

Post-crisis framework and tools for preserving financial stability in Iceland

SIGRIÐUR BENEDIKTSDÓTTIR

YALE UNIVERSITY, BOARD OF LANDSBANKINN

Financial Stability

*When a financial system can absorb,
rather than amplify, negative shocks*

Still financial downturns will exist

Road map

The importance of Financial Stability

The vision Már Guðmundsson outlined as early as 2012 and the motivation behind it

What has been done...

Cost of crisis ... fiscal

The financial crisis in Iceland were very costly ...*

... gross fiscal outlay end of year 2008

- Holding company with toxic assets **53,5%** of GDP
- Equity injection into new banks **12%** of GDP
- **Gross cost 65.5% of GDP**

... estimated worth of assets

- Equity and subordinated debt in new banks **11,9%** of GDP
- Estimated worth of assets in holding company **36,3% of GDP**
- **NET estimated fiscal cost 17.4% of GDP**
 - *This estimate reached a peak in 2010 of 21% of GDP*

* Reference. Benediktsdottir, Eggertsson and Thorarinsson 2018.

Output losses even more important

Downturns that coincide with financial instability or crisis tend to be more severe...

- Drehmann et.al. (2012) finds that real GDP drops 50% more if business cycle downturn coincides with financial cycle downturn.

... and recovery is slower

- “The contraction phase of the financial cycle lasts several years, while business cycle recessions generally do not exceed one year.” Drehmann et.al. (2012)
- Debt overhang is a drag on the recovery

Downturns that coincide with a **house price bust** tend to be deeper and last longer than those that do not (Cerutti et al. 2015)

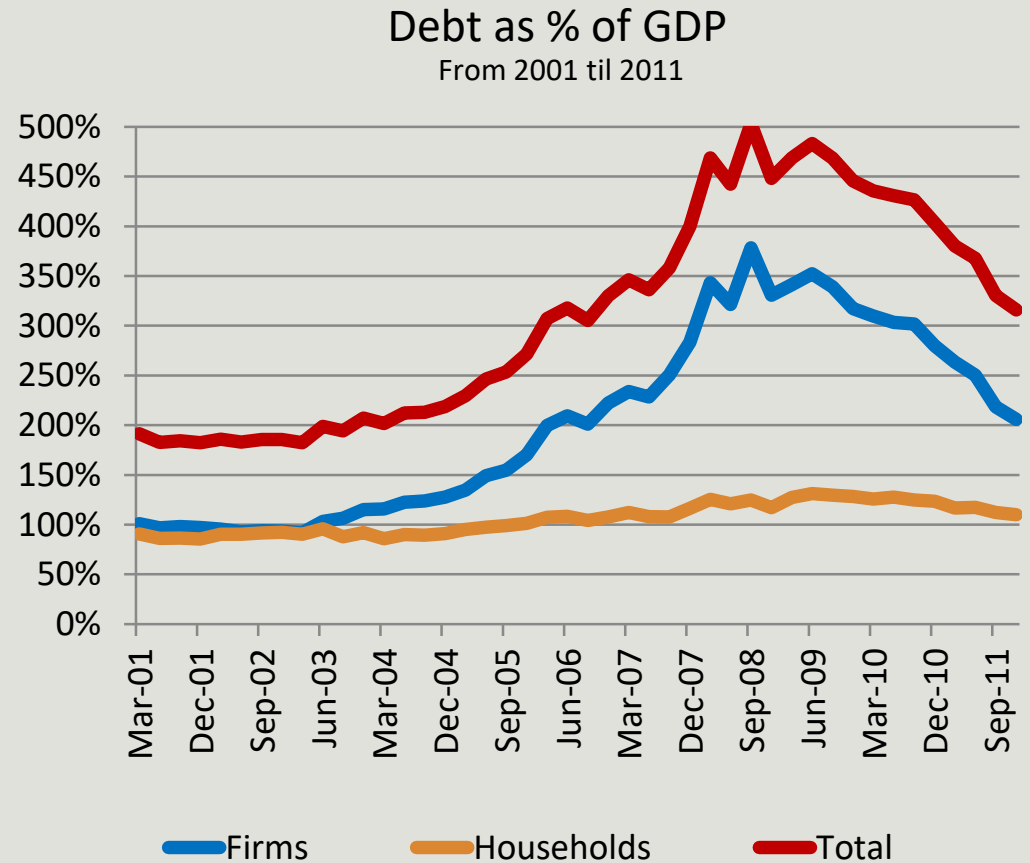
- “Equity and house prices cycles are typically longer and more pronounced than credit cycles” (Classens et. al. (2011)
- Spillovers to the rest of the economy via consumption, construction activity and credit
 - More leveraged households will contract consumption more in a downturn → amplifying the contraction (fx. Andersen et. al. 2014).

End of 2011

Capital controls were in place

Deleveraging was already well underway

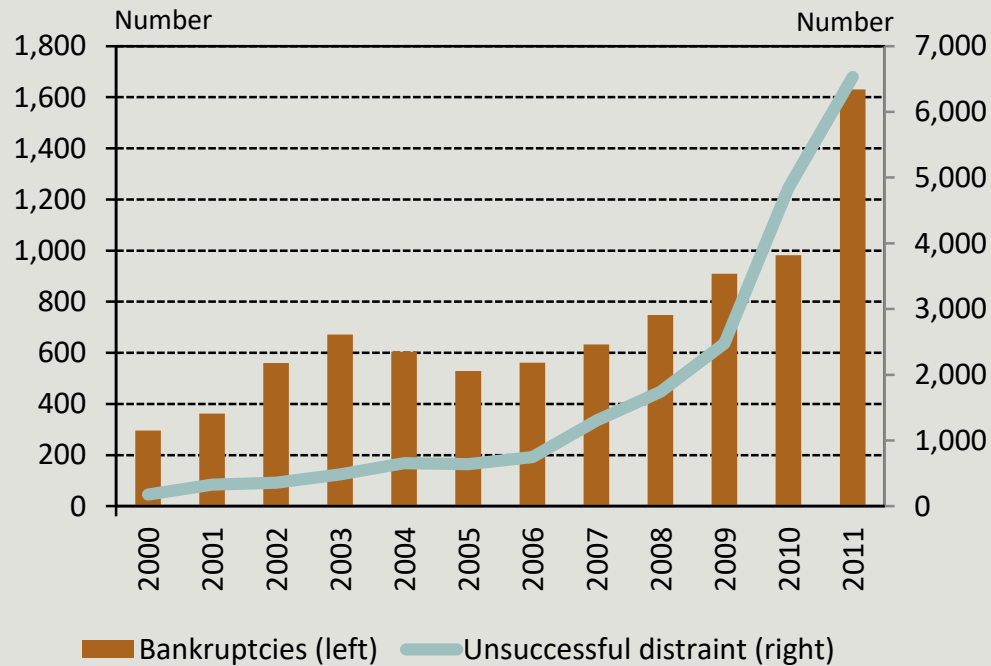
... but there were weaknesses



Source: Seðlabanki Íslands

Corporate bankruptcies and household arrears

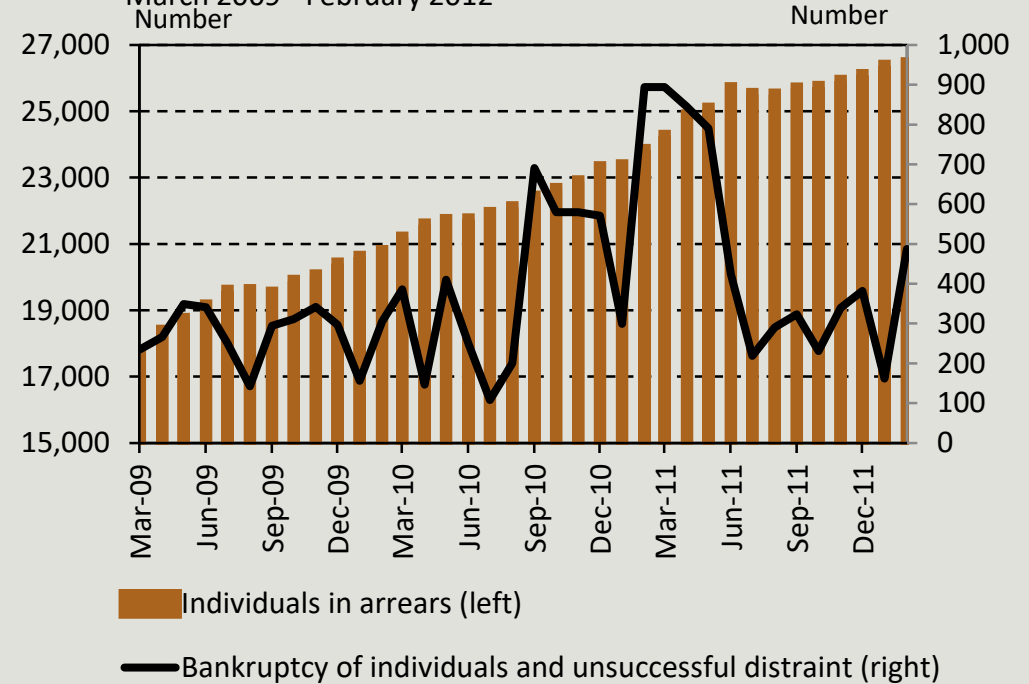
Company bankruptcies, new registered companies and unsuccessful distraint
Total for entire year



Source: Registers Iceland, Statistics Iceland.

Individuals in arrears, bankruptcy of individuals and unsuccessful distraint

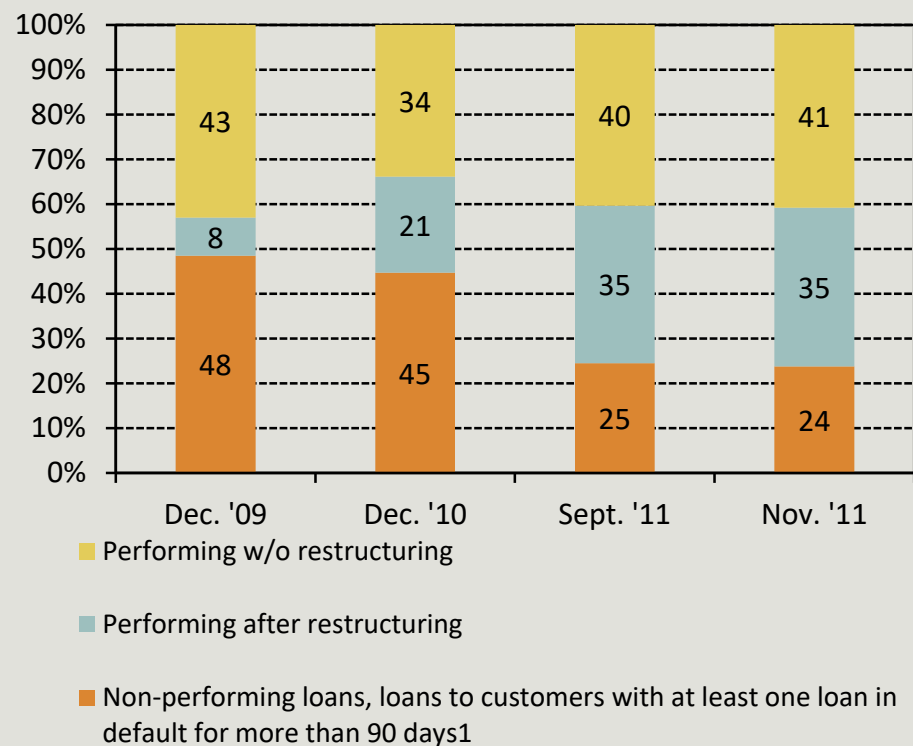
March 2009 - February 2012



Source: CreditInfo.

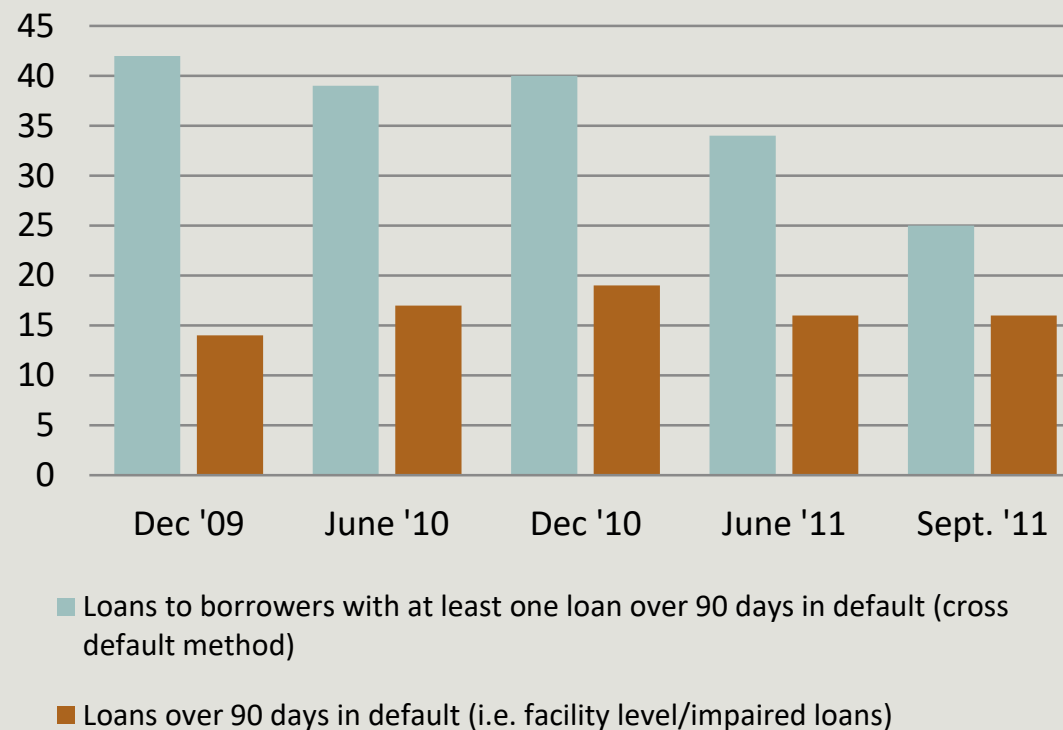
Banks loan portfolios

Status of loans from the three largest banks to companies, BV



Source: Fjármálaeftirlitið.

Default ratios by the three largest commercial banks



... post-crisis framework and tools for preserving financial stability

Prudential Rules Following Capital Controls

Report of the Central Bank of Iceland to the Minister of Economic Affairs

August 2012



REPORT
CENTRAL BANK OF ICELAND

No. 6

Prudential Rules following Capital Controls

*Report of the Central Bank of Iceland
to the Minister of Economic Affairs*

August 2012

Prudential rules following capital controls

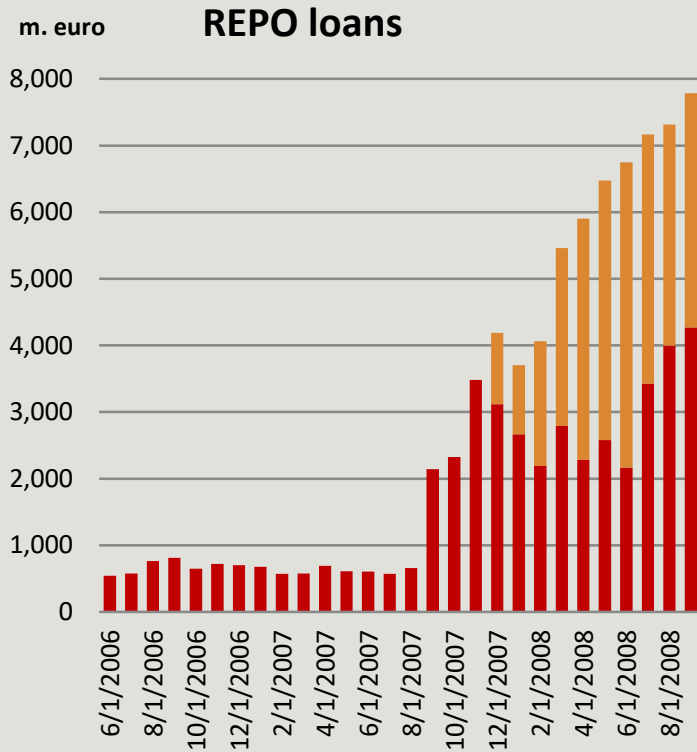
Macroprudential rules that should be in place before the capital controls are lifted should mitigate the risks arising from

- Currency mismatch
- Maturity mismatch in FX
- Pro-cyclicality of capital flows

The report was based on experience and some economic literature

Experience of rapid increase in maturity mismatch

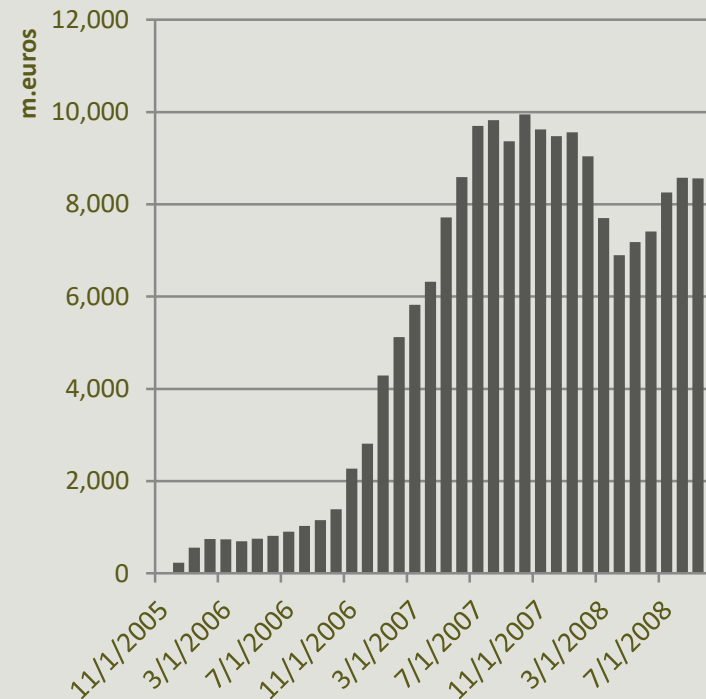
Short term borrowing in FX ...



Source: SIC

■ Others ■ ECB

Deposits in foreign subsidiaries



Source: SIC

Proposal

1. *Adopt new rules on foreign currency balance and liquid funds. The objective of these rules is to reduce maturity mismatch in foreign currencies.*
2. *New rules ... to significantly reduce possibilities of taking deposits in foreign currencies from non-residents. This will reduce foreign currency maturity mismatch and also underline the role of the Central Bank of Iceland as a lender of last resort only in ISK.*

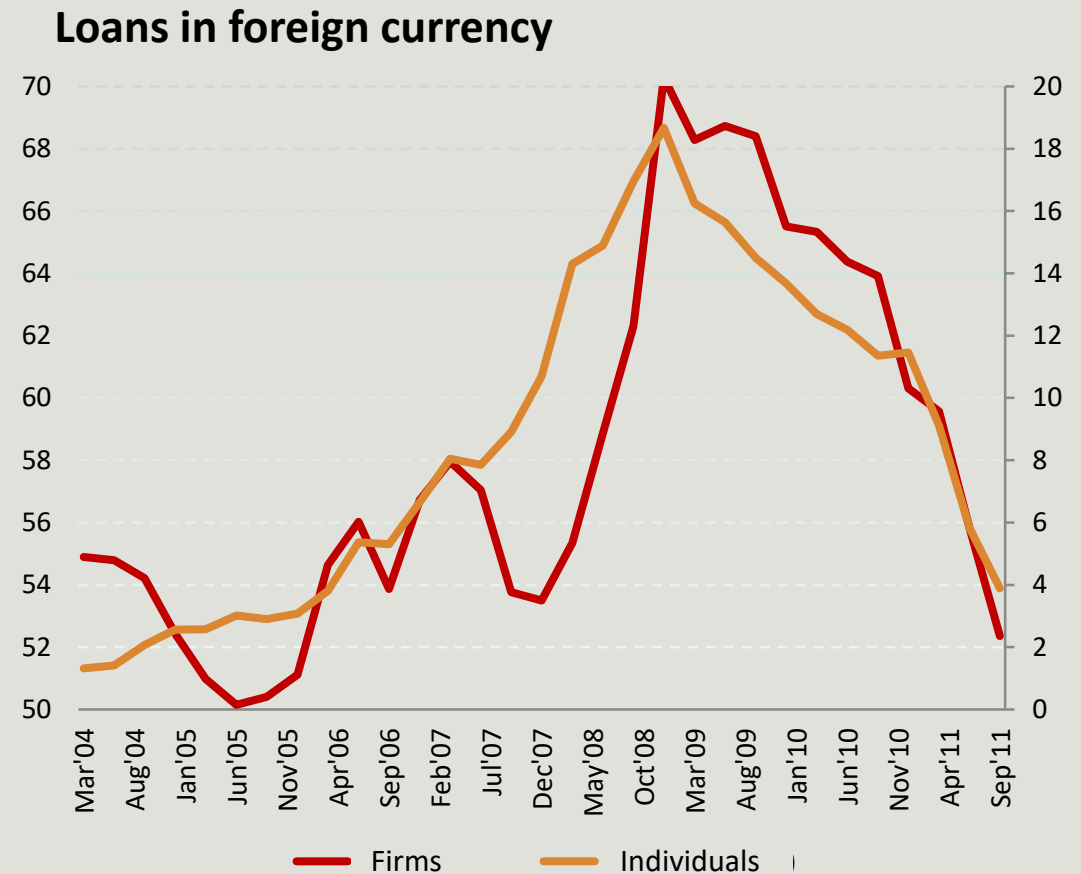
Experience of currency mismatch

There was a steep increase in loans in foreign currencies to unhedged parties.

- Firms and individuals

Proposal.

3. *To limit currency mismatch, it is recommended that restrictions be placed on **lending in foreign currencies** to local authorities, households and others who **lack income or assets in a foreign currency**. This can be done directly through statutory provisions or indirectly through prudential rules.*

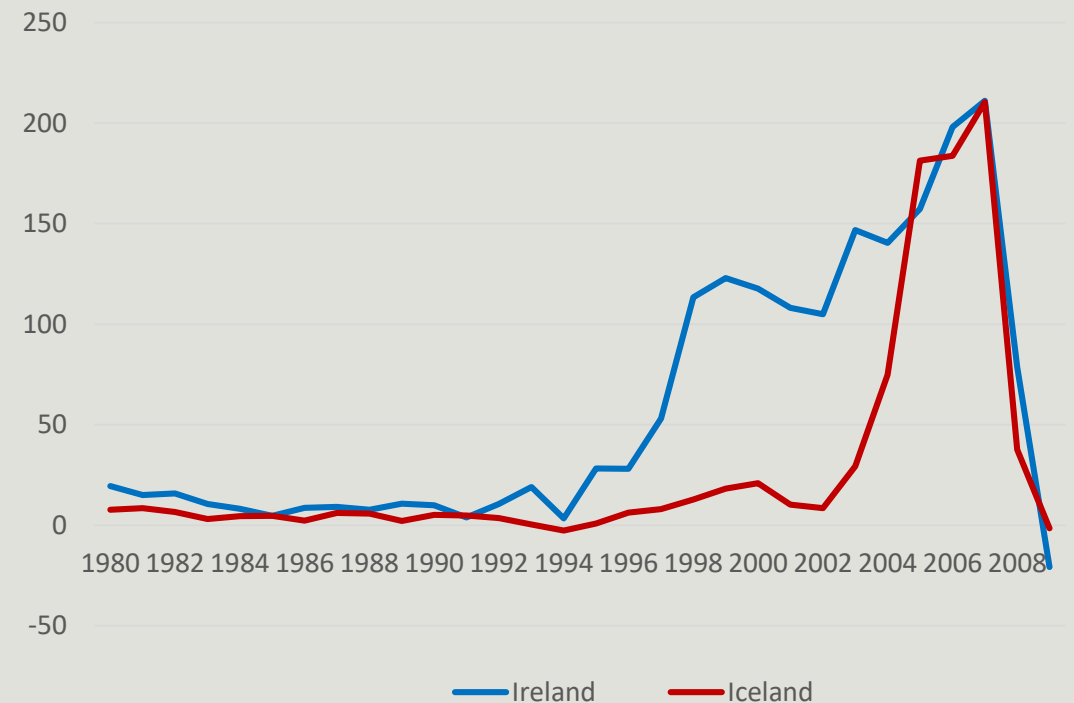


Experience with capital flow bonanzas ...

Proposal

4. ... new instruments, to curb pro-cyclical effects of capital flows, need to be examined. These instruments could take the form, for instance, of levies on capital transfers or special reserve requirements for foreign cur

Capital inflows 1980-2009



Source. Central Bank of Iceland. Non-resident net purchases of domestic assets

Recap ...

1. LCR and NSFR in FX to reduce maturity mismatch in foreign currency, put in place in the fall of 2012
2. Limits on deposit taking abroad ... Indirect within the LCR rules
3. Tool to restrict lending in foreign currencies, the Central Bank can limit lending in foreign to unhedged parties ... has not been used
4. Instrument to curb capital inflows was put into legislation in 2016 ...
levy on capital inflows was put in place in 2016 and released in 2019
 - 40% of inflows into bond securities

Decision making framework 1. jan 2020.

Monetary policy
committee
Governor foreman

Financial stability
committee
Governor foreman

Supervisory
committee
Dep. governor
foreman, except
for decision for
SIFIS ... then
governor foreman

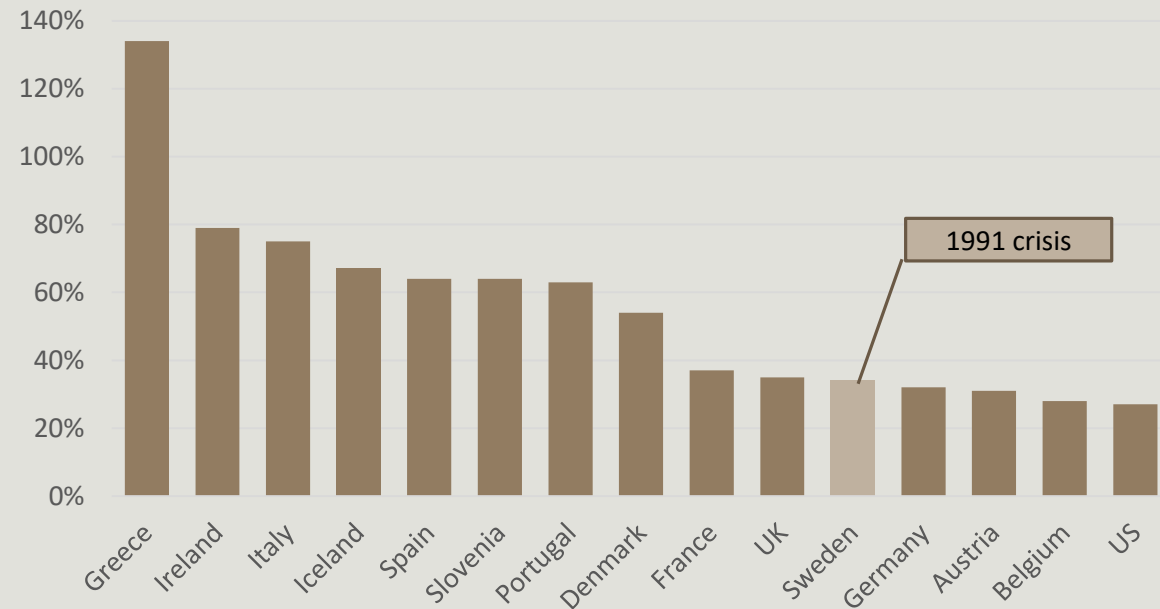
Reminder of the motivation ... financial crisis are very costly

Many countries lost what amounted to **over half a GDP** in the six years following the start of a banking crisis

Iceland lost over 65% of GDP over a six year period

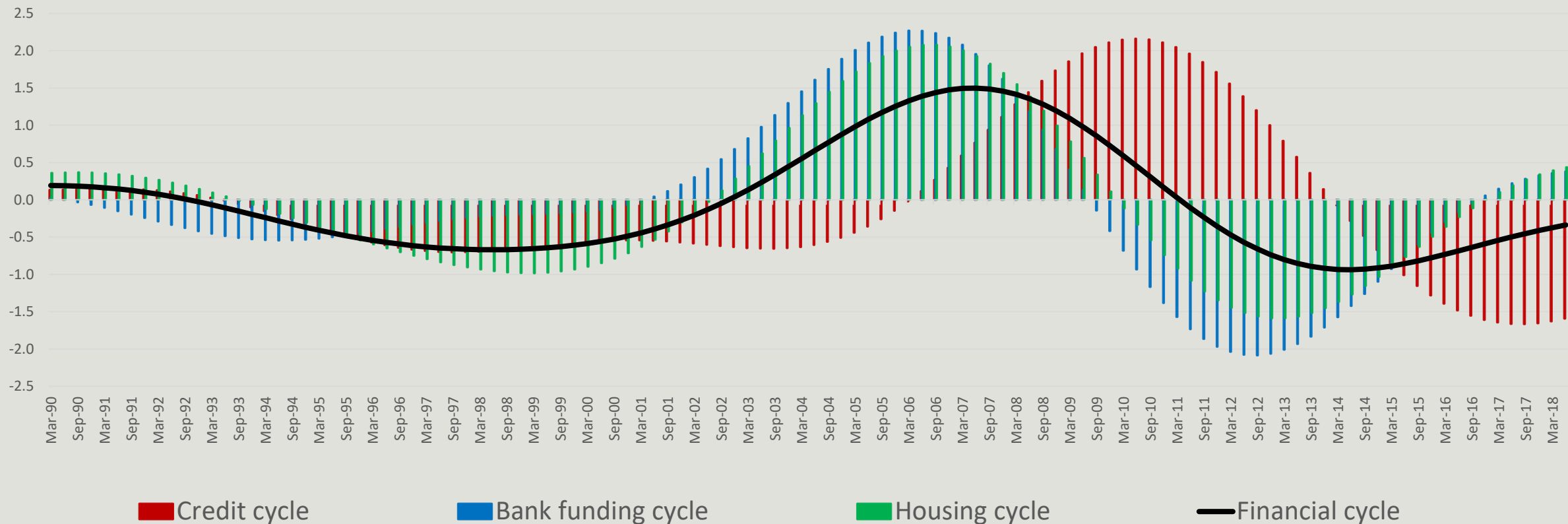
Greece almost 140% of GDP

Output loss % of GDP
6 year horizon



Source. Benediktsdottir, Eggertsson and Thorarinsson 2017

Iceland Financial Cycle



Arithmetic mean of cyclical components from variables in each subcycle and the complete set of variables. Cyclical components are obtained using the Christiano-Fitzgerald band-pass filter with a frequency band of 8-30 years.
Sources: Statistics Iceland, Registers Iceland, Central Bank of Iceland

Thank you

Appendix

Policy makers

POLICY MAKERS OBJECTIVES

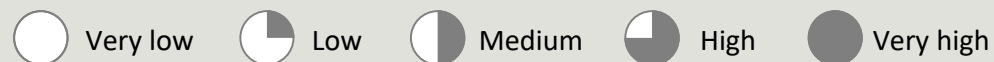
1. **Macroeconomic objectives:** Inflation, employment, real output
2. **Microprudential objectives:** functioning and health of individual financial institutions
3. **New ... macroprudential objectives:** functioning and the health of the financial system as a whole

WHAT DO POLICY MAKERS NEED

1. **Information** related to the objective
 - Wideranging and measurable benchmarks
2. **Interpreting information:**
 - Timely and effective assessment of information
3. **Policy actions**
 - Relevant tools available
 - Timely execution
 - Evaluation of its effectiveness

Strawman test on where we are

Type of capacity: ↓	Type of objective: →	Macroeconomic	Microprudential	Macroprudential	
				2006	2018
1. Gathering information relating to objectives and benchmarking					
2. Interpreting information: Timely and effective assessment of information					
3. Policy actions: Intervening in the environment as necessary to promote conditions consistent with objectives over time					
Relevant tools available					
Timely execution					
Evaluation of effectiveness					



Policy Frameworks

There is ambiguity as to the hierarchy across macroeconomic, microprudential and macropurdenial policy

- Ongoing debate?

Lack of information sharing among authorities still a problem ... in most places

- Most comprehensive information usually in the hands of Central Banks

Policy frameworks and availability of tools differ wildly between countries

Where there are financial stability authorities Edge and Liang (2017) conclude that most of them are set up for *information sharing* rather than to take action

... *no agreement on what is best*

	CCyB	LTV	Stress tests
Yes	53	39	57
FSC	2	1	0
CB	31	22	37
CB is PR	30	20	33
PR	16	7	18
PR and CB			2
MF	4	9	0

Source: Edge and Liang (2017)

Financial stability and macroprudential policy must become main stream

There is indeed need for further research in the field ... but

... there is as much need, if not more, to increase general understanding of the importance of financial stability and the use of macroprudential policy

First year university students should understand the risks of leveraged driven asset price appreciations as well as they now know the risks associated with inflation

- Simple heterogenous agent models where differences in risk aversion drives asset prices, John Geanakoplos
- ... or Rajan's model that is driven by asymmetric information and short term profit maximization by bank managers.

Students should know the importance of financial stability and its connection to sustainable long term growth as well as they now know the importance of investment and capital for growth

- Downturns that coincide with financial instability are more severe and longer lasting (Schularick and Taylor (2012), Jorda, Schularick, and Taylor, (2013); Claessens, Kose, and Terrones (2012), Drehman, Borio and Tsatsaronis(2012)
- Effects on potential output may not be temporary (Furceri and Mourougane, 2012)

Macroprudential policy tools mainstream

Students should know the CCyB, LTVs, DSTIs and more as macroprudential policy tools just as they see interest rates as a monetary policy tool

- Motive for use and expected outcomes
- Potential indicators for use

Students should be familiar with the indicators most relevant for signaling increase in systemic risk or potential for financial instability, that is the credit to GDP gap, the financial cycle, leverage, asset prices etc. just as they know indicators for the overall economy, i.e. growth, the business cycle and unemployment.

These students are our future policy makers