SEÐLABANKI ÍSLANDS

Icelandic experience of cross-border transmission of financial stability risk

4th Policy Research Conference of the ECBN

18-19 September 2018 Ljubljana

Lúðvík Elíasson

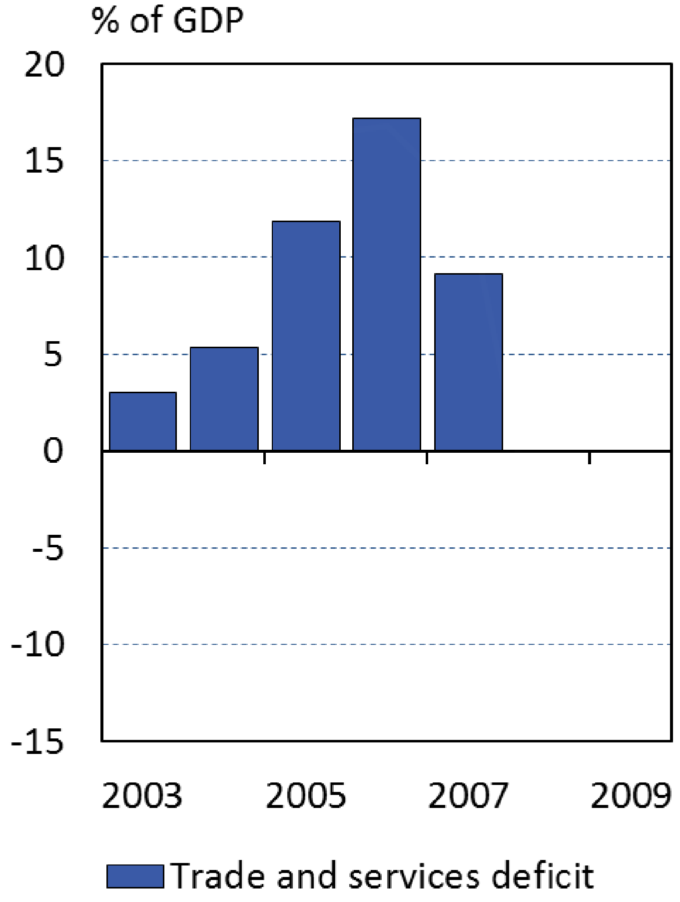
Economics and Monetary Policy Department

The boom-bust cycle: large imbalances building up

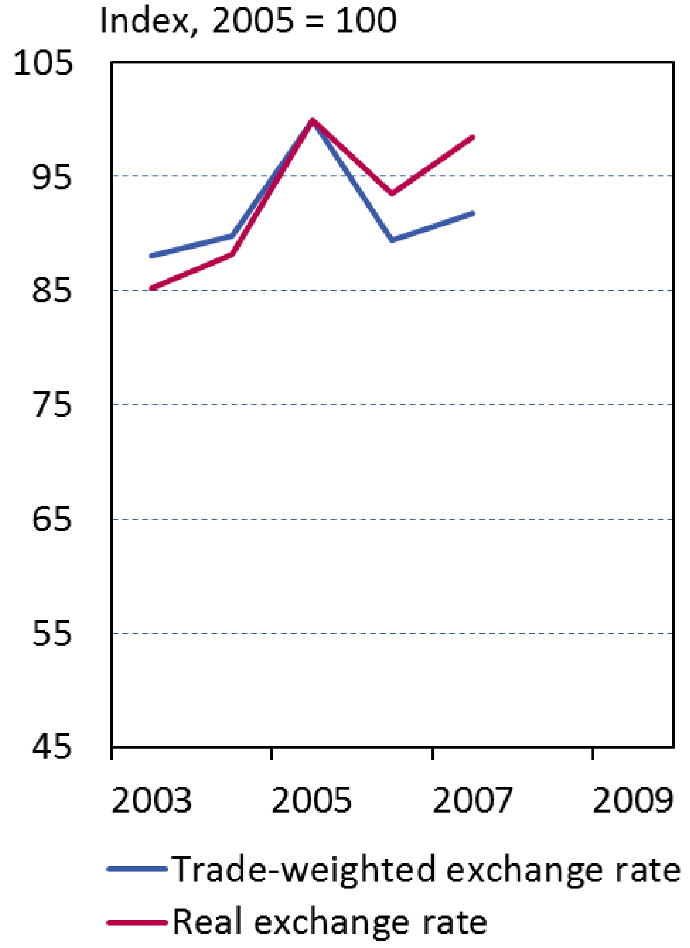
- The trade deficit reached almost 20% of GDP, the currency rose by almost 20% and real asset prices rose enormously (house prices by more than 50% and equity prices by more than 250%), all being fed by a large credit boom …
- … thus, leading to a very large increases in private sector debt – which had reached over 300% of GDP in 2007

The boom-bust cycle 2003-2009

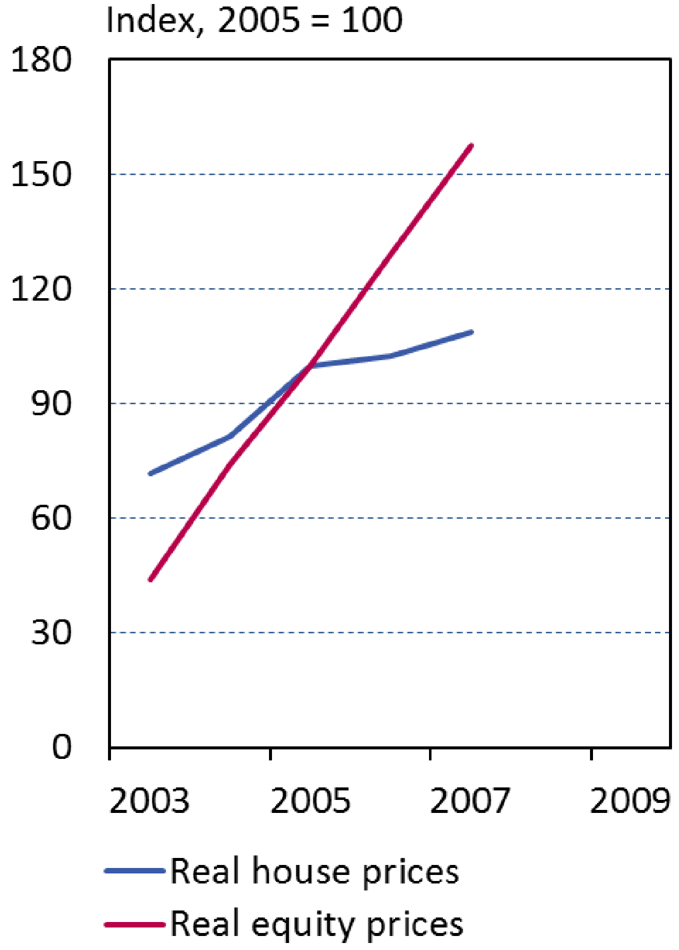
Trade deficit



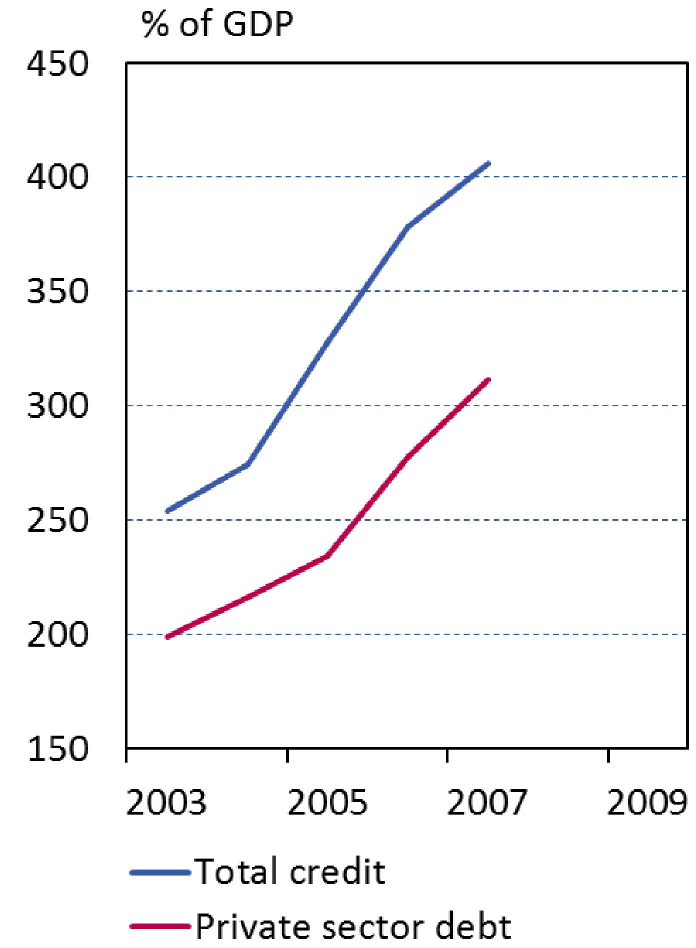
Exchange rate



Asset prices



Credit and debt

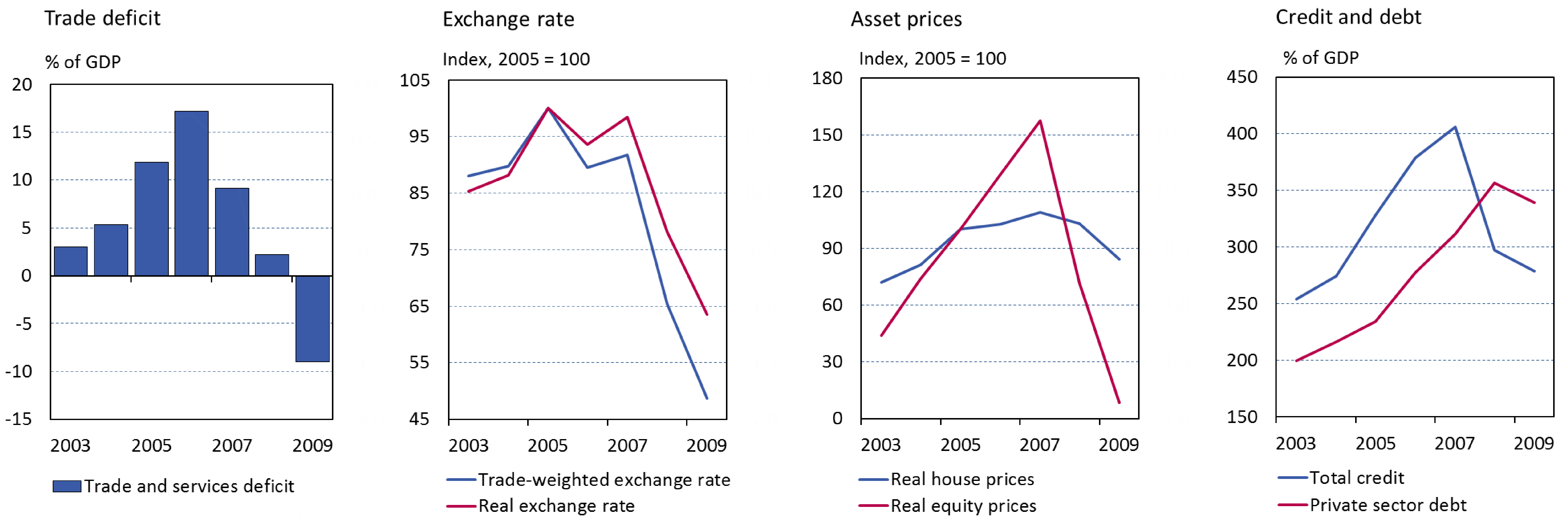


Sources: Statistics Iceland, Central Bank of Iceland.

The boom-bust cycle: a large and sharp correction

- The global financial crisis saw an abrupt stop to access to foreign credit to fund such a large trade deficit …
- … the sudden stop crisis led to a sharp reversal in the trade deficit as domestic demand became severely compressed, and a sharp correction in the currency, followed by collapsing credit and asset prices

The boom-bust cycle 2003-2009

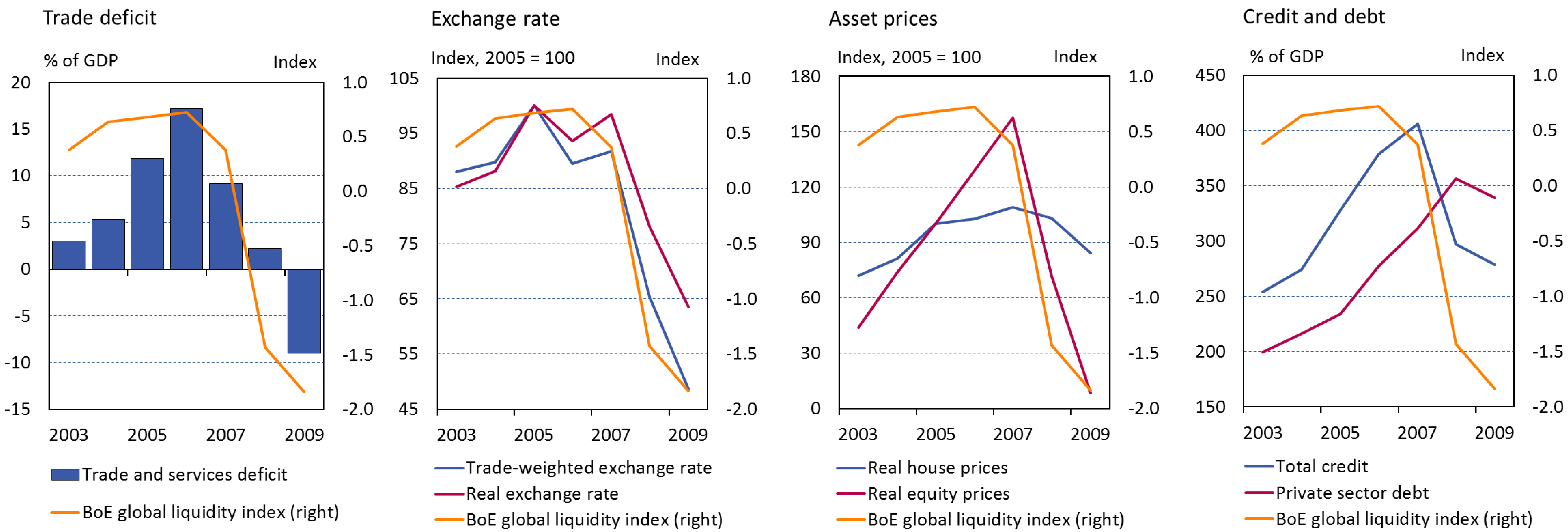


Sources: Statistics Iceland, Central Bank of Iceland.

The boom-bust cycle: significant global spillovers

- An important feature of the boom-bust episode is the role of global financial conditions: how easy access to global funding fed the boom and how its sharp curtailment following the Lehmann collapse contributed to the bust
- Suggests there is a domestic financial cycle that is to a large extent driven by variations in global financial conditions

The boom-bust cycle 2003-2009



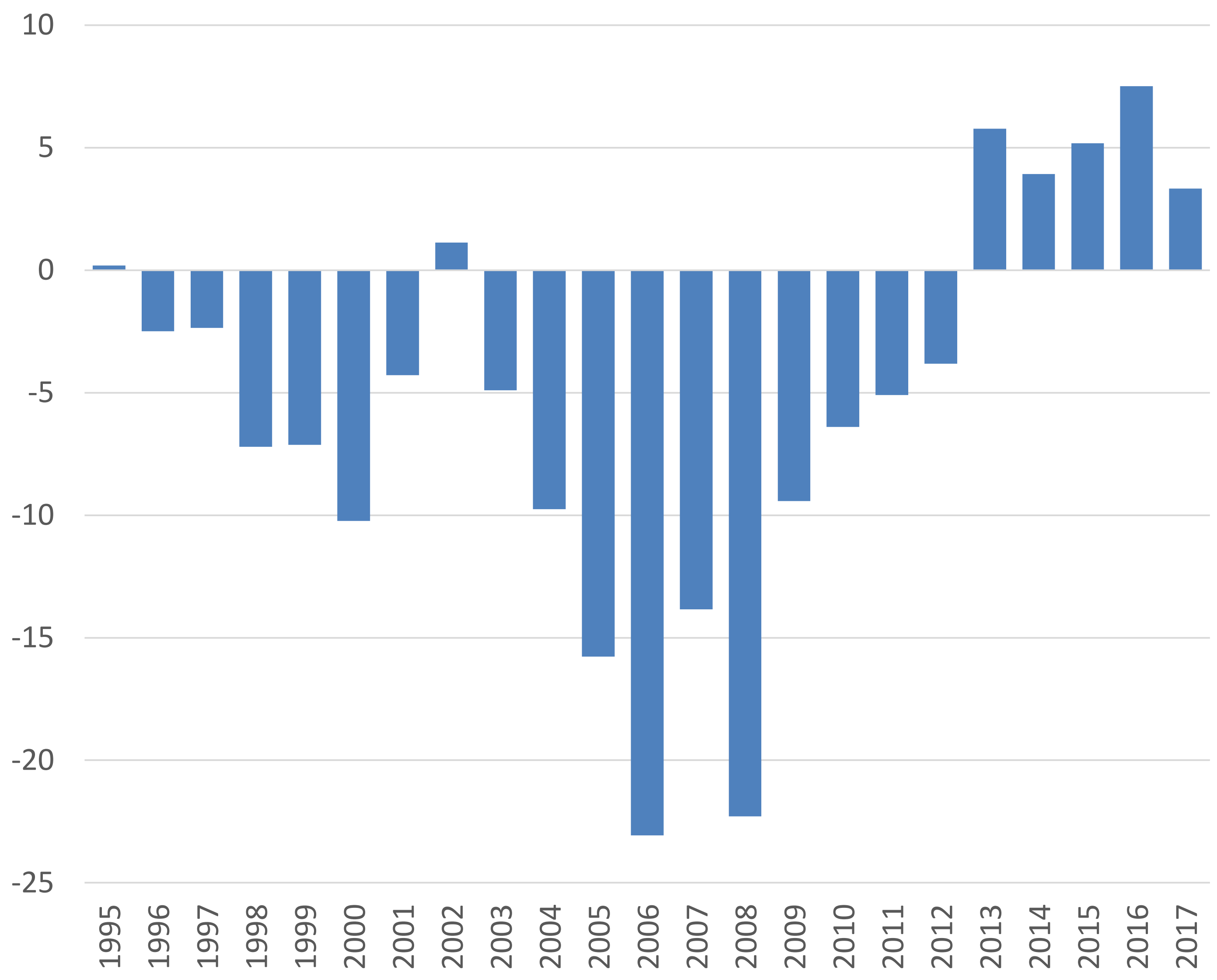
The Bank of England global liquidity index shows the number of standard deviations from the mean (exponential moving average) from a simple unweighted average of nine liquidity measures, normalised on the period 1999-2004.
Sources: Bank of England, Statistics Iceland, Central Bank of Iceland.

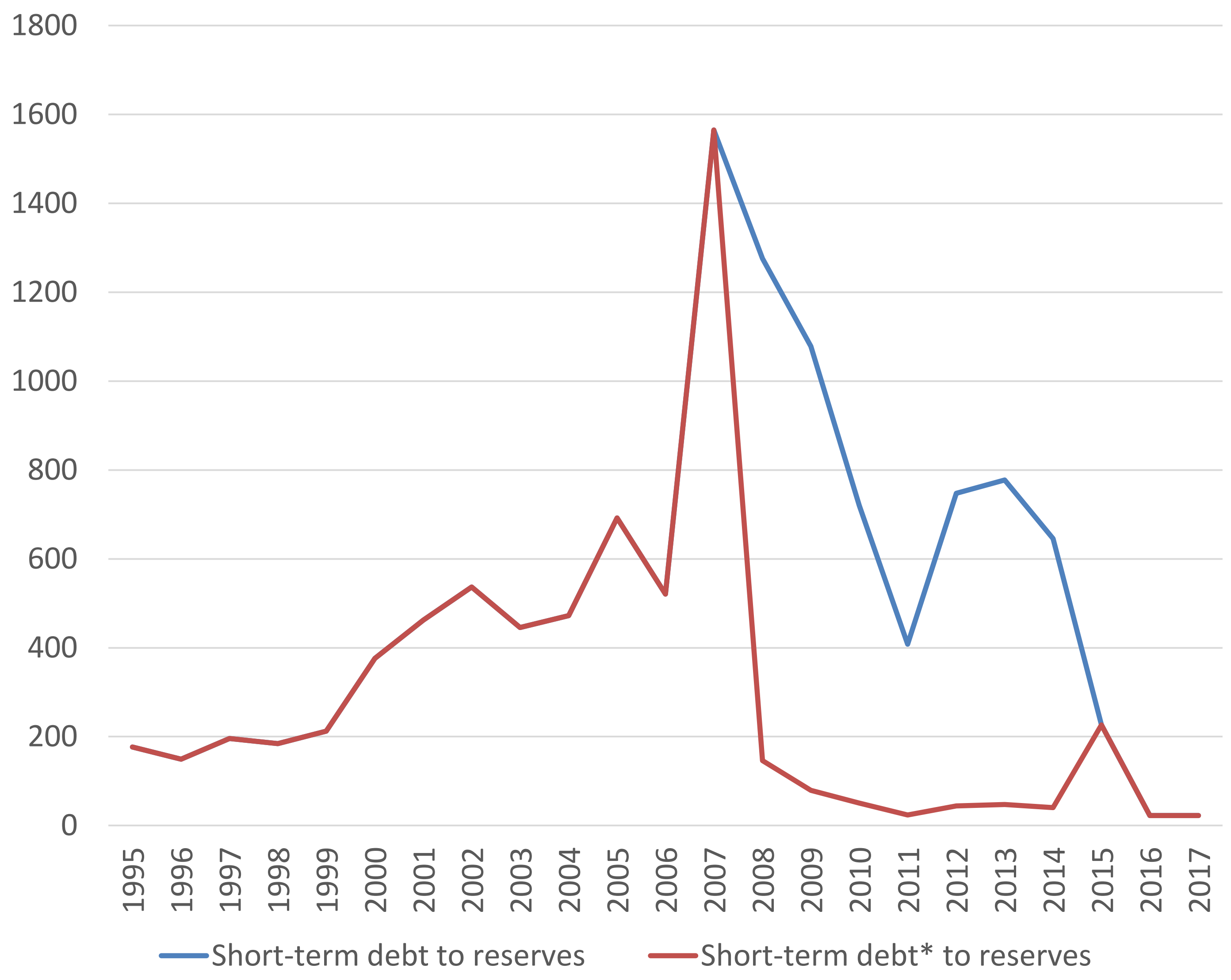
The case of Iceland

- Inflation target adopted in 2001 as the fixed exchange rate regime became unsustainable
- Shortly after the Asian crisis – suggestions on how to guard the financial system against cross-border transmission of financial stability risks
- Liberalization of banks completed in 2003
- Foreign funding of the financial system expands rapidly
- Banks taken over by the financial supervisory authority in 2008
- Macroprudential and other rules adopted to fend off cross-border transmission of financial stability risks

Perceived risk

- Left: Current account, % of GDP
- Right: Short-term debt, % of reserves





Stiglitz 2001

- Monetary and exchange rate policies in small open economies
  - Joseph E. Stiglitz (2001)
- Worried about the CA, credit growth and accumulation of short-term foreign debt
  - Inflation target as of March 2001 and floating of the currency helpful
  - Adopt measures for curbing the credit boom and limiting exchange exposures of unhedged sectors
  - Stabilize capital flows using taxes, disclosure requirements, regulations, particularly through the banking system

… continued

- Globalization and liberalization has undermined the extent to which central banks can control credit flows, but still possible to
  - Regulate exposure of banks directly
  - Regulate exposure of banks indirectly through exposure of firms they lend to
  - Speed limits on the rate of credit expansion
    - Use taxes, capital requirements related to the rate of increase in outstanding credit, or direct controls
    - Indirect controls such as an increase in capital adequacy requirements may, however, lead to increased risk taking, it is not well targeted, and could exacerbate a downturn
- Competition for market shares can lead to rapid credit growth
  - Particularly if explicit or implicit insurance against some risks
  - And can be exacerbated by managerial incentives

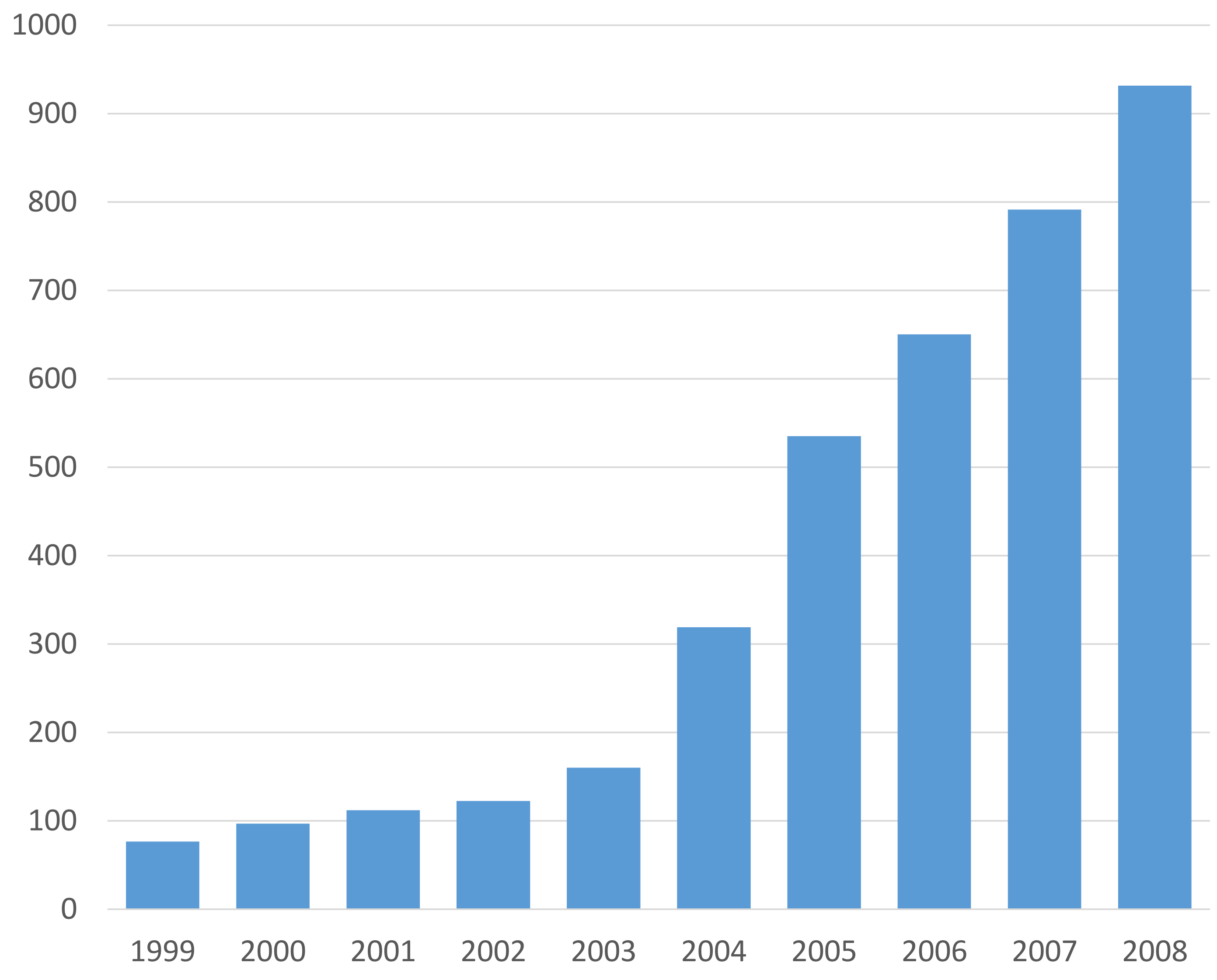
Rodrik 1998 “Who needs capital account convertibility?”

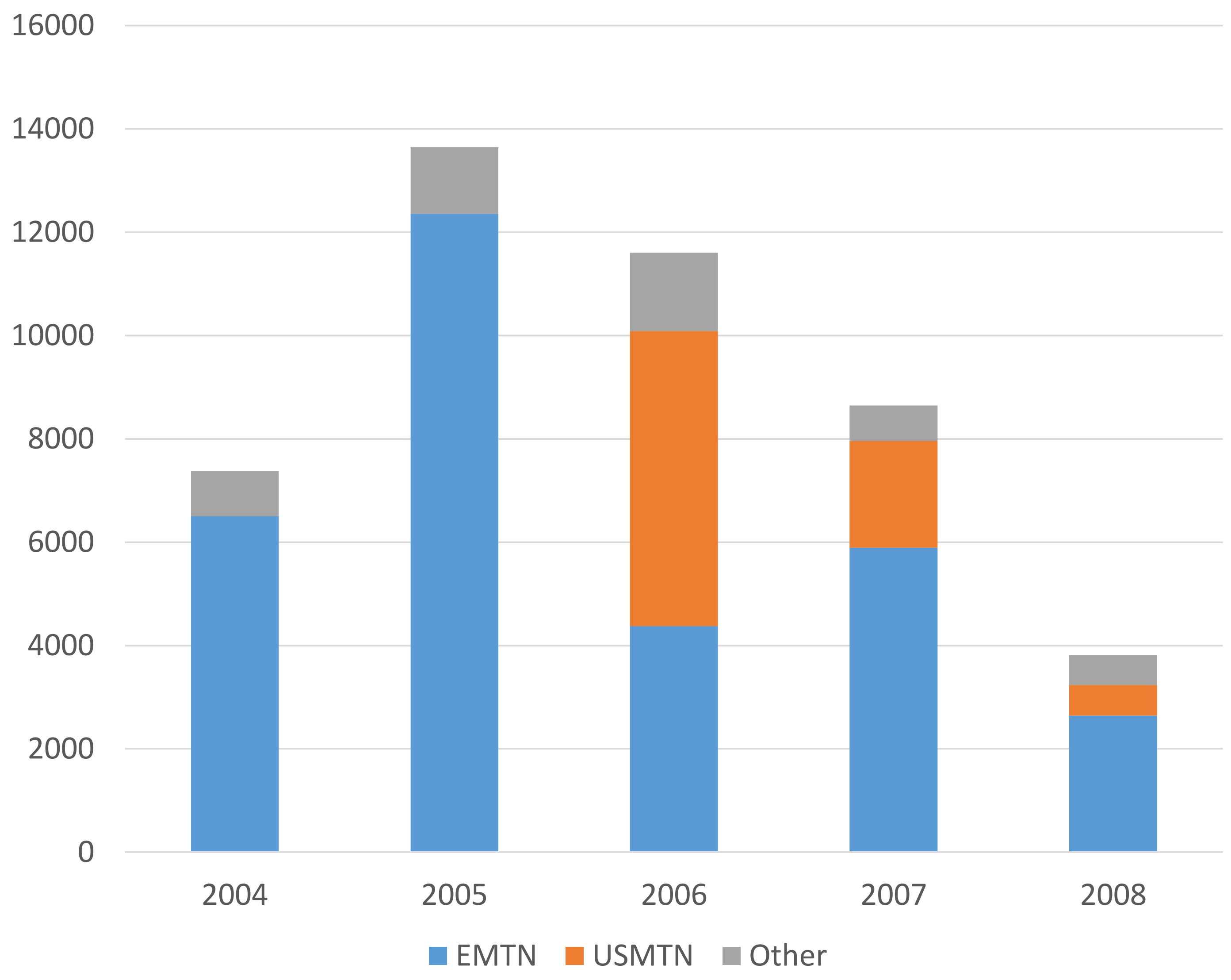
- We should be “wary about statements of the form, “we can make free capital flows safe for the world if we do x at the same time,” where x is the currently fashionable antidote to crisis.”

- 1998: x = “strengthening the domestic financial system and improving prudential standards.”
- 2018: x = “applying macro-prudential regulation.”

Growth of Icelandic banks – increasing dependence on foreign funding

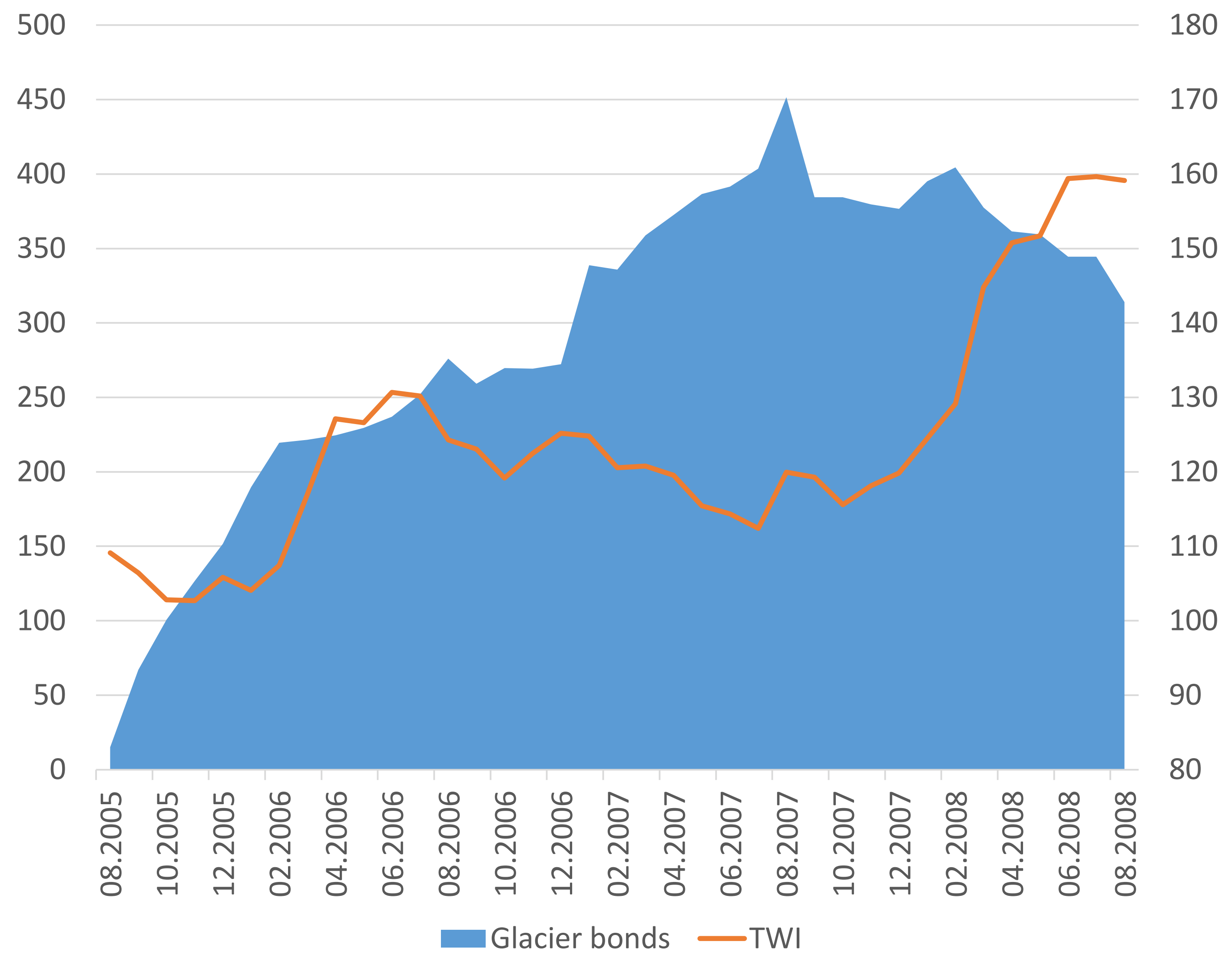
- Left: Size of the banks relative to GDP
- Right: Foreign bond issues of the banks, millions of Euros

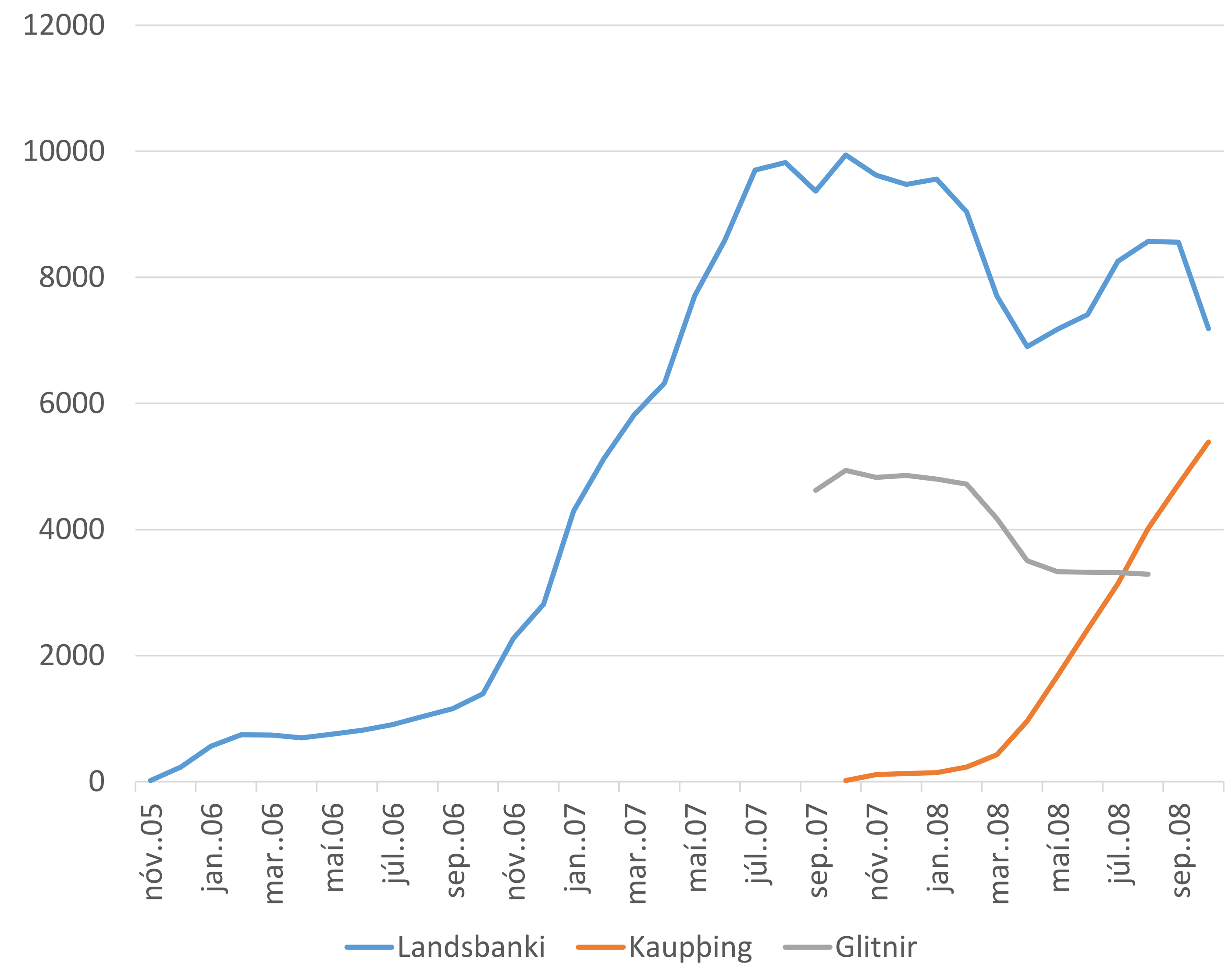




Largely foreign funded growth of the banking sector

- Left: Outstanding stock of glacier bonds, billions of krónur, left axis; trade weighted index, right axis
- Right: Foreign deposits, millions of Euros





Cross-border transmission of risk I:
Swaps with foreign issuers of Icelandic krónur bonds

- Growth in foreign funding of banks
  - Increasingly short term
    - Swapped with foreign issuance of ISK bonds
    - Lent at home – foreign investors held the foreign currency risk
  - Difficulties in refinancing – higher rates and fewer counterparties
    - Stop swapping with glacier bond issuers
    - Lend ISK linked to foreign currencies
- → Currency risk held as counterparty risk

Cross-border transmission of risk II: ISK assets underlying asset backed FX bonds

- Scrambling for foreign currency liquidity
  - Collateralized borrowing from the ECB
    - Collateralized borrowing from the Icelandic central bank
    - Domestic currency used to buy domestic bonds
  - Moved to foreign subsidiaries who issue foreign asset backed bonds
    - Icelandic parent bank removes ISK risk through FX swap
- → Used as collateral at ECB – parent bank holds the currency risk

Cross-border transmission of risk III: Repatriation of debt

- Companies owned by related parties used foreign funding to invest abroad
  - Started receiving margin calls during the financial crisis
  - The Icelandic banks refinanced – taking on the foreign currency risk
- → Credit risk which was previously been diversified out of the country taken on by the Icelandic banks

Questionable policies

- Lowering the reserve requirement on short term funding in 2003
- Allowing a special foreign currency balance for the purpose of hedging the equity against possible depreciation
- Relaxing the requirements for bonds eligible for use in collateralized borrowing at the central bank
- Allowing the banks to use their own issues through an intermediary as collateral at the central bank

Some of the changes made since the crisis

- Special liquidity rules for banks foreign currency funding
- Tighter currency balance and no special balance for hedging
- More stringent repayment requirements for foreign currency loans to unhedged parties
- Much tougher requirements for capital adequacy ratios
- New macroprudential tools

Macroprudential tools

- Capital buffers (have all been activated)
  - Systemic risk buffer: 3% (FSA after FSC recommendation)
  - O-SII buffer: 2% (FSA after FSC recommendation)
  - Countercyclical buffer: 1,25% (FSA after FSC recommendation)

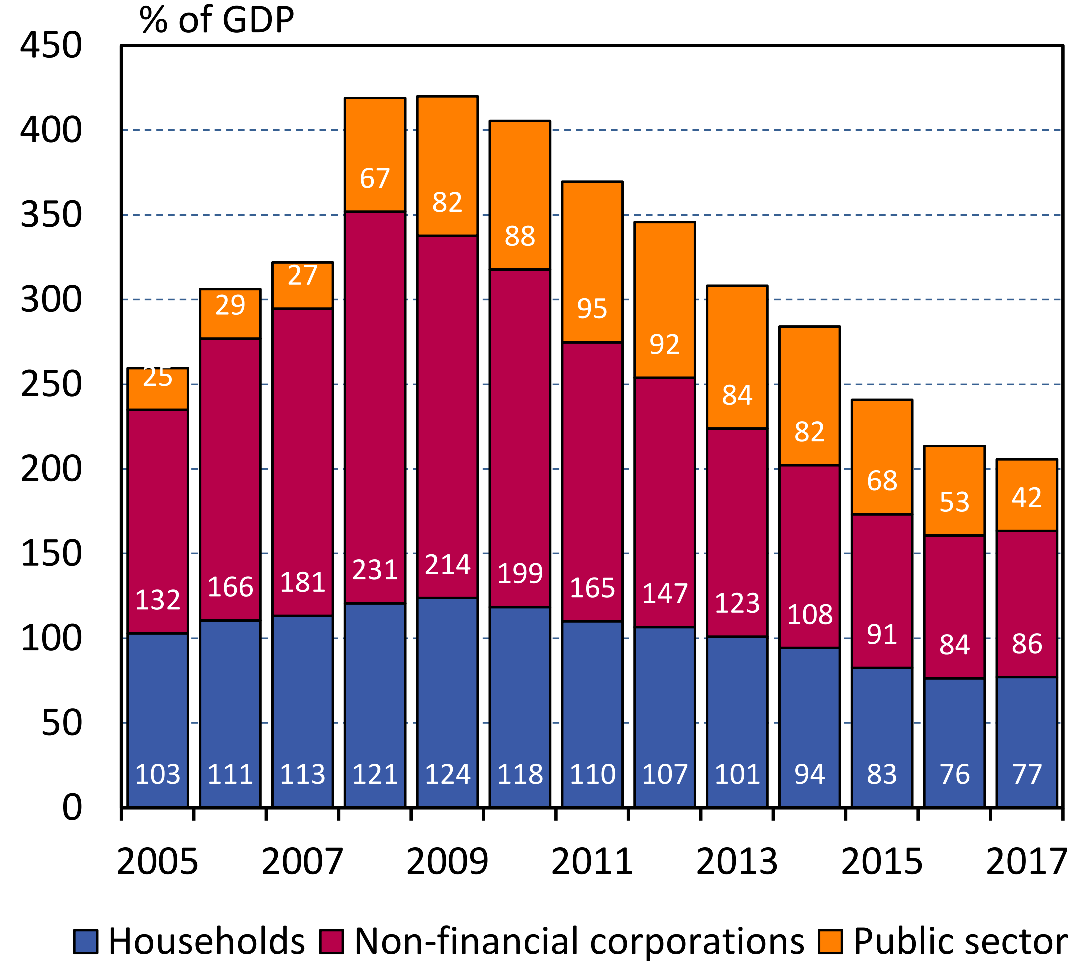
- Borrower based measures
  - LTV (FSA after FSC opinion)
  - DSTI (FSA after FSC opinion)
  - Restrictions on lending in foreign currencies (CB after FSC opinion)

- Other tools
  - CFM (CB by approval from Minister of Finance and Economic Affairs)
  - Foreign exchange balance, LCR in FX, NSFR in FX (CB)

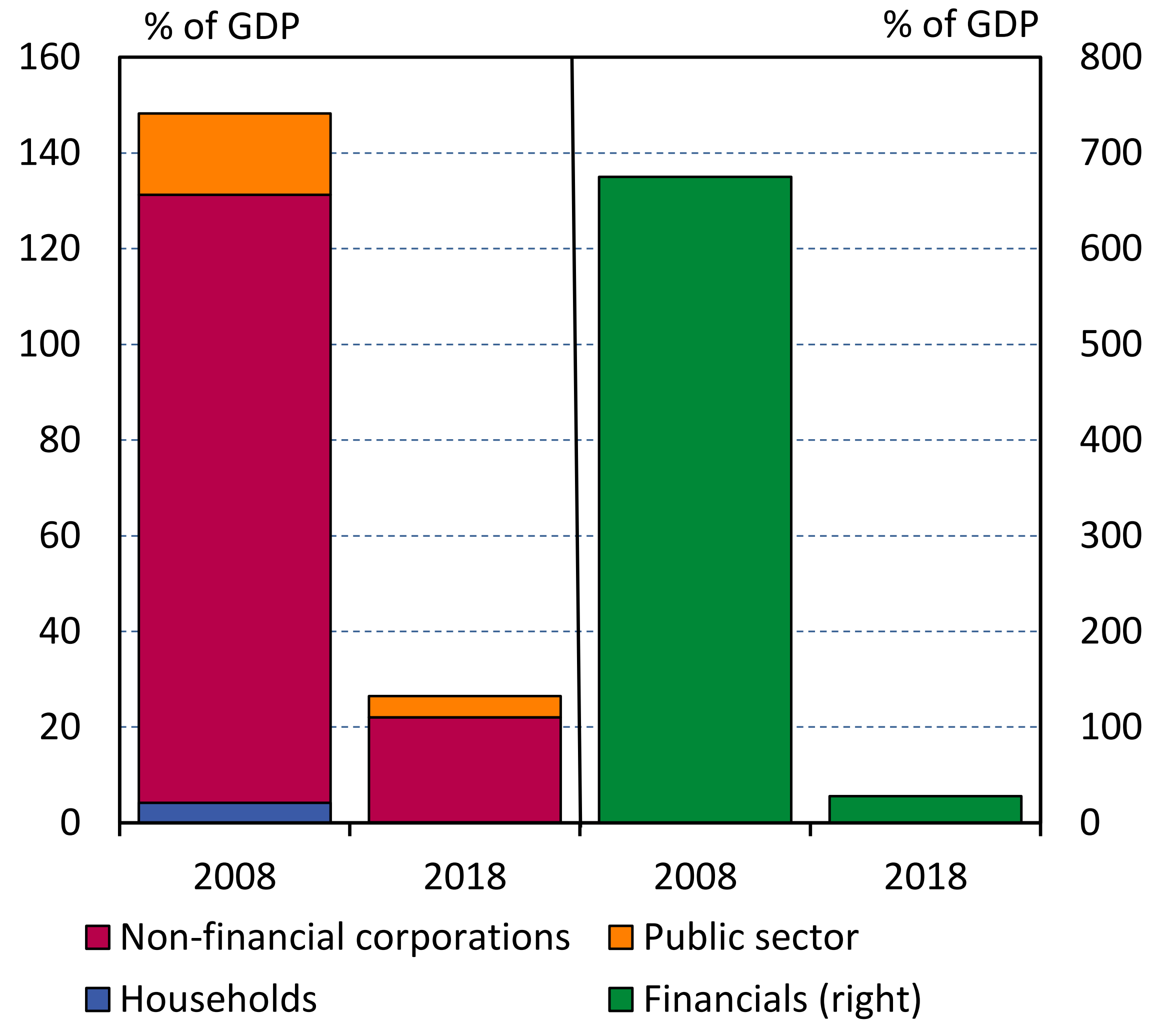
Debt reduction – particularly of foreign currency debt

- Private sector heavily indebted before the crisis and government debt increased in the following years … but all sectors have seen debt decrease significantly
- Foreign currency debt was widespread but is much smaller now

Debt of households, non-financial corporations and the public sector 2005-2017[1]



Foreign currency debt[2]



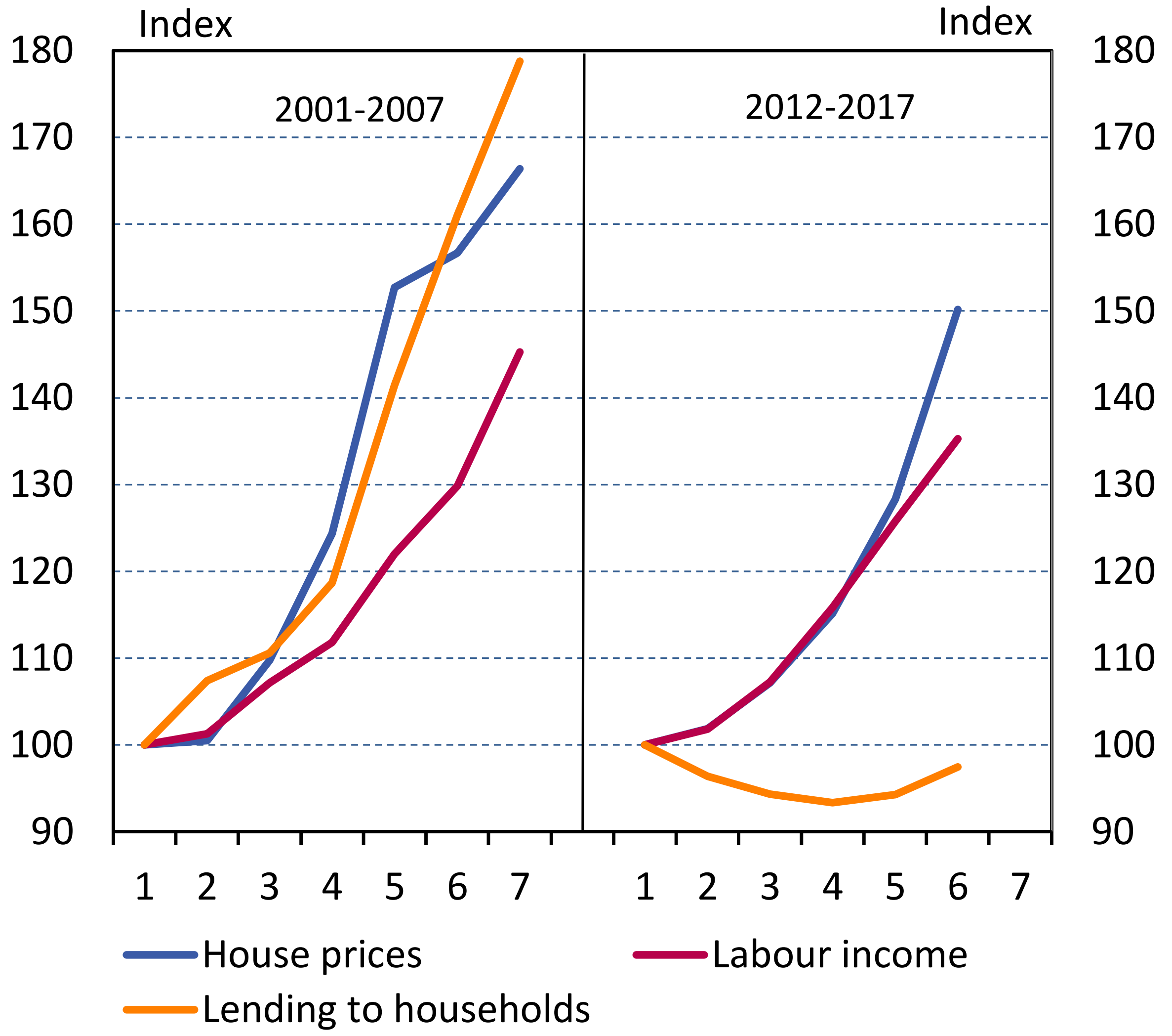
1. Debt to financial corporations and market-securities. 2. Foreign currency denominated debt. 2008 values are for September for the private sector and August for the public sector. 2018 values are March values for the private sector and August for the public sector.

Sources: Statistics Iceland, Central Bank of Iceland.

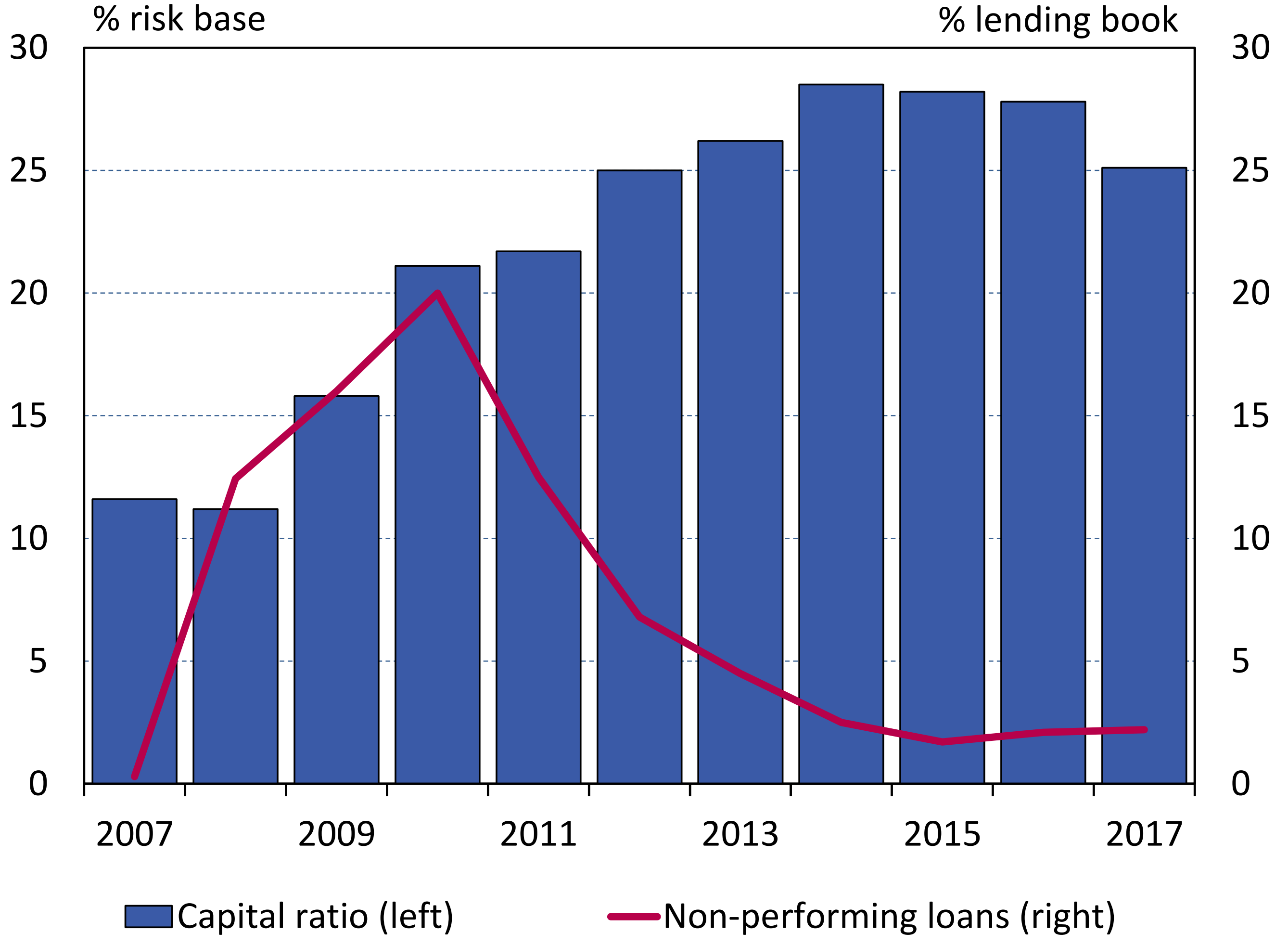
House prices and the banking sector

- Different reasons for rising house prices: now driven by increasing income rather than increasing debt
- Arrears have fallen and the banks equity is strong

Housprices, income and debt in two housing booms[2]



Capital ratio and NPL for deposit taking banks 2007-2017[2]

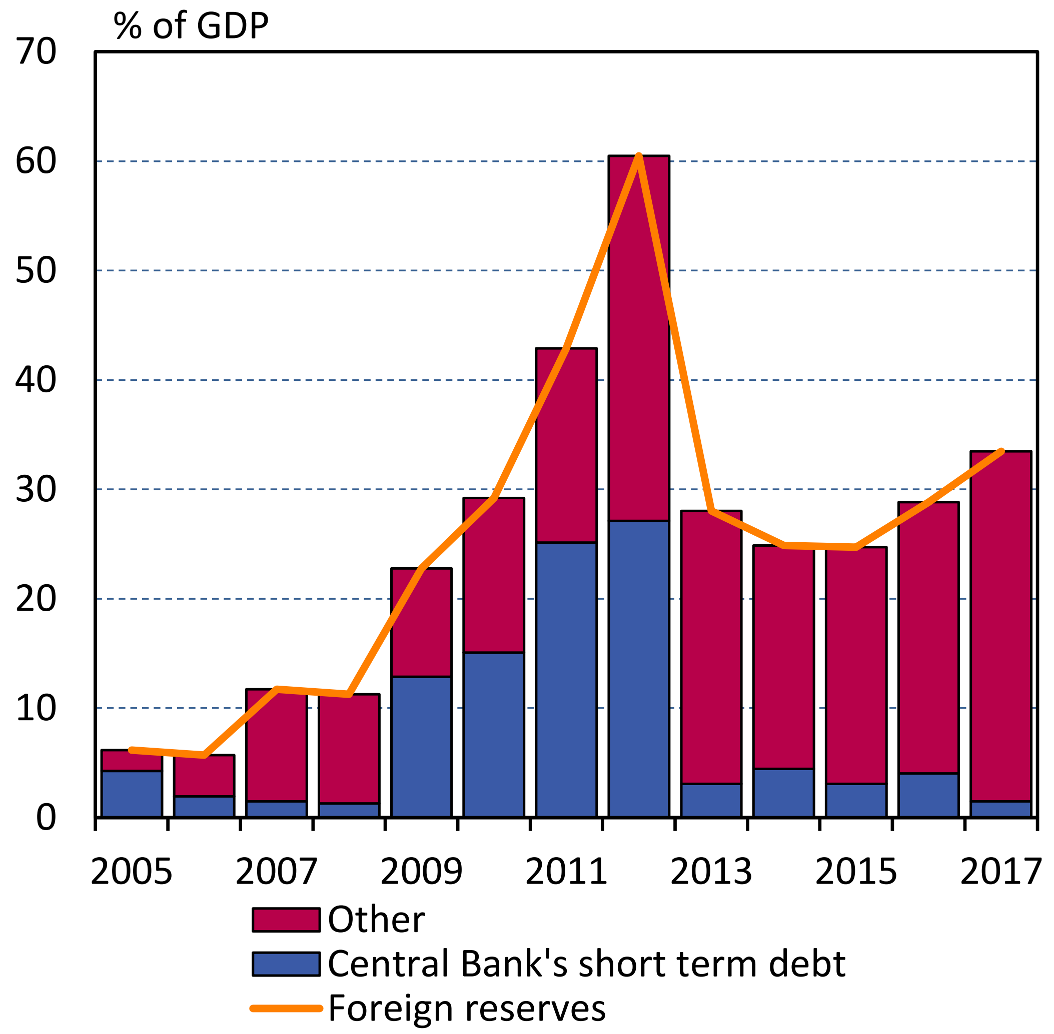


1. House prices relative to the price level, purchasing power of disposable income (less capital income) and lending to households at constant prices (adjusted for government‘s debt reduction initiatives since 2009). Indices set at 100 at the first year of each period. 2. Capital ratios for 2008 based on initial balance sheets of the resurrected banks as determined by agreements with creditors 2009. NPL for private sector as a proportion of total lending unadjusted for write downs. 2007 and 2008 are estimated.
Sources: Icelandic Financial Supervisory Authority, Statistics Iceland, Central Bank of Iceland.

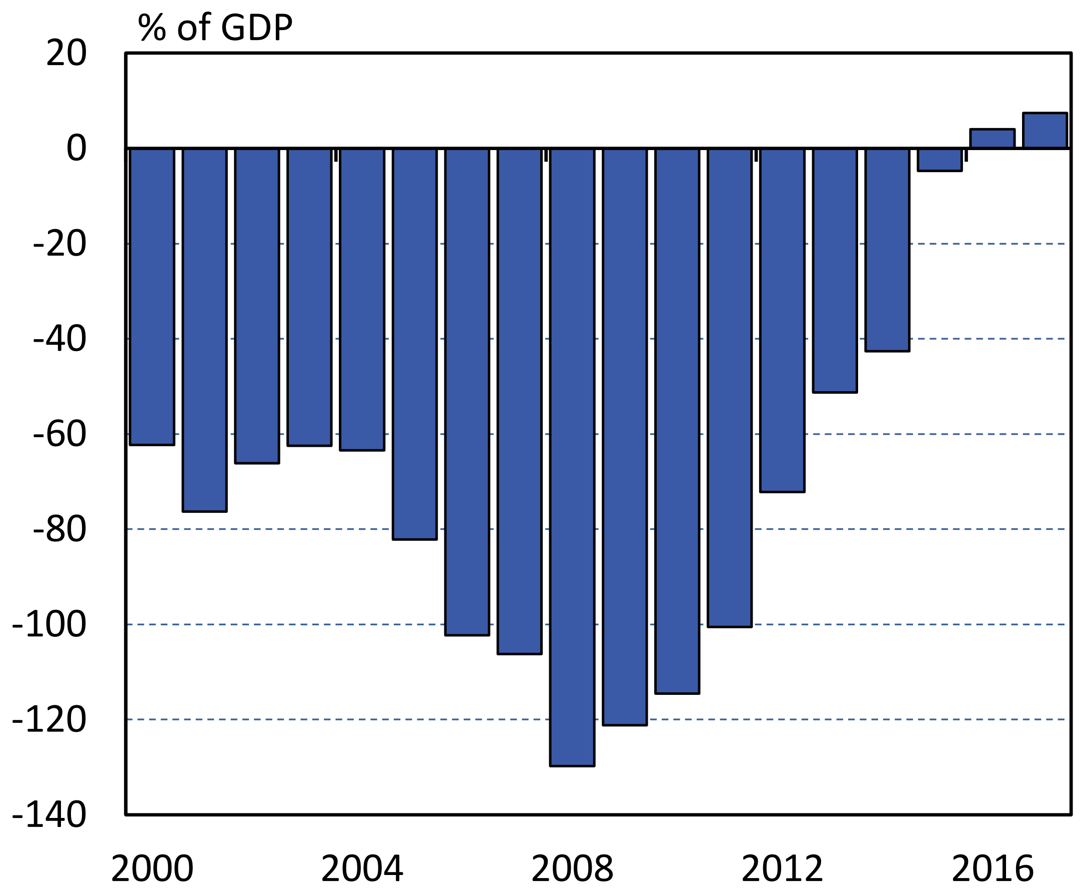
The nation's balance sheet has been transformed

- National savings more than cover domestic investment
- Foreign reserves are now much bigger
- … and Iceland is now for the first time a net creditor against the rest of the world

Foreign reserves 2005-2017[1]



Net international investment position 2000-2017[2]



Sources: Statistics Iceland, Central Bank of Iceland.

This time is, as always, different

- Much stronger balance sheets of all sectors
- Many of the common themes of past crisis have been addressed
  - Short term capital flows
  - Transfer of currency risk to counter party risk
  - Bankruptcy regulation
- On a positive note
  - Progress has been made on several changes to policy and regulation that needed to be addressed, related to the broad picture
  - Changes have also been made to policy and regulation in response to lessons from the most recent crisis