Icelandic Economic Collapse
A Systems Analysis Perspective on financial, social and world system links

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A joint trans-disciplinary study between two universities and an industry

Henrik Ibsen, Norwegian playwright:
Peer Gynt: “Evig eies kun det tapte....”
Peer Gynt: “..jeg protesterer for all verden, men reiser gjerne med på ferden...”
Brand: “Der det jamres, like mye skal det bankes og hamres...”
Fritz Schumacher: “Man is small, therefore small is beautiful”
Kenneth Boulding: “Anyone who believes that exponential growth can go on for ever in a finite world is either a madman or an economist”
Preface
We live in a time with ever increasing complexity in society and this is reflected in our lives becoming more complex and less easy to understand. Globalization has meant that events and causal chains span larger distances, structures are less transparent and the way the world works is becoming more difficult to understand. The Icelandic bank crisis, the co-occurring national financial collapse and world financial crisis was part of a larger set of linked events that are difficult to overview and penetrate. The Icelandic economic collapse was real and very serious for a small country. Only by silent intervention of its Nordic neighbours were certain basic functions of supplying the country with essentials maintained. Without this, the situation for the Icelandic population would have been noticeably bad or even dangerous.

After the financial collapse of the banks and later the state, the financial transactions and transfers were mapped out in detail in a Parliamentary Special Investigative Report (2010), including who was involved and their actions described as far as possible. However, these results are all outputs from an economic system where decisions were made somewhere else in the larger societal system. To come closer to the question of how and why the economic bubble could go so far, we also need to address the social dimension of the collapse. In this study, we use the tool of systems analysis, the scientific method of “finding things out” to map the connections between the economic world, the physical world and the social world of human relations and the structures they organize.

Our aim was to shed a wider light on why this economic crisis occurred in Iceland, and give some suggestions about what can be learned from the whole calamity. It is our ethical duty to learn from this crisis, and we need to remember that this is an expensive learning process in fundamental economics for the future. Only by demonstrating that we have learned and improved our structures beyond the mistakes, it may be viewed from the outside with some understanding. For inventive people, a difficulty can be viewed as a great chance for leading change and making large and necessary changes, larger than a society would normally be willing to do in a short period of time. Here is a chance for the people of Iceland.

One issue stands out clear from the global financial crisis, and that is that the there is no way back, the old system was flawed on a fundamental level, and the international financial and policy context is still very unsustainable. The whole world’s economic system, which is based on material resource consumption forever, has reached a limit we knew would be there somewhere in time, and which will eventually stop it (Meadows et al. 1972, 1992, 2005, Latouche 2007, Jackson 2009). Growth economics on a limited planet is unrealistic. We have the chance now, in Iceland, to make the changes that take our society towards a more sustainable path of operating a country and providing a better future for Iceland.

Reykjavik, Iceland, March 16 2011,

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Executive summary in Icelandic

Skýrslu þessari eru ætluð tvö hlutverk. Það fyrra er að varpa skýru ljósi á þá atburði er orsókuðu og leiddu til falls íslenska efnahagshérfisins haustið 2008. Það síðara er að leggja til breytingar til að bæta fjármálakerfið og samverkandi kerfi.

Skýrslan byggist á fyrri rannsóknunum, að stórum hluta á skýrslu rannsóknarnefndar alþingis, en einnig fleiri rannsóknar sem fjalla um efnahagshrunið hér heima sem og efnahagsaföll af þatu sér stað er lendur. Þessi skýrsla hefur sérstöðu, því í henni eru atburðirnar aðferðafræðið með aðferðafræði kerfishugsunar; þar eru atburðir og orsakasambönd milli þeirra skoðuð ofan í kjölinn og kortlögð með hjálp kvikra kerfishulska (e. systems dynamics). Aðferðafræðin einfaldar flókna atburðarás efnahagshrunins og veitir yfir yslan á myndránan hátt og er henni lýst í fyrska kafla. Tillögur okkar til endurbótas á fjármálakerfinu er að finna í 8. kafla.

Mynd 1: Yfirlitsmynd af fjármálakerfinu og samverkandi kerfur. Myndin sýnir sampil fimm „kerfa” sem eru stjórnendur bankanna, samfélagið, stjórnmál, markaðs og þjóðhagsstærðir.


Ef til vill er sagan af falli íslensku bankanna áhugaverðari og sérstakari. Til að setja hana í alþjóðilegan samhengi þá komust öll þrjú gjaldþróttin á topp 11 listann yfir stærstu gjaldþrot heimssögunnar og er sú saga meginviðfangsefni þessarar skýrsla. Helsta ástaða falls bankanna var stærð þeirra og hráður væxtur. Stærðin var á endanum slík, að ekki var raunhæft að aætla að ríkissjóður eða Íslands gæti hlaupið undir þigur, ef bankarkari lentu í vandræðum. Í ofanálæg höfðu íslensk stjórnvöld stutta reynslu af fjármálæftirliti sem ekki jök tiltrú fjárúta.

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**Mynd 1:** Yfirlitsmynd af fjármálakerfinu og samverkandi kerfur. Myndin sýnir sampil fimm „kerfa” sem eru stjórnendur bankanna, samfélagið, stjórnmál, markaðs og þjóðhagsstærðir.
Litið mátti út af bera, og það varð staðfest þegar alþjóðilega lausafjárkreppan gerði vart við sig hér á landi. Í þessari skýrslu leitumst við við að skýra hverning stóð á því að bankarnir urðu jafnþóririr og raun ber viðti.


Skýrslunni er skipt í átt kafla ásamt undirköfum. Hún segir tvær aðskildar sögur af atburðum efnahagshrunins. Priðjó kaffi skýrslunnar er helgaður þjóðhaglegu hagsviðlunni, þar sem rýnt er í þjóðhagfræðilega orsakir. Fjallað er um efnahagshruni í samþyki við umheiminn og rætt í gróðum dráttum hverning efnahagsstjórn landsins var háttað. Hali á landsfameðleðslu er aðhugður, en hann er í stuttu mál það þil sem myndast milli raunverulegra landsfameðleðslu og mógulegar landsfameðleðslu. Ef raunveruleg landsfameðleðsla fer fram úr mógulegri landsfameðleðslu myndar það þenslu, en ef þessu er öftug farið er sagt að tímabil kreppu sé yfirvöandi. Móguleg landsfameðleðsla segir til um hver geta einstakrar þjóðar er til að nýta auðlindir sínar, þ.e. vinnuafla, fjárfestingar o.fl. Það er markmið flestra stjórnvalda og seólabanka í heiminum að halda raunverulegra landsfameðleðslu sem næst mógulegri landsfameðleðslu til að aha bílið sem minnnt. Tvar algengustu leiðirnar til þess eru að auka eða draga úr ríkisútgbjöldum, og breyta peningamagninu til að aha áhrif af neyslu og fjárfestingu. Sýnt er fram á hverning þessum atriðum var háttað á Íslandi.

Auk þess er fjallað um, með hjálp kerfislíkana, hverning hinir ymsu þættir hagkerfisins spila saman og allir þættir landsfameðleðslu teknir fyrir, þ.e. neyslu, fjárfesting, ríkisútgbjöld og útflutningur. Byrjað er að að ræða um samsúli milli heimila og fyrirtæki í samfélaginu. Þar skapa heimilin framboð á vinnuafla, en fyrirtækin uppflylla eftirspurn. Þessu er svo öftug farið með vöruframboð og eftirspurn. Saman skapar þetta jafnvægi á atvinnumarkaði og neyslu þegar hagkerfið virka eðilegilega. Í lokin er fjallað um ríkisútgbjöld og breynt útflutning.


Í fimmta kafla snýr umræðan að þeim samfélagstægum þáttum sem taldir eru eiga sinn þátt í því hverning fórárið 2008. Þeim er skipt upp í tvo hluta, sá fyrri er helgaður samfélaginu og sá seinni lýtur að stjórnum bankanna í fyrri hlutanum er sýnt fram á tengsl milli fámennis íslensku þjóðarinnar og gagnýnisleyiss í garð stjórnvalda. Það getur leitt af þeirri staðreynd að hagsmunir eru áþekkir og svipaðir, ef ekki sömu þættir ráða gildismati hennar. Því eru aðgerðir stjórnvalda frekar röttlettar en ella. Sameiginlegir hagsmunir okkar eiga svo öbeinan þátt í
auknum vexti bankanna eins og sýnt er fram á í teikningu í fimmta kafla. Einnig er rætt um ámynd bankanna út á við og mikilvægi hennar til áframhaldandi vaxtar og í grunninn áframhaldandi starfsemi.

Í kafla 5.2 er vikið að stjórnnun bankanna. Þar eru athuguð tengslin á milli ähættusækni, bjartsýni, og göðra ytri aðstæðna til vaxtar. Hér er átt við opna fjármagnsmarkaði, göðar lánshæfiseinkunin os.frv. Auk þess léku bjartsýni og ähættusækni meðal æostu stjórnenda og annarra áhrifamanna innan bankanna stórt hlutverk. Þann þessara hópa myndaðist sterk samheildni sem líklegt er að hafi smitað út frá sér um gervallt starfsnumhverfi bankanna. Einnig er fjallað um hversu líkinn innbyrðis þessir hópar voru og hvernig það varð til þess að viðhald að fyrirtækjamennuninni og starfsháttum. Þó lokum eru fjölmiðlunum gerð skil og sýnt hvaða áhrif gagnrýnislausir fjölmiðlar og skortur á annarri utanaðkomandi gagnrýni hafði á starfsemi bankanna.

Meginmáli skýrslunnar lýkur á sjóttaka kafla en þar er fjallað um samfélagslega ábyrgð fyrirtækja. Þar er meginbráðurinn sá að reynta að komast að og skilgreina undir hvaða kringumstæðum fyrirtæki eru líkleg til að hegða sér á ábyrgan hátt gagnvart því samfélagi sem þau starfa í. Það skal þó tekið fram að í þessari greiningu er aldrei gert rán fyrir að fyrirtæki muni snúu baki við hagnaði, heldur þvert á móti setji sér langtímanmarkmið um hagnað.


Lokakaflinn hefur að geyma tillögur um viðtækar breytingar sem þurfa að eiga sér stað til þess að fjármálakerfið geti verið stöðugt til framtíðar. Þar eru teknir fram þættir sem lúta að breytingum á stofnunum,mannauðsmálu og þjóðfélagsmálu.
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Prior to the publishing of this report the findings of our group were presented at two conferences: The International Seminar on Non-growth Economics of the Balaton Group (Alternatives to Growth, Opportunities and Strategies) in the National Museum of Iceland in September 2010 and a seminar held by the Nordic Council of Ministers on Banks That Take Social Responsibility – The Way Towards a Fair Financial System held at the Nordic House in Reykjavik in November 2010. We are indebted to many good insights that came out of discussions after these presentations.

Finally we would like to thank Dr. Bernard Lietaer for giving us constructive comments on our manuscript.

Any errors are, however, the authors' responsibility.

\(^1\) Rethinking globalization in the light of Contraction and CONVERGEncy. Environment Including Climate Change, grant no 227030 - http://www.convergeproject.org/
2 Introduction

In the autumn of 2008, the financial system in Iceland collapsed, the country’s three main banks were immediately closed and the Icelandic currency lost its status as a convertible currency and nominally more than half its value on the international arena. The three banks collapsed leaving huge obligations to lenders and customers without coverage. The Icelandic government issued a guarantee for all Icelandic accounts, releasing comparative demands from a large volume of overseas accounts (a net deficit of 3.2 billion € after all assets have been sold). The government had no way of covering this demand, causing the collapse of the Central Bank of Iceland and the currency. Iceland went bankrupt in the process and loans in foreign currency became unpayable for state, businesses and private persons alike.

2.1 Objectives

The objectives of this study was to use systems analysis to investigate the Icelandic financial collapse, in order to find and understand the mechanisms and causes that lead to the collapse, including analysing political, social, structural and financial systems, as well as to understand how the different systems interacted. It has been our task to use these insights to interpret what lead to the financial collapse in 2008, and to analyse what could have been done differently to avoid the crisis. It is used to make suggestive changes to the economic structure of the country, its financial sectors, social norms and standards, education and governmental systems in order to underpin change towards a more sustainable society.

2.2 Methods and materials

2.2.1 Who is who

The group consists of, Máni Arnarson, M.Eng in Systems Engineering from the University of Cornell, Porbjörn Kristjánsson, B.A. candidate in Philosophy at the University of Iceland and Atli Bjarnason, B.Sc candidate in Business Administration at the same school. The two latter ones were funded by the Icelandic Student Innovation Fund, but Máni was supported by the European Commission funded project CONVERGE that focuses on establishing frameworks for sustainable communities. Supervising the group were Dr. Kristín Vala Ragnarsdóttir, Professor of Earth Sciences, specializing in sustainability science, Dean of the School of Engineering and Natural Sciences at the University of Iceland and Dr. Harald Sverdrup, professor of Chemical Engineering at Lund University, Sweden, specializing in sustainability and connections to economy and social structures. The main theme of this project was to deliver an investigative report on the cause of events that led to the Icelandic economic collapse. The aim of the study was also to put forth suggestions for improvements based on the findings and argue for changes needed to build up a sustainable banking system in Iceland.

2.2.2 Methods of analysis

To achieve the goal of bringing about a clear view of the events that lead to the collapse and to grasp the big picture, the group read about corporate social, ethical and environmental responsibility policies of some key role-model institutions in the US and Europe, including Triodos Bank (The Netherlands), Ekobanken (Sweden), Arup Engineering (London, UK) DnB, Hamar, Norway and Interface Inc. (USA). Upon learning about good practice in business and institutional management the group analysed the Parliamentary Special Investigative Report (Rannsóknaskýrsla Alþingis) that came out on April 24, 2010. The group also analysed additional material, interviewed key people both foreign and domestic such as people from the business sector, banks, politicians and academics. Interviews were conducted in Reykjavik, Hamar (Norway), New York (USA) and London (UK). With their help, the fundamental overview of the research topic got broader than the parliamentary report and we began approaching the material from a variety of perspectives. The method used to analyse the information is called

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2 http://en.wikipedia.org/wiki/Icesave_dispute
systems analysis (Forrester 1971, Senge 1990, 1994, Vennix et al. 1992, Sterman 2000, Sverdrup and Svensson 2002a,b, Haraldsson 2004, Haraldsson and Sverdrup 2004, Haraldsson et al. 2008, Senge et al. 2008), and was introduced to the group by Professor Sverdrup, who has practiced it on numerous research projects for example engineering, environmental science, linguistics, international banking, human disease, and social behaviour with good results for over 30 years. The interplay between economics and social, behavioural and psychological factors were considered. The method is ideal to give a clear and comprehensive view of the causal chains of events for the Icelandic economic collapse and by doing so cast light on where change in structures, behaviours, culture, ethics, regulations and operations are needed. An overview of systems analysis is presented in section 1.3. The Parliamentary report (2010) on the financial collapse was one of the main sources of information in our effort to undertake systems analysis of the event (Gíslason et al. 2010). However, a number of published articles and reports on the financial crisis in general as well as background papers on the general policy recommendations from the Bank For International Settlements (BIS), The Controller of the Currency Administrator of National Banks (2009, 2010) and the IMF (Hardin 1968, Kock-Johannessen 2001, Klein 2007, Gudmundsson 2009, International Monetary Fund, IMF 2009, Panetta et al. 2009, Stiglitz et al. 2009, Tovar 2009, Turner 2009, Allen and Moesser 2010, Borio et al. 2010, Bussiere et al. 2010, Caruana 2010, Cecchetti et al. 2010a,b, Diamond and Rajan 2010, Dooley 2010, Moesser and Allen 2010, Muelbauer 2010, Oritani 2010, Pradhan and Görlich 2010, Provopoulos 2010, Shin 2010) were used in our analysis.

2.3 Theory
2.3.1 Causal Loop Diagrams
In this section causal loop diagrams (CLDs) and causal relations are briefly explained in order to outline the fundamentals of systems analysis. Systems analysis is in principle systematic mind mapping, that follows rules to make the diagrams easy to understand, but the analysis is also internally consistent and allows development with precise meaning and content (Senge 1990, 1994, Sterman 2000, Haraldsson 2004, Haraldsson and Sverdrup 2004, Senge et al. 2008). The understanding of CLDs is important because we use this approach to represent and explain a complex model that outlines what lead to the Icelandic economic collapse. We use graphical drawings of causal relations, feedback loops and delays to understand the interaction between variables and consequently the expected behaviour of the system. Feedback loops give us information about the behaviour generated by the system. A feedback loop is balancing if there are an odd number of minuses in the loop, and reinforcing if there are an even number of minuses in the loop or no minuses (Figs. 1 and 2). In this analysis we work towards defining the goal, identifying the gap between the present status of the system and the goal, and developing a strategy for how the gap can be closed. This implies detecting the possibilities for changing the causal links, affect key driving factors, and essential triggers, and important self-sustained feedback loops in the system. An important step is also to identify the most important difficulties to overcome, and what is at present stopping a success from taking place. From this we develop an action plan that can be carried out by those responsible. In these diagrams, the notation is simple: a (+) sign on an arrow indicates that the cause and effect change in the same direction. It can be illustrated by the causal relationship between a cause referred to C and an effect expressed as E (Haraldsson 2004):

\[
C \quad \rightarrow \quad d/dt(cause) = d/dt(effect) \quad (1)
\]

Whereas a minus sign (-) on the arrow indicates that the effect changes opposite to the cause. Note that the fact that \(C\) and \(E\) are statistically correlated is not sufficient; factor \(C\) must be the real cause of the effect \(E\) and this representation demands real causality. The connecting arrow is a graphical representation of a differential equation, and it has thus a precise mathematical
significance. The use of the (+) or (−) sign only considers the two parameters C and E, ignoring any other connected links.

The opposit to the causal link example above is a causal link where an increase in the cause leads to a decrease in effect (−), or a decrease in cause gives an increase if effect:

\[
C \longrightarrow E \quad (\text{2})
\]

There is symmetry in this, as is seen in the differentials it represents:

\[
\frac{d}{dt} \text{(cause)} = -\frac{d}{dt} \text{(effect)} \\
\frac{-d}{dt} \text{(cause)} = \frac{d}{dt} \text{(effect)}
\]

The loop where the increase in cause eventually leads to a subsequent decrease in cause is called a balancing loop (B). The loop is referred to as a balancing loop if there are an odd number of minuses (−) in the loop, but with none or even number of minuses, it is a reinforcing loop (R). The iterative procedure is called the learning loop, and this is shown in Figure 1. The basic method of this study works according to the learning loop (Haraldsson 2004). The analysis work always starts with defining the problem by asking the research question.

Figure 1. The learning loop. The basic method of this study works according to the learning loop (Haraldsson 2004). The work starts with defining the problem by asking the research question. The model defines the data to be sought for; the data provides the arena for testing the model, in order to learn and improve until the understanding is good enough to answer the question with the required accuracy. R means a self-reinforcing loop, B is a balancing loop, limiting itself.

Figure 2. The merit of the causal loop diagram is that it maps the relationships between causes and effects as well as any back-links that are present. Often several side effects must also be incorporated into the diagram. Normally such systems have non-linear behaviour, and predict outputs that show complex responses.
The model defines the data to be sought for, the data provides the arena for testing the model, a different expression for elucidation, in order to learn and improve until the model or understanding is good enough to answer the question asked with the required accuracy. Thus the question defines the model, not the data. This method is generic to any science, and whether it is used or not is a matter of training and attitude. The merit of the causal loop diagrams is that it allows mapping of the relationships between causes and effects as well as any back-links that may be present. A reinforcing loop may under certain circumstances escalate, an increase in cause gives an increase in effect, and in the feedback subsequently an increase in effect gives and increase in cause later. This is self-accelerating and gives an escalating or reinforcing loop (R). Sometimes several side effects must also be included in the diagram. Often such systems have non-linear behaviour, and predict outputs that show complex responses. A generic example is shown in Figure 3. In this study, we have mapped several of the subsystems involved separately, in order to understand them properly. This yields a number of “puzzle pieces” (Figures 4 and 5). In the final integration, these pieces are joined into a large picture, to see the whole system. An important part of putting the whole system together is also, to analyse it and condense it down to a simplified picture, containing the important parts that bear the important dynamics (Haraldsson 2004).

Figure 3. In the systems analysis methodology, the separate subsystems are mapped first.
2.3.2 Component of the events that occurred

In the event of the Icelandic financial collapse, many different and linked systems were at work. It was not a crisis of only financial transactions, but rather a crisis of the decision-making system and the social system it was embedded in that lead to decisions and actions derailing the financial system of Iceland. Iceland is an island, with a small national economy where the effects of this kind of an event become particularly visible. A financial system collapse is not unique to Iceland, and several other countries have built-in weaknesses that may lead to similar chains of events in the future. It is also important to realize that the Icelandic bank collapse would with full certainty have happened, even if there had been no International financial crisis. The banks in Iceland did not fail because of the International financial crisis, but because they were run in a fundamentally unsustainable manner.

As this report is being finalised at the beginning of 2011, what would appear to be similar collapses or near collapses have occurred in Latvia, Greece and Ireland. Iceland is economically an immature young nation, that until recently had a relatively egalitarian distribution of wealth amongst its inhabitants. The degree of wealth available in Iceland was modest and few if any had access to opulent wealth. The de-regulation of finance and the privatization of the banks that occurred from the late 1990’s to the time where the banks were sold in 2003 (Herbertsson and Mishkin 2006, Bussiere et al. 2010) changed all of that. The chain of events in Iceland is illustrated in Figs. 5 and 9; it involved a number of different systems that interacted during the evolution of the banks up to the financial collapse in October 2008. Important regulating effects are normally influenced by the interplay between the ethical norms and standards, and the social rules of conduct that determines much of people’s behaviour (Smith 1759, Schutz 1958, 1992, 1994, Wall et al. 1987, Rothstein 2003, 2004, 2005, Tilly 2003).
The political system interacts with the overall system, through interactions with media and the population through elections and grass root popular movements. The access to sudden large wealth opportunities for a small number of people, the effects of the spill to the surrounding society was something the Icelandic society had never encountered before and had no experience in handling. It involved situations where there was no one in power that knew how to handle neither the arising situation nor someone who could in time realize all the dangers. It also stands out as obvious that the available competence in the finance sector was not adequate for handling the systems that were being constructed. The Icelandic financial system operated within the larger International financial system, partly by giving the impression that the ultimate national guarantor was backed by immense reserves of natural energy resources. That was not the case in reality. The energy capacity statements used were overblown, both for hydro- and geothermal energy, and the fishing resources are just a mere shadow of what they once were (Nationmaster 2010).

In the International financial system, much of the wealth is created from the exploitation of work and resources, of which metals, oil and coal are the most dominant resources today.
(Costanza and Daly 1992, Beder 2000, Sverdrup et al. 2011a,b). Aside from that, real value is created from work and inventions as well as harvest of renewable resources. Also, additional value may be introduced to the system, by borrowing from the future. Under certain limited conditions this additional source may temporarily be sustainable. The international financial system is thus fed off four types of sources of value (Smith 1776, Friedman 1962, Forrester 1971, Meadows et al. 1972, 1992, 2005, Costanza and Daly 1992, Diamond 1997, 2005, Sachs 2008, Jackson 2009, Stieglitz et al. 2009):

1. Work, inventions and structures;
2. Extraction and conversion of fossil resources;
3. Harvesting and conversion of renewable resources;

Please note that the creation of value is fundamentally different from the concept of monetization. Monetization is the conversion of value or apparent value to instruments of payment, to facilitate exchange goods and services seamlessly in society (Lietaer 2001, 2003). Currencies are generally fiat currencies, symbols of value where the real value is supposed to be secured by the issuing agent, normally a bank or a government. Other than evaluations made from democratic organs, the customer has very little possibility in checking if the real value is indeed present in the monetary instruments. The currency is in the public eye, backed by the public trust in the governmental system. There has always been a tendency in human societies to over-monetize with respect to value creation, leading to inflations, erosion of currency value, and in the worst cases, financial bankruptcies.

We live now in a time when we are challenging the capacity and reserve base limitations of those resources worldwide (1-3 above) and this is now setting limits for financial expansion and growth of value creation (Jackson 2009, Rockström et al. 2009, Sverdrup et al. 2011b). The international financial crisis is a crisis as much caused by the growth no longer being sustainable, as a systemic crisis of greed, corruption and lack of control feedbacks. There are some main reasons for this (Jackson 2009, Rockström et al. 2009, Sverdrup et al. 2011b).

1. The extraction of finite fossil resources cannot sustain increased growth indefinitely, without severely depleting the remaining reserves, but also from lack of capacity to increase extraction further (Eddington 1928, Forrester et al. 1971, Meadows et al. 1972, 1992, 2005, Perman et al. 1996, Graedel and Allenby 1995, Sverdrup et al. 2002, 2011a,b, Greene et al. 2003, Humphries et al. 2003, Hirsch et al. 2005, Gordon et al. 2006, Ragnarsdottir 2007). Monetization, based on the assumption that the resource base is endless, regularly lead to financial collapses. Intermediate stages will be erosion of the middle class, increased wealth inequality and increase in numbers of the relatively poor and the powerless (Keynes et al. 1932).

2. The borrowing of work and resources from the future has gone to the extreme, to a degree where it is doubtful whether these resources really will exist in the future, and it is doubtful if someone ever will do the work or whether the debt ever can be paid back (Kahn 1966, Norgaard and Horworth 1991, MacIntosh and Edwards-Johnes 2000, Costanza et al. 2004, Erickson et al. 2004). When this is too far overextended, it in effect imposes a stop in the system when it assumes resources that in reality do not exist or will run out. It implies indebting future generations, something we know today that they would not have endorsed if they had been given a chance to be involved in the decision (MacIntosh and Edwards-Jones 2000).

3. Monetizing of value and apparent value and borrowing from the future in a way that creates large amounts of money with no backing by any of the ways of creating real value as listed above.
4. Loss of central bank authority over monetization of value in society, beyond the printing of money and the monopoly of a currency. Thus, the government no longer has any realistic control over the money volume and has lost all control over the discounting of future values.

5. Poor understanding of the systemic consequences of the structures that were built and manipulated. Many banks have grown above the last level of systemic feedback, thus moved out where there are no more effective governmental controls.

It stands out as clear at this point that several of these sustainability restrictions are still not sufficiently understood within the financial sector, both national and international, nor is it being internalized, leaving us with an overextended and under-competent financial sector (Campbell 2007, Emery et al. 2009, Rockström et al. 2009). The bodies that are supposed to regulate the financial sector and the credit system do not have sufficient competence to understand these risks and shortcomings.

Some of these limits are determined by thermodynamic limitations of the physical world, where theoretical or political discussions are totally futile and the concept of free availability of substitutes is an illusion. Currently there is either little or no systems insight with respect to this within the financial sector, nor understanding of the realities of the thermodynamic limitations, or the fact that they are hard limits with humiliating power and absolute capacity for enforcement (Jackson 2009). These knowledge deficiencies still largely remain in the Icelandic financial sector and banks today, partly also in the government and parliament, as well as in large parts of the international financial institutions. The reasons for this must ultimately be sought for in the quality of general university economic education and lack of scientifically advanced financial and economical research in general (Grigal-Steagall act, Jackson 2009, Stieglitz et al. 2009). In the modern economy, economic growth has to a large degree been driven by increased debts (Lietaer 2001, 2002). This has gone on for a long time, "monetary expansion" (e.g. selling government bonds in unlimited amounts), over the counter credits (credit cards with no checks of security), sub-prime mortgages (give loans to people that obviously cannot pay), or "quantitative easing" (print more bank notes). All of these activities represent different sophisticated ways of sending the bill to the future, without proper understanding by the public of what is going on (Lietaer 2001). Thus, much of the "growth" reported for the last decade has to a large degree been as much driven by incurring debt as by real value creation (Costanza et al. 2004). "Growth" by incurring debts is not growth at all, and it is grossly unsustainable in the long run. The policies that create this kind of growth has simply lost it’s way totally.

Mass balance may tell us that it is not possible to cure the problems that arise from too large debts as compared to incomes with more loans or apparently smart bookkeeping manoeuvres. If credit costs are larger than income minus other expenses, then either the incomes must increase significantly to balance losses or bankruptcy is the only way out (Figure 6). In society, many individual systems are connected to those of companies and that of the state (Figure 7). Money is not the only currency in use in society. The normal currency is used in everyday transactions for commodities and services, but we need to realize that human society operates with many other currencies where some have the appearance of money, but more do not appear as money in the normal sense (Lietaer 2001, 2002). These currencies are what we could call social currencies, which people use in their social interactions, to signal or achieve social rank, give rewards or create incentives, as symbols of power, attractiveness and sexual competitiveness. Money is often desired because the individual or groups desire to convert it directly or through resources and services to these social currencies (Figure 8). This coupling to the social sphere is needed in order to understand the social system that was operative in Iceland before and after the bank crisis.

3 http://en.wikipedia.org/wiki/Glass–Steagall_Act
Figure 6. Basic relationships between debts, credits, debt interest, debt mortgage and liquidity. At the fundamental level, this system must be in long term balance or net surplus, if not, the bank will fail. Overprinting of money, monetizing without underlying value, or borrowing from imaginary values in the future cannot balance long-term systematic deficits, but may serve well to hide them temporarily from view.

Figure 7. Overview of the causal diagram for the economy in society, showing the overall relationship between, income, debts, liquidity and costs between the private individual, corporations and state.
3 Work summary
3.1 Goals and introduction
This report has several goals. One is to present a clear narrative of the events and the relationships between the events leading up the Icelandic economic collapse in the autumn of 2008. Another goal is to provide propositions for improvements to the financial system and affiliated systems. We want specifically to understand the linkages between the financial system of the banks, the nation and the private economy, as well as linkages to social systems of a small country. Finally, on the global level, the financial system is tightly linked to the capacity of the physical world, and when these do not match properly, big and inevitable problems will arise. Our work is based on extensive research done by others on the collapse as well as our own systems analysis and the establishment of long causal chains to explain the events and why they happened. One main source is the Parliamentary Special Investigative report from 2010, but many other reports, published articles, private investigations and interviews were made. For this report we use the methodology of systems thinking and system dynamics, described in section 2.3, to link events that lead to the collapse.

3.2 Overview of the financial system
The economic collapse consists of mutually coupled narratives. On one hand we have a typical macroeconomic bubble that rises and bursts. Coupled to that are the rise and fall of three banks that believed they were big international banks. On the other hand, also coupled to the whole system, we find rise of a new stratification in the Icelandic society, new types of social competitions with showing off of status and wealth, real or apparent, and the effect of this on business decisions, handling and governance. This interconnectedness is illustrated in the Figure 9, where we can see that both macro economy and societal processes affected political interventions, market discipline, and bank management in Iceland in one large interconnected feedback system.
Figure 9 (same figure as in executive summary in Icelandic). A causal loop diagram of the financial- and affiliated systems. The systems are market discipline, political interventions, bank management, societal factors and the macro economy.

The dynamics of the economic bubble and subsequent burst can be seen in green at the bottom of Figure 9. It consists of the inflation leading up to the crises and then the recession that followed. It is caused by the interplay between group behaviour, poor political decisions and macroeconomic variables and is further outlined in Section 3.

An interesting story to tell is the fall of the three Icelandic banks. To put it into perspective, each of the three bankruptcies made it to the Moody's top eleven list of the biggest bankruptcies in global history (Bussiere et al. 2010). This story is the main subject of this report. The main reasons for the collapse of the banks are not only their sheer size, and rapid growth, but also that even if the system would have been fitted out with redundancies of safety systems, they were all disabled, one-by-one, until no more safety systems were present. Their size became too large and too fast, and therefore it was not reasonable to assume that the government or the Central Bank would be able to rescue them in case they would lack liquidity or solvency. On top of that, the Icelandic financial regulators had a very brief experience in regulating a financial system, and that did not help boost investors’ confidence. The regulators themselves either were deliberately disconnected from the regulator role or they were disabled through participation on internal bank affairs. When the international liquidity crises started spreading in 2008, the Icelandic banks would be short lived. In this report we attempt to explain why and how the banks got to become so big so fast and then fail totally.

In order to explain the banks development with time, we analyze the economic, social and psychological factors and incentives the banks had to develop as they did. The market discipline plays a key role and can be seen in blue on the left, lower corner of Figure 9. It tries to contain the banks’ size, like it would with any other company. Banks, however, are special since they deal with other people's money; they will tend to be overly risk seeking unless carefully
monitored and overseen. This risk-seeking behaviour is usually offset with specific rules. The management of the Icelandic banks (in green in the upper left corner, Figure 9) was risk seeking because of their bonus-based rewards mechanisms. We explain their risk-seeking behaviour further in Section 5. Important factors are social group cohesiveness and lack of corporate social responsibility policy and behaviour. Societal factors (in purple in the upper right corner of Figure 9) also play a big role and shape the attitudes of the bank management as well as influencing the regulators and politicians. Several of the societal factors were influenced by national pride, goal-driven thoughts and biased narrative in the media. Long before the financial collapse in Iceland, the political system could and should have realized that things could turn bad in the financial system. Still, the Icelandic politicians responsible did nothing and apparently did not try to gather more information on the possibility of an oncoming crisis. The ethical and moral values and views of the Icelandic society, and lack of independence from the banks and businesses in general all played a role in the lack of political actions leading up to the financial crash.

3.3 Summary of recommendations
The Icelandic banking and financial system was analysed with respect to the goal of finding the necessary changes in the financial system of Iceland and its affiliated systems required to go towards a long-term sustainable system. We propose that a number of changes be made and they are listed and discussed in Section 8.

4 The Icelandic macroeconomic narrative
The expansion and subsequent collapse of the Icelandic economy is a relatively typical story of a system with overshoot and collapse (Forrester 1971, Meadows et al. 1972, 1992, 2005, Sterm 2000). Economic expansion followed by a recession has happened all over the world in various markets as far back as the Tulip mania of the 1630’s in Holland. However, the “boom” development in Iceland that began in 2003, heavily exaggerated the harmful effects of the banks’ rise and fall (Smith 1776, Keynes et al. 1932, Freedman and Freedman 1980). For an economy as small as Iceland, with a population of 320,000, the aftermath of the ruined banking system has been devastating to the overall economy and livelihoods of the citizen. The smallest functioning international currency world-wide, the Icelandic krona, collapsed. To better understand the rise and fall of the Icelandic banks it is necessary not only to understand how the economic expansion and subsequent collapse occurred, but also how it affected the banks’ development and management, leading to their failure in October 2008. The causal loop diagram presented in Figs 12-15 provide a graphical description of the chain of causes that precipitated the series of events and shows how the so-called output gap is formed in a general market economy, leading to both expansion and subsequent collapse. Both the economic and social effects that these diagrams’ parameters have on the banks’ development are further examined in Section 8.

4.1 Output Gap and its Controlling Strategies
The output gap is the difference between the actual gross domestic product (GDP) and the potential GDP. The calculation for the output gap is \( Y-Y^* \) where \( Y \) is actual output (GDP) and \( Y^* \) is potential output (natural GDP) (Stiglitz et al. 2009). If this calculation yields a positive number it is called an inflationary gap and indicates that the growth of aggregate demand is out-pacing the growth of aggregate supply, possibly creating inflation; if the calculation yields a negative number it is called a recessionary gap, possibly signifying deflation. Figure 10 is an estimation of the United States’ potential (thin line) and actual (bold line) output as presented by the Congressional Budget Office. The difference between the two represents the output gap. Although they represent clear concepts, potential output and therefore the output gap are unobservable in practice.

Estimates of potential output and the output gap are known to be particularly uncertain, as different approaches provide estimates, which may differ significantly from each other. It should be noted that output gap estimations in most developed countries are performed and
published by the International Monetary Fund (IMF), but no output gap estimations are currently published for Iceland (Bussiere et al. 2010). The government and the central bank of most countries attempt to keep actual GDP level at or around the potential GDP level to prevent the inefficient outcomes of large output gap fluctuations. This can be undertaken in a number of ways, but the two most common strategies are expanding or contracting the government budget (fiscal policy), and altering the money supply to change consumption and investment levels (monetary policy) (Corbo 2009, Dooley 2009, Borio et al. 2010).

According to Keynesian theory (Keynes et al. 1932, Freedman 1962, Freedman and Freedman 1980), governments should, through their fiscal policy, stimulate the economy during a recession by lowering taxes and increasing government spending, but during an expansion it should do the exact opposite. In Iceland, the government writes its fiscal policy in a yearly fiscal budget that is then presented to the parliament for approval. Similarly, the Icelandic Central Bank controls the monetary policy.

Figure 11 presents Iceland’s actual GDP in millions of krona (ISKR) at the year 2000 price-level. The red time periods indicate government decisions that affected the fiscal stimulus. Apart from making the European Economic Area (EEA) agreement and taking the decision to privatize the banks, all major government actions stimulated the economy during an apparent economic expansion. This means that instead of minimizing the output gap like economic theory suggests, the Icelandic government helped increasing it. This unfortunately made an economic recession a certainty in the near future.

Figure 10. Illustration of the United States potential gross domestic product, GDP (thin line) and actual GDP (thick line).

Figure 11. Iceland’s actual GDP in million ISK at year 2000 price level. In October 2010, 1€=160 ISK (based on a diagram from Hjálmar Gíslason, DataMarket).
Figure 12. Wage level works as a balancing factor, resulting in equilibrium between supply and demand of labour and a steady level of employment.

Figure 13. Investments and savings measured together
4.2 Market Economy’s Input and Output

To explain booms and busts with a causal loop diagram, we first need to explain what increases the factors that contribute to actual output expressed as gross domestic product (GDP). Gross domestic product can be determined in three ways, all giving the same results. They are the (1) product (or output) approach, (2) the income approach, and (3) the expenditure approach. Here, the expenditure approach will be used and then the formula for GDP is:

\[ \text{GDP} = \text{Consumption} + \text{Total Investment} + \text{Government spending} + \text{Net export} \tag{3} \]

We will start by finding out what factors increases the formula’s first item, the consumption. The best way to do this is by using a simple market economy model, analysing the interaction between households and corporations. Starting with the labour market, households provide the labour supply, while the corporations provide the labour demand.

The causal loop diagram in Figure 12 depicts how the wage level acts as a balancing factor, resulting in equilibrium between supply and demand of labour and a steady level of employment. Similarly, the households provide the commodity demand, while the corporations provide the commodity supply and the price level acts as a balancing factor, resulting in equilibrium between supply and demand of commodities and a steady level of consumption. The GDP formula’s first item (Eq. 3), consumption, has now been defined. Next, we need to find a way to measure the formula’s second item, total investment. In Figure 13 all investments and savings are measured together, so its size must depend on the aggregated liquidity of both households and corporations. Consumption and employment are both factors increasing income and expenses for households and corporations, and therefore both affect the total liquidity. When the liquidity level increases, first the ability to invest increases, followed by increased investment, as shown in Figure 14. Similarly, when liquidity decreases, the financing increases. Assuming that only households and corporations invest, their combined investments make up the total investment in the system.

4.3 Overview of Macroeconomic Factors

Figure 15 depicts total investment and consumption. Government spending is the GDP formula's third item (Equation 3) that needs to be defined. Government spending is obviously dependent upon the government income.

We assume that taxes, in all their forms, are the only source of government income that contributes to government liquidity. Between liquidity and spending of the government is a balancing loop, which means the spending is constrained to its amount of liquidity. Now, there is one last item in the GDP formula that needs to be defined, the net export (Eq. 3). As shown in Figure 15, net export is driven by only two factors, nominal money supply and price level. The price level has already been defined, but not the money supply. Real money supply goes up with increasing nominal supply, but goes down with increasing inflation. The nominal money supply is entirely based on the combined liquidity of households, corporations and the government. All the factors contributing to the actual GDP have now been defined. A few simple but very important relationships are yet to be explained. The boom and the bust and their effects on fiscal
stimulus are very important. Note that when fiscal stimulus increases, government spending goes up, but tax rates go down. This is in accordance with Keynesian theory. Decreased tax rate works as in injection to the whole market economy system since it lowers the cost of both households and corporations. That way the lowered tax rate increases the total consumption. Increased government spending has a ripple effect as well, leading to both increased consumption and increased investment since private contractors are very often hired to work for the government. However, this relationship was intentionally left out of this causal loop diagram for simplicity reasons.

5 Economic Incentives in the financial system
5.1 Introduction
From 2001-2003, the three biggest banks in Iceland were privatized. In the economic crisis 2008, they all collapsed, each of them making the Moody's top eleven list of biggest bankruptcies in history (Emery et al. 2009). Here we go through the economic incentives that the banks as institutions had for growing their balance sheets and allowing risk to build up.

5.2 Prerequisites for Growth
Before the bank privatization process in the early 2000s the government owned the Icelandic banks. Management of the banks was politically chosen and standing in a political hierarchy, and kinship governed staff selection and who obtained loans. After the signing of the EEA agreement and privatization, the banks were deregulated and policies were changed to the effect that the banks should be run for profit. The banks access to credit improved, both in Iceland and abroad, and credits became available to the broad public in a new manner. The banks were still structurally important for the Icelandic economy, and it was inherently assumed by the financial world that the Icelandic government could back up the banks if they eventually would not be able meet their obligations.

The risk-seeking-for-faster-profits behaviour of bank management began early after the privatization. To begin with, the buyers of the banks were hand-selected cronies of the political parties in government, a considerable form of corruption. One of the persons buying a bank had previously been convicted for fraud and several of them would probably not be deemed fit to run a bank by a proper Financial Supervisory Authority (Fjármálaeftirlítið, FME). Still, they were selected to become the new owners of the banks. The ownership of the banks became highly leveraged, where a large part of the purchase sums were taken as cross-linked credits in the

Figure 16. Risk factors in the financial system.
banks they were buying. In the case of Landsbanki and Búnaðarbænki, the buyers of each bank got a loan in the other bank to finance their shares. Thus the capital the government received as payment for the privatization was mostly taken out of the financial system itself, with very little original real own capital, weakening the foundation of the banks by the increased debts the loans incurred. This high leverage provided an incentive for making the banks take large risks in positions and derivatives. In such a situation if the positions taken turn good, the owners win, if the position turns bad, their lenders and depositors lose; ultimately the state was supposed to provide the last safety net. Risk seeking behaviour propagated from top management and down into the organization (Figure 16). Risk seeking owners led to risk-seeking management, risk-encouraging motivational policy and thus risk-seeking employees. This risk-seeking behaviour was seen in very rapid growth of the balance sheets of all the major Icelandic banks, as well as an uncontrolled rise in risks. In order for such fast growth to take place huge risks were allowed to pile up (see Figure 24). The law stipulates that an Icelandic bank may maximum own 10% of its own shares, but Kaupthing Bank owned 42% by 2008, which was clearly illegal, and with certainty this was perfectly well known by the Kaupthing bank leadership. The Financial Supervisory Authority (FME) did absolutely nothing against this, even if it was their duty to know. This was an act of grave mismanagement on the behalf of the Financial Supervisory Authority (FME).

5.3 The Balancing Behaviour of the Market and the Point of no Return

As with other growing companies, the growth of the Icelandic banks is limited by a market discipline-balancing loop (B1) (Figure 17). As a bank gives credits, loans or invests, this causes the balance sheet to grow because the credits, loans and investments are always balanced with corresponding loans. As its balance sheet grows, its capital ratio is decreased, as no net owners equity is added on a regular basis beyond retained profits. Since the capital ratio is the main metric used by the external lenders, they will demand higher rate of return on credit that then slows down the growth of the balance sheet, since it is less feasible to grow at a higher cost (Figure 17). High profits and favourable price development of assets kept the capital ratio high during the boom years 2003-2006. The capital ratio does to some extent take into account the risk of the asset base in accordance with the Basel II accord. It is, however, not a very good indicator of the risk since there are many types of risks that are not adequately captured by this accord. In the case of the Icelandic banks, the capital ratio was overestimated because of the way the Icelandic banks interpreted the rules, which was possibly illegal, according to the Parliamentary Special Investigative Committee.

![Figure 17. Links between credit availability and solvency/capital ratio.](image-url)

When the market discipline kicks in, in the shape of lowered credit rating and increased interests for external lending into the bank, another feedback loop (R1) is activated (Figure 17). As the market demands higher rate of return on credit, the banks suffer a higher cost of capital that in turn degrades its capital ratio. As the capital ratio is degraded, the external lending market demands even higher rate of return on credit. This can turn into a death spiral, especially when the bank is suffering liquidity problems (see Section 5.4).
5.4 Perceived Run and Market Manipulation

A bank run (Figure 18) is the process in which a belief forms in society that a particular bank will fail. This belief causes depositors to withdraw their money and the bank lenders to demand a high rate of return or even stop financing the bank. Under such conditions a bank will have a liquidity crisis and risk failing, turning the perception of a failure-risk into reality. A bank run is thus considered a self-fulfilling prophecy. It only needs a critical number of people to suspect a run for it to come true. Since the Icelandic banks were connected in a number of ways both financially and in the minds of people, it was highly likely that a run on one bank would spread to the other banks quickly. Common indicators of a run are sudden lowering of stock price or credit default swaps (CDS) spreads for the bank in question. The solvency and liquidity statuses of the bank have an effect on the probability of a run and can be somewhat visible, since it is reported on a regular basis. When the danger of a run came evident, it was in the best interest of the bank owners to skew the indicators to lessen the probability of a run. This was acted on, as described above, by the banks interpreting their equity ratio in a way that made their creditors overestimate the equity. Also, the Icelandic banking management and employees bought huge parts of their own bank’s shares and took position against their credit default swaps, thus transferring losses from stock and bond holders who were selling at the time to current creditors and depositors. This activity caused a vicious cycle where the banks themselves got more vulnerable for the depreciation of their own stock price. This put more pressure on them to keep the price up and thus buying more of their own shares.

Figure 18. Causal link relationships for a bank run as explained in the text.
High general public trust towards the banks is also an important factor to prevent a bank run. To prevent the decrease of the public trust, various public relation actions were undertaken. Criticism was discredited, by for example chief executive bank officers who appeared on radio and television news, interview and talk shows emphasizing the good health of the banks. Further, the books were manipulated to make the state of the banks look better than it really was, at least towards those inspecting the balance sheet and books at a mere glance. The auditing firms, KPMG and PriceWaterhouseCooper, had no remarks on the bookkeeping.

5.5 Liquidity and the Impact of a Run
There are a number of ways the liquidity reserves of a bank are balanced off. It can borrow more money on credit markets or liquidize its assets. When done in a hurry, both come at a premium since it can be difficult to make good deals quickly. Another possibility for liquidity is the Central Bank (CB) acting as a lender of last resort. In the case of the Icelandic banks, in addition to their low maturity mismatches, they had significant currency mismatches between their debts and liabilities, arising from their activities abroad. The Icelandic Central Bank thus lacked the foreign currency reserves to provide liquidity to the commercial banks (Figure 19). When a bank run occurs its affects on the liquidity position are quickly felt. Deposits are withdrawn, hitting directly at the liquidity and re-financing becomes difficult. The premium paid for liquidity is quickly subtracted from the capital base and in turn degrades the capital base. As the capital ratio is lowered, the R1 causal loop is activated (Figure 19); creditors will demand higher rate of return for their investment, resulting in higher cost of interest payments that further degrades the capital ratio. The liquidity status, capital ratio, stock price, and credit default swaps all spread, serving as indicators that a run might be in progress and thus reinforce the notion of a run, and thus completing a reinforcing causal loop (Pryut and Hamarat 2010).

5.6 Regulations and Risk
During the rapid growth of the balance sheet, risk was allowed to build up. The banks made risky investments and lent money to risky borrowers, leading to increased credit risks, exposure to market risk and liquidity risk (Figure 20). Their financing was short term, and expensive. Bank operations abroad (e.g. Icesave) introduced cross border banking risk, leading to huge increase in potential liability in case of a failure and exceeding the Icelandic Central Bank’s ability to provide liquidity as a lender of last resort in foreign currencies, as well as capacity to cover up for the size of the liability. Operational risk was provided with rapid growth and lack of banking experience. Systemic risk was allowed to build up for example with many examples of large exposures to groups of connected individuals and exposures to parties highly related to the

Figure 19. Causal loops and links between liquidity crisis and solvency/capital ratio.
banks, in many cases, the banks’ owners. The overall risk is a combination of parameters that indicate the overall instability of the bank. It has some effect of increasing the volatility of the asset base and thus its solvency. But it also reacts with other parts of the bank system. The overall risk consists of systemic risk, credit risk, market risk, liquidity risk and operational risk. The liquidity risk causes higher premiums for liquidity during liquidity shortage. The systemic risk increases likelihood of spillover effect on the economy when the bank suffers problems. Some of this risk could have been avoided with a good regulation and supervision package. Proper enforcement limits systemic risk through large exposure restrictions and related-party exposure restrictions. Adequate enforcement would also have limited the market manipulation that took place and the following weak equity basis and thus credit, market and liquidity risk. Some risk was an inevitable result of the very fast growth of the balance sheet, where the internal systems of the Icelandic banks did not keep up.

The growth itself could, however, be slowed down and thus the size of the balance sheet constrained with numerous methods. The proper enforcement described above would have slowed down growth of the balance sheet. Higher reserve requirements and capital ratio requirements would have slowed the growth. Also stricter financial reporting and disclosure requirements would have enhanced the effectiveness of the market discipline mechanism, in this case slowing down growth. Since the whole Icelandic nation would suffer the costs of a failed financial system, it should ring an alarm bell with Icelandic authorities to see all the risk pile up and the financial system outgrow both the Central Bank’s ability to provide liquidity and the government’s ability to back up solvency failures. A proper response would have been to increase the regulatory and enforcement discipline. It would appear that the authorities did not realize the seriousness of the problems until too late when any disciplinary action could have provoked a run on the banks.

The internal auditing mechanisms in the banks were made dysfunctional soon after privatisation, and the function did not really exist inside any of the banks after 2006 for any practical purposes. It was nominally there, but had no real effect. Figure 21 sows a causal loop
diagram depicting an overview of economic factors affecting the rate of growth, and size and build-up of risk in the financial system in Iceland. It combines the causal loop diagrams in Figs 16-20 into one large system diagram. This diagram will later be used for the even bigger picture, and the simplified overall diagrams that were extracted from the large integrated systems diagram.

Figure 21. A causal loop diagram showing an overview of economic factors affecting the rate of growth, size and build-up of risk in the financial system in Iceland.

6 Social Incentives
6.1 Society
The previous sections were dedicated to the discussion of economic factors, both the macroeconomic boom and bust, and the economic factors leading to the rise and fall of the Icelandic banks. The remaining sections will be dedicated to the discussion of the social factors. In this section we focus on the social incentives outside the banking sector. We attempt to clarify the connections between factors in society and government, such as national pride, nation’s homogeneity, the image of the banks and other financial institutions in society, the effects of too complicated business environments and goal driven thinking to name a few factors (Vennix et al. 1992, Rothstein and Stolle 2003, 2004, Senge et al. 2008). Their connection with the banking crisis is examined in detail so that the holistic picture becomes clearer and more comprehensible.
6.1.1 National pride

Iceland has a population of 320,000 with approximately 20,000 of foreign origin (Nationmaster 2010). Few of the immigrants worked in the financial sector. Therefore the banking sector may be considered ethnically and culturally homogeneous. The homogeneities among individuals, increases the homogeneity of the values they share. "Small, homogeneous societies are on average easier to govern than complex, multicultural societies because the largest part of the public has the same interests, needs and perspectives" (Parliamentary Special Investigative Report, Vol 8, 2010, Pp 284). As can be deduced from this quote, smaller and less populated countries are easier to govern, as it is more likely that the nation shares the same values and interests. Government's operations are thus more likely to be justified under such conditions, further increasing lack of critical thinking among citizens. The fact that the citizen's values are homogeneous increases the sense of being different and unattached to other nations. Unfavourable weather conditions, insular mentality and great distances from other nations have affected the view of the Icelandic public towards their society and are likely to influence the view that we are unattached to other nations. Thorisdottir (in Parliamentary Special Investigative Report, Vol. 8, Annex II) writes on: "With the improvements and good performance of the nation throughout the decades, [...] it is expected that the strong cohesiveness (the feeling that we are unattached and different from other nations) transforms into national pride or even arrogance." In our analysis it is possible to depict precisely the connection between this idea and national pride. With the nation's success, as the banks' balance sheets grew, financial markets stood open and branches opened around Europe, the national pride caused a stronger belief in our abilities that reflects the notion "we are better than others." Further improvements and good results gave the public a verification of their beliefs, and increased national pride. We thus end up with a reinforcing loop between national pride, the belief that we are better than others, and the verification for this very belief (Figure 22).

6.1.2 Public trust and public image

In this part of the analysis we focus on the public image of the banks (Figure 22). The public is in many ways crucial for the bank's continuous operation as it, for example, reduces the chances of a bank run (Pryut and Hamarat 2010). Here we will examine what causes a good public image for banks leading to trust and what affect it has on society. The influence of the social dynamics of a small population is the basis for our analysis in this section. We demonstrate that the social behaviour typical of a small population, amplifies the group behaviour. A country with a small population, with a homogeneous cultural behavioural pattern, with relatively little social class separation, and thus shares much of the same values, is much more vulnerable to a certain image given by a powerful institution such as a bank. Very similar to the government actions shown above, a smaller nation is easier to manipulate, whether that’s on the government's side or the bank’s side. There is a reinforcing loop between group behaviour, criticism on banks and public image (Figure 22). Increasing group behaviour has a decreasing effect on the criticism of the banks themselves from the public. The bank's emphasis on its own public image is fitting well with the homogeneous values of the public, which is responding in a similar manner and does not see any reason to criticise what to them seems to be done so well. Criticism would in most cases damage the public image of a firm, and therefore lack of criticism keeps up the public image. Lack of criticism keeps the public image unharmed and gives the banks a chance to continue improving it, through charity donations and PR operations to name a few. "It is safe to say that the banks were at large in their efforts to support Icelandic society and culture, including sports venues. [...] many sorts of funding were ideally suited to influence the public image of the banks." The Reykjavik marathon was funded by Glitnir Bank each year and soon the marathon became known as the Glitnir marathon (Gislason et al. 2010, Parliamentary Special Investigative Report, Vol 8. 2010: pp. 79).
At the end of the summer 2007, the entire nation received an invitation from Kaupthing to attend its anniversary concert at the national stadium in Laugardalur (Parliamentary Special Investigative Report. Vol 8. 2010: pp. 79). These are only a few examples of how the banks kept their good image, and thus fortified the unitary group behaviour, forming a reinforcing loop (Figure 22).

Let us now analyse some of the other factors that contribute directly to public image. We have covered the criticism of banks and charity and public relations operations already, but there are some other factors worthy of consideration. The growth of the bank's balance sheet is a key factor as well, forming two separate reinforcing loops (Figure 22). First of all there is a loop from the growth of the balance sheet to public image, and again from public image to political leverage. Political leverage means the banks and other companies became so big that they overpowered the political forces so to say.

"Recently, the Government Auditing (Ríkisendurskoðun) published information about money donation to the political parties. There it is stated that the Progressive party (framþóknarflokkur), the Social Democratic Party (samfylkingin), and the Independent party (sjálfstæðisflokkurinn), all received substantial funding from the major companies in the years 2002-2006" (Parliamentary Special Investigative Report 2010, vol 8. 2010: pp. 164).

"Both Geir H. Haarde, then prime minister, and Ingibjörg Sólrún Gísladóttir, then minister of foreign affairs, held press conferences overseas in March 2008 in an attempt to strengthen the image of the Icelandic banks after their vulnerable position had been seriously criticised" (Parliamentary Special Investigative Report. Vol 8. 2010: pp. 163).

As the reader can decipher from these citations, the government made an effort to discredit external criticism of the banks, which increased their balance sheet further because the bank’s credit rating went up again. This is another small reinforcing loop caused by growth of bank balance sheets (Figure 22).
Figure 23. Summary of social incentives to the bank collapse in Iceland.

As noted earlier the growth of the balance sheet has an increasing effect on banks’ and other firms’ public image. Good public image also increases trust among the public. When the banks operate in an environment where there is a lot of trust, they are more likely to grow even more because their credit rating is more likely to get higher and they can also lend out money because the trust is likely to be mutual, e.g. loans to investors (Smith 1759, Schutz 1994, Rothstein 2003). We have now completed two small reinforcing loops; the first shows the reinforcing connection between the bank’s balance sheet growth and public image and political leverage and the second depicts public image and trust. The summary for social incentives for the bank collapse in Iceland is given in Figure 23. It becomes apparent when the figure is studied that no apparent balancing loops operated in the social system.

6.2 Bank Management
In this section we focus on analysing the social factors that played a fundamental role in the bank management. Connections between various internal events are discussed and the goal is to gain a better understanding of why the general thought process inside the banks formed and sustained for so long. We begin by discussing banks employee homogeneity. Next we focus on describing the risk behaviour and how it reinforced the banking growth. Then we describe the cohesiveness of the group that worked inside the banks and affected both internal criticism and optimism. Other factors will be discussed as applicable, such as appearance of power and wealth.
Figure 24. Links between risk behaviour, optimism, good outside conditions, top management optimism and risk-taking and group cohesiveness.

6.2.1 Group Cohesiveness

Figure 24 shows the central theme in the discussion of the Icelandic bank management sector. To be noted is how the group cohesiveness affects the risk behaviour and vice versa. It forms a large reinforcing loop that we will next describe step by step. In short, group cohesiveness is what brings groups closer together. "Compared with members of a low-cohesive group, those in a high-cohesive group will, therefore, be keen to attend meetings, be satisfied with that the group, use "we" rather than "I" in discussions, be cooperative and friendly with each other, and be more effective in achieving the goals they set themselves". Of note is that women were more or less outside these groups, and that they consist largely of younger men (Duke 2010). People within the groups are people that apparently share an ambition or see a benefit in unifying their agenda with the others (Tilly 2008). It is easy to see how group cohesiveness increases similarity and concertedness in thinking within the group ("group-think"). In other words very close and compact groups put so much effort into reaching the same decisive conclusion, that no other choices are discussed. Groupthink then leads to optimism, both directly but also indirectly through lack of internal criticism and scrutiny.

Modern theory of groupthink suggests that the risk of a wrong or uncriticized decision-making by a certain group is especially high when there is a strong conformity within, when the norms are clear and when a decision has uncertain consequences. [...]. It is very difficult for a strong cohesive individual to find himself in disagreement with the group [...] and studies have shown that people may go through some trouble to reinterpret information to diminish their difference of opinion" (Parliamentary Special Investigative Report 2010, vol 8. P. 289).

Internal criticism decreases optimism, and therefore it becomes obvious that lack of criticism increases optimism. When group cohesiveness is high, and group-thinking is thorough and sharp, everyone is tuned in on the same goals, thus meaning that no internal criticism stands in the way and with increasing optimism, risk behaviour increases coherently.

"Caused by a great inflation on both sides of the Atlantic, optimism increased along with stock prices. [...]. Because of these outside conditions it followed that risk behaviour turned out to be beneficial [...]" (Parliamentary Special Investigative Report 2010, vol 8. Pp. 291).

[http://www.brookes.ac.uk/services/ocsd/2_learntch/small-group/sgt107.html]
Because the risk behaviour turned out to be beneficial the banks grew and the results that followed appeared to be excellent. It is thus obvious that when the efforts of the group turned out to be so satisfactory, with increasing optimism, group cohesiveness increased in tandem (Baldvinsdottir 1998, Ronfelt 2006). Now we can see perhaps the most fundamental re-enforcing loop (Figure 24), explaining the connection of events of the bank management sector.

Figure 25. The effect of young inexperienced, mostly male, employees.

6.2.2 Employees Similarity
As mentioned above employees’ similarities were something that was well known in the Icelandic banks. It may be an important factor that the population is small and in the rise of the economy and with the rapid growth of the banks, well-paid positions had to be filled (Baldvinsdottir 1998). Young, ambitious men (with few exceptions) were the banks first choice, apparently not realising that the people were also inexperienced with professional banking. A new business culture developed and the similarities among the employees became more and more noticeable. As can be seen in Figure 25 there is a reinforcing loop between “employees similarities”, “social pressure to conform group values”, and “people with wrong values quit”. With more similarities between employees comes a greater pressure on new ones to conform to the values that dominate among the group already. This leads to the fact that people who do not conform to these values feel like they do not belong in the group and are more likely to quit. Those who do conform stay on, further increasing the similarities in behaviour among the employees. We thus end up with two reinforcing loops, separated by those who conform to the group values and those who do not. Similarities among employees can of course have positive results. Another issue leading from employees similarities is that people with the “right” values are more likely to be hired or promoted if they are already an employee and contribute to the corporation’s values of visibility, that is people can see how unified the employees are through the rapid success of the bank. That in it-self has a driving factor on people with the “right” values who are more likely to apply when they see that the company’s values matches their own. These conditions form two separate reinforcing loops and show that different values from new people are discouraged, further increasing employees similarities (Figure 25).
6.2.3 Uncritical Press and External Criticism

The Icelandic press was very uncritical during the years leading up to the bank crisis. “In all media, positive reports regarding the financial institutions dominated over the negative ones. [...] Opposite every negative report regarding Landsbanki there followed 12 -13 positive ones. With the other banks and institutions this ratio was 1 against 4 - 7” (Parliamentary Special Investigative Report 2010, vol 8. Pp. 264). “It may be argued that the Icelandic press also uncritically formed their reporting directly from the premises of the financial institutions and investors. A large part of the discussion appears to have originated from the institutions themselves [...]” (Parliamentary Special Investigative Report 2010, vol 8. Pp. 265). The group of authors of Volume 8 of the Parliamentary Report, however, point out that soon after the latter quotation that more thorough research is needed to substantiate this latter statement. Of note is, however, that Fréttablaðið was owned by one of the bank owners (Jón Ásgeir Jóhannesson – major share holder of Glitnir) and Morgunblaðið is the mouthpiece of the Independent Party (sjálfaðisflokkurinn), the party of the Prime Minister (1991-2004) who guided the privatisation of the banks and put the free market policies in place that lead to the financial collapse in 2008. This very same man became the Director of the Central Bank of Iceland (2005) after he lost his seat as Prime Minister (2004) and later became the Chief Editor of Morgunblaðið (2009) once he was forced out of the bank director’s position.

The fact that the press lacked criticism decreased the amount of external criticism on the Icelandic banks mode of operations. External criticism was also seen as an outside threat along with external competition, a typical effect of “group-think”, putting the group as an interest collective against the “others” (Rothstein and Stolle 2003, 2006 Tilly 2007. The effect of that is that the group becomes even closer and the cohesiveness increases. “This led unavoidably to a sense of competition among them (the group of young men, [authors addition]) but also formed a more closed perspective towards outside forces”. [...]. Homogeneity, success, and very visible outside threat (that is competition, and external criticism) played a fundamental role in increasing the cohesiveness to the group and to the company” (Parliamentary Special Investigative Report 2010, vol 8:288).
Inputs, marked in green colour on Figure 27, include external competition, group building activities and public visibility. As quoted above, external competition was considered an outside threat and affected the group cohesiveness in an increasing way. Group building activities were a big part of the banks culture. In his book Frozen Assets, Ármann Thorvaldsson, former CEO of Kaupthing branch in the UK, writes: "[...] We met up for drinks after work, organized karaoke competitions and went camping at the weekends" (Thorvaldsson 2009). It is obvious that those kinds of activities, have an increasing affect on group cohesiveness and interpersonal bonding, and were furthermore probably their main goal. "Public visibility", along with “social- standing of groups in hierarchy,” both increase the internal social reward.

![Figure 27 Overview of bank management that lead to the collapse of the Icelandic banks.](image)

CEO's of the banks, among other highly ranked people, were often displayed on the cover of magazines and in newspaper articles. Such a display inevitably creates a sense of hierarchy to the public and it leads to an internal social reward, that is, an acknowledgement that the social position that an individual has is desirable to others. This increases the group exclusiveness and internally recognized identity, or put more explicitly, the exclusiveness of those individuals who belong or attain these social positions. In the end the group exclusiveness increases the group cohesiveness of the whole group. Figure 27 outlines the effect of ineffective bank management that lead to the collapse of the Icelandic banks. Again, we can see from the causal loop diagram that the management system had no balancing loops to limit them.

7 Corporate Social Responsibility
The three banks that collapsed, Landsbankinn, Glitnir and Kaupthing did not have social responsibility charters. In this section we therefore analyse corporate social responsibility (CSR) policies that are followed and the effects these have on various parts of society. The overall effects of CRS policies on banking operations are given in Figure 32. Figure 32 can be split into several sectors, education, market, regulation and society. This section begins with a discussion about the educational parameters, where it will be explained and argued that an
increased ethics based education, both in general and by participation of business organization, can have a positive effect on responsible employee behaviour towards society. Section 7.2 outlines the market sector. Here we discuss how the market condition for profit can decrease or increase the chances for socially responsible behaviour by corporations. Section 7.3 explains the regulation influence, and the main discussion is how - through socially responsible behaviour - corporations will be more likely to participate in a self-regulation process, further increasing socially responsible behaviour. Finally we discuss the social responsibility part of the causal loop diagram (Figure 31) where we argue how peer pressure and various social factors can help increase socially responsible behaviour. The figures in section 7 were largely formed on Campbell (2007) whose paper proved very helpful for this Section and provided us with many of the ideas that are expressed here. Campbell (2007) sets minimal standards that he says corporations must fulfil in order to be counted as socially responsible. First, they must not knowingly do anything that could harm their stakeholders, notably, their investors, employees, customers, suppliers, or the local community within which they operate. Second, if corporations cause harm to their stakeholders, they must then rectify it whenever the harm is discovered and brought to their attention. Rectification could be undertaken voluntarily or in response to some sort of encouragement, such as moral persuasion, normative pressure, legal threats, regulatory rulings, court orders, and the like (Campbell 2007).

7.1 Education Parameters
In Figure 28 we can see how the education level can influence socially responsible behaviour. Campbell (2007) outlines briefly business associations educating their members about the long term benefits of better industrial relations systems, better worker compensations programs, fairer trade practices, and the like. This remark by Campbell (2007) led us to consider the importance of education and learning, especially ethics education and how it can influence and affect socially responsible behaviour. It is obvious that ethics based education can increase the ethical awareness within each individual, therefore increasing the public ethics culture as well. When there is a well-established ethical culture within a society it causes increase in both values within a branch organization and labour unions, where their practices and operation become more disciplined towards ethical behaviour.

Public ethics culture, or the ethical standard in society also increases business moral standard when businesses become more aware of responsible behaviour thus shaping and affecting the internal culture of businesses. The increasing internal ethical culture among businesses is a driving force for two separate topics. On the one hand it increases social responsible behaviour directly and on the other hand it forms a reinforcing loop along with corporation educational participation and business moral standards. The idea is that when businesses have established a certain ethical culture they like, they are more likely to withhold that culture by participating in various educational venues for their employees, even if that would only serve as a reminder for good ethical thinking. When businesses participate in such
training, they increase their moral standards, or at least keep them on the same level. As shown before, business moral standards then reinforce the business internal culture, forming a reinforcing loop (Figure 28).

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**Figure 29. Socially responsible behaviour, regulations and democratic influence.**

### 7.2 Market Sector

There is a close relationship between profits, competition and social responsible behaviour. If a company is experiencing a weak financial performance it is less likely to behave in a responsible manner towards society, because less profitable firms have fewer resources to spare for socially responsible activities than firms that have stronger financial status. This is often referred to as the slack resource theory (Campbell 2007). More directly this means that a company is not likely to act on socially responsible level if its financial performance indicates serious risk of losses and jeopardizing shareholder value. The premise for this is a stable economy, that is, normal or low inflation, high productivity growth and trust among the customers. This means that it is easier for companies to turn a healthy profit in the near term and makes it easy to act in socially responsible ways. As is evident from the causal loop diagram (Figure 29), competition has a big effect on profits as well. Thus, too much or too little competition can reduce the incentives for companies to act in a socially responsible ways (Campbell 2007). Campbell (2007) states: “...in situations where competition is so intense that profit margins are narrow enough to put shareholder value and firm survival at risk, the incentive to cut corners and save money wherever possible will cause corporations to act in socially irresponsible ways insofar as they believe that this will help them turn a profit and survive..... .....in situations where competition is virtually nil (e.g. monopoly), firms may have little interest in acting in socially responsible ways because things like corporate reputation or customer loyalty will not likely affect sales, profitability, or survival much. This is because, under such conditions, customers and suppliers have few if any alternatives.” If competition is normal, however, firms are more likely to act responsibly towards society. Profit is assured and the survival of the firm is no longer at risk, and there’s no monopoly either and therefore customers and suppliers have some alternatives. This relationship is clearly illustrated in Figure 29 by a balancing loop circulating between competition and marked condition for profit. More competition means less marked condition for profit and less marked condition for profit means less profit, illustrated by the + arrow in Figure 29. The figure shows the balancing loop between competition and competition supervision.

Globalization of trade and monetary movements, and neglect of social responsibility and inclusion of externalities, have lead to fierce and sometimes unbalanced competition, often reducing the room for ethical behaviour. This emphasises the fact that globalization needs to be...
symmetric with respect to benefits, drawbacks, obligations and responsibility all at once, if the side effect of unsustainability is to be avoided.

7.3 Financial Regulation Sector

More and more competition leads to a more difficult supervising process and if the supervision does not grow according to the competition it forms a gap between the two. More supervision, however, encourages more and healthier competition. It can be seen in the regulation part of Figure 30 that there are three small reinforcing loops. The first one describes the relationship between corporate participation, that is which corporations regulate themselves, and a consensus process, an agreement reached by negotiations between the government and an industry branch or the industry branch and individual firms. It is obvious that the more companies take part in negotiations and the harder they work for a conclusion, the more effective will the consensus process be. At the same time if the consensus process is good, it is more likely that other companies are willing to join in. The second reinforcing loop (Figure 30) describes the link between the consensus processes and effective institutions, such as the Icelandic Financial Supervisory Authority (FME, Fjármálaeftrilítið). The idea is that the more successful a consensus project is, the more effective will the institutions overseeing the regulations be and vice versa.

Campbell (2007) describes precisely the outcome of a successful consensus project and an unsuccessful one: “[…], air pollution regulations were devised and deployed in Sweden and the United States during the late 1960s and early 1970s […]. In Sweden the process involved extensive and inclusive consultation and negotiations with business, environmentalists, scientists, government agencies, and political parties. The result was a set of practical regulations that did not exceed the available technologies and that took seriously economic as well as environmental consequences. Business and the other parties to negotiation were satisfied and implementation turned out to be effective. In the United States, however, the process was much less inclusive with respect to business, more contentious, and the regulations that were passed were rather impractical because they set standards that were nearly impossible to achieve, given the available technologies. Hence, corporations fought implementation at every turn, in part because they did not feel they had been given an adequate voice in the process. In the end, the US regulations were much less effective than it was in Sweden.”

The third reinforcing loop (Figure 30) is the simplest one to explain, showing the correlation between effective institutions and respect for institutions. Once institutions become effective, for example by regulating companies through a well planned consensus process, where
every stakeholder is included, the more respect it gains from the companies which it regulates, making it again, more effective.

Figure 31. Socially responsible behaviour, threat of industry crisis and influence of non-governmental organisations.

These reinforcing loops are only a part of a bigger reinforcing loop. As said before institutions can become more effective by regulating companies with a consensus process where every stakeholder is included and thus gaining respect from the companies. This democratic process is also important for making effective institutions as well as curbing corruption (Rothstein 2003, 2004, 2005, Rothstein and Stolle 2003, 2004, Tilly 2003, 2006, 2007, Sverdrup et al. 2010). With the term corruption, several things are implied:

- **Corruption through payment**
  - Monetary payments between agents in order to influence a decision or action being taken
  - Social rewards between agents in order to influence a decision or action being taken

- **Corruption through abuse of power**
  - Use of family or friendship connections in order to change decisions
  - The favouring of relatives and acquaintances to the detriment of others or to promote own rewards
  - Distort or change the outcome of decisions in order to have personal gain
  - To cover up misconduct of self or others

The idea arose in our systems analysis process that by being critical, the general public in a society can have effect on it, including it’s institutions as a part of the national democratic infrastructure. In other words the people can use their freedom of speech to write a newspaper article, forum discussions, etc., which would ultimately help to let institutions know when they are out of line, and in the end contribute to their effectiveness. This only works assuming there is a free functioning press available. The democratic process can also affect strong regulations. Democratic processes are discussed more thoroughly in section 7.4. Once the institutions are effective, and have thus gained the respect of the companies they are regulating, a socially responsible behaviour favouring enforcement is more likely to occur. This means that rules will be enforced that favour socially responsible behaviour from companies. It is obvious then, that socially responsible behaviour favouring enforcement increases socially responsible
behaviour. Socially responsible behaviour again increases the willingness of companies to participate in a consensus process thus by completing the large reinforcing loop shown in Figure 30.

7.4 Social Parameters
In Figure 31 various social factors are investigated in an attempt to explain how they affect socially responsible behaviour. Good governance is a fundamental part of this overall figure, having an increasing effect on both transparency and peer pressure, which both play a part in driving socially responsible behaviour. Good governance describes how the government is handling its big issues, including transparency in society. Transparency is a difficult concept and should not be handled lightly. People might say that not everything should be transparent, such as personal information, but it has been discussed in public media and parliament lately in Iceland to open up access to information regarding huge loans taken, information which no doubt is seen as personal information to the persons affected. The best argument, we believe, for transparency, or for information to be made transparent by the government is if they influence national security, and can affect the well being of its citizens. Good governance can help to increase transparency by regulation or by setting an example. It goes without saying that more transparency decreases corruption, whether it is political, institutional or occurs anywhere else in society. Less corruption can contribute to free press, which in turn is very important and contributes to many parameters in society:

“The media plays an important role in a modern democratic society by enlightening the general public, be a venue of discussion for national affairs and keep a watchful eye on the forces that threat public welfare” (Parliamentary Special Investigative Report vol. 8. 2010, Pp210). The Icelandic media, during the preface of the banking crisis, failed this role, and to some extent still do. Because the media shared owners with some of the biggest financial institutions, they appeared to have little, if any, independence toward the banks and because of that they turned a blind eye against any signs of trouble. It should be noted here, however, that nothing has been stated regarding the owner’s influence on the media. Free press is vital for several issues, but only a few of them are included in Figure 31. As can be clearly seen in Figure 31 that the press can increase the influence of the democratic process through public participation, that is for example to give the public the chance to see a relatively unbiased view of the discussions in society so they can take part on the right terms and with better understanding. We realise that this may be an utopian idea and that a completely free press, which is independent in every report is not easy to create and run, but it is certainly a worthy goal to aim for. Free press increases transparency through independent news reports and thus completing a reinforcing loop seen in Figure 31. Free press can add to the increase of social trust. If the press performs it’s social mission as it should, that is, is a venue for social discussion and does that impartially, it will give the public the a relatively correct image of society. The public can then take part in the discussion and thus, better trust the society they live in. More social trust also increases socially responsible behaviour that again increases social trust, thus forming a reinforcing loop.

Free press can also increase socially responsible behaviour through another route. Along with good governance, free press forms a parallel line towards socially responsible behaviour. As mentioned above free press increases public participation in society by being a venue for impartial social discussions. In the same way it increases the public abilities to pressure business firms. This pressure can be on the form of organised protests for instance, when a firm is caught doing harm to society in one-way or another. The free press will thus be able to perform its duties on its own terms, free from any influence of an individual firm.

Good governance is very important (Figure 32). It increases the strength of the balancing loops in the financial systems and stabilises the system against perturbations. Good governance increases state support for industrial governance, or put more clearly, state support for industrial governance is one aspect of good governance within itself. The state then encourages and authorises self-regulation by industry and thus displaces its own regulatory responsibility onto an individual industrial company. This increases a branch self-regulation, if not directly,
then through the peer pressure sector. In this sense, peer pressure means that when corporations put pressure on other corporations within the same industry, change can occur. “In fact, sometimes the most effective means of facilitating increased corporate social responsibility is through corporate peer pressure” (William and Matheny 1995, Campbell 2007).

![Diagram of social responsibility parameters affecting the banking collapse in Iceland](image)

Figure 32. Social responsibility parameters that affected the banking collapse in Iceland.

The lack of overall corporate responsibility parameters that lead to the collapse in Iceland is shown in Figure 32. It can be seen that the balancing loops for the system were not strong enough to keep the system sustainable.

8 Loop analysis process

Now we have modelled individual parts of the whole system but to obtain a more holistic picture we need to put the pieces together (Figure 33). We connect the diagrams that show economic incentives (Figure 21), bank management (Figure 27), societal factors (Figure 23), corporate social responsibility (Figure 32) and the macro economy (Figures 14 and 15) in order to get the overall dynamics of the whole system.
Figure 33. Combined overview of the systems constructed previously. Here we connect the diagrams that show economic incentives (Figure 21), bank management (Figure 27), societal factors (Figure 23), corporate social responsibility (Figure 32) and the macro economy (Figures 14 and 15).
8.1 Putting it together
We connect the diagrams (Figures 14, 15, 21, 23, 27 and 32) through the same parameters that reoccur in different subsystems systems, such as rate of balance sheet growth and GDP output. This gives the large combined system as shown in Figure 33.

8.2 The simplified overall model
Since we have now modelled individual parts of the whole system we put the pieces together to obtain a more holistic picture (Figure 33) in a simplified form (Figure 34). This combined graph is further simplified through a process of loop analysis, and we narrow it down to the most important factors and connections (Figure 35). These results can be viewed as an abstract of the whole system.

Figure 34. Simplified causal loop diagram of the whole financial system.

B1 in Figure 34 is a key balancing loop in the financial system; it describes the effect of what is called market discipline. Similar to other growing companies the growth of the Icelandic banks is limited by a market discipline. As a bank invests and its balance sheet grows, its capital ratio is degraded. Since the capital ratio is the main metric used by lenders, they will demand higher rate of return on credit that then slows down the growth of the balance sheet, since it is less feasible to grow at a higher cost. High profits and favourable price development of assets kept the capital ratio high during the boom years 2003-2006. R1 in Figure 34 is a central reinforcing loop; it describes the possible death spiral that can occur when capital ratio is degraded or credit markets shut down. As the market demands higher rate of return on credit, the banks suffer a higher cost of capital that degrades its capital ratio. As the capital ratio is degraded, the market discipline demands even higher rate of return on credit. This can turn into a death spiral, especially when the bank is suffering liquidity problems.
Figure 35. Societal factors, bank management quality, market discipline, political factors and the macroeconomic influences are all linked. This has been further elaborated in Fig 36, a simplified version of Figure 33.

Figure 36. Colour is added to the abstract of the whole financial system so that it can be understood more clearly.
Figure 35 shows balancing loops needed for a stable national and international finance system. Societal factors, bank management quality, market discipline, political factors and the macroeconomic influences are all linked. In this we have assumed that Iceland had no real influence on the general macroeconomic trends; on a global scale the Icelandic economy is far too small for that. To better see the boundaries of different sub-systems we colour them in Figure 36. The figure shows the interconnections between the bank management, market discipline, macro economy, political intervention and a series of different social factors.

8.3 Improving the system functions

Narrowing the model down with respect to different criteria we obtain different results. The large causal loop diagram (Figure 33) is simplified again in Figure 37 to allow us to focus and find the important driving loops in the system. There are 3 reinforcing loops in the system as shown in Figure 37, the loop marked with R1 is a loop going from:

Corporate profit drive - personal rewards - risks taken - bank profits - corporate profit drive

The loop marked with R2 is a loop going from:

Risks - bank profits - owners rewards - corporate profit drive - personal rewards - risks

The loop marked with R3 is a loop going from:

Risks - bank profits - corporate profit drive - persons social rewards - group think - risks

These loops were strengthened in the Icelandic banking system to the point when all potential balancing loops had been overpowered. Corporate peer pressure and public pressure are in many ways two different sides to the same coin.
Figure 38. On a general level, all banks that survive over time have a number of balancing loops (B1, B2, B3, B4, B5), that prevent the two main reinforcing loops to run out of control (R1 & R2). The balancing loops B6 and B7 are inherent to the mass balances of the system. In daily operations, some of these balancing loops (B1, B2, B3, B4, B5) may seem redundant to each other, but that is the protection in the system during rough times, when they are needed.

Figure 39. The introduction of management reward systems are often connected to profits, or worse to customer credits and loans volume, but with no connection to the risks taken. This adds another reinforcing loop into the system that has no balancing loops (R3). Thus, a force pushing risks up has been introduced (R3).
Figure 40. The unbalanced reward loop (R3) can be made balanced by linking the management reward systems to the risks (B8), or both total risk volume and actual losses incurred. If the reward also involves participation on the losses on par with participation in the profits, fewer persons would like to have a symmetrical reward system, curbing risk-seeking behaviour strongly.

Figure 38 shows that on a general level, all banks that survive over time have a number of balancing loops (B1, B2, B3, B4, B5) that prevent the two main reinforcing loops to run out of control (R1 & R2). The balancing loops B6 and B7 are inherent to the mass balances of the system. In daily operations, some of these balancing loops (B1, B2, B3, B4, B5) may seem redundant to each other, but that is the protection in the system during rough times, when they are needed. In Figure 39 we have shown how the introduction of management reward systems are often connected to profits, or worse to customer credits and loans volume, but with no connection to the risks taken. This adds another reinforcing loop in the system that has no balancing loops (R3). Thus, a force pushing risks up has been introduced (R3). In Figure 40 the unbalanced reward loop (R3), can be made balanced by linking the management reward systems to the risks (B8), or both total risk volume and actual losses incurred. If the reward also involves participation on the losses on par with participation in the profits, fewer persons would like to have a symmetrical reward system, curbing risk-seeking behaviour strongly. In Figure 41 it can be seen that in the Icelandic banking system, several of the balancing loops were effectively removed or weakened to have no effect (B1, B2, B3, B5, B8 in Figure 40), yielding this diagram. Bank risk has now no effect on the management; one reinforcing loop has no balancing loop attached (R3) and another loop has the balancing substantially weakened (R1). When corporations decide to put other corporations under pressure by means of self-regulation, it means they feel in a way responsible to the industry and want to protect it (Holmberg and Robert 2000, Campbell 2007).

On a general level, a bank should function as shown in Figure 38. There it can be seen how every reinforcing loop, has a balancing loop attached to it, preventing it from running out of control. In the Icelandic banking system, the system was changed from traditional banking of Figure 38 to one similar to Figure 41, and then several of the balancing loops were allowed to erode due to poor and later no state financial inspection (B1, B3), poor and later partly fraudulent auditing (B1, B2, B3, B4) (Figs. 39 and 40), as well as by distortion of fundamental bookkeeping facts (B1, B4, B5, B8).
In the Icelandic banking system, several of the balancing loops were effectively removed or weakened to have no effect (B1, B2, B3, B5, B8) in Figure 40, yielding this diagram. Bank risk has now no effect on the management, one reinforcing loop has no balancing loop attached (R3) and another loop has the balancing substantially weakened (R1).

The loops have been further detailed in Figure 42. Peer pressure might also arise out of fear of the state intervening if certain rules are not followed and placing a penalty on individual companies or the industry as a whole. Public pressure, caused by free press, is no different. In the end the welfare of society is in the hands of the people who make up that society. The public then feels responsible towards its society and wishes to protect it in the same way that corporations do with their industry. The problem is, however, that the public may get false information about society if the free press is lacking. Branch self-regulation leads to increasing socially responsible behaviour, which again leads to an increasing peer pressure among corporations, thus completing a reinforcing loop. Our model that suggest restructuring, changes and legislation are shown in Figures 43 and 44. Here we propose several system changes to bring banking and financial institutions under public oversight and inside the law (Borio et al. 2010).

A separation of investment banks' gambling houses (futures, derivatives, shorts sales, speculative positions taken with the banks core money, etc) from savings and loans banks from the public and small and medium-size businesses is crucial (Borio et al. 2010, Duffy 2010, Duke 2010, Mossier and Allen 2010, Oritani 2010, Panetta et al. 2009).

State guarantee should only be valid for savings and loans banks, and not for investment banks and financial institutions. We recommend that the state bank guarantee must be limited to an accumulated sum of € 5,000-10,000 per person, and only to savings accounts in savings and loans banks. No overseas bank deposits should be guaranteed, as the bank activity in other countries lies outside the home governments jurisdiction and is under the host state jurisdictions and controls. Failure of these controls, are at the responsibility of the government having them as compulsory in their jurisdiction. The size of the guarantee cannot be connected to what people would like, but rather to what real capacity for standing up to a obligation the state really has. In a small society like Iceland, it must be fully understood that this capacity is small (Borio et al. 2010, Muelbauer 2010).
A proper agency for state oversight and regulation of banks and financial transactions must be reinstated in Iceland. It needs to immediately take control over and close down banks that do not comply with the new rules. New rules must be created to evaluate and regulate risks, and oversee bank risk assessment. A bank must be required to have a bank risk assessment function, with proper records that are open for inspections. Corruption cannot be tolerated, and both bank and state oversight must suppress and enforce non-corruption actively. This was not so in the past in Iceland, but cannot be allowed to happen again in the future.

A thorough revision of the existing economic and business administration education must be carried out at all Universities, leading to fundamental education for the people leading and working within the financial institutions. Figure 44 shows the connection between economic activity and the resource consumption that is coupled to it. This important connection is emphasised in the education of few economics and business administration curricula in universities around the word and most finance staff are therefore unable to make the link themselves at work. This must be changed in Iceland without delay, and indeed, the need for this type of reform is needed all over the world (Turner 2009, Oritani 2010). Of note is that new degrees are now being developed, including One Planet MBA at the University of Exeter, UK (starting autumn 2011). Other universities must follow suit.
Figure 43. The causal loop diagram illustrated in Figure 37, fitted with a number of feedback loops, in order to get the system back into a controllable and stable state. In the diagram, we propose several system changes to bring banking and financial institutions under public oversight and inside the law.

The financial collapse in Iceland has severely damaged public credibility of important national state institutions. Because a large amount of social trust had been built up in society, severe public unrest was avoided in the downfall of the banks, because there was a lot of trust to start with in the society. However, the current large social cost with reduction in education, health care and social welfare budgets is now realized as a reduction in social trust and reduced confidence in politicians, in the governmental bodies and structures. It is now becoming clear that there is possibly not sufficient social trust remaining for another major shock of similar magnitude.
Figure 44. A sound financial system must connect to the limitations of the physical world. All companies that do not connect into the system are on a thermodynamic self-elimination path.

Huge mistakes occurred in the years before the banking collapse in 2008, during and after the crisis by the Central Bank administration, the earlier governments and the parliament (Bussiere et al. 2010). Also in the reconstructed banks from the three banks that collapsed, many persons now hold very little public trust, and are as such rather a liability than an asset for the banks (Pryut and Hamarat 2010). In the public eye, many of these people have been severely compromised and public trust will not be restored in these institutions until these people have been replaced and those deserving it, tried by the justice system. The Icelandic parliament has not been efficient enough in cleaning up in the aftermath of the crisis and for the next parliamentary elections, serious thought must be paid to the processes of the parliament, the accountability of the political parties and the degree to which ethically compromised people have been replaced. Important for rebuilding social trust is that justice must be done and that it can be shown to the public that crime does not pay. Failure to call the involved people to proper public scrutiny and proper trial of guilt and malicious intent in the justice system may further erode social trust. Many politicians were also involved actively or through significant neglect, and all of this must be scrutinized and dealt with within a reasonable amount of time. Many of these people may be innocent, and thus those should have nothing to fear if the scrutiny is justly done in a speedy fashion (Borio et al. 2010).

The reform of the constitution that will hopefully occur in 2011 can put a necessary framework for the government to operate. This includes the separation of ministerial power and the Althing, clarification of the power of the president, clear guidelines for nature protection, and that strategically important natural resources for the nation of Iceland are either the property of the people or in full control at all times by the democratic institutions. It is important to determine that some types of resources cannot be sold, and that they are national commons under parliamentary control. This can be strengthened by setting up a parliamentary committee that makes sure that Althingi follows the constitution and by founding the position of a Commissioner for Future Generations that looks after the interest of our descendants (Sumaila and Walters 1997).
9 Recommendations for a better financial system

The financial system in Iceland and its affiliated systems were analysed with respect to necessary changes. We propose a number of changes that are outlined in this section. They include institutional changes, personnel issues and societal reforms.

9.1 Institutional changes

In order to stem the high inflation and boom lending up to the crash 2008, the Central Bank of Iceland maintained a high interest level, slowing down economic activity by penalising investments. A lot of institutions and corporations owned by the government as well as municipalities refused to be slowed down and bypassed the high interest rates by borrowing in foreign currencies, taking on huge currency risks. Thus these entities that were supposed to be acting in public interest, worked against it by not slowing down their activities and contributing to the unsustainable boom. In order to increase the effectiveness of the monetary policy we propose not allowing corporations and institutions owned by the government and municipalities to take on net currency risk outside certain limits.

Leading up to the crash in 2008, a number of bad fiscal and other economic decisions were made by politicians. Pro-cyclical actions were taken, such as large scale government investments and tax cuts that fuelled the unsustainable boom. To avoid such decisions and in order for democracy to function properly, the Icelandic nation needs better objective information about prospects and the current situation of the economy. We propose an institution independent from the government that publishes economic forecasts and reports for Iceland. The National Economic Institute (Pjöðhagsstofnun) was an Icelandic institution that served such a purpose but it was closed down in 2002 during the Prime Ministry of Davíð Oddsson (Prime Minister 1991-2004). The Danish Economic Counsel serves such a purpose in Denmark versus the banks. Norway and Sweden each have their own “Finansinspeksjonen” to oversee their banks. They have political authority to question public policy decisions and have an effect by keeping the political discussion based on solid facts. If necessary the financial inspecting authority may close a bank or take away its operating licence if necessary. We propose either to commission the work in Iceland from either of the Danish, Norwegian or Swedish inspecting agencies as an externally supplied service, or if the Icelandic state thinks it can afford a new state institution, to start a similar council as the Danish Economic Council in Iceland.

Further to reduce the pro-cyclical effects of fiscal policy in Iceland, we propose that the Icelandic Parliament (Althing) takes up a formal fiscal rule. A rule needs to be set up that governs how the budget is constructed, focusing on long-term macroeconomic perspectives and balanced feedback loops in the system (Caruana 2010). Potentially, this could be stipulated in the New Constitution that will be written in 2011. Apart from reducing the pro-cyclical effects of fiscal policy, such a rule could help balance the budget in the long term and thus improve investors’ confidence and thus sovereign credit ratings. Good examples are the German and Finnish fiscal rules.

The Icelandic housing market has historically been volatile. This could be due to the homogeneity of the nation, the limited volume of the whole market and the accompanying human group behaviour. Housing booms and busts can have spill over effects to other parts of the economy, are bad for macroeconomic stability and make it difficult to accurately measure inflation. In order to reduce housing booms and busts such as that which went along with the banking boom, we propose giving the Central Bank authority to set or oversee maximum leverage limits for mortgages. The limit could be used for counter cyclical economic effects, by being strict when prices are rising and looser when prices are falling, thus reducing the volatility and over- and undershooting prices.

Currently there is an ongoing debate among financial regulators and economic policy makers around the world about the separation of investment banks and savings and loans banks. The idea has numerous benefits and contradictory arguments. There are large conflicts of interest that characterize lending and the use of loans to invest by the same entity. These
conflicts of interest would be avoided by having the two entities separate. That would also promote healthy competition in the market for funds since investment banks and other parties would be competing on the same level. Savings and loans banks are structurally very important for the financial system and deposits are guaranteed by the state. In times of crises such a bank is much easier to rescue than an investment bank that might have invested in complex securities, derivatives and futures that are riskier than "normal" lending practice. In the current system the investment and commercial parts of the banks are relatively separated although they are under the same roof. The investment part is apparently more exciting to those involved, they take more risks and are strongly promoted today by the fact that people in the investment and trading divisions get bigger bonuses and higher salaries, and that these normally appear to be unlinked to eventual losses. Thus the investment bankers have a higher social status inside the organization. Because of their higher social status their values tend to dominate and they are risk seeking. Thus having the departments under the same roof can make the commercial part more risk seeking. An additional argument applies here and now. The international banking system is currently very weak and there is political climate for making drastic reforms.

Usually this separation of the savings and loans and the investment parts of banks would appear to be very difficult because it may reduce the financial sector profits. The idea of separation has been brought up in the United States a few times and each time the financial sector responds with huge lobbying campaigns, making it virtually impossible to do. If this action would not have the intended results, repealing it would be easy. However, this part of the activity is what normally runs out of hand; it cyclically crashed in the past and can easily have such large risks involved that even the worlds biggest countries have no chance of bailing them out when things go wrong. It is very questionable whether this risk-laden activity has much net value for society (Lietaer 2001), and the separation of the savings and loans and investment parts of the banks would strongly reduce the risk of bank collapse - with a net beneficial effect on society.

Another ongoing debate among financial regulators and economic policy maker is whether to have an independent financial regulator or to give regulation authority over to central banks. In order for the central bank to be able to act as a credible lender of last resort to banks in need, it needs fresh, accurate information about the financing, assets and current state of these banks, as well as very strong analytical competencies. It was shown in the recent crash that the Icelandic Central Bank had very limited information about the state of the Icelandic banks, limited authority and limited competence for what was going on. This information, or some of it, however existed in limited amounts in the Icelandic Financial Supervisory Authority (FME). Cooperation is possible but can be difficult, especially in times of crises when responses need to be quick and almost automatic. Since the Icelandic population is so small, additional reasons apply. In bigger countries financial regulators and central banks are big institutions and they don’t easily scale down to the dimensions of Iceland. It can be difficult and costly to gather enough competent people with specialized knowledge to man two institutions regulating the financial sector (Herbertsson and Mishkin 2006). Therefore we propose that the Financial Supervisory Authority (FME) and the Central Bank be combined into one institution. Alternatively, the Icelandic government can hire the control boards of an onther Scandinavian country to conduct the inspections and related activities on a regular scale. Then the issue of local nepotism and lack of independence between those controlled and the controller is assured.

The Parliamentary Special Investigative Report outlines how weak internal auditing was in the Icelandic banks. Internal auditors were overloaded with work, underpowered, had weak negotiating positions against bank management and their comments and suggestions were ignored at the Financial Supervisory Authority (FME). As a result, rules were broken and internal auditing was insufficient. We propose the requirements for internal auditing be raised to standards similar to the ones of Britain for example. Further the Financial Supervisory Authority (FME) needs to establish a good relationship with internal auditors by acting upon comments and complaints by them and provide backup when needed.

In the Parliamentary Special Investigative Report there are numerous examples given of the banks circumventing the limits to related-party exposures, which came to devastating
results. They got away with this at the time because the Financial Supervisory Authority (FME) let them continue and defined the term “related-parties” very loosely. We propose a stricter interpretation of the term, similar to what is seen in most OECD countries. The Parliamentary Special Investigative Report repeatedly outlines samples of the power struggle between the Financial Supervisory Authority (FME) and the Icelandic banks. Usually the banks overpowered the Financial Supervisory Authority (FME), with plenty of smart, ambitious personnel while the Financial Supervisory Authority (FME) was underpowered and undermanned. The banks actively hired qualified people with experience from the Financial Supervisory Authority (FME), offering much higher salaries. As many Financial Supervisory Authority (FME) personnel may have wanted to be hired by the banks eventually, they had incentives for behaving “well” and being on the bank management’s “good” side. In order to strengthen FME’s general negotiation power over the Icelandic banks, we propose the following actions:

1. Increase availability and severity of actions available for the Financial Supervisory Authority (FME) to intervene into banks daily affairs.
2. Increasing the investigative option of the Financial Supervisory Authority (FME).
3. Increase salary to Financial Supervisory Authority (FME) employees to reflect pay for similarly ranked employees at the banks.
4. Giving the Financial Supervisory Authority (FME) the authority to fire or replace any board member or highly ranked manager.
5. Giving Financial Supervisory Authority (FME) the authority to veto or replace any external auditors of financial institutions in special cases.
6. Replace the external auditors every 4-6 years.

In order to carry out its task a regulator needs to be administratively efficient and socially independent. It needs clear and efficient workflow and procedures. For the Financial Supervisory Authority (FME) to fulfil this part, we suggest getting consultations from Scandinavian regulators or even outsource the financial regulation and enforcement authority directly to such institutions in Scandinavia. The Norwegian Financial Regulation Institute is an example. Such a move would surely help boost investor confidence and need not be more expensive.

To reduce unhealthy risk seeking behaviour of bank employees and prevent future panics in times of crises we propose that guidelines, possibly bound to law, should be composed to describe how an insolvent bank should be dealt with. Such guidelines should be public and transparent and they should start working automatically when a banks’ capital ratio falls below a certain limit. The bank should be nationalized and recapitalised by the government, and all management staff and board directors are to be replaced according to a certain time-framework. Deposits should be guaranteed up to the minimum guarantee by the government. Then bondholders and higher-than-guarantee-deposits will be dealt with in accordance with the current value of the bankrupt bank’s assets. If any value is left after bondholders and higher-than-guarantee-deposits have been settled fully, it goes to the shareholders as shears. The newly recapitalized bank should then be re-privatised within certain time limits.

During the collapse of the banks in Iceland, it became evident that the banks had huge exposures to their own share price. This was due to the bank employees buying up their own stocks (often by taking loans to fund the purchase) and influencing their stock prices through various other methods. This was possible in part because of the lack of transparent auditing standards. External auditing during the events leading up to the crash is criticized in the Parliamentary Special Investigative Report. We propose stronger regulations with regards to disclosure requirements and accountability. The American Sarbanes-Oxley Act of 2002 is mentioned in the Parliamentary Report as a good place to start for reactions to the parliamentary special investigative report.

Although the Financial Supervisory Authority (FME) is currently running a whistle blower website, we propose that it credibly promises anonymity for the whistle-blower, and that it takes several steps to increase its very tarnished reputation amongst the public. Total
openness, and a professional public engagement plan and a news release plan is needed, regardless of what the current staff might think about that now.

When external auditing firms are also providing corporate consulting to a corporation, the corporation has a stronger negotiation position against the auditing firm and they can therefore threaten to take their business elsewhere, where they get a better “package.” That decreases the independence of the auditors and thus their ability to full fill the role. To alleviate this position we propose that auditing firms should not provide any non-auditing services to its auditing clients, similar to what was done with the American Sarbanes–Oxley Act of 2002. To further increase auditors independence we suggest requiring all corporations to switch auditors every four to six years. This would put less pressure on the auditor to keep his client ”happy” as he knows he is going to lose him as a client after a certain time. Additionally such a system would insure that bad auditor habits do not build up as new pairs of eyes often see things from another perspective.

The complexity of the financial business environment increased a lot in Iceland during the banking boom. An example of that are the frequent name changes of financial companies and complicated and untransparent ownership structures. This prevented some balancing factors to work. It prevented transparency and thus made it difficult for journalists to report accurately. This produces an environment where people have to rely on specialists and can’t draw their own conclusions, thus retarding the process of democracy. The banks operated with a jungle of holding companies and used name changes and changes of registration numbers (kennitala) extensively, possibly as a measure to make full insight more difficult. For sound business practices, such manoeuvres should not take place. For auditors, they should be diagnostic indicators for careful inspection. In order to reduce the financial business environment’s complexity we propose introducing two types of tax incentives:

1. Reduce the licences of holding companies that do not have real operations.
2. Reduce the number of name changes and the taking up of new business identification numbers a business may make.

Internationally many banks have grown above the last level of systemic feedback, thus moved where there are no more effective governmental controls. This is a significant sustainability problem, and also may represent a significant security issue. Possibly, the governments of any country should consider defence measures against aggression by such corporate structures, including the option of substantial military countermeasures when the national security is threatened.

Bank Boards of Directors have not had a lot of attention since the financial crash. Only one of the three banks had one woman on the board, the others none. All Bank Directors were male. In the interest of diversity and stability we propose that all bank senior management and Bank Boards have at least 40% women. In addition, these senior managers and Board Members need to be given clear instruction of the responsibility they have in taking on these positions, and be punished accordingly if their actions are suspected to be fraudulent.

The banks should have a minimal capital holding of at least 20% (Switzerland now demand 19% by law).

Conflict of interest is an issue Iceland is not well versed in as a society. We propose that a sound conflict of interest policy be established and followed, which does not allow any direct or indirect family or friendship relationships within the bank management.

None of the three banks that collapsed had corporate social responsibility policies. We proposal that all Banks and business be instructed by law to set CSR policies that are reported on in the Annual Reports.

9.2 Personnel issues
In this report we point out that unjustifiable managerial optimism and risk-seeking behaviour is fuelled by groupthink and herd behaviour driven by employees’ similarity and homogeneity of
management. Homogeneous management styles across the financial sector also increases systematic risk, since similar people respond in analogous ways to the same signals, causing everybody to sell or buy the same goods at the same time. We suggest increasing the managerial diversity by requiring specific gender balance (at least 60% vs 40%) on the boards of financial institutions and also for all corporations exceeding a certain size as was done in Norway in 2008.

In the business of banking, there are many moral hazards and opportunities for fraud and market manipulation. Therefore it is internationally accepted that bank owners, directors and management should be composed of honest, ethical persons with ability to make independent decisions. To promote this type of governance and reduce interdependencies, we propose giving the Financial Supervisory Authority (FME) authority to veto any member appointed to a bank board based on dependency to owner, dependency to other businesses or lack of experience or knowledge. We also propose that separation between the board of directors and the management of a bank should be instigated. Board chairmen should not be involved with the general management of the bank.

Conflicts of interests need to be taken seriously in Iceland as a whole and specifically in the financial banking world. The most effective way for special interest groups to influence individual politicians and control which politicians get elected is the distribution of money for campaign purposes. The ability of politicians to work for the good of public interest can further be questioned when these same politicians have huge stakes in certain outcomes. Many politicians had shares in the now failed banks before the 2008 crash. A good example is Þorgerður Katrín Gunnarsdóttir, then the Minister of Education, who was interviewed in relations to a criticism on the Icelandic banks. She questioned the motives behind the criticism and suggested the man who was criticising should get re-educated. Later it was revealed that Gunnarsdóttir and her husband were proprietors of a company that owned about 1.700.000.000 ISK⁶ worth of shares in Kaupthing bank. To reduce these unhealthy incentives that regulators may have, we propose that politicians and people working in government as well as their close families should not be allowed to own shares, bonds or any stakes in companies they are responsible for regulating. To insure transparency in these matters, these same persons should have to declare all assets, market positions and obligations they and their close families have. Political parties, politicians themselves and lobby groups should all have open and transparent books of accounts.

The banks ran investment funds that invested in various types of securities. It turns out that funds run by each bank invested suspiciously high amounts in bonds and other products from the owners of the banks. These products were usually not market rated and in general rather illiquid. In the wake of the crises many of these products became worthless. We believe these funds were not run with the interest of the fund owners in mind, but rather used as tools to provide cheap credit for risky use of the cronies and the bank owners. In order to prevent this from happening in the future and to restore investor confidence, we propose stricter rules on the independence of these funds and that the Financial Supervisory Authority (FME) enforces these rules sufficiently.

Icelandic pension funds invested heavily in the banks, and their bonds. Some funds even bought derivatives (credit default swaps) betting on the survival of the banks. The losses incurred by the pension funds are still being revealed, but it is clear that they are enormous. We believe the pension funds investment activities were not prudent nor in the best interest of the pension owners. Boards and administrators of these funds need to be scrutinized and replaced if their management has been reckless and negligent. This is another area falling out as prone for inspection as a by-product of the bank crisis. Cosy relationship between pension fund managers and banks and business leaders should be prevented in the future. Strict rules should apply to pension funds regarding the management acceptance of gifts, paid trips and all other types of handouts. We believe the Financial Supervisory Authority (FME) should also be able to veto any director appointment to boards of pension funds for reasons such as lack of knowledge, experience and/or independence from the businesses appointing him.

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⁶ Comparable to 425 million NOK
Banks, by default, tended so far to have a risk seeking bias. It is therefore one of the goals of prudent banking regulation to limit this tendency towards risk seeking behaviour when it occurs. We propose that the Financial Supervisory’s Authority should be extended to bonuses and incentive programs at the banks. We propose banning all incentive and bonus programs on savings and loan banks. Incentive programs in investment banks and other financial institutions should follow strict guidelines, limiting risky behaviour, and preferably have compulsory participation in losses on par with the profit sharing. We suggest looking at many year averages when deciding on bonuses and never exceeding a certain percentage of the overall remuneration. Of note is that recent research shows that bonuses do not increase the performance of employees and that the size of the bonus is in accordance with the number of friends that the person has on the bonus committee (Nosenzo 2010, Nosenzo et al. 2010). Therefore bonuses should be banned or at worst limited.

9.3 Societal reform

Owners, directors and managers of Icelandic banks lacked a sense of corporate social responsibility. This was seen in actions that crossed ethical limits and the boundaries of public interest. Market manipulation, abuse of investment funds and the expansion of foreign Icesave accounts at a risky time, are examples of such actions. To introduce corporate social responsibility into banks we propose that banks and financial institutions should have complete sustainability charters written into their statutes (accountability, ethics, social responsibility, environmental responsibility, transparency, risk policy). A bank that breaks its statutes should be fined. Denmark signed such a law in 2008 on corporate social responsibility that included corporate social responsibility reporting for large corporations.

To further increase awareness and understanding corporate social responsibility in Iceland and provide “moral competition” to the Icelandic banks, we propose that new value-based banks be founded. Such banks would never make up the bulk of the financial system, but they would make a difference by raising awareness of the population as well as serving a good purpose for society. Examples of such banks are Triodos Bank in the Netherlands and the UK, Merkur Bank in Denmark, Cultura Bank in Norway and Ecobankenn in Sweden. The three Scandinavian banks obtained the Environment Prize of the Nordic Council in 2010.

Media in Iceland has a long history of not being run for profit, but for power. This is unhealthy for democratic processes and society as a whole, but common practice. Berlusconi in Italy is a prime example of such operations. To reduce the effects of media bias in Iceland, we propose changing media ownership laws to limit ownership concentration, as well as separation of ownership and leadership from past and present political figures.

Investigative journalism can have a balancing effect on societies as well as exposing corruption and thus making corruption a less desired option for people and corporations. To increase the positive effects of investigative journalism we propose making the environment for investigative journalism in Iceland better. This could be supported by enhanced protection for whistle blowers, sources and intermediaries; an organization called the Icelandic modern media initiative is working on proposals for such regulation changes that are in the making (see: www.immi.is). To further increase investigative journalism, we propose that the Icelandic national broadcast radio and TV devote more of their resources to investigative journalism, and less to lightweight café- and raffle-type of programmes. This type of investigative reporting is expensive and is difficult for privately run news sources to fund and undertake. Therefore tax incentives should be given to media companies that undertake such important research.

To increase understanding of corporate social responsibility in society, we propose adding mandatory courses in ethics, moral and societal responsibility should be taught at every school level. We also propose compressing the present economics and business administration curriculum and add compulsory courses in systems thinking and modelling of dynamic systems and social- and natural sustainability. This is very important so that business leaders and managers understand the link between natural resources and economic prosperity as well as having a good understanding about the limits of natural resources on the one planet we live on and that perpetual growth based on natural resource consumption is not possible in a limited

9.4 Summary of recommendations


1. Institutional changes
   a. Fiscal policy
      i. Institution and corporations owned by the government and municipalities should have to maintain currency risk within certain limits.
      ii. A panel that is independent from the Central Bank of Iceland (Seðlabankinn) or the government should be established that publishes economic reports and forecasts of the Icelandic economy. This panel should be composed of members of parliament, union members and business organizations. The Danish tradition of the Danish Economic Council (Det Økonomiske Råd) could be taken as a role model. Alternatively the National Economic Institute (Pjóðhagsstofnun) could be re-established.
      iii. A counter cyclical fiscal rule needs be implemented. Parliament should implement a rule specifying how the budget is constructed, focusing on long-term macroeconomic trends. An example of such a rule is the German fiscal rule. This could be implemented through the new Constitution that will hopefully be written by in 2011 and the Finnish Constitution can be used as a model.
      iv. A floating leverage limit for mortgages controlled by the Central Bank could be implemented as an economic policy tool to prevent future housing bubbles.
   b. Regulation and enforcement
      i. The Icelandic Central Bank and the Financial Supervisory Authority (Fjármálaeftirlitíð) should be combined into one institution, alternatively, the financial inspections could be purchased from the comparative entity in another Nordic country.
      ii. Investment banks and other financial institutions should be separated from savings and loans banks.
      iii. Laws for internal auditing inside banks need be strengthened as well as the connection between internal auditing and the Financial Supervisory Authority.
      iv. Conflict of interest guidelines need to be set for all financial institution. Definition of related parties should be stricter when it comes to regulating related party exposures.
      v. Generally the Financial Supervisory Authority (FME) should have a better negotiation position towards financial institutions.
         1. Increase availability and severity of actions available for the Financial Supervisory Authority (FME) to intervene.
         2. Increase the investigative options of the Financial Supervisory Authority (FME).
         3. Increase the salary of Financial Supervisory Authority (FME) employees to reflect the pay of bank employees at similar rank.
4. Give the Financial Supervisory Authority (FME) the authority to fire (and put on trial) and replace any board director or high-ranking manager when mismanagement is detected.

5. Give the Financial Supervisory Authority (FME) the authority to veto or replace external auditors for financial institutions in specific cases.

vi. Establishment of administratively efficient and socially independent Financial Supervisory Authority (FME). Consider cooperation with Scandinavian financial inspection agencies or outsourcing directly to Scandinavian financial agencies such as the Norwegian or Swedish Financial Inspection Agencies.

vii. Alternatively, make certain that appointments within the Financial Supervisory Authority (FME) have been elected free from cronyism or nepotism so that they can act freely and actively.

c. Guidelines for dealing with insolvent banks can be deduced from the analysis:

i. Publicly available and transparent guidelines should be established in order to deal with insolvent banks.

ii. Action should be taken automatically when a bank’s capital ratio falls below a certain limit (20%), regardless of whether there is a crisis or not going on.

iii. Limit governmental liabilities. No bank’s balancesheet can grow to more than 60% of the capacity the government can handle. Above this limit, it must be mandatory that the bank is cut in two and the ownership of each part be made divided and independent.

iv. At bank insolvency:

1. The insolvent bank should have its shareholders ownership annulled automatically, the bank may either be fully bankrupted (all obligations and bonds annulled) or be nationalised and deposits guaranteed up to the minimum value if the total risk stays within what the government can handle. The government should not be able to increase this limit at any time, something that needs to be written into law.

2. All bonus deals and reward schemes are annulled immediately upon insolvency, without any compensation, and this must be made part of any employment contract.

3. The board of directors and all administrative staff will be replaced at once at bankruptcy or insolvency.

4. Bondholders and higher-than-guarantee-deposits will be dealt with in accordance with the current value of the bankrupt bank’s assets. If any value is left, it goes to the shareholders as shares.

5. The newly capitalised bank should be privatised slowly, within a certain time frame. The ownership of the banks needs to be transparent, and no undisclosed owner will be permitted. Any holding located to overseas sites must conform to full transparency and full disclosure of ownership, and lack thereof must lead to automatic annulment of the ownership without compensation.

d. Auditing

i. The banks must have proper internal auditing, and auditors report to the board of directors. Banks that do not have internal auditing will have their licence to operate suspended until this is in place.

ii. Strengthen external auditing regulations regarding disclosure requirements and accountability.

iii. Establish a credibly anonymous whistle blower hotline for external and internal auditor staff, with a promise of immunity for the whistle blower.

iv. Auditing firms should not provide any non-auditing services to its auditing clients, as was regulated with the American Sarbanes-Oxley Act of 2002.
v. Corporations should be required to switch external auditors every four years.

vi. Past auditing

1. The auditing firms KPMG and PWC accepted forged books for the year 2007, possibly also for earlier years according to the scrutiny of the Norwegian and French inspection teams that analysed the annual reports of Landbanki and Glitnir. KPMG and PWC failed in their main purpose and the only reasonable consequence is that they must loose their licence to operate in Iceland.

2. The audit on Kaupthing Bank has not yet been fully scrutinized. An international group should inspect the auditing undertaken on Kaupthing Bank.

3. The persons that are responsible for the auditing handwork in KPMG and PWC in their faulty bank audits, must permanently loose their personal licence to operate as auditors in any Icelandic firm.

4. The Icelandic state must start litigation against the mother-companies of PWC Iceland and KPMG Iceland, as well as their mother companies for damages.

e. Business environment complexity

i. Tax incentives should be introduced to reduce the use of holding companies that have no real operations.

ii. Tax and/or legislative incentives should be introduced for corporations to maintain the same name and identity number.

2. Personnel issues

a. Managerial diversity should be promoted in banks and financial institutions with respect to gender, education, background and age.

i. The top management and board of directors should be gender-balanced according to Icelandic- and EU law (at least 40%/60%)

ii. Women should receive the same remunerations as men within the banking system.

b. Bank management

i. Appointments to boards of financial institutions should be approved by the Financial Supervisory Authority (FME). Personal interdependencies need be banned, including family ties, or long-term business associates amongst bank management.

ii. Separation between board of directors and management.

1. No active bank management person from any bank can sit on the board of directors of any savings and loans bank.

2. No active bank management person from any bank can sit on the remuneration board of any savings and loans bank.

3. No active bank management person can sit on the nomination board of any savings and loans bank.

c. Conflicts of interest

i. Politicians and/or their families should not be allowed to own stakes, bonds or any derivatives of any company they are supposed to regulate and supervise.

ii. Political parties, lobby groups and politicians should have open book accounting.

iii. Politicians should have to declare all assets, market positions and obligations they and their close family have.

iv. The bank can only use its own core capital for bank initiated risk investments. Client money can only be used in risky projects when the clients gives permission of specifically ask for it.

v. Investment funds and pension funds need to be truly independent from their parent companies or companies running them. Strict rules should apply and
be enforced by the Financial Supervisory Authority (FME).

d. Pension funds
   i. Pension fund director appointments should be approved by the Financial Supervisory Authority (FME) based on their independence, experience and knowledge, similar to directors of other financial institutions.
   ii. Cosy relationship between pension fund directors and financial institution should be avoided. Handouts such as any paid trips should be strictly prohibited.

e. Bonuses and incentives
   i. No personal bonus or incentive programmes should be allowed in any savings and loans bank.
   ii. Bonuses and incentive programmes are to be forbidden, as they have been shown to be generally damaging; alternatively only allowed in licensed investment banks. Bonuses given must focus on result bottom line, be based on many-year averages, involve teams, and can never exceed 30% of the normal remuneration. The bottom line result must also include deficits, so that profit sharing also means loss sharing.
   iii. Bonuses should be value-symmetrical, and team-oriented which implies that the beneficiaries share the same share of the losses as they take part in the profit.
   iv. The corporate tax is increased with the same percentage as the bonus part of the remuneration.
   v. Loans to employees or owners should not be allowed under any circumstances.
   vi. No board member can ever receive bonuses.
   vii. No bank employee can receive any type of bonus or kickback from operations that can be linked to mergers or acquisitions.

3. Societal reform
   a. Corporate social responsibility
      i. Banks and financial institutions banks need to have complete sustainability charters written into their statutes (including values, accountability, ethics, social responsibility, gender balance, environmental responsibility, transparency, risk policy).
      ii. Every institution and bank to report on their CSR in their annual report.
      iii. A bank that breaks against its statutes will be fined, when violations are multiple the bank licence should be withdrawn.
      iv. Governmental facilitate the establishment of ethical value-based banks exemplified by, but not limited to: Triodos Bank in the Netherlands, Merkur Bank in Denmark, Cultura Bank in Norway and Ecobanken in Sweden.

   b. Media
      i. Media ownership law should be updated to limit ownership concentration.
      ii. The legal environment for investigative journalism should be improved with enhanced protection for whistle blowers, sources and intermediaries.
      iii. The national broadcast radio and television (RUV) should direct efforts into investigative journalism.

   c. Education reform
      i. Fundamentals of ethics, moral and responsibility should be taught at every school level. Fundamentals of natural, economic and social sustainability must be taught.
      ii. Compress present economics and business management curricula to attain the same work intensity as in engineering degrees, and add compulsory courses in systems thinking, modelling of dynamic systems and social- and natural sustainability.
iii. Ensure that graduates in every discipline understand that exponential growth in a finite world cannot go on forever (e.g. Meadows 1972, 1992, 2005, Latouche 2007; Jackson 2009).

d. Governance reform where the system for appointment to high governmental and civil administration post are thoroughly reformed.
   i. Official acknowledgement is needed to curb the nepotism and friendship corruption that has been a long-term and significant problem in Icelandic governance, and steps must be taken to change the basic attitudes towards this societal malfunction.
   ii. That the practice of rewarding retired politicians with high posts in the state, regardless of merit and (in)competence, must stop at once as it constitutes cronyism and nepotism, all variants of corruption. Old cronies having such positions today, should be required to leave by law and with no finishing bonuses or kickbacks.
   iii. Make sure the people in key position are free from close family ties, carefully disclosing all conflicts of interest publicly.
   iv. Retired politicians, cannot accumulate pensions – as now evidenced by the former Prime Minister and Central Bank Director.

Some implicated persons still remain abroad, resisting extradition and refusing to return to Iceland for questioning. As an amendment to the Icesave deal, it must be negotiated that Netherlands, Luxemburg and Great Britain will expel those implicated persons that live there and resist being questioned by Icelandic investigators, and any payments should be conditioned on this happening. Denmark has good experience with officially annulling such persons passports, and publishing this through the Interpol and border security networks. That normally causes the country where they reside to expel them.

10 Postscript

It has become apparent in the past two years that the Icelandic people were no more proof to human vices than people of other countries. In the collapse of the banks and the national state economy in 2008, corruption played an important and instrumental part. What happened in the financial collapse in Iceland was not invented here; this was a part of the financial folly-frenzy that went on in most other countries, with loss of overview and control of risks within the financial systems. Some think that these events must occur because of how the financial system is constructed today, and that instability is a built-in feature of the system (Jackson 2009, Lietaer et al. 2010). In Switzerland, the balance sheet of the two largest banks (Credit Suisse, Union Bank of Switzerland) amounted to 7 times the Swiss GDP (OCC 2010, von Kleist et al. 2010). The Swiss parliament realized that a failure of these banks could jeopardize the independence of the Swiss state, and acted quickly to reinstall control (Schmidt 2010). In Greece, the national economy is in shambles after decades of budgets out of control, much driven by corruption and nepotism, in this partly assisted by American banks such as Goldman Sachs (Pradhan and Görlich 2010), just to mention one. During 2010, austere measures were initiated to recreate a functioning Greek state economy. The United States national economy is in as bad a state as the Greek state finances (OCC 2009, Checcetti et al. 2010). However, little is being done in the United States to deal with the structural problem of indebting the future to avoid reducing overconsumption. The balance sheets of the 10 largest banks in the United States amounts to the national GDP (OCC 2010, von Kleist 2010) but the obligations amount to over 30 times the GDP (OCC 2010). If those banks were to fail, the world would be faced with a serious problem, because there will be no one that can afford the necessary bailout. In this report we criticize the Icelanders harshly for having acted unethically and recklessly, when many others also behaved in a similar manner. However, unethical behaviour does not become more acceptable, just because many others behave as badly. Because of its smallness, lack of transparency, nepotism, conflicts of interest, lack of gender diversity in staffing and the society's insular character, Iceland became a demonstration example we must take care to learn from.
Scandinavians have long thought of themselves as being immune to the corruption problems outlined here. Recent events have shown that this has been a self-deception that has cost Iceland more than they can afford, a precious lesson to be learned. Both corruption in terms of taking and giving of money, but more so in terms of taking and giving social favours, and the practice of opportunism and nepotism has been very dominant. This appears to be deeply rooted into parts of the Icelandic society, and it will be a hard habit to kick. Bringing in new people into politics, more women into social and economic governance and management may be one way to seek new blood to run the country in an ethical manner that benefits future generations. We need to get rid of the old boys club that governed Iceland and still is trying hard to prevent change – here the recent ruling of the High Court of Iceland (majority appointed by previous conservative government) that the Constitution Parliamentary election was illegal (for technical reasons) is a good example of the type of corruption that Icelandic society is engulfed in. Another example is the appointment of judge Porstein Oddsson (son of Davíð Oddsson, former Prime Minister and then director of the National Bank of Iceland) in 2007 by Árni Mathisen (then set Minister of Justice), over several more experienced and qualified applicants.

One of the important instruments for avoiding corruption is the concept of transparency on all levels of government and business life (Tilly 2003, 2006, 2007, Rothstein and Stolle 2004, Duffy 2010, Sverdrup et al. 2010). To prevent nepotism in a small country may be difficult, but the importance of independent institutions is too important to ignore any longer. In the Scandinavian countries, we tend to see ourselves as not being prone to corruption, but we need to realize that nepotism and lack of reaction to mismanagement is an aspect of corruption, and recent research has demonstrated that we do have this problem in the Scandinavian countries (Sverdrup et al. 2010). For some important functions (courts, state inspections, audits), it is very important to have complete lack of bias and independence. It would be better to purchase auditing work from other culturally similar nations like Norway, Sweden or Denmark. That would also avoid the cost of establishing permanent bureaucracies in Iceland, and thus saving costs in times when real funds are limited. It has been evident that Iceland as a nation has lacked the experience to cope with white-collar crime on the scale that happened here in the financial breakdown, and that lack of experience has made the effort to tidy up and bring culprits to justice slow and stumbling. At one point very valuable help was enlisted by bringing in a Norwegian banking expert as an interim director of the Central Bank of Iceland, as well as the help of the Norwegian-French lawyer Eva Joly. Eva Joly as a former French Investigative Judge and a seasoned international finance criminal investigator in France and Norway, was engaged by the Icelandic government as an advisor to the Special Prosecutor and commissioned with parts of the investigation, and this was very important for the success of the investigation.

Many civil servants of government, politicians and employees of existing business structures were deeply involved in what happened in Iceland. Therefore a certain degree of unwillingness to investigate or dig into the matter can be sensed at times.

When it comes to clearing up financial criminality, speed is of the essence (Borio et al. 2010). Much time went by, few house searches were done, and the involved persons had ample time to destroy important evidence. This can be excused by saying that law enforcement had little or no experience with this type of crime. Assistance from Scandinavian countries should have been solicited early in the investigation.

Previous financial crises have shown that when it comes to counter reacting financial failure, speed is of the essence. In Switzerland (as in Norway, Denmark and Sweden in the 1990s) the reaction was very fast. The government dealt with the largest banks early in 2008, before the international financial crisis was fully evident, by restructuring and refinancing their banks, before they failed (Schmidt 2010). The large banks had to have their different commitments partitioned up between separate business units without cross links, so that failing units could be bankrupted without too much calamity. Bonus programmes that promoted risk taking were also cancelled and top management remunerations moderated somewhat. Swiss bank managers protested loudly to this, mostly out of self-interest, but these protests were recognized as such and ignored. From 2010 the Swiss financial authorities require the banks to hold at least a 19% capital base. This is in contrast to the 7% capital base that is now being
faced in in Europe as recommended by the new Basel directives (Schmidt 2010). The Swiss authorities have chosen to have stricter directives nationally (CH:19%) and so has Norway (NO:10%).

The governmental regulatory structures in Iceland, as well as in countries like Great Britain, Luxembourg and Netherlands, where the Icelandic banks operated, failed, not as much with what they did as with what they did not do. They failed to react, inspect and understand the consequences of irresponsible banking, or ignored what was going on in the banks for different reasons. Failing to act can be a very damaging way of not performing the duty of the post, and professional negligence is a serious offence. In the Icesave case, neither the Icelandic, nor the Dutch or British Financial Inspection Agencies acted until the damage was already done.

It is important to realize the people that are the most ardent promoters of bank bonuses are neither the most qualified people, nor clever in terms of running banks properly (Arthur and O’Neill 2010, Parliamentary Special Investigative Report 2010). The threat that the banks cannot hire these people without bonuses is very good news, as they are among the most reckless and risk-prone bankers and therefore the banks are best served by not having them on their staff (Oritani 2010).

The bank owners have the responsibility to elect a competent board. If the board acts recklessly, the bank may fail and the ownership be made worthless in the process. Even if the state steps in and rescues the bank, it is important to realize that the government steps in to rescue the societal functions of the bank, but definitely not the ownership of the old owners that were unwise enough to elect a board that did not accept responsibility to run the bank professionally. The risk of electing an under competent board of directors in a bank is the loss of value in the bank ownership.

Because many people were involved in leading the banks to failure we propose, in the spirit of Winston Churchill (Churchill 1948) that some important principles should be adopted in the future:

1. The financial sector created what Prof. William K. Black refers to as a criminogenic environment. For those people that realize what they have done wrong, and learned from the experience in a way that it is unlikely that they will act similarly wrong again in the future, we should be fair and lenient and consider pardoning them and keeping them in the organizations if their acts did not include serious criminal conduct or malicious intent. An emphasis must be to on improving the environment they work in, to prevent excesses and the rewarding of risky behaviour.

2. For those that did not learn from this experience, and retain the same risk-taking, greedy, dishonest or irresponsible behaviour to this day, indicating that they would be likely to act like that again in the future, we should show neither clemency nor any forgiving. For those, Iceland’s financial system has no future needs and those who have not lost their job already must loose their positions as soon as possible. Those that were involved in criminal conduct or acted out of malicious intent should be brought to justice and take full responsibility for their acts.

It is important to realize that many of the driving factors behind the Icelandic banking crisis as well as the international financial crisis, arise from a fundamental systems crisis in our present world (Jackson 2009). The economic model based on eternal financial and material growth has started to meet the limits, where the human civilization had grown in size to outpace the capacities of the planet (Rockström et al. 2009). Against such limitations, all talk or negotiations are futile (Eddington 1928) and carrying on as if nothing had happened, will lead to huge problems, on a scale never seen before, in the foreseeable future. At the present growth rate and size of the human global populations, that crisis may occur rather sooner than later. Therefore it is the basic economic paradigm that is in need of reform (Jackson 2009, Lietaer et al. 2010). The economies of the democratic world have the advantage that they are “learning-adaptive” systems (Senge 1990) and in principle can change (Vennix 1992, Meadows et al. 2005, Senge et
al. 2008). How much and when is a true test of democracy.

Many issues remain to be investigated after this study, which was conducted on limited funds. Our report does not answer all the important questions - as questions were answered, new ones were raised. The systems diagram are first iterations, and will benefit from further iterations. We set out to map the connection between social systems and what happened in the lead-up of the financial collapse in Iceland. However, there are some fundamental factors pertaining to the social and economic spheres that are linked and need further investigation and analysis. Many issues remain to be investigated after this study, which was conducted on limited funds. Our report does not answer all the important questions - as questions were answered, new ones were raised. The systems diagram are first iterations, and will benefit from further iterations. We set out to map the connection between social systems and what happened in the lead-up of the financial collapse in Iceland. However, in the case of linking the economic and social spheres, we have done an exploratory study that could have been iterated several more steps. The issue of social trust and how that is linked to accountability and governance should be further explored. The present state of apparent disconnect between social responsibility and economic activity appears to be an unsustainable state of affairs.

To follow up on this study we wrote to the three restructured banks in November 2010 and asked them for their corporate social responsibility policy. Only one of the banks replied, Landsbankin. Their response is given in Appendix 1. We also note that as of January 1, 2011 Landsbankinn has hired a person responsible for CSR policy.

We encourage those who are interested to compare Landsbanki’s response to our query to the social responsibility charters of Triodos Bank (Netherlands and UK), Ekobanken (Sweden), Cultura Bank (Norway) and Merkur Bank (Denmark) (see Social Responsibility Policies 2011). Íslandsbanki and Arionbank do either not have any such policies or they could not be bothered to answer our queries on this issue. This we feel is food for thought for their bank customers.

Upon completion of this study we have come to realize that societal rot has taken root in many places. The problems may have spread to other business activities in larger state-owned entities like the energy companies, where relatively large amounts of money are handled. One community-owned company in Reykjavik, Orkuveitan, is in deep financial trouble and has been going through restructuring under the leadership of a new board of directors and an interim managing director (till early February, 2011) taken from the University of Iceland School of Engineering and Natural Sciences, a person not coupled to the earlier leadership. Icelanders need to be awakened, asking questions, and when no proper answer is given, demand transparency and take action.

11 Special Thanks
To help understanding the systems in question a number of people were interviewed; academics, people from the financial industry and politicians. Special thanks too all the people that helped us, answered our questions and contributed in any way. Special thanks go to the following persons:

- Iceland
  - Ármann Þorvaldsson, former head of Kaupthing Singer and Friedlander.
  - Æsgir Jónsson, head of Arion Bank’s analytical department.
  - Friðrik Már Baldursson, Head of the Department of Business Administration at the University of Reykjavik.
  - Hjálmar Gíslason, entrepreneur and private founder and CEO of DataMarket; he has started several small enterprises in Iceland.
  - Mári Guðmundsdóttir, director of the Central Bank of Iceland.
  - Salvör Nordal, Director of the Centre for Ethics at the University of Iceland and co-author of the Ethical Section of the Parliamentary Report (volume 8).
  - Tryggvi Þór Herbertsson, Member of Parliament, former professor of Economics at the University of Iceland and former CEO of Askar Capital investment bank.
Vilhjálmur Árnason, Professor of Philosophy at the University of Iceland and lead author of the Ethical Section of the Parliamentary Report.

Þóranna Jónsdóttir, Communications and Business Development Manager at Auður Capital.

Norway

Björn Morten Stubberud corporate account manager, and specialists in credit evaluation and risk assessment DnB Nor Bank, Oslo headquarters.

Vegard Sæten, CEO of the Hamar District Office DnB Nor Bank.

Marit Straetkvern, Hamar District Office DnB Nor Bank.

Geir Kvivesen, Quality and Risk Management, Oslo branch, DnB Nor Bank.

United Kingdom

Jón Danielsson, Associate Professor of Finance at the London School of Economics.

Jónas Oddur Jónasson, PhD student in Operation Research at the London Business School.

Sigrún Davíðsdóttir, independent news reporter based in London. She reports for the Icelandic public broadcast radio.

USA

Jón Steinsson, Assistant Professor of Economics at Columbia University, New York.

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On November 3, 2010 we sent a letter to the Boards of Directors of the new banks that were founded out of the ruins of the three major banks that collapsed in the autumn of 2008. These banks are Arion bank (formerly Kaupthing bank), Íslandsbanki (formerly Glitnir) and Landsbanki (formerly also Landsbanki). In the letter we asked for the Corporate Social Responsibility (CSR) Policy of the new banks. We also asked them to clarify who were the current owners of the bank, and which policy they have for investments.

The only response we obtained was from Landsbanki and their response is copied at the end of this report.

**Relevant notes of interest**


- The board of Landsbanki announced on April 29, 2011 that bonuses would be re-introduced, which casts shadow on their new CRP.

- Íslandsbanki obtained an award early 2011 from the Association of Women in Business for having achieved 50/50 gender ratio in senior management.

- Arion Bank started working on a CSR policy in 2009, but it was abandoned as soon as a new Director and Board of Directors were appointed in 2010.
3. nóvember, 2010

Formaður bankastjórnar Landsbanka/Arionbanka/Íslandsbanka

Gunnar Helgi Hálfdánarson – Landsbankinn – Austurstræti 11
Monica Caneman – Arkonbanki – Borgartúni 19
Friðrik Sóphusson – Íslandsbanki – Kirkjusandi

Ágæta bankastjórn,


Í áframhaldi af þeirri vinnu hef ég áhuga á að fá frá ykkur það sem kallast á ensku “CSR policy” (corporate social responsibility policy) eða samfélagsábyrgðarstefnu banksins ykkar í dag. Ég bið ykkur einnig um að skýra mér frá hverjir eru núverandi eigendur banksins, hver þeirra samfélagsábyrgðarstefna er og hvaða stefnu þíð hafið í fjárfestingum. Ég hef ekki fundið þessar upplýsingar á vefsiðu banksins.

Virðingarfyllst,

Kristín Vala Ragnarsdóttir
Forseti Verkfræði og náttúruvisindasviðs HÍ
Corporate Social Responsibility Policy of Arion bank

We did not obtain a response from Arion bank and draw the conclusion that this policy is non-existent. We also do not know who their owners are or what investment policy they have.
Corporate Social Responsibility Policy of Íslandsbanki

We did not obtain a response from Íslandsbanki and draw the conclusion that this policy is non-existent. We also do not know who their owners are or what investment policy they have.
Kristín Vala Ragnardsdóttir
Forseti Verkfræði og náttúruvisindasviðs HÍ
Hjarðarhaga 2-6
107 Reykjavík


Landsbankinn hefur sent slika skýrslu til GC síðustu tvö ár og fylgir sú nýjasta með í viðhengi.

Eigendur bankans eru íslenska ríkið og Síltastjórn Gamla Landsbankans. Það er Bankaósýsla ríkisins sem fer með mólefní bankans fyrir hónd ríkisins og hefur verið sett sérstök eigendasteftna ríkisins til þess að mynda ramma utan um þau máli. Okkur er ekki kunnugt um að þessir tveir eigendur bankans hafi sett sér ítarlega stefnu varðandi samfélagslega ábyrgð.

Hvað fjárfestingarstefnu varðar hefur starfað sérstakur starfshöpur innan bankans sem hefur leitað eftir bestu framkvæmd banka í nágrannaríkjumum um fjárfestingarstefnu, lánareglur, síðareglur, stjórnaraðið s.r.o. Þar hefur sérstaklega verið leitað eftir því hvernig meginatriði samfélagsleglar ábyrgðar eru samþætt við þau atriði sem nefnd eru héru að ofan. Stefnumótun og úrvinslu hvað þetta varðar er ekki lokið.

Landsbankinn sinnir nú þegar mörgum máulum sem falla undir ramma samfélagslegrar ábyrgðar og mun leitast við að fella þau, þar með talin t.d. styrkjamál, að þeirri stefnu sem mótuð verður.

Landsbankinn vinnur nú að því að finna samfélagslegri ábyrgð skýrari ramma í bankanum, bæði með ráðingu sérfræðings sem sinna mun þessum málaflökk viðvörungo og með stuðningsneti sem verður honum til aðstoðar. Sérfræðingurinn mun heyrta beint undir bankastjóra sem gefur starfi hans miðoð vægni.

f.h. Landsbankans

Kristján Kristjánsson
UN Global Compact

Communication on Progress

October 2010
Statement of continued support

There is no need to elaborate on the difficulties faced by the Icelandic banking and financial system during the past two years, ever since the country's three largest banks were nationalised following their bankruptcy in October 2008.

These events and their causes were a great blow to the entire nation. The creditability of Icelanders suffered outwardly, certainly, but the domestic upheaval, followed by a lingering numbness in the business sector and disputes centred on events past, present and future have had an even greater impact.

Landsbankinn has openly stated its intention to be an important actor in the restoration of Icelandic society and economy, a restoration that is not only aimed at the economy but also at a social and ethical renaissance. All of these issues will thus factor in the bank's operations.

What have we been doing?

Since the failure of the old banks, Landsbankinn has in effect been completely reorganised. While numerous changes were introduced immediately following the crisis, the most significant changes are new and still in the implementation phase. The bank is in the process of developing policies that emphasise new values and new ideas with a strong emphasis on corporate social responsibility.

A new Board of Directors took over the helm in February of this year and hired a new CEO around mid-2010. The positions of all managing directors with the bank were advertised for application in August. According to the bank’s new structure, special emphasis will be placed on the financial debt restructuring of households and corporations. Internal risk management will be greatly increased and a new division created to focus solely on resolving difficult debt issues in the corporate sector.

Landsbankinn has also established a Debt Management Advisory Centre for households and individuals. This division will support branches and other employees in providing services to indebted households. The aim of the Debt Management Advisory Centre is to meet the needs of customers, increase the quality of business transactions, solidify business relationships and review work processes to do with households in payment difficulties. Great emphasis will be placed on consolidating the knowledge residing with the bank’s employees as regards indebted individuals experiencing payment difficulties, points of legal contention and other issues relevant to resolving personal credit issues.

The bank’s employees have been instrumental in reshaping the bank’s policies, both through participation in meetings on the subject and group work focusing on developing and implementing various reformative measures. At the first Employee Meeting in April 2009, it was decided that the bank's employees would be involved in shaping and implementing the reforms closest to their hearts. Around 200 employees subsequently worked on over 60 projects, the results of which have now been incorporated into the bank's activities.
In August of this year, the bank held a series of meetings for employees where the report from Althingi’s Special Investigation Committee on the banking collapse and its effects were discussed. Outside experts reviewed the political, financial, operational and ethical reasons behind the crash.

Landsbankinn has made an effort to learn from the mistakes made in the Icelandic financial system leading up to the crisis in 2008. The bank’s credit policy is currently under review; furthermore, the bank’s procedures and work processes have been reviewed as part of recent work on policy development and organisational changes. The aim of these revisions is to examine mistakes made and introduce action to prevent them from being repeated.

Landsbankinn has set important targets on corporate social responsibility. Previously, CSR was concentrated on financial support for charities. According to the bank’s new approach, social responsibility will extend to other aspects of the bank’s operations as well. The most important step taken in this direction to date is the establishment of a special division devoted to CSR and the hiring of an employee to work on developing an overall CSR policy for the bank.

In its recent policy setting, Landsbankinn has emphasised the need to listen, learn and serve. These watchwords reaffirm that the bank is and will for years to come strive to be a solid financial partner to all Icelanders.

Steinthór Pálsson
Local Pioneer – Global Participant

Landsbankinn was the first Icelandic company to sign the UN Global Compact in 2006. Since then, the bank has made a commitment to support the Compact’s principles by making them an intrinsic part of its Corporate Social Responsibility (CSR) policies.

Landsbankinn has worked proactively by taking an initiative in organising and leading Icelandic companies towards co-operation within the framework of the Global Compact Network for Nordic Countries. Landsbankinn was a founding partner of the Icelandic Centre for Corporate Social Responsibility (Ethikos), the goal of which is to enhance the ability of companies in Iceland to respect social concerns such as the environment and human rights in daily operations. Landsbankinn was also one of the initial signatories to the UNEP Statement by Financial Institutions on the Environment and Sustainable Development. Other initiatives of note in the context of the GC principles on environment are the OECD Guidelines for Multinational Companies and the Caring for Climate collaboration.

Doing more by doing better!

For a financial institution located and operating in Iceland, human rights and labour standards are usually not regarded as major concerns. The employees of Landsbankinn have always endeavoured to be productive members of society. Having been through difficult times in the most recent years, the bank’s current aim is to embed CSR considerations in all operations. The intention is to achieve this by setting clear goals, publishing clear, step-by-step benchmarks and reporting on the progress.

After the bankruptcy, employee surveys showed a considerable drop in job satisfaction and loyalty towards the bank. Landsbankinn has since then looked to build employee trust and pride in their workplace by maintaining the atmosphere of respect and flexibility which has characterised its operations throughout. While job satisfaction and loyalty suffered initially, Landsbankinn’s marks have again risen. The bank has set the ambitious goal of reaching the same level of satisfaction and loyalty as before. On the other hand, according to the same survey, the pride of Landsbankinn’s employees in their workplace remains low. The bank is thus faced with the challenge to do even better in order for its employees to regain pride in themselves as bankers.

Landsbankinn’s Board of Directors realises that corporate social responsibility requires them to respond effectively to social, ethical and ecological issues facing humanity as a whole, as well as deal with the consequences of the financial crisis. These include challenges across disparate issues, such as ethics, global climate change, poverty, human trafficking, organised crime and human rights violations.

Last year, Landsbankinn created four working groups comprised of employees to represent the bank’s four most important stakeholders: Customers, employees, owners and the community. The group representing the community, consisting of representatives from various departments and with different backgrounds, focused on setting CSR goals for Landsbankinn and following up on their implementation with help from various other staff members. Since then, the organisational structure of the bank has changed and a special
CSR unit has been established, directly under the CEO. This unit will focus solely on CSR. In addition, a committee consisting of representatives from all departments will be set up to oversee practical implementation of CSR targets and strategies.

**Success through dialogue with stakeholders**
Landsbankinn recognises that a successful CSR policy will only be achieved through a dialogue with as wide a variety of stakeholders as possible. The bank has employed different approaches to initiate this exchange. As mentioned before, four main stakeholder groups have been identified. A wider circle of stakeholders, whose interest are also considered, has also been identified, including the environment, the general public, business partners, creditors, investors, public authorities, cultural and educational institutions, NGOs, the finance industry, auditors and suppliers.

Employees are important stakeholders. One example of participation by and dialogue with this stakeholder group are two extensive gatherings held by Landsbankinn for all employees in the past two years (so-called Employee Meetings). These meetings have been a forum for employees to express their opinions directly on issues such as ethics, education of staff and customers, service strategies and the competitive position of the bank. Every comment was documented and many of them lead to direct changes within the company. Recently the bank’s new CEO invited every single staff member to meet with him, in relatively small groups, to voice opinions on priorities in the bank’s five-year strategy. More examples of on-going dialogue are, for instance, the extensive employee surveys that Landsbankinn conducts in collaboration with Gallup on a yearly basis to gauge and react to staff opinions and wishes regarding their workplace, as well as one-on-one staff interviews conducted by managers once to twice a year.

Customers’ trust in the bank nosedived in the wake of the bankruptcy. Regaining their trust has been made one of the bank’s priorities for the coming years. Currently, nearly 50% of its customers think that the bank is rather or very reliable, compared to a previous 94% (figure 1).
Figure 1 - Customers' trust in Landsbankinn

To regain trust, we regularly engage with customers, both individuals and companies, through surveys and focus groups to garner opinions on the bank's services and reliability level. Customers are offered the chance to leave comments about Landsbankinn on the bank's website. Over the last months, one of the bank's priorities has been to develop a system that indexes customer complaints and comments, with an eye to increasing speed and proper handling of all communications. Finally, the new position of Customer Ombudsman is worth mentioning in this context. Customers of Landsbankinn, who feel they have not received fair treatment in their dealings with the bank and that their complaints have not been satisfactorily resolved by the bank, can refer their cases to the Customer Ombudsman. The Customer Ombudsman reviews all cases referred to him/her objectively and works closely with the Ombudsman of Debtors, a new office within the Ministry of Social Affairs and Social Security.

Most recent achievements
The following are projects which show Landsbankinn practising corporate social responsibility in the recent years:

- Benchmarks against which to measure contributions to society and quantitative goals have been set for the year 2013. The benchmarks are available to all employees via the bank's intranet and include goals on customer confidence in the bank, public courses on financial matters, information on CSR to employees and environmental affairs. Yardsticks and goals will be reviewed following the completion of internal reorganisation.
• A team of experts within the bank performed a wide-reaching analysis in relation to the policy-setting efforts of the CEO, focused on examining the approach by banks in other countries, in particular other Nordic countries, to social involvement, ethical obligations and information disclosure. As a result, three banks were selected as "role models" for Landsbankinn. A report to the CEO set out the path Landsbankinn has to follow in order to join the leading banks in this field.

• It was decided to dedicate one day each year to social issues to increase awareness, as well as knowledge of and interest in social responsibility with the bank's employees. The main emphasis will be on environmental affairs. A programme has already been set out and the bank's Marketing Department is responsible for implementation.

• A new unit, the Debt Management Advisory Centre, has been established. The Advisory Centre is intended to support branches and other front-line employees in servicing indebted households. The aim of the new department is to meet customers' needs, increase the quality of service and solidify business relationships, in addition to reviewing work processes as they relate to solutions for households in financial difficulties. Every effort will be made to concentrate in one place the knowledge present in the bank relating to individuals' credit issues, legal points of contention and other information relevant to the processing of difficult debt issues.

• This year, Landsbankinn opened a new public website, Fjarhogur, containing educational material on financial matters in the accessible form of blog entries by employees. One of the aims of the site is to be a forum for the bank's employees to communicate information and knowledge on finance and the economy to the public, free of any promotion of the bank's services or advertising material.

• Last year, Landsbankinn's employees were offered the chance to participate in a number of short courses on CSR, i.e. on the bank's CSR policy and on environmental affairs. The courses were well received, though with fewer participants than expected.

• Over 600 individuals participated in Landsbankinn's courses on household finances last year. The aim of the courses was to increase public understanding of financial matters and help customers gain insight into their own finances. There was particular interest in courses on the rights of pensioners, held in collaboration with the State Social Security Institute. Landsbankinn hoped to fill 75% of available places in these courses; in the end, participation was 124%. Plans are already in motion to offer these courses again in various locations throughout Iceland.

• An Equal Rights Committee, comprised of bank employees, was established and has reviewed the bank's equality policy in light of new legislation on equal rights.
The role of the committee is to ensure that the bank comply with equal opportunity laws and perform regular inspections on the status of equality issues. Furthermore, the Board of Directors of Landsbankinn agreed to ensure gender equality among management by aiming for no less than 40% representation by each gender at all times.

- Landsbankinn has formed a new policy regarding support for sports clubs. This new policy involves bringing together sports clubs and organisations or associations active in charity work or that represent disadvantaged groups. This creates a platform for sports clubs and their supporters or sponsors to work with Landsbankinn on charity projects. Landsbankinn will not decrease its financial support for participation in sports by youngsters and adults; on the contrary, overall contribution to charity increases, both directly and indirectly.
How we honour the 10 GC Principles

Principle 1: Businesses should support and respect the protection of internationally proclaimed human rights

Landsbankinn supports and respects the protection of internationally proclaimed human rights in all its operations. Discrimination on the basis of gender, ethnic background, religion, sexuality or any other grounds is simply not part of the bank's modus operandi. Landsbankinn ensures that each employee is respected for his or her own abilities, whether personal or work-related, and makes an effort to create a flexible working environment, endeavouring to help employees find a balance between work and private life. Prejudice and sexual harassment is never tolerated.

Financial education
Landsbankinn has always tried to be conscious of its responsibility as a member of society. One of Landsbankinn's priorities in its CSR strategy has always been to share the bank's main asset, financial knowledge, with different stakeholders. This obviously applies to providing the best financial advice possible to customers, both through day-to-day operations but also through a variety of other activities, such as public courses on financial matters, a blog site dedicated to finance and by educating various demographics in need of special information.

Community support
The following is a short list that exemplifies the mutual efforts of Landsbankinn and its employees to support the community during the financial crisis:

- Landsbankinn was one of the initial sponsors of Sjónarhöll, advisory centre for the parents of children with special needs. In 2010, the sponsorship agreement was extended for three years.
- Landsbankinn and the bank's Employees' Association united in participating in collecting for the Icelandic Cancer Association's programme, "Men and Cancer".
- Landsbankinn made a considerable contribution to the Icelandic Association of the Deaf in 2010, on the occasion of the association’s 50th anniversary. The bank also aims to increase its services for the deaf through offering specially targeted online material.
- The "Return to your roots" project aims to reinforce the connection between Icelandic emigrants to the US and Canada and Icelanders. The project involves sponsoring a visit to Iceland by 150 young descendants of immigrants.
- In summer 2010, 100 volunteers from Landsbankinn participated in cleaning ash in the environs of Eyjafjallajökull volcano following the eruption that occurred under the glacier.
- Soccer equipment was provided for Gambian children in a joint venture with the Red Cross.
• Three-year support will be provided for the UNIFEM project “Butterfly Effect”,
dedicated to preventing violence against women, focusing especially on Africa.
• The Lions Club and Landsbankinn joined hands in buying and training guide dogs.
• Landsbankinn’s online initiative encourages customers to donate to their charity of
choice through the Internet banking system. The project is a unique one-stop
facility for 80 charitable causes. No fees are levied; the entire amount goes directly
to the charity at no cost to the donor. Subscriptions are easily cancelled with the
click of a button.

Sports/Youth affairs
• Landsbankinn maintains close relationships with sports clubs in all communities
where the bank is represented and focuses its sponsorship on the clubs’ youth
programmes. Landsbankinn has also hosted several sports tournaments for children.
As previously mentioned, Landsbankinn recently launched a new project linking
support for sports with support for various charitable programmes.

Education and research
• “Reality Online” is an online life simulation game developed by Landsbankinn to
educate teenagers on societal and financial matters. Last year around 1,500
elementary school students participated in the game through their schools.
Landsbankinn has recently worked to further develop and improve the game.
• Another aspect of Landsbankinn’s involvement in education are the scholarships
awarded to outstanding students and projects at the University of Iceland, Reykjavik
University and Akureyri University. Scholarships are also awarded to outstanding
students at upper secondary school level.

Principle 2: Businesses should make sure that they are not complicit in
human rights abuses

Landsbankinn is dedicated to complying with all human rights regulations and promoting
such rights to the fullest extent possible. The bank’s Code of Ethics and Business Conduct, a
tangible manifestation of its values, was last updated in 2010. The Code is available to all
employees. It is a guide that encourages open and ethical behaviour. The Compliance
Officer, appointed by the CEO, arranges for the rules to be made known to insiders and
ensures that Landsbankinn’s employees and others covered by the rules are generally well
aware of them. The purpose of the rules is to set out the general obligations of employees,
to encourage honesty, justice and fairness in all transactions and to reinforce the trust of
customers and the general public in Landsbankinn. The rules encourage employees to
always act with honesty, never to take advantage of confidential information in their work
and avoid any practices which could damage the bank’s reputation. Special effort is made
to ensure that employees can report instances of suspected misconduct, which could cause
damage to Landsbankinn, the public and the economy, anonymously. Such misconduct may
be perpetrated by colleagues, managers or customers. No suggestion submitted in good faith shall have negative consequences for the employee, regardless of the outcome.

We offer employees anti-harassment training stressing the importance of preventing discrimination and treating fellow employees with respect and consideration at all times. The training makes clear that the bank does not tolerate retaliation against those who raise complaints and that failure to rectify offending behaviour can lead to termination of employment.

One way in which the bank can prevent complicity in the abuse of human rights is through its lending policy. Credit management involves prudently managing the risk and reward relationship and controlling and minimising risks across a variety of dimensions, such as credit quality, concentration, industry segment and type of credit facility. Landsbankinn's lending policy is currently under review by the bank's Risk Management team, and will take fulfilment of all ethical standards into consideration.

Customer protection
Landsbankinn does not discriminate between its customers based on gender, religion, opinions, nationality, race, family or other similar orientation. According to the bank's Code of Ethics, employees may not divulge to outsiders any information concerning the bank itself, the transactions of individual customers, institutions or corporations with the bank, their liabilities or assets. The obligation of confidentiality remains even after employment ceases. Employees shall also be free of any outside influence, interest or relationship in respect of the customers' affairs, which impairs, or risks to impair, their professional judgement and objectivity.

Principle 3: Businesses should uphold the freedom of association and the effective recognition of the right to collective bargaining

Freedom of association and the right to collective bargaining is protected in Iceland by a very strong labour code and well rooted and universally acknowledged respect for such rights. Collective bargaining between the social partners on wages and other terms of employment has a long tradition in all sectors of the labour market, including the banking system, and enjoys strong support from both social partners, i.e. trade unions and employers' organisations, as well as the government. Landsbankinn has always participated in these labour market solutions as a solid partner and complies fully with current legislation and regulations. Trade and professional unions are open to all those working in the field concerned and applicants may not be denied membership based on gender, national origin or any other grounds. The general level of unionisation is very high in Iceland compared to most countries, and it can be assumed that over 90% of Landsbankinn's employees are union members.

The Landsbankinn Employees' Union (FSLI) safeguards the interests of its members. It organises opportunities for its members to increase their knowledge of banking, enhances collaboration between employees and management and intermediates in any disputes. FSLI
rents out to employees summer cottages owned by the bank, organises courses and supports participation in sports by its members. The union is currently revising its policy with the participation of its members to ensure it meets their needs. Members will be invited to submit comments and suggestions and a poll will provide added insights. Landsbankinn Employees' Union is part of the Confederation of Icelandic Bank and Finance Employees (SSF). Landsbankinn has a representative on the confederation's Board of Directors. SSF represents its members in collective bargaining and works to improve and reconcile terms and conditions across member unions. Wage surveys are performed at regular intervals to monitor wage terms and equality among members. SSF also aims to improve all-round education, e.g. through grants from a vocational training fund, increase awareness and knowledge of collective agreements, union activities and professional matters through publication, informative lectures and seminars.

Principle 4: Businesses should uphold the elimination of all forms of forced and compulsory labour

Landsbankinn strongly supports the elimination of forced and compulsory labour, although such practices are hardly common in the Icelandic labour market. Landsbankinn strives to respect the laws, regulations and norms of its market and, to take this important matter one step further, Landsbankinn is currently integrating more rigorous screening processes into its lending policy in order to minimise the possibility of complicity in any form of forced labour or other human rights violations.

Principle 5: Businesses should uphold the effective abolition of child labour

Landsbankinn has always supported the abolition of child labour. Because of the nature of our operations, our chance to make a contribution to the fight against child labour is through a stringent lending policy. The bank's new lending policy will assess projects and borrowers with ethical considerations such as this in mind.

Principle 6: Businesses should uphold the elimination of discrimination in respect of employment and occupation

Human resources
Landsbankinn recognises and accepts its legal obligations to promote equality in employment policy and practice. According to the bank's equal opportunities policy, all decisions concerning staff members shall be purely on the basis of merit, whether this concerns career development, granting of assignments or training. As stated above, mobbing, prejudice and sexual harassment will not be tolerated.

We have successfully embedded diversity principles in recruitment processes; for example, we train recruiters in diversity and outreach advertising to ensure that we advertise in the right places to reach the broadest range of potential candidates. We have created learning
tools for managers and senior executives to facilitate their understanding of the impact of modern legislation. To further enhance the job development possibilities of employees, the aim is to create a jobs forum on the bank's intranet where notices on vacancies within the bank will be published.

In order to attract, support and retain the best professionals in each field, Landsbankinn is committed to ensuring an excellent working environment and effective staff development. A central facet of the bank's human resources strategy is to provide an enjoyable and interesting workplace where facilities, equipment and the overall work environment are the best possible.

To make sure that the strategy is translated into action, the bank applies a variety of assessments of its human resources strategy. These include assessments of staff turnover, the combination of staff (such as by gender, age and experience), employee interviews and annual employee surveys. All of these efforts are directed at obtaining information on how well the human resources strategy is implemented in practice and how effective it is. Landsbankinn's annual employee survey was last conducted by Gallup in March 2010. The overall results show that the employee's positive attitude towards the bank is slowly rising after its dive in 2009, when the grades hit a low point. Landsbankinn's position on most questions concerning employee loyalty and job satisfaction is on the rise (figure 2). This year's survey was conducted among all employees, with the exceptional response rate of 93%.

![Figure 2 - Employee job satisfaction on the scale of 1 to 5](image-url)
Principle 7: Businesses should support a precautionary approach to environmental challenges

Being a financial corporation, Landsbankinn’s direct environmental impact is relatively low and by default a precautionary approach applies to most of the bank’s operations. All activities are restricted to Iceland, where 72% of total primary energy is from renewable sources (as compared to the global average of 13%). The bank’s approach to environmental issues includes setting goals on decreasing the use of paper, toner and disposable cups in day-to-day operations. Employees have also had a chance to attend courses provided by the bank, in collaboration with Alta Consulting, on how they can contribute to protecting the environment, both in their work and at home. The bank plans to host more similar events in the coming months.

Principle 8: Businesses should undertake initiatives to promote greater environmental responsibility

Landsbankinn is highly committed to environmental issues, as is evident from the variety of international initiatives in which we participate. These initiatives include: Caring for Climate, the UN Environment Programme Finance Initiative and the OECD Guidelines for Multinational Enterprises. Landsbankinn’s commitment towards protecting the environment is also evident in its lending policy, which takes such risks into full consideration. As previously stated, Landsbankinn is making substantial efforts to tackle other issues, such as recycling, energy consumption, employee participation and carbon neutral operations, and these will be methodised further by the bank’s new CSR department. Today, Landsbankinn recycles an average of around 45 tonnes of paper from its operations annually. One of the steps that have been taken was a work group report on what improvements can be made to reduce the bank’s paper consumption, such as supporting duplex printing on every printer in the bank.

Principle 9: Businesses should encourage the development and diffusion of environmentally friendly technologies

To decrease its greenhouse emissions Landsbankinn has invested considerably in technological solutions enabling travel-free meetings. Landsbankinn emphasises electronic banking in its contact with customers. Landsbankinn encourages those of its customers who use online banking to receive their account statements electronically by making it easy to decline paper statements through personal internet banking. As a result, many users have chosen to receive their account statements electronically only. The bank will continue to motivate customers to receive other statements solely online. Steps have also been taken towards cancelling the mailing of printed bank statements to certain customer groups, thereby further increasing the ratio of customers that mainly receive bank statements electronically.
Principle 10: Businesses should work against corruption in all its forms, including extortion and bribery

Landsbankinn fully recognises the importance of eliminating any form of corruption and plans to enhance education on moral behaviour for employees. The first step will be to ensure that each and every employee is familiar with the bank’s Code of Ethics. Employees will be required to sign declarations to the effect that they undertake to abide and work by the Code in all respects. Means to educate employees on various ethical dilemmas will also be explored. Most actions against corruption at Landsbankinn are supervised by the bank’s Compliance Officer. The Compliance Officer is independently responsible for ensuring that the bank abides by current legislation and external and internal regulations. Corrupt practices accompany and facilitate drug dealing and organised crime. Money laundering and illicit international money transfers, in turn, can be used as support mechanisms for international terrorism. Landsbankinn has implemented systems for the identification of its customers (KYC), including customer information in the case of recorded transactions, account opening, etc. The bank has policies and practices in place for the identification and reporting of transactions that are required to be reported to the authorities and screens transactions that are deemed to be of significantly high risk. The bank follows a strict policy prohibiting accounts/relationships with shell banks and covering relationships with politically exposed persons. An enhanced customer due diligence policy and procedure is applied in connection with higher risk clients, e.g. politically exposed persons. All front line employees attend annual courses on action to combat money laundering. Other employees receive regular training and in spring 2010, all employees were required to complete online tests on the bank’s actions to prevent money laundering. All employees were required to complete the test with perfect marks.

Landsbankinn’s increased obligations to know its customers are one aspect of heightened consumer protection. An assessment must be made of the knowledge, financial strength and experience of customers before they are provided with services related to securities transactions. Failure by Landsbankinn to obtain the required information prohibits the bank from providing customers with advice on securities transactions. Landsbankinn divides its customers into different categories in respect to different products or services, in accordance with MiFID rules. Compliance requires that all employees in securities transactions receive all necessary training to enable them to work in accordance with the bank’s obligations under the aforementioned MiFID rules.

Other issues related to corruption are, for instance, our policy on gift-related matters which is intended to prevent any doubt arising as to the impartiality and credibility of employees in handling and conducting cases. Furthermore, in order to reduce the possibility of conflicts of interest in the operations of Landsbankinn, and to ensure the independence of its employees, an employee wishing to participate in management of a company or in a business operation must submit a request to this effect to the Compliance Officer.