



## Promoting Financial Stability: ie Roles of Macroprudential and Monetary Measures

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### Points

1. Monetary policy cannot achieve and maintain financial stability; leaning against the wind has costs much larger than benefits; there is thus no choice but to use macroprudential policy for financial stability; and monetary policy should not have financial stability as an objective
2. Monetary and macroprudential policies are very different, with different objectives, suitable instruments, and (sometimes) responsible authorities; normally they are best conducted separately
3. Macroprudential policy may be quite effective in achieving resilience of both lenders (banks) and borrowers (households)
4. In the rare case that monetary policy would pose a threat to financial stability, the macroprudential authority should judge and warn if necessary; then the monetary policy authority should decide whether or not to adjust monetary policy



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### 1. Monetary policy cannot achieve and maintain financial stability; should not have financial stability as a goal 1

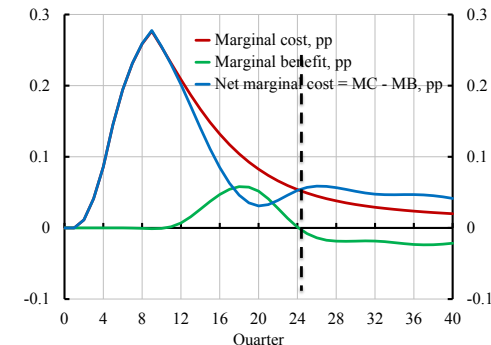
- Financial stability requires sufficient resilience of the financial system, including sufficient resilience of lenders and borrowers in the credit market
- There is no way monetary policy can achieve that resilience
- Leaning against the wind (LAW) has costs in terms of higher unemployment and lower inflation in a non-crisis but, especially, also in a crisis, since the cost of a crisis is higher if the economy is weaker due to LAW
- LAW may have benefits in the form of a lower probability or severity of a crisis
- Empirically, the effect of the policy rate on the probability or severity of a crisis is very small, so costs are much larger than benefits (IMF 2015, Svensson 2016)
- Therefore, there is no choice but to use macroprudential policy for financial stability
- Economic policies should only have goals that they can achieve
- Monetary policy should not have financial stability as a goal



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### 1. Monetary policy cannot achieve and maintain financial stability; should not have financial stability as a goal 2

- Marginal cost of policy-rate increase much larger than marginal benefit; net marginal cost large
- Also if negative marginal benefit beyond quarter 24 is disregarded



Svensson (2016), “Cost-Benefit Analysis of Leaning Against the Wind : Are Costs Larger Also with Less Effective Macroprudential Policy?” IMF Working Paper WP/16/3.



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## 1. Monetary policy cannot achieve and maintain financial stability; should not have financial stability as a goal 3

- Jeremy Stein (2013), best *theoretical* case:  
“[W]hile monetary policy may not be quite the right tool for the job, it has one important advantage relative to supervision and regulation – namely that [the interest rate] **gets in all of the cracks.**”
- But *empirical* evidence indicates that **a modest policy-rate increase will barely cover the bottom of those cracks**
- To fill the cracks, the policy rate would have to be increased so much that it might kill the economy



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## 2. Monetary and macroprudential policies are very different and should normally be conducted separately

- Monetary and macroprudential policies (MoP and MaP) are very different, with different goals and different suitable instruments
- MoP much more effective in achieving MoP goals
- MaP much more effective in achieving MaP goals
- In normal times (crisis-prevention) best conducted separately (also when conducted by same authority), but each well informed about the other (Nash equilibrium, not coordinated equilibrium, Bean 2014)
- Efficiency and accountability aspects support separation
- Two clean models that should work well: UK (MPC and FPC within BoE) and Sweden (Riksbank and FSA)
- In crisis times (crisis management), full cooperation between relevant authorities: MoF, CB, FSA, bank-resolution and deposit-insurance authority(ies), ...

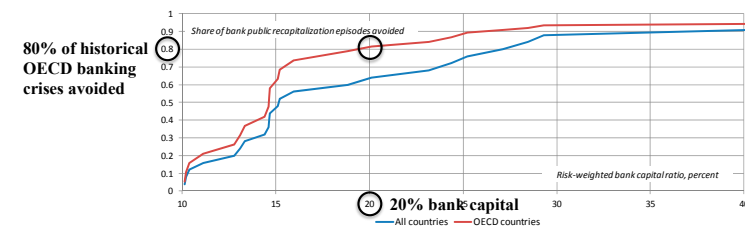


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## 3. Macroprudential policy may be quite effective in achieving resilience of both lenders (banks) and borrowers (households) 1

- 20% bank capital relative to RWA might have avoided 80% of the historical banking crises in OECD since 1970 (Dagher, Dell’Ariccia, Laeven, Ratnovski, and Tong, IMF SDN 16/04)

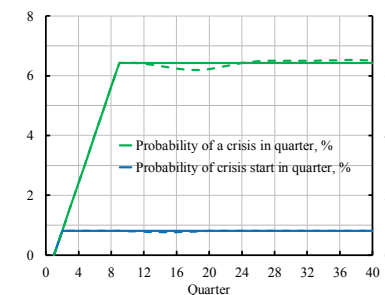
Figure 7. Share of Public Recapitalizations Avoided, Depending on Hypothetical Precrisis Bank Capital Ratios



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## 3. Macroprudential policy may be quite effective in achieving resilience of both lenders (banks) and borrowers (households) 2

- Compare with the small and temporary reduction of the probability of a crisis from a higher policy rate (leaning against the wind)
- Solid lines: Without leaning against the wind
- Dashed line: With leaning against the wind



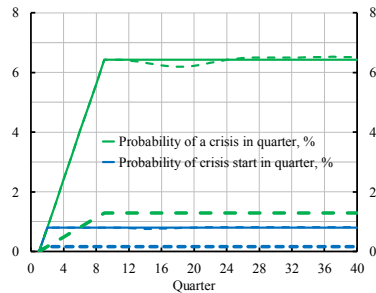
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### 3. Macroprudential policy may be quite effective in achieving resilience of both lenders (banks) and borrowers (households) 2

- Compare with the small and temporary reduction of the probability of a crisis from a higher policy rate (leaning against the wind)
- Solid lines: Without leaning against the wind
- Thin dashed line: With leaning against the wind
- Thick dashed line: 80% reduction of probabilities from 20% bank capital**



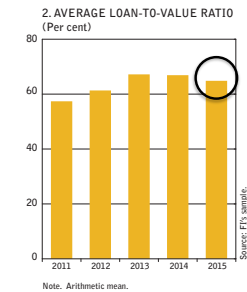
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### 3. Macroprudential policy may be quite effective in achieving resilience of both lenders (banks) and borrowers (households) 4

- Sizable average down payments of new borrowers:  
Average LTV ratio of new borrowers 65%,  
so **average down payment for new borrowers is 35%**



Finansinspektionen (The Swedish FSA), "The Swedish Mortgage Market," April 2016



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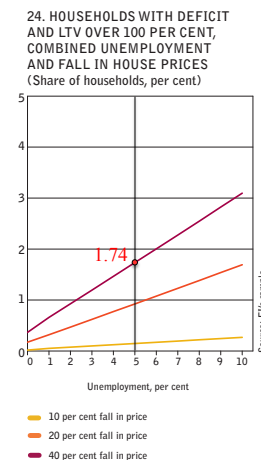
### 3. Macroprudential policy may be quite effective in achieving resilience of both lenders (banks) and borrowers (households) 3

- Swedish FSA: **No "inaction bias"**
  - LTV cap 85% (October 2010)**
  - Risk-weight floor for mortgages 15% (May 2013)
  - LCR-regulation (Basle 3, USD, EUR, total) (Jan 2014)
  - Pillar II capital add-on 2% for 4 largest banks (Sep 2014)
  - Risk-weight floor for mortgages 25% (Sep 2014)
  - Systemic buffer 3% for 4 largest banks (Jan 2015)
  - CCyB activated at level 1% (Sep 2015)
  - Amortization requirements (Jun 2016)
  - CCyB raised to 1.5% (June 2016)
  - CCyB raised to 2.0% (March 2017)
- Current capital requirements for 4 largest banks 22% of RWA (17% CET1)**
- Annual Mortgage Market Report w/ stress tests on individual household data: Monitoring lending standards of lenders and loss-absorbing and debt-service capacity of borrowers**



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### 3. Macroprudential policy may be quite effective in achieving resilience of both lenders (banks) and borrowers (households) 5



- Stress tests on individual household data: Severe shocks
  - Unemployment increase from 0 to 5% (requires economy-wide increase of more than 5 pp)
  - Housing prices fall by 40%
- What fraction of new borrowers (1) have problems servicing their debt (a deficit in a "left to live on" analysis) and (2) are underwater?
- Answer: 1.7%**

Finansinspektionen (The Swedish FSA), "The Swedish Mortgage Market," April 2016



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#### 4. What if monetary policy would pose a threat to financial stability?

- BoE model, Aug 2013, forward-guidance promise
- 3<sup>rd</sup> knockout: FPC would judge that monetary policy poses a significant threat to financial stability that the FPC cannot contain with its instruments
- It should be the macroprudential authority, not the monetary policy one, to make the judgment and to warn if necessary
- Monetary policy authority may then decide whether to adjust monetary policy or not
- Preserves independence of monetary policy, although some element of “comply or explain”
- Without such a warning, monetary policy should not deviate from its goals



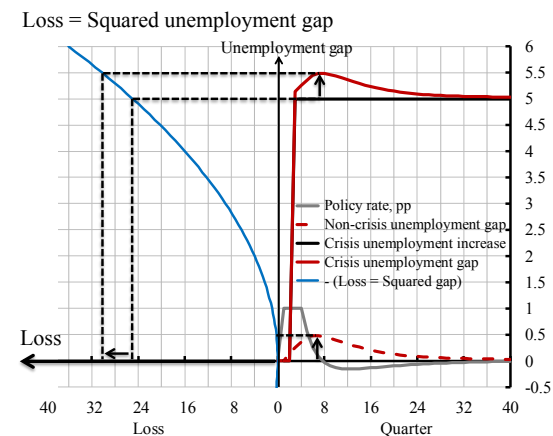
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#### Extra slides



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#### Cost: Unemployment gap in non-crisis and in crisis, for 1 pp higher policy rate for 4 quarters (Riksbank estimates)



- Noncrisis:  
Unemployment gap:  
From 0 to 0.5 pp  
Loss: From 0 to 0.25  
Loss increase: 0.25
- Crisis:  
Unemployment gap:  
From 5 to 5.5 pp  
Loss: From 25 to 30.25  
Loss increase: 5.25
- Additional cost of LAW:  
Crisis loss increase is 11 times  
non-crisis loss increase



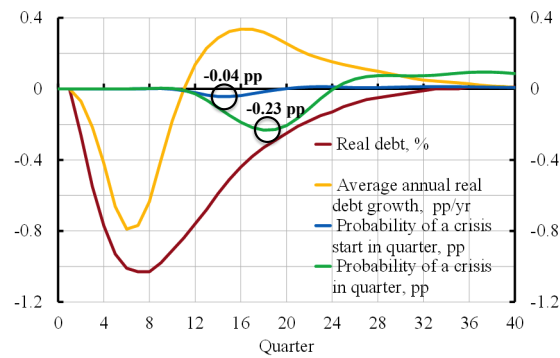
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## Compare with the small and temporary reduction of the probability of a crisis from a higher policy rate



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## Swedish model

- Gov't Aug 2013: New strengthened framework for financial stability
- Swedish FSA (Finansinspektionen)
  - Main responsibility for financial stability
  - All micro- and (with some lag) macroprudential instruments
  - Boundary between macro- and microprudential policy unclear, especially in Sweden (oligopoly of 4 banks dominate financial sector)
  - Efficiency and accountability: Micro- and all macroprudential policy together, in one authority
  - But legal authority to use all instruments has been lagging
- Riksbank
  - No macroprudential instruments, only lending of last resort during crisis management
- Financial Stability Council
  - Members: MoF (chair), FSA, NDO (bank-resolution and deposit-insurance authority), RB
  - Forum for exchange of information and discussion, not decisions
  - Published minutes, reports from workgroups
  - The FSC will lead crisis management in crisis



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## Distinguish central banks and monetary policy 1

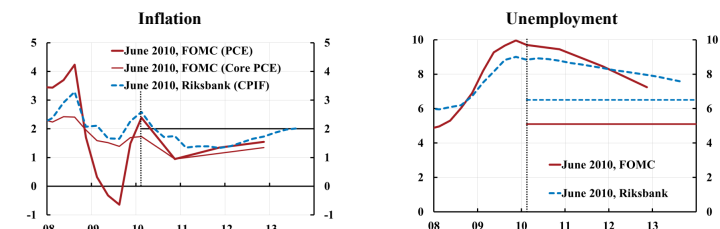
- Should *monetary policy* have financial stability as a goal? **No**
- Should *central banks* have financial-stability as a goal?
  - Depends on whether the central banks have suitable instruments
  - *Crisis management*: Yes, since CBs have lending of last resort (liquidity support)
  - *Crisis prevention*: Depends of whether CBs have suitable instruments
    - Riksbank example: No crisis-prevention instruments; should hence not have a financial-stability mandate for crisis prevention and normal times, only for crisis management



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## Background:

### Fed and Riksbank forecasts June 2010



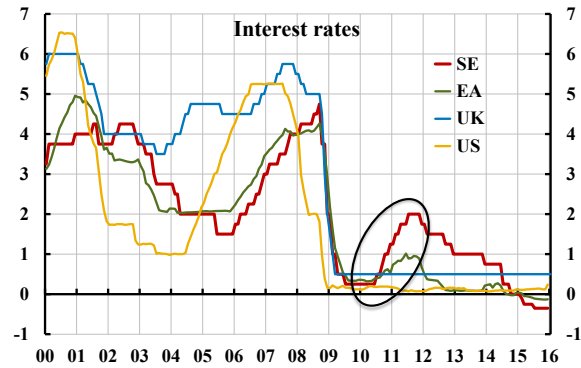
- Riksbank and Fed forecasts quite similar
- Policies very different
  - Fed: Continue to keep policy rate between 0 and 0.25%, forward guidance, prepare QE2
  - Riksbank: Start raising the policy rate from 0.25 to 2% in July 2011
  - Should the Fed have followed the Riksbank example?

Source: Svensson, Lars E.O. (2011), "Practical Monetary Policy: Examples from Sweden and the United," *Brookings Papers on Economic Activity*, Fall 2011, 289-332.

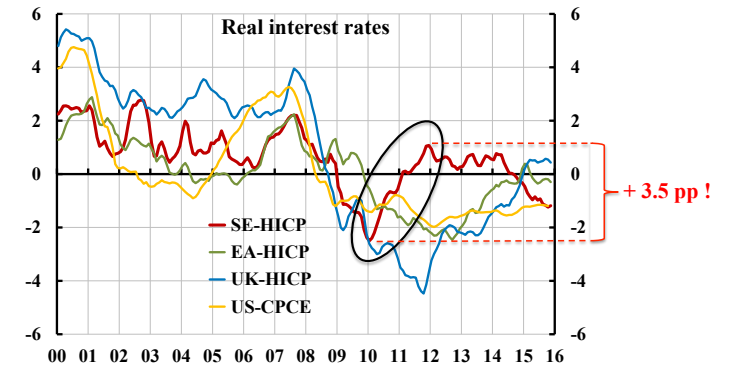


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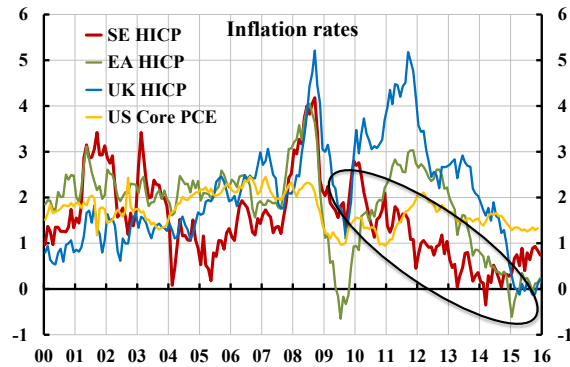
## Background: Large and rapid increase in Riksbank policy rate 2010-2011



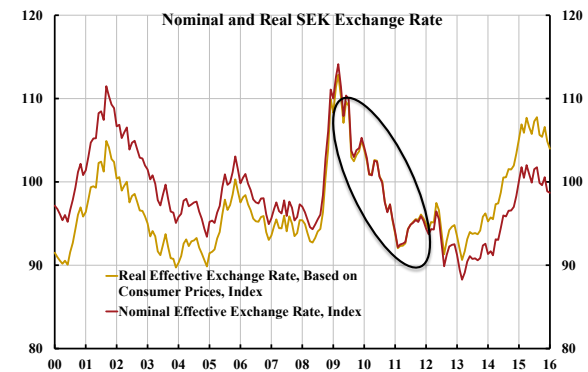
## Riksbank real policy rates increased even more, causing large real interest-rate gap to Eurozone, UK, and US



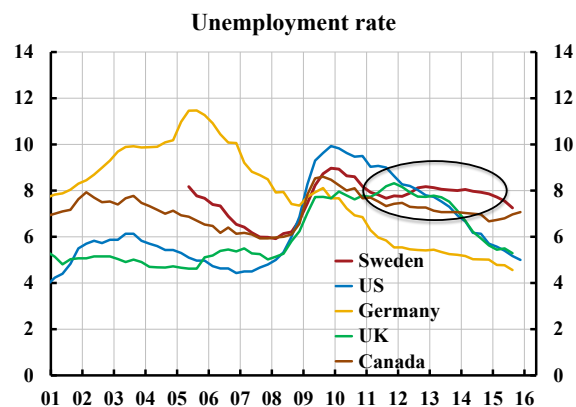
## Swedish inflation fell rapidly



## Swedish Krona appreciated dramatically

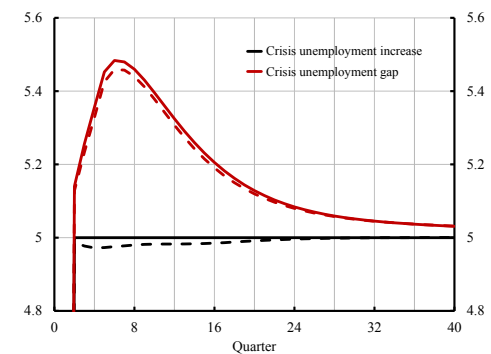


## Swedish unemployment stayed high



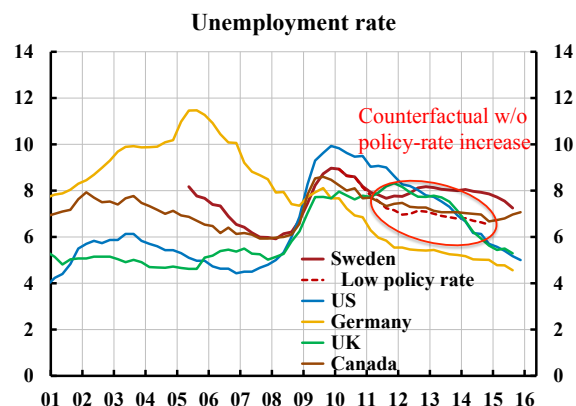
## Benefit: Less deep crisis?

- Using Flodén (2014): 1 pp higher DTI ratio 2007 is associated with 0.02 pp higher unemployment increase 2007-2012 in OECD
- From solid to dashed, hardly noticeable effect



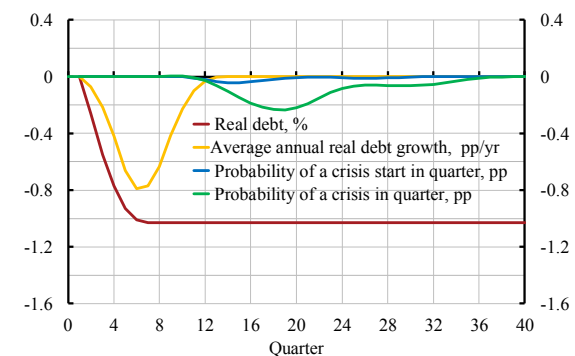
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## Swedish unemployment rate more than 1 pp higher than counterfactual with no policy-rate increase



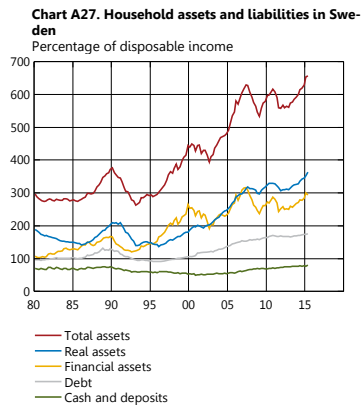
## Benefit: Lower probability? Household debt, debt growth, probability of crisis start, and probability of crisis from 1 pp higher policy rate (Riksbank, Schularick and Taylor 2012) 2

Robust to permanent effect on real debt (monetary nonneutrality)



Svensson (2016), "Cost-Benefit Analysis of Leaning Against the Wind : Are Costs Larger Also with Less Effective Macroprudential Policy?" IMF Working Paper WP/16/3.

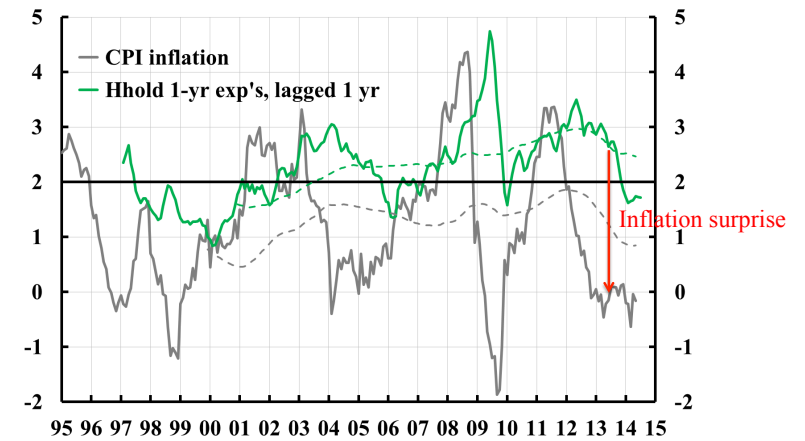
## Household assets and liabilities in Sweden



Note. Total assets exclude collective insurance. Financial assets refers mainly to cash, bank deposits, bonds, mutual funds and shares. Real assets refers to single-family houses, tenant-owned apartments and second homes.

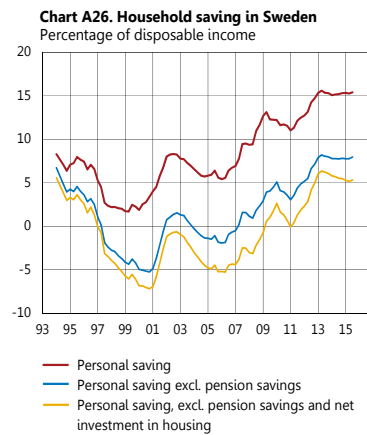
Sources: Statistics Sweden and the Riksbank

## Additional cost: Inflation below household's expectations has increased household real debt burden



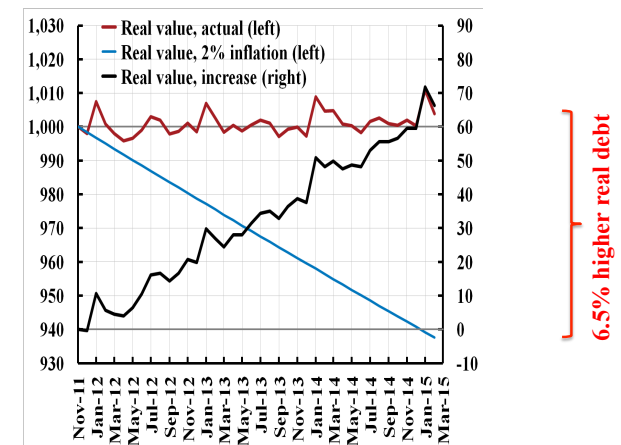
Note: Dashed lines are 5-year trailing moving averages

## Household saving in Sweden



Sources: Statistics Sweden and the Riksbank

## The real value of an SEK 1 million loan taken out in Nov 2011, actual and for 2 percent inflation



6.5% higher real debt



**Additional cost: Inflation below household's expectations has increased household real debt burden**

- Since November 2011, price level more than 6% lower than if inflation had been 2%
- The real value of fixed nominal debt taken out in Nov 2011 is more than 6% higher than if inflation had been 2%
- Leaning against the wind may have *increased* real debt, not reduced it
- Schularick-Taylor: 5% higher real debt in 5 years increases the probability of a crisis by 0.4 pp
- Leaning counterproductive