

Comments on Bordo and Siklos, “Central Bank Credibility: An Historical and Quantitative Exploration”

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Norges Bank Conference

“Of the Uses of Central Banks: Lessons from History,”

Norges Bank, Oslo, June 5-6, 2014

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Paper deals with

- Empirical measures of central-bank credibility
- Historical narrative from 11 countries
- Credibility and institutional factors
- Credibility and financial crises (currency, banking, sovereign debt)
- Credibility and the size of economic shocks, monetary policy regime, and policy errors

Outline of comments

- Credibility, definitions and measures
- Inferring inflation target from reaction-function intercepts (Kozicki-Tinsley)

Central-bank credibility 1

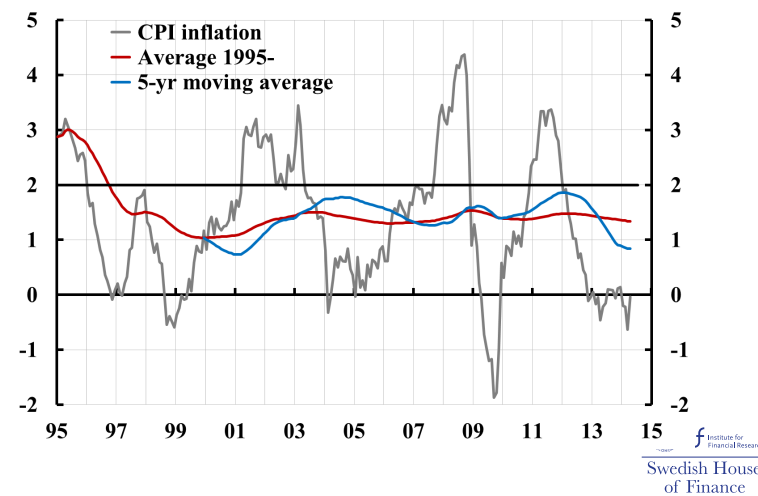
- General definition: Competence, “a safe pair of hands”
- More narrow definition: “Expected to achieve target”
 - Presumes an explicit (or known implicit) numerical target
 - Presumes measure of expectations of future target variable
 - Credibility: Proximity to target of expectations of future target variable
- Inflation target π^* , inflation expectations π^e
 - Credibility: $\pi^e \approx \pi^*$
- Exchange-rate target (target zone): s^* , $[\underline{s}, \bar{s}]$
 - Credibility: $s^e \approx s^*$, $s^e \in [\underline{s}, \bar{s}]$

Central-bank credibility 2

- Distinguish target credibility from **target achievement**
 - Inflation-target achievement: Use $\pi_t \approx \pi^*$?
 - No, imperfect control of inflation!
 - Some deviations from inflation target are unavoidable, unanticipated shocks
 - No, flexible inflation targeting (dual mandate): without prejudice to price stability, also stabilize real economy (employment or unemployment around long-run sustainable rate)
 - Some deviations from inflation target are deliberate, the result of compromise with other objective, “balanced approach” to mitigate deviations
- **Inflation-target achievement:** Longer-run average of inflation equal to target

Example 1

Riksbank target achievement: Not good



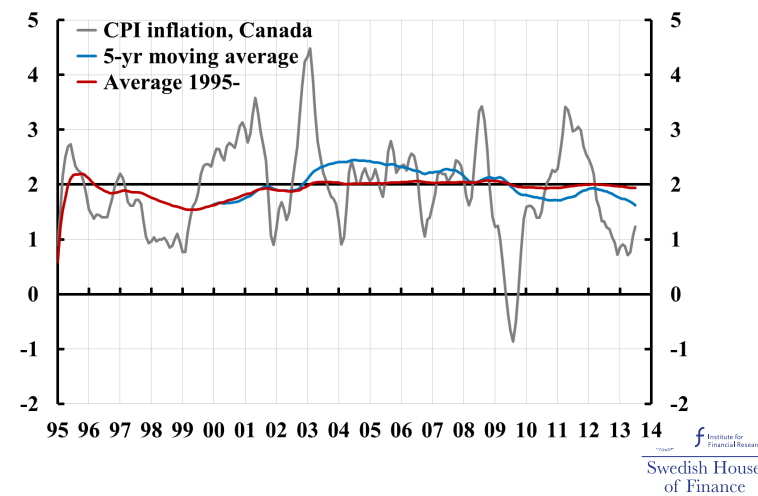
Central-bank credibility 3

- Bordo-Siklos definition of credibility:

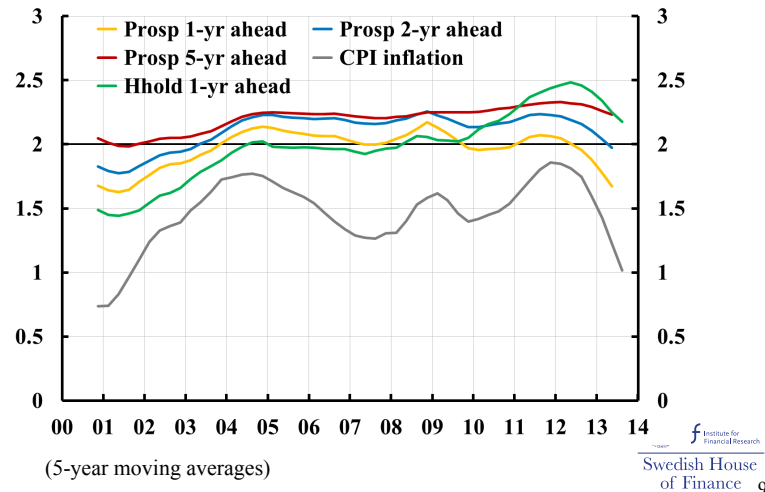
$$(\pi_{it} - \bar{\pi}_{it})^2 = \theta \mathbf{Z}_{it} + \varphi_i (\pi_{i,t-1} - \bar{\pi}_{i,t-1})^2 + \mathbf{u}_{it}$$
- Small squared deviation from inflation target
- But this is an imperfect measure of inflation-target *achievement*, rather than a measure of *credibility*
 - Achievement rather than credibility, since outcome rather than expectations
 - Imperfect, because it includes unanticipated shocks (which differing across economies and time) as well as deliberate deviations under flexible inflation targeting

Example 2

Bank of Canada target achievement: Excellent



Example 3: Riksbank target credibility: Good
Inflation expectations close to target, in spite of average inflation below target



Inferring inflation target from reaction-function intercept? (Kozicki-Tinsley)

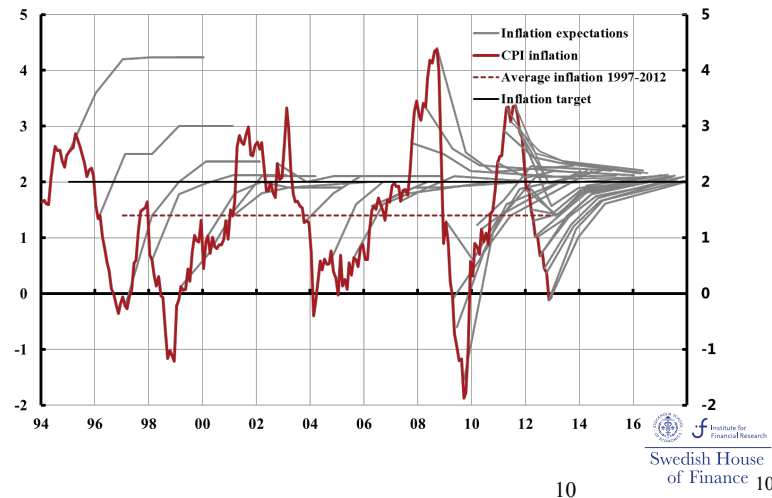
$$\begin{aligned} \pi_t - \pi_t^e &= -\gamma(u_t - u^*) \\ u_t - u^* &= \theta(r_t - r^*) \\ r_t &\equiv i_t - \pi_t^e \\ i_t &= r^* + \bar{\pi} + \alpha(\pi_t - \bar{\pi}) \end{aligned}$$

- Take unconditional mean and combine:

$$\pi - \pi^e = -\gamma\theta(r - r^*) = -\gamma\theta[(\bar{\pi} - \pi^e) + \alpha(\pi - \bar{\pi})]$$

$$\pi = \frac{1 + \gamma\theta}{1 + \gamma\theta\alpha} \pi^e + \frac{\gamma\theta(\alpha - 1)}{1 + \gamma\theta\alpha} \bar{\pi}$$
- We have $\pi^e > \pi > \bar{\pi}$ or $\pi^e < \pi < \bar{\pi}$, or equality
- If $\pi = \pi^*$ and $\pi^e > \pi^*$, then $\pi^e > \pi^* = \pi > \bar{\pi}$
- Sweden: If $\pi^e = \pi^*$ and $\pi^* > \pi$, then $\pi^e = \pi^* > \pi > \bar{\pi}$
- If high inflation expectations, higher real interest rate needed to fulfill inflation target (which implies a lower $\bar{\pi}$)

Example 3
Riksbank graph: "Inflation target credible"

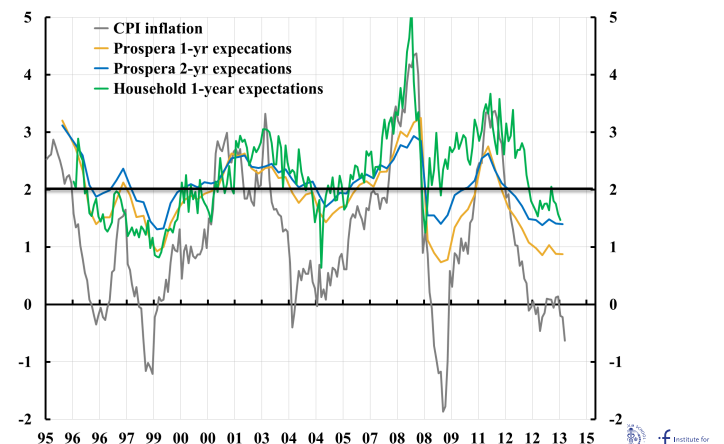


Summing up

- Distinguish target achievement and target credibility
 - Riksbank: Target achievement bad, target credibility good
 - $\pi < \pi^* = \pi^e$: Higher unemployment, higher real debt
- Measures of credibility are regime-dependent (target variable(s) different for different regimes)
- Examine each regime separately, break up into subsamples
- Measures of expectations essential (surveys, professional forecasts, break-even inflation rates, expected exchange rates from UIP...)
- Probably not enough old data

Extra slides

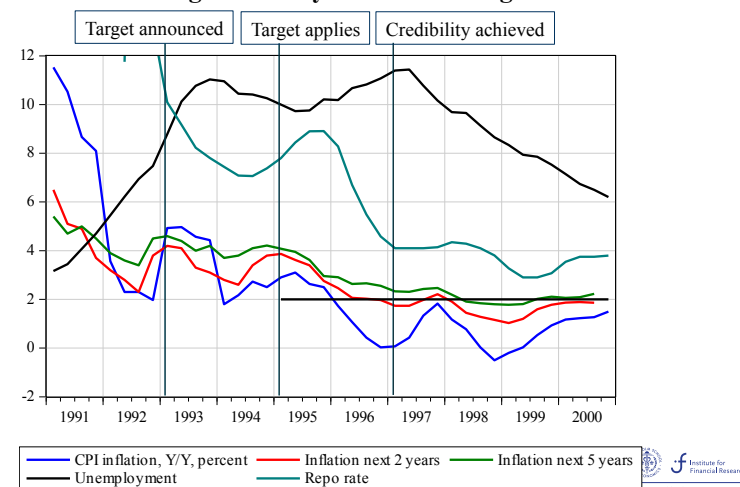
Example 3: Riksbank target credibility: Good Inflation expectations close to target, in spite of average inflation below target



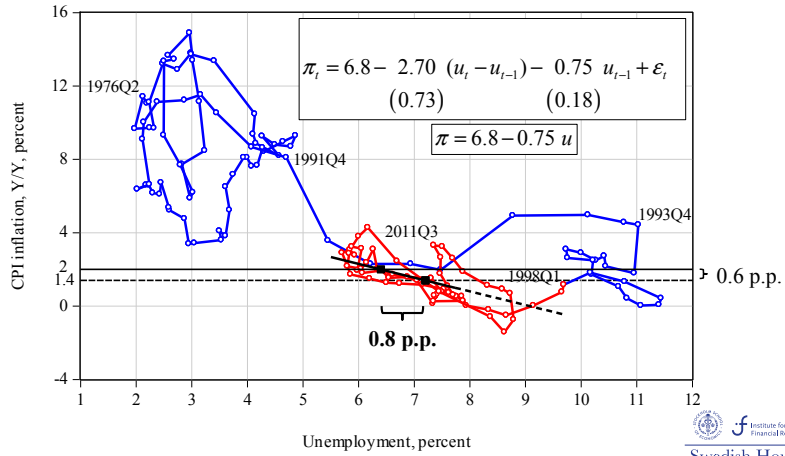
Average inflation in some countries

| 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 | |
| US | (<= 2) (2000-) | core CPI | 2000-2011 | 2.0 | |
| | | core PCE | 2000-2011 | 1.9 | |

Example 4: Riksbank establishing credibility of inflation target 1993-95



Sweden: Average inflation below target has led to higher average unemployment 1997-2011

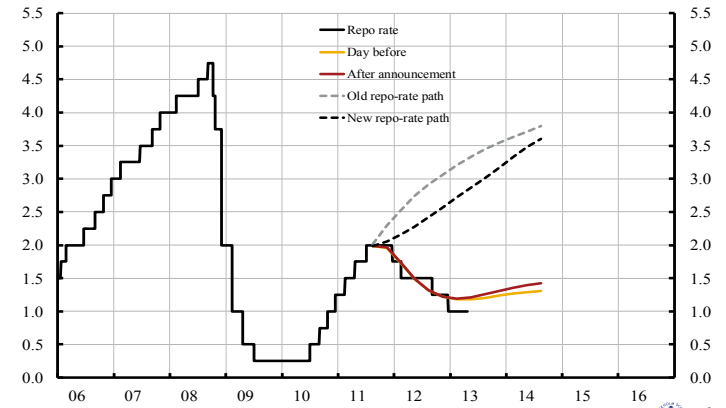


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Credibility of Riksbank forward guidance 2

Failure!

September 2011

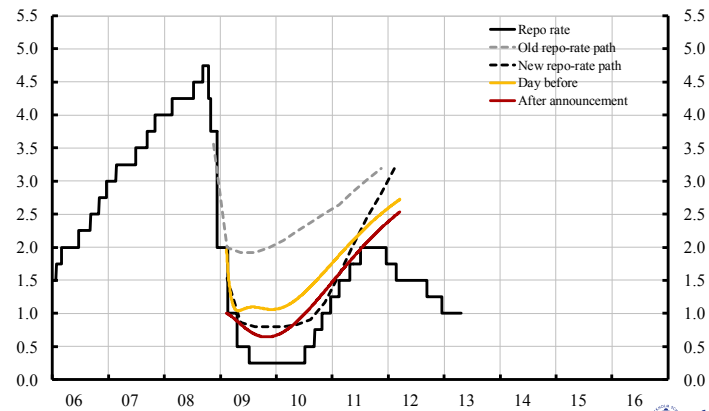


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Credibility of Riksbank forward guidance 1

Success!

February 2009



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