



Monetary policy and financial stability

Lars E O Svensson

Sveriges Riksbank and Stockholm University

www.larseosvensson.net

Centre for Monetary Economics,
BI Norwegian Business School, Oslo
November 7, 2012

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Questions

- What is monetary policy and what is financial-stability policy?
- What is financial stability?
- Did monetary policy contribute to the financial crisis?
- Does monetary policy need to be reformed?
- Should monetary policy “lean against the wind”?
- Should tight monetary policy be used to restrict household debt and/or housing prices?
- What are sustainable levels of household debt?
- What are effective instruments to affect household debt?

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Questions

- Are borrowers (households and firms) and lenders (banks) sufficiently resilient to disturbances?
- What are effective instruments to affect the resilience to disturbances of borrowers and lenders?
- Should monetary policy try to “normalize” the policy rate?
- Do low policy rates for a long time increase the risks to financial stability?
- Experiences from and monetary-policy conclusions for Sweden, **not** Norway!

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Economic policies

- Monetary policy, financial-stability policy, fiscal policy, income-distribution policy, ...
- Distinguish economic policies according to
 - Objectives
 - Instruments
 - Authorities controlling instruments and responsible for achieving objectives

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Monetary policy

■ Objectives

- Price stability: Inflation target
- Stabilize resource utilization at long-run sustainable rate
- “Price stability and highest sustainable employment/lowest sustainable unemployment”



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Monetary policy

■ Instruments

- Normal: Policy rate, policy-rate path, communication
- Crisis: Fixed-rate lending at longer maturities, asset purchases (quantitative easing), ...

■ Authority

- Central bank



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Financial-stability policy

■ Objective

- Financial stability: The financial system can maintain its basic functions (to submit payments, transform saving into financing, and allow risk sharing and risk management) and has sufficient resilience to disturbances that threaten these functions

■ Instruments:

- Normal: Supervision, regulation, reports
- Crisis: Lending of last resort, variable-rate lending longer maturities (credit easing), guarantees, capital injections, asset purchases, bank resolution, ...



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Financial-stability policy

■ Authorities

- In Sweden, responsibility is shared
 - Normal times (crisis prevention): FSA, Riksbank, MoF
 - Crisis times (crisis management): FSA, Riksbank, SNDO, MoF
- Varies across countries



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Monetary policy and financial-stability policy

- Different policies: Objectives, instruments, authorities
- Do they need to be coordinated?
- Depends on whether each policy's instruments are sufficient to achieve each policy's objectives
- Do they need to be reformed?
- Financial stability policy failed. Is being reformed.
- Did monetary policy fail?
- Did monetary policy contribute to the crisis?

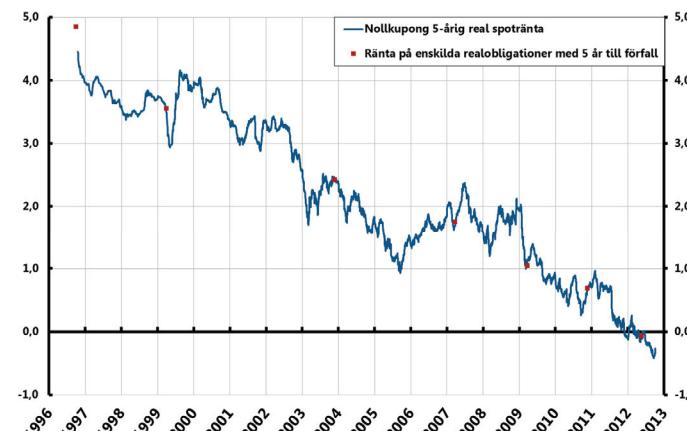
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What caused the financial crisis?

- **Macro conditions:** Global imbalances, falling long and short real interest rates, Great Moderation, underestimation of risk, credit expansion (Bean 2010 JEEA)

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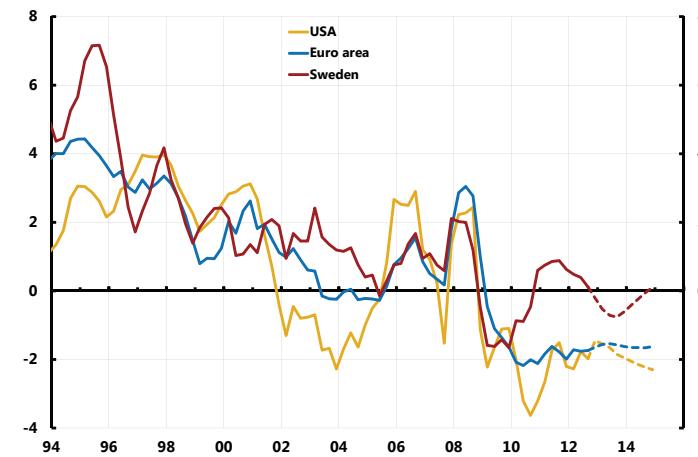
Swedish 5-year zero-coupon real rate



Källor: Riksbanken och Riksgäldskontoret 11

Real 1-year policy rates for the US, Euro area, and Sweden

Percent



Sources: ECB, IMF, OECD, Statistics Sweden and the Riksbank 12

What caused the financial crisis?

- **Macro conditions:** Global imbalances, falling long and short real interest rates, Great Moderation, underestimation of risk, credit expansion (Bean 2010 JEEA)
- **Distorted incentives:** Extreme leverage levels and risk-taking, lack of due diligence, low lending standards, securitization of mortgages, fraud
- **Regulatory and supervisory failures:** Underestimation or disregard of the fragility of the financial sector
- **Information problems:** Complex asset-backed securities, huge hidden balance-sheet liabilities
- **Specific circumstances:** US housing policy, subprime lending
- These causes have little or nothing to do with monetary policy

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Lessons from the financial crisis?

- Price stability not enough for financial stability
- Interest-rate policy not enough for financial stability (monetary policy could not have prevented the crises)
- It was financial-stability policy that failed, not monetary policy
- A new reformed financial-stability policy is needed
- Flexible inflation targeting worked fine before, during, and after the crisis (at least when not used in Sweden to restrict household debt...)

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Should monetary policy be used to restrict household debt and housing prices?

- (1) Is household debt and/or housing prices a problem?
 - Are they a threat to financial stability and/or the macro economy?
 - Are the levels of household debt and housing prices sustainable?
 - Is households' resilience to shocks sufficient?
- (2) If household debt and/or housing prices are a problem, are monetary policy and the policy rate effective means to mitigate the problem?
 - Are there better available instruments with less collateral damage?

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Are monetary policy and the policy rate effective means to affect household debt and housing prices?

- Household debt and housing prices are correlated – most of the debt is mortgages
- What is the effect of monetary policy on housing prices?
- Many research papers, different approaches, theoretical and empirical, data from many countries
- Typical result: 1 p.p. higher policy rate leads to 1-3 % lower real housing prices in 2-3 years
 - Not much effect on housing prices
 - But 1 p.p. higher policy rate has a substantial effect on inflation, GDP and unemployment

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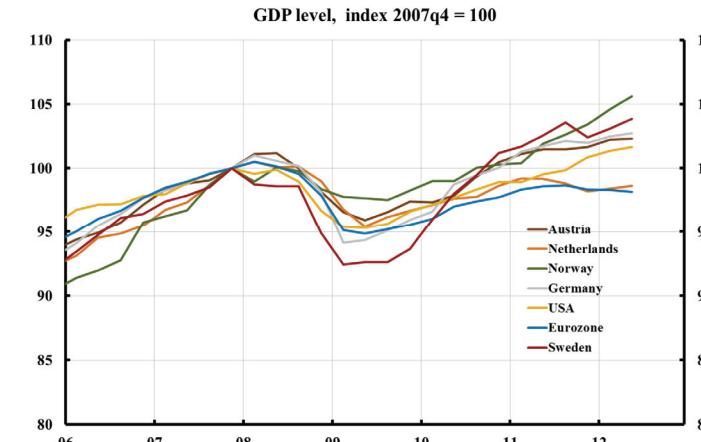
Are monetary policy and the policy rate effective means to affect household debt and housing prices?



- Claussen, Jonsson, and Lagerwall 2011 (Riksbank's inquiry into risks in the Swedish housing market)
 - Swedish data: 10 % lower housing prices requires 6 % lower GDP and 3 p.p. higher unemployment (w/ Okun coefficient of 2)
- Assenmoscher-Wesche and Gerlach 2010 (Economic Policy)
 - Data from 18 countries: 10 % lower housing prices requires 4 % lower GDP and 2 p.p. higher unemployment (w/ Okun coefficient of 2)
- Comparable to Swedish fall in GDP after 2007q4: 7.5 %

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GDP Sweden, Norway, US, and other countries



Sources: Bureau of Economic Analysis, Eurostat, Federal Statistics Office Germany, OECD, SCB, Statistics Finland, Statistics Netherlands, Statistics Norway, and the Riksbank 18

Are monetary policy and the policy rate effective means to affect household debt and housing prices?

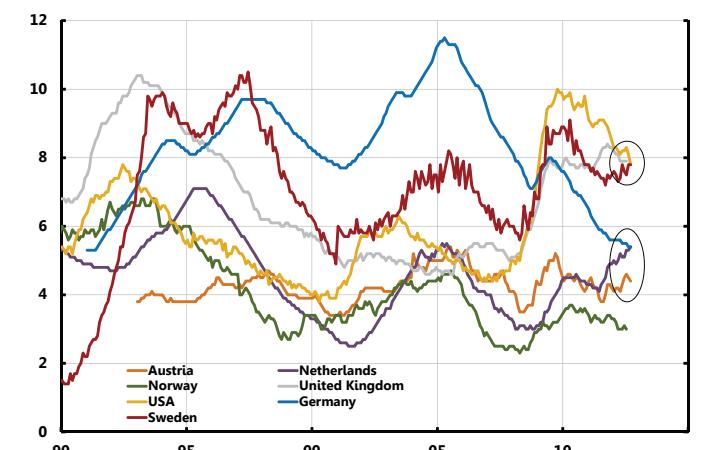


- Very high collateral damage: Monetary policy and policy rate **not** effective way to affect housing prices and household debt
- Current Swedish unemployment high (7.8%)
- Current Swedish inflation low (CPIF 0.9%, CPI 0.4%)

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Unemployment, selected countries

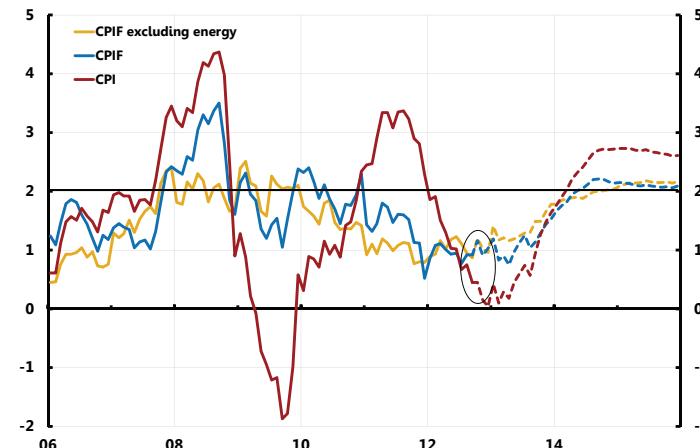
Percent of the labour force, seasonally-adjusted data



Sources: Bureau of Labor Statistics and Eurostat

CPI, CPIF and CPIF excluding energy

Annual percentage change



Note: The CPIF is the CPI with a fixed mortgage rate.

Sources: Statistics Sweden and the Riksbank

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Is household debt and housing prices a problem? Are they at sustainable levels?

- High savings ratio and low leverage (debt 1/3 of total assets excl. coll. pensions, net wealth/assets is 2/3, 70%)
- According to Basel III commercial banks must have minimum capital/total assets 3 %



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Are monetary policy and the policy rate effective means to affect household debt and housing prices?

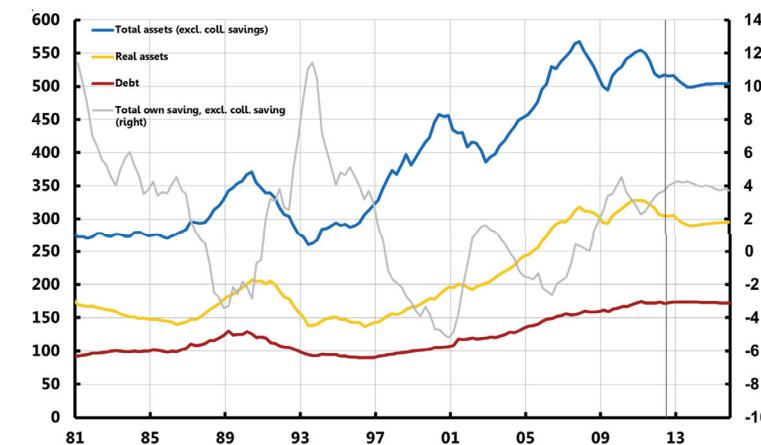
- Very high collateral damage: Monetary policy and policy rate not effective way to affect housing prices and household debt
- Current unemployment high (7.8%)
- Current inflation low (CPIF 0.9%, CPI 0.4%)
- Other instruments more effective
 - Loan-to-value caps
 - Mortgage-rate tax deductions
 - Property taxes
 - Capital requirements, riskweights on mortgages for banks



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Household assets, saving (excl. coll. saving) and debt relative to disposable income

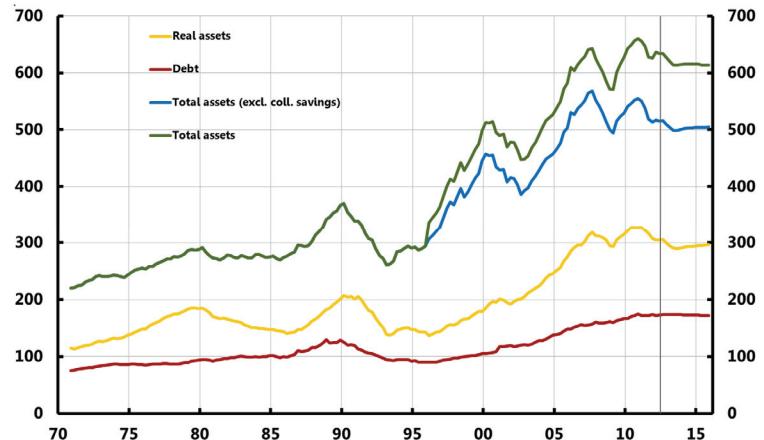
Percent



Sources: The Riksbank and Statistics Sweden

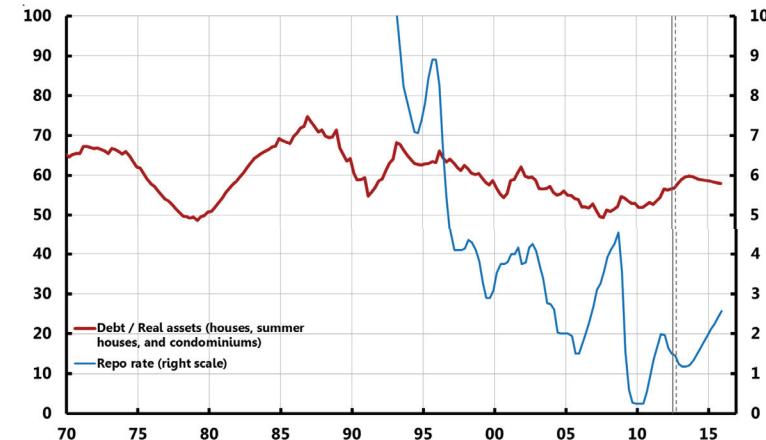
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Household assets (incl. coll. savings) and debt relative to disposable income



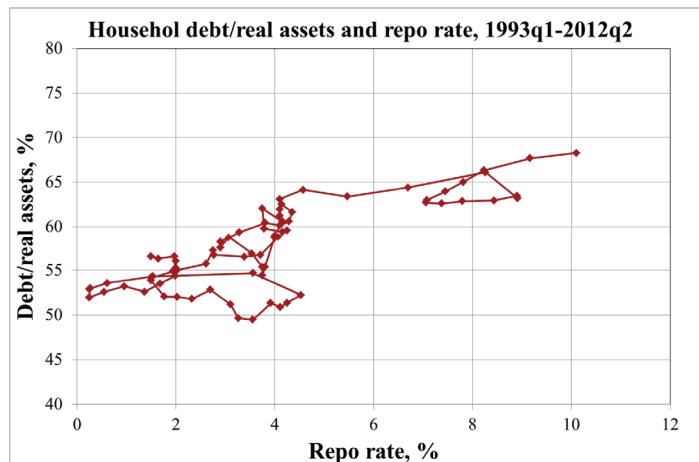
Sources: The Riksbank and Statistics Sweden 25

Household debt/real assets and repo rate: No negative correlation Percent



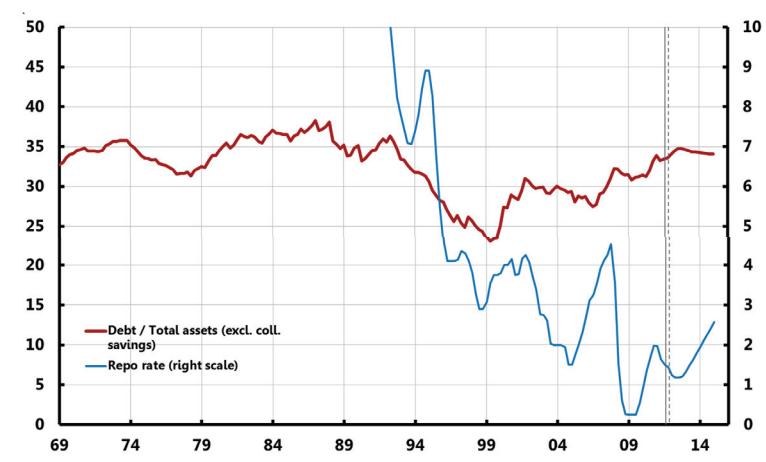
Sources: The Riksbank and Statistics Sweden 26

Household debt/real assets and repo rate: No negative correlation Percent



Sources: The Riksbank and Statistics Sweden 27

Household debt over total assets (excl. coll. savings) and repo rate Percent



Sources: The Riksbank and Statistics Sweden 28

Is household debt and housing prices a problem? Are they at sustainable levels?

- High savings ratio and low leverage (debt 1/3 of total assets excl. coll. pensions, capital is 2/3)
- According to Basel III commercial banks must have minimum capital/assets 3 %
- Housing prices consistent with fundamentals: High demand, little/no construction (Riksbank inquiry 2011)
 - Rising disposable income, a negative trend in real mortgage rates, property and wealth taxes removed, ceiling on local housing fees, ...
 - Little construction, no construction boom
 - Ever a housing/property crisis w/o a construction boom?
 - Future excess supply of housing very unlikely



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Is household debt and housing prices a problem? Are they at sustainable levels?

- Current debt/disp.inc. 170%. Sustainable?
- What net debt service (primary surplus) required to keep constant debt/disp.inc.?
- Assume high mortgage rate 7%, after tax $(1-0.3)*7 \approx 5\%$
- Gross debt service = $5\% * 170\% = 8.5\%$ of disp.inc.
- Not pay rent (20% of disp.inc.) but utilities, garbage coll. etc.
- Assume nominal disp.inc. growth 4 % (2% real, 2% inflation)
- **Net debt service = $(5\% - 4\%) * 170\% = 1.7\% \text{ of disp.inc.}$**
- Debt ratio not sufficient statistic
- Whole balance sheet matters
- For macroeconomic effects, aggregate household sector matters



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Can monetary policy have a sustainable effect on household debt and housing prices?

- Real house prices, household debt, and households' balance sheets are a part of the real economy, represent structural relations
- Monetary policy does not normally have sustainable effects on the real economy
- Structural policies must be used for sustainable effects



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Are borrowers and lenders sufficiently resilient to disturbances?

- Lenders (commercial banks) scrutinized in the Riksbank's Financial Stability Report: Well capitalized, Basel III capital requirements fulfilled in advance, resilient to shocks
- New borrowers and mortgages scrutinized in Finansinspektionen's Mortage Report (2012)
 - New borrowers most vulnerable
 - The **85% LTV cap is effective, LTVs falling** for first time since 2002
 - New borrowers have **strong repayment capacity**, subject to **strict lending standards** (incl. high interest rates used)
 - **Pass stiff stress tests:** For 20 p.p. rise in unemployment and 40% fall in house prices, only 10 percent of new borrowers have LTV above 100% and deficit in "left to live on" analysis. Also, **real-time stress tests**
 - **More resilience 2012 than in 2010 report**



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Are mortgages a threat to financial stability?

- No, credit losses for banks very unlikely
 - Full recourse, strict lending standards, household repayment capacity high (two working household members, unemployment insurance)
 - Very small credit losses even during the crisis in the early 90s

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A related issue: Should the policy rate be “normalized”

- Low levels of interest rates leads to (unspecified) financial imbalances and threats to financial stability
- Therefore, avoid low policy rate for long, instead “normalize” monetary policy and the policy rate
- **But** long global trend towards lower real interest rates
- Monetary policy can only make the short real rate temporarily deviate from trend in real rate

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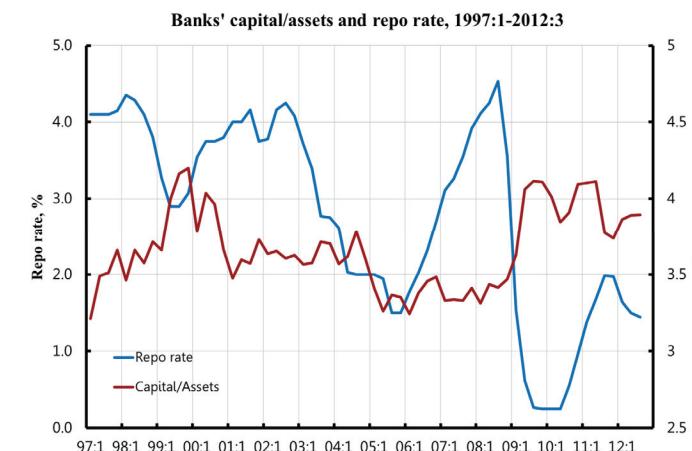
A related issue: Should the policy rate be “normalized”

- No evidence that low interest rates lead to more leverage or risk-taking in Sweden
- Financial-sector structure: Four commercial banks in oligopoly with “cozy profits”, no shadow-banking sector
- Banks’ leverage not correlated with the policy rate

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Banks’ capital/total assets and the policy rate: No positive correlation

Four major bank’s consolidated capital/total assets (not risk-weighted), Basel III “leverage ratio”



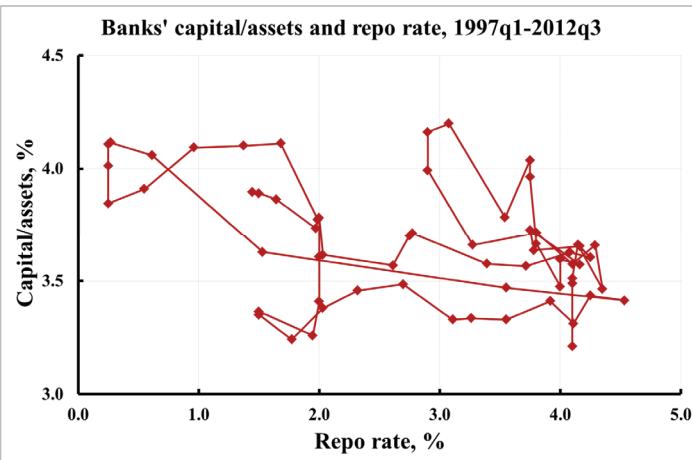
Sources: The Riksbank and Statistics Sweden

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Banks' capital/total assets and the policy rate:

No positive correlation

Four major bank's consolidated capital/total assets (not risk-weighted), Basel III
"leverage ratio"

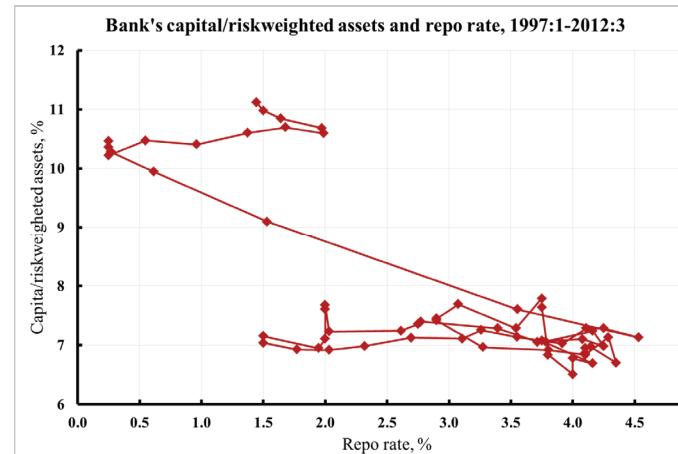


Sources: The Riksbank and Statistics Sweden 37

Policy rates and banks' leverage:

a problem in Sweden?

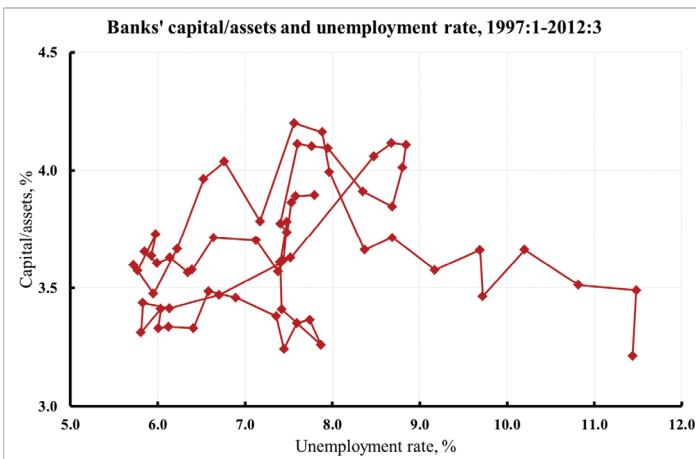
Two regimes, before and after Basel III



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Banks' capital/total assets and unemployment

Basel III leverage ratio not cyclical



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What are effective instruments to affect borrowers' and lenders' resilience



- Resilience: Buffers, correct info, stress tests
- Borrowers: Strict lending standards, information, LTV caps (LTI caps), payment capacity measures, stress tests,
- Lenders: Capital requirements: capital/unweighted assets, capital/riskweighted assets, cyclical buffer, systemic buffers, LCR, NSFR
- Monetary policy has no direct effect on resilience

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Conclusions for monetary policy (in Sweden)

- Focus on stabilizing inflation around the target and unemployment around the long-run sustainable rate
- Do not treat housing prices and household debt as additional target variables for monetary policy
- Use financial-stability instruments if needed
- Do not treat the policy rate as an additional target variable. Do not “normalize” policy rate

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Conclusions for monetary policy (in Sweden)

- Monetary policy should normally be the last line of defense of financial stability, not first line (except in special circumstances w/ very deficient financial-stability policy)
- Else worse outcome for inflation and unemployment, less transparency, more difficult to hold Riksbank accountable
- Leave the financial-stability objective to financial-stability policy and financial-stability instruments

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Extra



Monetary policy: Sweden

- Objectives
 - Riksbank Act: “The objective of the Riksbank’s activities shall be to **maintain price stability**. The Riksbank shall also **promote a safe and efficient payments system**.”
 - Government Bill: “As an authority under the Riksdag, the Riksbank shall also, without prejudice to the price-stability target, support the goals of the general economy policy with the purpose of **achieving sustainable growth and high employment**.”

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Monetary policy: Sweden

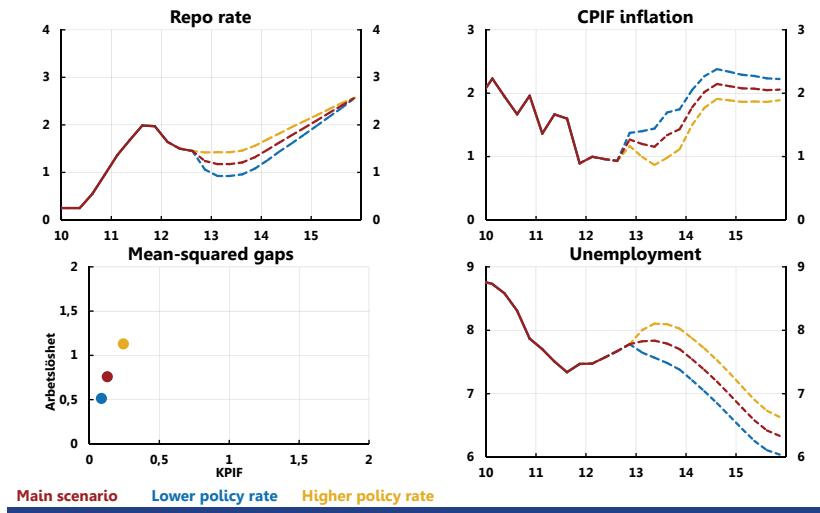
■ Objective

- Riksbank MPR: **Inflation target of 2 percent for CPI inflation.** “[I]n addition to stabilising inflation around the inflation target, [the Riksbank is] also striving to stabilise production and employment around long-term sustainable paths. The Riksbank therefore conducts what is generally referred to as flexible inflation targeting.”
- LS: “**Price stability and highest sustainable employment/lowest sustainable unemployment**”



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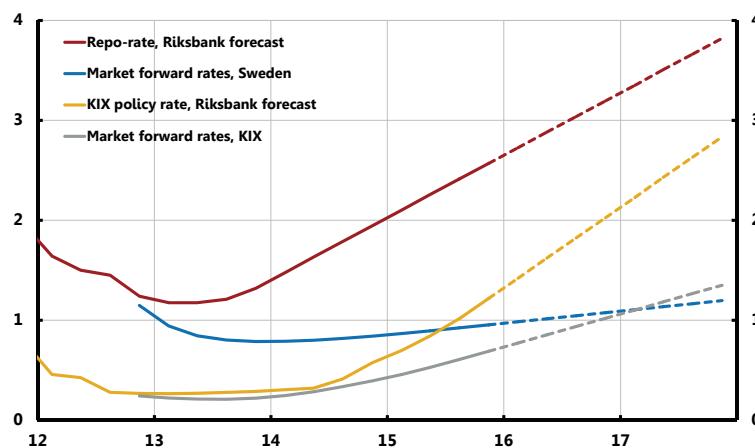
Monetary policy options, October 2012 Main scenario and lower and higher policy-rate path



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Repo-rate path, forward rates and forecast for KIX-weighted policy rate, October 2012

Per cent. Forward rates from 18 October



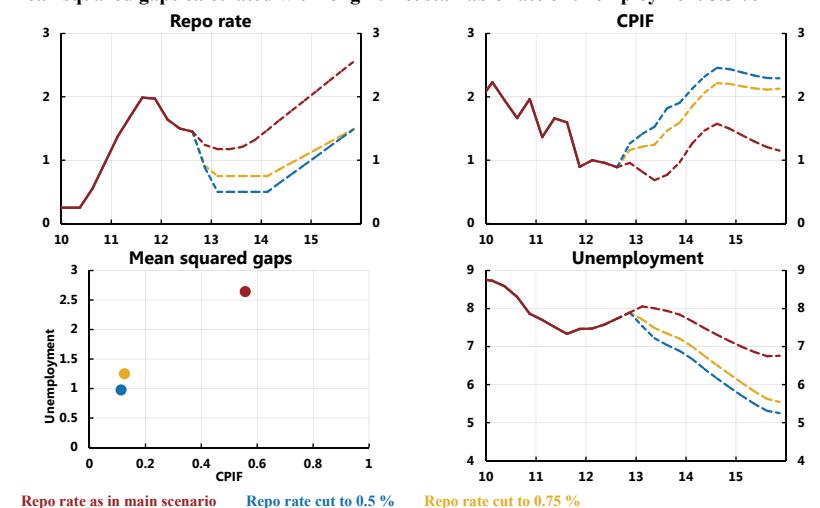
Sources: National sources, Reuters EcoWin, the Riksbank and own calculations

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Monetary policy alternatives, October 2012

Policy rates abroad according to implied forward rates.

Mean squared gaps calculated with long-run sustainable rate of unemployment 5.5 %



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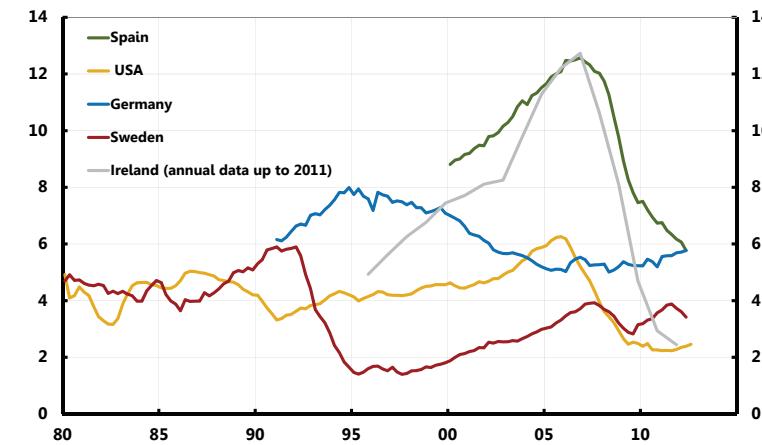
Are monetary policy and the policy rate effective means to affect household debt and housing prices?

- Claussen, Jonsson and Lagerwall 2011 (Riksbank's inquiry into risks in the Swedish housing market)
 - Use monetary policy to keep Swedish housing prices on trend 2004-2010
 - Prevent housing prices to increase 20 % above trend
 - Requires policy-rate increase of up to 5 p.p. some years
 - Accumulated loss of GDP of about 12 percent
 - Increase in unemployment of about 6 p.p.
 - Inflation on average 3 p.p. lower during 2004-2010



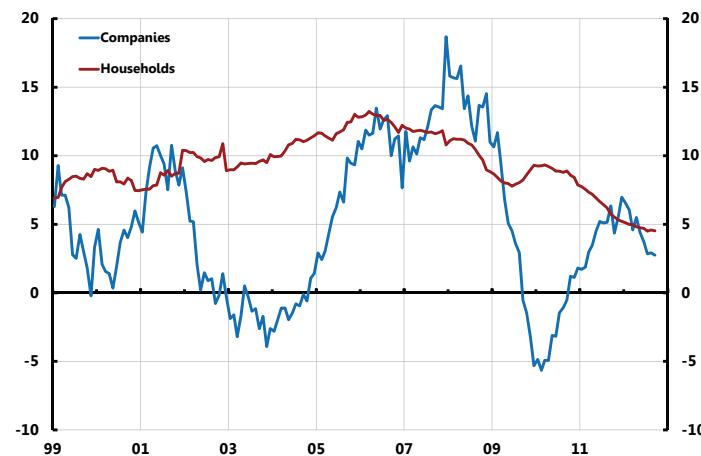
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Housing investment Percent of GDP



Sources: Bureau of Economic Analysis, Central Statistics Office Ireland, Federal Statistical Office, Germany, National Statistics Institute, Spain and Statistics Sweden

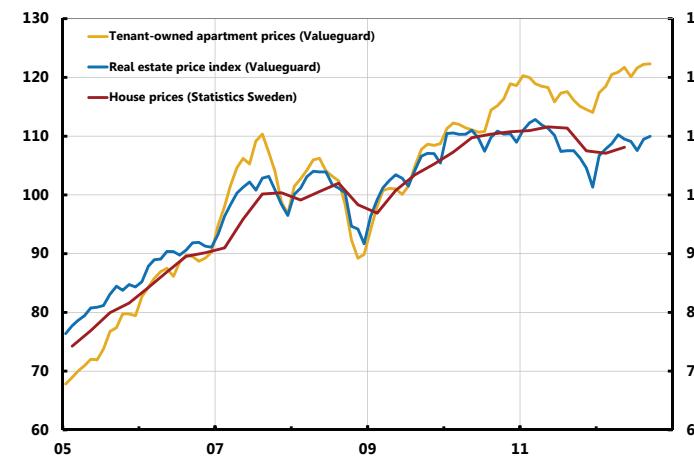
Bank lending to firms and households Annual percentage change



Source: Statistics Sweden



Housing prices Index, 2008 = 100



Note: The data from Valueguard is on a monthly rate and the data from Statistics Sweden is on a quarterly rate. Statistics Sweden's real estate price index is based on land registration data, while Valueguard's index is based on purchasing contracts. Purchasing contracts are normally registered about two months before land registration, which means that SCB's statistics lag behind those from Valueguard.

Sources: Statistics Sweden and Valueguard



Household debt over total assets and repo rate



Sources: The Riksbank and Statistics Sweden

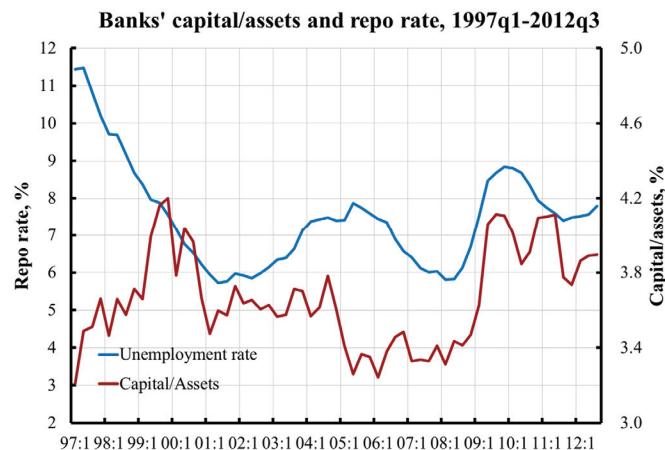
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The “normalization” argument

- Even if more risk-taking: What is optimal level?
- Literature on risk-taking channel (Adrian-Shin, Diamond-Rajan): Confusion between nominal policy rate and real interest rate
- Monetary policy can only achieve temporary deviations of actual short real rate from neutral real rate (overall level of real rates). The latter depends on global imbalances etc, largely independent of MP



Banks' capital/ total assets and unemployment



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