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Lessons from the Fall of the Icelandic Banking System

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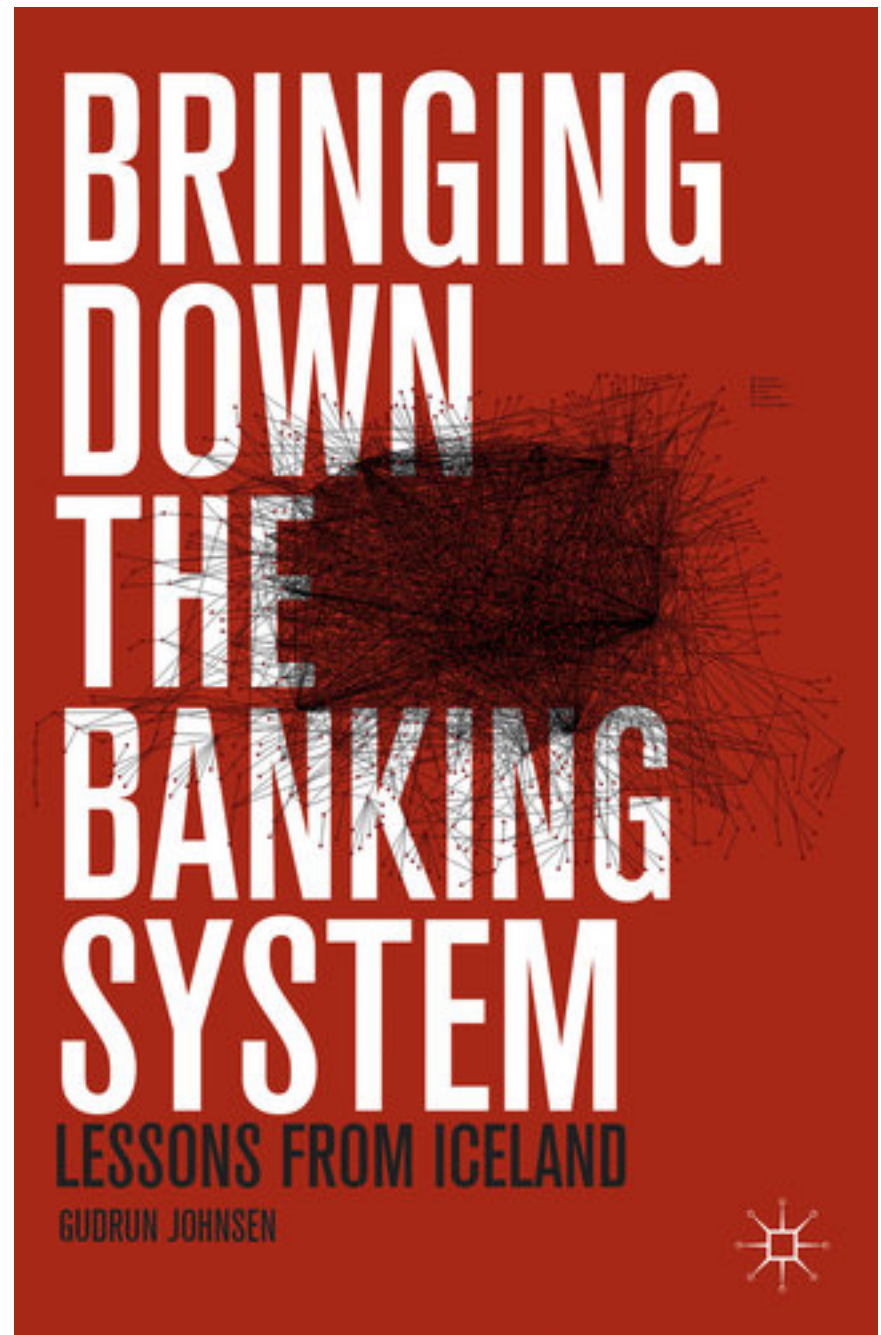
97% of the Icelandic banking sector collapsed in October 2008 as a result of rapid growth of credit, size to GDP and inadequate financial supervision

How?

Why?

Why didn't anybody stop it?

What can we learn?



On the SIC

- The Special Investigation Commission was installed by Parliament on December 31st 2008 by legal act. nr. 142/2008
- Members of the Commission:
 - Supreme Court Justice, Páll Hreinsson, D. Phil
 - Sigrídur Benediktsdóttir, PhD., Lecturer in Economics at Yale University's Department of Economics
 - Althingi's Ombudsman, Tryggvi Gunnarsson cand. jur.



The Mandate

To seek the truth behind the events leading to, and the causes of, the downfall of the Icelandic banks in October 2008, and related events.

The Committee shall furthermore assess whether **mistakes or negligence** occurred in the course of the implementation of the laws and other rules regulating and providing for control of the Icelandic financial sector, and what **persons may be responsible**.



Investigation Resources

- According to legal act. 142/2008 all confidentiality was lifted from employees, government officials or other individuals towards the SIC.
- The SIC had exceptional powers to collect data:
 - power to search all premises
 - seize evidence considered necessary for the purposes of its investigation
 - subpoena witnesses
 - any suspicions of criminal conduct was notified to the Special Prosecutor.



The SIC Product

- Published on 12th of April 2010
 - 9 volume report, 2400 pages (3200 total including online material)
 - A special section on whether causes of the collapse can be attributed to poor governance and/or ethics standards.
 - A special section on cross-ownership among Icelandic firms
- Translation in english of selected parts of the report can be found on: sic.althingi.is



Scope of the Research

- Combined bankruptcy of the fallen Icelandic Banks amounts to 180 bln. USD - which makes it the third largest bankruptcy in history*
 - Lehman Bros. – 691 bln. USD
 - Washington Mutual – 328 bln. USD
 - Worldcom – 104 bln. USD
 - General Motors Comp. – 91 bln. USD
 - Enron 66 bln. USD

*Source: <http://www.scribd.com/doc/37124921/Largest-Bankruptcies-Overall>



Scope of the Research

- Three banks:
 - Glitnir
 - Kaupthing
 - Landsbanki
- Surveillance Authorities:
 - Central Bank
 - FME (Financial Supervisory Authority)
 - Government Coordination Group
 - Prime Ministry, Ministry of Finance, Ministry of Commerce
- Cross ownership of all Icelandic firms existing in 2004-2008.



Number of staff of SIC 48

- Five Teams:
 - Legal team, total 10 contributors, 5 full time: Administrative law, Government Bodies, Legal Foundation of the Financial Market – Introduction of European Law into Icelandic Legal Acts.
 - Auditors, 5 full time:
 - “Case studies” on lending to 50 largest business groups in Iceland
 - Quantitative analysts (Economics, Finance, Statistics, Engineering), 14 contributors – 6 full time:
 - Economic Environment, Monetary and Fiscal Policy
 - Banking System:
 - Funding of the banks
 - Loan Portfolios of the Banks, and the Banking System
 - Incentive Structure
 - Stockmarket
 - FX market
 - Mutual Funds
 - Market risk, correlation and cross ownership.
 - Philosophers (Ethics) and Psychologists, 9 contributors, 1.5 full time
 - Foreign Contributors, 8



Data Collection
2004-2008
Monthly data

- Funding of the Banks:
 - All bonds issued in domestic and foreign market
 - All securitized debt issued
 - All collateralized loans with Central Banks or Repos – ICB, ECB
 - Deposits – monthly stock – weekly flow.
- Banks Lending Portfolios:
 - All loans in the Banks' parent companies - 6-7 mln. observations
 - All derivative contracts
 - All stock market trade down to individual investors 2004-2008 - high frequency data
- FX Trade Data – high frequency data
- Registry of Entreprises :
 - Shareholders of each enterprise over 5 year period including changes in ownership – fragmented data
 - Tax Authorities: Balance sheets of firms and households
- Incentive Pay: Total compensation and salary components paid out to bankers 2004-2008



Cost of the investigation

SIC Report:

- rna.althingi.is
- 2400 pgs
- 800 pgs supplement online
- 15 months
- Cost:
 - USD 2.5 million

Examiner's Report on the Fall of Lehman Brothers

- <http://jenner.com/lehman/>
- 2200 pgs
- 15 months
- Cost:
 - USD 38 million +

Source: Alþingi, Fjársýsla Ríkisins, Fjárlög 2009, 2010, 2011

Source: Chris Barr, 2010, \$648 million to clean up Lehman and counting, CNN Money, accessible at: <http://money.cnn.com/2010/03/12/news/companies/lehman.fees.fortune/>



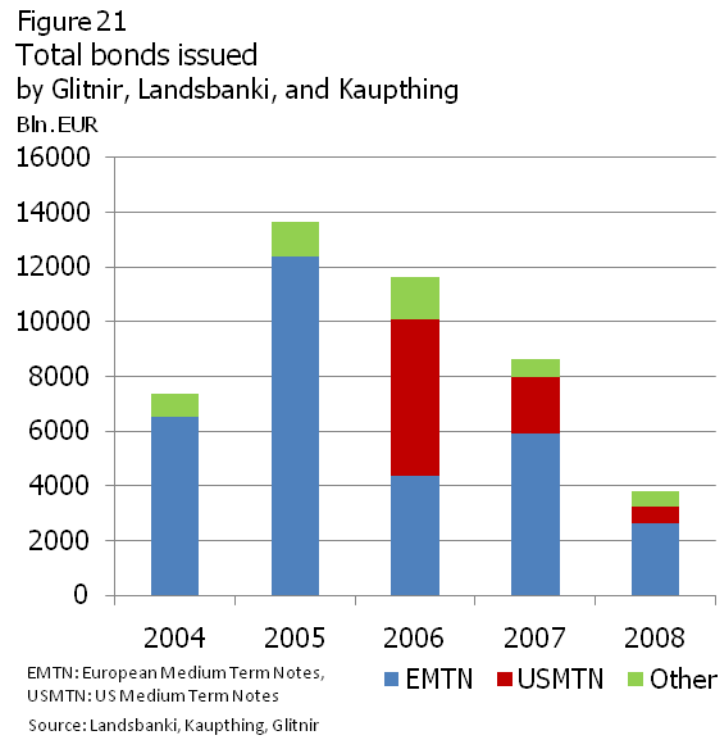
To start: Easy funding through bond issues on EMTN

- Plethora of liquidity
 - Global saving glut
- Stellar credit rating by large extent inherited from Icelandic State
- Paid interest rates at level of other emerging market institutions with lower credit ratings

Source: SIC report, Volume 2, Ch. 7, pp. 20

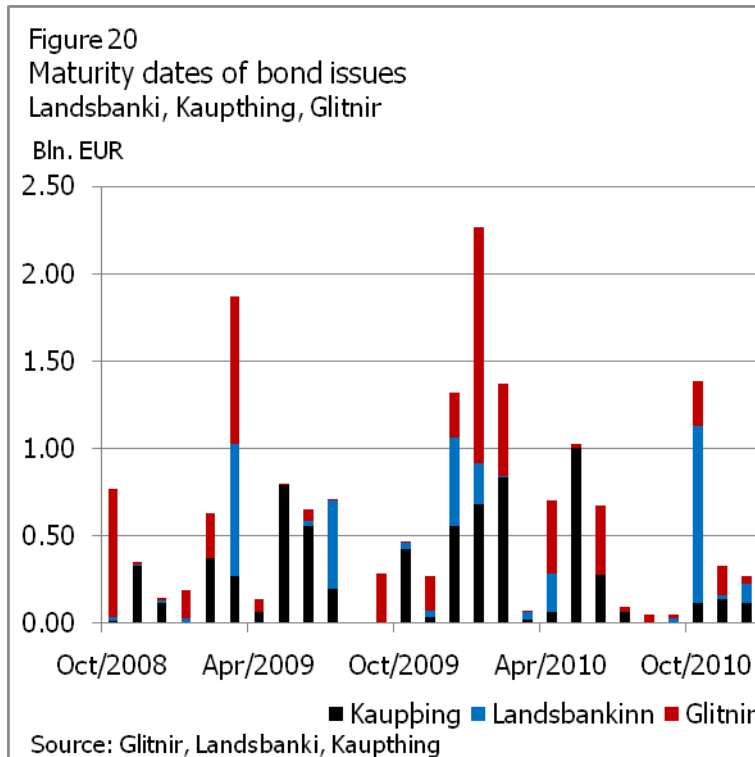


How?



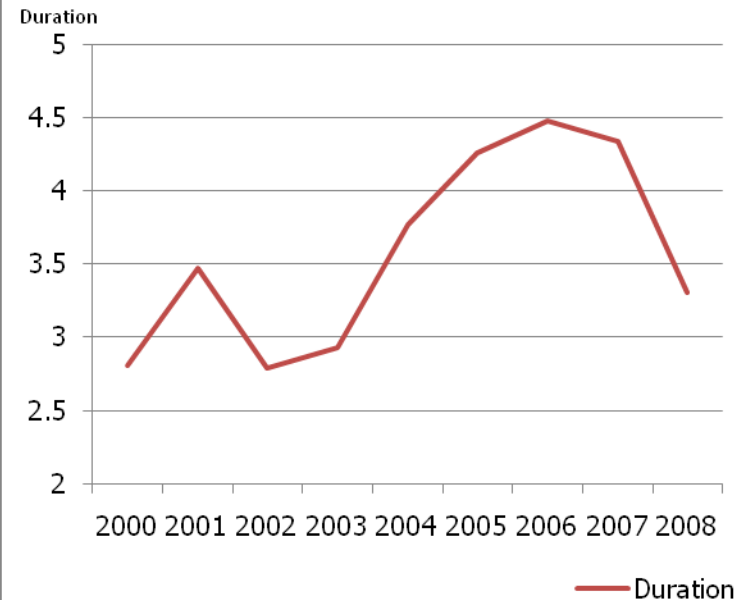
Maturity in 3-5 years

How?



Source: SIC report, Volume 2., Ch. 7., pp. 19 and 13

Figure 11
Outstanding debt duration
Glitnir



The terms were good in the beginning as credit rating went through the roof

How?

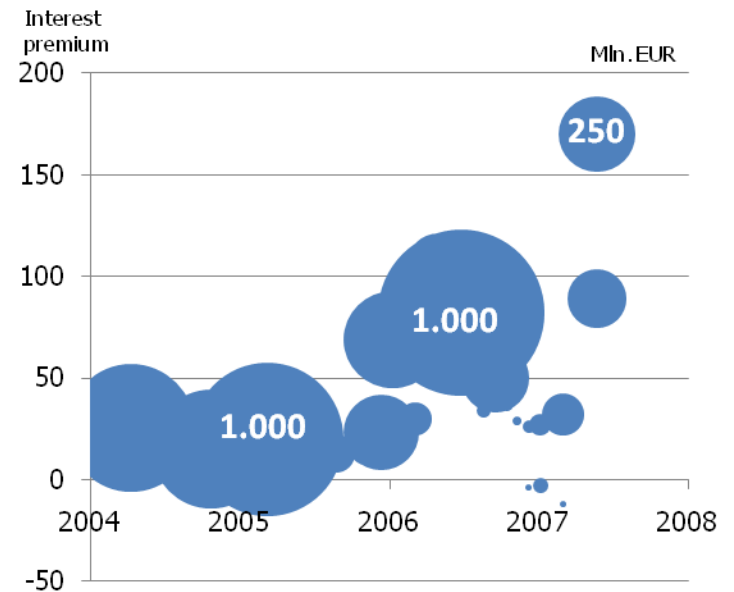
Tafla 1. Lánshæfismat Moody's á langtímaskuldbindingum

Dags.	Glitnir	Landsbanki	Kaupthing (Búnaðarbanki)
1998	A3	A3	
1999	A3	A3	A3
2000	A2	A3	A3
2001	A2	A3	A3
2002	A2	A3	A3
2003	A1	A3	A21
2004	A1	A2	A1
2005	A1	A2	A1
4.4.2006	A1	A2	A1
23.2.2007	23.2.2007	Aaa	Aaa
11.4.2007	11.4.2007	Aa3	Aa3
28.2.2008	A2	A2	A1
30.9.2008	Baa2		
8.10.2008	Caa1	Caa1	
9.10.2008			Baa3

1. Lok árs eftir yfirtöku á Búnaðarbankanum.

Heimild: Seðlabanki Íslands.

Figure 18
Kauþthing - 5 year bond issues



Source: Kauþthing



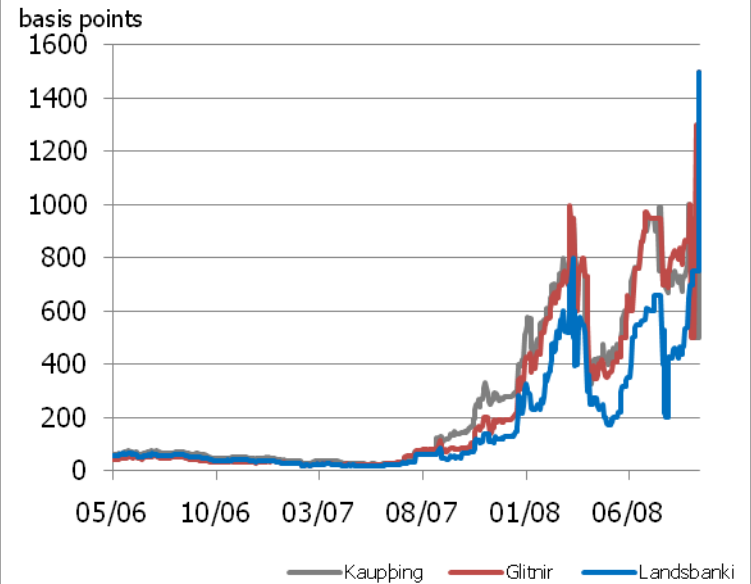
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Geysir crisis hits with a force in 2006

How?



Figure 23
CDS spread 2006-2008
of Landsbanki, Glitnir, and Kaupthing



Source: Central Bank of Iceland



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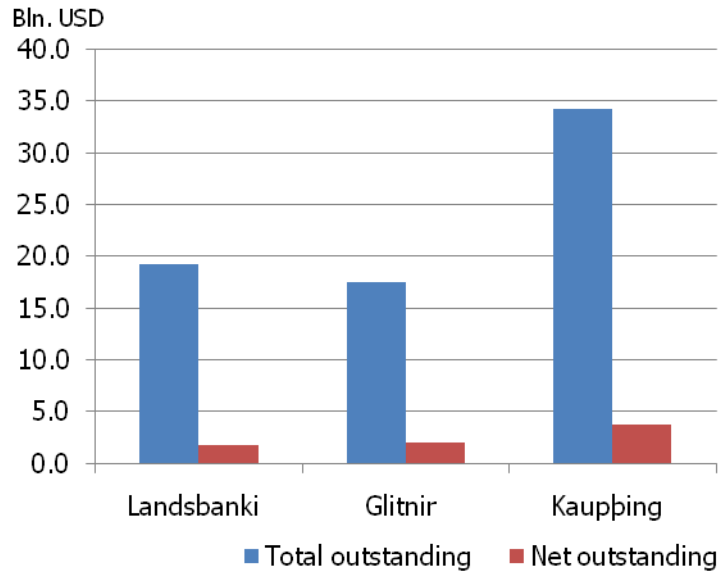
Source: SIC report, Vol. 2, Ch. 7, pp. 13 and 20

www.flickr.com/

... and the Icelandic Banks had to turn elsewhere for funding

How?

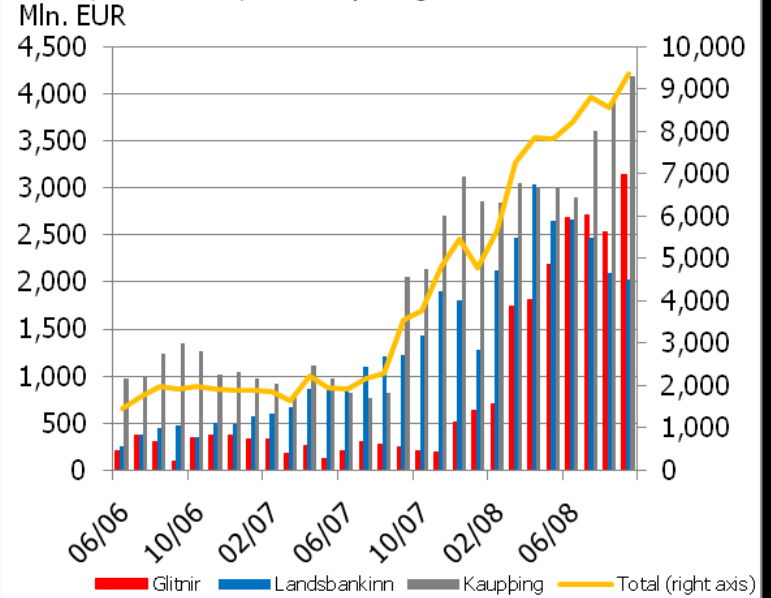
Figure 24
Total outstanding CDS contracts in Oct. 2008
of Landsbanki, Glitnir, and Kaupthing



Source: Depository Trust & Clearing Corporation (DTCC)

Source: SIC report, Vol. 2, Ch. 7, pp. 22

Figure 48
Total Repo - Collateral Lending from central banks
Glitnir, Landsbanki, and Kaupthing
Mln. EUR

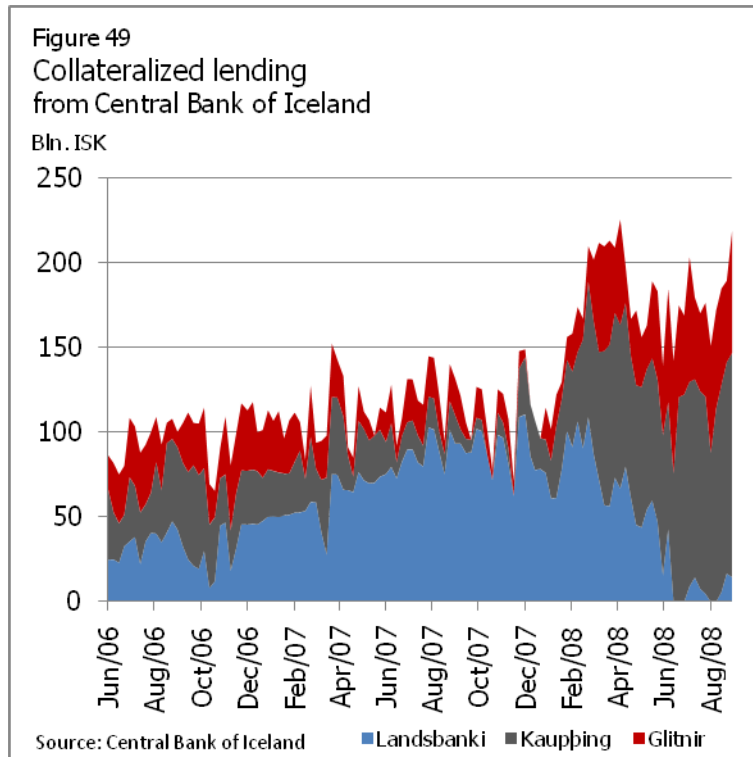


Source: Central Bank of Iceland, Glitnir, Landsbanki, Kaupthing

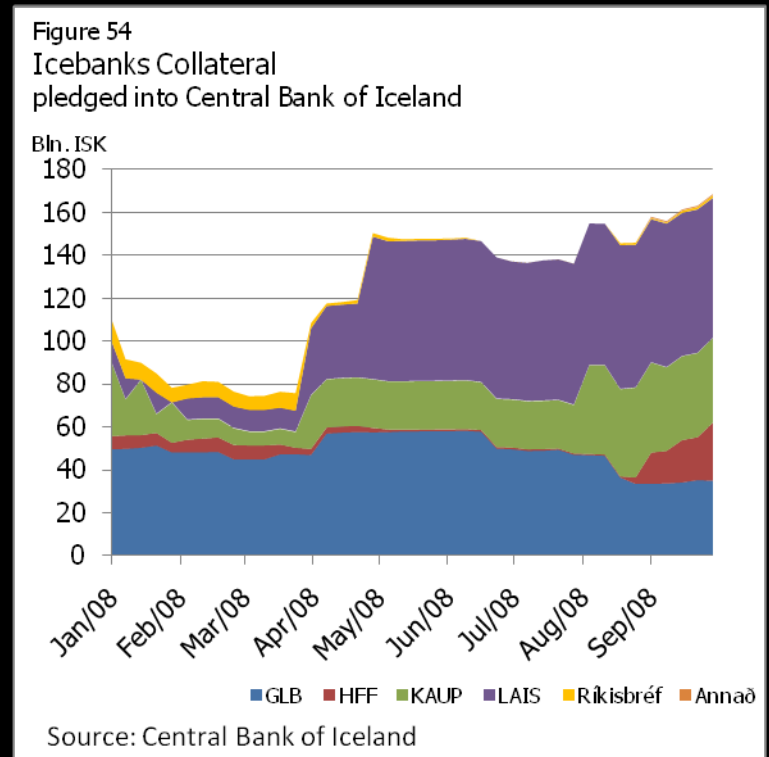


... backing lending from the CBI with bank bonds a.k.a. "love letters"

How?

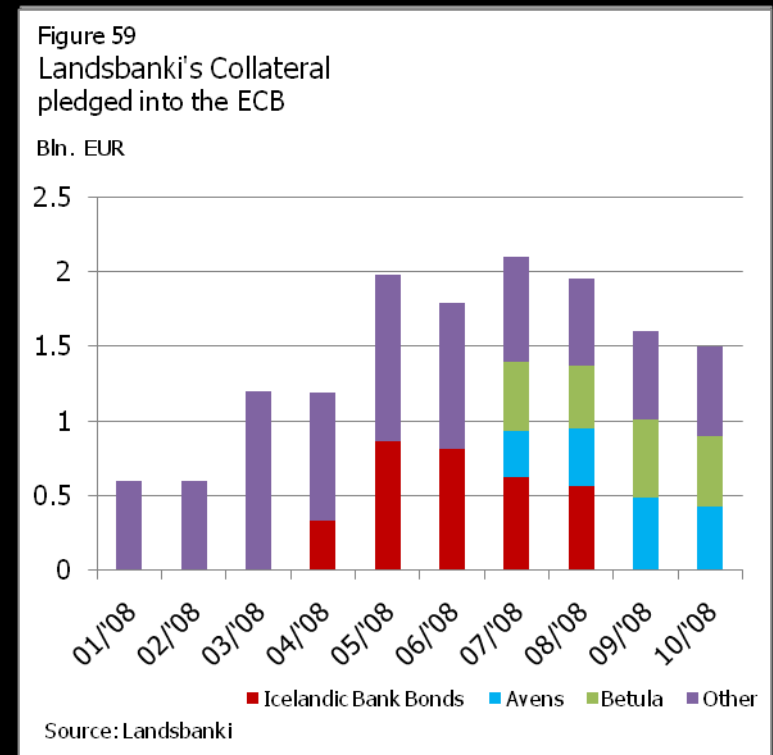
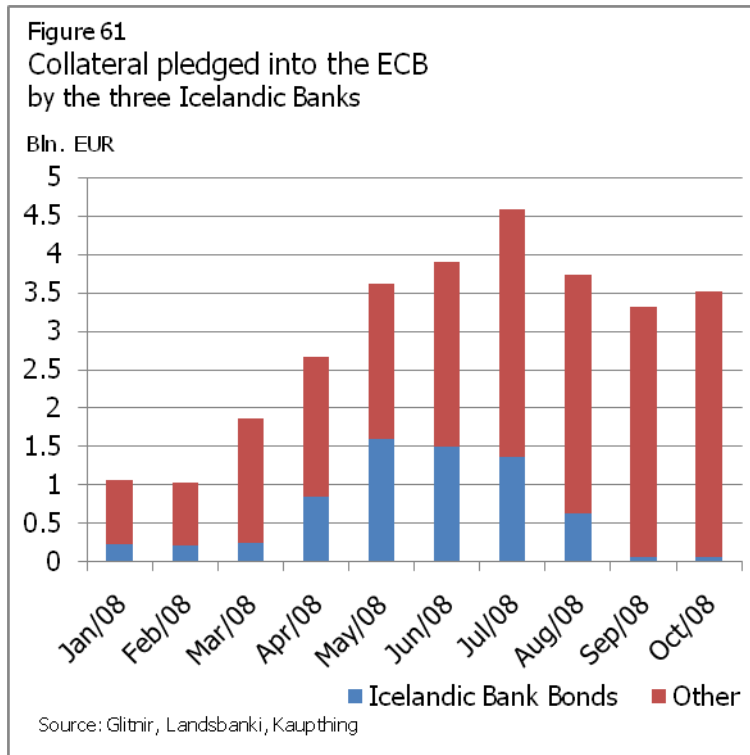


Source: SIC report, Vol. 2, Ch. 7, pp. 45



...and tried to back door ISK collateral against lending from ECB

How?



Source: SIC report, Vol. 2, Ch. 7, pp. 43 and 47



20 fold nominal growth in size in 7 years

Table 1: Year-end Asset and Liability Values (million ISK), sum of the three largest Icelandic banks.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
	Total assets at year-end	Change in Assets	Asset growth rate %	Firm acquired during the year	Asset value change due to ISK revaluation	"Organic Growth" ¹	Organic growth rate %
2003	1,450,751						
2004	2,946,494	1,495,743	103.1	797,609	-50,882	749,016	51.6
2005	5,418,521	2,472,027	83.9	726,316	-202,822	1,948,533	66.1
2006	8,474,660	3,056,139	56.4	0	1,068,092	1,988,047	36.7
2007	11,353,801	2,879,141	34.0	58,339	-231,263	3,052,065	36.0
2008 ²	14,436,884	3,083,083	27.2	0	3,301,994	-218,911	-1.9

1. "Organic growth" is the ISK-denominated growth in assets at the banks and their subsidiaries, not related to acquisitions.

2. 2008 numbers as of June.

Source: Commission Staff calculations.

Source: SIC report, Vol. 7. Ch. 21, pp. 91 and Flannery (2009)
SIC report Vol. 9.

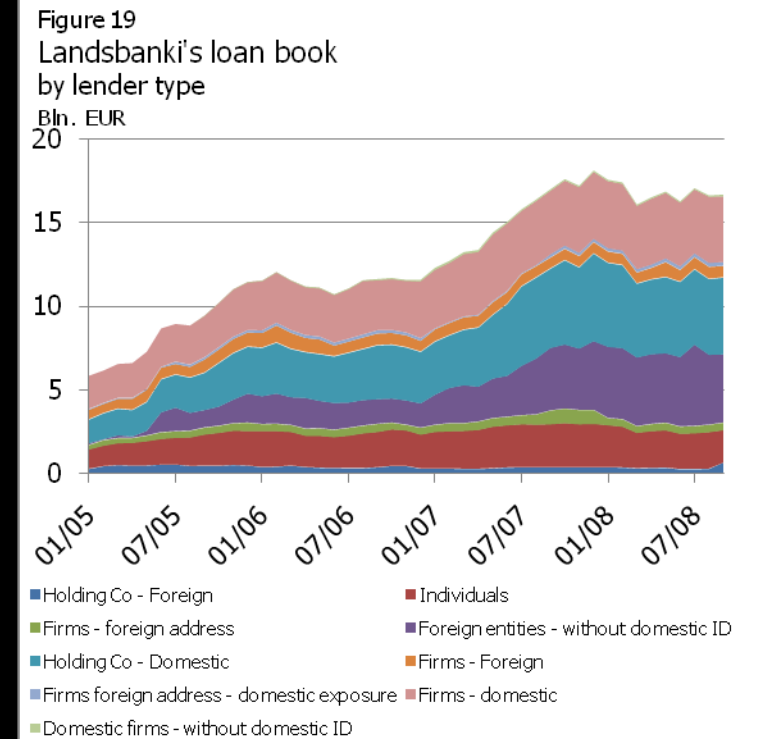


What did they do with the money?

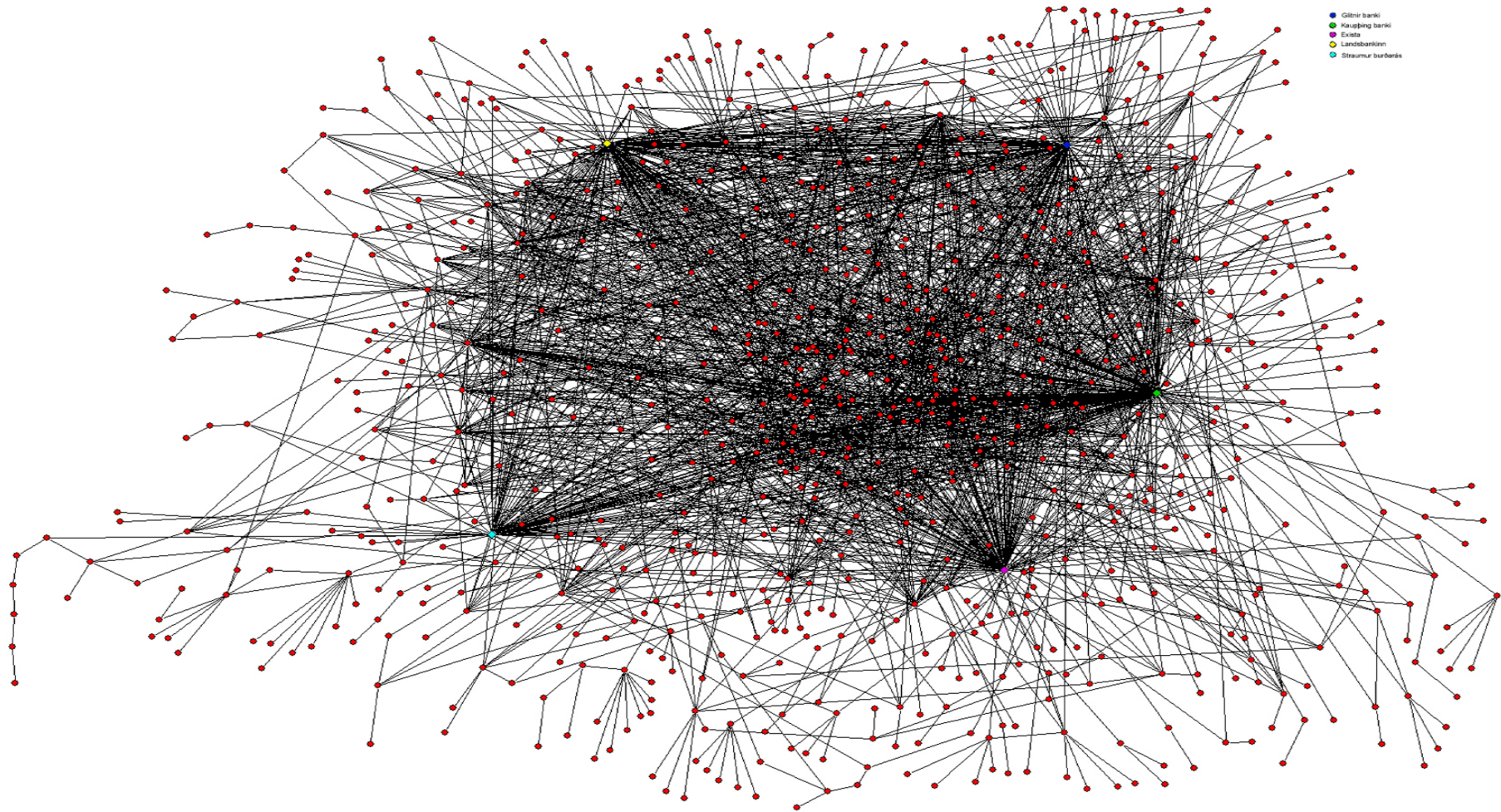
How?

- 60% of the loan portfolio to “foreign entities” and holding companies in 2007
- Majority of loan book was indeed Icelandic risk
- How is it possible to extend such an amount of credit, given legal constraints allowing only 25% of equity base to be exposed to group of related parties?

Source: SIC Report, Vol. 2, Ch. 8, pp. 96



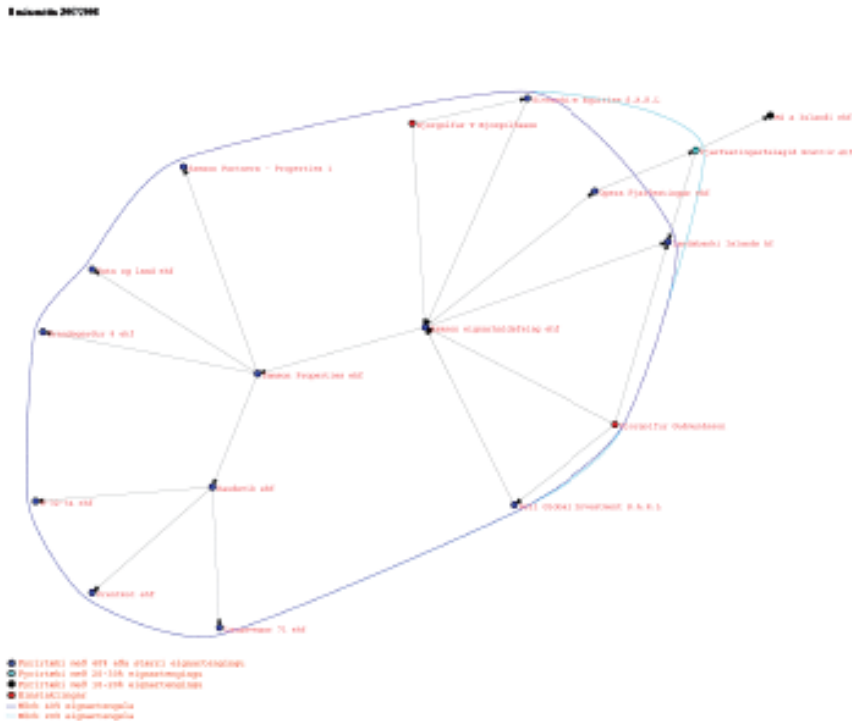
How?



How?

Pyramid schemes where formed to circumvent legal constraints to enable increased leverage

Samson and related entities



Karl Wernerson and related entities

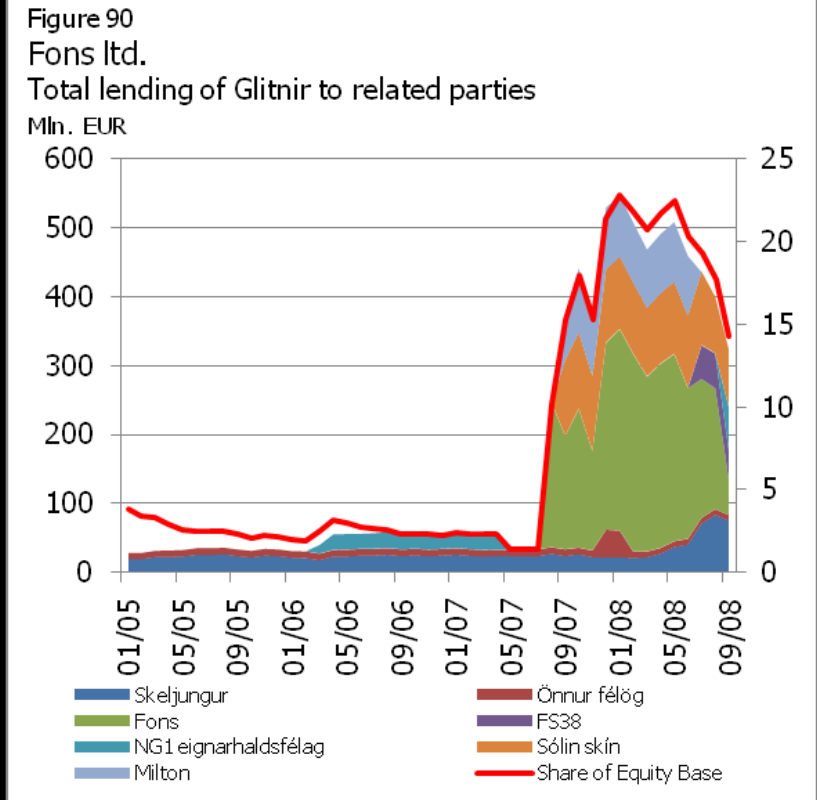
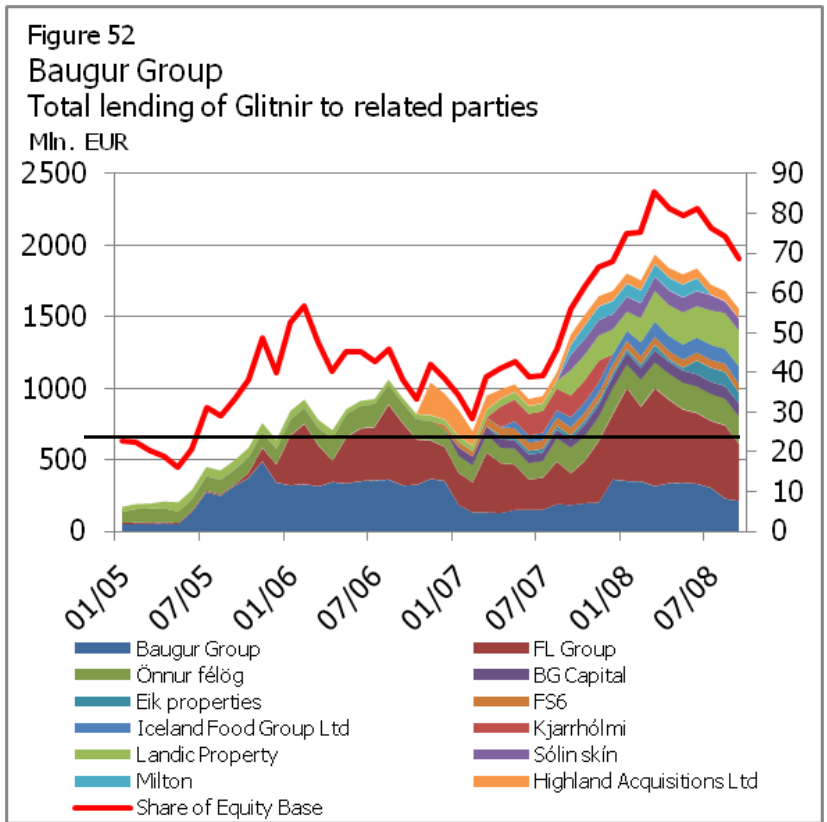


Source: SIC report, Vol. 9., Appendix 2, pp. 33 and 38

.. and borrowers were to a large extent the owners of the banks

Why?

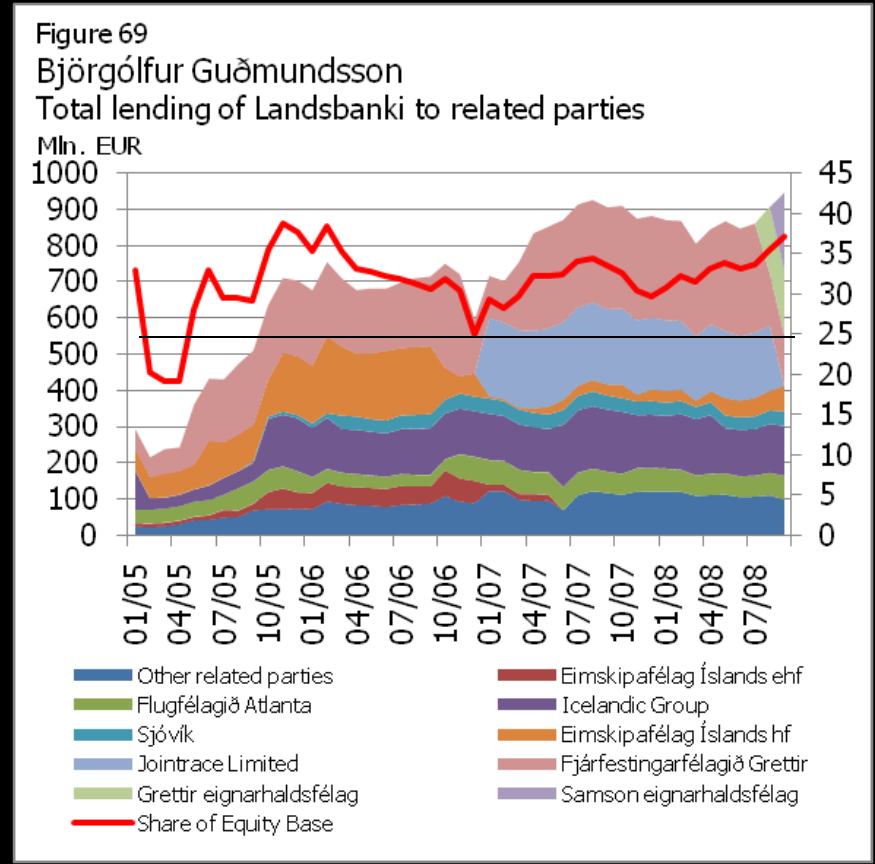
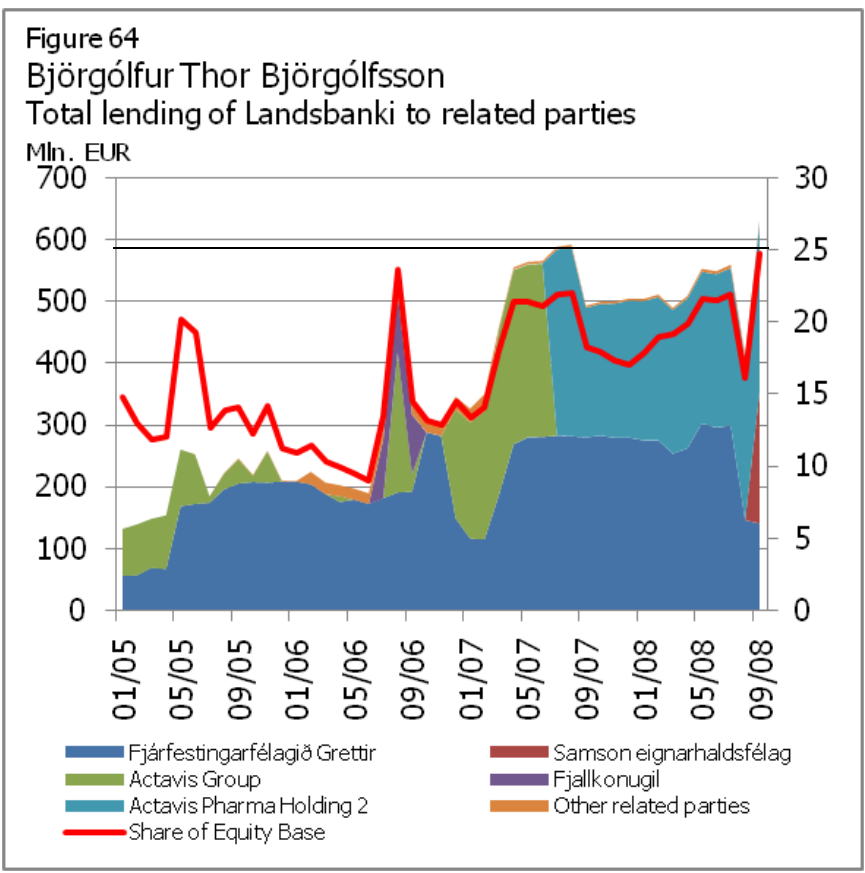
Glitnir's exposure to its owners:



Source: SIC report, Vol. 2, Ch. 8, pp. 137 and 151

Landsbanki's exposure to controlling shareholders

Why?



Source: SIC Report, Vol. 2, Ch. 8, pp. 146 and 145

Kaupthing's exposure to controlling shareholders

Why?

Figure 87
Ólafur Ólafsson
Total lending of Kaupthing to related parties

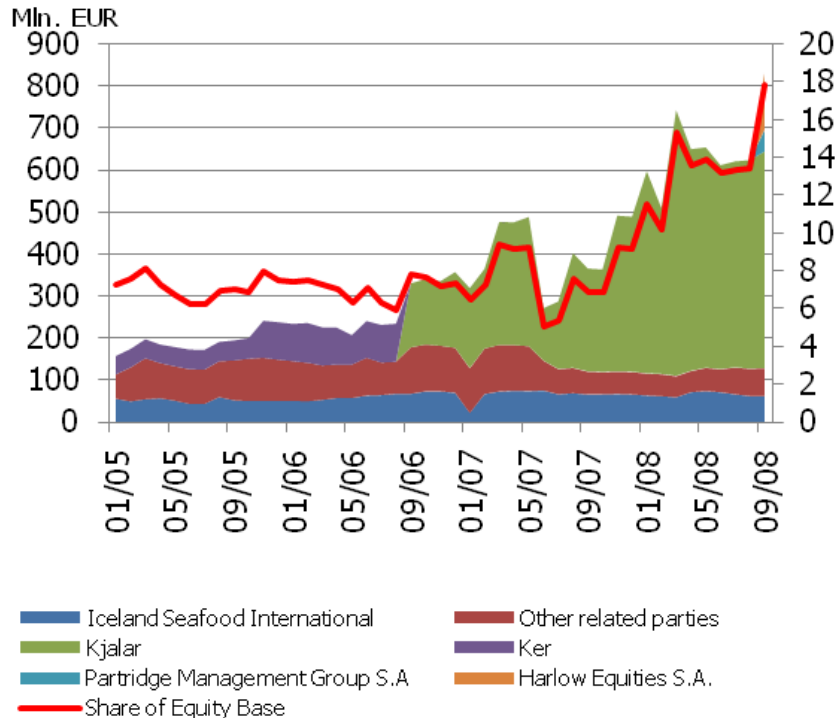
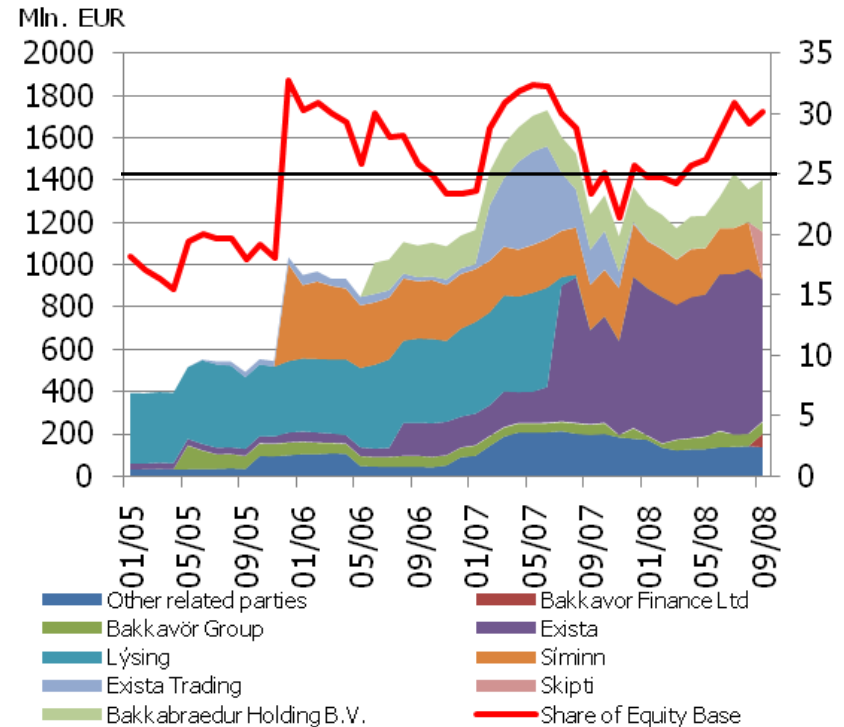


Figure 58
Exista
Total lending of Kaupthing to related parties



Source: SIC Report, Vol. 2, Ch. 8, pp. 146 and 145

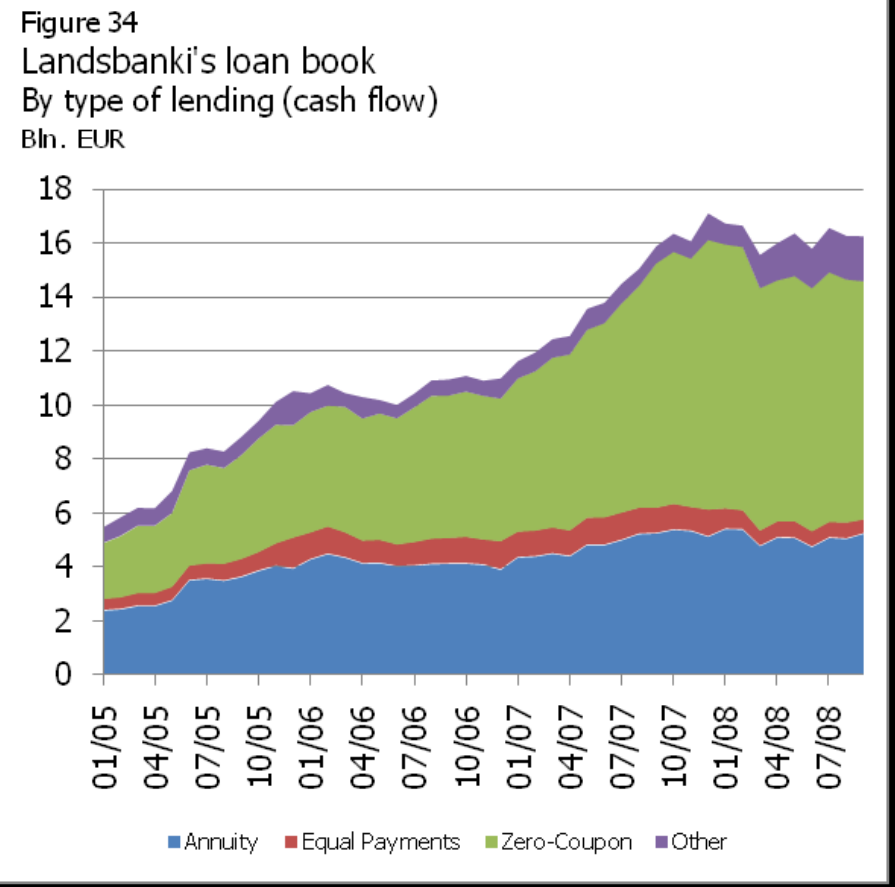


Loan portfolio quality eroded marked by excessive risk taking

- Excessive lending to entities without cashflow – no ability to pay off nor pay interests during the lifetime of the loan
- Bullet loans became the largest share of the portfolios

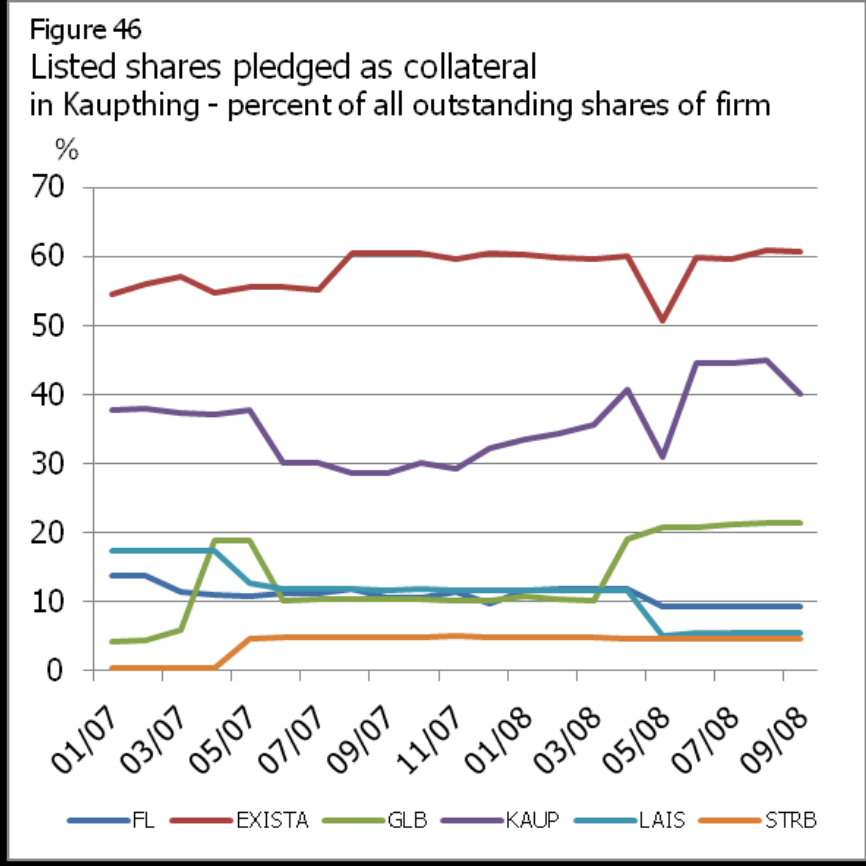
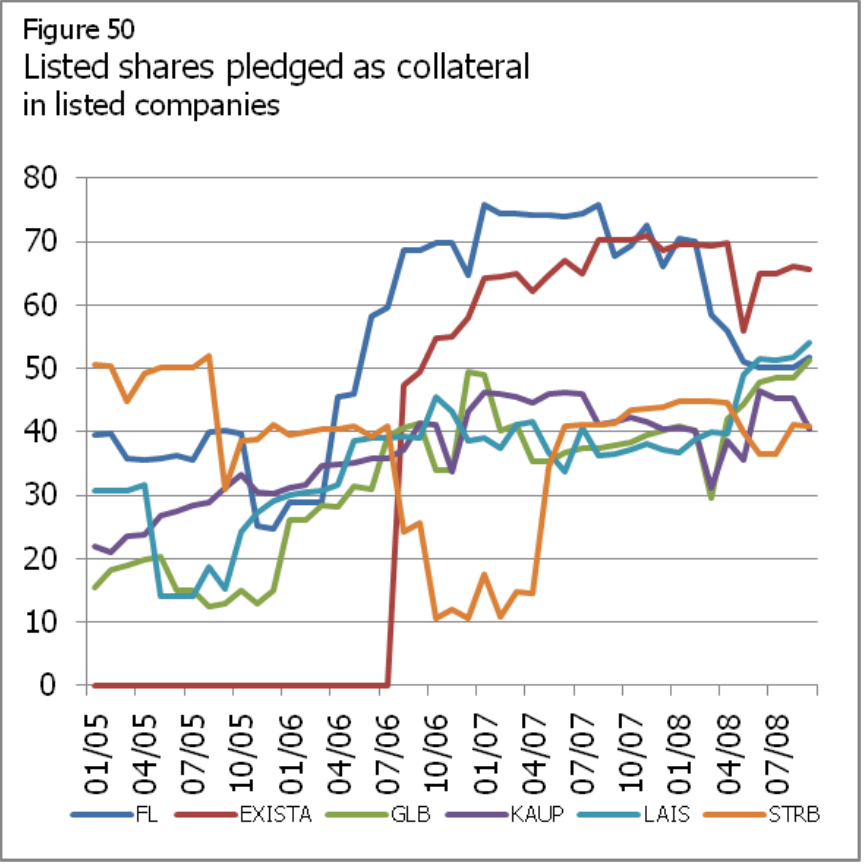
Source: SIC Report, Vol. 2, Ch. 8, pp. 96

Impact on bank operations?



Large part of listed shares were pledged into the banking system

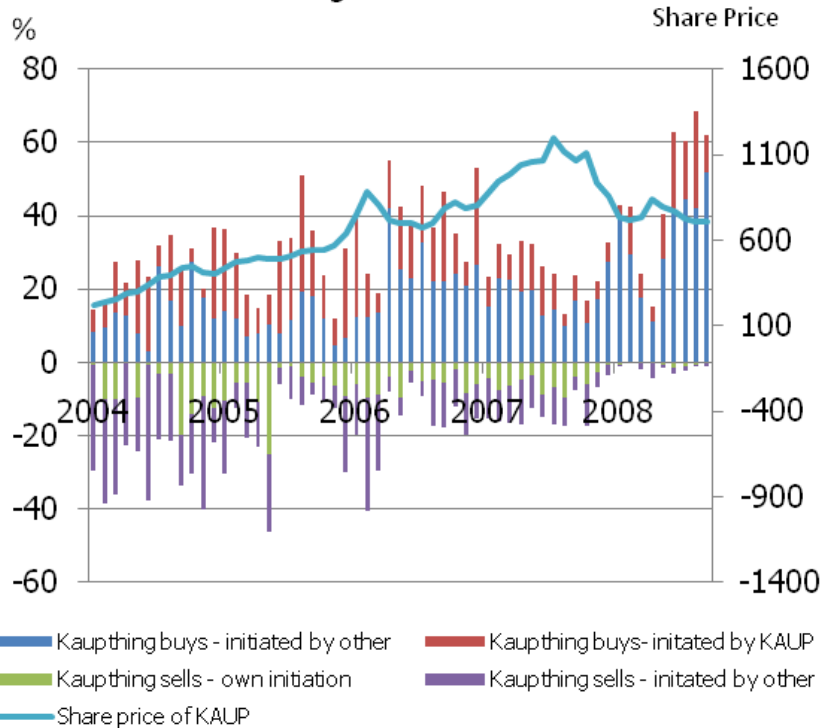
Impact on bank operations?



Source: SIC Report, Vol. 2, Ch. 8, pp. 107-108

Maintaining value of collaterals...

Figure 8
Buying and selling of own shares in Kaupthing
Share of all stock exchange turnover in KAUP



Source: SIC Reportt, Vol. 4, Ch. 12, bls. 48, 14 og 49



The Stock Market

Figure 4
The leverage at the Icelandic Stock Exchange

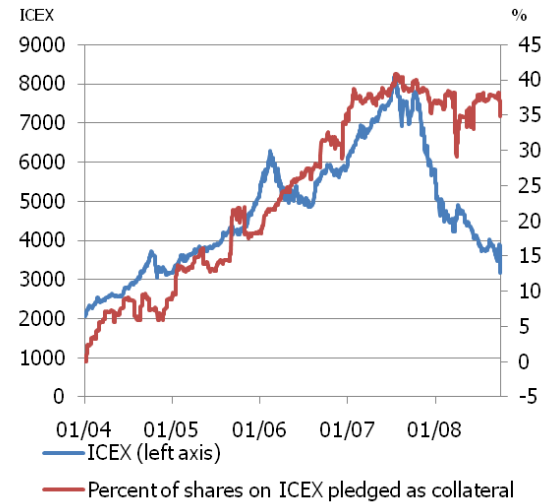
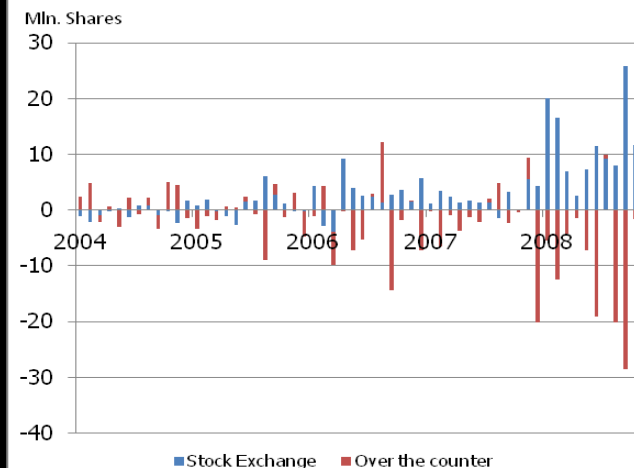


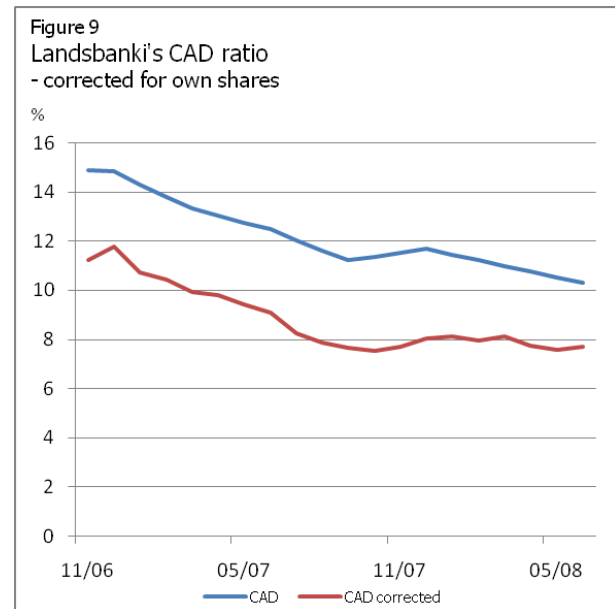
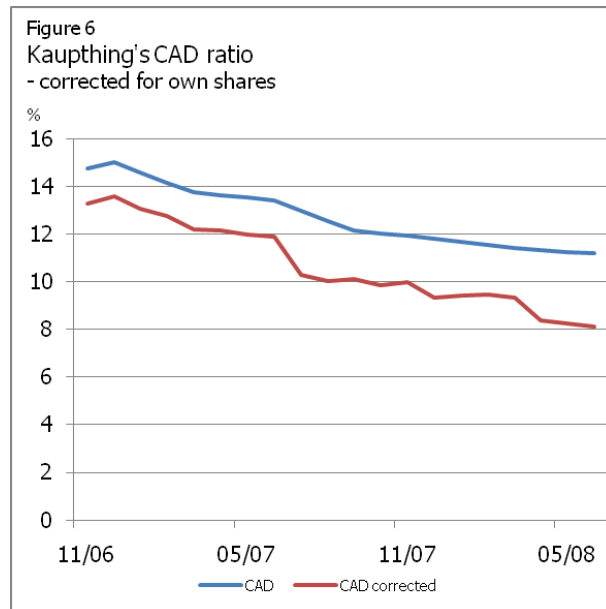
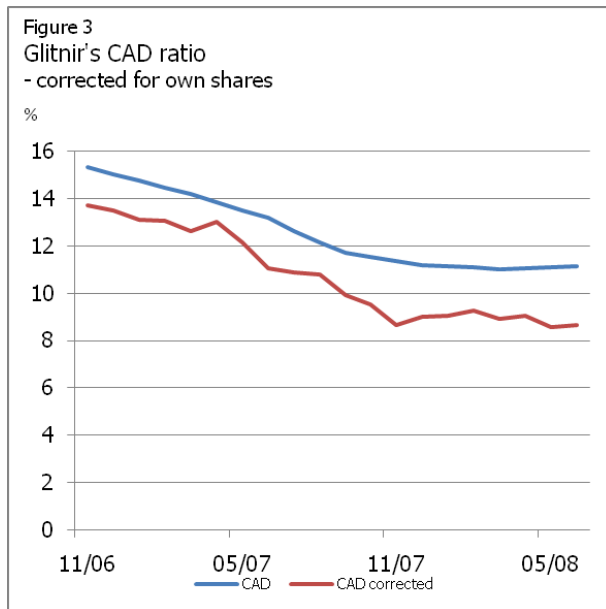
Figure 13
Buying and selling of own shares in Kaupthing
Stock exchange transactions vs. OTC



Debt repatriation

- The largest Icelandic investment companies were funded through the big investment houses in the US
- Several of these loans were secured by pledging the Icelandic banks' securities.
- As share prices fell the foreign banks conducted margin calls or closed credit lines.
- Glitnir, Kaupthing and Landsbanki reacted by taking over the financing –lending out high amounts at the same time they were suffering from a considerable shortage of liquid assets. Why?
- The performance of the banks was too tied to the performance of the concerned investment company, so the only way out was to lend the money for this. **Bet for life.**
- These loans were largely made in order to prevent sales of the shares the banks in an effort to maintain the value of the shares and to prevent negative publicity.

..which led to falsification of equity since own shares where not subtracted from the equity base



Direct own financing of the three banks combined:

2006 – 12% of equity ; 22% including cross financing

2007 – 23% of equity ; 36% “

2008 – 26% of equity ; 33% “

Incentive schemes led to excessive risk taking

How and why?

Figure 28
Composition of Total Salary by Percentiles in 2004
- Employees of Landsbanki

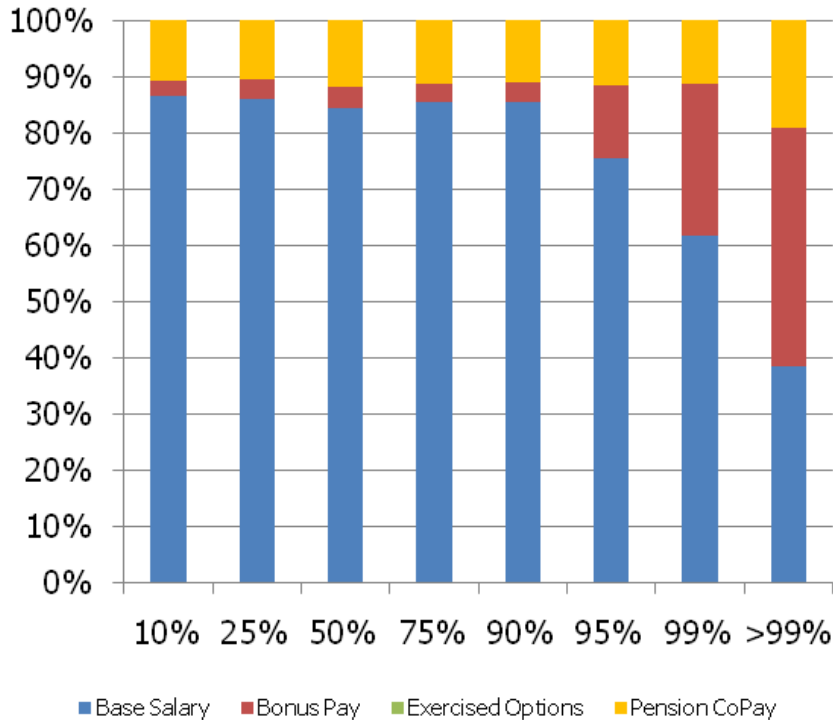
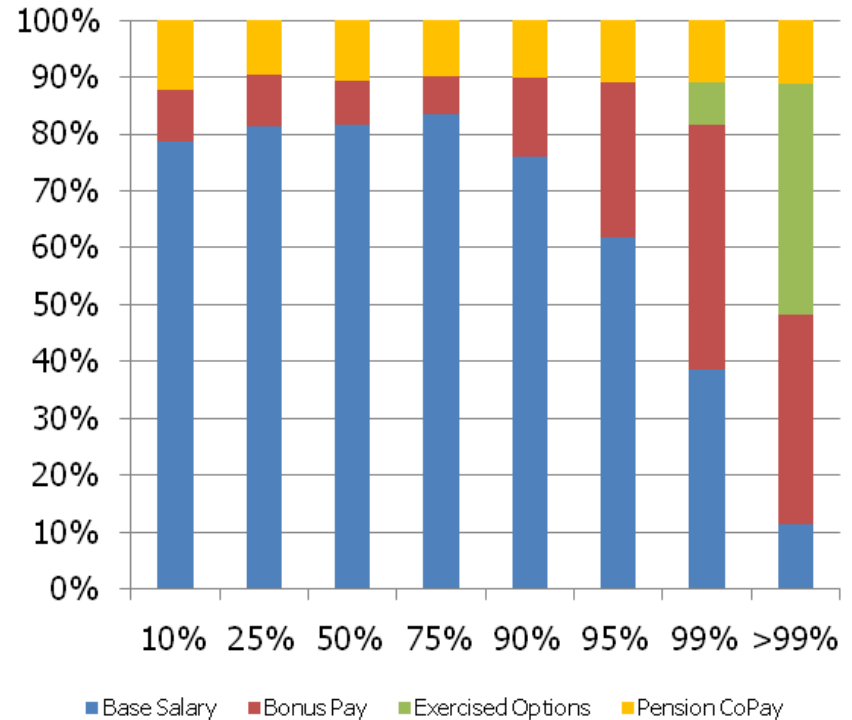


Figure 29
Composition of Total Salary by Percentiles in 2007
- Employees of Landsbanki



Source: SIC report, Vol. 3, Ch.10, pp. 48-49



Falsification of equity through staff exposure to the banks via options and leveraged stock purchases

Figure 61
Loans extended by Kaupthing to Kaupthing's employees -with own shares as collateral

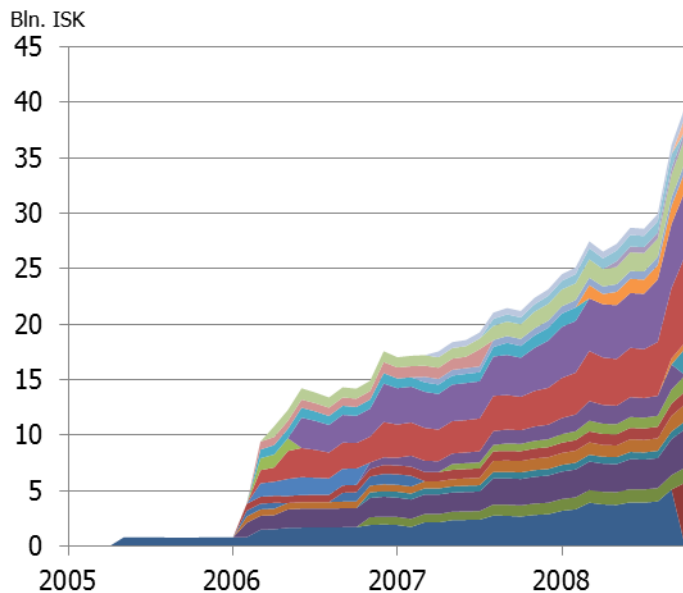
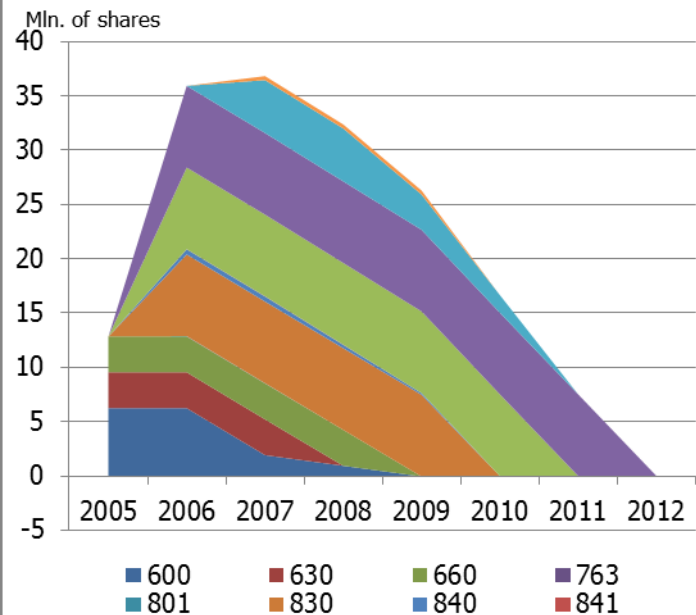


Figure 60
Outstanding employee's options in Kaupthing -at different strike price



As bond markets closed,
Landsbanki and Kaupthing started
collecting foreign deposits at a
rapid rate through Icesave and
Kaupthing Edge

Impact on bank operations?

Figure 34
Total debt of Landsbanki
- by type of debt

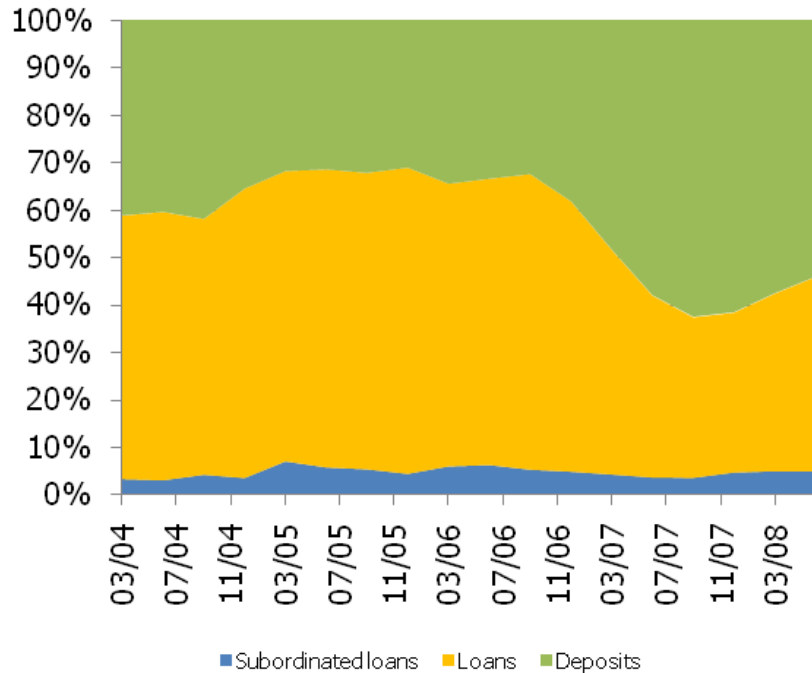
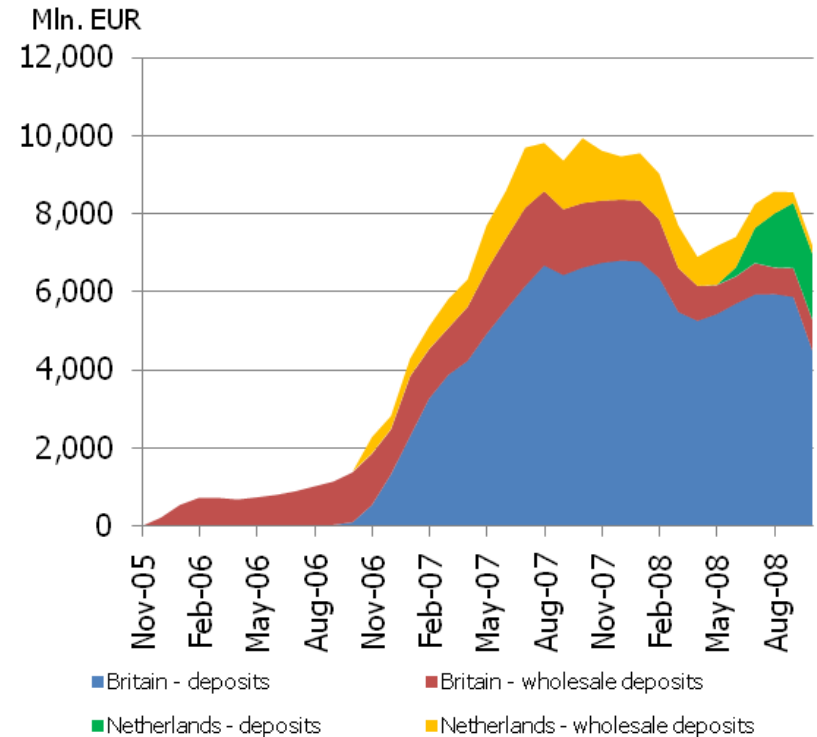
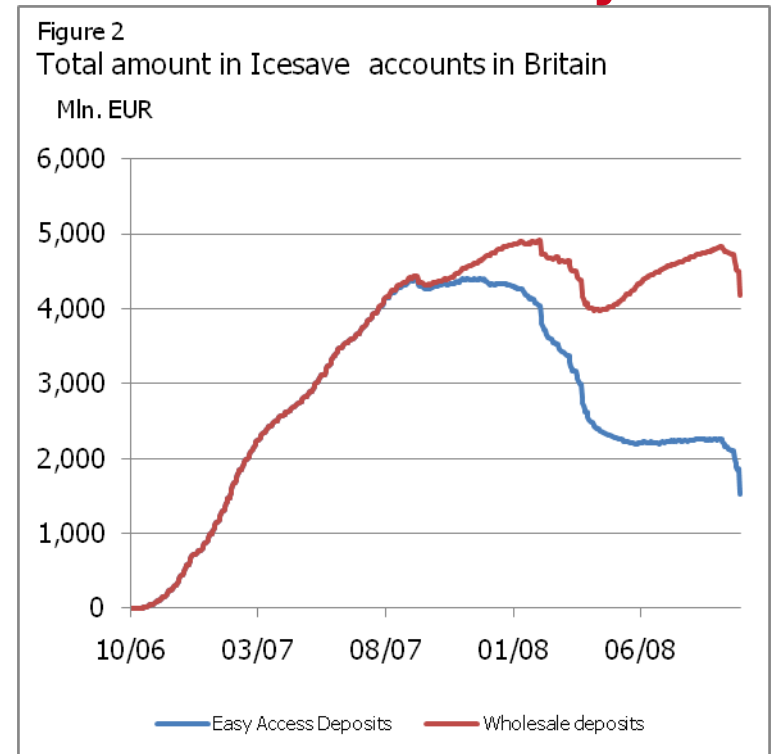


Figure 37
Deposits in Landsbanki's branches abroad



.. By keeping the depo rates at highest level in the UK, 5 bln. GBP was collected into the Icesave accounts in one year

- Regression analysis on deposit stickiness indicates that:
 - As Icesave reached nr. 1 on FT list of best depo rates in the UK an inflow of 18,6 mln. on average pr. week occurred
 - A drop down to the 5th place on FT list resulted in an outflow of 16 mln. GBP on average pr. week



As a run on Icesave dried up all fx liquidity with a lack of foreign assets to pledge, Landsbanki's Icesave accounts in the UK were taken over by British authorities on Oct. 7th 2008

- After the collapse of Lehman and Glitnir, Landsbanki's collaterals underlying repo agreements with the ECB fell sharply
- ECB called on the margin on Oct. 4th – although deferred it by a week.
- Landsbanki requested a loan of last resort from ICB – the request was declined due to insufficient funds of the ICB
- Having little liquidity to meet the bleeding on-line accounts, Landsbanki did not meet requirements of the British FSA hence the accounts were taken over by the authorities on Oct. 7th 2008
- All assets of Landsbanki in the UK were frozen via Anti-Terrorism, Crime and Security Act of 2001 – the so-called terrorist act.

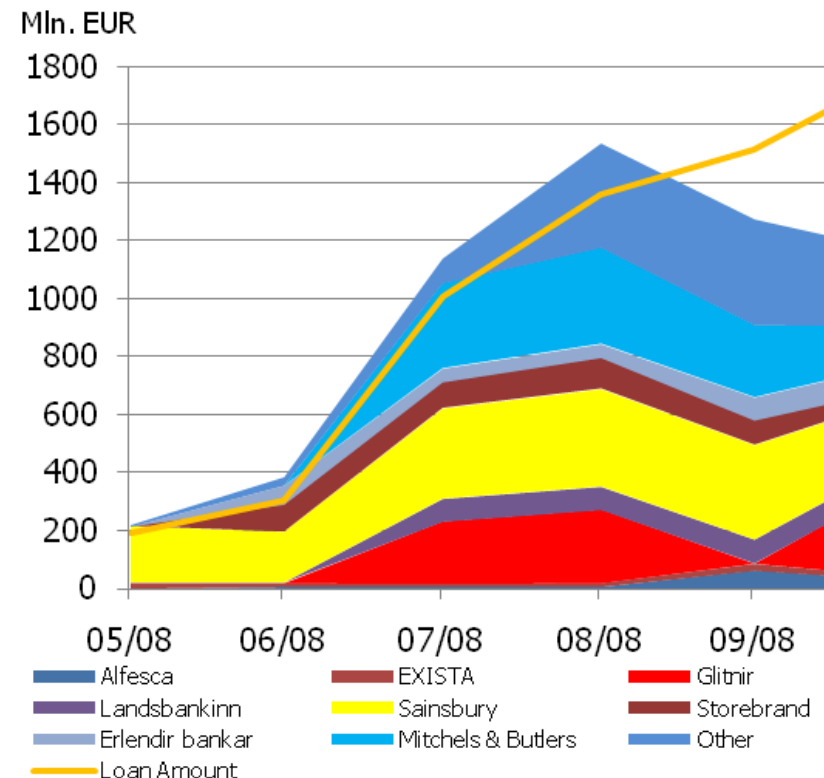
Liquidity squeeze, imminent margin calls, Kaupthing collapses

- Kaupthing met the same fate as Landsbanki
- Kaupthing Singer & Friedlander (KSF) Kaupthing's subsidiary supplies the parent company with fx liquidity swaps
- Value of collaterals underlying KSF lending to Kaupthing fell in value
- Parent company does not meet the margin calls
- British authorities respond to movements of £500 mln to parent company in Iceland by taking over KSF on Oct. 9th 2008



Impact on bank operations?

Figure 2
KSF lending to Kaupthing in Iceland



Debt free Icelandic State without credit Alone and isolated



www.flickr.com/jon_vidar

- In the beginning of 2008 the Central Bank and the debt free Icelandic state could not get any credit
- By April 2008 suggestions were made to the Icelandic authorities to turn to the IMF
- In May strict conditions were put forth in exchange for a fx swap program btwn. ICB and Scandinavian Central Banks. Iceland was not included in the US swap along with the other Nordic CBs after the fall of Lehman

FME – Financial Surveillance Authority

- Lack of experience - incompetence
- Incorrect prioritization:
 - Lack of proper IT systems, tools, and processes for data analysis
- Lack of authority and follow - up
 - Cases kept informal for too long
 - Violations of the law went unnoticed
 - Law not enforced
- Understaffed

Source: SIC presentation and press release given on 12. april 2010; SIC Report, Vol. 5, Ch. 16, pp. 143 and 145



Why didn't anybody stop them?

Figure 17
Employment experience of recruits at the FME

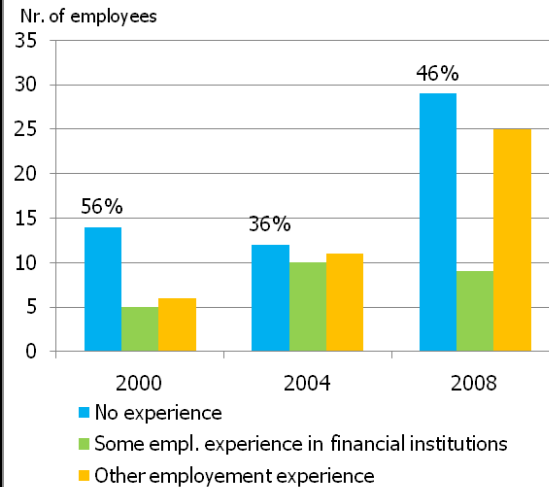
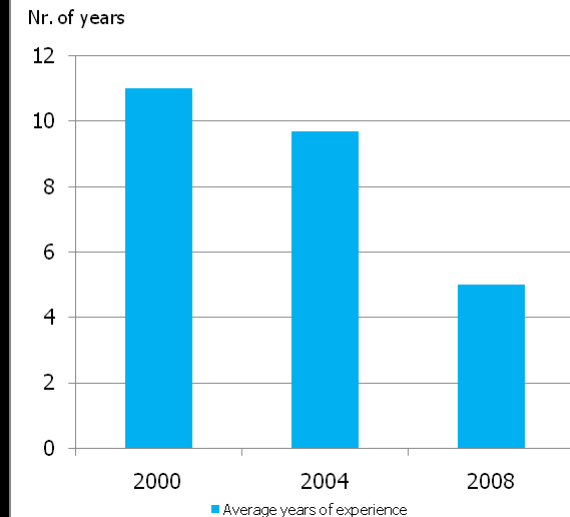


Figure 14
Average years of experience of FME staff



The Icelandic Central Bank

- Central Bank's legal responsibility is to ensure financial stability
- Central Bank's concerns of the stability of the banking system increased substantially by Nov. 2007
 - The bank never formally nor informally communicated to the government the necessary reactions to the prevalent threat of a collapse
- Did the Central Bank find itself without the legal means to intervene?
 - Then it should have communicated that fact formally to the government
- **Roman or Greek interpretation of the law?**

Source: SIC's presentation 12. april 2010



Why didn't anybody stop them?

- Monitored only domestic liquid assets until end of 2007
- Relaxed reserve requirements
- Open FX balance allowed instead of increasing equity requirements
- Other unused tools:
 - Tigher collateral rules
 - Dynamic provisioning
 - Maturity mismatch regulations
 - Threaten to retrieve their bank licence unless assets were sold or headquarters moved abroad when the role of lender of last resort could not be fulfilled

“I think there is fundamental misunderstanding of what financial supervision is all about here in Iceland. Not only at the FME but also the Central Bank. They thought that the role of these institutions was to follow upon whether the letter of the law was met by those under supervision. So you are watching the entire financial system falling off a cliff, and as long as they follow the law, you’re fine!”

Testimony of Thórarinn Pétursson, Senior Economist at the Central Bank of Iceland, before the SIC August 4th 2009, p. 22

Source: SIC Report, Vol. 5, Ch. 16., pp. 156

Substance over form

Regulatory and supervisory coverage should follow the principle of economic substance not legal form.

The Turner Review, A regulatory response to the global banking crisis, March 2009, pp. 9



Depreciation of assets

- Worth of loans and related liabilities was exaggerated in the banks' financial statements for 2007 and the semi-annual statements for 2008.
- The values of the assets of the three big banks were adjusted in November 2008.
 - Before they were assessed at IKR 11,764 billion
 - After the adjustments they were assessed at IKR 4,427 billion
 - A write-down of IKR 7,337 billion or about 60%.
 - The write-down at the end of June 2008 was IKR 67 billion or 0.7% of the companies' total assets at that time.
- Write-down of the assets of the fallen financial institutions corresponded to five times Iceland's GDP in 2008.

Amounts in billion IKR	Assets before value adjustment	Adjusted value	Write-downs	Write-downs as a percentage of assets (%)
Landsbanki Íslands hf.	4.353	1.994	2.359	54%
Kaupthing banki hf.	3.505	1.073	2.432	69%
Glitnir banki hf.	3.906	1.360	2.546	65%
Total	11.764	4.427	7.337	62%

Source: SIC presentation on 12th of April 2010, available at sic.althingi.is



The Findings of the SIC on Mistakes or Negligence By Ministers and Public Officials

In the period leading up to the collapse of the banks the SIC is of the opinion that:

- Mr. Geir H. Haarde, then **Prime Minister**,
- Mr. Árni M. Mathiesen, then **Minister of Finance**
- Mr. Björgvin G. Sigurðsson, then **Minister of Business Affairs**,
- Mr. Jónas Fr. Jónsson, then **Director General of the FME**
- Mr. Davíð Oddsson, Mr. Eiríkur Guðnason and Mr. Ingimundur Friðriksson, then **Governors of the CBI**,

-showed negligence, within the meaning of Article 1(1) of Act No 142/2008”

- On Monday April the 23rd 2012 the former Prime Minister was found guilty on one out of four counts of negligence, by a special court Landsdomur, for failing to hold dedicated cabinet meetings prior to **the crisis**.

Mistake or
Negligence?

Fraud or
Failure?



Fraud or failure on part of the bankers?

- On 12th of December 2013 Kaupthing's CEO, Chairman, Controlling shareholder and CEO of Kaupthing Luxembourg – sentenced to 3-5 years in prison by a district court for fraudulent lending practices and market manipulation – they have appealed
- Cases are pending against Landsbanki management for fraud and market manipulation
- Lárus Welding, CEO of Glitnir found guilty of fraudulent lending practices – acquitted in Supreme Court in Feb. 2014 – several other cases pending against him
- Special Prosecutor: Over 200 cases in total - 58 are currently under investigation, 20 indictments issued –15 already brought to court against 46 individuals - 8 cases have been ruled upon



What can we learn?

- Importance of equity – monitor leverage
- Banker's claim on holding companies is a claim on the residual claim – Pricing!
- Supervision built on economic substance not legal form
 - Legal authority to support prudential policies
 - Spirit of the law vs. the legal letter
- Design of incentive schemes matter
- Medium term effects:
 - Broken markets: bond, stock, currency
 - Order of claims altered - difficult to fund the new banks

