



BIFRÖST UNIVERSITY



# BEHAVIORAL ECONOMICS AND THE ICELANDIC ECONOMIC WONDER

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IS IT IN OUR NATURE TO MAKE IRRATIONAL DECISIONS?

Alexander Friðriksson

Final project for B.A. degree in philosophy, politics and economics

Faculty of social sciences, Bifröst University

Advisor: Snæfríður Baldvinsdóttir

11/4/2011





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## **Abstract**

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Is it in our nature to make irrational decisions? This research is done after the economic collapse in Iceland in 2008 and in the midst of a following recession. This research looks at decision-making in economic context using the discipline of behavioural economics. It puts forth an argument that we are pre-determined to make irrational decisions that are systematic and can therefore be predicted. This research looks to Iceland and uses examples of Icelandic economic and political life in the years 2006-2008 to demonstrate that important factors leading to the collapse were due to predictably irrational decisions. The hypothesis of this research is therefore that Iceland's collapse could have been predicted and potentially avoided. The research shows that the hypothesis is only partially true, whereas the economic collapse could have been predicted but, on the other hand very unlikely to be avoided due to society's myopic view towards its own success and in general a rather hostile behaviour towards those that put forth criticism.



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## **Preface**

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This research is inspired by a series of fortunate events. I would like to thank everybody who helped me with this research. I would especially like to thank my advisor, Snæfríður Baldvinsdóttir for very helpful comments and advise. I also would like to thank Alda Baldursdóttir for her support and reviews.

Hafnarfjörður, April 2011.

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Alexander Friðriksson



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## Introduction

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What makes the three biggest banks in the same country go bankrupt at the same time? Are we all not Homo Economicus? The author's answer to that question is no. This research aims to put forth a convincing argument that we are pre-determined to make irrational decisions and such irrationality can indeed be predicted. With that in mind the research will look to Iceland – its rise and its consequent crash – with specific focus on the years 2006-2008.

Theory and experiments in the field of behavioural economics will be combined with Iceland's economic and political history of these past years. In specific, the hypothesis is that the Icelandic economic collapse in 2008 could not only be predicted but also possibly avoided. The purpose of this research is to demonstrate that.

## Methods

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This project is based on descriptive research. The sourcing will be based on gathering information from books, reports, journals and published experiments. The sources for this project will come from several disciplines including economics, business, psychology, sociology and politics although it is mostly based on sources within the field of behavioural economics and the economic history of Iceland. The research is not meant as an in-depth analysis of the Icelandic economic and political history, in the years 2006-2008. The focus is, on the other hand, on common anomalies of behaviour and to contrast them with the actions, or inactions, and statements of notable persons from the Icelandic economic and political life.

Behavioural economic theory and experiments will be in the foreground of this research. It will be used to establish the fundamental requirements for the hypothesis to be true, which is that we all make irrational decisions and that these irrational decisions follow a systematic pattern and can therefore be predicted. Examples of Icelandic economic and political history will then be used as research ground to demonstrate that important factors/events for Iceland's economic collapse in 2008 were due to predictably irrational decisions. Therefore, as will be maintained, if those irrational decisions could have been avoided, then that would in turn had led to lead to the avoidance of the severity of Iceland's economic collapse.



This is not intended to be a psychological or sociological research of Icelanders or the Icelandic society. Sociological as well as psychological theory will only be used to illustrate a given point about how people, in general, behave in given situations.





## 1 Behavioural economics: history and assumptions

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Behavioural economics is a branch of economics that defines itself on its application of psychological insights to economics. The core reason for bringing psychological theory into economics is the conviction that better understanding of the human behaviour can improve the realism of economic analysis. That can in turn lead to improved economic models, better predictions and smarter policies (Camerer, Loewenstein, & Rabin, 2003). Behavioural economics does however not reject the neoclassical approach to economics such as utility maximisation and equilibrium. It, on the contrary builds on this theoretical framework and aims to improve the discipline of economics on its own terms.

Although behavioural economics is a relatively new discipline its roots go back just as far as those of classical economics. There have been many economists through the ages that have also been putting forth psychological theories, which might be explained by the fact that when economics first became a recognised discipline psychology did not exist as a discipline. Adam Smith, often called the father of modern economics and author of *The Wealth of Nations* (1776) was indeed interested in the psychology of his time, which can clearly be witnessed by his writing of a less known book called *The Theory of Moral Sentiments* (1759).

In the beginning of the twentieth century economists were trying to get their discipline recognised as a natural science. At that time psychology was not a very scientific study, which led to a distaste of using the psychology in economics and eventually led to a movement to remove psychology from economics (Camerer, Loewenstein, & Rabin, 2003).

Trying to get economics recognised as a natural science also had another effect. Positivism, often defined as the factual “what is”, became a more dominant philosophy than normativism, often defined as the judgemental “what ought to be”, in economics in the mid 20<sup>th</sup> century with proponents such as John Neville Keynes, John Maynard Keynes father, and Milton Friedman. Behavioural economics is mostly positivistic and shares the positivistic view that accurate predictions are the ultimate test of whether a theory is good or bad. The difference between neoclassical economics and behavioural economics, in this aspect, is the normative assumption of



behavioural economics that predictions of feelings and more realistic assumptions are likely to bring about better predictions (Camerer, Loewenstein, & Rabin, 2003).

In 1960 there was a breakthrough in cognitive psychology that had a defining impact on the development of psychology in economics, which was a change in conception of the brain from a stimulus-response machine to an information-processing device (Camerer, Loewenstein, & Rabin, 2003). That opened up new areas of research such as problem solving and decision-making, which led psychologists such as Amos Tversky and Daniel Kahneman to use economic models as a benchmark to contrast against their psychological models (Camerer, Loewenstein, & Rabin, 2003). It could be said that by doing so psychology came back into economics in the form of behavioural economics. Nowadays many prominent economists such as George Loewenstein and Richard Thaler incorporate psychology in their economic as well as business works, in the related field of behavioural finance.

The significance of better understanding of behaviour can lead to vast policy improvements by, for example eradicating the so called boomerang effect. The boomerang effect can be defined simply as an adverse reaction to a suggestion or order, pushing people one step forward and getting pushed two steps back. An example of how to eradicate this effect and have a smarter policy as a result can be seen in study done on about 300 households in San Marcos, California.

The purpose of the study was find ways to get people to be energy-conservative. This was tested by providing all the households with accurate information about their average energy consumption and the consumption of houses in their neighbourhood. Furthermore about half of the households were not just given descriptive information but also visual feedback in the form of emoticons, happy (☺) or unhappy (☹) depending on whether they conformed to the social norms for energy use or not. The results showed that the above-average energy users significantly decreased their energy use, while the below-average users significantly increased their energy use (Schultz, Nolan, Cialdini, Goldstein, & Griskevicius, 2007). The boomerang effect can be observed in the latter case and it just goes to show how difficult it can be to make a “one size fits all” policy, because while one part might show positive improvement the other might show negative improvement as seen in the above example.



The more interesting finding was however that the above-average energy users that also received the unhappy emoticon showed a larger decrease in energy use than those only given the descriptive information. Most importantly, the below-average energy users did not adjust their use upward, so the boomerang effect completely disappeared (Schultz, Nolan, Cialdini, Goldstein, & Griskevicius, 2007).

The real breakthrough then in terms of economic thinking is that this goes to show that there are other ways to influence behaviour than the classical economic thinking of raising prices, taxes or other negative influences to lower consumption. These classical economic methods usually don't bring about lasting change because when the same prices or taxes decrease the consumption should boomerang back. What the example above shows is that consumption can be lowered by simply giving people information about their consumption and the consumption of the people around them. While the simplest behavioural influences like happy or unhappy emoticons can bring about lasting change, in erasing the boomerang effect. It is therefore important to continue behavioural economic research and implementation to have more effective policies and better predictions from economic models (Camerer, Loewenstein, & Rabin, 2003).

## 1.1 Methods

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The methods used in behavioural economics do not differ much from those in other areas of economics, such as neoclassical or Keynesian economics. Theories in behavioural economics are constructed with a variation of the central scientific methodology, identifying a question, creating a hypothesis, testing the hypothesis and reporting results. Using knowledge, gained from psychology and sociology behavioural, economists take an assumption or model, which is used ubiquitously in economics, and try to find anomalies or contradictions within the given assumption or model. These anomalies or contradictions then form the basis for further research and alternative theories, which are then tested to see if they make more accurate predictions than previous economic models (Camerer, Loewenstein, & Rabin, 2003).

In the beginning, behavioural economics relied heavily on data gathered from experiments, since the controlled nature of experiments was the only accepted way to prove that something was due to behavioural anomalies rather than something else. Now more recently there has been a development of new ways to gather evidence and



behavioural economists have begun to embrace the full range of methods used in other areas of economics. These new ways include: field data, field experiments, computer simulations and brain scans (Camerer, Loewenstein, & Rabin, 2003).

Critics of using real world behavioural assumptions in economic models, such as Milton Friedman assert that using real world behaviour in economic models could bring about too much complexity without any necessary improvement in the predictability of the model. Therefore it is essential to simplify real world behaviour, characterised in Homo Economicus (McKenzie, 2010). An approximate definition of Homo Economicus would be perfectly rational, utility maximizing information processing machine, which has no problem weighing the expected net benefit of each potential choice. Even if wrong decisions were made occasionally they would be quickly corrected with the help of market forces (Ariely, 2009). Behavioural economists have responded to this criticism, by, for example, showing that complexity in economic models is no new phenomenon and that one 'complex' behavioural economic model could explain a particular economic phenomenon which would take classical economics more than one model to explain (Camerer, Loewenstein, & Rabin, 2003). Therefore the net complexity is not necessarily greater when you add real world behaviour.

Behavioural economics has been compared to experimental economics due to its heavy reliance on experiments, especially in the beginning. It would however be wrong to imply that they are basically the same, as not all economic experiments use psychology and in behavioural economics there are more ways now used than experiments. All in all the methods used, focus on psychological realism and economic applicability of the research to give the best predictions and for that, both empirical and theoretical research is useful.

## 1.2 Free lunches

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*There's No Such Thing as a Free Lunch* is the title of a book on public policy by Milton Friedman, the most influential economist in the latter part of the 20<sup>th</sup> century, according to the economist newspaper (The Economist, 2006). The saying conveys the meaning that every action of ours bears a cost called an opportunity cost, such as the opportunity cost of going to university instead of going to work would be the loss of revenue you could have gained at work. That was without doubt one of the mantras



of Friedman during his life as an economist as can be seen by the book title above. That saying reflects well the view that standard economics has about human nature, as perfectly rational utility maximizing information processing machine, so there would never be an opportunity for a free lunch because a free lunch would essentially be without opportunity cost, so one or the other Homo Economicus would already be exploiting all such possible opportunities to the fullest.

In Behavioural economics the view of human nature is closer to the description that the poet Edgar Allen Poe gives:

I have no faith in human perfectibility. I think that human exertion will have no appreciable effect upon humanity. Man is now only more active- not more happy- nor more wise, than he was 6000 years ago (Poe, 1844).

It is exactly this view of the human nature that excites behavioural economists because it suggests that there is room for vast improvement and opportunity for ‘free lunches’. In effect, saying that we are not Homo Economicus, exploiting everything to the fullest, but just as irrational as we have always been, which creates opportunities for improvement.

The basic idea behind free lunches can be seen in savings plan called *save more tomorrow*. The basic idea behind *save more tomorrow* is that people are not saving enough money for their retirement due to several factors such as, inertia, loss aversion (present pay checks going down), lack of planning and a lack of understanding of the time value of money. *Save more tomorrow* is a voluntary plan that invites people to automatically increase their savings percentage when they get a pay raise; therefore participants feel no actual loss of money. The automatic increases in savings rates continue only to a point that is considered to generate enough savings, maximum 15% (Thaler & Benartzi, 2004).

Where the *Save more tomorrow* savings plan has been implemented the results have shown that individuals that choose the plan stay in it until they reach a percentage close to the maximum of 15% (Thaler & Benartzi, 2004). This in effect produces benefits for all parties involved as it makes the participants of the plan as well as the participant’s family less worried about the future, which also results in a benefit for a company that now has more satisfied employees. This is the basic idea behind free lunches, that there are certain policies, tools or other methods that can provide net benefits for all parties by helping people achieve more of what they truly



want. Behavioural economists recognise that there is nothing that does not involve opportunity cost, but as long as these methods provide more benefits than cost they could be considered “as if” free lunches (Ariely, 2009). That is because although there is the initial opportunity cost of putting the money in a savings plan such as *save more tomorrow*, the benefit of methods such as *save more tomorrow* can make up for the initial opportunity cost in the long run and therefore could be considered “as if” free lunches.



## 2 Icelandic economic wonder

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From the 13<sup>th</sup> century Iceland was initially under the rule of Norway, then Norway and Denmark, then just Denmark, which lasted until 1944 when Iceland gained its independence and became a sovereign state (Eggertsson & Herbertsson, 2009). At that time Iceland was emerging from isolation and poverty, lagging around 15 years behind other West European countries in dismantling government control over the economy (Eggertsson & Herbertsson, 2009). Traditionally Iceland has been a more politicised economy than its neighbours and has through the ages relied heavily on the fishing industry, which defined its business cycles (Danielsson & Zoega, 2009). It was therefore of vital importance to ensure that the volume and the export prices were sufficient.

Iceland's monetary regime until the 1990s was very flexible towards the fishing industry. The Icelandic currency, the króna, got devalued whenever the volume of fish caught, or world export prices, fell. This was done frequently to support the fishing industry, which generated mostly all output growth, especially after the extension of Iceland fishing limits from 50 miles to 200 miles in 1976. This meant that the real exchange rate was kept too high for most other industries to do well; there was therefore a problem of a lack of diversification in the economy (Danielsson & Zoega, 2009).

On the other hand, the Central Bank of Iceland (CBI) kept real interest rates negative until the late 1980s and unemployment was also kept close to zero. There was therefore a proliferation of unproductive businesses and excessive investment (Danielsson & Zoega, 2009). When these negative interest rates began to undermine the banking system then government decided to seek relief through foreign borrowing. This led the net external claims of Iceland to rise to about 61% of GNP in the 1980s, leaving Iceland with little room for further borrowing (Eggertsson & Herbertsson, 2009).

In the 1980s and 1990s there was a liberalisation in financial and fishing markets, which resulted in the real interest rate becoming positive and therefore taking out many unprofitable businesses. The government also introduced a quota system for fishing, giving the owners of the quota a fraction of the total catch. The profitability created by this system later became an important pillar in the banking-based economy



(Danielsson & Zoega, 2009). That is because it provided initial capital for banks to use in investments.

## 2.1 A period of growth and internationalisation

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Iceland went through drastic re-structuring in the 1990s and early 2000s; it was heavily deregulated and privatised following its entry into the European Economic Area (EEA) in 1994. Prior to this re-structuring the major commercial banks and other financial institutions were state owned and controlled by agents of Iceland's major political parties. A formal market for stocks and bonds did not exist and in an evaluation of the financial systems of 102 countries done by the Frazier Institute in Canada, Iceland ranked 62<sup>nd</sup> with regards to how liberal the system was. It is interesting to note that it came in just ahead of Zimbabwe, which ranked 68<sup>th</sup>. (Eggertsson & Herbertsson, 2009).

When the banks were privatised and deregulated they quickly became a large part of the economy and were a leading source in the rapid economic growth that took place between 2003 and 2007 (Danielsson & Zoega, 2009). To give an indication of just how rapid, over the period 2004-2009 the years when the economy grew the fastest, average growth per year in terms of GDP per capita was 4,4%. An even more impressive 77% increase in real value of GDP in the years of 1990-2008 (Haraldsson & Magnússon, 2009). In comparison to Iceland's GDP growth, the Icelandic banks assets grew about 11-fold in eight years, from being less than 100% of GDP in end of 2000 to 11 times GDP in October 2008, just before the collapse. By that time more than half of the business done by Iceland's three biggest banks, Glitnir, Kaupthing and Landsbankinn, was abroad, with an average of more than 70% of their balance sheet totals in foreign currency (Jännäri, 2009). The banking groups made all sorts of investments and acquired many foreign companies, often puzzling foreign investors. These mass investments and take-overs were likened to prior Viking raids of the Viking age, with Icelandic investors called business Vikings (Eggertsson & Herbertsson, 2009; The Guardian, 2005). The largest of the three Icelandic banks, Kaupthing bank, operated in 14 countries around the world including all the Nordic countries, six European countries such as Germany and the UK as well as in the US, Dubai and Qatar (Eggertsson & Herbertsson, 2009). This brings us to the expression "if it sounds too good to be true, it probably is".





## 2.2 The collapse

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In October 2008 all three of the biggest banks in Iceland collapsed and were taken over by the government. At the same time the government issued emergency laws, which stated that Icelandic local deposits were fully ensured and allowed the Financial Supervisory Authority of Iceland (FSA) to take over the banks (Iceland Chamber of commerce, 2010). That marks, one could say, an official start to the collapse. The main reason why the collapse of the banks had such a devastating effect on the economy was that the three largest banks, Landsbankinn, Kaupthing and Glitnir, had many times the assets and liabilities of Iceland's annual GDP (Danielsson & Zoega, 2009). That being said there are mainly three factors that were the leading cause of the collapse: inexperience, political favouritism and lack of supervision (Danielsson & Zoega, 2009). Another important factor leading to the collapse is the social paradigm of the time, which will be looked at later on.

Inexperience can be shown by the fact that Iceland's banks had less than 10 years experience in running private banks on the international scene. Political favouritism can be seen with the privatisation of Iceland's largest bank in 2002, Landsbankinn. Instead of spreading the ownership between several parties, with no one party having a controlling interest as was originally intended. The government at that time gave a single investment group called Samson a 45% controlling interest in the bank. It did so even though the FSA was against it, but in 2003 the FSA finally approved the result after lengthy discussions (Jännäri, 2009). A lack of supervision can also be seen by the fact that the FSA was much too small to supervise the Icelandic banks and also had a lack of power to act against them (Jännäri, 2009). The CBI also did not oversee the banks as well as it should, whereas it could have raised the minimum reserve requirements to make sure the banks growth would be somewhat sustainable (Danielsson & Zoega, 2009). With a story like this, it is pretty evident that the current global financial crisis is only partly to blame for Iceland's collapse; the blame lies mostly at home. Iceland still undergoes economic scrutiny and will hopefully learn from its mistakes.



### 3 Decision-making under risk – the prospect theory

The prospect theory by Kahneman and Tversky is without doubt one of the most known and influential theories from the field of behavioural economics. The theory was published in 1979 in the journal *Econometrica* and since then has become one of the most cited articles on decision-making under risk. Kahneman and Tversky set out to criticize the general assumptions of the expected utility theory on decision making under risk, proposing a new theory, the prospect theory. The prospect theory gives a new account of decision-making under risk, which is based in part on the critique the French economist Maurice Allais published in 1953, which has now become known as the Allais paradox.

The Allais paradox exploits an effect called the certainty effect, which states that individuals underestimate outcomes that are merely probable in comparison with outcomes that are gained with certainty (Kahneman & Tversky, 1979). In effect, this means that one is biased towards certainty when choosing between outcomes. Kahneman and Tversky show this in one of their experiments based on Allais, which goes as follows. An individual is given two choice sets. First they choose between A and B in choice 1 and then between C and D in choice 2:

Choice 1:

A) 4000 with the probability of 0,8

B) 3000 with certainty (1,0)

Choice 2:

C) 4000 with the probability of 0,2

D) 3000 with the probability of 0,25

The result from this experiment is that in the first choice, 80% of the participants chose B and 20% chose A. Showing the tendency for the majority of participants to prefer certainty. In the second choice set, the preferences changed dramatically, 65% chose C and 35% chose D. The change of preferences violates the substitution axiom of expected utility theory which states that if B is preferred over A then any probability mixture (B, p) must be preferred over a probability mixture of (A, p) (Kahneman & Tversky, 1979).



From the experiment above it can clearly be seen that the participants did not follow that axiom since there was a dramatic shift in preference in favour of A when the probability mixture of B changes from 1,0 to 0,25. This also shows that there is risk aversion in choices involving sure gains and risk seeking in choices involving sure losses (Kahneman & Tversky, 1979).

Another effect that is important for the prospect theory is the isolation effect, which states that individuals discard shared components of prospects under consideration but focus rather on distinguishing components (Kahneman & Tversky, 1979). In essence this means that if we had two boxes with two colours, one green and blue, the other yellow and blue. The isolation effect then states that we would focus on the fact that we had a green box and a yellow box, ignoring that the two boxes are also blue. This is shown in another experiment where choice 1 from the experiment above was altered to include two stages. First stage being a qualifier where there was a 25% chance to advance to the next stage, which is the common component of the two choices. In the second stage the choice was the same as in choice 1 above, 4000 with the probability of 0,8 or 3000 with certainty. However the choice for the second stage must be made before the outcome of the first stage is known, so before one knows if one will advance to the second stage one must already decide what one is going to do. This two-stage effect makes this choice essentially the same as choice 2 in the experiment above. Because it makes the conjunct probabilities the same,  $0,25 * 0,8 = 0,20$  chance to gain 4000 and  $0,25 * 1,0 = 0,25$  chance to gain 3000. The results from this experiment are therefore quite astonishing because 78% of the participants chose the second option of the perceived ‘certainty’ of gaining 3000, which is not certain at all but has a 25% chance. These results contradict the findings from the previous experiment and in effect show that the participants ignored the first stage with the shared component, the 25% chance qualifier. Therefore the results from choice 1 above are almost mirrored perfectly, because the participants evidently treated the choices in the same way, ignoring the first stage (Kahneman & Tversky, 1979).



These two effects in turn found the basis of the prospect theory as such, which has three key elements in its value function; it is reference dependent, concave for gains and convex for losses and it is steeper for gains than for losses (Kahneman & Tversky, 1979). This is shown in figure 1. The main point therefore is that if your reference point is below your preferences you will be more risk-taking, if it is above your preferences you will be more risk-averse.

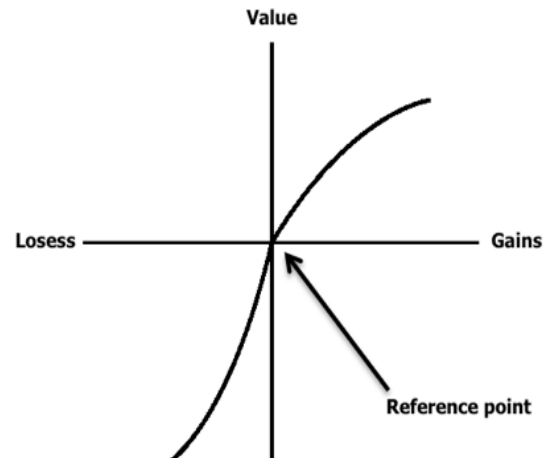


Figure 1 - Prospect theory

### 3.1 Prospect theory and the risk-taking behaviour of Icelandic bankers

By now we have seen that according to the prospect theory, individuals are more risk-taking when dealing with sure losses but more risk-averse when dealing with sure gains. That should tell us that when business is booming the company's decisions would be more risk-averse but when business is going badly the company would be more risk-taking in its decisions. The question to be answered here is if that is indeed what happened in Icelandic banks.

Laughunn, Payne and Crum did such an experiment on the behaviour of 224 managers within the U.S., Canadian and European companies, which will be used to lay the foundation for further claims. The results from this experiment show that when dealing with non-ruinous losses, 158 or 71% of the managers exhibited risk-taking preference for below target returns. This result remained consisted even when factors such as diversity of background of the managers, the context of the decision making process (framing) and the size of the losses were adjusted for. There was however a change in preference when there was a possibility of ruinous losses, then 48 of 75 or 64% of the managers became risk-averse (Laughun, Payne, & Crum, 1980).

These results fit well with the predictions of the prospect theory, as shown by the preference for risk-taking when the returns were below the reference point (target). It shows that there was greater expected utility from the risky decision than from the current utility of the below target returns, instead of accepting the loss there is an



escalation of risk to try to gain back the loss or at least break even; this is called the sunk cost effect (Þórsdóttir, 2009). The experiment here also shows that when dealing with probability of ruinous losses, the sunk-cost effect is smaller.

We can now see that when the managers of the Icelandic banks saw signs of where their businesses were heading in 2007 their risk-taking behaviour increased. There is at least no sign of being risk-averse or trying to avoid sunken cost if one looks at the founding of the online, high interest retail deposit accounts, Icesave and Kaupthing Edge as any indication (Þórsdóttir, 2009). According to a briefing done by Landsbankinn in London for the first quarter of 2008, the total number of Icesave account openings nearly doubled in that period, from 130,000 at the year's end to 220,000 at the end of March (Landsbanki Íslands hf., 2008). However, a seemingly important fact is left out of that briefing, that in the same time period the total value of the Icesave loans decreased by £627 million, from £4,832 million to £4,205 million, since the average deposits also decreased by a little over £17,000 (Special Investigation Commission, 2010). Even so, the briefing talks about the market potential for further expansion of Icesave in Europe with plans for two to three more countries to follow later in 2008 (Landsbanki Íslands hf., 2008). This is in concordance with the predictions of the prospect theory; the managers saw that business was declining below their reference point and the value function had become convex, meaning greater expected utility in increased risk-taking rather than accepting the current position of decline.

Examples like this could be taken also with the other three big banks but the example of the Landsbankinn's Icesave accounts, which were launched in October 2006, offers the clearest picture. The other two big banks, Kaupthing Bank hf. and Glitnir Bank hf., also opened similar retail deposit accounts but later than Landsbankinn. Kaupthing opened Kaupthing Edge in November 2007, available to 11 European countries and Glitnir opened accounts under the name Save & Save in June 2008, mainly for Icelandic and Norwegian markets. The expansions of the latter two accounts were though more modest than the Icesave (Special Investigation Commission, 2010). So by a little induction, it could be said that the general atmosphere of the Icelandic banks in the period leading up to the economic meltdown was a preference for risk-taking.



## 4 Difference in thinking

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In our daily lives we take a multitude of decisions on everything from deciding what would be a good shirt to wear for a given evening to more difficult questions, as to which university to choose or which bank to do business with. When making these decisions we rely on two kinds of thinking to process the information that we need, to make the optimal decisions. The first kind of thinking we do is intuitive and automatic but the second one is deliberate, reflective and rational (Thaler & Sunstein, 2009). These systems are called system 1 and system 2 in psychological literature but more suiting names here would be Automatic system for the first and Reflexive system for the second.

We use our Automatic system when things are done ‘without thought’ such as our reflexes and speaking our mother tongue, this system could be thought of as a doer. Our Reflexive system is in use when for example we have to make choices we are not used to make on a daily bases, such as deciding which car or which house to buy, this system could be thought of as a planner. The reflexive system is also used to deal with issues of logic, such as the sum of 378 times four. A very crucial thing when it comes to learning is that the automatic system can be trained to make good snap judgements, usually through loads of repetition (Thaler & Sunstein, 2009). It is important for a success of a business to be in balance of doing and planning because if there is all doing and no long term planning everything will eventually fall apart, but if there is all planning and no doing, nothing will ever get done.

### 4.1 Our limited powers of reasoning - bounded rationality

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As has already been touched upon, one of the main differences between standard economics and behavioural economics is the view of human nature. Whereas standard economics assumes unbounded rationality, behavioural economics assume that we have bounded rationality.

A simple definition of bounded rationality can be thought of as the need to satisfice rather than optimise. Meaning that humans can only process limited amounts of information and have limited time for every decision, and thereby take the first opportunity to suffice and satisfy, or satisfice their preferences rather than look for the optimal solution (Gigerenzer & Goldstein, 1996).



Within economics there are many arguments for why we should assume unbounded rationality. Let's look at two of the most prominent arguments: "as if" rationality and learning. It is fair to say that nobody assumes that people are unboundedly rational but only that they can act as if they were unboundedly rational. This argument set forth by Milton Friedman is a conditional argument; it is only valid if we can indeed act as if unboundedly rational, which we do in some cases. Research in the field of decision-making has however shown that we cannot, in most cases, act as if unboundedly rational; mostly due to inherent reasoning errors. We therefore in most cases stand before deliberation cost, a trade-off between cognitive effort and judgmental accuracy. Since the general rule is that we have a scarcity of cognitive resources and time, the behavioural economist view is that bounded rationality should be assumed as the norm in economic models rather than unbounded rationality (Conlisk, 1996).

The second argument for unbounded rationality elaborates on the previous one. It states that people can learn to take optimal solutions by practicing, therefore acting as if unboundedly rational in the end. That is why economists can just take a shortcut and assume unbounded rationality from the start. The problem with this argument is that it applies only to a very limited amount of cases, since learning only really occurs under favourable conditions like when there is opportunity for practice, good feedback and small deliberation costs for each repetition (Conlisk, 1996). Since many important decisions do not offer such luxuries and often even the opposite, it is then more rational to assume bounded rationality as the norm rather than unbounded rationality.

#### 4.1.1 Bounded rationality in politics and banking

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Bounded rationality also refers to the fact that information itself is often limited, which is so often the case in real life. In the years following Iceland's economic collapse there have been endless talks and demands about increasing transparency, both in politics and business from all parts of society, ranging from the president of Iceland to the general public, seen among elsewhere in Iceland's national forum 2010 (Vísir, 2010; National Forum 2010, 2010). In this context, the reason why transparency is so important is because it decreases the effects of bounded rationality



in such a way as to give access to more and better information, which in turn will result in better decision making.

One example of banking behaviour in Iceland is especially interesting in this regard. In the community of Dalbyggð in Iceland the initial investors of the community bank Sparisjóður Svartdælinga were given a chance to increase their investments in 2007. The bankers told the initial investors that this investment opportunity was so low risk that it could almost be considered risk free. The initial investors were even sent letters stating that the Icelandic investment bank, Saga Investment Bank was willing to finance this opportunity for them. Then when the investors came to look at the contract and its terms, they were not really allowed to take the contracts home, take some time to read them and think things over because this all needed to be done with great speed (Morgunblaðið, 2011). This seems to suggest that the bankers either did not have sufficient understanding of the risk involved or deliberately tried to force the initial investors to satisfice, by giving them assurance that this was virtually risk free, providing them easy access to capital and giving them virtually no time to think about it.

An example of forced satisficing can also be seen in the construction of Iceland's emergency laws. The laws that were meant to save the Icelandic banks and secure depositors. These important laws were done mostly over one weekend by two groups; one group consisted of agents from the Prime Minister's office and the ministry of finance while the other group consisted of agents of the Central Bank of Iceland. One remarkable thing about this is that there seemed to be a breach of confidence between the two groups, since the story goes that the group consisting of agents from the Prime Minister and Finance Ministry were told to work independently and have no communication with the CBI (DV, 2009). If the objective of the emergency laws was to truly find an optimal solution to the problem of saving the banks and securing the depositors of the banks, then there are especially two things that were missing. Firstly the time frame which can though be reasoned for by the urgency of the matter. Secondly the lack of co-operation, it seems like a very clear example of forced satisficing when one group is ordered not to co-operate with the other. Another issue of co-operation is that there was little to none talking going on with foreign agents during the construction of the laws, which guaranteed fully the deposits of domestic accounts but left the foreign account holders with no such guarantee. The story goes





that within the group of officials preparing the laws, that the laws were even called, in humour, “screw-the-foreigners-laws” (DV, 2009). This all therefore looks like a clear example of just satisficing rather than optimising.



## 5 The effect of context on decision-making

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According to the theory of rational choice, a choice is considered to be rational when it is deliberate and constant. We should furthermore always try to maximise the utility derived from our preferences (Ulen, 1999). Here it is argued that context can have a great effect on the way we make decisions; that our choices are less deliberate and constant than described in rational choice theory. Let's look at three ways we are affected by context: Framing, Anchoring and Coherent arbitrariness.

### 5.1 The framing of choices

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The framing of a choice can have considerable effect on the choice of an individual. When an individual is asked to choose between two different options, the change in framing alone can have considerable effect on the utility maximising decisions of individuals.

Tversky and Kahneman did a two-part experiment where individuals were first offered two choice sets A and B and then C and D, having to choose one option from each choice set. These sets were introduced at the same time:

Choice 1: Choose between:

- A) a sure gain of \$240
- B) 25% chance to gain \$1000, and 75% chance to gain nothing

Choice 2: Choose between:

- C) a sure loss of \$750
- D) 75% chance to lose \$1000, and 25% chance to lose nothing

In choosing between A & B, 84% of the participants chose A and 16% chose B. In the second choice between C & D, 13% chose C and 87% chose D, effectively showing a reversal of preferences. In choice one, participants are risk averse; their preference is for a *riskless* prospect rather than a *risky* prospect of equal or greater value. In choice two, the pattern is reversed, participants are risk-taking; their preference is for a *risky* prospect rather than a *riskless* prospect of equal value. These changes in preferences follow the S-shaped curve of the prospect theory; it is steeper when dealing with a negative change and smoother when dealing with a positive change. Therefore, the



utility associated with a gain of \$240 is greater than utility of 25% chance of gaining \$1000, just as the negative utility associated with losing \$750 is lesser than a 75% chance of losing \$1000 (Tversky & Kahneman, 1981).

Because the choices were presented together, the participants were actually choosing between four alternative choice sets: A & C; B & C; A & D and B & D. The most common set of choices where A & D, which 73% of the participants chose. The least common set was B & C, which was only chosen by 3% of the participants. The set of B & C is, without a doubt, a better choice than the combination of A & D. That can be seen in the second part of the experiment, where the choice was between A & D and B & C:

Choice 3: Choose between:

A & D: 25% chance to win \$240, and 75% chance to lose \$760.

B & C: 25% chance to win \$250, and 75% chance to lose \$750.

Here the participants clearly chose the better option, 100% chose set B & C. In this experiment participants chose in an entirely different way than in the first experiment, although they were essentially choosing between the same sets of choices; firstly A from choice 1 combined with D from choice 2 and secondly B from choice 1 combined with C from choice 2. The difference is just that the framing has changed. It can therefore be seen that the framing of choices can alter greatly the choices participants make; here there is a 97% increase in choosing set B & C. In the first part of the experiment, participants did not seem to realise the better choice because it was presented in two choice sets, but when it was combined in a single choice, participants found it easy to recognise the superior choice (Tversky & Kahneman, 1981). From these findings it can be seen that the framing of choices has substantial importance in decision-making and that our preferences are not always constant and coherent.



## 5.2 Anchoring

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In its simplest form, anchoring describes the effect that takes place when we encounter something new; we seem to anchor our preferences arbitrarily to what is presented to us at first time of exposure (Ariely, Loewenstein, & Prelec, 2003). That leads to the question: “do we behave like baby geese”? Konrad Lorenz, an Austrian zoologist did an experiment in which he divided a handful of eggs laid by a goose into two groups, one group was hatched by the goose herself and the other was hatched in an incubator. The group hatched by the mother, ‘instinctively’ followed their mother. The other group ‘instinctively’ followed Lorenz; because they were detached from their mother and the first thing they saw was Lorenz. As a test, Lorenz put all the goslings under a box, with him and the goose mother watching. When the box was lifted each gosling returned to their respective ‘parent’ and as it turns out the goslings that saw Lorenz first followed him loyally from then through adolescence. Lorenz called this effect ‘imprinting’ (Hess, 1958). This imprinting effect Lorenz witnessed is what is called anchoring, which could explain our similar behaviour.

In a study done by Simonsohn and Loewenstein about housing prices we can see a similar effect. They found that when moving from more expensive cities to less expensive ones, movers initially rent more expensive units but then adjust and move to lower rent units. The same happens in the opposite direction, when moving from less expensive to a more expensive city, movers eventually shift their preferences upwards. (Simonsohn & Loewenstein, 2006). Several alternative explanations for this behaviour were analysed such as the mover’s wealth or taste as well as the quality between units; the conclusion of that analysis was that those alternative examinations could not account for the observed patterns of moving seen here above (Simonsohn & Loewenstein, 2006). It seems then that movers are anchored to the price level in their pre-move cities and it shows that anchors can indeed have a powerful effect on daily life.

These findings also have implications on standard economic assumptions for short vs. long-term elasticity. The standard assumption is that demand should be more price sensitive in the long-run than it is in the short run. That is because people have the opportunity to adjust in the long run. Their findings suggest the opposite, that price changes will appear more dramatic in the short run. That is due to a contrast effect, to previous prices, that works as an indirect influence on movers combined with the



direct effect of prices. In the long run this contrast effect is lost, when movers grow accustomed to the new prices (Simonsohn & Loewenstein, 2006).

### 5.3 Coherent arbitrariness

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With coherent arbitrariness, the idea of anchoring is taken a step further to see the long-term effects of arbitrary anchors. This long-term effect can be seen with Lorenz's gosling experiment. Although the initial anchor, him or the mother goose, was arbitrary in the long-term, there was coherence shown by the fact that the goslings that were anchored to Lorenz as its parent followed him through adolescence. That showed that the anchor had a long-term effect.

This coherence of arbitrary anchors can be more readily shown in an experiment done by Ariely, Loewenstein and Prelec on the effect of social security numbers on auction prices. What they were trying to find was whether the last two digits of one's social security number had an effect on the willingness to pay for certain items. The experiment was done on 55 MBA students from MIT's Sloan School of Management. The students were handed a list containing several items; computer accessories, design book, chocolates and two wines. They were then asked to write the last two digits of their social security number on the top of the paper and were asked if they were willing to pay this amount for the items, then the auction began (Ariely, Loewenstein, & Prelec, 2003).

The results of the auction showed that the students were indeed influenced by their social security numbers. Those who had the highest-ending digits, from 80-99, bid the highest and those who had the lowest-ending digits, 1-20, bid the lowest. The difference was even quite staggering, those whose social security numbers were in the upper 20% placed bids that were 216-346% higher than those who had numbers in the lower 20%. Although the student's willingness to pay was arbitrary it was also coherent, since the willingness to pay for one item influenced their willingness to pay for another item in the same category. So the higher rated wine got higher bids and the same was true for the computer accessories (Ariely, Loewenstein, & Prelec, 2003). This thus shows that even though our initial decisions might be arbitrary the following decisions will cohere to the original decision. In other words, even though our initial decision might be irrational the following decisions will be based on our initial decision in a rational manner.



The implications for economics here are twofold, firstly regarding the supply and demand model and secondly, regarding the benefits of free trade. The usual definition of how the marketplace works is that the relationships between supply and demand is based on preferences and price, therefore a person that likes chocolate should buy more of it when it is discounted. When looking at this from the standpoint of coherent arbitrariness, these relationships are based on memory rather than preferences (Ariely, 2009). To illustrate this idea we can take two products, beer and wine. One day there is a new tax introduced that increases the price of beer by 300%, this would without a doubt change the consumption pattern of these two beverages in favour of wine. But what if the tax was followed by amnesia of past prices, then it is very likely that the consumption would remain essentially the same as before. The reason why, is because we usually don't think of the inherent value of product such as beer, but we know that we will buy more beer at a price level of 100 than we will buy at a price level of 300, given no corresponding increase in purchasing power. So the argument is that the sensitivity we show to price increases or decreases might just be based on the memory of previous prices and a desire to cohere with our past judgements, therefore not reflecting our true preferences or true level of demand (Ariely, 2009).

As regards free trade, the paradigm is that everybody is better off through trading in a way that trading offers the opportunity to maximise utility or value. So if Bob has apples but does not like them he can sell the apples to Lisa who loves apples, and the trade is therefore mutually beneficial. The assumption behind the fact that trade is mutually beneficial is that everyone knows the value of what they have and the expected value of what they can gain through trade. As we have seen in the auction experiment above, the value we anchor to items is often arbitrary, which thus begs the question whether we are indeed always better off through trade if we don't really know the real value of things. So theoretically we could mistakenly trade something that truly gives us great utility for something that truly gives us little utility, all because we somehow misfortunately had a low initial anchor for our item but a high initial anchor for the item to be gained. This would therefore just reflect our anchored value and not our true preferences, making one worse off (Ariely, 2009).



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#### 5.4 Context errors of Iceland's economic expansion

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Stereotypes are a peculiar phenomenon and are a good example of an anchor, which can have significant influence on behaviour. There are some debates whether stereotyping is good or bad, but for this research that is irrelevant, the important thing here is what influence they can have on behaviour.

Research that has been done on stereotyping shows that we react differently when we have a stereotype of a specific group of people in front of us; this is the common view and understanding of stereotypes. There is however a more interesting finding, which is that stereotyped people, people with a given label on them, react differently when they become aware of their forced label (Ariely, 2009). This was demonstrated by an experiment done on undergraduate Asian-American women giving them an objective math test. The experiment tested for two stereotypes. The common stereotype of Asian-Americans is that they are gifted in mathematics and science and the other less common one is that women are weak in math. The women were divided into two groups, one group was asked questions relating to their gender and the other was asked questions relating to their race. The results from this experiment showed that the performance of the two groups matched both the stereotypes of women, in general, and that of Asian-Americans. Those who were reminded that they were women did worse than those that were reminded of their race (Shih, Pittinsky, & Ambady, 1999). These results show that our own behaviour can even be influenced by our stereotypes, and that the stereotypic behaviour can be activated with priming.

Priming refers to the workings of our Automatic system, it is closely related to the term conditioning like with Pavlov's dogs, which learned to salivate at the ring of a bell. Priming is a little subtler; it usually only works if the person is not aware that he is being conditioned, otherwise it is likely to result in a boomerang effect. Priming therefore relies on previously learned behaviour and uses specific stimuli to induce a specific outcome (Ariely, 2009; Thaler & Sunstein, 2009). As in the experiment above, the stimuli were the questions of either race or gender, which in turn brought the outcome that the women were primed to think in terms of their race or gender.

So what were the stereotypes of Icelandic financiers in the time period preceding the collapse? As has previously been mentioned, Icelandic investors had the label of being new successful business Vikings going on Viking raids buying up companies in



nearby countries such as UK and Denmark. The business department of the University of Iceland launched a research called INTICE or Internationalisation of Icelandic companies in October 2006. Among the things being researched was the reasons why Icelandic companies were doing so well abroad. The managers of the Icelandic companies involved in the expansion abroad also gave their view on it. One of the managers said that Icelanders are brought up with the idea that the weather could always change and things should be done immediately and if they were not done immediately you would lose your chance of sunbathing, because the rain has started. He also added that the Icelandic managers are very brutal in dealing with the foreigners (Jóhannesson, 2009).

This description of Icelandic managers backs up the image of Icelanders as expansionist business Vikings brutally raiding nearby countries. Another manager quoted in the INTICE report, said that the younger managers were ready to do things fast and that they might have broader knowledge of the market place, as it is currently rather than older managers. With that in mind most of the senior staff in the Banks were in their 30s and 40s (Jóhannesson, 2009). The stereotype of Icelandic financiers has therefore been defined as a successful, relatively young group of quick thinking doers, which do business like brutal Vikings.

When looking back to the history of the economic expansion, one could see the mass media, academia and politicians praising the business Vikings for their actions and accomplishments abroad. This could be seen as stimuli, which in turn would prime the business Vikings to pursue further raiding. This could be seen as creating a circle of influence; the more the Icelandic banks and other financial firms grew the more they were primed to continue their expansion. Thus the single anchor, the stereotype of the successful Icelandic business Viking, could become a coherent mantra in society and even tether critical thinking. The societal influence and impact will be explored in more detail in the following chapter.





## 6 Social contagion of boom thinking

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By now we are beginning to see that we are not always as rational as we would prefer and that we can easily be led astray. This chapter will tackle the issue of the societal influences and impacts on decision-making.

Solomon Asch did a remarkable study on how group dynamics affect individual decision-making. Eight individuals were assembled together in a classroom setting under the pretence that they were going to be taking part in an experiment on visual judgement. What the participants had to do was very simple; they were first shown a white card with a single black line then another white card with three black lines. Their only task was then to say which of the three lines matched the one line on the first card; this was announced in sequential order, one after the other. The twist in this experiment was however that only the last individual in the sequence was being tested, the others were working with the experimenter (Asch, 1955). The results show that when asked under normal circumstances, the individuals almost never erred or only less than 1% of the time. However, when all the other participants made obvious wrong judgements before, then the subject conformed to the group and erred in more than one third or 38,8% of the cases (Asch, 1955).

The findings are quite remarkable because they clearly show the significant influence the majority decision can have. The implications for the economy and politics are that these were very obvious yes or no questions and yet they produced conformity more than one third of the time. The real question is how much more the conformity would be when dealing with real-life decisions that are far more complex and there is no obvious answer.

It is at least clear when the answer is not obvious; a single person can have a strong influence on the group's conclusion if he speaks confidently and firmly about a solution. Furthermore the group judgement tends to stick even after the person responsible for it had been long gone. This was shown in study done by Muzafer Sherif using the auto kinetic effect, in which a stationary light seems to move (Sherif, 1937). The implications this can have is that a private or governmental actor, such as the head of a bank or the head of a political party, can have a major influence on their subordinates and the public if the actor speaks firmly and with confidence.



What we can also see happening in sheriff's experiment is an effect called collective conservatism, which states that there is a tendency for groups to stick to established norms even when new ones arrive (Thaler & Sunstein, 2009). In relations to the restructuring that has been going on in institutions in Iceland after the crash we can see; that just getting rid of some or even few of the actors responsible for how things turned out might not be enough to change the established norms.

Far from only being limited to individual audiences, social influences can affect the entire market system. According to Robert Shiller, an economist who documented his predictions on the financial collapse in 2008 long before it happened, asserts that the social contagion of boom thinking is the most important element in trying to understanding this or any other speculative boom (Thaler & Sunstein, 2009).

In essence, what the social contagion of boom thinking really means is the observation of rapidly rising prices infects people with optimism that the prices will continue to rise. This optimism then spreads in a sort of an escalation or spiral effect, in which most people eventually come to think that the optimistic view is correct just because everyone else seems to accept it. As the mass media endorses the optimism people end up believing that they are living in a new era of prosperity, this is propelled by feedback loops, which bring about ever-increasing prices. Shiller asserts that these feedback loops of price-story-price occur again and again in speculative bubbles. He asserts that these bubbles are always bound to pop because they are dependent on unsustainable social judgements of real price or value (Thaler & Sunstein, 2009). The main implications this has is that herd behaviour can be fatal to sustainable success and that dramatic upward movements of the market can bring about substantial risk for the economy itself, as is portrayed in the wise saying "the higher you go, the harder you fall".

## 6.1 Social contagion in Iceland

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Was the kind of social contagion that Shiller describes prevalent in Iceland? Let's take a closer look. Iceland is a fairly small and homogeneous nation with a little more than 300.000 inhabitants with very few immigrants. In 2006 immigrants were only 5,9% of the population, which is nevertheless a big increase from 2,1% 10 years before. Furthermore the immigrants in Iceland are for the most part only from Europe. This creates among other things a lack of diversity of opinions and values, which



increases the likelihood and susceptibility of herd behaviour especially in such a small country (Þórsdóttir, 2009).

When looking at the employees of the Icelandic banks, it could be clearly seen that they were a rather homogenous group. As a point in case, the top executives of the three largest banks, Glitnir, Kaupthing and Landsbankinn, were nearly all men in their 30s or low 40s, with relatively the same background and education. As for the banks as a workplace, the profile of the typical employee was a male, aged from 25 to 35 years old. In a survey done for the Confederation of Icelandic Bank and Finance Employees in May 2008, it was shown that 41% of employees had only worked in the banks for five years or less, while 21% had worked there for two years or less. So the banks consisted largely of young, smart, ambitious and inexperienced males. This puts the bankers in risk of groupthink, which is a theory that marks the tendency of members of a group to yield to the desire for unanimity at the expense of critical evaluation and considerations of alternatives (Þórsdóttir, 2009).

There is also the problem of pluralistic ignorance with regard to the tendency of groups to accept dubious things just because everyone else seems to accept it. According to the theory of pluralistic ignorance individuals may alter their opinions or just stay silent because they wrongly think that everyone else disagrees with them (Thaler & Sunstein, 2009). This could be seen in the example in chapter 5.2.1 about the bank employees propagating a risky investment as essentially risk-free. The bank employee might think it morally wrong to propagate the investment as risk-free but still do it because he thinks that everyone else disagrees with him. This lack in knowledge and communication about what other people think and desire could therefore also lead to what is called the Abilene paradox, which states that a group of people might collectively decide to do something that is in contrast with the preferences of all the individuals in the group (Harvey, 1988).

Getting back to the social contagion, as mentioned before Iceland had been experiencing exponential economic and welfare growth since its independence in 1944, with the real GDP rising 77% in the years 1990 till 2008 (Haraldsson & Magnússon, 2009). Iceland even topped the UN human development index for 2007/2008 (United Nations Development Programme, 2007). Iceland therefore moved, in less than a century, from being one of the least developed in Europe to the



most developed. It should not therefore be surprising that there would be much optimism in Iceland about the future.

As previously mentioned, the financial sector was a leading source in this rapid economic growth since the joining of European Economic Area. It therefore seems reasonable to foster the banks and recognise their achievements; that is exactly what was done in Iceland. There were consecutive governments, with different political views and leaders, who declared their full support for further expansion of the financial sector (Jännäri, 2009). This support can be seen in a speech by the former Prime Minister of Iceland, Halldór Ásgrímsson, in the years 2004 to 2006. He stated more often than once, that it was his dream that Iceland would become an International financial centre and according to a report headed by the Head of Kaupthing bank, Sigurður Einarsson, this dream could be achieved if the government provided the right environment (Jóhannesson, 2009).

The optimism in Iceland at that time ran very deep, it was not only the politicians and financiers that were optimistic it was also the academia and media, and as Jannari points out, the bankers were just short of being considered national heroes (Jännäri, 2009). The two clearest examples of the support the financiers got from the academia can be witnessed in is first in the words of Hannes Hólmsteinn, professor at the University of Iceland, which said in an interview that the banking system has grown seven to ten fold over a period of four to five years. He then remarks how fun it would be to keep going and even increase the speed of the expansion (Jóhannesson, 2009). The second is a report by Frederic S. Mishkin, professor at Colombia University and Tryggvi Thor Herbertsson, professor at University of Iceland, on the financial stability in Iceland published 2006. In the report they conclude that Iceland's financial sector was broadly sound and definitively not heading down traditional routes to financial crisis as rumour had it (Mishkin & Herbertsson, 2006).

There is also some evidence of general groupthink regarding Iceland's expansion, which can be seen by the fact that all criticism of Iceland's success got portrayed in the media in one of four ways. Foreign authors showed: lack of knowledge of Icelandic financial life, were envious, carelessly put forth figures and words, or in the absolute minority, that the authors were right and should be taken seriously (Þórsdóttir, 2009).



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### 6.1.1 Overconfidence of financiers

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Overconfidence can be seen in many ways such as, overestimating ones competence, ones self-control or overconfidence in a given information. This over- or mis-interpretation can therefore result in a series of less than optimal, even harmful decisions.

According to a study done by Terrance Odean on U.S. discount brokers, stockbrokers that manage buying and selling at a reduced commission but provide no investment advice, overconfidence is very prevalent. The study showed that the discount brokers trade so excessively that their return, on average, are reduced through the trading. According to Odean this excessive trading was due to overconfidence in the broker's information. The brokers seemed to sell stocks that had substantially risen in value in the previous weeks, in effect, selling profitable stocks too early and keeping non-profitable stocks too long. This is believed to be due to overconfidence in the information they had, which then lead to more trading. The overconfident brokers might even trade when the gains of the trade are not enough to offset trading costs (Odean, 1999).

Overconfidence is also very prevalent among top managers and CEOs as studies done on top managers in the U.S. by Malmendier Tate show. In these studies they looked at what impact the overconfidence of managers have on their general investment decisions and specifically acquisition decisions. They studied top managers that bought, and excessively held on to, their own company's stock and going through data on acquisitions decisions from 1984-1994. The results showed that top managers are very likely to overestimate the return of their investment projects both in their current company and possible acquisitions. This overconfidence in their ability, lead to overinvestment in projects and greater likelihood of undertaking, and paying too much for, acquisitions. (Malmendier & Tate, 2005; 2008).

The senior management of Iceland's expansionist companies was a very risk-taking lot, more so than most and were proud of it. In the financial world, risk-taking is a necessity, since without risk the profit will most likely be small or smaller. There is however a fine line between necessary and excessive risk; if one takes too much risk, it increases the chance that one has played things too close and wager will be lost (Þórsdóttir, 2009).



The conditions for risk-taking behaviour were very favourable in the beginning of the 21<sup>st</sup> century. This is mostly due vast and easy access to borrow cheap capital, which made it easy to finance all sorts of investments that might otherwise be categorized seen as too risky. Due to the economic prosperity at both sides of the Atlantic, optimism was the only way to go for investors, which got reflected in the ever-soaring stock prices in Iceland as elsewhere. This, among other things meant that risk-taking behaviour paid off more often than usually in other times. The successes of these risky investments lead to an overconfidence in such risky deals and bred more and greater risk-taking (Þórsdóttir, 2009).

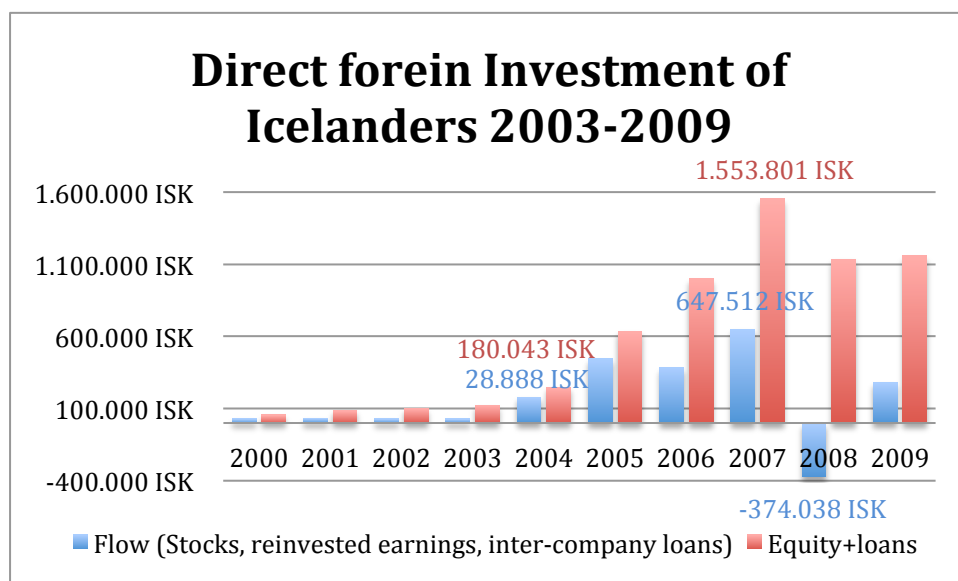


Figure 2 – Direct Foreign Investment of Icelanders 2000-2009

When looking at the foreign investment trend of Icelanders from the year 2000 onwards, one can see a significant increase in the flow of direct foreign investment and foreign equity gains from 2004 and peaking in 2007. After that a large negative flow in 2008 (Central Bank of Iceland, 2010). From the looks of it in 2009, the government interventions in the economy such as the nationalisation of the banks had some stabilising effect on the flow of investment and securing inter-company loans.

From all that has been discussed, it should not come as a surprise that the Icelandic managers were overconfident in their actions. Much like the managers in the studies by Malemndier and Tate and Odean, the Icelandic managers were driven by their overconfidence, previous successes and misinterpreted information. Based on the evidence above, it is not farfetched to induce that the social reasons for the Icelandic collapse in 2008 can be in large part explained by Shiller's social contagion



of boom thinking, that there were clear signs of overconfidence within society, which escalated with endorsements for the media, the government and academia. The huge increase in investment and price can then be in part explained by feedback loops of price-story-price, which occurred again and again until the bubble busted.



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## Conclusion

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Irrationality, an annoying variable that haunts most economists, it would sure make predictions better, more reliable and easier to handle if people behaved in a completely calculated/predictable way. This is the main argument for using Homo Economicus rather than Homo sapiens or simply humans as the main premise in economics. There is however a problem with this argument, if we were acting in a completely calculated/predictable way, how did the three major banks and subsequently the economy of Iceland fall in 2008.

This is where behavioural economics comes in; behavioural economics is a discipline where psychological theories and experiments are combined with economic theories and experiments to create a fuller picture of situations. This is done because behavioural economics assumes that humans are quite irrational at times and therefore states that incorporating this irrationality in economics can improve economic predictability and help people make smarter decisions.

It has been demonstrated that we are not at all at taking utility maximising decisions at all times. To start with, we can only process a limited amount of information due to time and brainpower and we face a deliberation cost between cognitive effort and judgemental accuracy. Then the information that we manage to process is highly biased to context, confidence level and the people that we are with. It has been shown in chapter five that by changing just the context of a decision it will significantly impact what is decided or what option is taken. We are also not the brilliant risk-takers we might think we are, in chapter three we saw that according to the prospect theory, individuals are more risk-taking when things are going badly and risk-averse when doing well. These effects on our decision-making are all predictable since they happen in a systematic fashion, which means that they can be accounted for and even controlled for, as we have seen in the experiments. It can therefore be said that we are pre-determined to take irrational decisions in certain situations; in essence we are mostly predictably irrational.

Does the hypothesis hold true, that the Icelandic economic collapse in 2008 could have been predicted and avoided? The answer to that is twofold. On the one hand we have seen that Iceland is no exception when it comes to irrationality in decision-making and that the irrationality can be accounted for and predicted. Icelandic





financiers were inexperienced and overconfident, backed by an over optimistic society cheering them on. They were at the forefront of risk-taking and invested heavily in other countries with little supervision.

It has been shown that the scale and the escalation of the Icelandic boom can largely be explained by behavioural anomalies that cause irrational decision-making but on the other hand it is one thing to know something and another to act on that knowledge. As has been shown, criticism to the success of the Icelandic financial system was taken rather hostilely and by and large firmly rebuked by the country's authorities, press, politicians and especially the financiers. It is therefore the author's opinion that the crisis could not have been avoided. Because even if proofs of these behavioural anomalies and their effects on the economy would have been presented to the government and financiers, it is highly probable that it would have been treated the same way as other criticism. For as the Navajo proverb says; "You can't wake a person who is pretending to be asleep".



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## **Lessons learned /suggestions for improvements**

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Now that we have looked at what happened and why, let's take a short look at what we can learn from this and give some suggestions for improvements. Before suggesting improvements or what might have been done better, the author would like to stress again that behavioural economic thinking is not a replacement for standard economics thinking, it is meant to improve the discipline of economics on its own terms.

The red line of this thesis has been the exploration of different models of thinking errors and challenging the assumptions of conventional, neoclassical, economic thinking. One thing that has however not been touched upon directly is the issue of ideology, more specifically the free market ideology that the “market knows best”. It is the author's belief that no laws, rules, policies or other mandates have more sway in what decisions people make than their thoughts, their ideology. Thinking defines the man, as Descartes famously said, “I think therefore I am”; if and when there then is a conflict between laws and ideology, ideology is likely to win. This can be seen clearly in these past decades where deregulation of financial markets has been seen as “the only way forward” for economic prosperity. The banking reform laws such as the Glass–Steagall Act of 1933 in the US, which among other things prevented one bank to act both as an investment and a depository bank, got repealed when it was confronted head to head with the ideology of the free market economy (Barth, Brumbaugh Jr., & Wilcox, 2000). The author believes that it is therefore most likely for the sustained success of economic reform to tackle the issue of ideology rather than bombard people with more rules and regulations, dictating what they can and cannot do. With this it is not being said that rules and regulations are not important, what is being said is that rules and regulations follow ideology; if the ideology is changed it is almost certain that the rules and regulations will be changed to fit that ideology. As can be seen with the changing ideology from focus on security and control in the years following the great depression of 1929, to the focus on freedom and non-interference of governments from the end of gold-backed currencies in the 1970s till current times. It is therefore the author's opinion that for the most effective change and reform, it would be wise not to focus too much on the nitty-gritty stuff but to focus on the core problem of the “flaws” in current free market ideology as



Greenspan puts it (Al Jazeera, 2008), because when the core problem of the flawed ideology is fixed, the nitty-gritty stuff will, by necessity, follow.



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