Monetary policy the last few years and household debt

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Outline

- The mandate for monetary policy
- Monetary policy in the last few years
- What is the problem with household debt?
- The Riksbank's framework for monetary policy and household debt
- Are household mortgage rate expectations too low?
- Lowflation/deflation and debt:
  A higher real debt burden

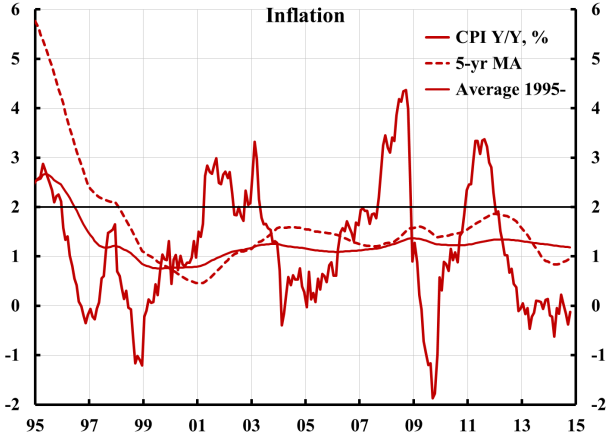
The monetary policy mandate

- Sveriges Riksbank Act
  - "The objective for monetary policy shall be to **maintain price stability**"
- Government bill
  - "In addition, as an authority under the Riksdag, the Riksbank, without prejudice to the price stability target, is to support the goals of general economic policy with the aim to achieve sustainable growth and **high employment**".
  - High employment = highest sustainable rate of employment
- Price stability and the highest sustainable rate of employment
  - Highest sustainable rate of employment = the lowest sustainable rate of unemployment
  - Stabilize inflation around the inflation target and unemployment around a long-run sustainable rate

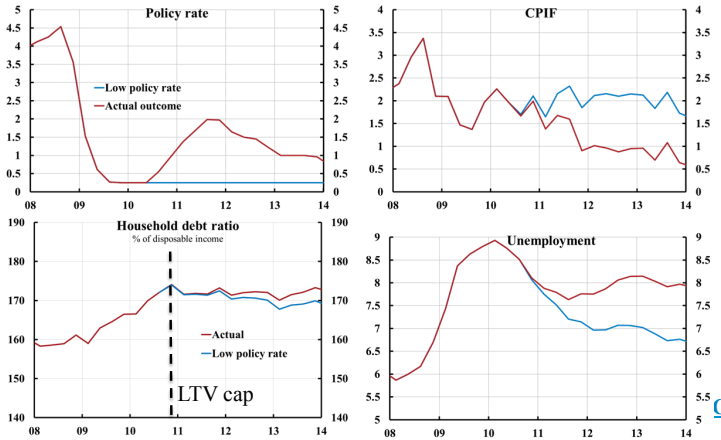
The monetary policy outcome in recent years

- Inflation is well below the target
- Unemployment is well above a long-run sustainable rate

Target achievement:
CPI inflation 1995-2014 on average below target



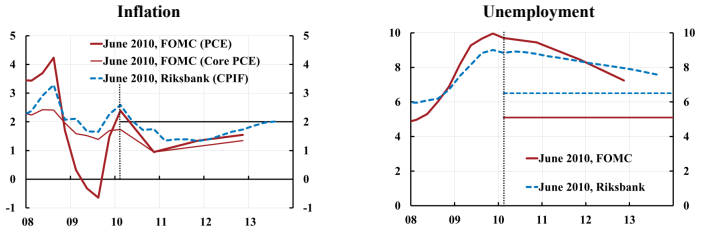
Policy-rate increases from summer of 2010 have led to inflation below target and higher unemployment (and higher debt ratio?)



Cont.

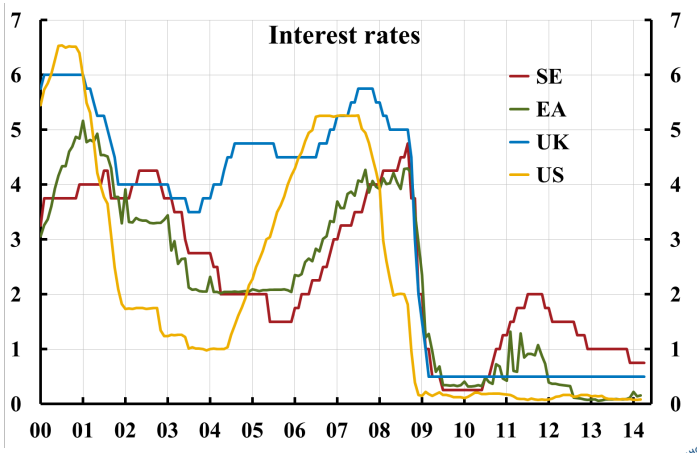
Source: Svensson (2013), "Unemployment and monetary policy – update for the year 2013," posts on Ekonomistas and larseosvensson.se.

Fed and Riksbank, June/July 2010
Similar forecasts, very different policies

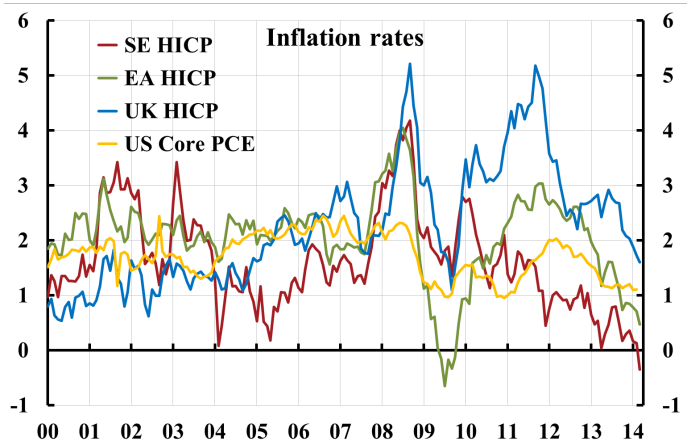


Svensson (2011), "Practical Monetary Policy: Examples from Sweden and the United," *Brookings Papers on Economic Activity*, Fall 2011, 289-332.

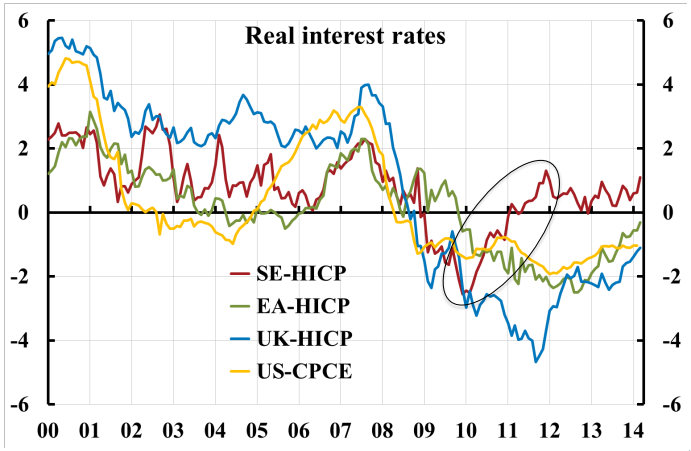
Policy rates in Sweden, UK, and US; Eonina rate in euro area



Inflation in Sweden, euro area, UK, and US



Real policy rate in Sweden, UK, and US, real Eonia rate in euro area

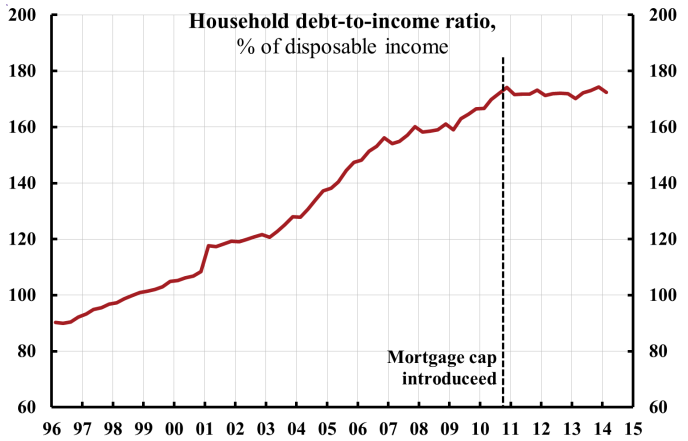


Why lean? What is the problem?

- Household debt is high relative to disposable income
- But debt ratio has been stable since LTV cap of 85 % in Oct 2010

Household debt-to-income ratio

(% of disposable income)



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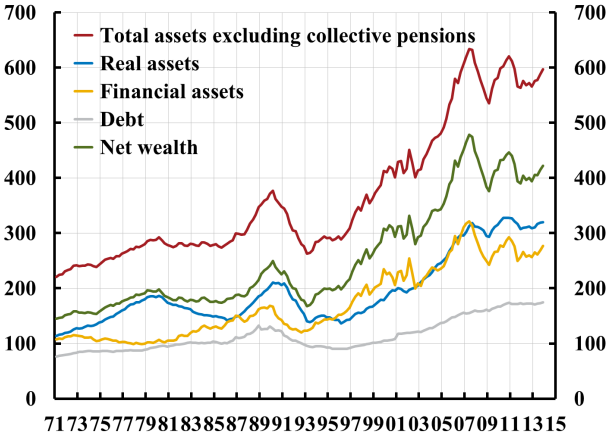
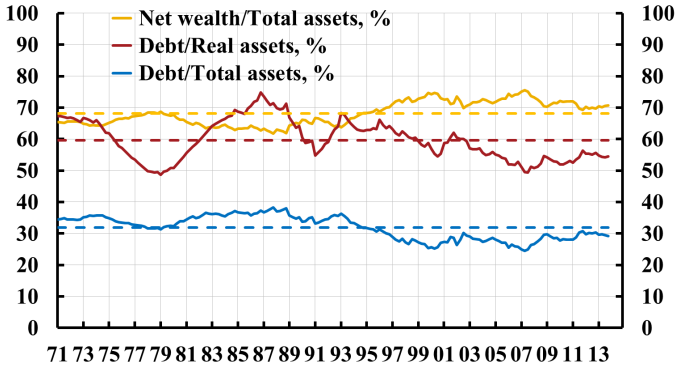
- And debt is normal relative to assets

Household debt and assets (excluding collective pensions), % of disposable income



Swedish households' net wealth and debt relative to assets



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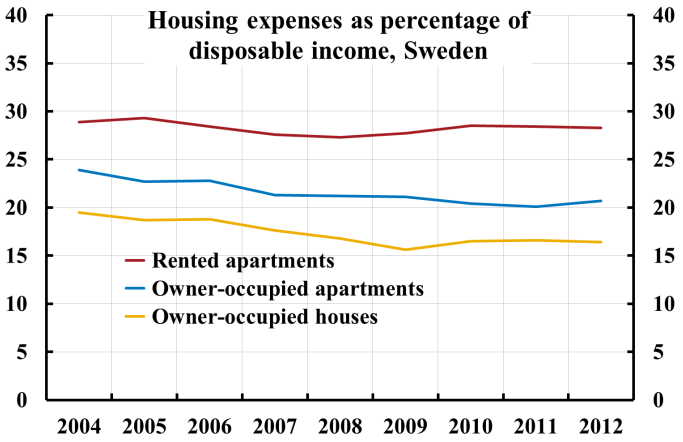
- Housing expenditure is not high



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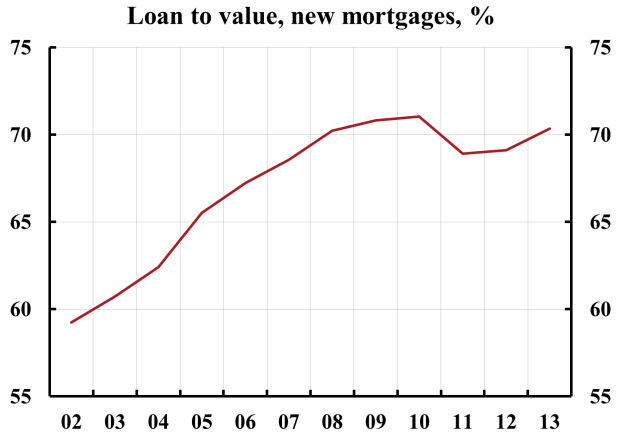
- Average LTV for new mortgages has stabilized around 70 %



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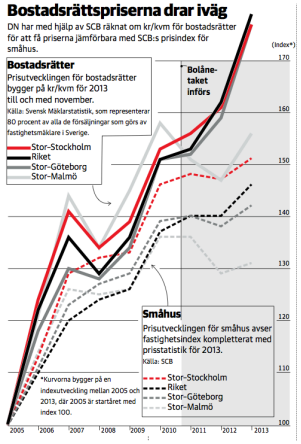
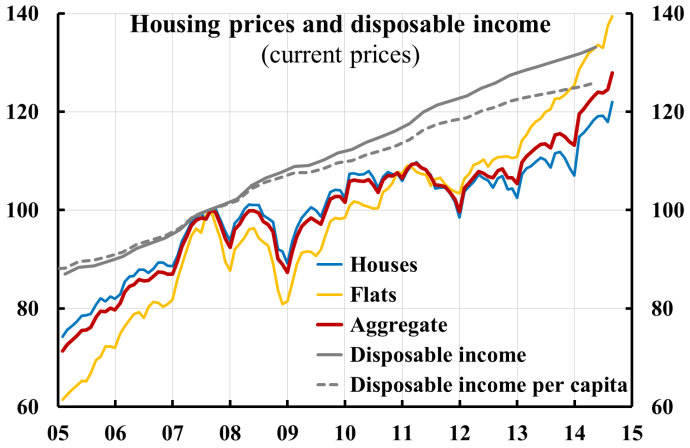
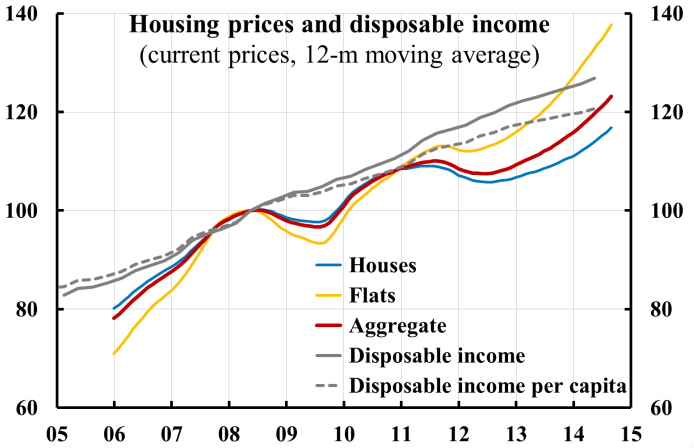
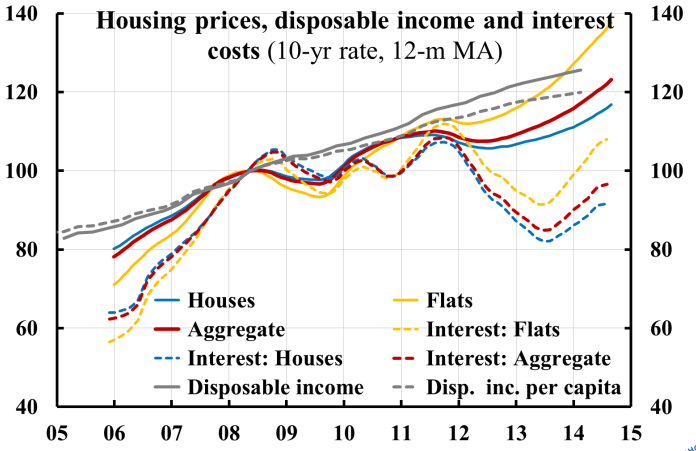
Scaremongering? Dagens Nyheter, January 15, 2013









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- Housing expenditure is not high
- Average LTV for new mortgages has stabilized around 70 %
- Housing prices have not increased faster than disposable income since 2007
- Housing prices are in line with fundamentals (disposable income, mortgage rates, tax changes, urbanization, construction…)

Why lean? What is the problem?

- And, the FSA has:
  - introduced an LTV cap of 85 %
  - introduced higher risk weights on mortgages (25 %)
  - introduced higher capital requirements (16 % CET1)
  - proposed individual amortization plans for borrowers
  - produces an annual mortgage market report, according to which
    - lending standards are high
    - households' repayment capacity is good
    - households' resilience to disturbances in the form of mortgage rate increases, housing price falls, and income falls due to unemployment is good
- Macroprudential tools and policy are arguably effective in Sweden

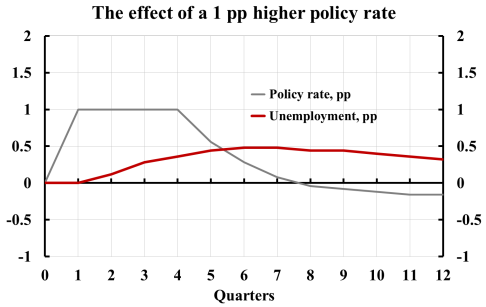
Riksbank's case for leaning against the wind

- Governor Ingves: "When interest rates are low, people borrow more. If you borrow too much, sooner or later there are problems."

Riksbank's case for leaning against the wind

- Higher debt could imply (1) a *higher probability* of a future crisis and/or (2) a *deeper* crisis if it occurs
- Hence, a tradeoff between (1) tighter policy now with lower debt but worse macro outcome now and (2) worse expected macro outcome in the future
- Worse macro outcome now is an insurance premium worth paying
- Is that true?
- The answer can be found from the numbers in the Riksbank's own boxes in MPRs of July 2013 and February 2014, plus Schularick and Taylor (2012) and Flodén (2014)

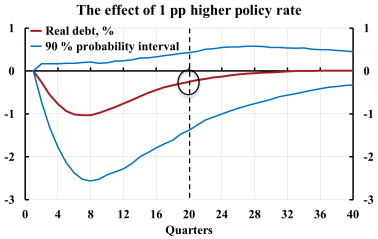
Cost of 1 pp higher policy rate: 0.5 pp higher unemployment rate in next few years



Source: Riksbank MPR July 2013, chapt. 2; Svensson, post on larseosvensson.se, March 31, 2014.

Benefit (1) of 1 pp higher policy rate: Lower probability of a crisis

- Schularick and Taylor (2012): 5 % lower real debt in 5 yrs implies 0.4 pp lower probability of crisis (average probability of crises about 4 %)
- Riksbank MPR Feb 2014, box:

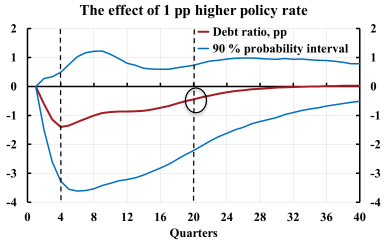


- 1 pp higher policy rate leads to 0.25 % lower real debt in 5 years
- Lowers probability of crises by 0.25*0.4/5 = 0.02 pp
- Assume 5 pp higher unemployment in crisis (Riksbank crisis scenario, MPR July 2013, box):
- **Benefit**: Expected lower future unemployment: 0,0002*5 = **0.001 pp**
- Compare to **cost**: Higher unemployment rate now: **0.5 pp**

Source: Svensson, post on larseosvensson.se, March 31, 2014.

Benefit (2) of 1 pp higher policy rate: Smaller increase in unemployment if crisis

- Flodén (2014): 1 pp lower debt ratio may imply 0.02 pp smaller increase in unemployment rate in crisis
- Riksbank MPR Feb 2014, box:



- 1 pp higher policy rate leads to 0.44 pp lower debt ratio in 5 yrs
- Smaller increase in unemployment in crisis: 0.44*0.02 = 0.009 pp
- With probability of crisis as high as 10 %, divide by 10 (Shularick & Taylor: 4 %)
- **Benefit**: Expected lower future unemployment: **0.0009 pp**
- Compare to **cost**: Higher unemployment now: **0.5 pp**

Source: Svensson, post on larseosvensson.se, March 31, 2014.

Summarize cost and benefit of 1 pp higher policy rate

Table 1. Cost and benefit in unemployment of 1 percentage point higher policy rate during 4 quarters

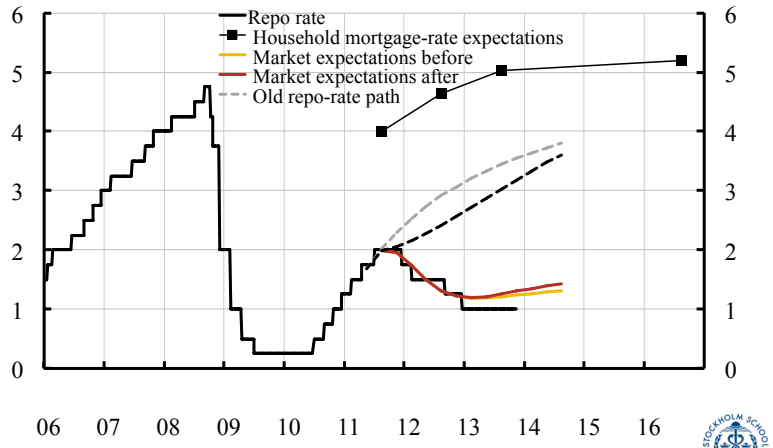
Cost: Higher unemployment during the next few years, percentage points	0.5
Benefit: Lower expected future unemployment, percentage points	
1. Because of lower probability of a crisis	0.001
2. Because of a smaller increase in unemployment in a crisis	0.0009
Total benefit, percentage points	0.0019
Total benefit as a share of the cost Should have been > 1!	**0.0038**

- Riksbank case does not stand up to scrutiny

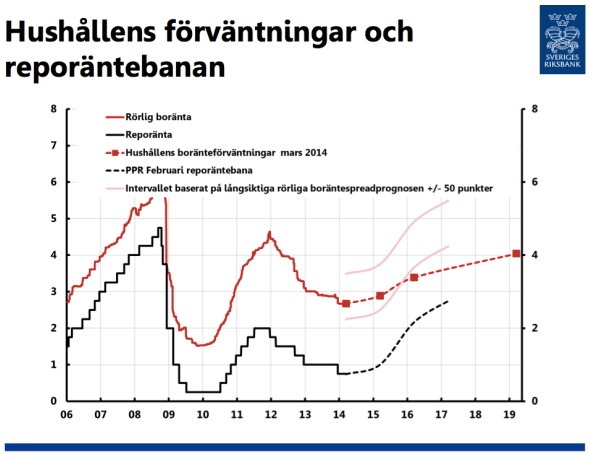
Riksbank III: Households' mortgage-rate expectations are too low

- Households' expectations of mortgage rates in 5 years are low compared to a normal policy rate of 4% and a normal spread
  - But who believes in "normal" interest rates in 5 years?
- Households' mortgage-rate expectations are low relative to the Riksbank's policy-rate path
  - But what credibility does the policy-rate path have?

Policy rate, policy-rate path, market expectations, and household expectations about 3-month mortgage rates: Sep 2011

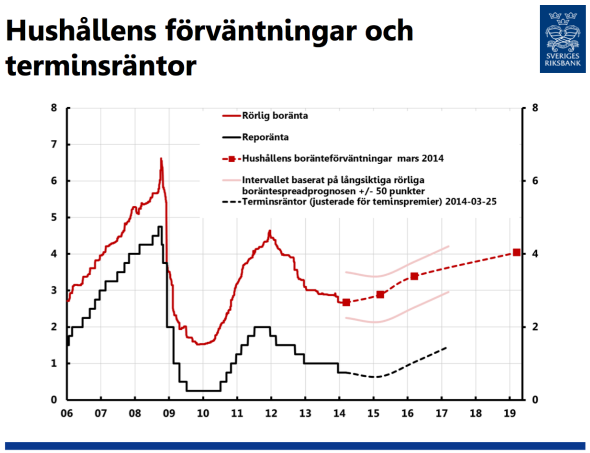


Household expectations and Riksbank policy-rate path



Source: Flodén, "Monetary policy and macroprudential policy" (in Swedish), LO, 2014-03-27

Household expectations and market expectations



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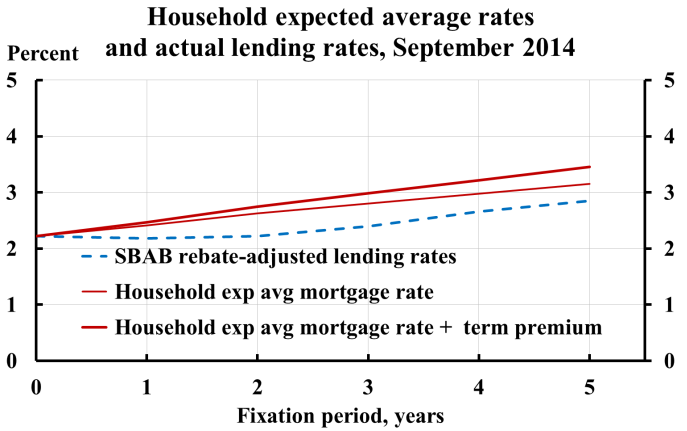
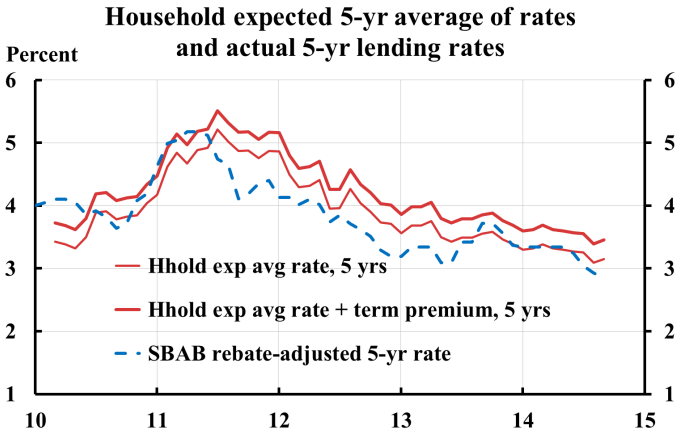
Households' expected mortgage-rate costs and actual yield curve



Households' expected 5-year mortgage-rate costs and actual 5-year mortgage rate



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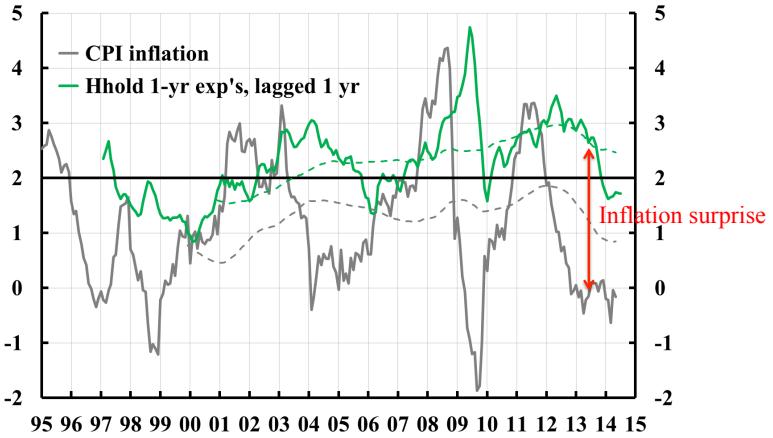
- Households' mortgage-rate expectations are low relative to the Riksbank's policy-rate path
  - But what credibility does the policy-rate path have?
- At a closer examination, no evidence of too low mortgage-rate expectations

Lowflation/deflation and debt: A negative involuntary amortization

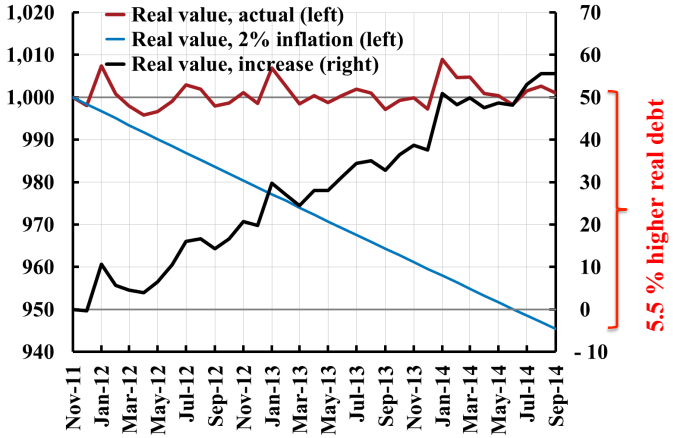
- Chair Yellen: "[W]ith longer-term inflation expectations anchored near 2 percent in recent years, persistent inflation well below this expected value increases the real burden of debt for households and firms, which may put a drag on economic activity."
- Governor Ingves, in reply to a question if low inflation increases indebtedness: "Interest rates are low and then it is easy to borrow… But in this context, the inflation rate is not a particularly significant issue."

CPI inflation and household inflation expectations

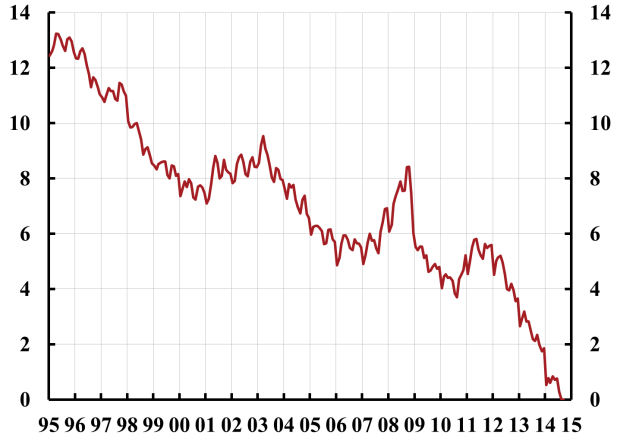


Note: Dashed lines are 5-year trailing moving averages

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



Percent increase to September 2014 in the real value of a given loan, compared to if inflation had been 2 percent
(depending on when the loan was taken out)



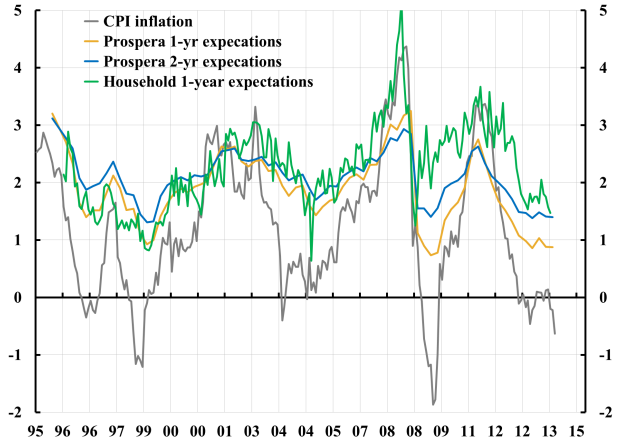
Inflation below target causes real effects

- Inflation expectations anchored at target
- Lower average inflation than expected causes real effects
- Higher unemployment
- Higher *real* debt for households …
- … and higher LTV ratios, lower net wealth and net wealth to assets …
- … and higher debt ratio
- A large negative involuntary amortization!
- Also a consumer protection issue!
- Something for the Financial Stability Council!

Monetary policy and household debt

- ”Leaning against the wind” is counter-productive in Sweden
- Inflation on target, stable growth, and lowest long-run sustainable unemployment is monetary policy’s best contribution to the debt issue
- Any problems are better handled with other means: macro- and microprudential tools (LTV cap, higher capital, risk weights…), taxes, deduction rules…
- Finansinspektionen, not the Riksbank, should be the authority that decides and warns if monetary policy is a threat to financial stability that cannot be handled with the FI’s tools (as in the UK)

Inflation expectations close to target, in spite of low inflation



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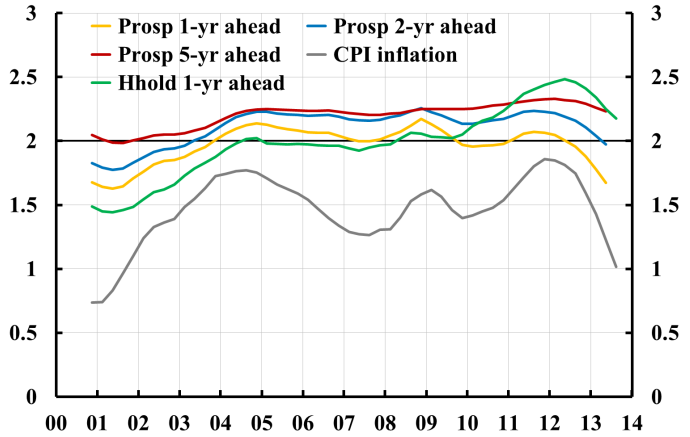
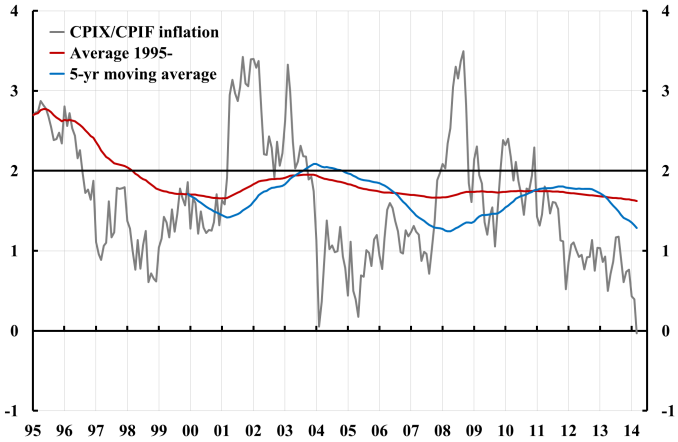
5-year trailing moving averages

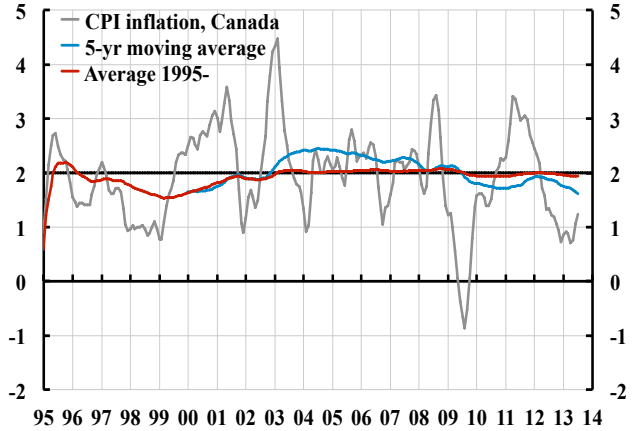


Average CPIX/CPIF inflation also below target



Note: CPIX inflation through March 2008, CPIF inflation from April 2008.

Average inflation in Canada on target

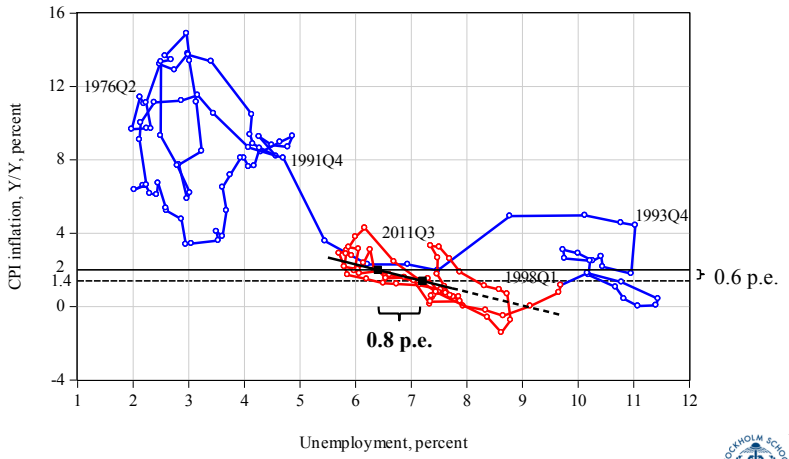


Average inflation in some countries: Sweden an outlier

Country	Target	Index	Period	Average	Deviation
Sweden	**2 (1995-)**	**CPI**	**1997-2011**	**1.4**	**- 0.6**
	2 (1995-)	CPI	1997-2007	1.3	- 0.7
Australia	2-3 (1993-)	CPI	1997-2011	2.7	0.2
Canada	2 (1995-)	CPI	1997-2011	2.0	0.0
UK	2.5 (1992-2003)	RPIX	1997-2003	2.4	- 0.1
	2 (2004-)	CPI	2004-2007	2.0	0.0
	2 (2004-)	CPI	2008-2011	3.4	1.4
Euro zone	(< 2) (1999-)	HICP	2000-2011	2.1	
USA	(≤ 2) (2000-)	core CPI	2000-2011	2.0	
		core PCE	2000-2011	1.9	

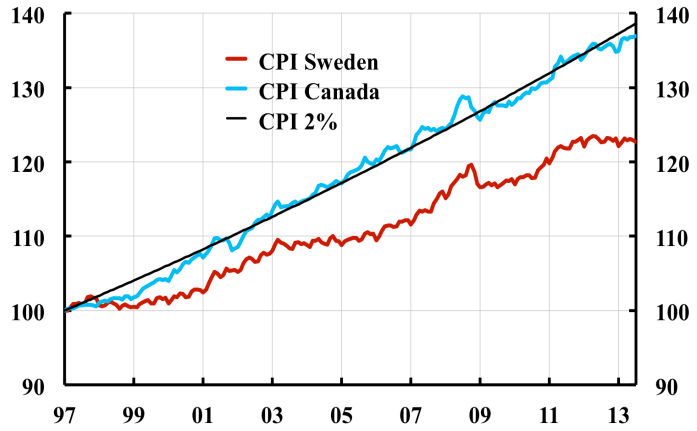
On average 0.8 percentage point higher unemployment since 1997 (downward-sloping long-run Phillips curve)

Unemployment and CPI inflation1976-2012, long-run Phillips curve 1997-2012



Source: Svensson , Lars E.O. (2013), "The possible unemployment cost of average inflation below a credible target", www.larseosvensson.net.

Long-run effect on real debt: Price level lower than expected



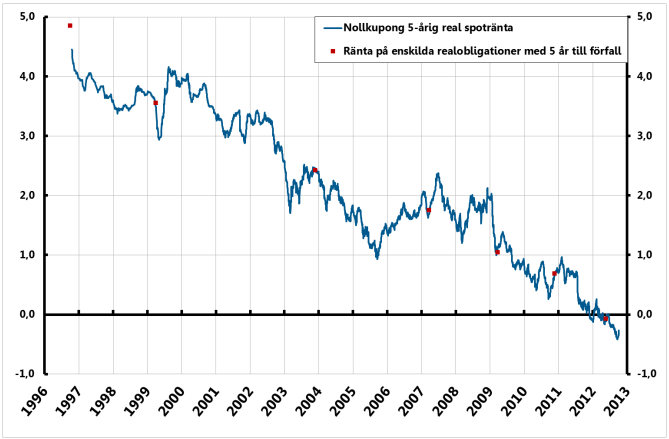
Flodén (2014), very small effect of debt ratio on increase in unemployment rate in crisis (not statistically significant for subsample of countries with falling housing prices)

Tabell: Utvecklingen för konsumtion, arbetslöshet och huspriser 2007-2012

	Konsumtion	Arbetslöshet	Huspriser
Skuldkvot 2007	-0,04**	0,02*	-0,11**
	(0,00)	(0,02)	(0,00)
Skuldtillväxt före 2007	-0,97**	0,28	-2,00**
	(0,00)	(0,16)	(0,01)
Bytesbalans före 2007	0,38**	-0,35**	1,43**
	(0,00)	(0,01)	(0,00)
Konsumtionstillväxt före 2007	2,10**	-0,75	2,64
	(0,00)	(0,21)	(0,19)
Konstant	5,66**	-0,61	15,00*
	(0,00)	(0,71)	(0,01)
R2 (justerad)	0,74	0,38	0,66
Observationer	26	26	26

Anm: Tabellen visar regressionsresultat där den förklarade variabeln anges i kolumnrubriken. "Konsumtion" avser procentuell tillväxt i privat konsumtion per capita 2007-2012. Skuldkvoten är hushållens skulder i procent av disponibel inkomst. Skuldtillväxten är genomsnittlig procentuell ökning i skuldkvot 2003-2007. p-värden i parentes. * och ** anger 5% respektive 1% signifikans.

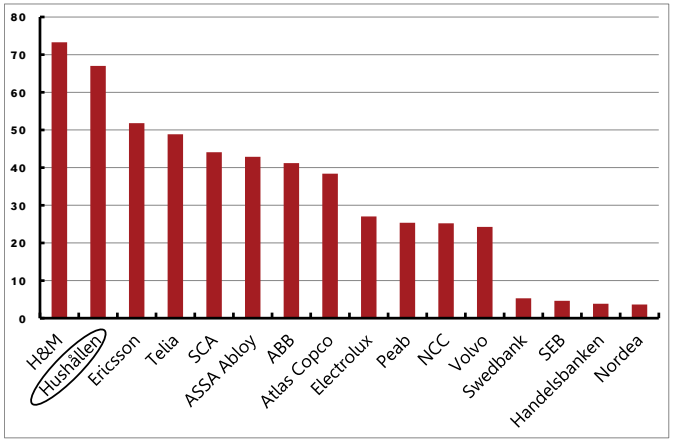
Swedish 5-year zero-coupon real rate



Källor: Riksbanken och Riksgäldskontoret

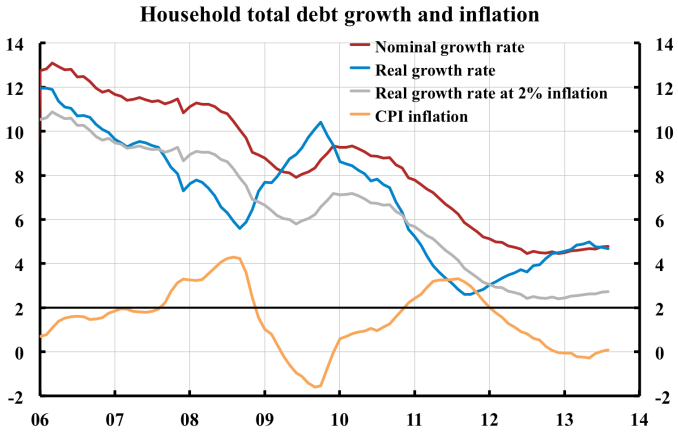
Capital to assets for households, som large listed companies, and Swedish banks

Percent



Källor: Dagens Industri (soliditeten 2011 för börsbolag och svenska banker) och Riksbanken (hushållens soliditet).

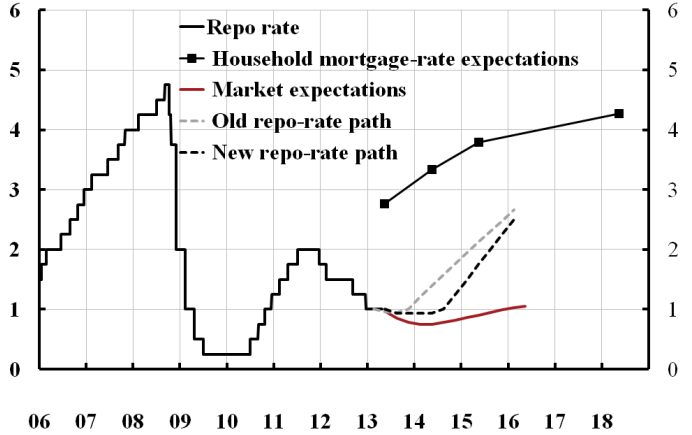
Debt growth: Real debt growth higher with low inlflation



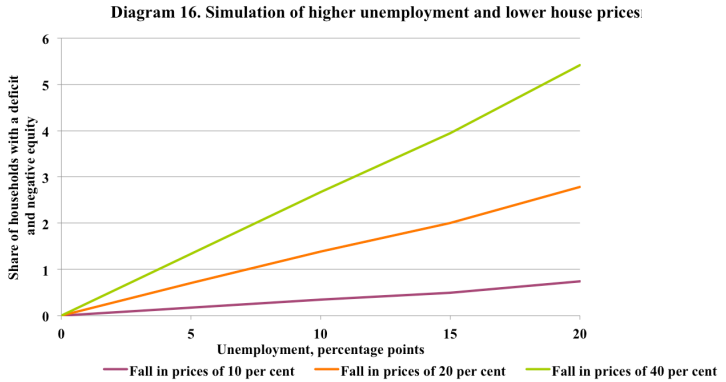
Short- and long-run effects on debt

- Real debt is a ratio:
  Nominal debt/Price level
- Debt ratio:
  Nominal debt/Nominal disposable income
- LTV ratio:
  Nominal debt/Nominal value of housing
- One (and the Riksbank!) must not forget the denominator, and the effect of monetary policy on it
- Reala housing prices is a relative price:
  Nominal housing price/Price level (nom. price on consumption)

Policy rate, policy-rate path, market expectations, and household expectations: April 2013



Stress test of new borrowers



Source: Finansinspektionen (2013), "Mortgage market report"

Amortization hysterics?

- Why amortize?
- Depends exclusively on the individual borrower's situation
  - Amortization is fixed saving
  - Comparison of mortgage rate with the return on alternative investments, plus any liquidity needs
  - It may be better to build up a liquidity buffer and/or invest in other assets (diversify)
  - SBAB:s price of liquidity: about 0.27 percentage points
- Besides, 2% inflation and 2% real growth imply considerable automatic amortization
  - Nominal disposable income increase by 4 %/year
  - Doubles in 18 years, halves the debt ratio without nominal amortization
  - Assume real housing prices grow with real disposable income, 2 %/year
  - Nominal housing prices grow by 4 %/year
  - Doubles in 18 years, halves the LTV ratio without nominal amortization