Thoughts on the macroprudential loss function: Targeting house prices?

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Outline: Should we target house prices?

- **Stuck record**: show me your loss function
- **Answer:** no, but I like the question
- **Tedious terminology:** micro- vs macro-prudential and all that
- **The prudential angle**: protecting the banks from the housing market
- **Many macro reasons**: protecting the housing market from the banks
- **The King Canute problem**: don’t target something you can’t control
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The scientific approach to monetary policy

Understand the system and identify market failures (i.e., write down the model(s))

⇩

Specify the objectives of regime (write down the loss function consistent with that model)

⇩

Use model to select instruments and estimate transmission mechanism

⇩

Take decisions

The artistic approach to macroprudential policy

Select instruments, largely based on the microprudential toolkit

⇩

Take decisions based on intuition (using the model / objectives in policymakers’ heads)

⇩

Implicitly define objectives by precedent

Show me your macroprudential loss function

- **Define high level objectives**
  - Systemic perspective on the resilience of the banks / financial system
  - Smooth provision of core financial services / debt stocks / risk premia
- **Define concepts**
  - Resilience? Financial system? Core financial services? Provision?
- **Define targets**
  - Optimal failure rate ? provision of core financial services? stock of debt?
- **Define loss**
  - What is the welfare loss when outcomes deviate from the targets?
  - Is the loss symmetric?
  - What is the relative importance of resilience versus credit smoothing?
  - How do we incorporate micro concerns?

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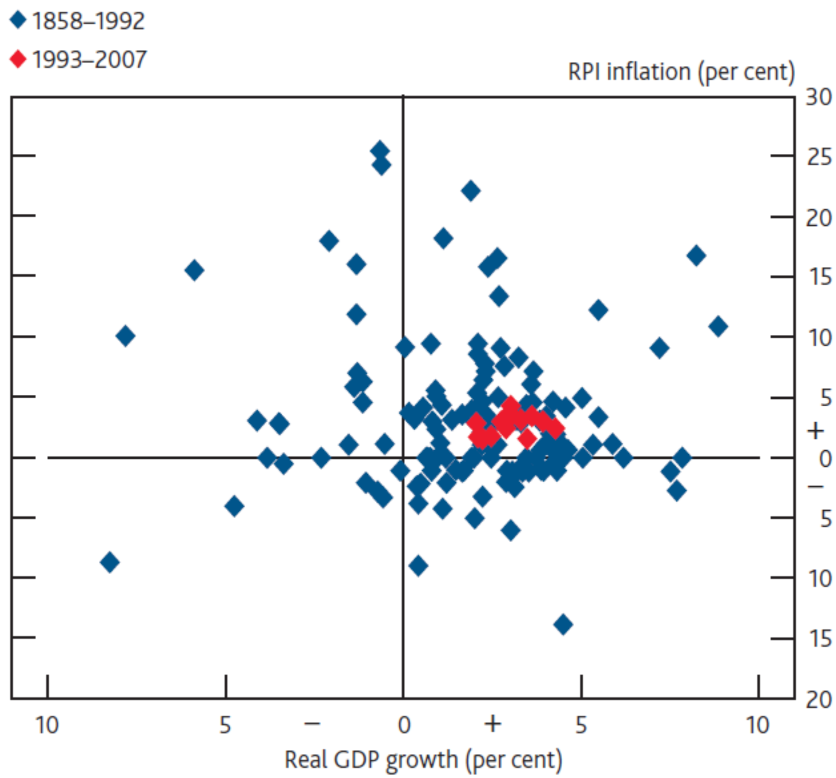
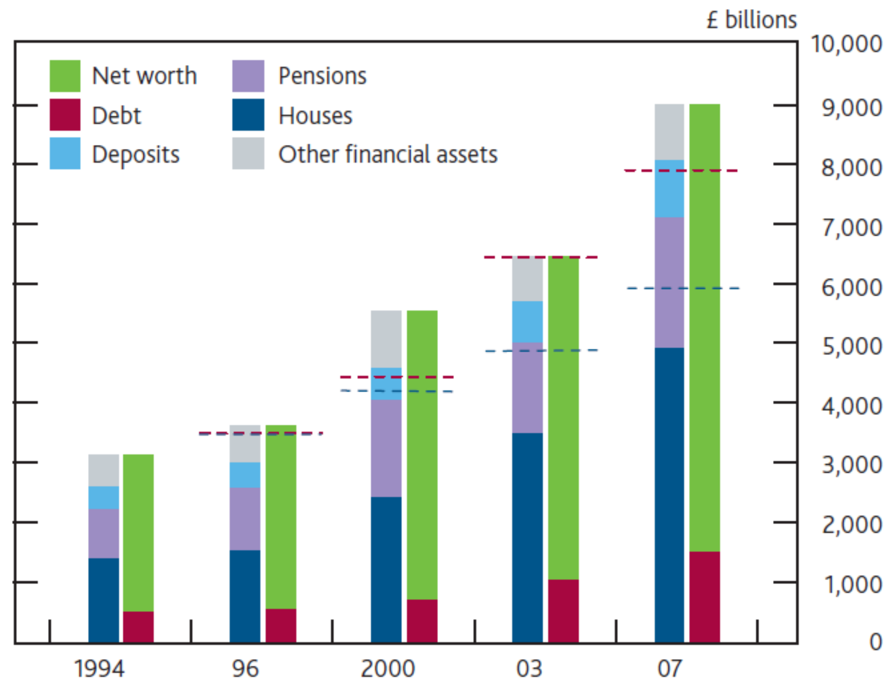
The Great Moderation from two perspectives

UK growth and consumer price inflation outcomes



UK household balance sheet



- **Macroprudential focus on housing is encouraging**
- **We need to worry about this next time around, when arguments of monetary policy loss function are stable but credit flows, debt stocks and asset prices are not**
- **Not necessarily just from a short-term banking system resilience perspective**

Answer: no, but I like the question

- **Focus on objectives / loss function is positive but ….**
- Clear sequencing in solving the design problem
  - Understand the system (conventional business cycle macro); then
  - Specify broad objectives (price stability); then
  - Define and calibrate target (2% HICP target)
- We don’t have a ‘fit for purpose’ GE model of the system.
- Consider our chosen problem: housing market and macroprudential policy
  - Behaviour of multiple banks, millions of households (and construction companies?)
  - Need to explain evolution of lending, house prices, mortgage debt and activity at the macro *and micro* level
  - Need to explain incidence of distress & default at micro level (households and banks) and implications thereof
  - Captures impact of monetary, micro-pru and macro-pru policy interventions
- Not clear what the objective is in regulating this system….
- **So we are not ready to talk about targets**

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Tedious terminology

(1) **Microprudential interest**

- Protect individual banks from the housing market

(2) **Macroprudential interest**

Once you *think* you have achieved (1)….

- Protect banking system from the housing market; or
- Protect financial system from the housing market

(3) **Macroprudential interest**

- Protect housing market from the financial system

I am going to assume we are talking about (2) and (3)

I am going to focus purely on residential property prices

…..even though commercial property may be just as important

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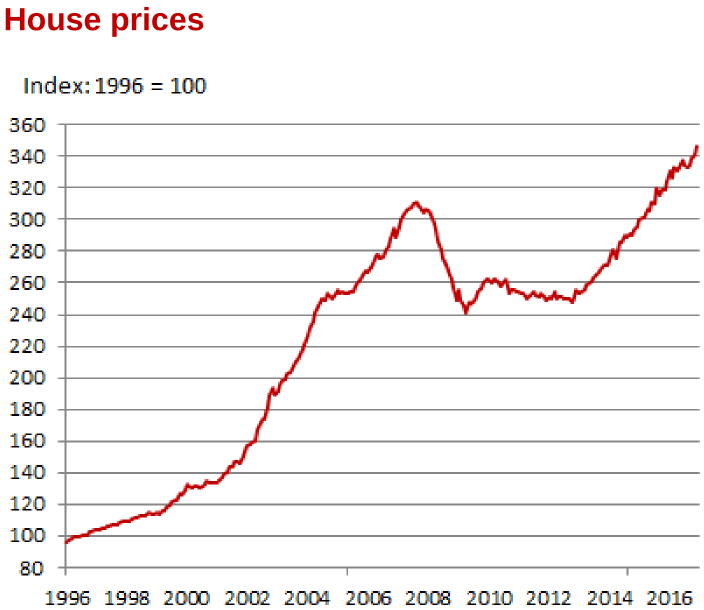
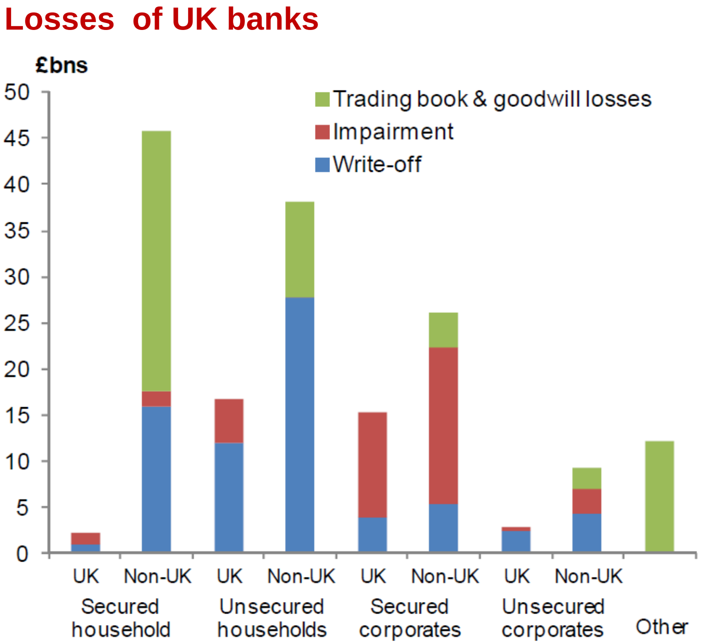
- **Practical concerns:** accountability and equity

Prudential justification for intervention

- **Housing and financial crises**
  - Plenty of evidence of a link between boom and bust in the housing market and subsequent problems in the banking sector
  - Makes perfect sense given gross size of exposure to property and scope for positive feedback through lending secured on property
- **Lesson already learned from the crisis**
  - Turns out 125% LTV mortgages are not a great idea
  - Supervisors conscious of the risks of exuberant lending behaviour
  - Lenders forced to apply credible affordability tests at origination
    - Fundamental tension between resilience and equity?
  - Stress tests will habitually include losses on mortgage book
- **What else needs to be done here?**
- **Would be good to be clear about *why* this cycle keeps repeating?**
  - Is it a remuneration problem encouraging too much risk taking? a coordination problem punishing prudence? Old fashioned exuberance?

UK's housing boom and banking bust





- Decade-long housing boom but limited losses on **UK** residential mortgage book
- Sure, ultra loose monetary policy and forbearance helped to suppress write offs and we need to worry about implications of mortgage book for resilience via funding, as well as the narrow focus on solvency
- But episode is a useful reminder that house prices are not a sufficient statistic of the **prudential** risks from the residential mortgage book ….
- So if we are looking for an appropriate summary statistic of the threat to define the target then we should look elsewhere

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Many macroprudential reasons

- **We need to know why we care about house prices – beyond the prudential motive – if we want to include them in the mandate**

  ### Micro concerns

  - lean against volatility in net worth and ultimately the incidence of default among a subset of the population

  ### Macro concerns – aggregate demand

  - lean against volatility in aggregate demand that results from boom and in particular bust in the housing market

  ### Macro concerns – aggregate supply

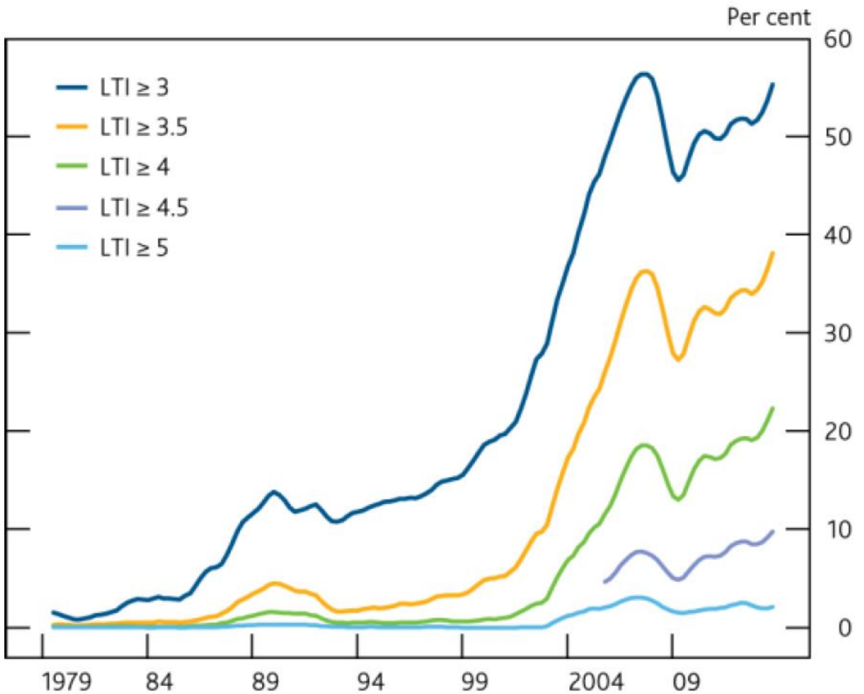
  - lean against the misallocation of resources that boom and bust in the housing market can generate

- **Self evident these concerns are unlikely to lead to identical policy response, or even the choice of policy lever**

A real-world example of macroprudential policy – FPC intervention in mortgage market

- Financial Policy Committee (FPC) in the UK introduced a restriction on mortgage lending at multiples above 4.5 times income.
- Intervention primarily justified on grounds of economic stability (i.e., macro – aggregate demand)
- FPC was concerned that if the household sector became over-indebted then any future negative shock would lead to a sharper downturn in aggregate demand
- Implicitly the FPC was taking action today to reduce the load on the MPC in a future downturn
- Might be sensible but a pretty elastic interpretation of a prudential remit

New mortgages advanced for house purchases by loan to income (LTI) ratio



Sources: FCA Product Sales Data (PSD) and Bank calculations.

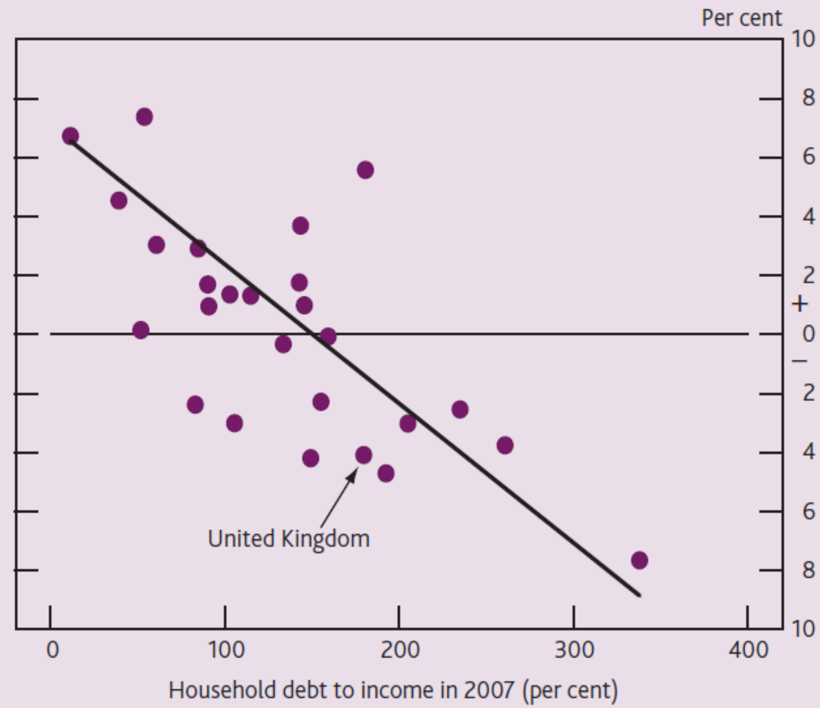
What the BoE said about what it did…..

what this chart does is just plots the level of household debt across a whole range of countries and the extent to which consumption fell following the financial crisis. And you can see there's a quite strong correlation - those countries which had the highest levels of household debt have also seen the sharpest falls in household consumption. And this is just the aggregate implications of what we're talking about here. There's much micro evidence and macroeconomic evidence that highly indebted households, in response to shocks - be it income shocks or interest rates shocks - respond disproportionately in terms of cutting back that spending, generating economic instability and hence financial instability

BoE Chief Economist, June 2014

Chart B Higher household indebtedness was associated with sharper falls in consumption during the crisis

Adjusted consumption growth over 2007–12[(a)]



Sources: Flodén, M (2014), 'Did household debt matter in the Great Recession?' and OECD National Accounts.

(a) Change in consumption is adjusted for the pre-crisis change in total debt, the level of total debt and the current account balance. See www.martinfloden.net.

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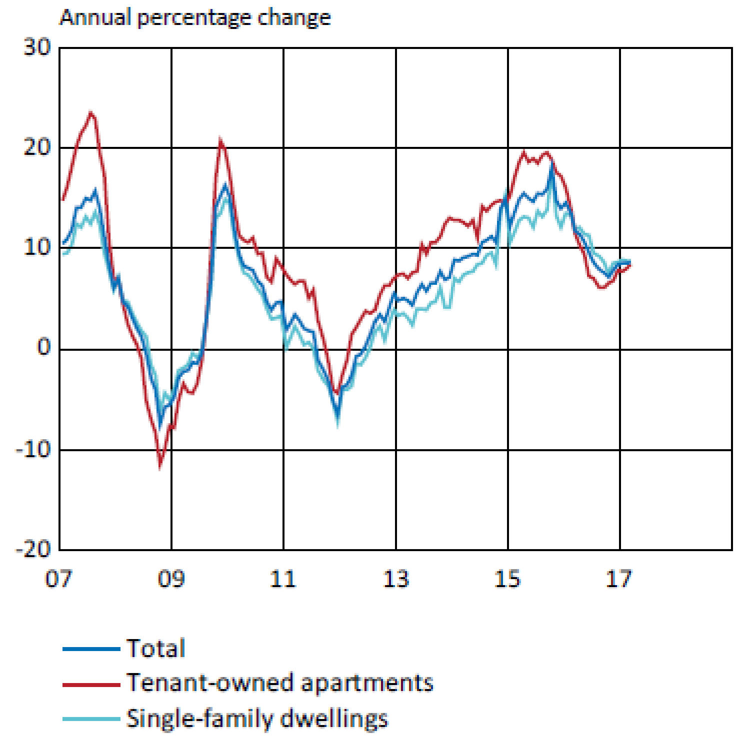
King Canute and the futility of holding back the tide

Let all the world know that the power of kings is empty and worthless and there is no King worthy of the name save Him by whose will heaven and earth and sea obey eternal laws

The King Canute problem:
Don’t target something you can’t control

- Central banks and regulators can use a set of levers to influence house price
- Sceptical that those levers – short-term policy rate, risk weights on loans or LTI caps – can be used to control house prices
- Best hope lies in proper fiscal levers
- Still a struggle to fight the rising tide of exuberant expectations of future income and future house prices
- Towbin and Weber (2015): 30% of the US house price boom from 1996-2006 was driven by house price expectations, primarily driven by ‘animal spirits’ not fundamentals

Swedish house price inflation



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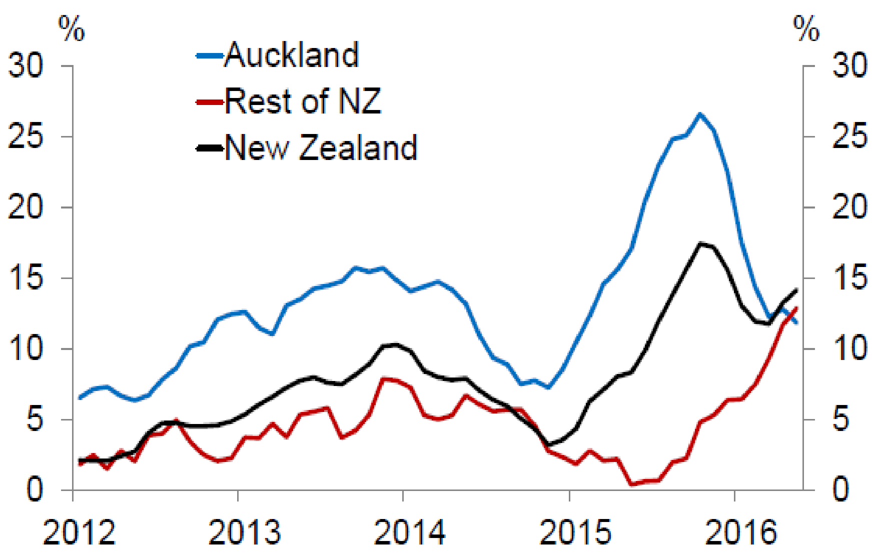
The *real* King Canute problem:
a k% target doesn't make sense

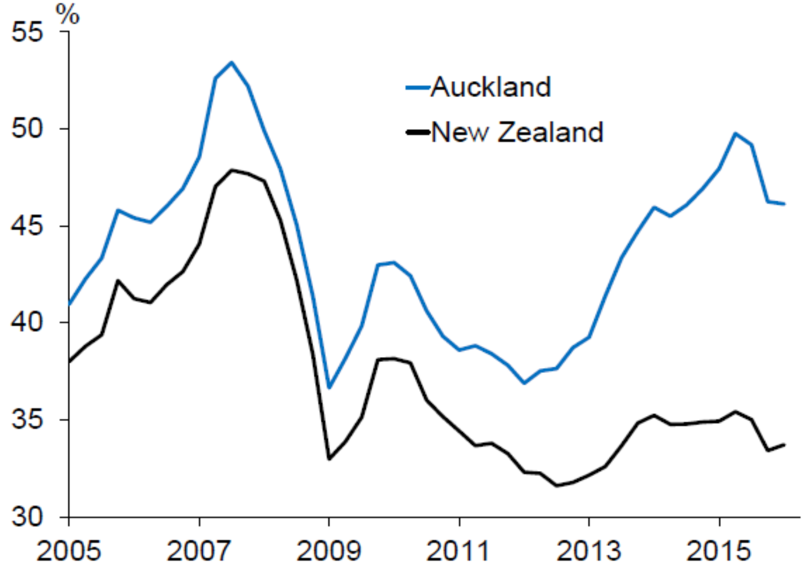
- Fundamental drivers of real house prices
  - Short, medium and potentially long term risk-free rates
  - Quantity (and quality) of housing stock (hence planning system)
  - Demography – size of population, household formation, etc.,
  - (expectations of) Permanent income
  - Fiscal incentives: guarantees, tax relief on mortgage interest
- No reason to suppose that house price inflation should be stable at k% if central bank hits inflation target *and* financial cycle is stable
- Ideal world: target accommodates sustainable shifts in the level of real house prices – the level drives PD and LGD – but not 'froth' from financial cycle
- Delivering crude k% target is likely to involve welfare losses that need to be set against gains from reduced probability and severity of crises
- Stuck record: We need a proper loss function to evaluate this policy

The *real* King Canute problem:
a national target probably doesn't make sense either

House price inflation
3 month moving average



Debt servicing ratios for new buyers
% of gross household income



- If you thought that explaining, forecasting and regulating house prices at the national level was hard enough ….
- You probably need a more granular focus – in theory, your house price target probably ought to vary across regions….

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Practical problems: accountability and equity

- The macroprudential regime is in its infancy. Since we don't understand the system, can't reliably model future risks to financial stability and aren't clear on objectives then the conduct of policy is opaque
- A house price target is a risky proposition in this environment. Politicians, market participants and the general public *can* monitor house prices.
- If the one thing everyone understands about macroprudential policy is that it is there to stop boom and bust in the housing market, or worse still, to achieve a numerical house price target, then that is how people will evaluate the regime
- Policymakers will be expected to respond in periods when house prices are rising rapidly, even if policymakers do not believe there is a threat to resilience
- At this point, policymakers are damned if they do, and damned if they don't. There is a risk here to the credibility of the regime and policy institutions
- Classic problem with rules-based policy when the rule is known to be wrong. Don't be held accountable for something you don't want to do

Practical problems: accountability and equity

- Macroprudential policy can have a clear equity (redistributive) dimension and interventions in the housing market are a case in point
- Rising house prices do not lead to an increase in household wealth, but they do redistribute: homeowners gain at the expense of those who rent and the young. Policy interventions which influence house prices will therefore have a clear redistributive aspect
- Past experience suggests that politicians are sensitive to concerns about the ‘right’ to home ownership, affordability of housing, access to credit. Policy interventions which are designed to lean against a relaxation in supply that benefits those on the margins of the market (a.k.a. NINJA loans) may prove controversial
- Politicians are not insensitive to the concerns of homeowners over their net worth so policies which explicitly depress house prices may grab headlines too
- Macroprudential interventions in the housing market are inherently political so policymakers need the protection of a transparent and credible remit

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