



UiO • **Institutt for privatrett**
Det juridiske fakultet

Jay Cullen

Securitisation, Ring-fencing and Housing Bubbles: Financial Stability Implications of Uk & EU Bank Reforms



Background

- Aim of paper is to discuss the links between bank lending, property markets and financial instability, in light of new securitisation rules promulgated by EC Commission and impending structural reforms to banking system.
- Whilst Brexit has cast some doubt on the timetable, there is little doubt that securitisation in the EU and UK will be pursued in some form
- Interesting questions arise therefore about central banks' role and macroprudential policies

Paper postulates

- (i) CMU valorizes securitization
- (ii) Securitization of mortgages drives mortgage lending
- (iii) Mortgage lending drives crises
- (iv) Traditional approaches to risk management evince belief in market rationality – we cannot rely on this
- (v) Problem becomes more acute in presence of ring-fencing

Background: Momentum is growing

Segoviano, Jones, Lindner and Blankenheim, Securitization – The Road Ahead, IMF (2015)

“Placing private securitization markets back on a firm and sustainable footing has never been more important.”

“The time has never been more right to complete the task of [rebooting] securitization.”

Proposal for Securitization, EC Commission 2015

“A high-quality framework for EU securitisation can promote integration of EU financial markets, help diversify funding sources and unlock capital, making it easier for credit institutions and lenders to lend to households and businesses.

“It allows for a broader distribution of financial sector risk and can help to free up credit institutions' balance sheets to allow for further lending to the economy.”

EU Securitisation Regulation - detail

- Proposal is for “Simple, Transparent and Standardised” Securitisation
- Preferential capital treatment vis-à-vis other securitisations
- Subject to risk retention (currently 5%)
- Also new transparency requirements: info. Must be made available to investors and relevant regulators (NOT to public)
- No 3rd party confirmation of STS (issuer-led)
- Re-securitisations (banned – so, no CDO-squared/cubed!!)
- Some synthetic securitisations of SME loans (EBA recommendation)

Detail (cont.)

- a. 40 per cent on an exposure value-weighted average basis for loans backed by residential mortgages or fully guaranteed residential loans
- b. 50 per cent on an individual exposure basis where the exposure is a loan secured by a commercial mortgage
- c. 75 per cent on an individual exposure basis where the exposure is a retail exposure
- d. 100 per cent on an individual exposure basis for any other exposures.

Detail (III)

Basel III Guidelines (2014): securitisations may be rated in one of the three following ways:

- (i) “Securitisation Internal Ratings-Based Approach” (IRBA);
- (ii) “Securitisation External Ratings-Based Approach” (ERBA) (if permitted in jurisdiction);
- (iii) “Securitisation Standardised Approach” (SA).

Why securitize?

Asset Securitization Incentives, BCBS 2011

Literature points to two reasons

1. Low-cost sources of financing: when a financial institution is looking for funding, securitisation is a direct way to raise cash in exchange for otherwise illiquid assets – **MORE EVIDENCE**
2. regulatory (capital) arbitrage: idea is that financial institutions may find it optimal to securitise in order to reduce their capital requirement: if two assets with different risk-profiles are subject to identical capital requirements, a bank could raise its overall level of risk without facing a parallel increase in its regulatory capital requirements by selling the assets with lower risk and retaining the riskier ones – **LESSER EVIDENCE**

Misalignment of incentives:

1. Compensation programmes;
2. Reliance on representations and warranties;
3. Adverse selection (to choose riskier assets)

STS Securitisation Regulation: Assessment (see Bavoso 2016; Schwarcz 2016)

1. Disclosure
2. Risk Retention
3. Rating Agency
4. Capital Requirements
5. Due Diligence

Risk retention

- Risk retention mandated by STS Regulation but it was standard market practice to require risk retention pre-GFC – the main problem is that investors and sponsors often overvalue assets contained in securitisations, esp. mortgages.
- May also cause ‘mutual misinformation problem’ – skin in the game leads to view that originator understands risks, which gives investor false confidence
- Financial innovation of this kind actually a supply-side (not demand-side) phenomenon (Awrey 2013)
- Prime purpose of many securitisations is to book revenue at issuance (Boyer 2013; Wray 2013)

These approaches tend to focus on...

- Asymmetric information (eg. improved disclosure)
- Risk management (eg. capital requirements)
- Alignment of incentives (eg. skin in the game)

This paper is framed differently....

Reforms of mortgage lending and securitization ought to be focused on reducing potential for housing bubbles

Current reforms (with Securitisation Regulation being prime example) focus on incentives of securitizers and lenders and seek to protect borrowers and investors

Yet, as noted by Bubb and Krishnamurthy, “the sine qua non of a bubble is marketwide overoptimism about future house prices. Irrational exuberance in a bubble leads parties across the entire system of housing finance to make risky bets based on rosy beliefs. It is not just investors who underprice credit risk and borrowers who overextend. Securitizers and lenders are also eager to take on dangerous levels of risk and leverage.”

Flaws in the standard narrative

Example risk retention in MBS

Table 1: Top 20 Sponsors of Non-Agency MBS, 2000–2007¹⁵⁴

Issuer	Issued MBS Outstanding 2007	Non- Agency MBS Holdings 2007	Non-Agency MBS Holdings / Issued MBS Outstanding	Losses on Mortgage- Related Assets as of May 2008
Countrywide	\$280,577	\$6640*	2.4%	\$6953**
Lehman	\$143,776	\$41,488	29%	\$3300
Washington Mutual	\$119,531	\$25,912	22%	\$9100
GMAC	\$115,075	\$27,400	24%	\$10,000***
Bear Sterns	\$114,613	\$30,313	26%	\$3200
Wells Fargo	\$104,966	\$19,882	19%	\$3300
Ameriquest	\$73,021	Missing	Missing	Missing
JPMorgan Chase	\$70,161	\$12,356	18%	\$9700
Goldman Sachs	\$66,577	\$46,436	70%	\$3000
Credit Suisse	\$66,118	Missing	Missing	\$9500
IndyMac	\$63,198	\$7108	11%	\$1264****
Bank of America	\$56,428	\$24,013	43%	\$14,900
Morgan Stanley	\$56,242	\$13,150	23%	\$12,600
Option One	\$49,241	\$197	0.4%	Missing
New Century	\$48,530	\$234*	0.5%	Missing
RBS	\$48,143	\$102,453	213%	\$15,200
Merrill Lynch	\$47,884	\$43,556	91%	\$37,000
Deutsche Bank	\$44,335	Missing	Missing	\$7700
UBS	\$38,836	Missing	Missing	\$38,200
Citigroup	\$38,403	\$40,878	106%	\$42,900

FLAWS

- RISK RETENTION – AKERLOF (1970)
- Bubb and Krishnamurthy (2015)
- MORTGAGE LENDING PRE-CRISIS
- Adelino, Schoar, Severino (2016)

ROLE OF BANK LENDING

House prices and lending: early years

- Often 'taken as a given' that bank credit boosts house prices
- Strong suggestion of a reciprocal relationship between bank lending policies and house price appreciation (Borio and Lowe 2004; Goodhart and Hofmann 2004; Basurto, Goodhart and Hofmann 2006; Goodhart and Hoffman 2007).
- BUT, this dynamic link runs both ways and is, itself, mutually reinforcing: credit influences house prices, and house prices influence credit, esp. through expectations of future house price rises (Goodhart and Hofmann 2008; Hofmann, 2004).

Post-GFC research (I)

- Show that bank credit places upward pressure on house prices
- Justiniano, Primiceri, and Tambalotti, Federal Reserve Bank of New York Staff Report no. 709, 2015:
- Four empirical facts: (i) an unprecedented rise in home prices; (ii) the surge in household debt; (iii) the stability of debt relative to home values; and (iv) the fall in mortgage rates

Post-GFC research (II)

- Mian and Sufi (2009)
- (i) supply-side changes in the provision of mortgage credit, particularly securitization of mortgages; and (ii) expectations of higher house prices, which increased disproportionately in subprime localities.
- Also, house price growth is also negatively correlated with income growth over the same period, implying that the positive change in house prices resulted from changes in credit supply.

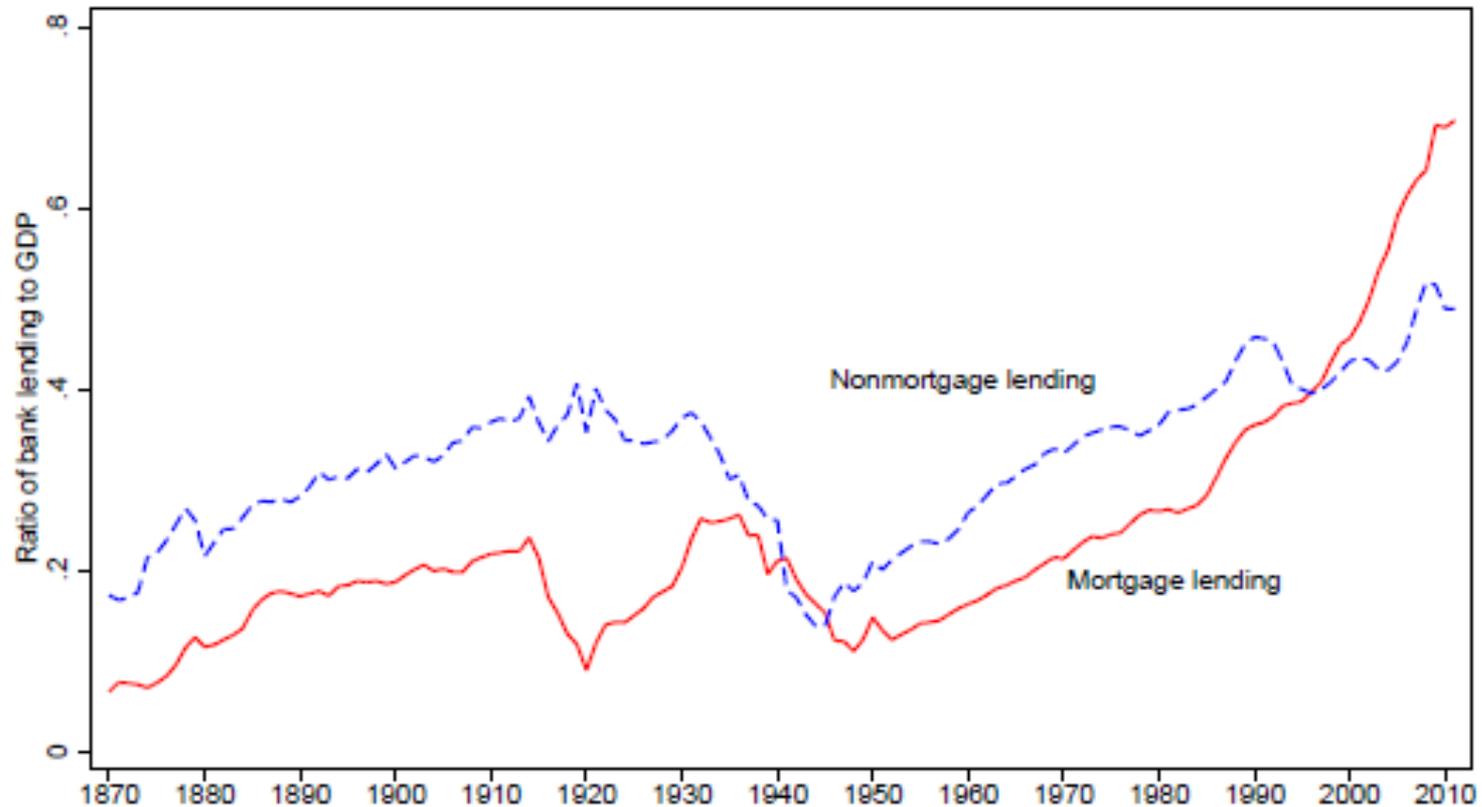
Post-GFC research (III)

- Other analyses show, *inter alia*, that:
- in areas of the U.S. where post-GFC mortgage loans had higher limits, house prices were higher relative to those areas where loan limits were lower, suggesting that the supply of credit increased house prices independent of other factors (Kung 2015)
- easier access to credit through lower financing costs significantly increases house prices (Adelino, Schoar & Severino (2012)
- relatively more liberalized bank mortgage lending regulations and removal of restrictions on lending lead to larger house price increases (Favara, Giovanni and Jean Imbs. 2015; Di Maggio and Kermani, 2015)
- increased elasticity in credit supply terms leads to higher real estate values (Anenberg, Hizmo, Kung and Molloy, 2015)

Financial Stability Impact of Excessive (mortgage) credit

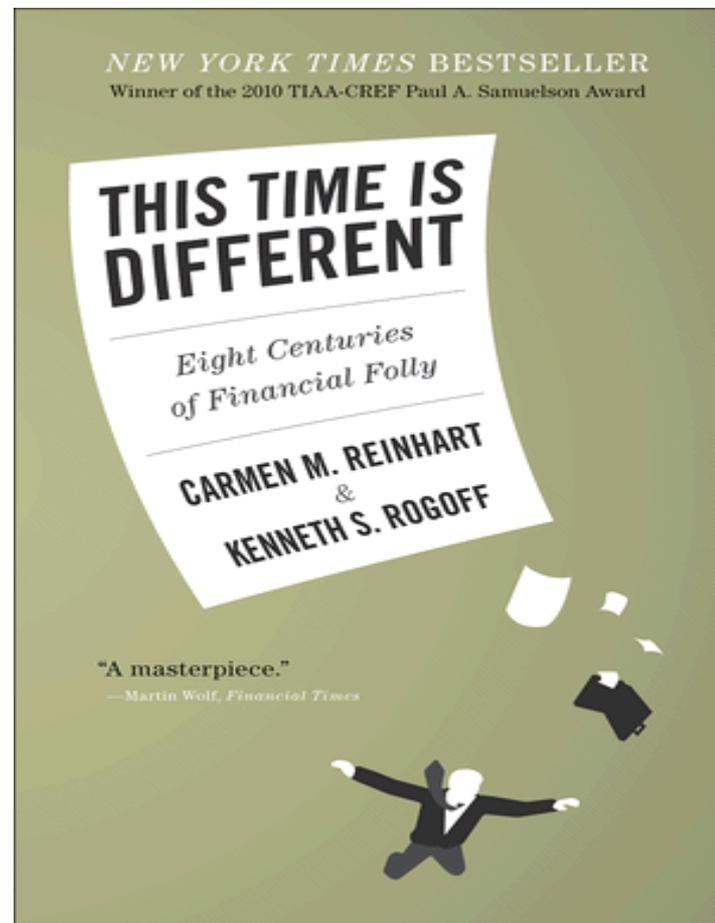
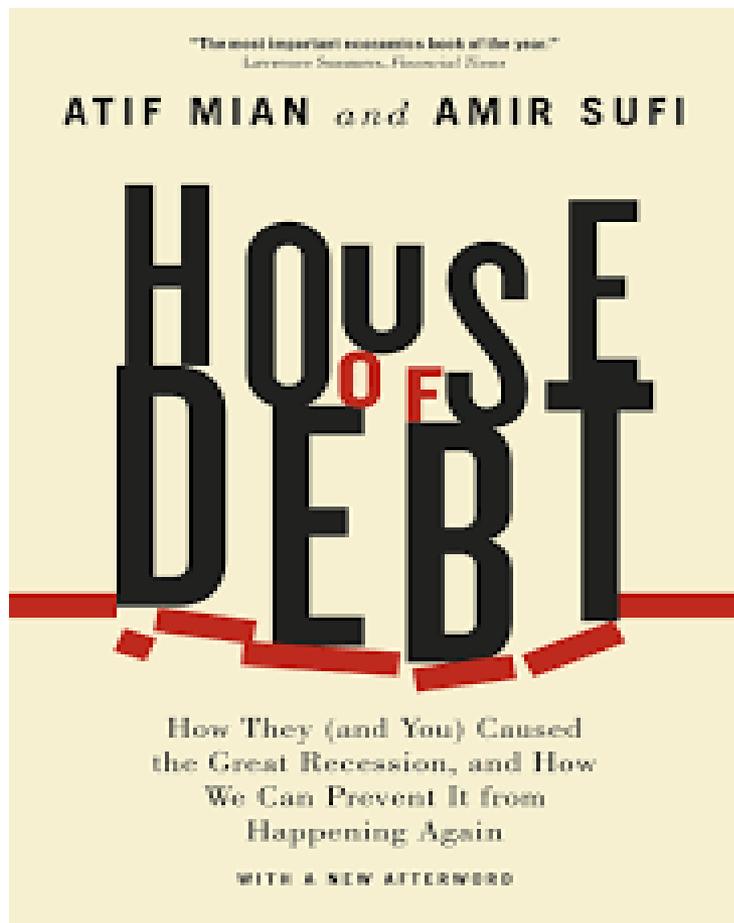
- The link between credit growth and financial crises “has become stronger over time” – BIS (May 2016)
- “[T]he share of mortgages on banks’ balance sheets doubled in the course of the 20th century, driven by a sharp rise of mortgage lending to households. Household debt to asset ratios have risen substantially in many countries. Financial stability risks have been increasingly linked to real estate lending booms which are typically **followed by deeper recessions and slower recoveries**” - Jorda, Schularick & Taylor, ‘The Great Mortgaging’ (2014)

Bank mortgage and non-mortgage lending to GDP, 1870–2011: Jorda, Taylor & Schularick 2014



Notes: Mortgage (residential and commercial) and non-mortgage lending to the business and household sectors. Average across 17 countries. See text.

Financial instability from excessive mortgage credit



Turner (2016) p.116-117

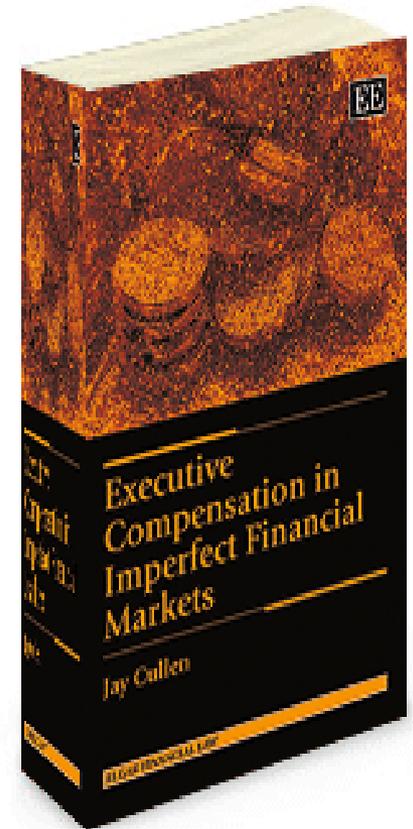
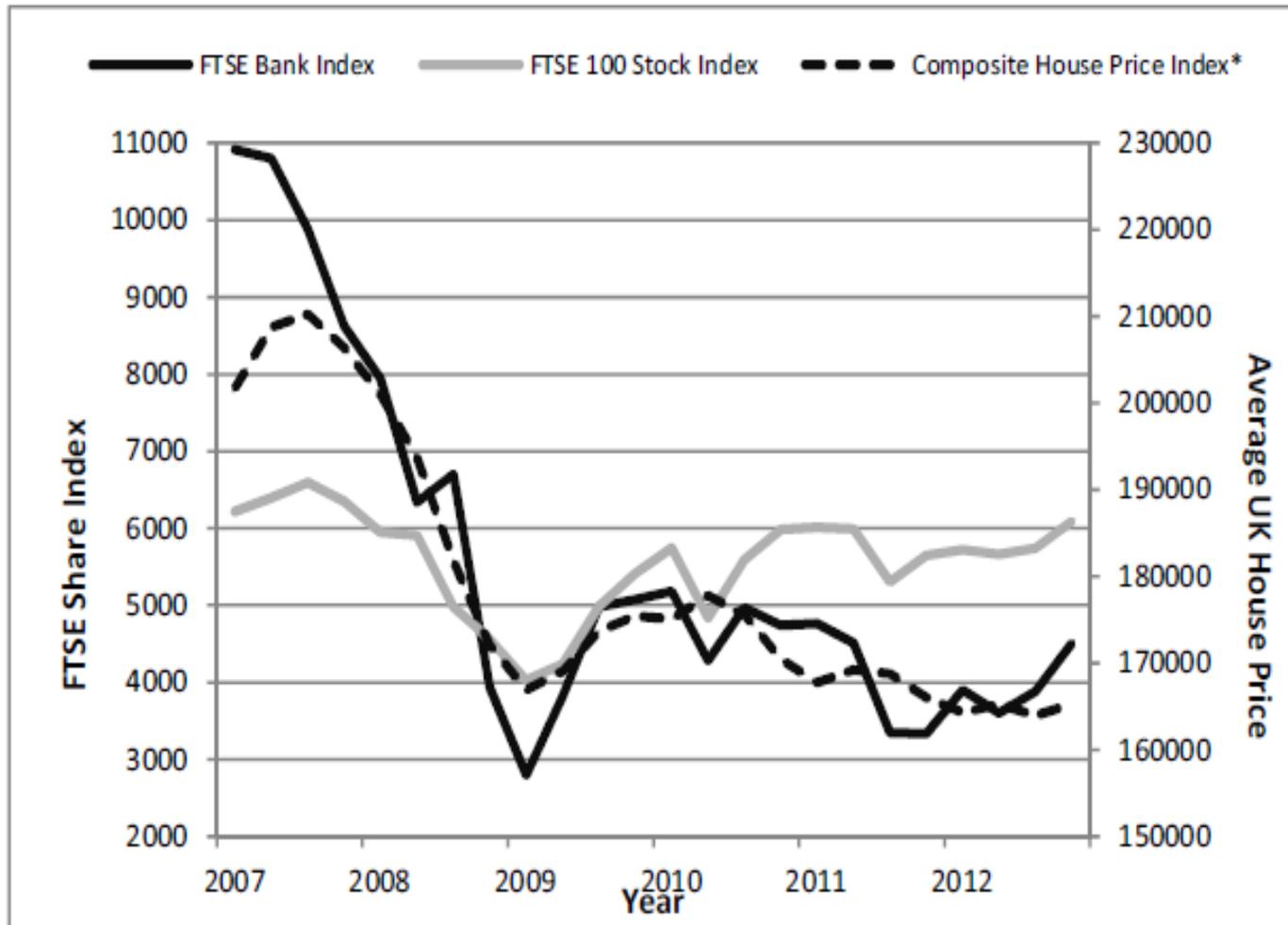
- Keynes noted, two forms of investment:
 - (i) Consumption;
 - (ii) Capital.

“Credit to finance the purchase of existing capital goods can thus grow in a fashion unrelated to current nominal demand, and the price of capital goods, driven by credit supply, can diverge massively from the prices of current goods and services.”

Bank of England (2014)

- “Money creation in the modern economy”
- Michel Kumhof: “Key function of banks is money creation, not intermediation....**Loans create deposits**....The implication is that new loans involve new intermediation....banks can easily start a lending boom...because they can simply grow their balance sheet by expanding the money supply...they do not have to attract deposits of pre-existing money”

Correlation between land values and bank values (UK) – Cullen (2014)



The contribution of securitisation: a sample

- Levitin & Wachter 2009: complexity, opacity, and heterogeneity of the unregulated private-label mortgage-backed securities
- Brunnermeier 2009: boom in securitization contributed to channel into mortgages a large pool of savings that had previously been directed towards other safe assets, such as government bonds
- Acharya and Richardson, 2009, Acharya et al., 2013: Investing in senior MBS tranches freed up intermediary capital, due to their lower regulatory charges. Combined with the rise of off-balance-sheet vehicles, this form of “regulatory arbitrage” allowed banks to increase leverage without raising new capital, expanding their ability to supply credit to mortgage markets
- Loutskina 2011: securitization allowed banks to convert illiquid loans into liquid funds, reducing their funding costs and hence increasing their capacity to lend

What causes these booms?

- Irrational exuberance (over-confidence)
- Herding
- Short memories
- **This is why measures based upon the rational investor model (increased disclosure, transparency, better incentives etc) may be limited in preventing unsustainable real estate booms**
- *“Over-optimism loosened the leverage constraints dictated by banks’ internal risk management practices, often based on Value at Risk (VaR) models, generating higher leverage and more lending.”*
 - Adrian and Shin (2014):
- *“The home-price bubble feels like the stock-market mania in the fall of 1999, just before the stock bubble burst in early 2000, with all the hype, herd investing and absolute confidence in the inevitability of continuing price appreciation.”*
 - Robert Shiller, quoted in “The Bubble’s New Home” by Jonathan R. Laing, Barron’s (2005)

Disaster myopia

- Herring and Wachter (1999, p. 15)

“[There is a . . . tendency over time to underestimate the probability of low-frequency shocks. To the extent that subjective probabilities decline even though actual probabilities remain constant or increase, banks take on greater exposures relative to their capital positions and the banking system becomes more vulnerable to a disaster.”

Context – short-term memories

“As the memory of the [previous] “crisis” fades, risk aversion dissipates and financing terms ease. As a modest economic expansion replaces stagnation, financial institutions and balance sheets in general become more robust. Continued success sets the groundwork for failure. Financial robustness that is deemed excessive leads to the development of new instruments. Once again, power in the belief of creative finance emerges. Even as optimism reigns, financial robustness is eroded: the domain of financial fragility increases.”

- Hyman P. Minsky, ‘Longer Waves in Financial Relations: Financial Factors in the More Severe Depressions II’ (1995) 29 Journal of Economic Issues 83, 93

Lower margins of safety

May 4, 2016 12:01 am

Barclays launches first 100% mortgages since crisis

Emma Dunkley

Share Author alerts Print Cite Gift Article Comments



Homebuyers will no longer have to rely on parents to supply a deposit

Barclays has become the first high street bank since the financial crisis to launch a 100 per cent mortgage in the latest sign of a return to riskier lending.

The bank is allowing some buyers to take out a mortgage to 100 per cent of the value of the property, without needing a deposit. Most banks require at least a 5-10 per cent lump sum.

- Minsky's risky practices:

“Agents [speculate] on the future of the asset prices that are presently being financed and on the future behaviour of the financial markets, as they may have to refinance their debts. Looking for larger profits, they undertake riskier decisions for as long as stability and prosperity continue.”

- Yves Rannou, 'Banking regulation, behavioural finance and the financial crisis in Europe: Looking to the Kindleberger-Minsky paradigm' (2010)

Survey evidence - US

- Probability of a housing price crash was heavily discounted (extreme optimism) by buyers and investors
- Analysts at Lehman Brothers and JP Morgan assigned negative housing market performance **very low probabilities**; the latter well into 2007. (Foote, Gerardi and Willen 2012)
- Wall Street mortgage securitisation experts themselves did not see the crash coming – increasing rather than decreasing their exposure to the mortgage market – despite having superior data to average investors on the housing market (Cheng, Raina, and Xiong 2014)
- Credit default swap spreads on financial institutions which traded heavily in the MBS markets were not affected until mid-2007 and did not widen substantially until later that year.

Evidence - UK

House prices in 2007 were overvalued by as much as 25 percent, with a large portion of that distortion driven by (optimistic) expectations:

“D]eviations [from fundamental value] do not appear to be dominated solely by speculative activities with over-sensitivity to expectations regarding fundamentals also being a major driving force.”

(Black, Fraser and Hoesli 2006)

Ring-fencing

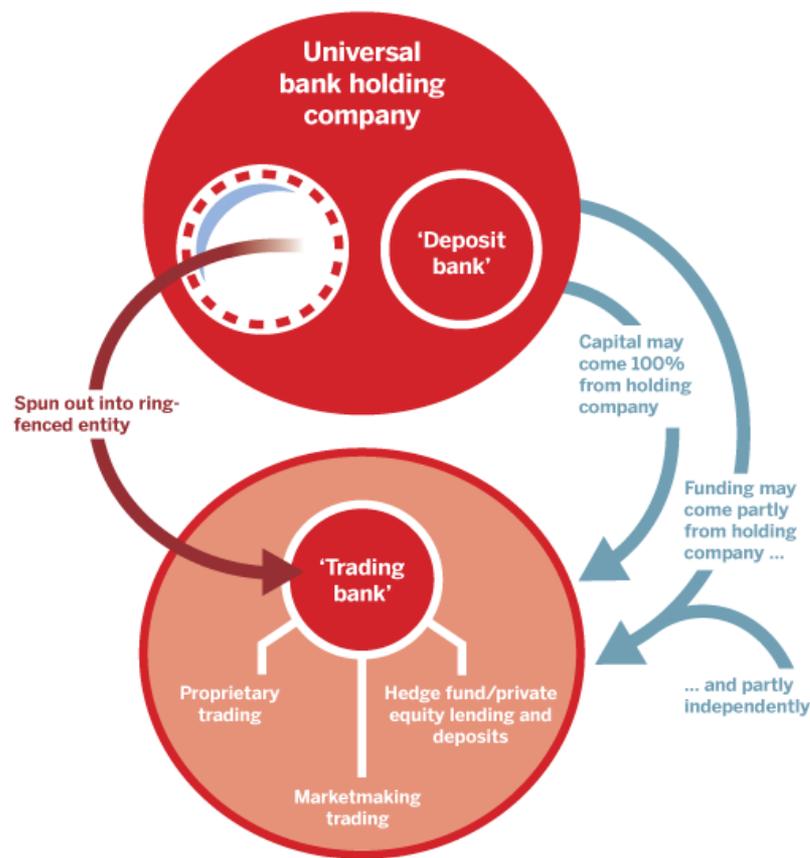
In the UK, this was the main recommendation of Vickers Report (2011)

Interim Report, April 2011:

“Structural reform, in sharp form, would end universal banking and require retail banking and wholesale and investment banking to be carried out by separate banks.

This would aim to isolate retail banking services and taxpayers from the risks of global wholesale and investment banking.”

The trading ring fence How it works



Source: Liikanen review

Ring-fencing (II)

- The combination of securitization and ring-fencing in the UK (and possibly elsewhere) may also provide potential for excessive lending and bank concentration in real estate:
- “The likely concentration of such ring-fenced banks on residential mortgages...would leave them even more exposed to the housing cycle, without diversification potentiality...[Ring-fenced] banks will become almost entirely subject to the variability of the UK property cycle.” – Goodhart 2012

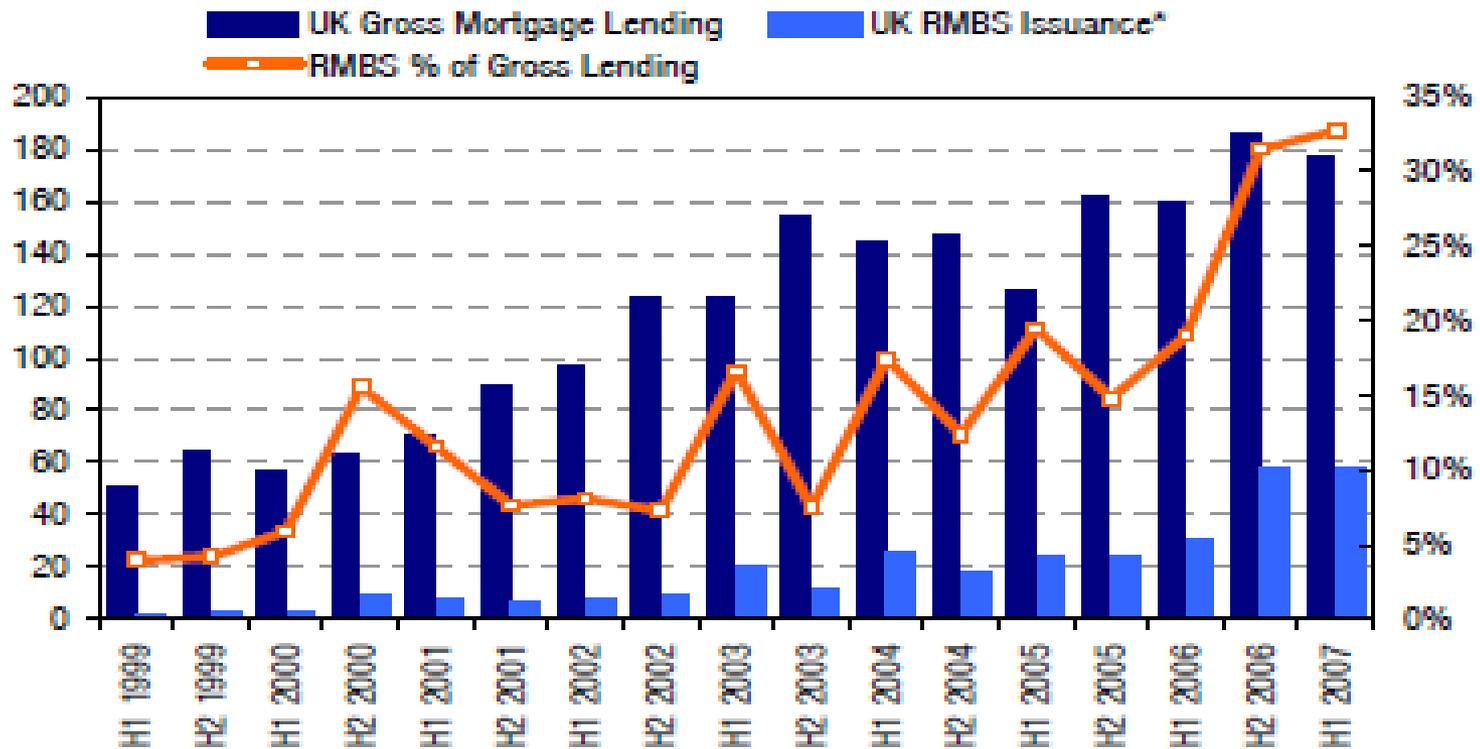
Risk Weighting of mortgage assets at large banks

- Basel III risk-weight for mortgages (both residential and commercial) = 35% under standardised approach (same as Basel II)
- Under advanced IRB, research shows that capital ratios may be as low as 5% for “prime” real estate loans
- So, a bank with a 10% capital ratio may only hold 0.5% capital against its mortgage portfolio
- “Even the standardized weights...do not attempt to allow for the systemic and macroeconomic risks that can result from the growth of large aggregate quantities of loans (eg. residential mortgages) which at a micro level seem relatively low risk.” – Turner 2016, p.271, n15.

Data

UK RMBS 1999 – 2007

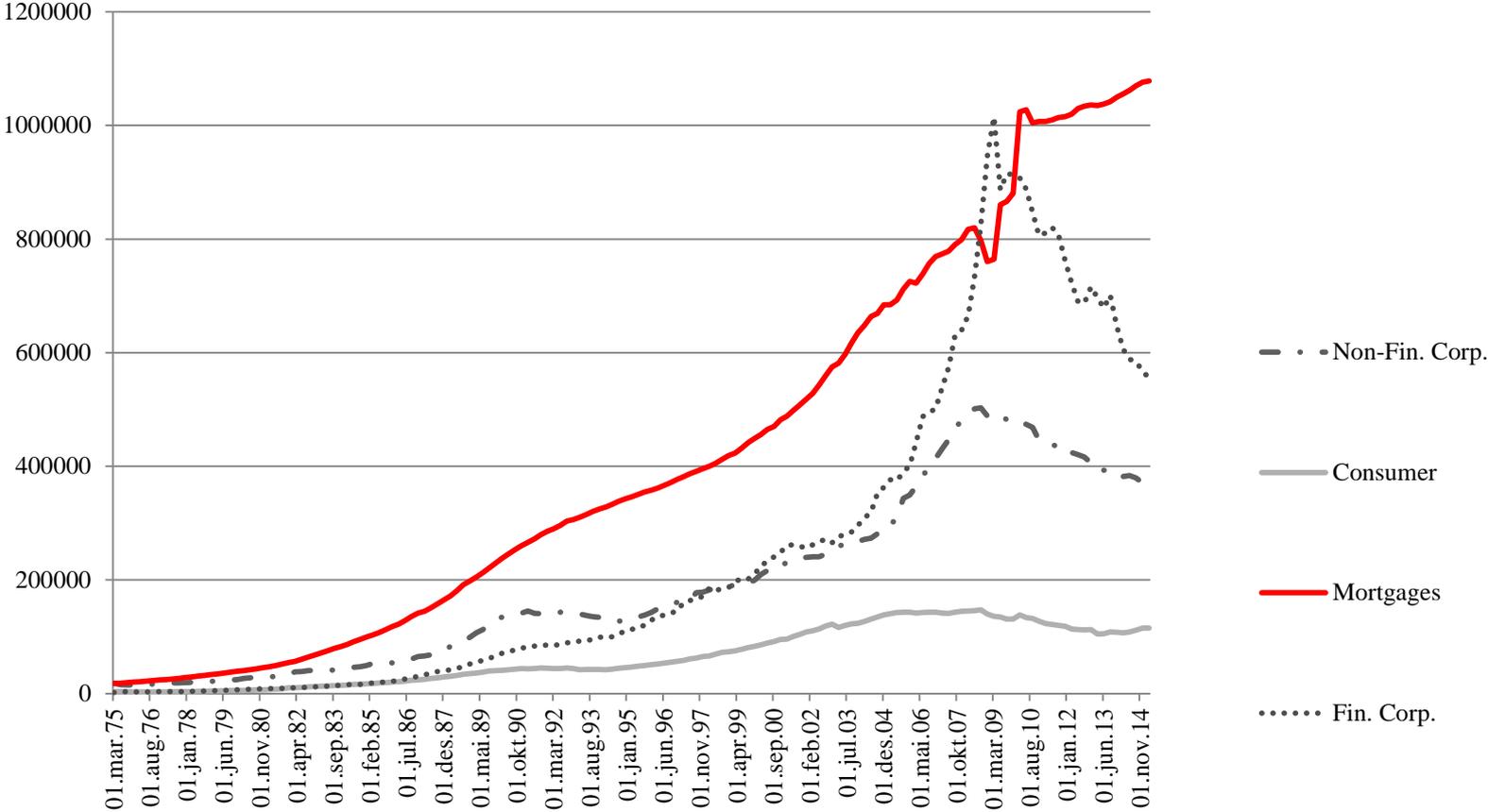
Figure 28. UK Mortgage Lending versus RMBS Issuance (Sterling In Billions)



* Includes UK Prime, Buy-to-let and subprime/NC RMBS issuance

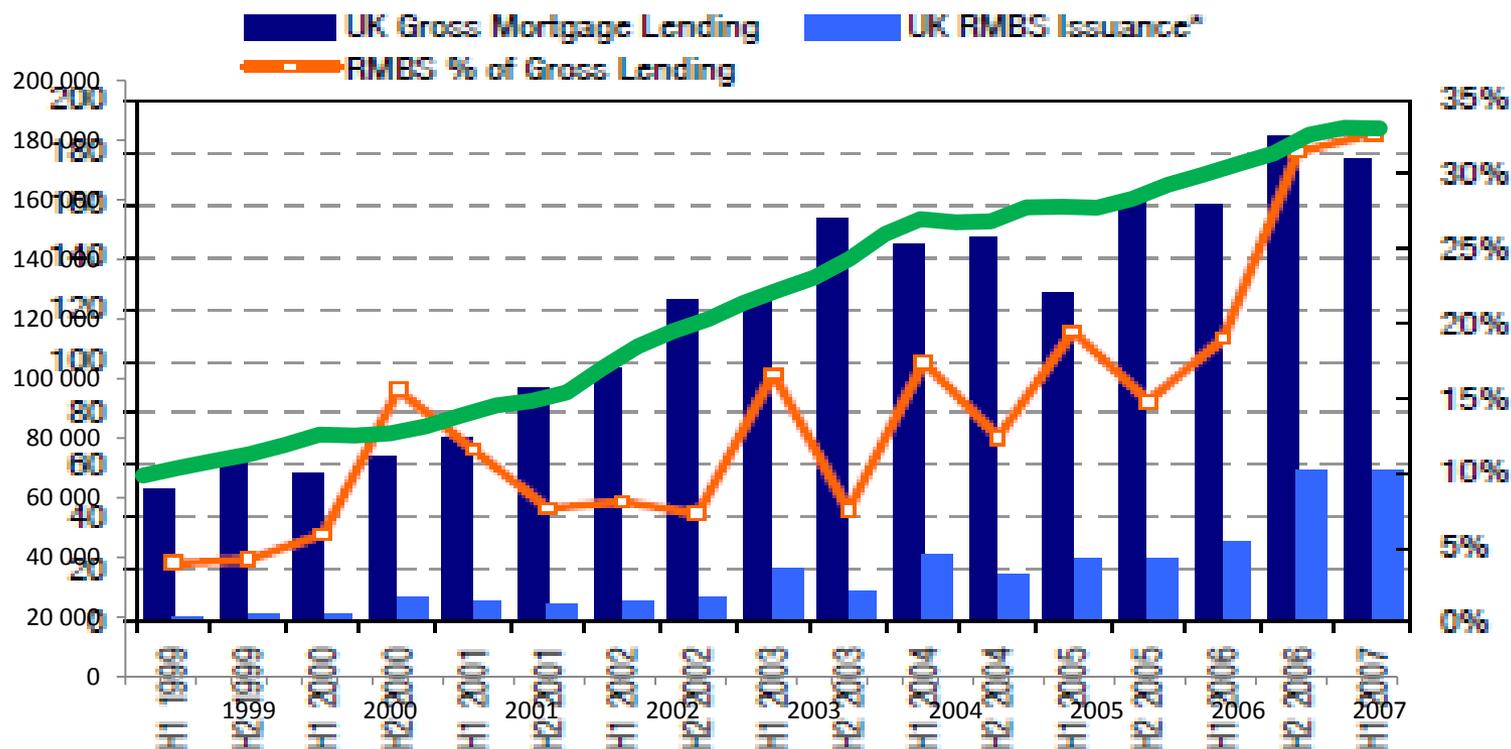
Source: CML, Bloomberg, Informa GM, IFR and Citi.

Net bank lending composition UK 1975-2015



UK RMBS plotted vs. UK house prices 1999 - 2007

Figure 28. UK Mortgage Lending versus RMBS Issuance (Sterling In Billions)



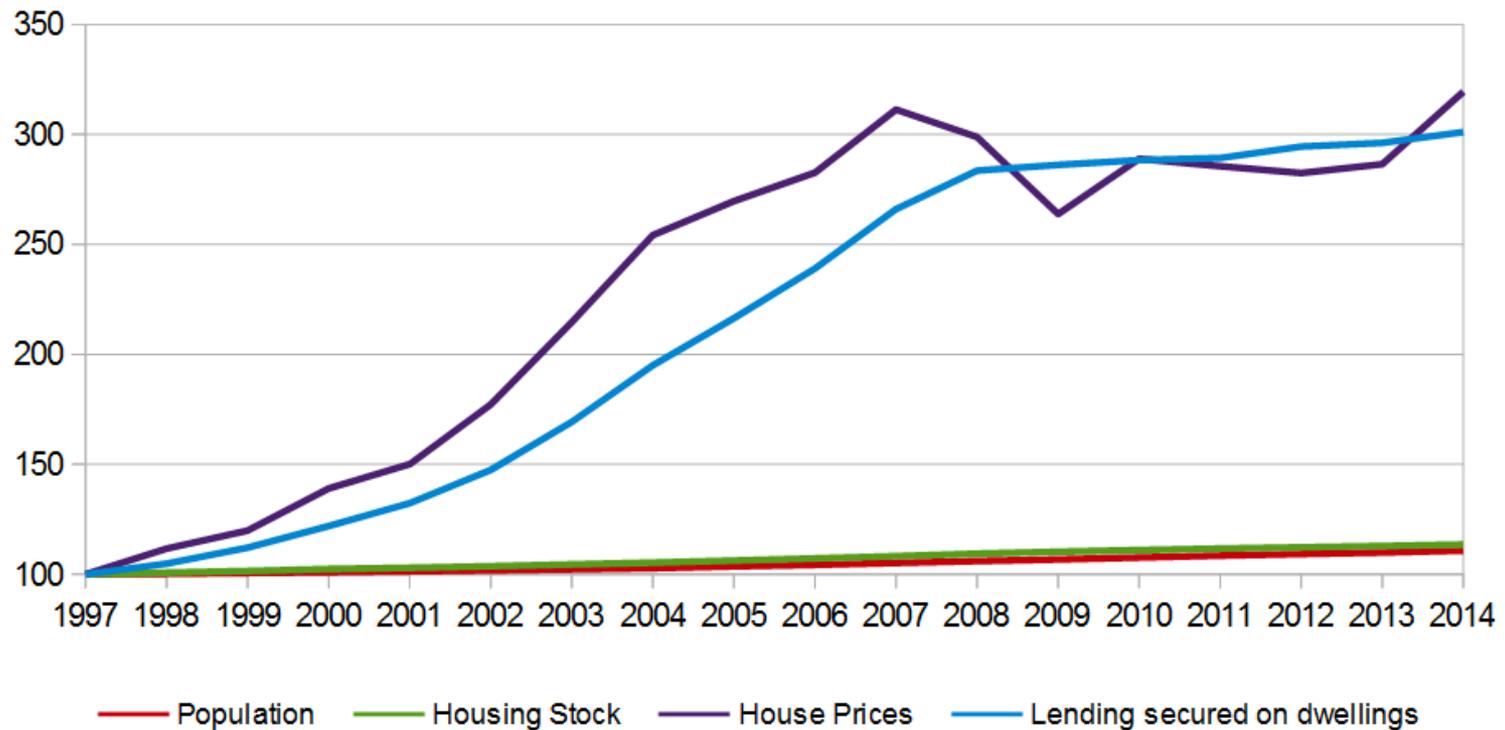
* Includes UK Prime, Buy-to-let and subprime/NC RMBS issuance

— UK House Prices 1999 - 2007

Source: CML, Bloomberg, Informa GM, IFR and Citi.

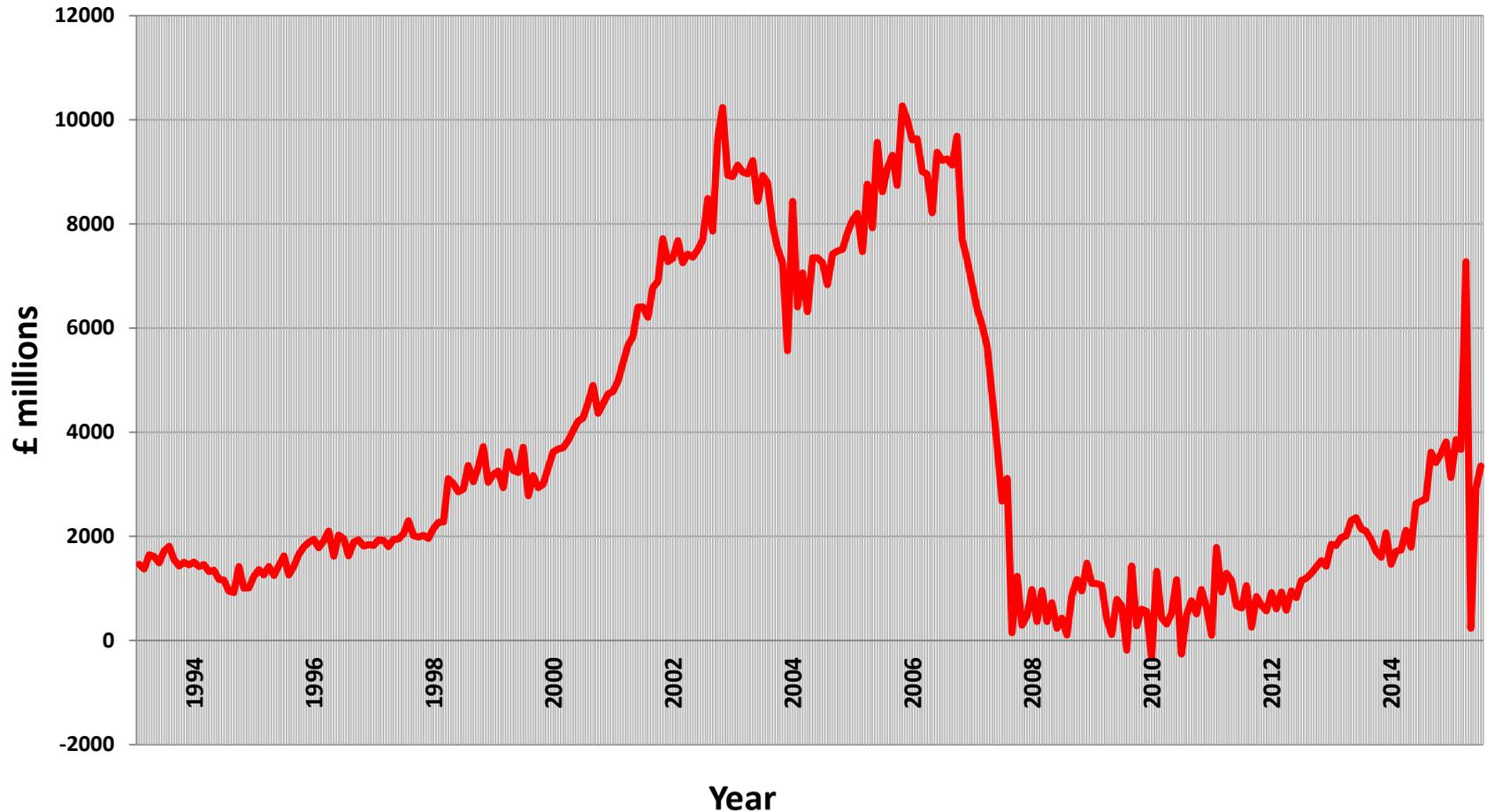
Bank lending to property market

UK House Prices 1997 - 2014



ONS, Nationwide and BoE

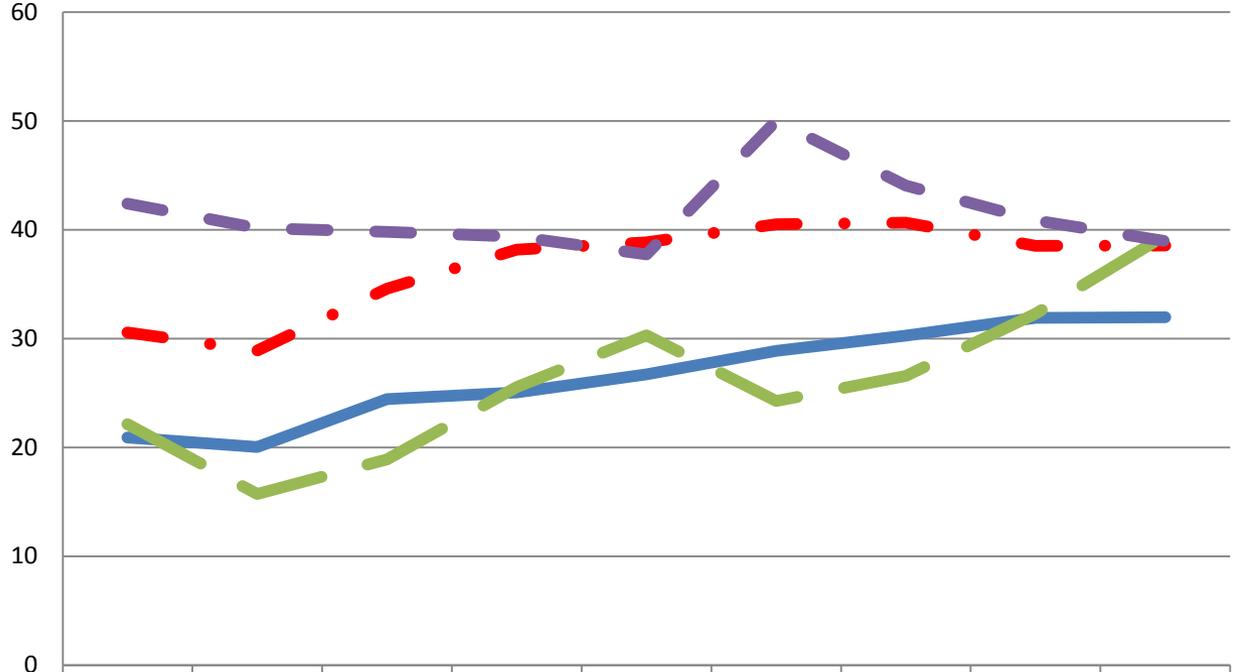
Monthly net change in UK mortgage lending 1994 – 2016



Source: Bank of England

Balance sheet composition – largest UK lenders 2007 - 2015

Retail mortgages as % of balance sheet



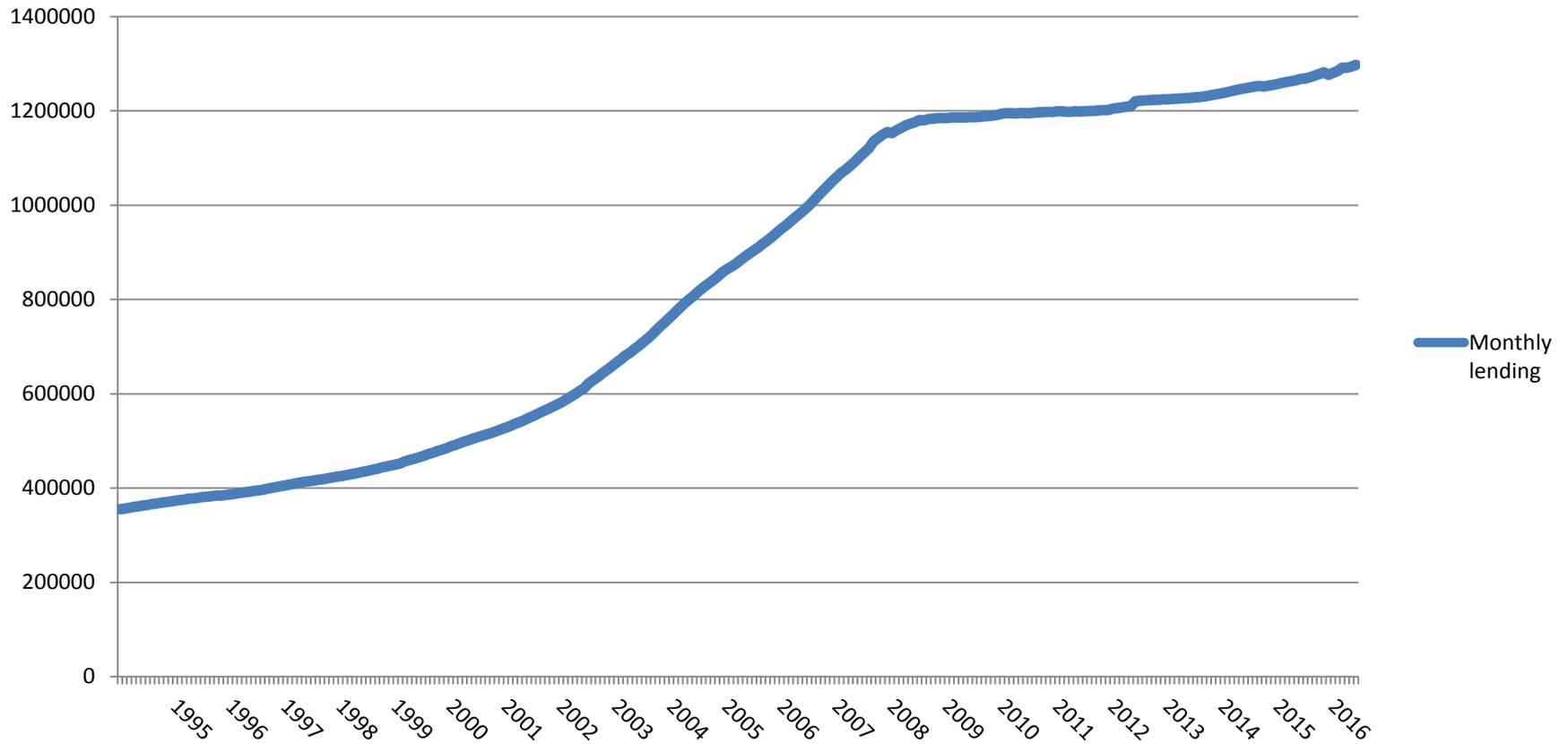
	2007	2008	2009	2010	2011	2012	2013	2014	2015
HSBC	20,92	20,03	24,45	25,05	26,72	28,87	30,27	31,92	31,97
BARCLAYS	30,57	28,91	34,6	38,17	38,85	40,53	40,66	38,54	38,57
RBS	22,15	15,74	18,9	25,55	30,31	24,27	26,58	32,3	39,49
LLOYDS	42,41	40,18	39,82	39,39	37,74	50,02	44,07	40,88	38,98

Source: Bankscope, annual reports & author's calculations

Gross yearly mortgage lending 1994-2016

Source: BankStats

Monthly lending



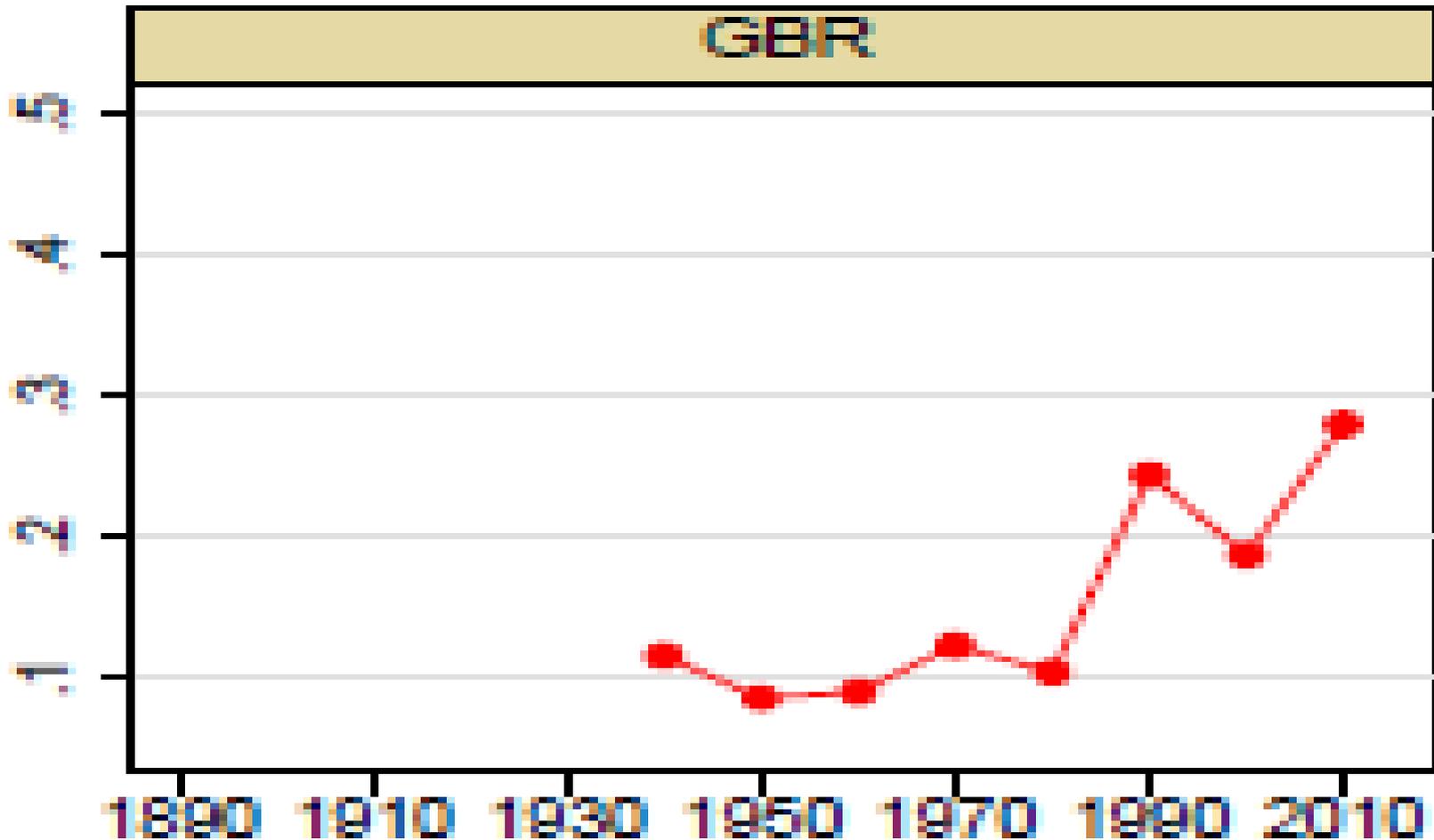
Halifax House Price Index

- Prices in the three months to July (2016) were 8.4% higher than in the same three months of 2015

House Price Earnings Ratio



UK average LTV 1940 – 2010: Jorda, Taylor & Schularick 2014



Central bank objectives (modern)

- Monetary (price) stability
- Support policies of government eg. Bank of England Act 1998 s.11
- Financial stability (prudential supervision, payments systems and LOLR) – PRA & FCA
- Enhance welfare
- (Necessarily political & often conflicting aims)

Bank of England

- Financial Services Act 2012 created FPC:
- *“identification of, monitoring of, and taking action to remove or reduce systemic risks with a view to protecting and enhancing the resilience of the UK financial system”*

Interest rate

- Taylor Rule not applicable only to real estate ('Great Moderation')
- Moreover, extraordinary monetary policy has resulted in rates at ZLB across developed world
- This means that using interest rate tool as lever to counteract credit growth is redundant

Macroprudential tools

- Goodhart et al (2013) on limits to the fallout from defaults in the housing market:
 - (i) limits on LTV and LTI;
 - (ii) higher capital requirements;
 - (iii) increased liquidity coverage ratios;
 - (iv) dynamic loan loss provisioning; and
 - (v) margin requirements on repo transactions
- Other possible solutions include:
 - Leverage ratios (Avgouleas and Cullen 2015)
 - Abolishing shadow banks (see Ricks, 2013)
 - Risk-weight floor for mortgages & mortgage securities eg. Sweden has 15% floor

Specific Housing Tools:

The Financial Policy Committee's powers over housing tools – January 2015

- Debt-to-income
 - now includes both secured and unsecured debt.
 - Only 15% of mortgages of any issuer to exceed 4.5 times LTI
- Loan-to-value:
 - **Not yet imposed**
- Buy-to-let
 - *Supervisory Statement SS13/16: Underwriting standards for buy-to-let mortgage contracts: Sept 2016*

Other considerations

- QE
- Bankers' Incentives (see Cullen 2014; Avgouleas & Cullen 2014; Avgouleas and Cullen 2015)
- Repo – both central bank and interbank

Other considerations (II)

- “Help to Buy” (ends for existing properties end-2016)
- “Government lends you up to 20% of the cost of your newly built home, so you’ll only need a 5% cash deposit and a 75% mortgage to make up the rest.
- “To reflect the current property prices in London, from February 2016 the Government is increasing the upper limit for the equity loan it gives new home-buyers within Greater London from 20% to 40%.”

London

[click here to return to commentary](#)

London Boroughs	Price in 2014 Q1	% change over 10 years	Annual % change last quarter	Annual % change this quarter
Barking and Dagenham	£215,110	25%	9%	10%
Barnet	£395,354	51%	9%	11%
Bexley	£265,393	37%	7%	12%
Brent	£465,502	73%	23%	31%
Bromley	£324,872	50%	11%	17%
Camden	£729,569	106%	13%	10%
Croydon	£276,560	36%	11%	14%
Ealing	£428,766	55%	8%	13%
Enfield	£319,901	39%	11%	12%
Greenwich	£341,990	55%	18%	16%
Hackney	£547,075	123%	19%	23%
Hammersmith and Fulham	£705,695	119%	25%	21%
Haringey	£480,715	82%	12%	23%
Harrow	£334,332	41%	4%	8%
Havering	£248,603	36%	6%	10%
Hillingdon	£318,640	32%	9%	11%
Hounslow	£379,000	49%	8%	14%
Islington	£643,784	111%	16%	21%
Kingston upon Thames	£397,716	60%	3%	12%
Lambeth	£496,729	93%	23%	30%
Lewisham	£373,881	77%	16%	22%
Merton	£439,533	66%	19%	23%
Newham	£300,428	55%	10%	14%
Redbridge	£303,834	34%	7%	12%
Richmond upon Thames	£493,992	68%	10%	10%
Southwark	£514,266	99%	16%	26%
Sutton	£298,577	39%	12%	12%
Tower Hamlets	£513,751	75%	15%	23%
Waltham Forest	£339,610	66%	17%	21%
Wandsworth	£582,552	92%	16%	21%
Westminster	£855,078	118%	18%	18%

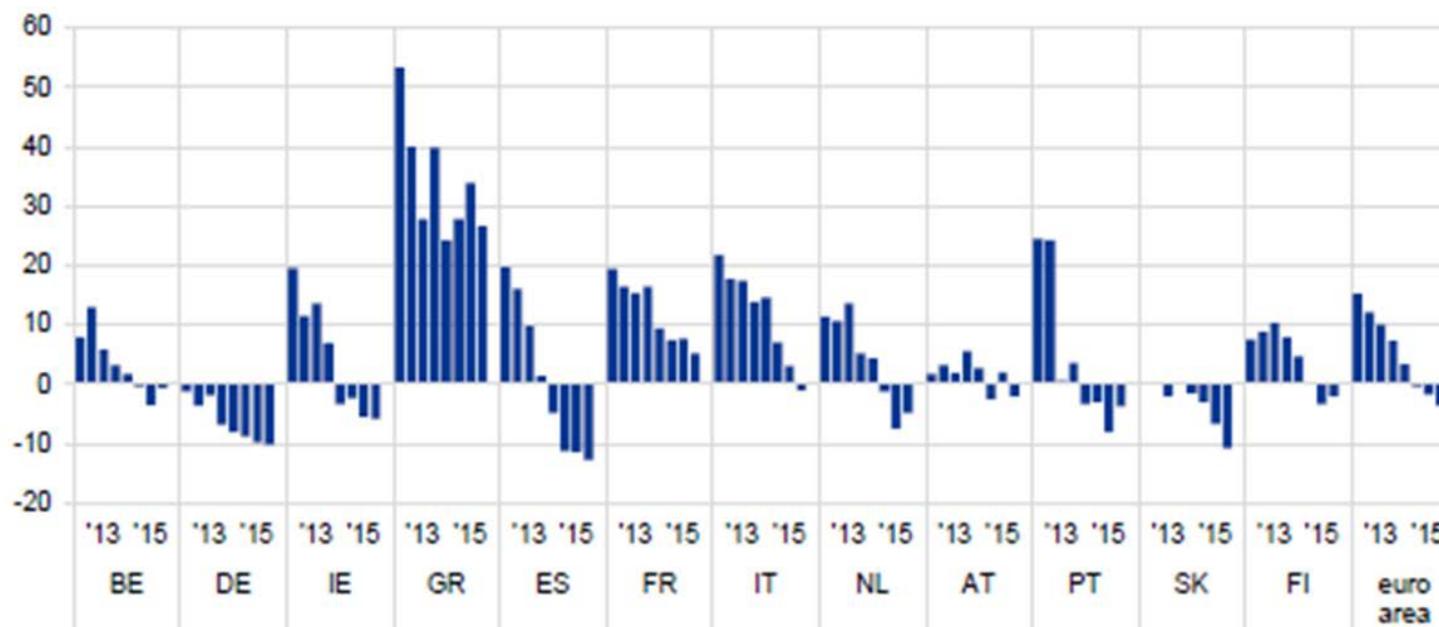
Note: City of London and Kensington & Chelsea excluded due to low sample size

CMU needed for SMEs?

ECB, 2016

Change in the external financing gap perceived by SMEs across euro area countries

(over the preceding six months; weighted net balances)



Conclusion (I)

- Securitization (STS) in of itself may be welfare-enhancing, and increase credit flows, which are badly needed in some areas of Europe (although balance sheet repair in some countries may take precedence over new credit)
- Securitization is likely, however, to increase capital flows to real estate, especially due to favourable treatment in RW process vis a vis corporate loans and internal modelling
- So, even if the days of ‘toxic’ subprime mortgages are over, this is likely to push house prices up further, and perhaps lead to bubbles, even in the absence of flawed incentives for poor due diligence, increased transparency etc
- Importantly, the channel through which bubbles in house prices are blown up and maintained is partly irrelevant, at least in diagnosis; in other words:
 - **Irrational exuberance affects BOTH SUPPLY AND DEMAND**

Conclusion (II)

- If key aim of CMU is to kickstart business lending, is it plausible that mortgages should be excluded from securitization?
- In the presence of ring-fenced banks, this is even more pressing a concern
- Risk-weight floors; countercyclical buffer (poss. too political)
- Can strict leverage ratios achieve this aim (assuming off-balance sheet activity is caught)?
- What effects will this have on liquidity regs? New securitization of mortgages may lead to less robust liquidity at banks if those mortgages substitute other forms of funding, although LCR at present partially negates this (securitized mortgages = level 2 HQLA)

Conclusion (III)

- Negative externalities from restricting securitization:
 - Preventing banks from securitising mortgages likely to reduce credit for business investment
 - Reducing mortgage leverage might help
 - Combination of approaches important

Thank you