Debt in the bank

Banking in high debt economies

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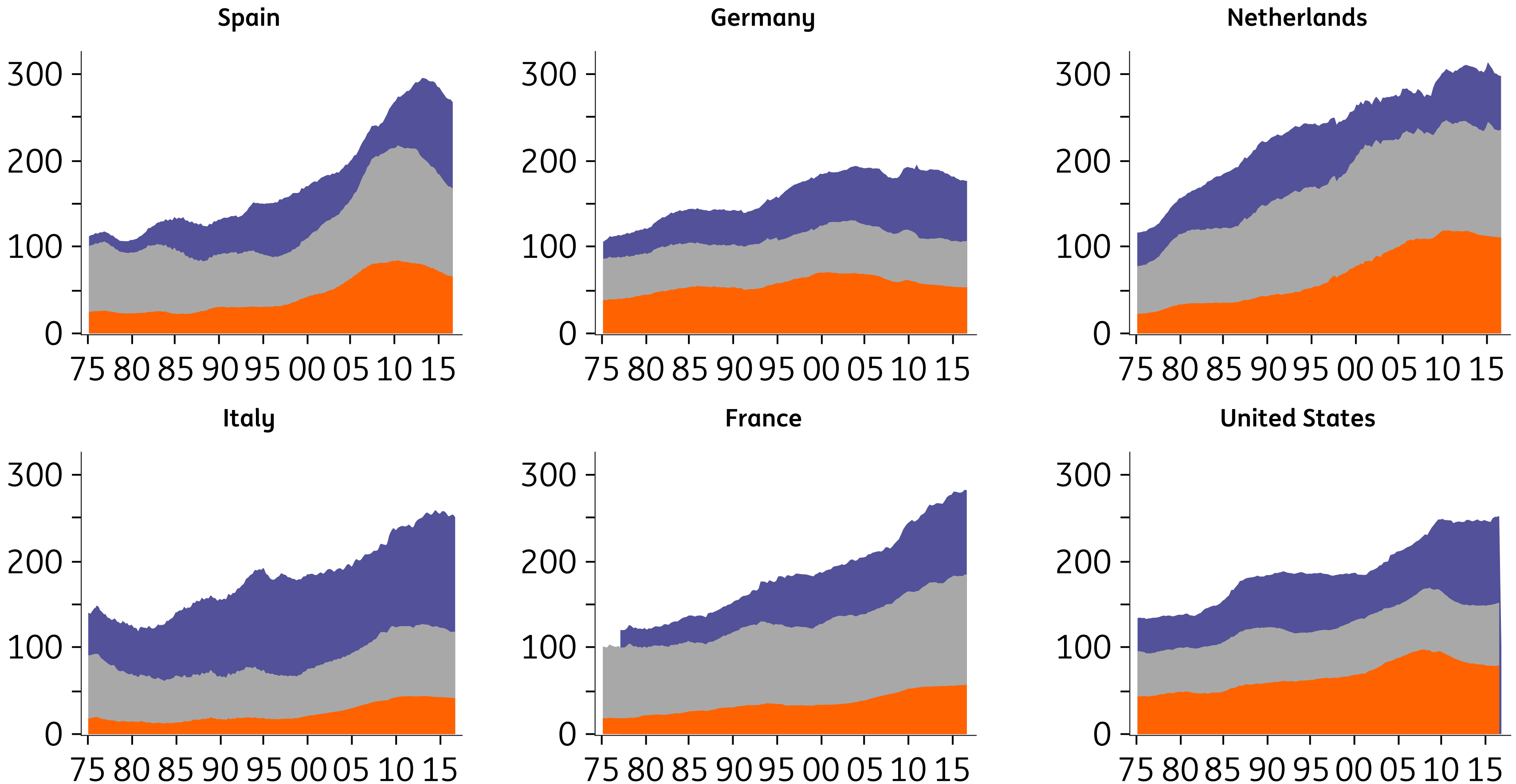
High debt: taking stock

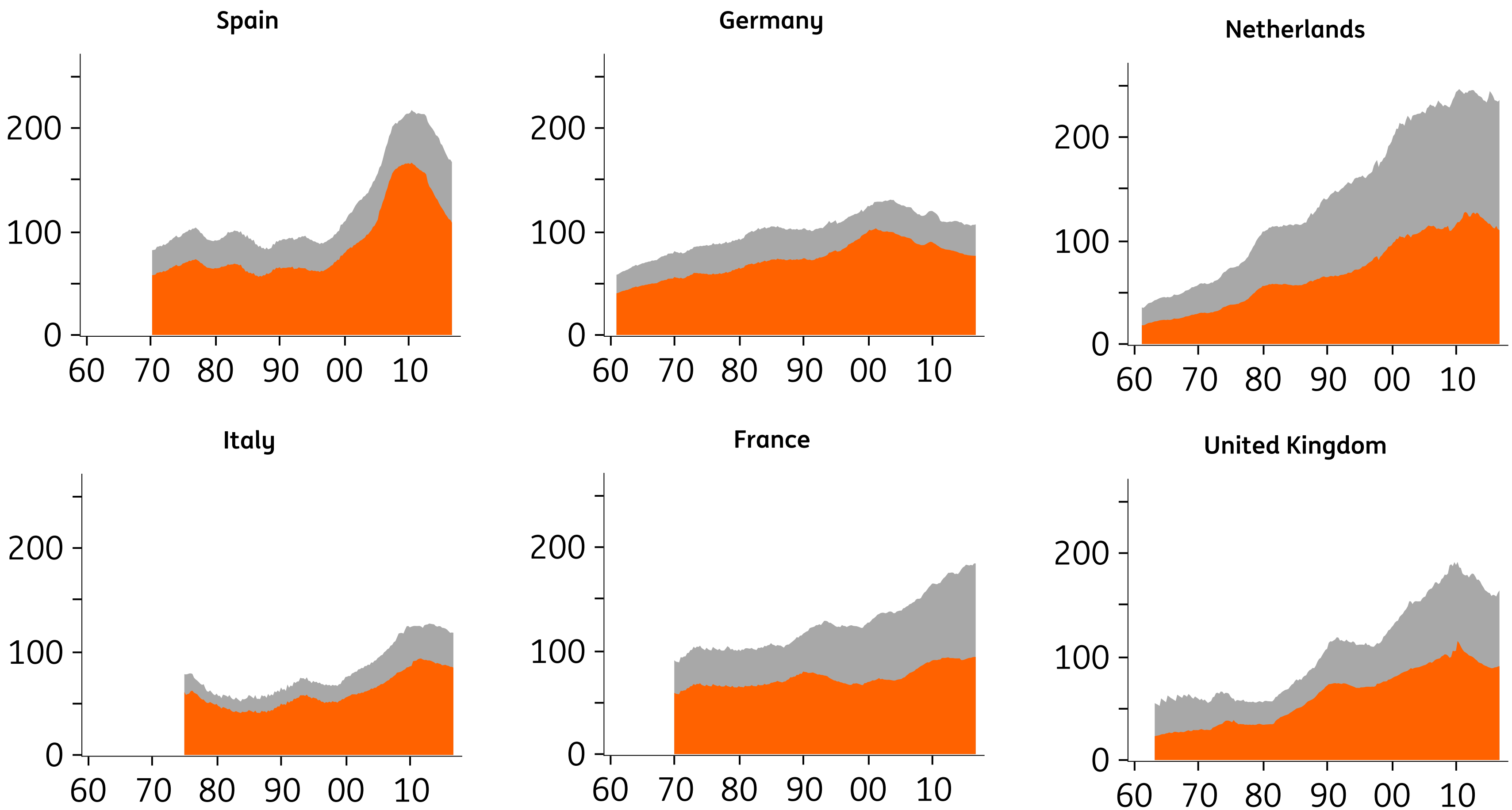
Development of private & public debt

Household, non-financial business and government debt, % of GDP



Is it just banks that made this possible? (1/2)

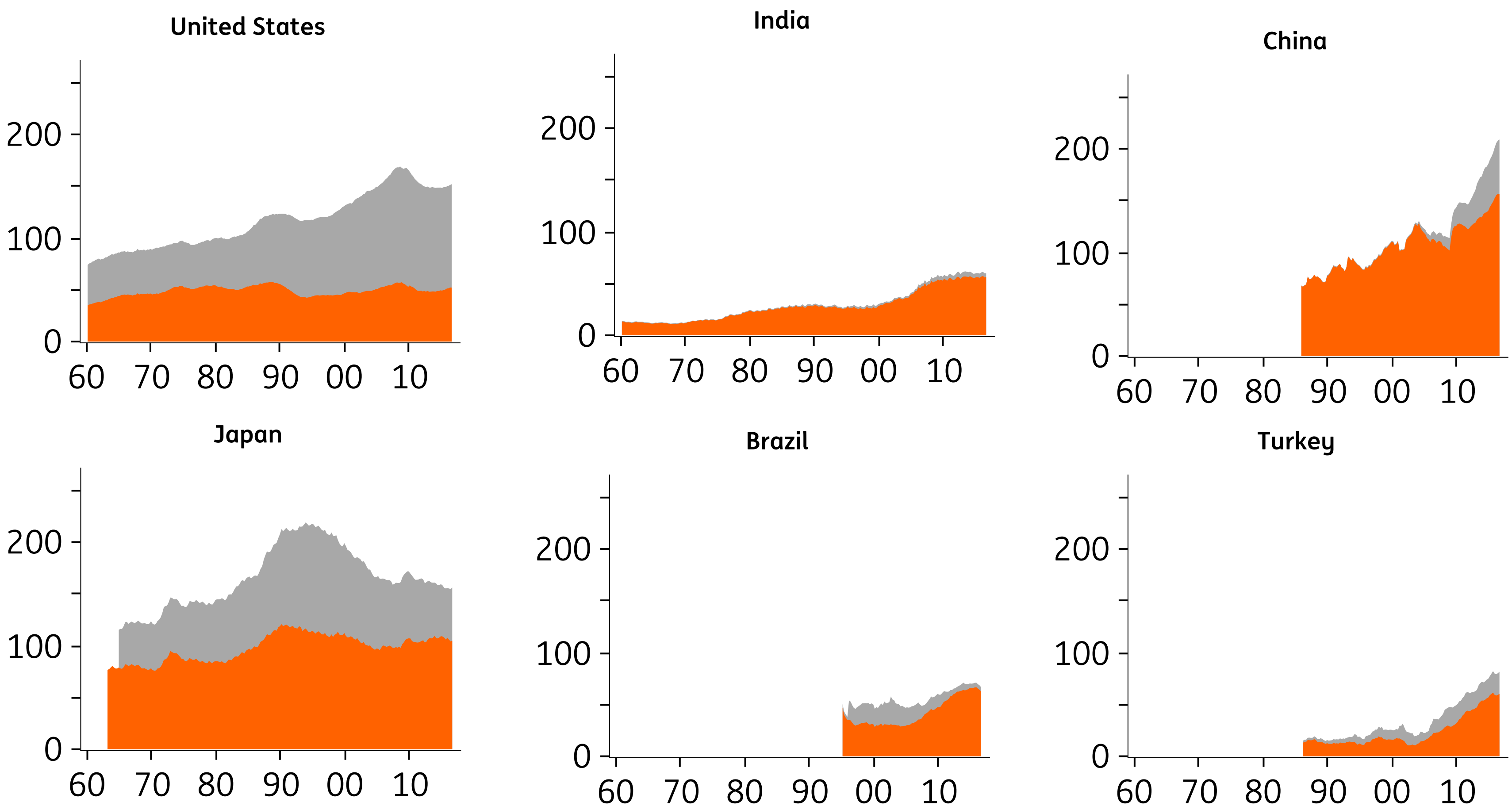
Bank lending & non-bank lending to households and businesses, % of GDP



Source: BIS

Is it just banks that made this possible? (2/2)

Bank lending & non-bank lending to households and businesses, % of GDP



Source: BIS

What has changed since 2008?

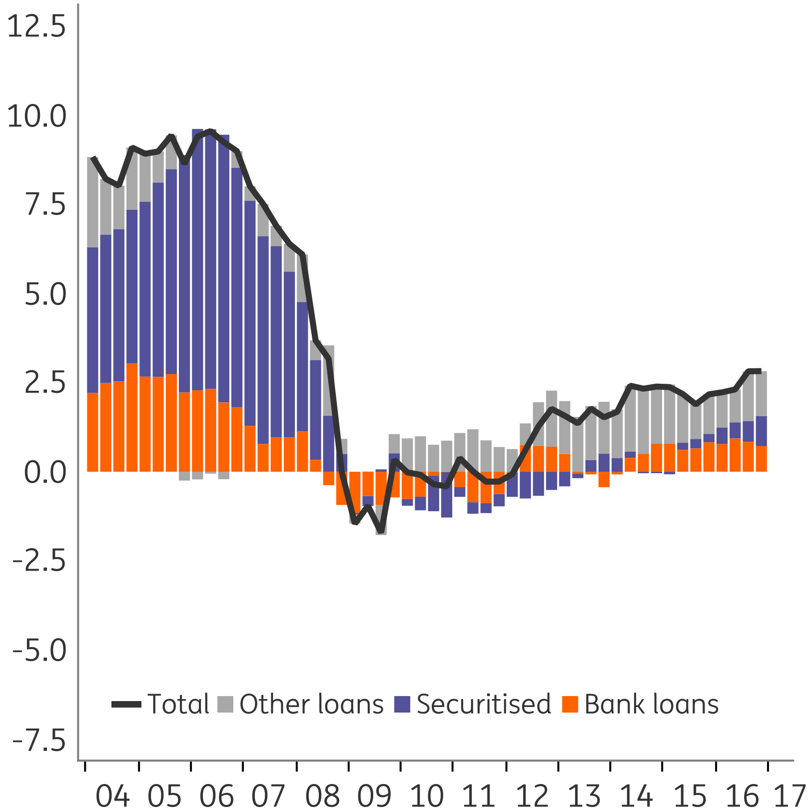
Before

After

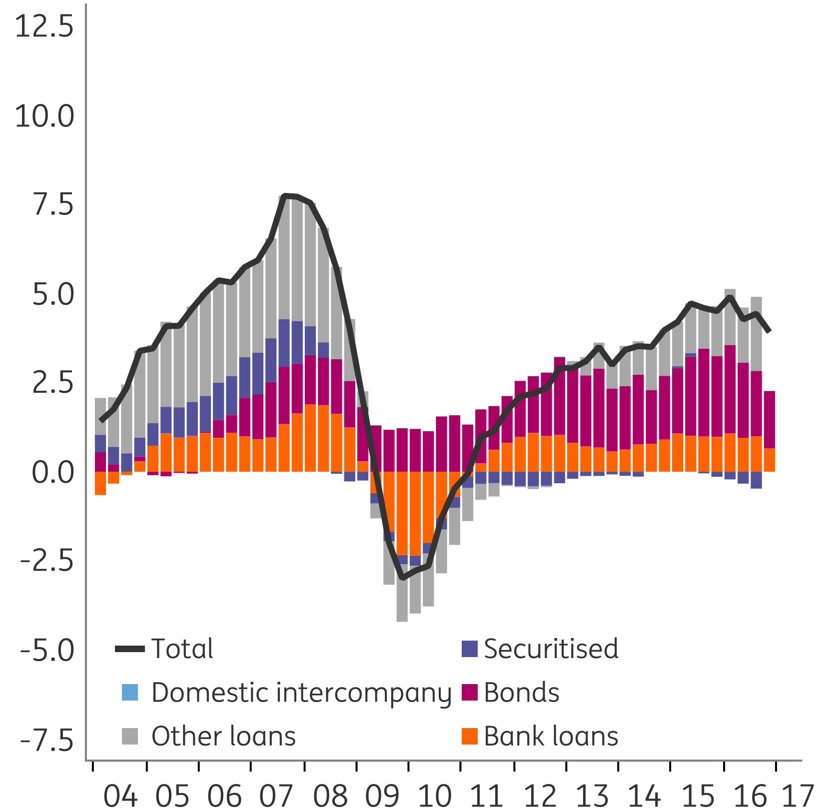
United States: quick credit recovery

Freddie Mac & Fannie Mae have been supporting mortgage market. Private securitisation market still on life support. Bond market has acted as shock absorber for businesses.

United States, net household borrowing (flow, % of GDP, 4q moving average)



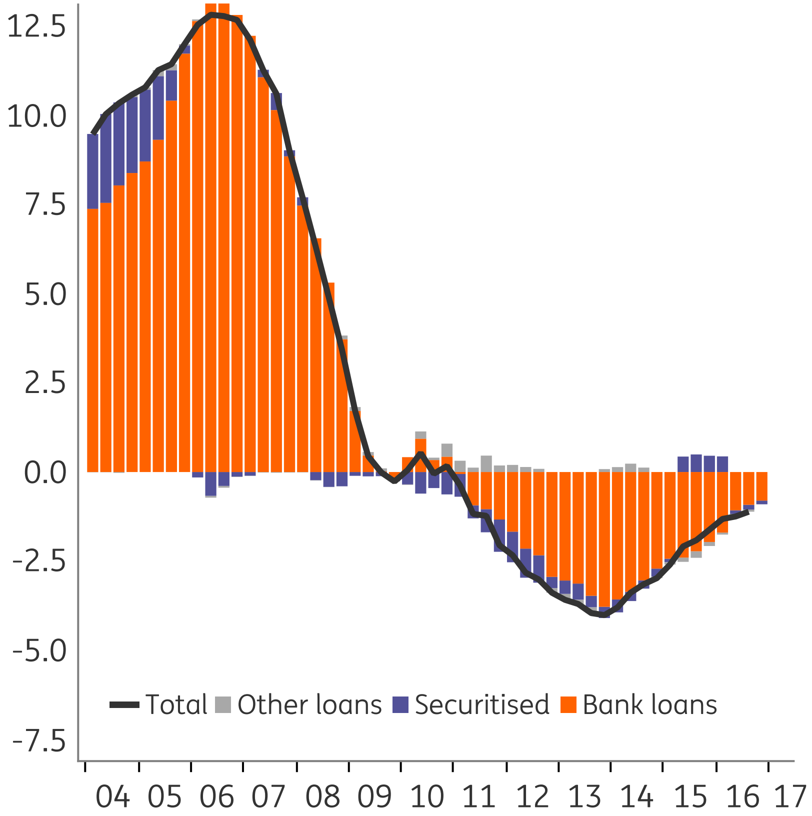
United States, net business borrowing (flow, % of GDP, 4q moving average)



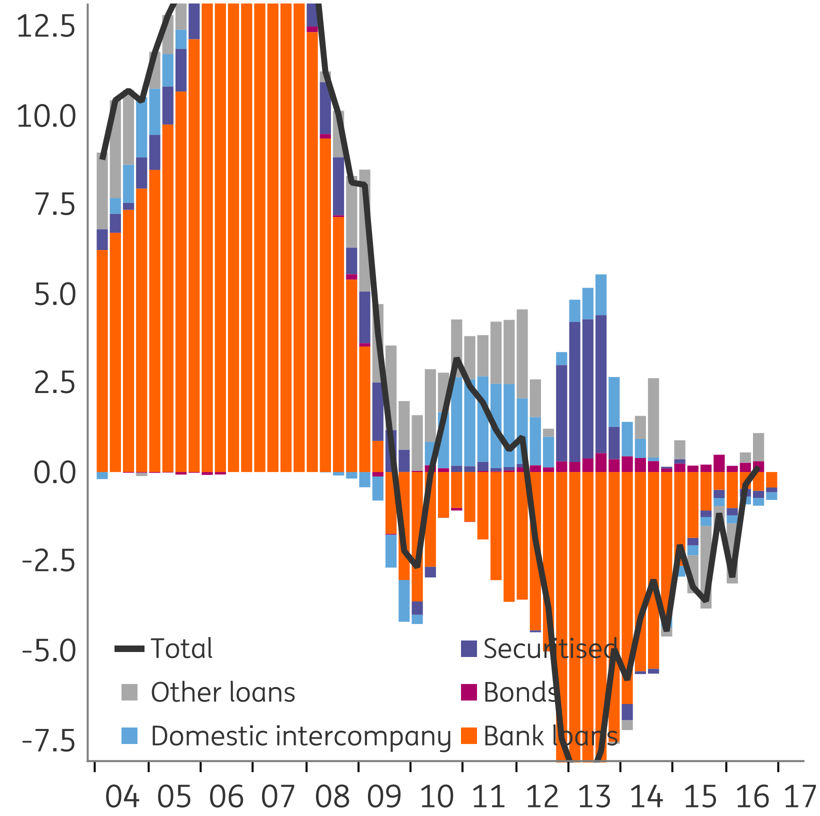
Spain: high rise, deep fall

Off-the-scale bank lending boom changed into deep deleveraging. No help from securitisation to cushion impact. Hardly any bond market activity to speak of.

Spain, net household borrowing (flow, % of GDP, 4q moving average)



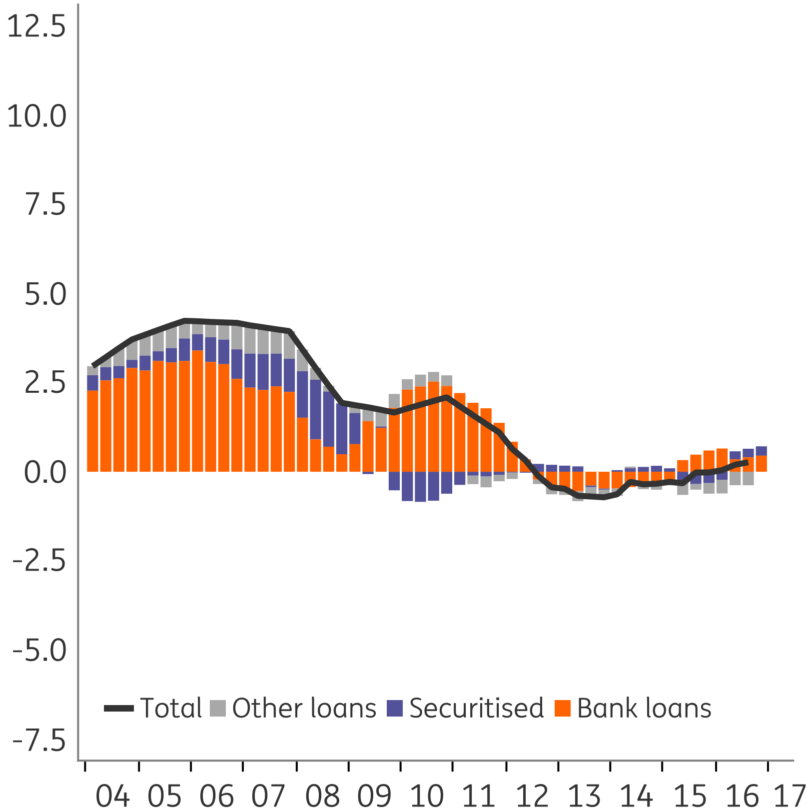
Spain, net business borrowing (flow, % of GDP, 4q moving average)



Italy: moving sideways

Modest household credit growth pre-crisis. Around zero afterwards. Business lending turned mildly negative after crisis as banks retrench. Some support from bond markets until 2014.

Italy, net household borrowing (flow, % of GDP, 4q moving average)



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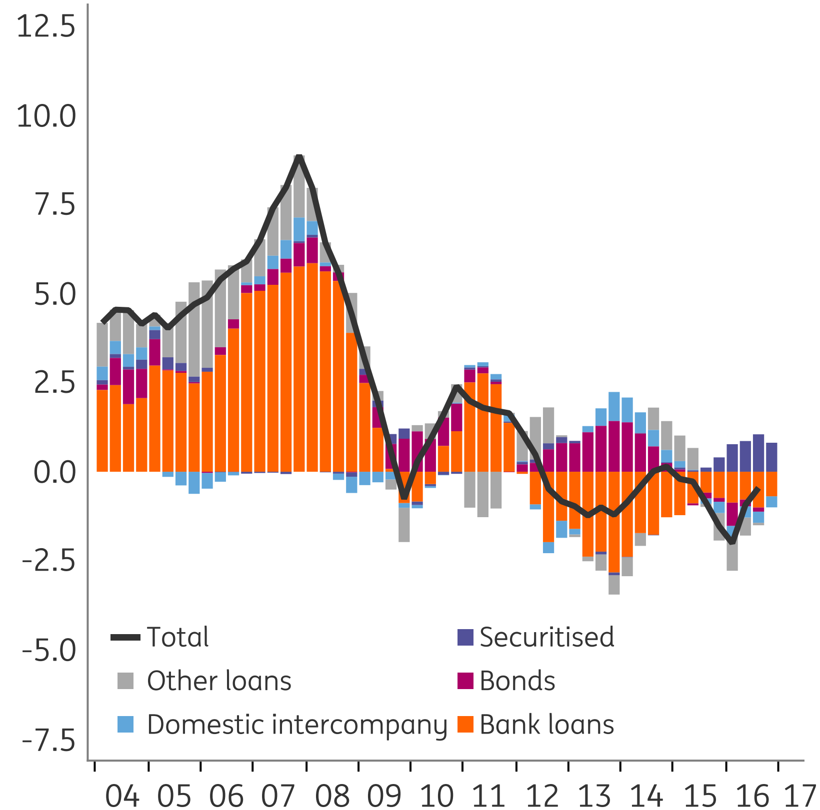
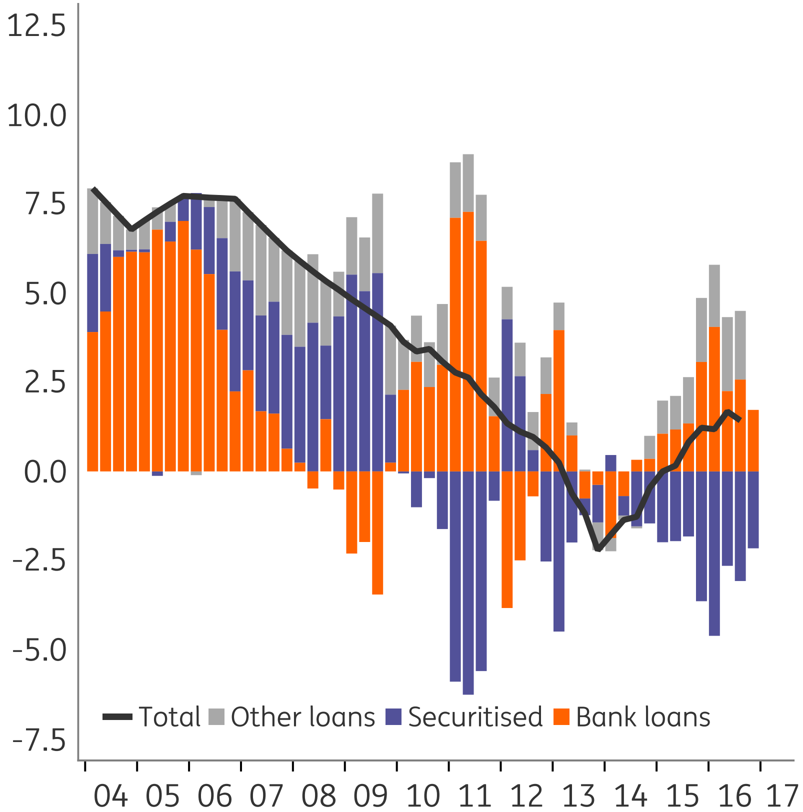


Netherlands: a Mediterranean climate after all?

Gentle deceleration of mortgage lending since 2007. Securitisation in reverse after 2009. Bond market to some extent cushions bank retrenchment.

Netherlands, net household borrowing (flow, % of GDP, 4q moving average)



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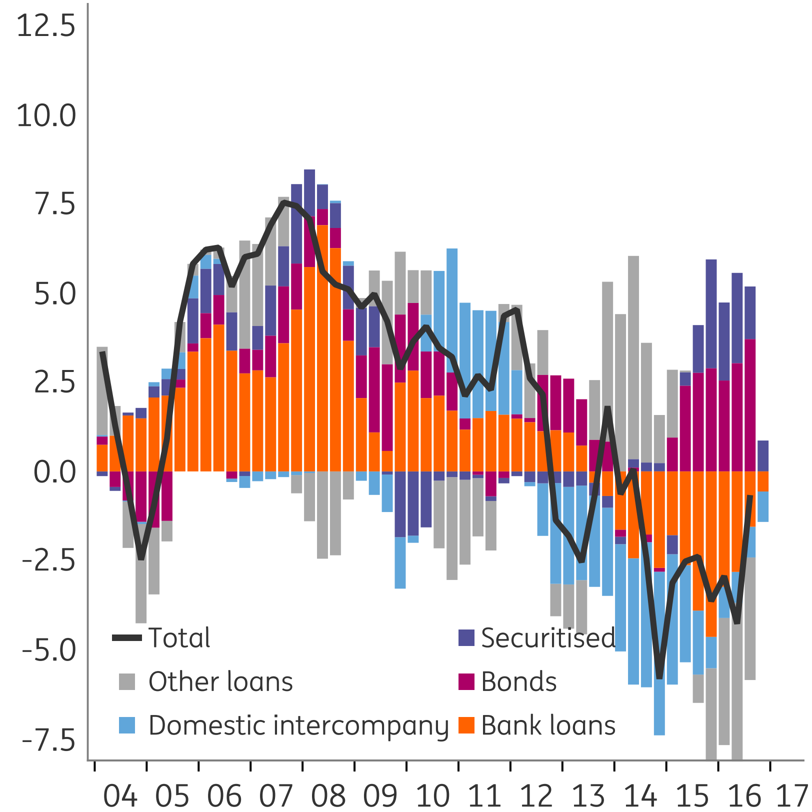
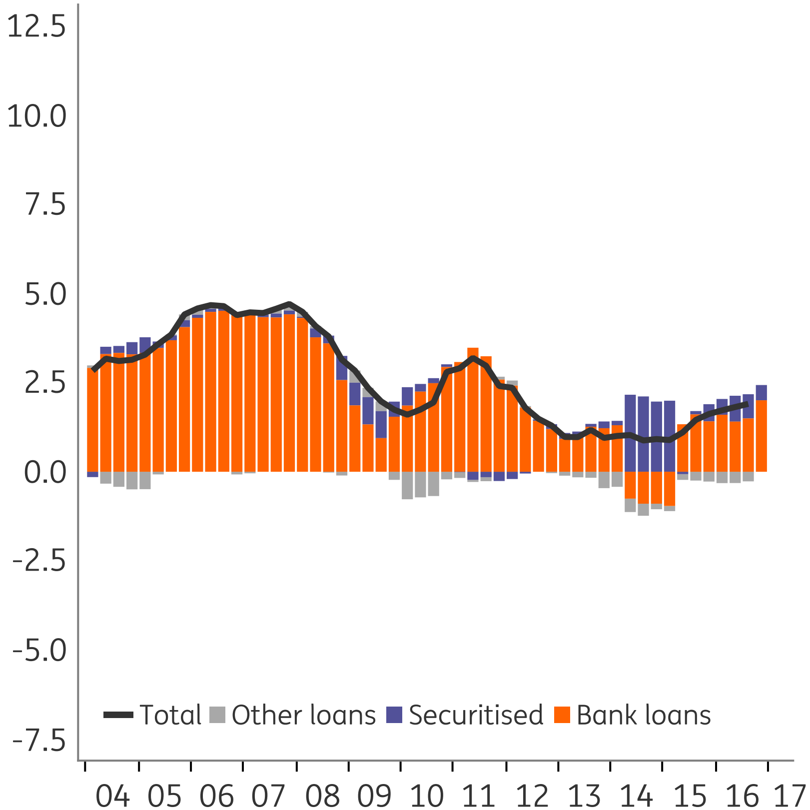


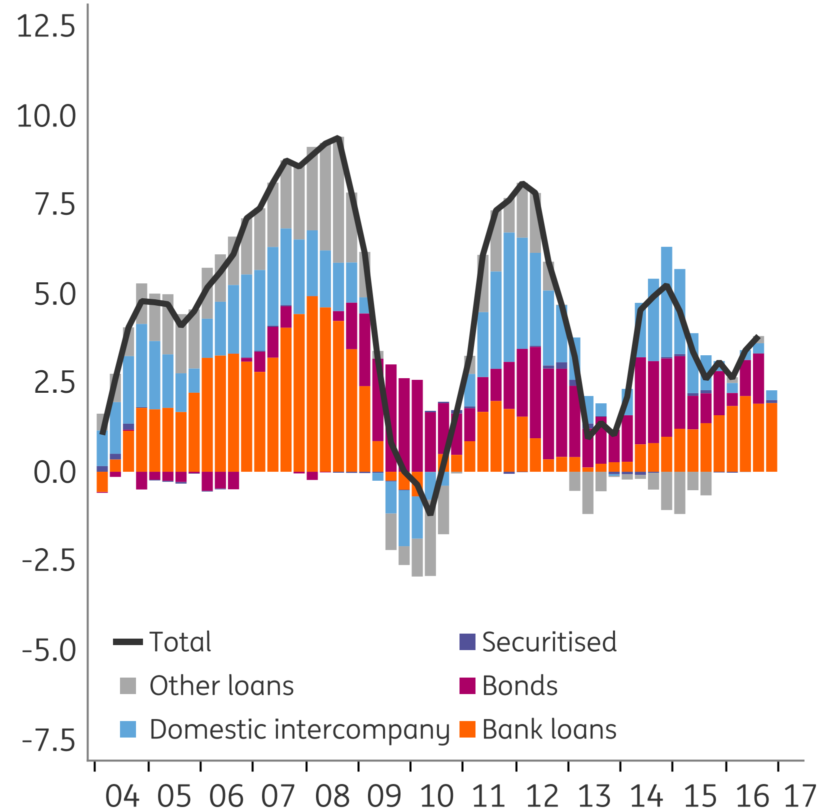
France: still going strong?

Bank lending has remained mostly positive for both households and businesses in recent years. Bond market has provided further support.

France, net household borrowing (flow, % of GDP, 4q moving average)



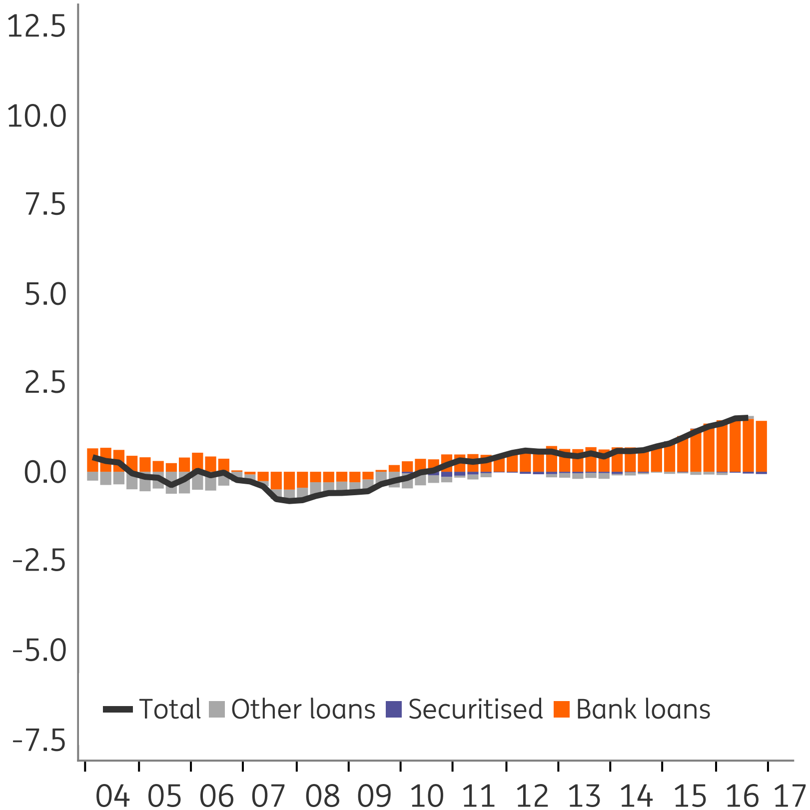
France, net business borrowing (flow, % of GDP, 4q moving average)



Germany: no party, no hangover

Without a housing market boom, lending to household zero or slightly negative until 2009. Business lending also very moderate. Modest acceleration in recent years.

Germany, net household borrowing (flow, % of GDP, 4q moving average)



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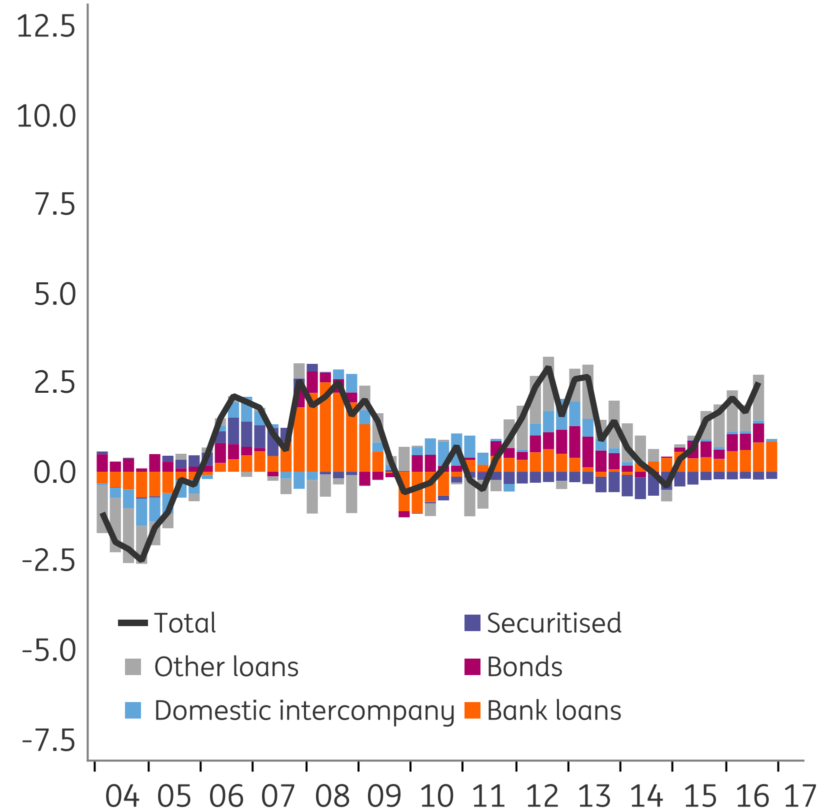


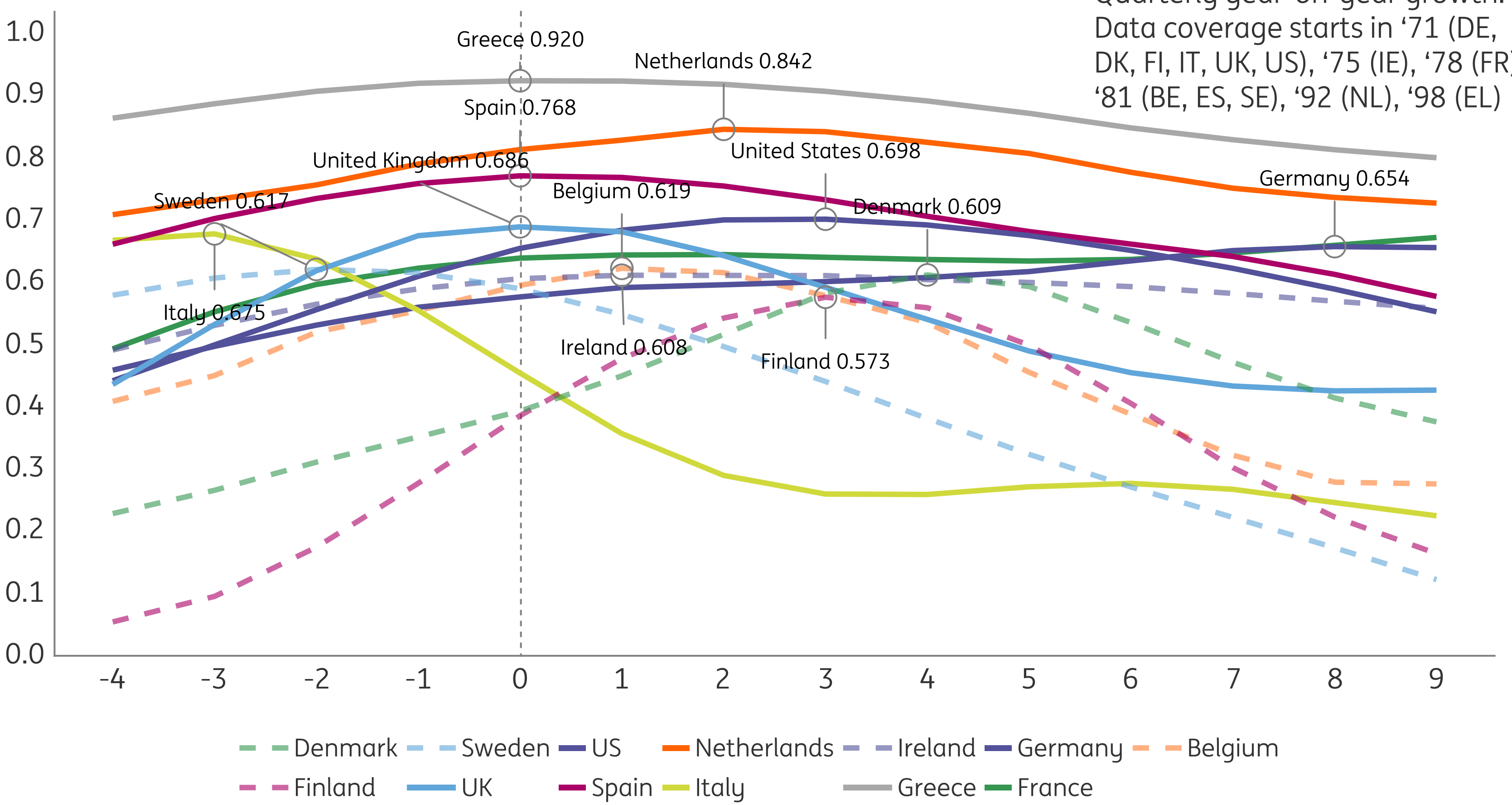
Whodunnit: was it housing again?

Housing & credit boom: which causes which?

Correlation between house prices and household borrowing

X-axis: house price lead in quarters

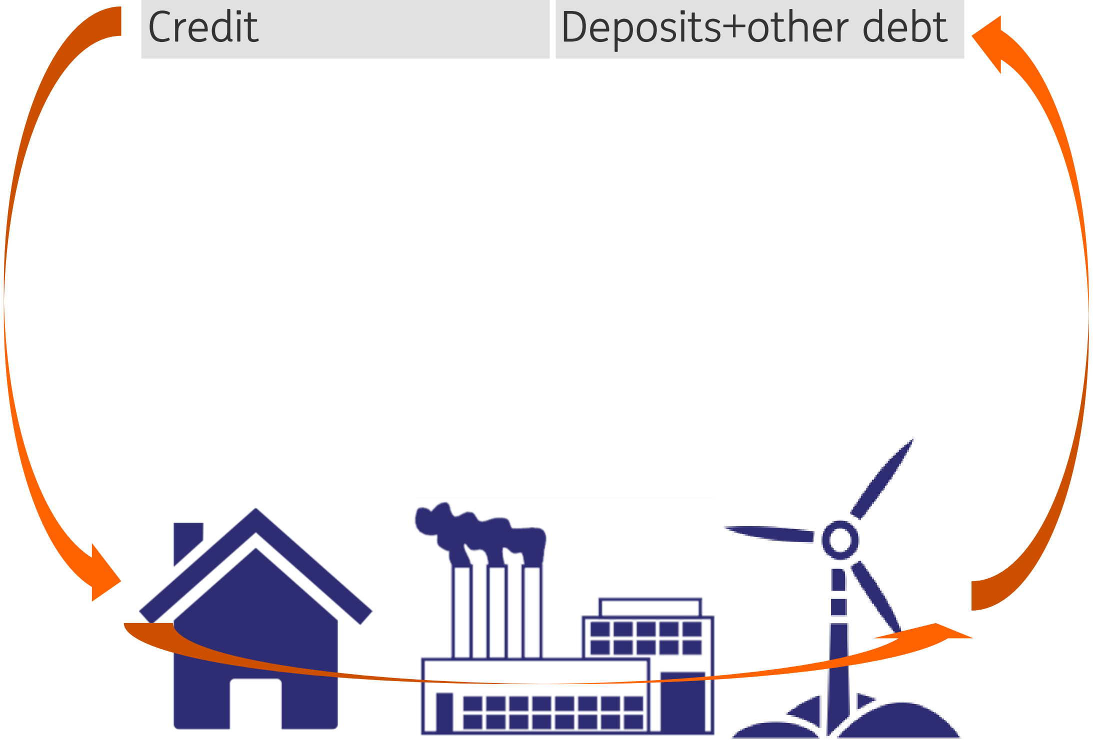
Quarterly year-on-year growth. Data coverage starts in '71 (DE, DK, FI, IT, UK, US), '75 (IE), '78 (FR), '81 (BE, ES, SE), '92 (NL), '98 (EL)



Source: BIS, Eurostat, Case-Shiller, ECB, via Macrobond

A self-inflatable feedback loop of credit…

Financial system	
Assets	Liabilities
	Equity
Credit	Deposits+other debt



- By lending, banks create money…
- …so banking system creates deposits
- Similarly, non-bank credit creates non-bank liabilities
- Credit may support economic growth…
- …but also asset inflation

- Financial accelerator: Better growth prospects and higher collateral prices facilitate more credit – and vice versa!

A self-inflatable feedback loop of credit & assets

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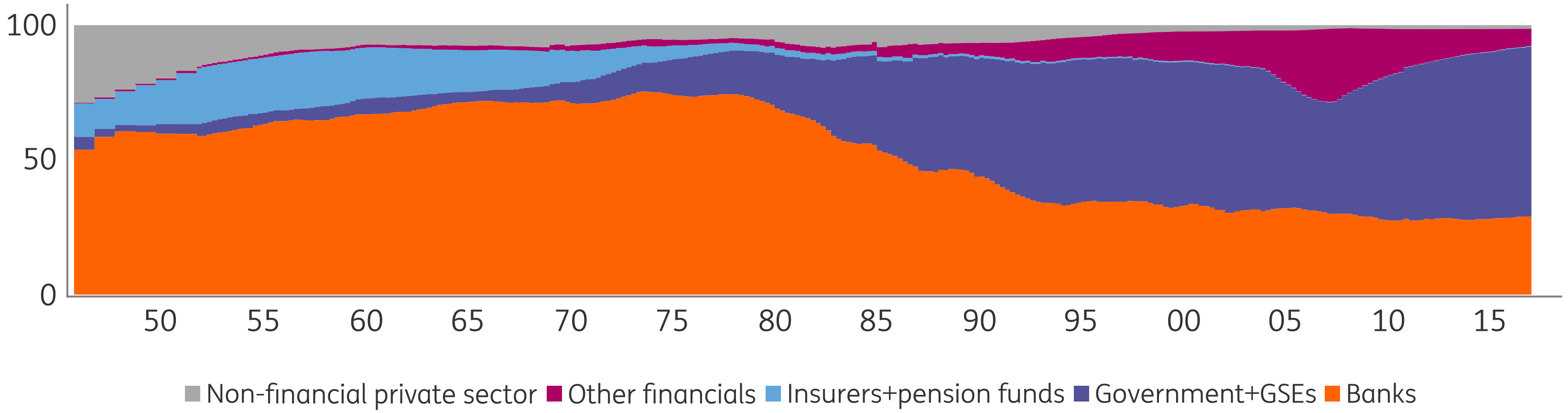
- Minsky: hedge → speculative → Ponzi

This is not only about banks (1/2)

The "self-inflatable" feedback loop depends on <u>credit</u> and <u>collateral value</u>. It does *not* necessarily depend on banks.

- When banks lend, they create money in the process. This has become focal point for many (e.g. Positive Money, Ons Geld).
- When (semi-)government bodies lend, they create liabilities with (implicit) government guarantee, rendering them liquid and widely accepted.
- When non-banks lend, they create liabilities lacking legal tender status and DGS-protection, but *in good times* liquid and widely accepted.

United States mortgage loans outstanding, lender shares (%)



➢ Any regulatory response should not only apply to banks, but to ALL lenders

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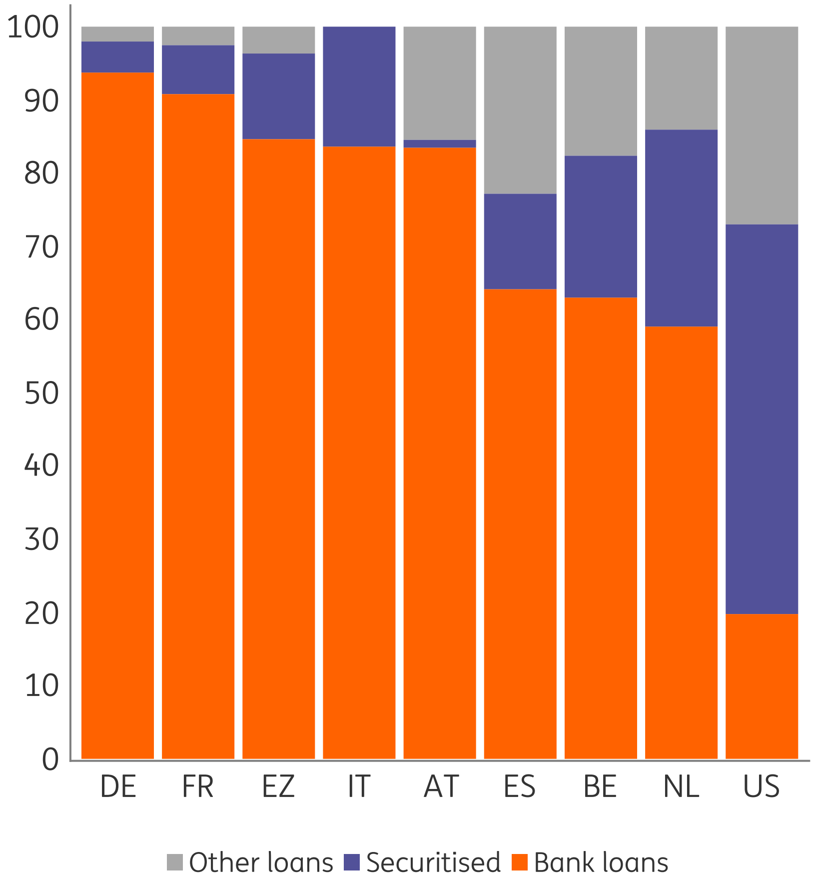
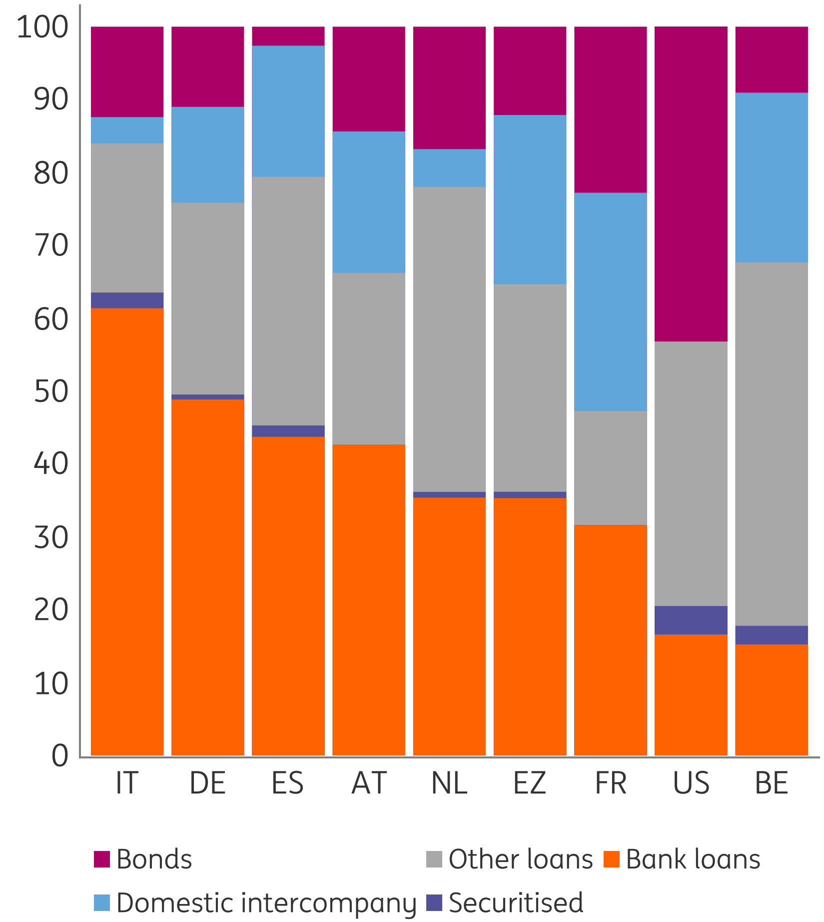
This is not only about banks (2/2)

Debt financing of households (% of total)



Debt financing of non-financial business (% of total)



Data 2016. Source: ING-calculations using Macrobond, AFME (securitisations), ECB, Eurostat, Federal Reserve.

How do banks manage their lending?

Bank risk management: “three lines of defense”

Overall objectives

- Staying alive, or else dying without a big mess
- Protecting depositors
- Minimising impact of failure on taxpayer

Stay healthy

- Avoid big concentrations
  - In countries, sectors, markets
  - Pay particular attention to real estate
  - ...and home markets
- Risk modeling of PDs and LGDs
- Stress tests on portfolios and entire balance sheet, to capture tail risks (“Greek style” collapse; correlations →1)

Recovery...

- Minimise chance of failure
- Recovery options addressing various threats

...& Resolution

- Allow failure (resolution) by
  - Defining critical economic activities
  - Making those separable

More+better capital...

- Basel-III

...and other buffers

- Clear liability seniority ranking

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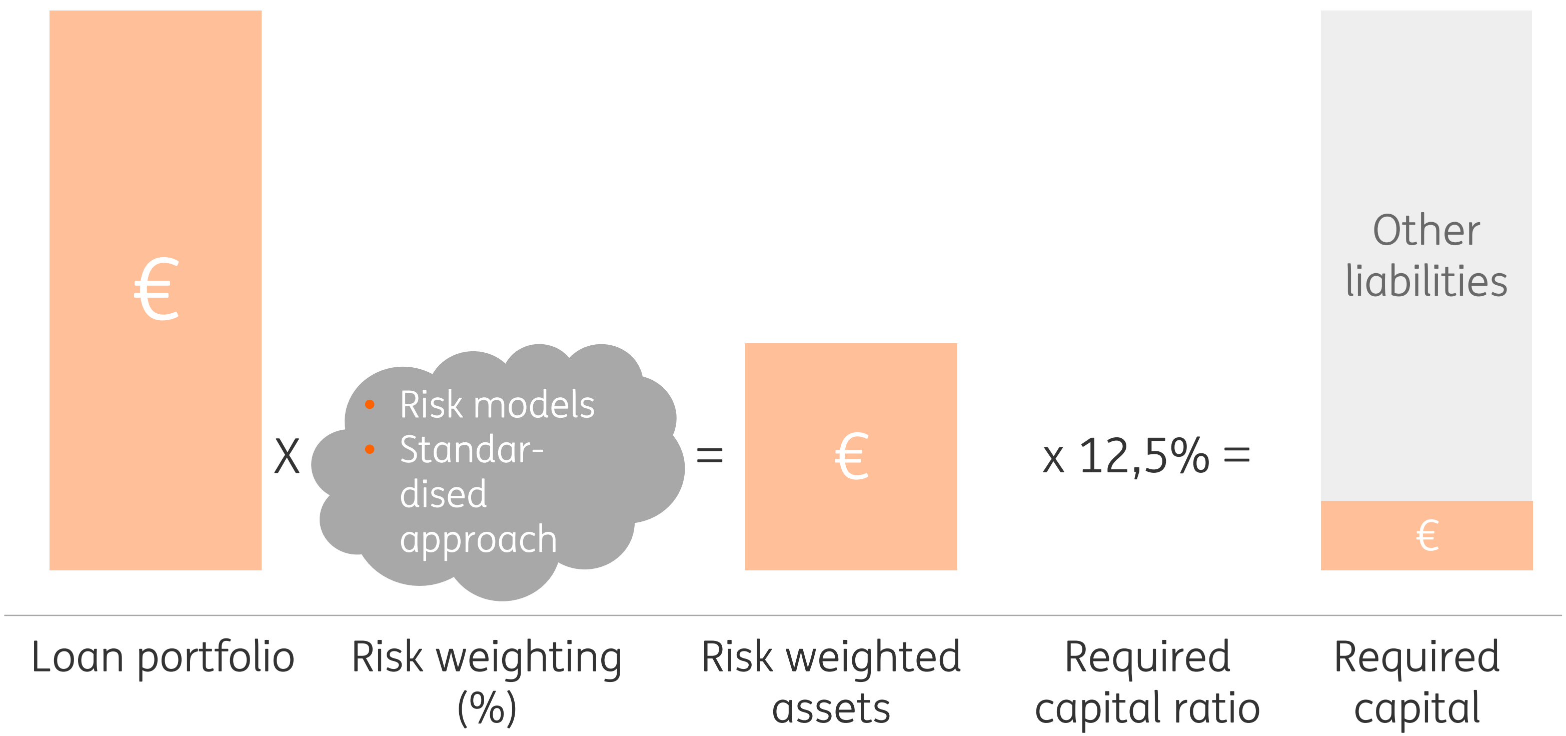
Risk capital framework

From total bank assets to regulatory capital (≈ bank equity)



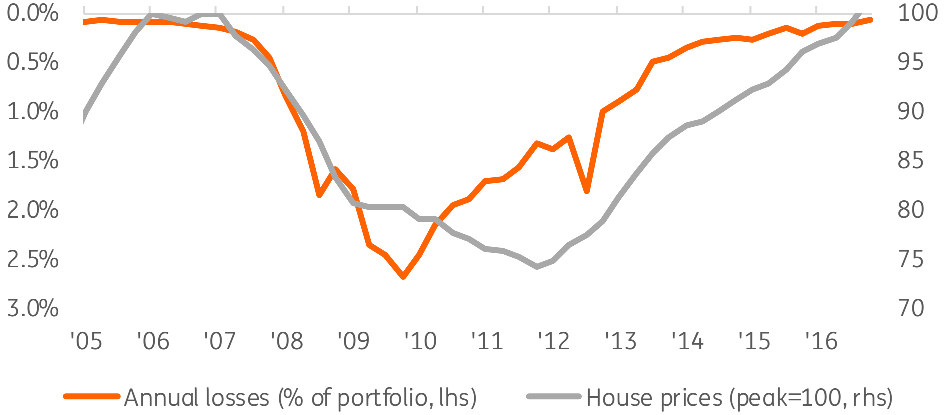
Bank capital allocated to mortgage portfolios

Country	Mortgage risk weight	CET1 (weighted ratio)	Unweighted ratio (leverage)
Ireland	28.70%	14.60%	4.20%
Norway	26.00%	14.30%	3.70%
Denmark	14.00%	16.90%	2.40%
Germany	16.10%	14.80%	2.40%
Spain	17.40%	12.50%	2.20%
Italy	17.80%	11.70%	2.10%
Netherlands	14.70%	13.80%	2.00%
Belgium	12.90%	15.40%	2.00%
France	15.10%	12.60%	1.90%
Sweden	6.90%	18.90%	1.30%
Finland	5.70%	19.50%	1.10%
UK	15.40%	12.50%	1.90%
US big banks (9%)	30.60%	11.10%	3.40%
US other banks (16%)	50%	10.60%	5.30%
US GSEs (62%)	n.a.	n.a.	0.10%

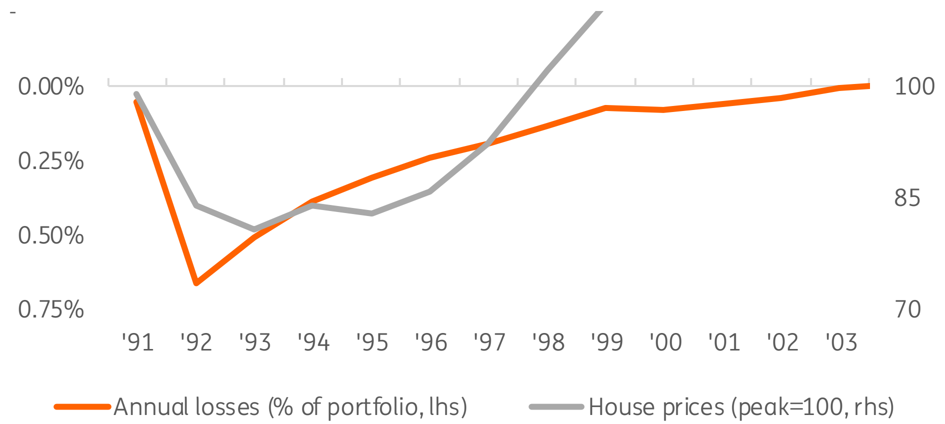
Data 2015. Source: ING-calculations based on EBA EU-wide stress test, US bank annual reports, Macrobond.

Housing busts and mortgage losses

House prices and bank mortgage losses, United States



House prices and bank mortgage losses, Sweden



- Losses mount as house prices drop, and tend to normalise as house prices re-approach previous peak

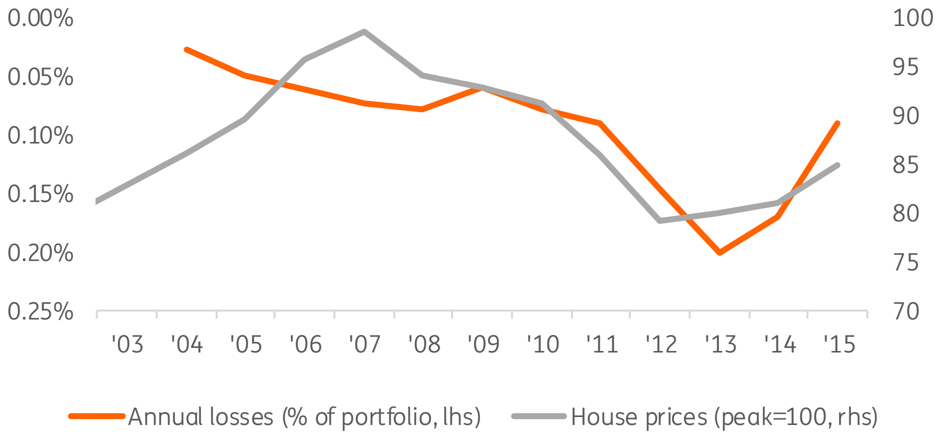
- Timing and size of mortgage writeoffs depend greatly on country-specific default process, legislation and practices

Sources: ING-calculations, Macrobond. Losses in US are chargeoff rates for banks. Losses in Sweden are losses by mortgage bank Spintab, taken from annual reports.

Experience in the Netherlands

Dutch mortgage portfolio characteristics
- High LTV
- High gross LTI but much lower net LTI (due to tax deduction)
- Large (legacy) interest-only share
- Yet low default rates and manageable losses

House prices and bank mortgage losses, Netherlands



- Dutch mortgage losses peaked at 0.2% per year
- Cumulative losses since 2007 near 1.0% of portfolio.

Too little allocated capital?
- Assuming 10% return on equity, yearly losses fully absorbed by portfolio revenue stream.
- Capital buffer never needed to be used (contrary to US!)

Sources: European Supervisory Disclosure for 2014-15. Before, assumed to move in parallel with NHG losses (in line with DNB-findings)

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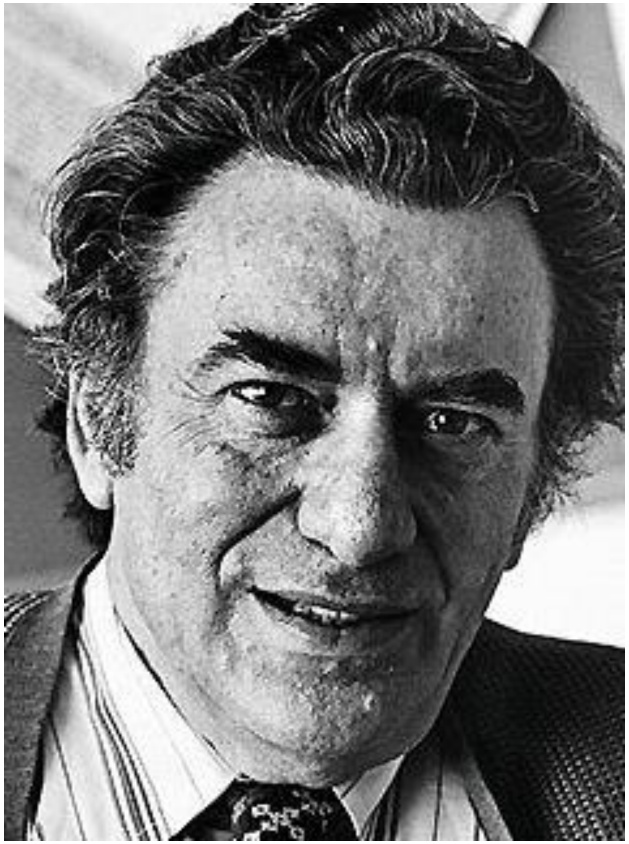
Is there a market failure to be addressed?

Can lender be expected to take long macro-view?

- The self-inflatable feedback mechanism is a systemic problem.
- Systemic issues are an external effect for individual players.

Market failure: Not all lenders can be expected to fully internalise systemic issues at all times. Risk of 'race to the bottom'.



Therefore systemic controls necessary: LTV, LTI, DSR

- Link debt to debt servicing capacity, hence income.
- Put a break on Minskyan speculative & Ponzi borrowing

1) Dutch context: Nibud DSR norms, making maximum borrowing capacity much less sensitive to rates
2) Macroprudential regulation (but not just for banks)

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Applying Minsky's lessons in the Netherlands

2011

Tightening of Code of conduct (NIBUD-norms): more comply, less explain.

Max 50% interest only.

2013

Tax changes: strong incentive for full annuity/linear mortgages.

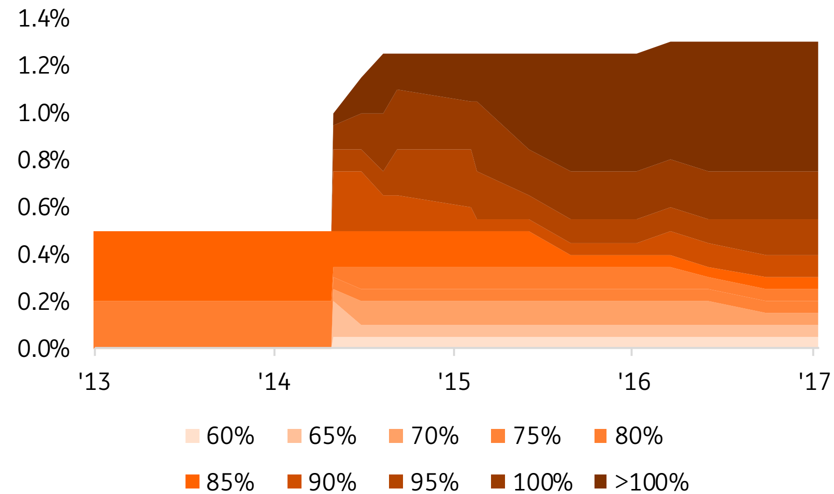
LTV-cap gradually lowered (104% in 2014, down to 100% in 2018).

2014

Gradual reduction of maximum tax deduction rate from 52% to 38%.

ING pricing adapted and made more granular to incentivise lower LTVs and amortisation.

Surcharge for higher LTVs (compared to 55%)



Source: ING rates as published on ING-website.

Macropru to the rescue?

Instruments

- LTV, LTI, sectoral capital requirements (impacting pricing; increasing needed capital but also increasing profitability)
- Differentiate per location if needed (Claeys & Schoenmaker)

Economic challenges

- identify bubble in real time; instrument mix and dosage; transmission time…

Political challenges

- Take away punch bowl just as party gets going
- Manage to stay out of politics

Take holistic view

- prevent shift e.g. from mortgages to consumer credit
- prevent shift from banks to non-bank lenders

To conclude

- Private debt has grown tremendously in past decades. Not all good.
- Stock vs flow: 2008 was shock to flows, but high debt stock still there
- Banks have throttled back. Non-bank lending has partly stepped in
- Tempting to identify global/advanced-economy trends, yet important differences between countries

- Housing plays important role, being most important collateral for credit
- External constraints on credit-housing feedback loop necessary
- Experience in NL: constraints in code of conduct and law
- Further steps since 2008: tax reform, LTV price differentiation, LTV cap
- But is that enough?

- In my opinion, institutional constraints necessary: macropru
- Major challenges: economic, political
- Broader view necessary: e.g. construction policy, rental market, room for first-time-buyers

Time to

Give me some credit

and ask your

Questions

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Data from Macrobond, unless otherwise noted.

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