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Credit Cycles and House Prices

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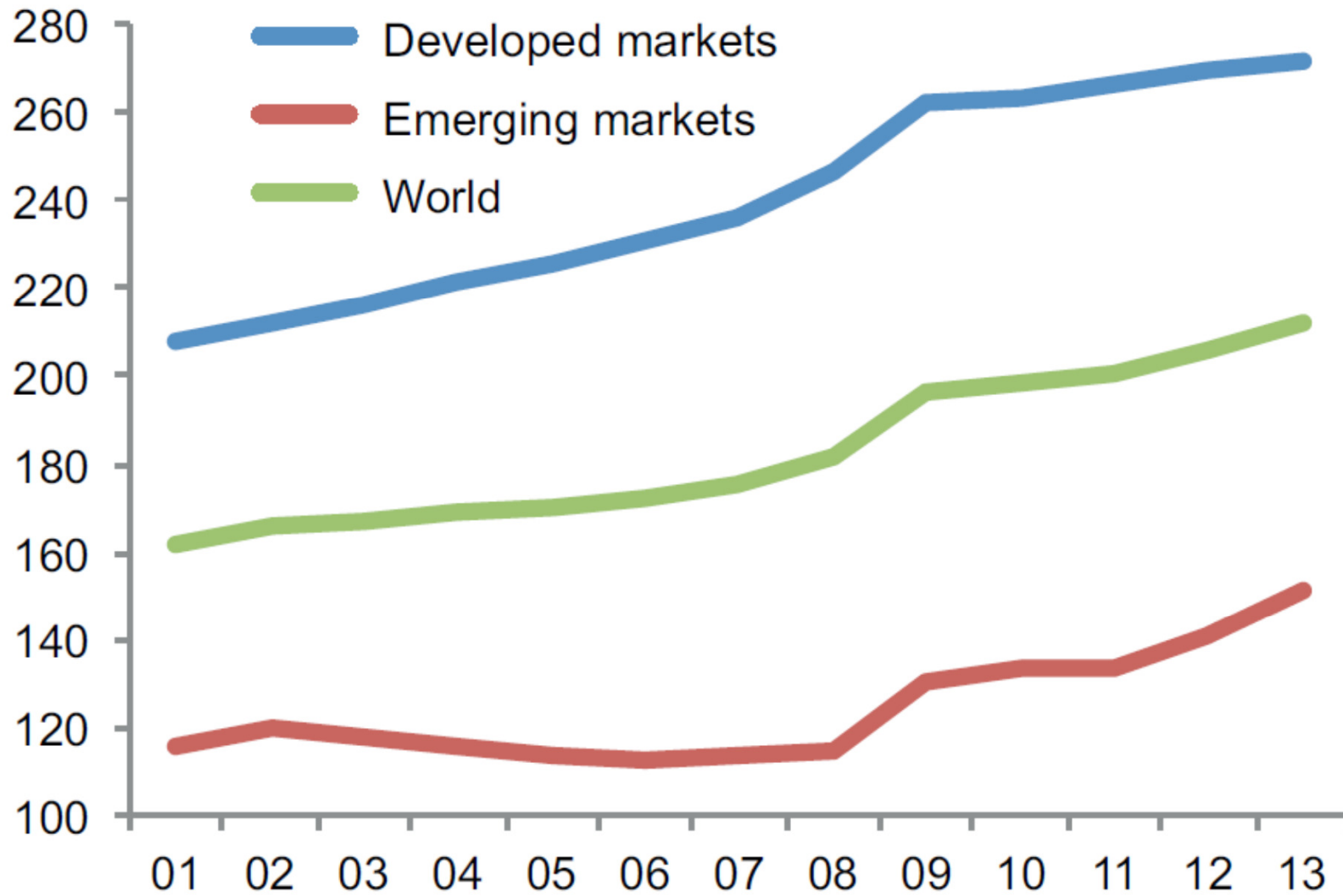
Structure:

- Deleveraging?
- Credit cycles
- House prices in Denmark

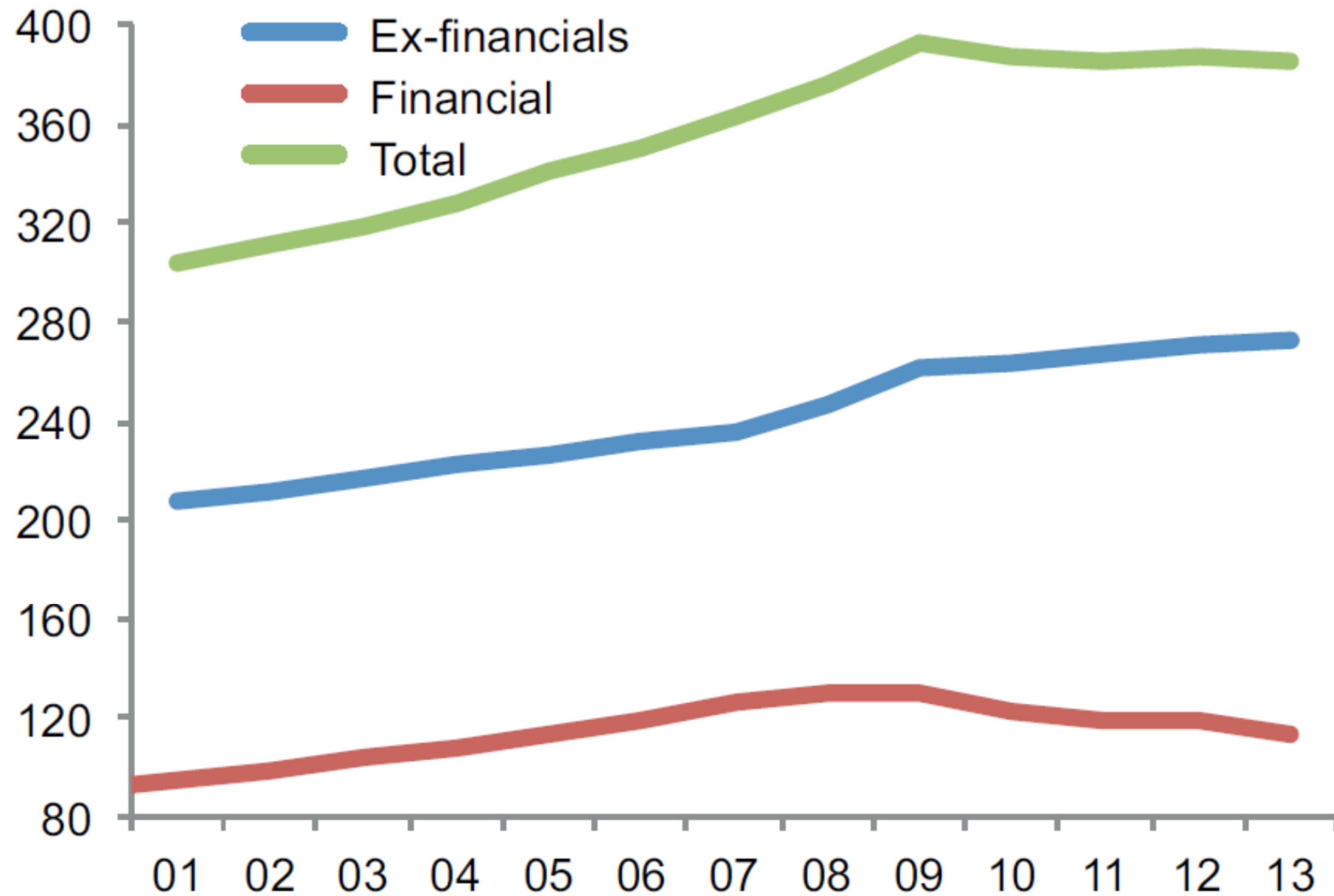
Recent debt developments...

- Looking at the **world as a whole**:
 - there has been no aggregate deleveraging since 2008
- Looking at **high-income economies**, viewed as a single bloc:
 - there has been no deleveraging since 2008
- Looking at **emerging market economies**:
 - there has been no deleveraging since 2008
- Looking at the **financial sectors**:
 - they have deleveraged in the US and UK
- Looking at the **household sectors**:
 - they have deleveraged in the US and, to a lesser degree, in the UK
 - liabilities of households have converged between the US and the Eurozone as a whole...

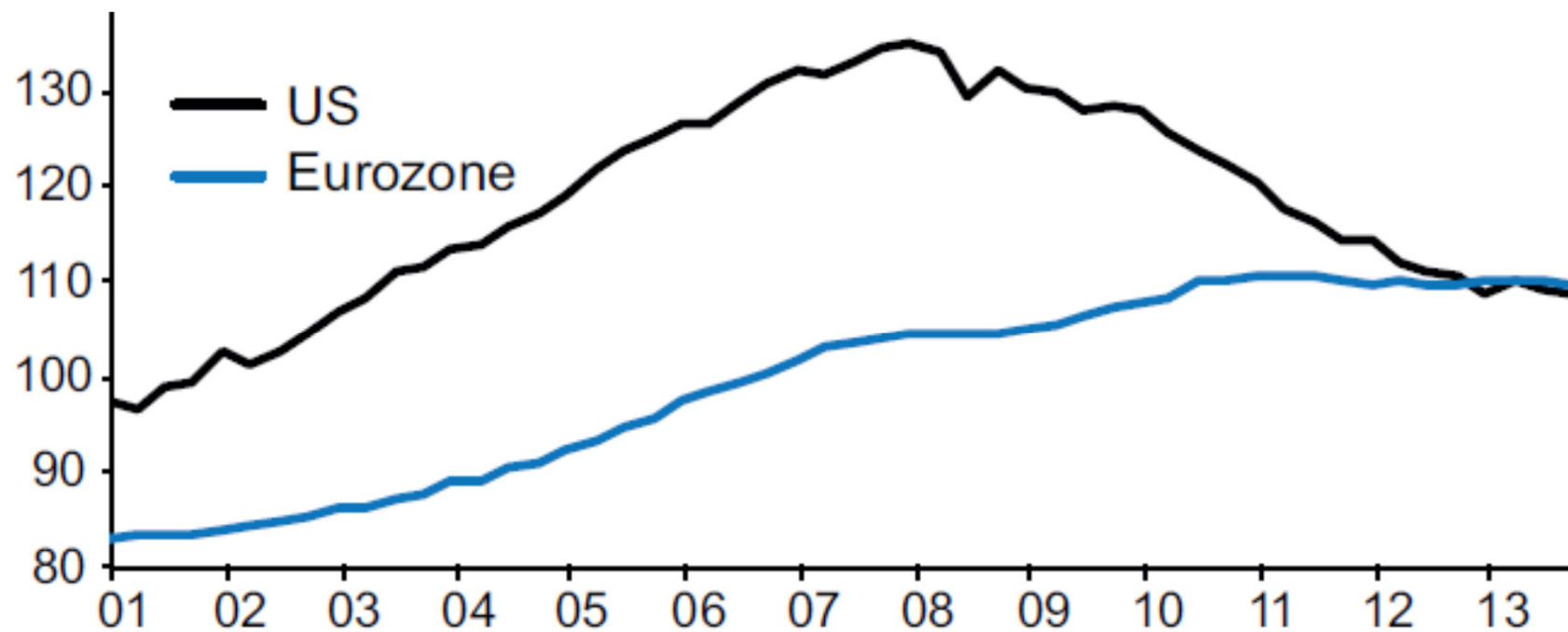
Global debt (% of GDP)



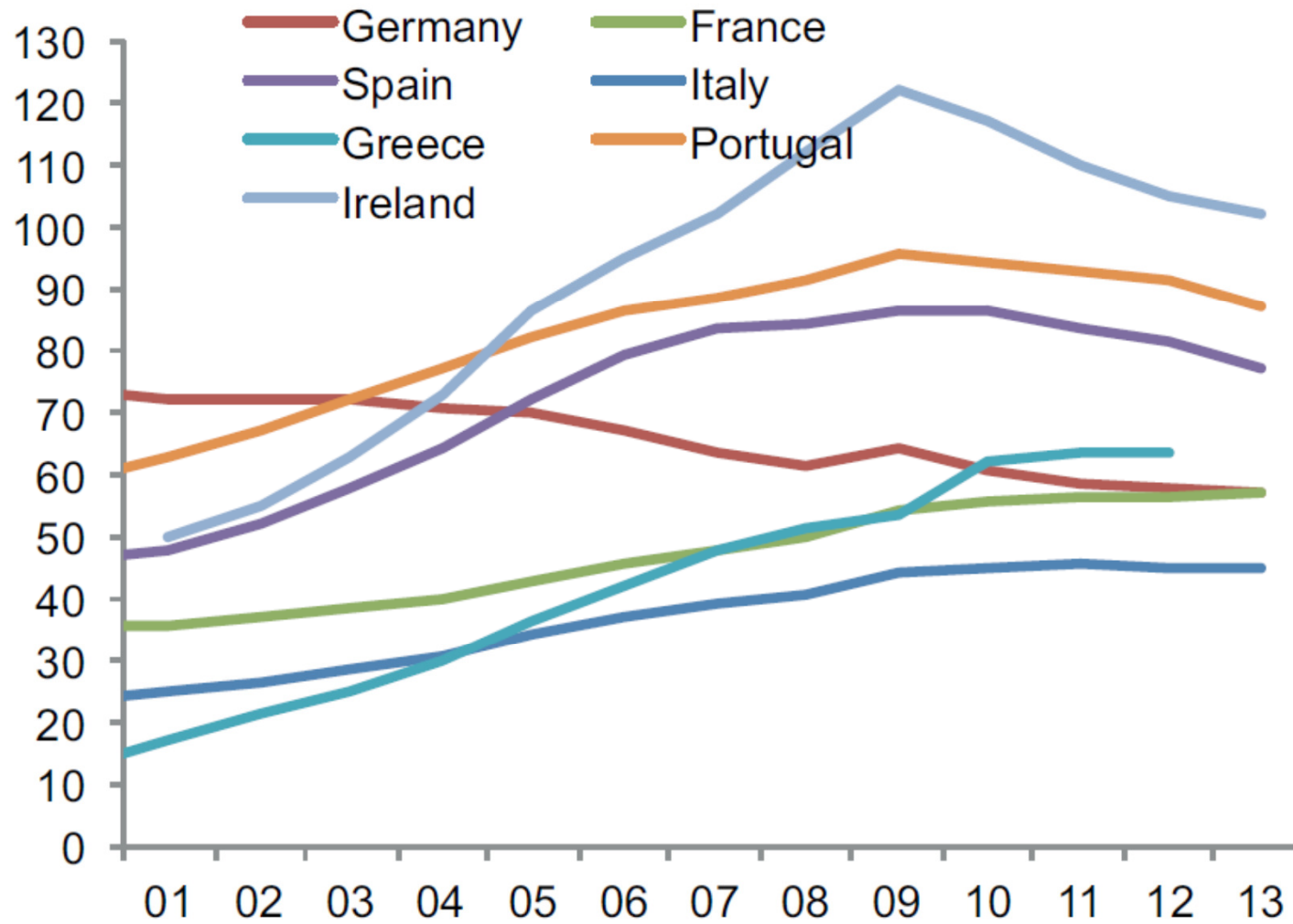
DM total debt (% of GDP)



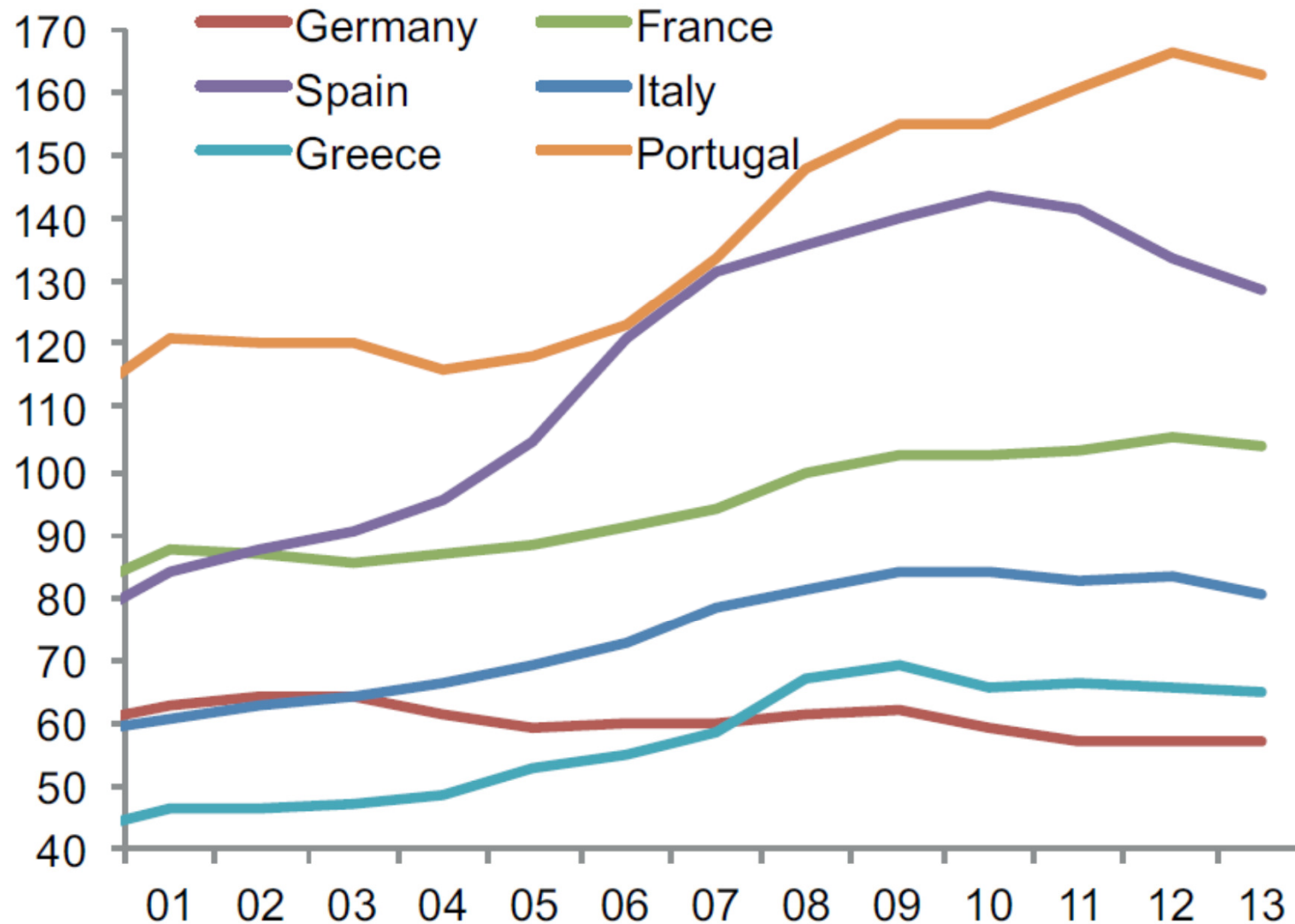
Households' liabilities (% of disposable income)



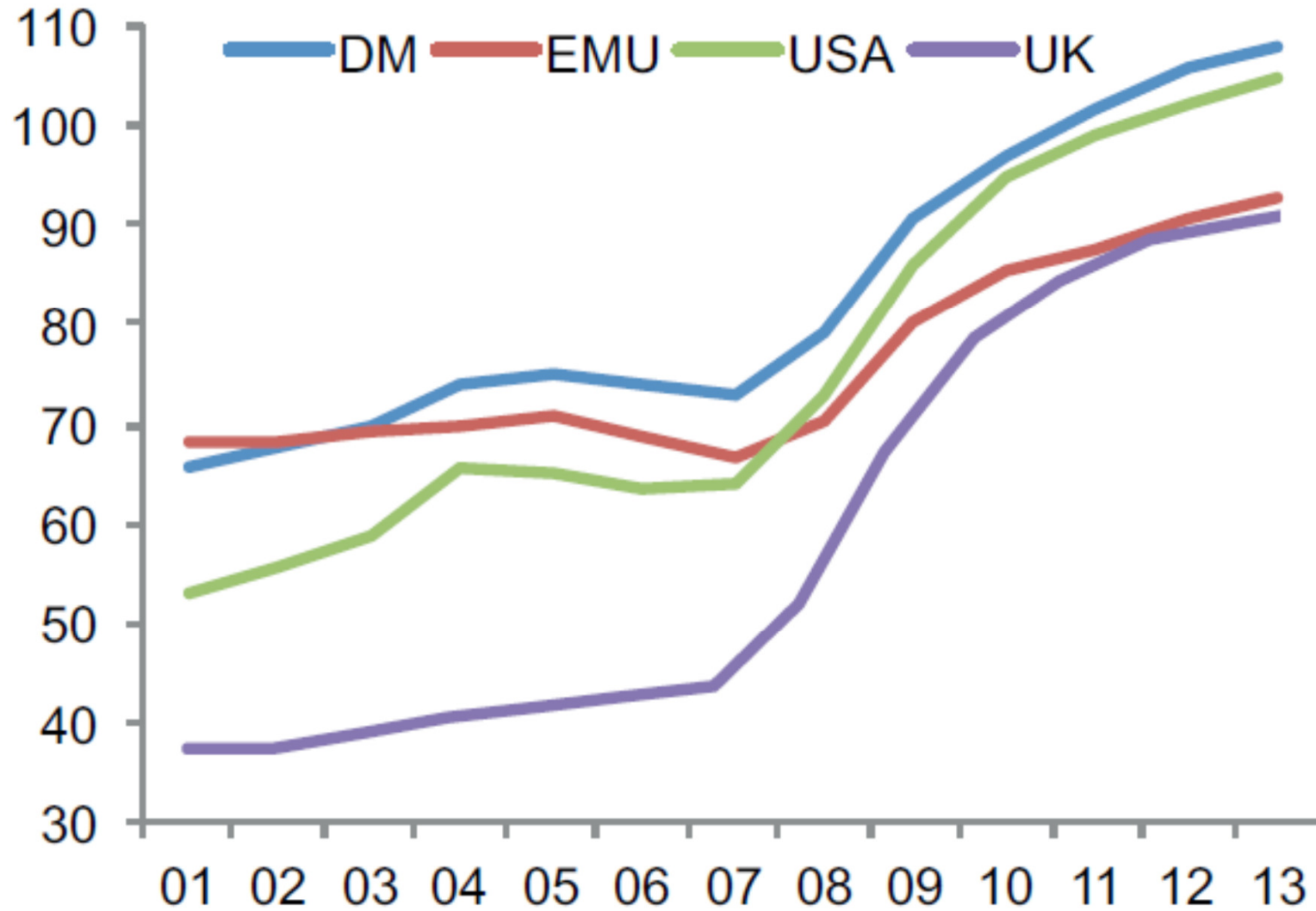
Eurozone private debt: household (% of GDP)



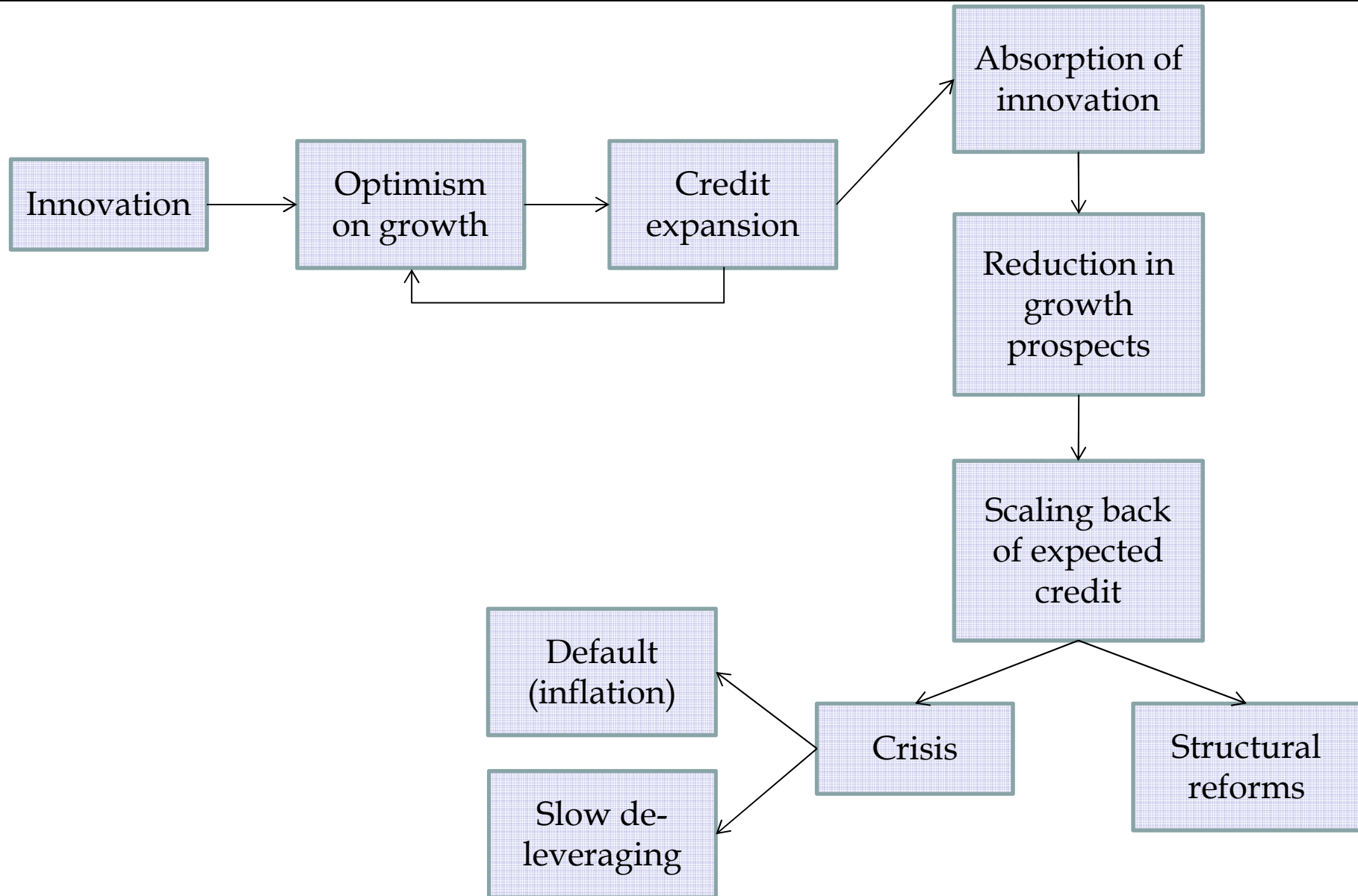
Eurozone private debt: corporate (% of GDP)



Government debt (% of GDP)



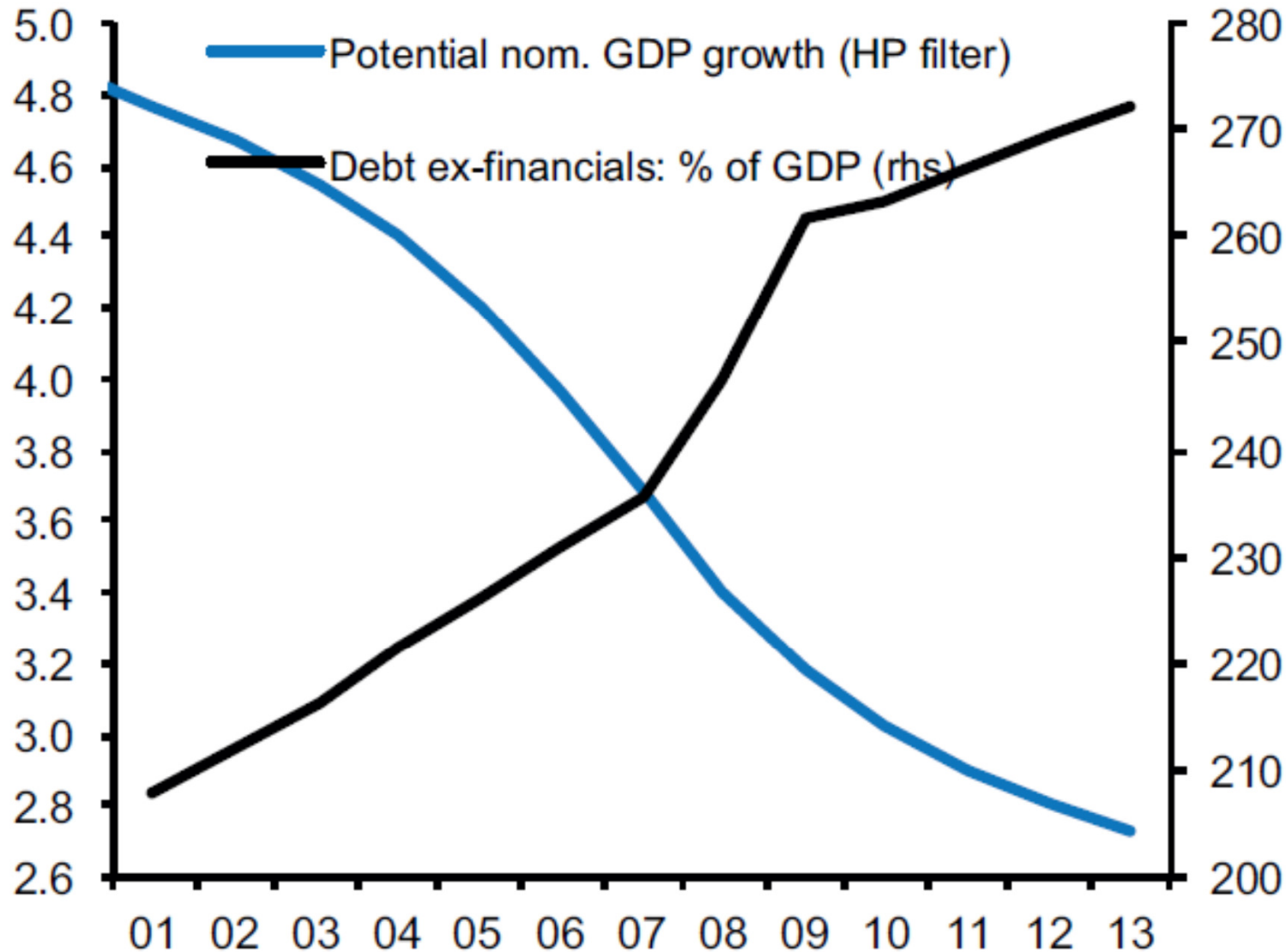
The leverage cycle: A conceptual framework



Do credit cycles matter? A typology of different output paths

- **Type 1:**
 - such as Sweden in the early 1990s, the level of output falls, never to regain its pre-crisis trend, but the growth rate recovers.
- **Type 2:**
 - more damaging, as in Japan since the 1990s, there is no absolute fall in output, but potential growth falls far short of the pre-crisis rate.
- **Type 3:**
 - as in the eurozone now and probably the US and UK, there is both a fall in output and a permanent fall in potential growth.

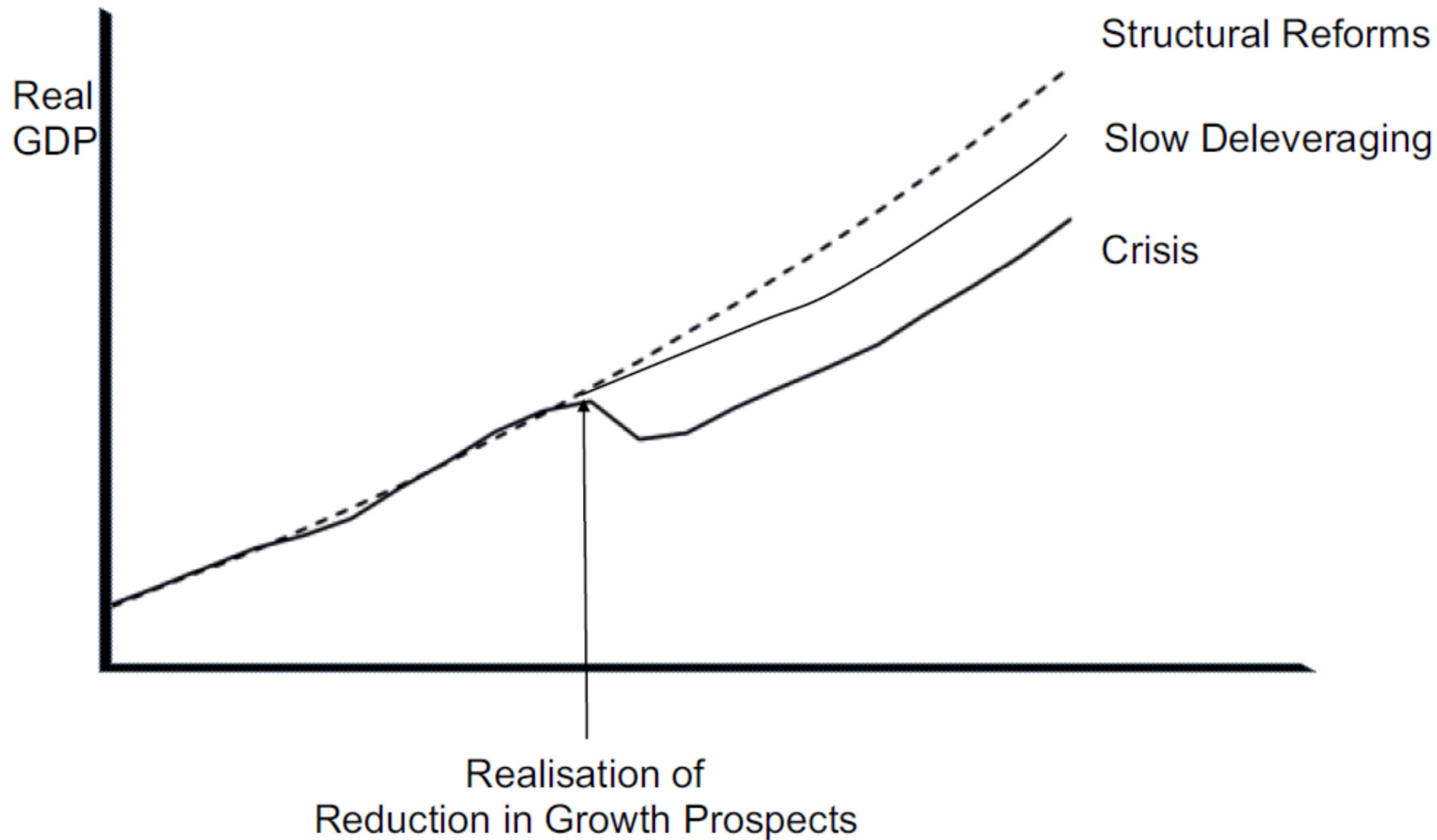
Poisonous combination of high/rising debt and slow-down in GDP growth in advanced economies



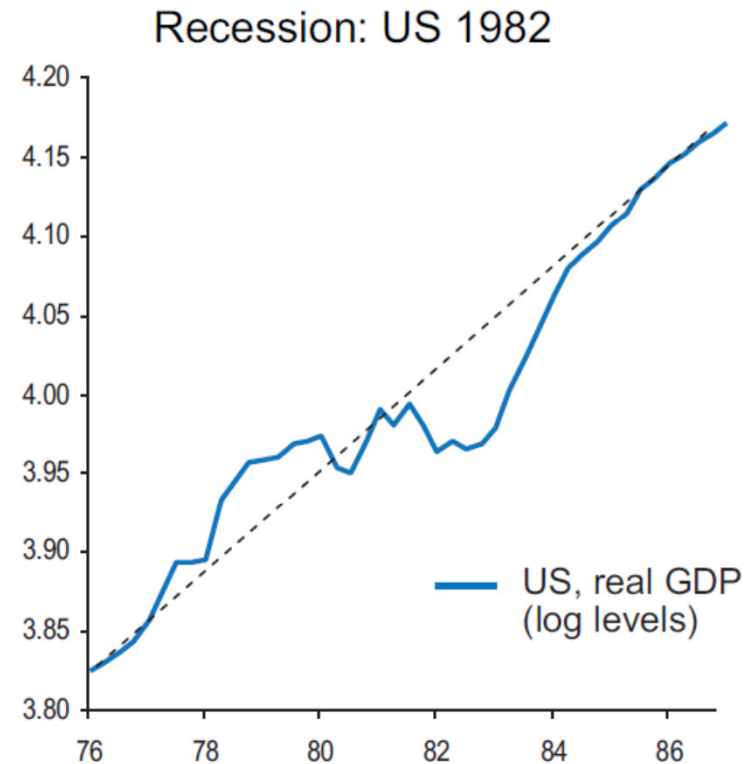
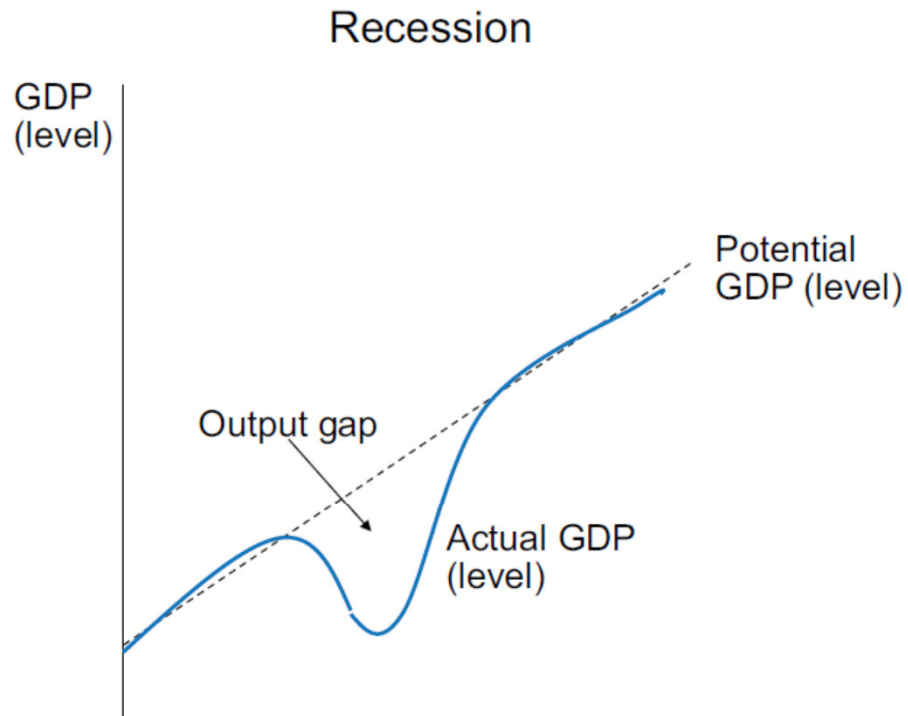
Do we observe a *pattern*: Huge expansions in credit, followed by crises and attempts to manage the aftermath?

- A credit boom in Japan that collapsed after 1990;
- A credit boom in (some) Nordic countries in the early 1990s, followed by crisis;
- A credit boom in Asian emerging economies that collapsed in 1997;
- A credit boom in the north Atlantic economies that collapsed after 2007;
- and finally in China... ???
- Each is greeted as a new era of prosperity, to collapse into crisis and post-crisis malaise...

Alternative scenarios for real GDP

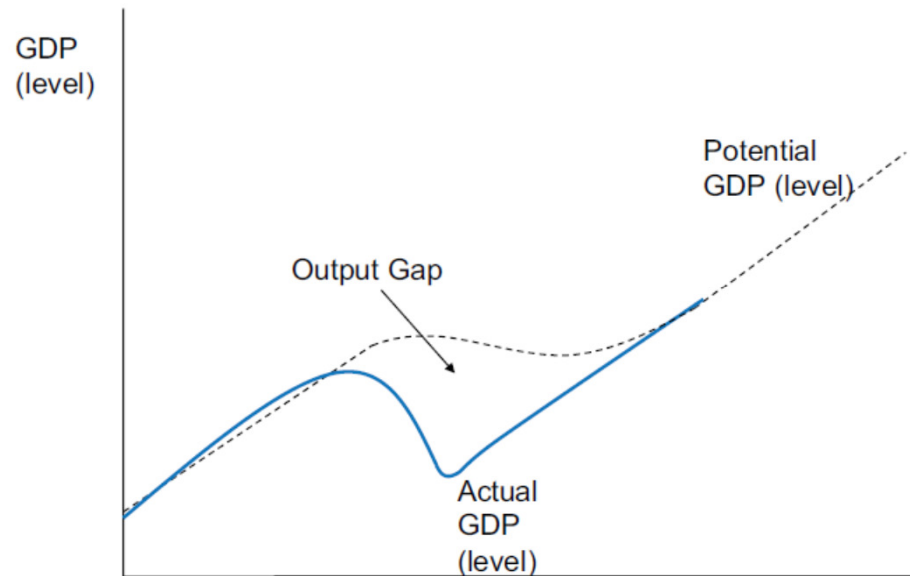


Recession? Yes – but not a crisis

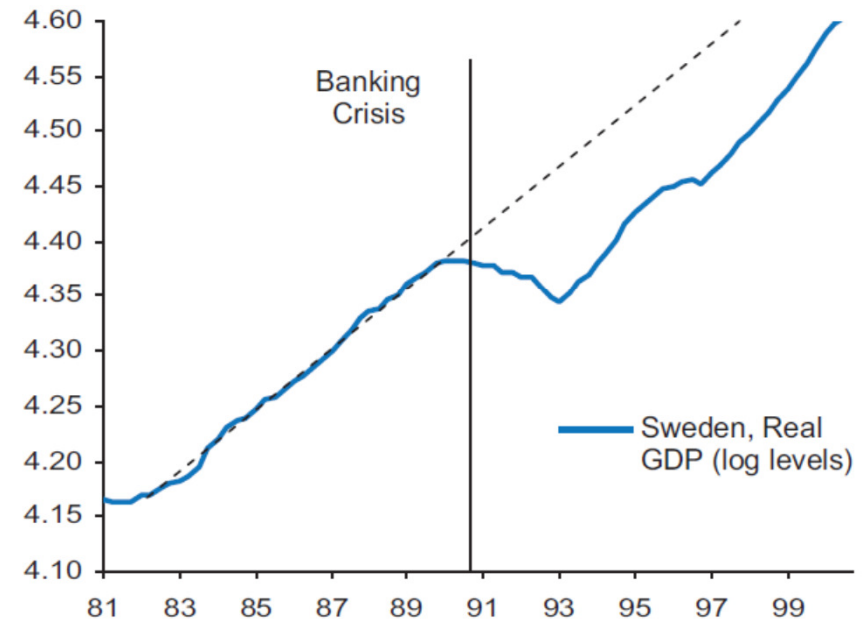


Type 1 crisis: permanent loss of output, but potential growth unchanged

Type #1 crisis: Output loss

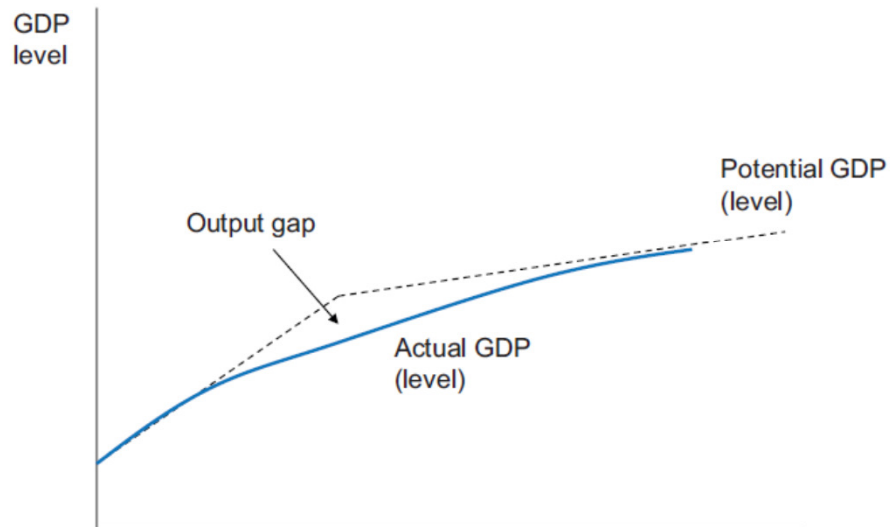


The Swedish banking crisis

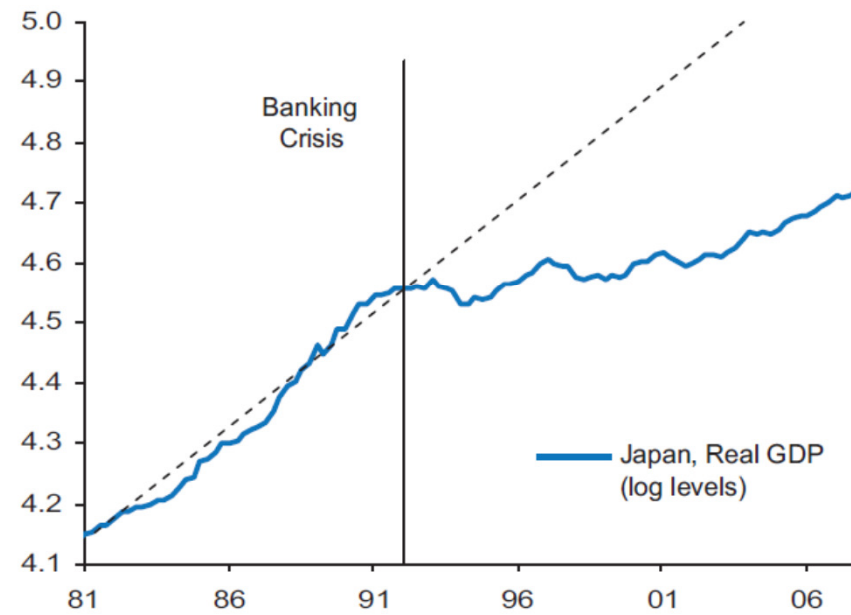


Type 2 crisis: persistent fall in output growth

Type #2 crisis: Lower growth

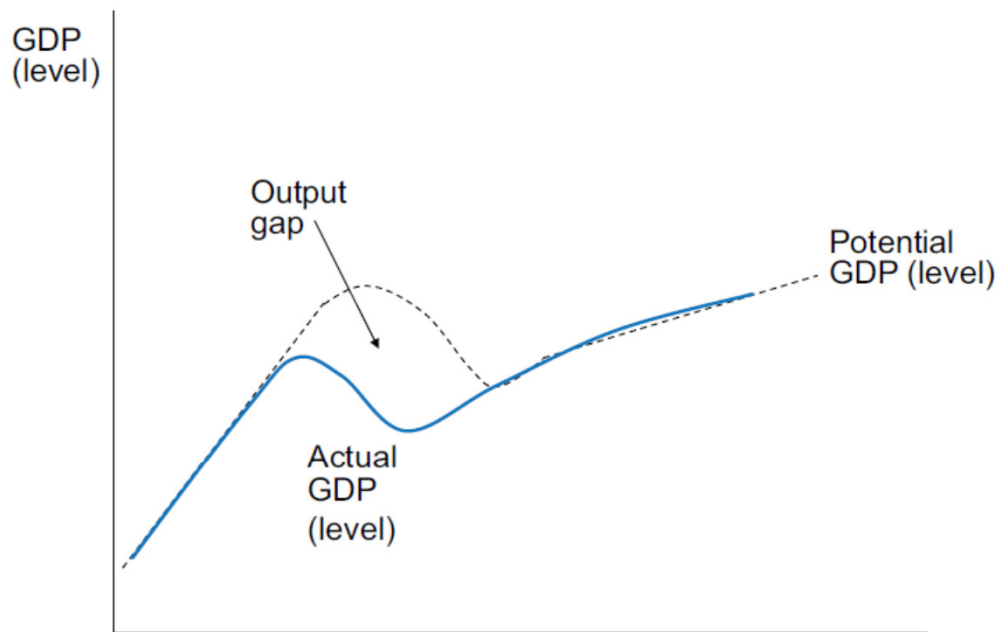


The Japanese banking crisis

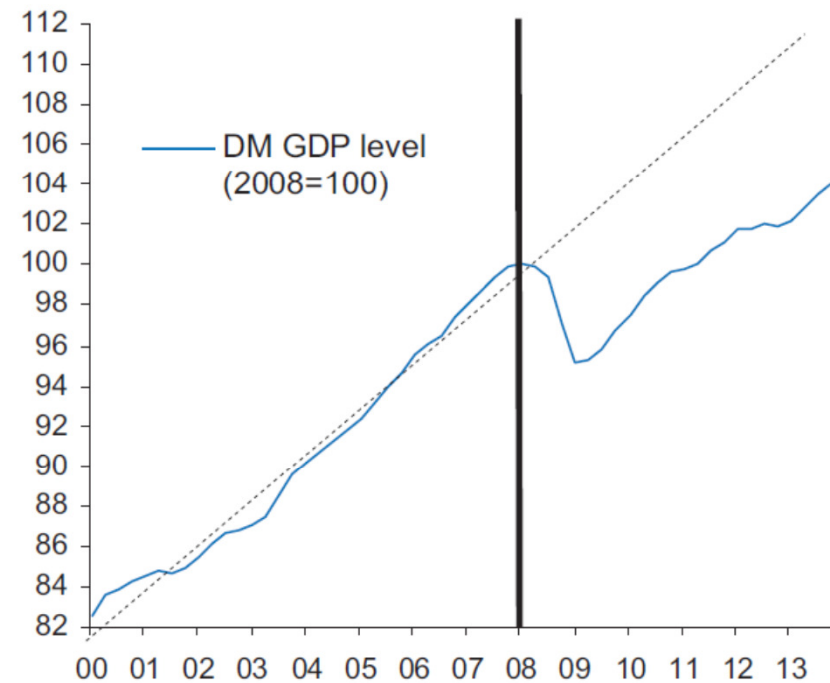


Type 3 crisis: fall in output and lower growth rate

Type #3 crisis: Fall in output & lower growth rate



The 2008 DM financial crisis



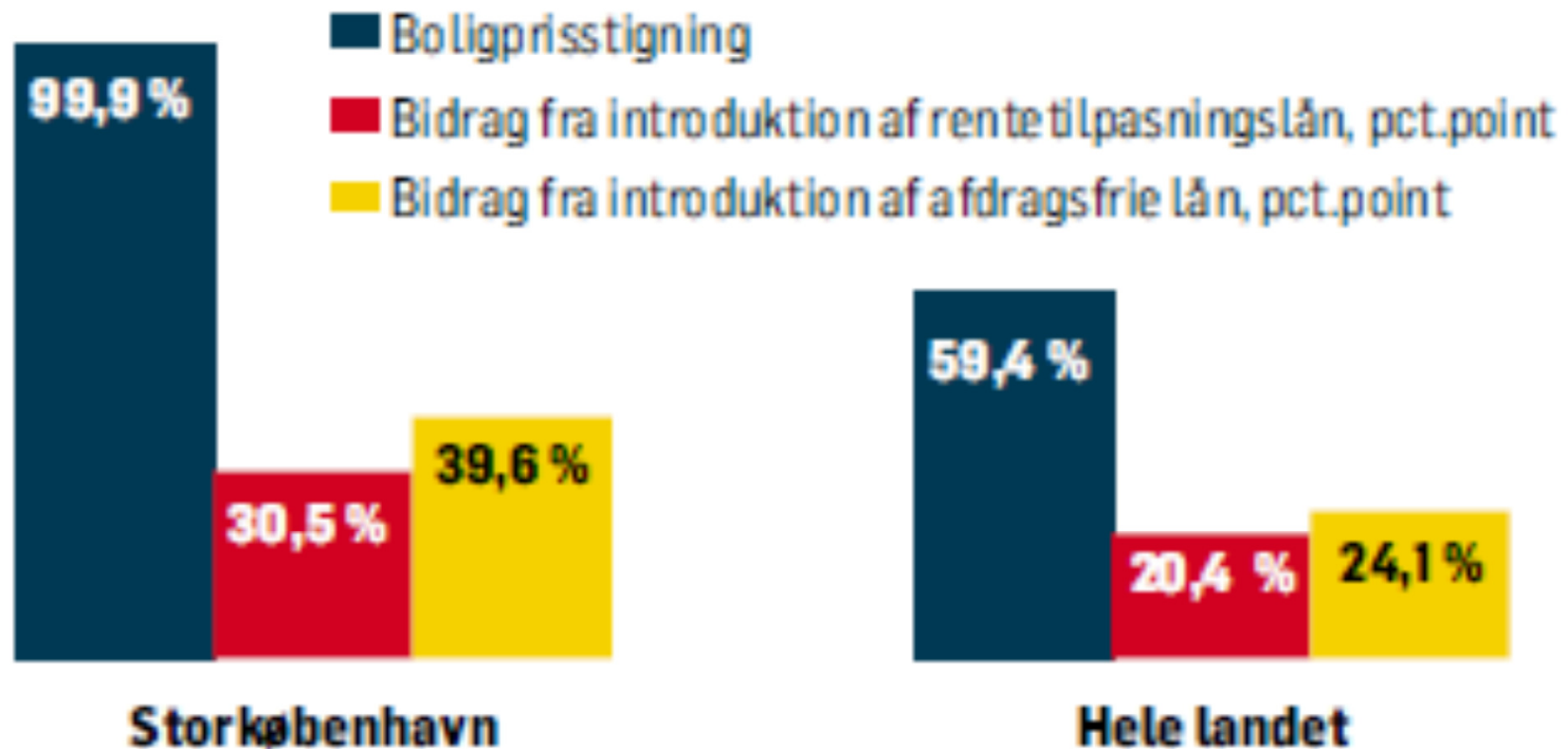
Do credit cycles matter?

- Possible reasons:
 - The pre-crisis trend was unsustainable...
 - Damage to confidence and so investment and innovation from a financial crisis...
 - Debt overhang - and deleveraging is hard: may generate a vicious circle from high debt to low growth and back to even higher debt...
- Policy implication:
 - Don't to let debt run *ahead* of the long-term capacity of an economy to support it in the first place...
 - The hope is that macro-prudential policy will achieve this outcome...

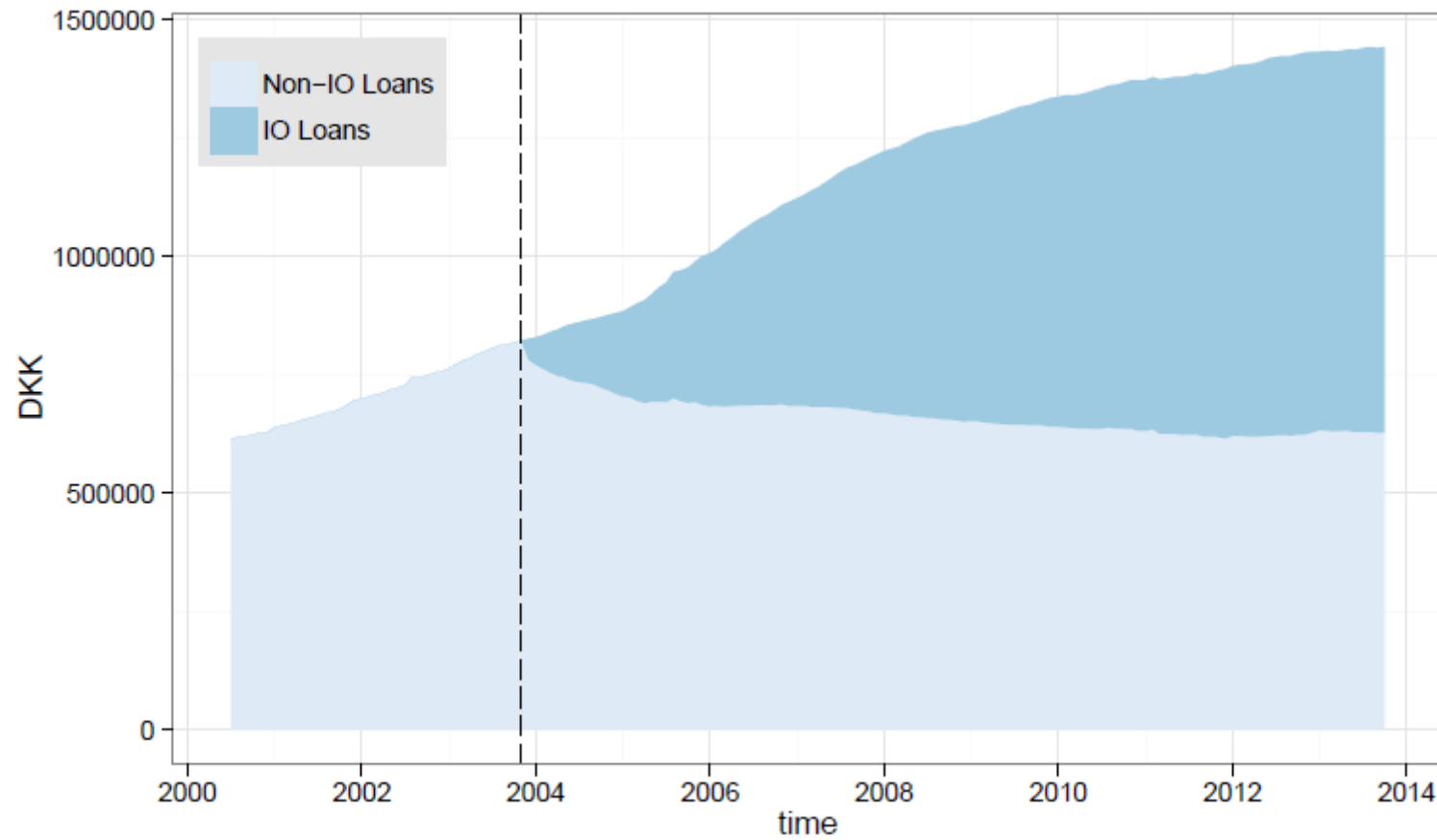
Upsurge in house prices in the noughties

- For *fundamental* drivers:
 - Interest rate "too low"
 - New mortgage products (example of financial innovation)
 - Interest-only (IO) loans
 - adjustable-rate loan/mortgage
 - Fiscal policy "too expansionary"
 - Freeze on property value tax

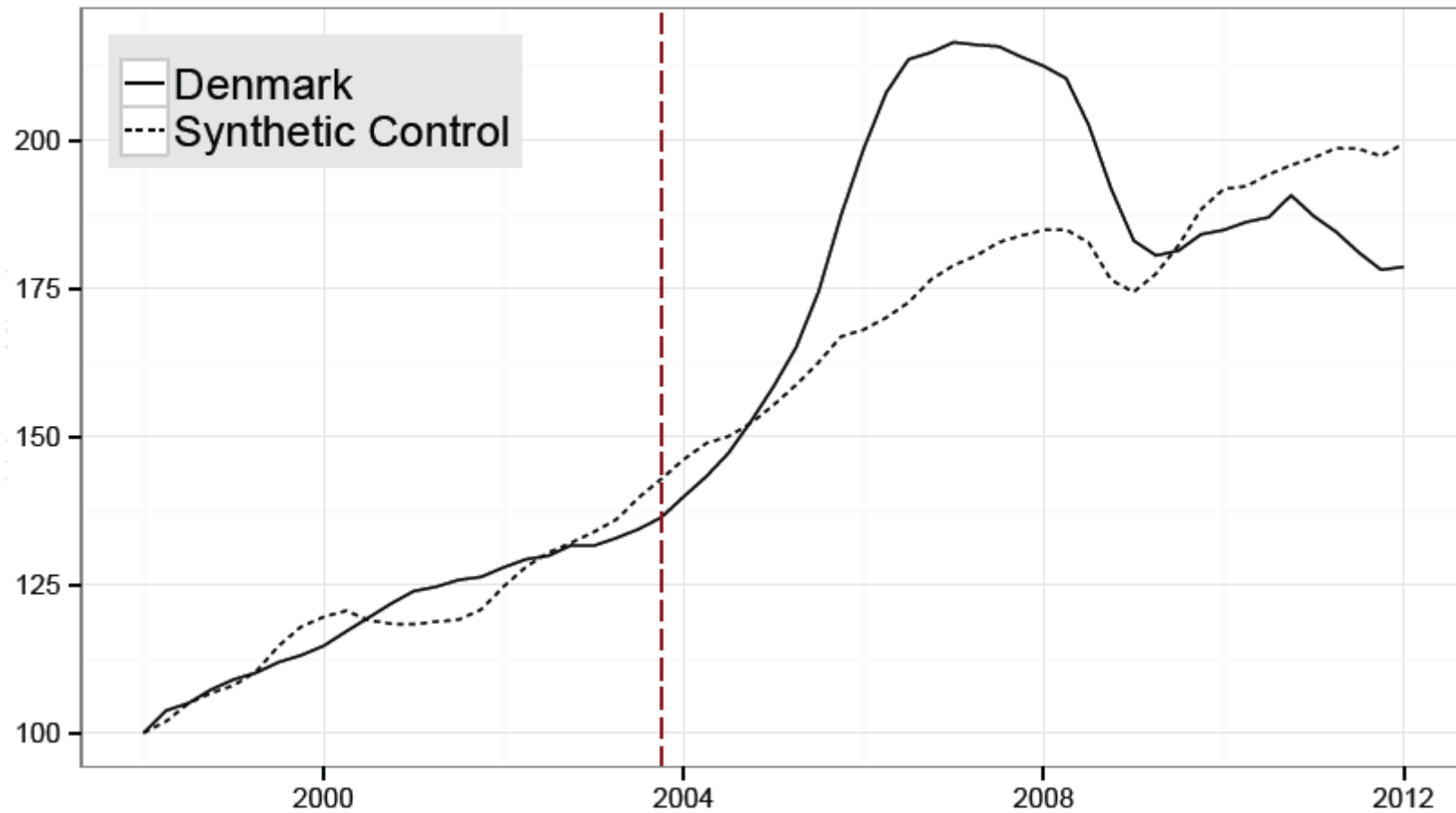
Importance of new mortgage products for upsurge in house prices in Denmark, 2000-2007



Outstanding Mortgage Debt (mio. DKK)



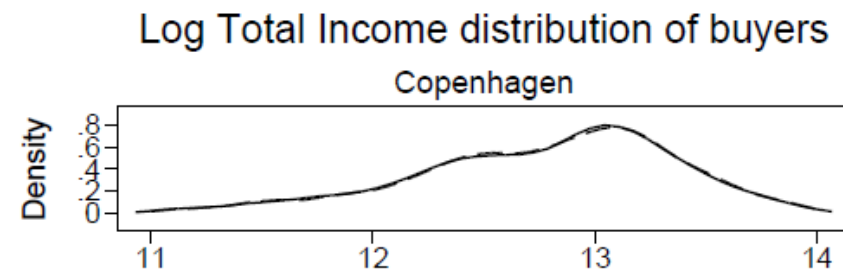
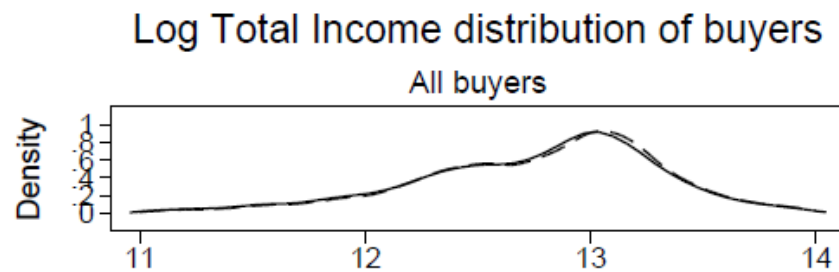
Factual and Counterfactual House Prices in Denmark (importance of IO loans)



Factual and Counterfactual House Prices in Denmark (importance of IO loans)

- The graph labeled “Denmark” shows the house prices index in Denmark using data from DST.
- The graph labelled “Synthetic Control”, based on data from BIS, shows the *estimated* house price index in a counterfactual setting, where Denmark did not introduce IO loans.
- The Synthetic control is estimated using a sample of countries which (a) did *not* have IO-mortgages available, but (b) still experienced a housing boom.
- This is the best estimate of what house prices in Denmark would have been *in the absence* of the reform.

Income distribution of buyers: before and after reform



— 2002 Homebuyers
- - - 2004 Homebuyers

Income distribution of buyers: before and after reform

- The graph shows the income distribution for buyers of housing in Denmark in 2002 and 2004.
- In 2002 the reform had yet to be announced, so we use 2002 to examine buyers income prior to the introduction of IO mortgages.
- 2004 is the first full year where IO mortgages were available.
- The graph shows that the income distribution of buyers did not significantly change between 2002 and 2004.
- The main point of the graph is to show that we do *not* see a shift towards low income buyers.

Introduction of IO mortgages in Denmark: Main take-home message

- The introduction of IO mortgages *amplified* the housing *boom and bust* in Denmark.
- House prices jumped an additional 25-36 percent during the boom compared to a counterfactual that also experienced a housing boom but for which IO loans did not exist.
- House prices declined an additional 22-29 percent compared to the counterfactual that did not have IO mortgages available.

References:

Buttiglione, Luigi, Philip R. Lane, Lucrezia Reichlin and Vincent Reinhart (2014), "Deleveraging? What Deleveraging?", Geneva Reports on the World Economy, 16.

Bäckman, Claes and Chandler Lutz (2015), The Consequences of Interest Only Loans for the Housing Boom and Bust, mimeo, CBS (contact: cb.eco@cbs.dk).