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 large negative involuntary amortization
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:
Average inflation significantly below target

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

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


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
What is the problem?

- Household debt is high relative to disposable income
- But debt is normal relative to assets (housing)

Household debt and assets (excluding collective pensions)
What is the problem?

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- But debt is normal relative to assets (housing)
- Housing prices are in line with fundamentals (disposable income, mortgage rates, tax changes, urbanization, construction…)

Housing prices, nominal

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Housing prices, nominal

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Housing prices, real

Källa: SCB, Valuegard

Housing prices relative to disposable income

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- Housing prices are in line with fundamentals (disposable income, mortgage rates, tax changes, urbanization, construction…)
- High debt mainly with borrowers with the best capacity to manage them (high income, high education, safe jobs, large assets) (Hedborg Government Commission of Inquiry, SOU)
- Household repayment capacity is good (Finansinspektionen)
- Household resilience to disturbances in the form of mortgage rate increases, housing price falls, and income falls due to unemployment is good (Finansinspektionen)
- What is the problem? The Riksbank?

Riksbank I

- Governor Ingves: ”When interest rates are low, people borrow more. If you borrow too much, sooner or later there are problems.”
- Riksbank: Probably no direct credit losses from mortgages
- But housing price fall and doubts about the Swedish housing market might create problems for banks’ funding through covered housing bonds
  - But actually liquidity problem, not solidity problem: Solved by lending of last resort from the Riksbank and the National Debt Office (and information) (Posts on Ekonomistas and larseosvensson.se, Feb 10, 2014)
Riksbank II

- Higher debt could imply higher *probability* of a future crisis, or a *deeper* crisis if it occurs
- Tradeoff between tighter policy now or worse expected outcome in the future
- A higher policy rate leads to worse outcome now but better expected outcome in the future (insurance premium)
- Is that true?
- The answer is in the Riksbank’s own boxes in MPR 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

Source: MPR July 2013, chapt. 2; Svensson, posts on Ekonomistas and larseosvensson.se, March 31, 2014.
Benefit 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
- Lowsers probability of crises by 0.25*0.4/5 = 0.02 pp
- Riksbank crisis scenario (MPR July 2013, box): 5 pp higher unemployment in crisis
- Benefit: Expected lower future unemployment: 0.0002*5 = 0.001 pp
- Compare to cost: 0.5 pp higher unemployment rate


Benefit 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: 0.0009 pp (Shularick & Taylor: 4 %)
- Compare with 0.5 pp increase in unemployment

Source: Svensson, posts on Ekonomistas and larseosvensson.se, March 31, 2014.
Summarize cost and benefit of 1 pp higher policy rate

| Cost: Higher unemployment during the next few years, percentage points | 0.5 |
| Benefit: Lower expected future unemployment, percentage point | 0.001 |
| 1. Because of lower probability of a crisis | 0.0009 |
| 2. Because of a smaller increase in unemployment in a crisis | |
| Total benefit, percentage points | 0.0019 |
| Total benefit as a share of cost, percent | 0.38 |

- Riksbank framework 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

Households’ expected mortgage-rate costs and actual yield curve

Source: Flodén, “Monetary policy and macroprudential policy” (in Swedish), LO, 2014-03-27
Households’ expected 5-year mortgage-rate costs and actual 5-year mortgage rate

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

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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.”
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 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
Inflation expectations close to target, in spite of low inflation
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

![Graph showing CPI inflation, 5-yr moving average, and average 1995-2014 in Canada.]

Average inflation in some countries:
Sweden an outlier

<table>
<thead>
<tr>
<th>Country</th>
<th>Target</th>
<th>Index</th>
<th>Period</th>
<th>Average</th>
<th>Deviation</th>
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<tr>
<td>Sweden</td>
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<td>CPI</td>
<td>1997-2011</td>
<td>1.4</td>
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<tr>
<td>UK</td>
<td>2.5 (1992-2003)</td>
<td>RPIX</td>
<td>1997-2003</td>
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<td>-0.1</td>
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<td></td>
<td>2 (2004-)</td>
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<td>2004-2007</td>
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<td></td>
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<td>Euro zone</td>
<td>(&lt; 2) (1999-)</td>
<td>HICP</td>
<td>2000-2011</td>
<td>2.1</td>
<td></td>
</tr>
<tr>
<td>USA</td>
<td>(≤ 2) (2000-)</td>
<td>core CPI</td>
<td>2000-2011</td>
<td>2.0</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>core PCE</td>
<td>2000-2011</td>
<td>1.9</td>
<td></td>
</tr>
</tbody>
</table>
On average 0.8 percentage point higher unemployment since 1997 (downward-sloping long-run Phillips curve)


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                |
| Skuldvok 2007            | -0.04**                  | 0.02*                    |
|                          | (0.00)                   | (0.02)                   |
| Skuldtilväxt före 2007  | -0.97**                  | 0.28                     |
|                          | (0.00)                   | (0.16)                   |
| Bytebalans före 2007    | 0.38**                   | -0.35**                  |
|                          | (0.00)                   | (0.01)                   |
| Konsumtionstilväxt före 2007 | 2.10**              | -0.75                    |
|                          | (0.00)                   | (0.21)                   |
| Konstant                 | 5.66**                   | -0.61                    |
|                          | (0.00)                   | (0.71)                   |
| R2 (justerad)            | 0.74                     | 0.38                     |
|                         | (0.00)                   | (0.01)                   |
| Observationer           | 26                       | 26                       |

Källa: SCB, Valuegard

Housing prices relative to disposable income
Swedish 5-year zero-coupon real rate

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 inflation

### 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
- Real estate housing prices is a relative price:
  Nominal housing price/Price level (nom. price on consumption)
Household debt over real assets

Households’ debt over real assets

No negative correlation

Household debt/real assets and repo rate:

Sources: The Riksbank and Statistics Sweden
Household net wealth over total assets

Policy rate, policy-rate path, market expectations, and household expectations: April 2013
Stress test of new borrowers

Diagram 16. Simulation of higher unemployment and lower house prices


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
SEK 1 million loan, taken out in March 2003:
Real value of loan: Actual and for 2% inflation
Increase in real value: Actual compared to 2% inflation