritized loans	Probability of loss of sharecapital %	Probability of loss of loan %	Expected loss lower limit	Expected loss higher limit
Kaupþing/Arion	9,9	32,4	4,3%		0,4	0,4
Glitnir/Ísl.b	6,3	25,0	4,3%		0,3	0,3
NBI/Landsbanki	122,0		4,3%		5,3	5,3
Byr, merged with Íslandbanki	0,135		100%		0,135	0,135
SpKef, merged with Landsbanki	25,0		100%		25	25
Other local savings banks	0,234		100%		0,234	0,234
Spron, in resolution		96,7		20/40%	19,34	38,7
Straumur/Burðarás		43,7		20/40%	8,74	17,5
Central Bank	267,2		100%		267,2	267,2
VBS, Saga, Askar, in resolution		53,0			10,6	21,2
Sjóvá, insurance	4,8		100%		4,8	4,8
Ag.Investm.Bank		31		20/40%	6,2	12,4
Total	435,6	281,8			348,3	393,2

Source: Authors calculation and National Audit Office op. cit.

As the table shows, the total capital at risk for the sovereign is around ISK700bn. The share of the Icelandic state in the equity of the three big banks amounts now to some ISK180bn. Foregone interests (measured by the interest rate charged by the Central Bank for loans against collateral) amount to ISK48bn. Thus, the real loss for the State from restoring the three big banks is a minuscule ISK5-6 bn. The biggest loss stems from the evaporation of collateral at the Central Bank, ISK267bn. The expected losses are in the range of ISK348-393bn, which amounts to 20-25% of GDP. Any cost that may arise from the IceSave case at the EFTA Court has to be added.

Additionally, the Treasury suffered loss of tax-income, increased expenditure due to increases in unemployment benefit payments, increases in interest rate payments etc. A good indicator on the combined direct and indirect costs accruing to the Treasury is the fact that public debt increased by 60% of GDP between 2005 and 2010.

The response

Responses to the collapse of the financial sector in Iceland in October 2008 were multifaceted. On the macro-economic level the country entered an IMF program, first western European country to do so in 35 years! The aim of the program was to strengthen the currency reserves of the Central Bank to fend off fears that the Sovereign of Iceland might default on foreign loans. The program was co-funded by Sweden, Norway, Poland and the Fareos. The program was unusual in many ways. First of all, the program was mainly on macro-level. No demands of structural character were put forward. Secondly, the IMF accepted and recommended that the automatic stabilizers were allowed to work their way. Hence, the government was not forced to balance its budget during the first year of the program. The aim was to gain gradual budget balance over the course of four years. The IMF involvement secured that the government had the capacity to finance the budget deficit. Furthermore, capital controls were taken as an integral part of the program. It was feared at the early stages that the mismatch between assets and liabilities in ISK and in foreign currencies could cause repeated collapses of the value of the currency. It was also obvious that there was a considerable mismatch between the PPP correct value of the currency and the value that would bring about an equilibrium in the asset market. It was implicitly assumed that a free float of the currency would bring about a full collapse of the balance sheets of most businesses. To avoid such a scenario capital controls were seen as essential.

The IMF did not meddle in the decisions made by the Icelandic government, but was very forthcoming when the government asked for expert help.

All the three governments that were active from October 2008 till spring 2013 seriously tried to play an active role in alleviating the problems faced by families and businesses in the wake of the collapse of October 2008.

The first responses were of temporary kind: The government asked the financial firms to freeze repayments of loans at the pre-crisis level. This was done in the hope that the post-crisis level of the currency rate would represent some form of an extreme that would soon return to normal. This was not to happened except to small extent.

Laeven and Laryea point out that governmental intervention in restructuring of household debt may be warranted (Laeven & Laryea, 2009). They point out that if debt-overhang (unability on behalf of households to service their debt) is widespread there may be a multiple equilibrium situation where foreclosures drive down real-estate prices which undermines the solvency of households that would other wise be in good shape. Governmental intervention can help to avoid "bad" equilibria.

In April 2009 a formal agreement between the government, the Icelandic Financial Services Association, the Pension Funds and others on set of rules of how to work through debt related problems, see (Velferðarráðuneytið, 2009). First a definition of crisis related debt problems was given, then a series of relief instruments was introduced, freezing of payments, adding arrears to capital of loan, prolonging the repayment time on a loan etc.

Unemployment did increase from the usual 1-2% to 8-9% in late 2008 early 2009. Hence the Directory of Labour had a new situation on its plate. It soon extended its offers to well proven Scandinavian solutions, conditioning payment on participation in programs and courses. Firms hiring work-seekers from the pool on unemployment benefits received subsidies for a short period. The Directory also arranged subsidies for university students during the summer months.

The government did make a point of sheltering education, health and social services when adjustment of the budget to reduced tax-income started in the budget of 2010.

Act 107/2009 forms the main foundation for debt relief programs both for families and for businesses. Based on that Act the Icelandic Financial Services Association, the government, the State Housing Fund and others agreed on procedures and work rules for debt relief.

For businesses the main thrust of the Act was to apply the so-called London Approach, see (British Banking Association, 2004). The agenda is to maximize asset recovery from a troubled company from an economy wide point of view rather than from a narrow first-priority lender point of view.

If a company in trouble has only one lender it is usually a matter of time and good will to stake out the value-maximizing strategy. If the firm is capable of generating cash-flow into the future and if the discounted value of that cash-flow is in excess of productive assets tied to the production then it is the best interest of the bank and the firm owner to keep the firm going. If the equity of the firm is negative it is in the hands of the bank to decide the firms faith. The bank can write off enough debt to get the firm from the red. The bank can demand the shares of the firm and try to sell it to a new owner. Or the bank can declare the firm insolvent and/or bankrupt. The creditors had basically 3 options: i) to declare the firm bankrupt and hand it over to the bankruptcy court, ii) ask the owner to hand over the shares of the firm and then try to find a buyer for it as a going concern or iii) to fix the balance sheet of the firm by writing down its debt in cooperation with the firms owners. Expected recovery net of legal and administrative expenses is highest from iii) and lowest from i). To reiterate: If the equity of a firm is negative it is effectively owned by its creditors. In extraordinary times it can be more costly for the creditors to try to liquidate assets that they have effective control over. It can be cost-effective for the creditors to convince the former owners or the former CEO's of such firms to take care of day-to-day business. Bottom line is that by writing a bad loan down early a firm can be saved from bankruptcy, securing higher degree of recovery for the creditor. By waiting the creditor forces the firm into bankruptcy, accrues legal costs without increasing value of recovery. Firm that continues operation after having had its debt written down creates some benefits for other economic agents. Its workers continue receiving salary and pay taxes and are spared a spell as unemployed at the same time as the government is spared unemployment benefit expenditure. The firm continues to provide services to consumers and other businesses, reducing potential losses of consumer surplus and also reducing the likelihood that business customers would face increased input costs.

A firms balance-sheet is supposed to reflect the real value of a firm. Assets, tangible and non-tangible, are to be valued at market value or at value of future income resulting from the firms ownership or control of that asset. When external conditions change in an abrupt and fundamental way the value of the firm also changes. Market for some assets may become extremely thin. Hence, it is both necessary and at the same time a complicated and time consuming to reassess the value of assets and the size of future cash flow. Hence, taking an educated decision on the future of the firm begins with an extensive reassessment of its balance sheet and its future potential in terms of cash flow.

There are ways for the owner to fend off some attempts of the lender but do not concern us here.

The spirit of the London Approach is to bring the atmosphere of a one-creditor/one-debtor discussion to the much more complicated many-banks/one-debtor situation. The complexity comes from the fact that creditors may have conflicting interests related to different solution paths and they may also have different view on the value of alternative solution packages. Owners of collateralized loans might have a divergent view of the value of a collateral as compared to other creditors. Some banks might be more inclined to take a troubled firm over than other banks. The recent history of the firm might influence the mood among the creditors (owners of a firm recently a subject of management buyout or of unfriendly takeover might not receive the same attitude as owners of an old family firm).

Act 107/2009 and the subsequent agreements stake out the solution method for small and medium sized firms. One bank is to be in charge, collect documents and work out solution suggestions.

Confidence is a public good

Shortly after the collapse of the Icelandic banks in October 2008 Icelandic firms experienced lack of trust on behalf of their foreign and domestic trading partners. Firms that had goods shipped on 3 or 6 months credit were asked to pay up-front. Letters of credit from the new Icelandic banks were not accepted. This is natural. A cautious supplier was correct in assuming that an Icelandic counterpart had a high risk of entering bankruptcy negotiations before payment was made. Hence, by taking a concerted effort to clean out the bad firms and correct the balance sheet of liveable firms a signal was sent to all suppliers to Icelandic firms: Bankruptcy risk has been minimalized. Thus, write downs of debt helped to rebuild trust that had been lost as a consequence of the collapse of the Icelandic banks.

Problem of multiple creditors

Debt-restructuring is thus a no-brainer if there is just one or two creditors. But usually the number of creditors or higher. The quality of claims for an individual creditor will vary from case to case. Bank A may have good quality claims against firm Y, while bank B may have bad quality claims against that firm. The order of claim quality might be reversed in the case of firm Z. Hence there is a co-ordination problem, as banks A and B may have opposite interests in individual cases but parallel interests when considering their combined loan-book. In Iceland the legislature solved the problem by forcing the banks to make a concerted effort and by assigning the role of co-ordinator to one creditor (bank) for each firm.

The swing loans

Consider a firm with a steady cash-flow of 100 million kronur a year (in fixed prices). With a discount rate of 20% the discounted value of this cash-flow is 500 millions kronur. Assume now that the firm takes a shock that knocks off half of its cash-flow for 3 year, say. The value of the discounted cash-flow falls to 415 million kronur. It is also clear that the firm will have problems servicing a loan equal to the discounted value of the cash-flow during the first 3 years.

Many Icelandic firms were in the described situation in 2009 and few years after that. Obviously, restructuring the debt-level of those firms to the value of their discounted expected cash-flow would result in almost immediate payment problems for the restructured firms. The banks solved the problem by assigning as much as 30% of the debt issued as a 3 year swing loan. The conditions of the swing loan must be characterized as rather favourable. The loan is usually non-indexed ISK loan at the basic lending rate for each firm-category. The idea is to renegotiate the conditions of the swing-loans at the end of the 3 year period.

Mortgage write-downs

The principle of writing value of debt down to the value of the income stream of the firm was adopted to property and to mortgages. The twist was not to look at the discounted cash-flow but to evaluate the asset value of the property. In principle the two should be equal. The difference is that property will not loose its potential to create cash-flow in the future even if left idle for a period, while a firm must continue as a going concern if it is to be valuable at a future point in time. Mortgages were written down to 110% of the fair value of the collateralized property. Debt of firms that had property as their main assets were written down to the fair value of the assets. In addition, low-income, low-asset households got interest-payment subsidy. Furthermore, a new Debtors-Ombudsman institution was inaugurated, financed by the financial sector itself but independent of that sector in its decisions and organization.

The Supreme Court FX interlude

Act 38/2001 regulates rules for indexation and calculation of interest of financial obligations offered by Icelandic financial institutions. The law forbids use of indexes other than the CPI index for indexation of financial instruments. It is explicitly forbidden to use a basket of foreign currencies as means of indexation. But, it is not forbidden to issue a loan that is a mix of different currencies. So it is explicitly against the law to issue a loan of say 1.000.000,- kronur if the capital of the loan is to reflect the movements of currencies A with a weight a and the movements of currency B with a weight (1-a). But it would be perfectly legal to state that the loan was a*1.000.000,- units of currency A and (1-a)*1.000.000,- units of currency B. Economists have had a hard time understanding the difference.

Icelandic financial institutions met a increasing demand for FX loans in 2005 and 2006. Icelandic households used the loans either for mortgages or for buying cars. Early on the financial institutions seem to have been careful to follow the letter of the law. That presented an inconvenience for some debtors as a foreign sum agreed upon one day could command a few hundred thousand kronur less or more at the day the paperwork was finalized. Hence, most debtors asked for "foreign sum the equivalent of" some ISK sum! In a ruling July 16th 2010 the Supreme Court concluded that this praxis was unlawful. The ruling left the financial community in disarray. It was clear that the small print of the loan contract could save or cost the debtor huge amounts of money. A FX loan that was affected by the ruling was transformed into an ISK loan. The ruling was silent about the interest rate to be applied. The government tried to intervene by levelling the field in the household sector in two aspects: i) by extending the ruling of the Supreme Court to all FX mortgages and ii) by prescribing that the interest on the transformed loan should be according to an interest-rate series published by the Central Bank monthly (lowest interest rate offered on nominal loans by the financial sector). As the nominal rate tracked the sum of the real mortgage-rate offered to household and the inflation rate this intervention seemed to establish some form of fairness between mortgage-holders. The Supreme Court later ruled the intervention of the Government unconstitutional. Hence, a windfall gain has befallen the FX-mortgage debtors as the FX value of their debt has been cut by as much as 50-60%. The only caveat is that the interest rate accruing on the reduced debt is adjusted to "Icelandic" level from December 2010 (Act 151/2010), or later if conditions as described in Supreme Court Ruling 600/2011 were met. According to that ruling , it was not permissible for a creditor to change, after the fact, from FX-interest rate to ISK interest rate as long as the debtor had been current on all down payments and interest payment. Hence the solution introduced by Act 151/2010 regarding change of FX loans into ISK loans did not apply until after the Act had been ratified. It is unclear how this ruling affects debtors that were not current on their down-payments and interest payments. One of the questions that remains to be answered is if it matters if suspension of payments was in agreement with the financial institution or not. The legality and value of many types of FX loans is therefore still pending, complicating the solution of some debt-related issues.

Development of private sector debt in Iceland

Figure 2 shows, by IMF estimate how the assets and debt levels of Icelandic households develop from 2000 to 2011. The net position, including pensions is good, even if variable throughout the whole period. Now, individuals do not report their claims towards the pension funds on their tax-returns. Hence, what they perceive as their "net-worth" is usually taxable assets minus mortgages and other debt items itemized on their tax return. Hence the notion that is common among many Icelanders that they have been under water since 2008. The figure shows that the debt is higher than assets when pension claims are excluded. But the figure shows also that the assets have increased a bit as percentage of disposable income from 2009 onward. Debt is decreasing from 2010 as consequence of both governmental initiated incentives and because of the Supreme Court ruling regarding FX loans.

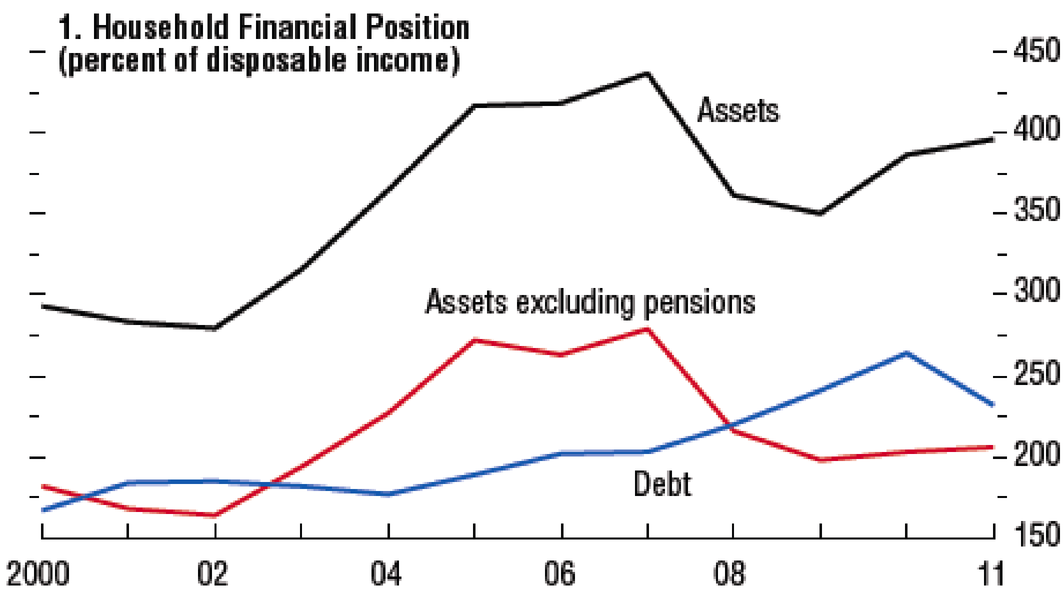


Figure 2: Household Financial positioin, source (International Monetary Fond, 2012), figure 3.10

Figure 3 shows how the debt level of the household sector has developed from 2004 and onwards.

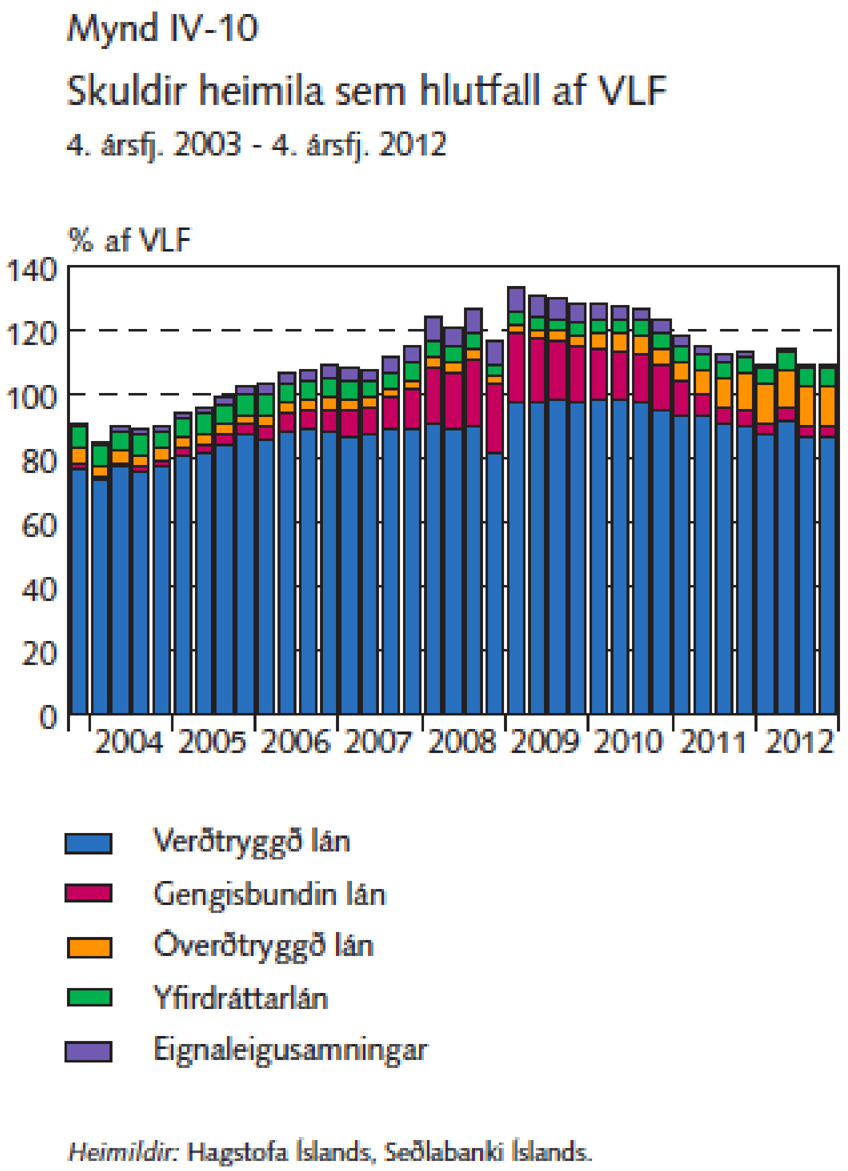


Figure 3: Debt level of the household sector, CPI-indexed loans (Verðtryggð lán), FX loans (Gengistryggð lán), Non-indexed ISK loans (Óverðtryggð lán), Overdraft (Yfirdráttarlán), Lease contracts (Eignaleigusamningar)

The figure shows both how the debt level is reduced and how the compositon moves from FX loans to non-indexed loans. The down-ward trend is both due to the effect of the Supreme court ruling on the legality of FX loans as well as of debt-writedowns, both automatic (110%) and negotiated.

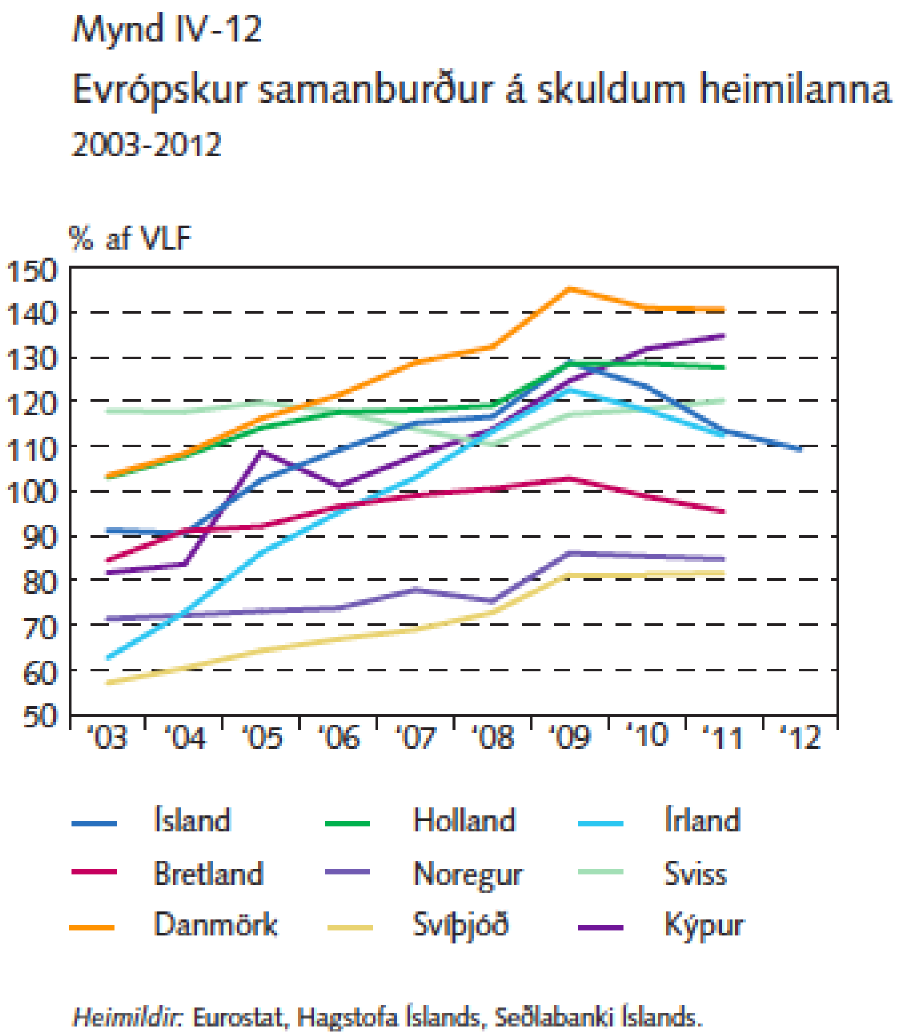
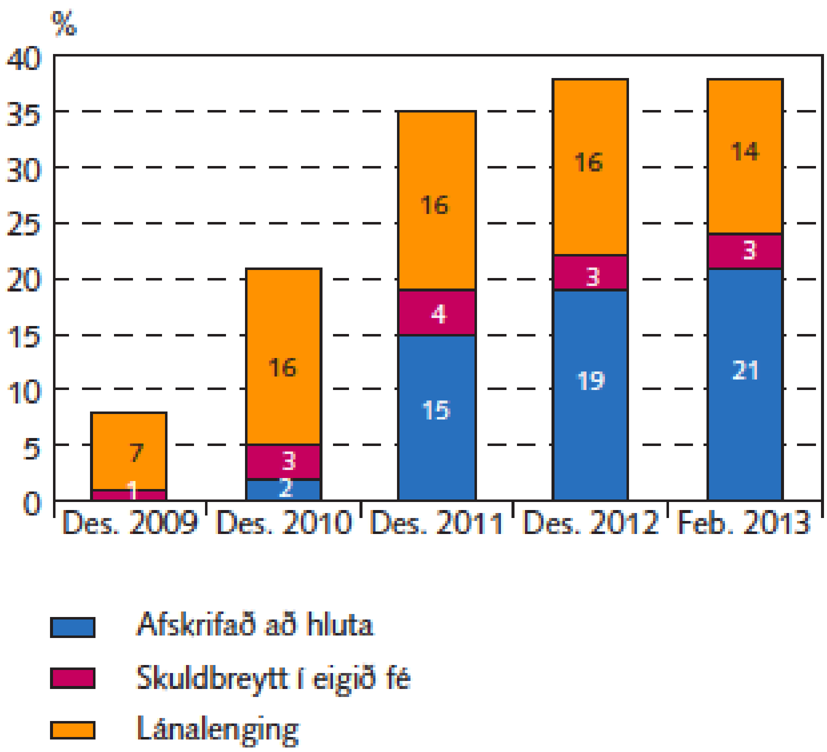


Figure 4: Debt level of the Icelandic household sector in European context

Figure 4 shows that even if the Icelandic houshold sector is among the most indebted sector in Europe, then is less so than the Danish household sector. The Icelandic household sector is improving its standing on this measure and is now less indebted than the Swiss houshold sector.

Mynd IV-33

Úrræði við endurskipulagningu fyrirtækjaútlána[1]



1. Móðurfélög, bókfært virði. Útlán til fyrirtækja samanstanda af útlánum þriggja stærstu viðskiptabankanna.
Heimild: Fjármálaeftirlitið.

Figure 5: Restructuring firm-debt: Partial write-downs (Afskrifað að hluta), Transformed to equity (Skuldbreytt í eigið fé), Extension (lánalenging)

Figure 5 gives a pretty good indicatior of the scope of financial restructuring of the Icelandic business sector. In December 2009 only 8% of all business loans had been restructured, mostly by extending the length of the loan. In February 2013 38% of all business loans had been restructured, more than half by partial write downs.

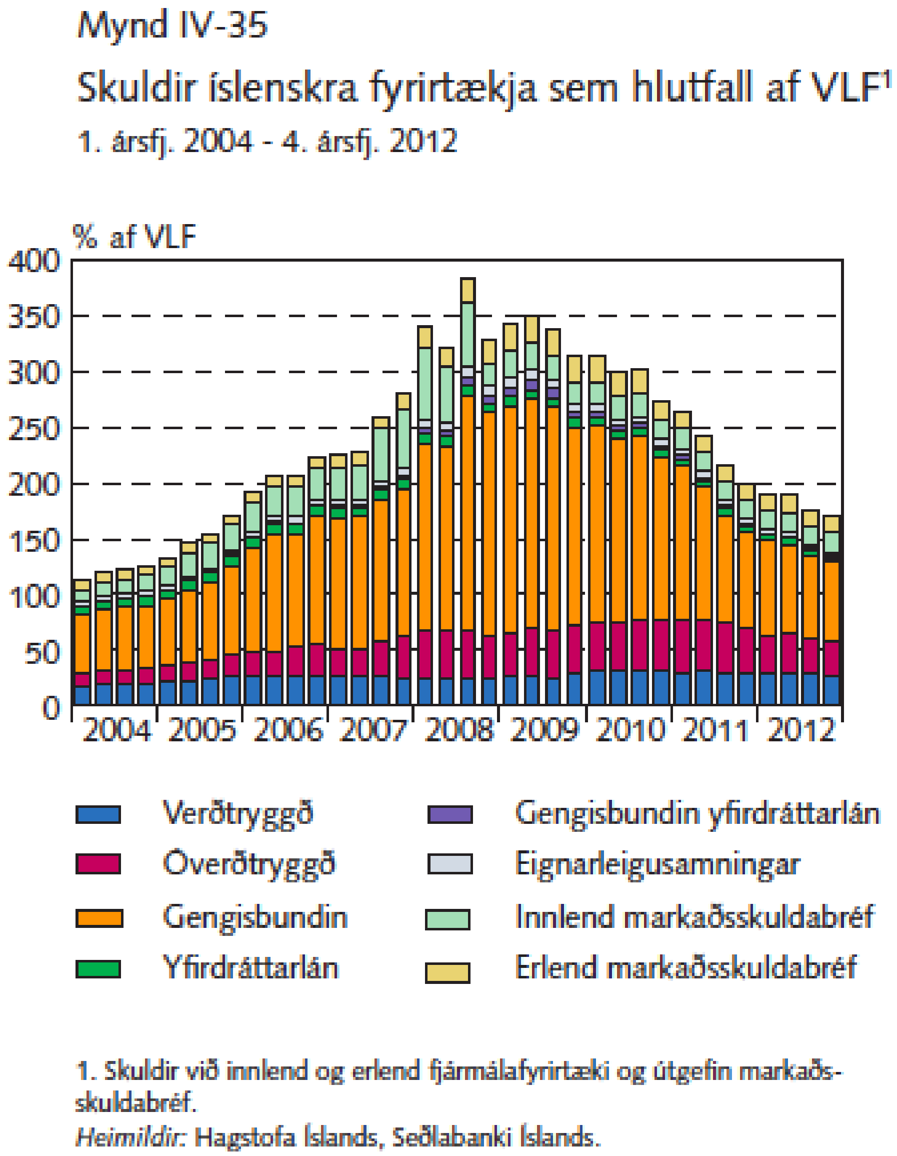


Figure 6: Business-sector debt as percentage of GDP. Indexed (Verðtryggð), Non-indexed ISK loans (Óverðtryggt), FX loans (Gengisbundið), Overdraft (Yfirdráttarlán), Overdraft FX(Gengisbundin yfirdráttarlán), Lease-contracts (Eignaleigusamningar), ISK and FX bonds

Figure 6 shows the dramatic changes that have taken place in the indebtedness of the Icelandic business sector. The sector increased its leverage dramatically from 2004 till 2007/8, mostly by taking on FX loans. These have now been written down by the financial institutions or as a consequence of the Supreme Court ruling.

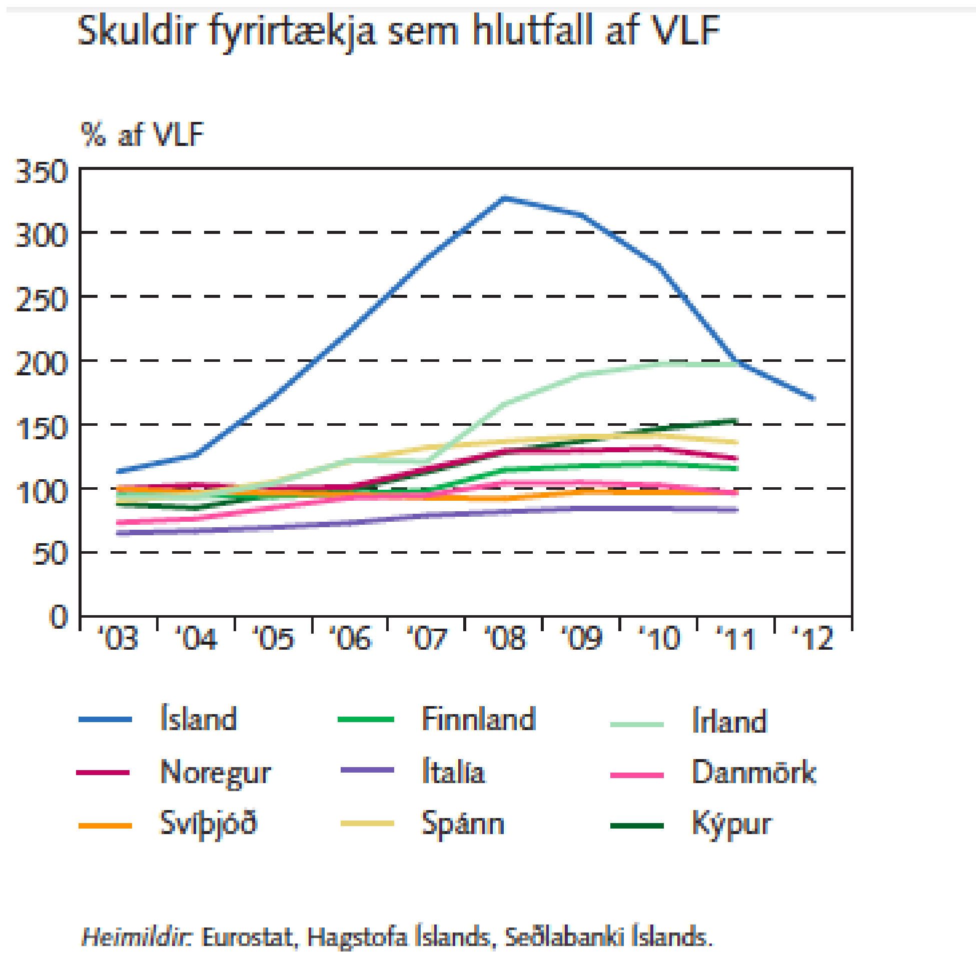


Figure 7: International comparison of debt levels as percentage of GDP

Figure 7 shows that Icelandic firms were dramatically leverage compared to most other firms. They are still highly indebted, but are now about to enter in a territority more common among other European nations.

Moral hazard

Bankers frequently mention moral hazard when debt write-downs are on the table. The reasoning is simple enough: A potential debtor that knows that his debt will be written off or written down will both seek to maximize the amount of a loan and minimize their own exposure and will also do less to avoid downward risk assoicated with a given project. This is of cause true to some extent. But a non-debt write-down policy may also represent a moral hazard towards the creditor as the creditor tends to be satisfied if the debtor throws up enough collateral to cover the exposure of the creditor. This saves the creditor from putting effort into research on the quality and the expected cash-flow from a project. It also saves the creditor from ranking projects. Hence, the creditor can lend a debtor money against collateral even if a project to be financed is not good enough to return the capital and the interst. Put otherwise, the creditors faces moral hazard as s/he can put the potential debtors wealth at risk without financial consequences. Hence, debt write-downs should be an intergral part of the tool-kit of a financial institution both because of and inspite of moral hazard!

It should also be mentioned that the usual moral-hazard arguments do not apply when the whole financial system is faced with a melt-down. A single debtor will not be able to induce a meltdown to avoid paying back his or her debt. Hence, in a melt-down situation the moral hazard argument does not apply with the same strength against debt write-downs as in normal times.

Some conclusions

The debt-relief measures taken by the Icelandic government have proven to create a win-win situation for the financial sector, the business sector, families and the Icelandic economy in general. One reason is that a firm that continues operation after having had its debt written down creates some benefits for other economic agents. Its workers continue receiving salary and pay taxes and are spared a spell as unemployed at the same time as the government is spared unemployment benefit expenditure. The firm continues to provide services to consumers and other businesses, reducing potential losses of consumer surplus and also reducing the likelihood that business customers would face increased input costs.

Furthermore, by taking a concerted effort to clean out the bad firms and correct the balance sheet of liveable firms a signal was sent to all suppliers to Icelandic firms: Bankruptcy risk has been minimalized. Thus, write downs of debt helped to rebuild trust that had been lost as a consequence of the collapse of the Icelandic banks.

Governmental initiative was needed to solve a co-ordination problem the private actors could not solve themselves in cases where a firm owes money to many creditors. The a co-ordination problem exists, as banks A and B may have opposite interests in individual cases but parallel interests when considering their combined loan-book. In Iceland the legislature solved the problem by forcing the banks to make a concerted effort and by assigning the role of co-ordinator to one creditor (bank) for each firm.

Other measures taken by the Icelandic government with the help and approval of the IMF has also alleviated the adjustment to the post-collapse realities. Emphasis on social services, health and education has been helpful in enhancing investment in human capital. The subsidies for unemployed labour and the investment in courses for unemployed have also helped to avoid massive destruction of human capital embedded in the unemployed labour force. The fact that the Icelandic unemployment rate has fallen below 5% can serve as an illustration that those endeavours have not been in vain.

But, even if some successes clearly can be registered it does not mean that all is as it should be. There are big unsolved problems still looming. First is the question of how to lift the capital controls, second is how Icelanders are to organize their currency policy in the future. Third, the productivity is still very low in many sectors. Icelanders have traditionally compensated by working long hours. That can not serve as a permanent solution.

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