The Icelandic Bank Crisis of 2008
Case Study
MVE220 Financial Risk

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1 Word List

- Capital adequacy ratio (CAT)
- Credit default swap (CDS)

2 Executive Summary (Abstract)

The three largest banks of Iceland were deregulated in 2001. This gave the banks more freedom regarding investments and loans on an international level, leading to a rapid expansion of the banks.

In 2008 the financial system in Iceland collapsed when the banks couldn't refinance their loans. These loans were far greater than than the Icelandic government could afford and therefore no bailout was possible.

The collapse of the financial system could possibly have been avoided had one considered the risks involved in such a rapid expansion. Indicators such as CDS and the OMX Iceland 15 index were there, but the banks chose the high-risk-high-reward mentality over a more conservative approach. Had regulators looked at more risks indicators, like the CDS spread, the crisis could possibly have been avoided.

3 Outline

To understand this crisis, we will first give an overview of how a bank operates and what a credit default swap (CDS) is, as CDSs were instrumental in the fall of the Icelandic banks (Sec. 4) and the global economy. After that, In Sec. 5, we describe the events leading up to the financial crisis of 2008. Lastly, we discuss how the Icelandic government handled the crisis and what could be done to avoid such an event in the future.

4 The Banking System & Credit Default Swaps (CDS)

To understand how the Icelandic financial system collapsed it is important to have a basic understanding of how a bank operates and where they make their profits. The easiest way to understand how a bank makes money is that it borrows money for a low interest rate and lends it for a higher interest rate. However, there are

different types of loans and combinations of loans that make the banking system more complex than what was just explained. Sometimes banks take loans from other companies and financial institutions to support the loans they make to their clients. In broad terms, such loans are called bank bonds. A bond is a glorified I-Owe-You which states the amount owed, an interest rate and the date when the bank has to pay the money back. This date is also known as the maturity of the bond.

The health of a bank can be partially determined by its ability to pay interest rates and honor the contracts of the bonds that have been issued. However, since banks practice fractional reserve banking, they often have more debt than liquidity. Therefore, banks receive credit when normal people would not.

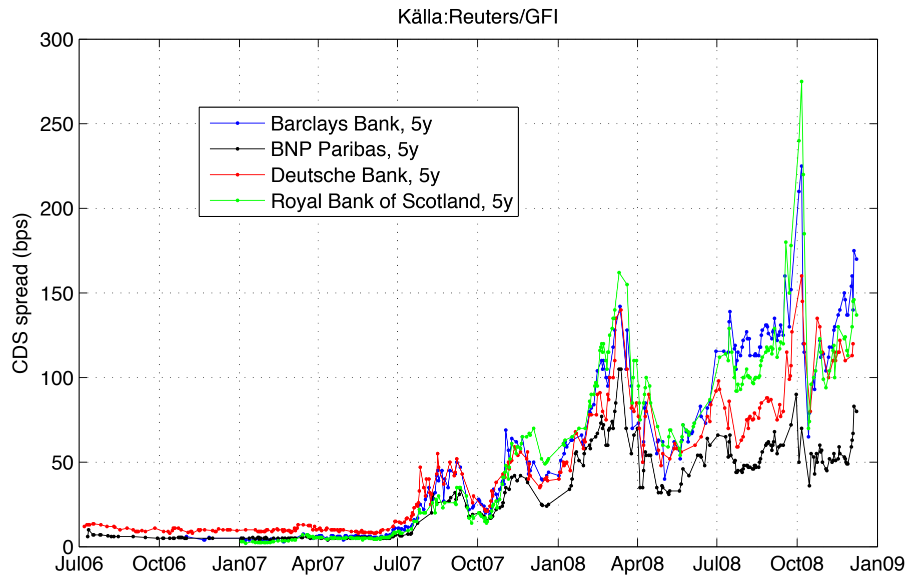
However, bond owners can purchase insurance against the obligor defaulting. This is called a credit default swap (CDS). If two parties have entered into a credit default swap agreement, the buyer pays a quarterly premium on the insurance, which is also known as the "spread", for as long as the loan has not defaulted. If or when the loan defaults, the seller of insurance pays the buyer the appropriate amount of money. The premium paid on the credit default swap thus becomes a good market index on how creditable a party is.

A purchaser of a CDS does not have to own the debt security (bond) which is ensured. Purchasing a CDS is a way of hedging against an obligor's ability to pay back their loan. Therefore, CDSs are often openly traded and their premiums or "spread" are quoted on up to an hourly basis. As investors became gradually aware of the housing market bubble, the CDS market sky-rocketed as investors hedged against the bank bonds that financed the housing market. In December 2007, the gross notional value of outstanding CDS contracts was estimated to be around 58 000 billion USD [5] which was over a 600% increase since December 2004.

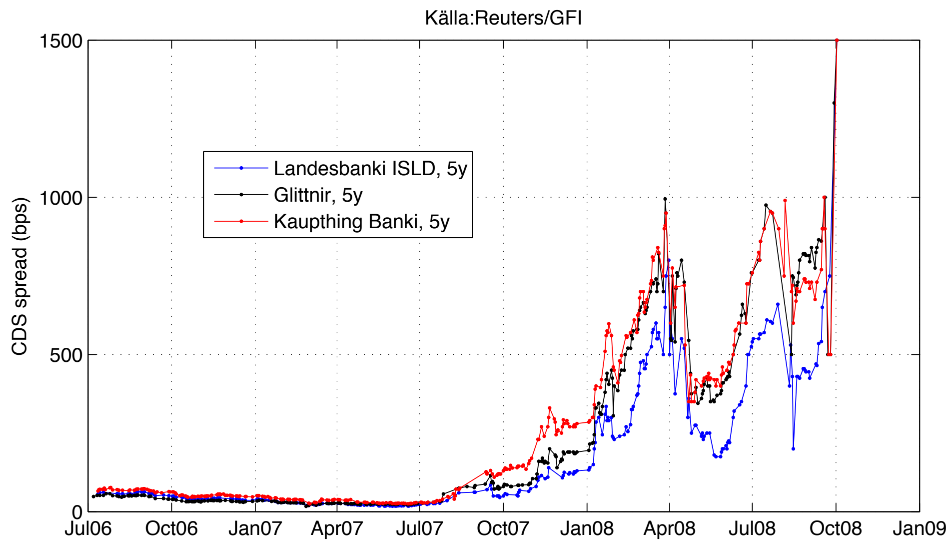
5 Background

Traditionally, the Icelandic economy has been centered around the fishing industry and energy resources. Until 2006, fishing was the main export, succeeded by aluminum (which utilises the accessibility of thermal energy on Iceland).

With the deregulation of the three largest banks of Iceland, in 2001, the banks where able to upload debt to companies outside of Iceland. The expansion of the banks where further financed by loans from the interbank lending market who were happy to finance the new financial market of Iceland.



(a)



(b)

Figure 1: The credit default swap spread in bps (1 bps = 0.01 %) of the Icelandic banks (bottom) and other European banks (top) from 2006 to 2009. Source: Reuters/GFI through lecture notes 9, slide 10 & 11 from the course in credit risk modelling 2017 by Alexander Herbertsson.

Figure 2: The value of the OMX Iceland 15 index. The index was based on the 15 largest companies in Iceland. Time period listed is 1998 to 2008.

The fast expansion, combined with high risk loans and a vast inflow of foreign investment created a rapid increase in the real estate prices and stock market. Furthermore, due to the high interest rates from the central bank of Iceland, foreign investors saw the opportunity to make profit from holding deposits in the Icelandic krónur. The crisis took shape when the banks where unable to refinance their loans. In September 2008 the wholesale funding was cut and the three largest banks of Iceland collapsed. Under other circumstances, the government could try to save the banks, but due to the size of the banks this was not possible. Instead the banks were put into receivership and the board of the banks were replaced. At the time of the crisis, many bankers were prosecuted for fraud and sentenced to prison.

On the 15th of October 2008, the chairman of The Icelandic central bank wrote a letter of intent to the IMF regarding the financial state of the country and their plan to salvage it. In this plan the central bank intended to issue government bonds worth 385 billion krónur in an attempt to stop the temporarily nationalised banks from defaulting. The new money issued were intended to recapitalise the banks up to a capital adequacy ratio (CAT) of at least 10% which further debased their failing currency [2]. Furthermore, the banks were split into 2 banks. The new bank handled affairs in Iceland and the old bank held the international debts.

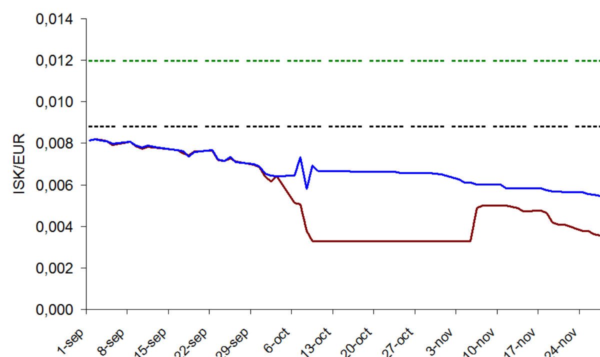


Figure 3: The exchange rate of the Icelandic krónur against the euro during September, October and November in 2008. Plot was created by Physchim62 and is licensed under creative commons license. The black dotted line shows the average from spanning January to August 2008, while the green dotted line shows the average from 1999 to 2007.

The nationalisation of the commercial bank Glítnir on 2nd of March 2008 was the starting point of the Icelandic banking crisis. The crisis caused three banks to default and major civil unrest followed from the risk of imminent collapse of the Icelandic financial system. The Icelandic stock exchange fell by 90%. Prior to this crash, the Icelandic stock exchange had grown 500% since 2004 which indicates an overheated market as seen in Figure 2. This index was made up of the 15 most profitable companies in Iceland at the time. Many of those companies were banks and investment banking and brokerage companies. Moreover, the Icelandic krónur crashed in early October 2008, trading for one euro at one third of the price prior to the crisis (see Figure 3).

Two risk indicators of the Icelandic financial crisis can be observed in Figures 2 and 1. The stock index had increased at an alarming rate since 2004 and the CDS spread of the Icelandic banks were significantly higher than other European banks in 2007.

6 Discussion & Conclusion

The banks were giving out too many loans to whoever they pleased. Also, banks were accruing debt themselves by borrowing money internationally to support the overheating market in Iceland. Since the OMX Iceland 15 index constituents were

predominantly banks, the booming Icelandic economy was supported by banks speculating and making investments. Moreover, the non-sustainable increase of this index, as seen in Figure 2, together with the increase CDS spread, as seen in Figure 1, indicates that the Icelandic economy was largely supported by what the market considered as risky investments.

These risks could have been avoided if regulators and banks had paid attention to what was obviously a bubble, as indicated by the sharp increase of the OMX Iceland 15 in Figure 2. Countermeasures by the Icelandic central bank to stymie hyperinflation in 2008 were set in too late when the loans had already been made.

In the future, perhaps regulators should look at what is actually going on. Look at financial indicators of risk such as CDS spreads and signs of overheated markets before the snowball effects of hyperinflation and banks becoming invsolvent sets in.

7 Reading Guide

The following sections contain information on recommended reading to understand the Icelandic Financial crisis.

7.1 The Banking System

To fully understand the Icelandic financial crisis it is important to have a basic understanding of how banks operate. Investopedia is a fantastic source to obtain this knowledge from. We recommend the following articles from Investopedia [3]

- Bond
- Stock
- Equity
- Debt
- The Banking System
- Central Bank
- Fractional reserve banking
- Credit Default Swap

- Interbank Market
- Refinancing

having read these articles the reader should have obtained sufficient knowledge to put further information in the right context when reading about the Icelandic financial crisis.

7.2 The Economist: Kreppanomics [4]

This article gives a good lightweight overview of Iceland's economy and the banks financial situation prior to the economic collapse in 2008.

7.3 The Rise, Fall and Resurrection of Iceland

To get an in depth analysis of what happened in the icelandic financial crisis one can read the the article 'The Rise, the Fall, and the Resurrection of Iceland' by Benediktsdóttir et al. [1]. We recommend reading the abstract, introduction and conclusion of this article which gives plenty of context for understanding why the crisis happened. Their main point was that the economic crisis in Iceland was in some aspects the ground zero of the global financial crisis in 2008.

References

[1] Sigríur Benediktsdóttir, Gauti B Eggertsson, and Eggert órarinsson. The rise, the fall, and the resurrection of iceland. Technical report, National Bureau of Economic Research, 2017.

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[4] Reyjkavik. Kreppanomics: How a banking crisis brought down a small economy.

[5] THE BOARD OF THE INTERNATIONAL ORGANIZATION OF SECURITIES COMMISSIONS. The Credit Default Swap Market. Technical report, INTERNATIONAL ORGANIZATION OF SECURITIES COMMISSIONS, 2012.