

The Relation between Monetary Policy and Financial-Stability Policy

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Some general questions

- What is the relation between monetary policy and financial-stability policy?
- How can they be distinguished?
- Should they have the same or different goals?
- Should they be conducted separately or coordinately?
- Should they be conducted by the same or different authorities?
- What if monetary policy would pose a threat to financial stability?
- Should monetary policy ever “lean against the wind” (of credit booms and asset prices)?
- The answers to these questions continue to be debated

The questions examined here **and short answers**

- How can different economic policies be distinguished?
By their goals, instrument, and authorities
- How can monetary and financial-stability policies be distinguished? **They are very different, and mostly orthogonal**
- Should monetary policy have a third goal, financial stability? **No!**
- Should monetary and financial-stability policies be conducted separately or coordinately? **Normally separately**
- Should they be conducted by the same or different authorities?
Separate decision-making bodies essential
- What if monetary policy would pose a threat to financial stability?
BoE model: Financial-stability authority judges and warns
- Should monetary policy ever “lean against the wind” (LAW)?
Only if supported by convincing cost-benefit analysis.
Remember the Swedish LAW 2010-2013 and turnaround 2014.
Systematic LAW implies lower average inflation and interest rate!

How can different economic policies be distinguished?

- Goals, instruments, responsible authorities
- Example: Fiscal policy and monetary policy
- Different goals, different instruments, different authorities
- Considerable interaction
 - Fiscal policy affects inflation and real activity
 - Monetary policy affects government revenues and expenditures
- Conducted separately, not coordinately: Nash equilibrium
- Is the relation between monetary and financial-stability policies any different?

How can monetary and financial-stability policies be distinguished? **Monetary policy**

- Goals (simple)
 - Flexible inflation targeting: Price stability and full employment
 - Stabilize inflation around inflation target and unemployment around its long-run sustainable rate
- Instruments
 - Normal times: Policy rate and communication (forecasts, forward guidance, ...)
 - Crisis times, crisis management: Unconventional measures, balance sheet policies (QE), FX policy (interventions, currency floors) ...
- Authority: Central bank

How can monetary and financial-stability policies be distinguished? **Financial-stability policy**

- Goal (complex)
 - **Financial stability**
 - Definition: Financial system can fulfill its three main functions (submitting payments, transforming saving into financing, and allowing risk management/sharing), with sufficient **resilience** to disturbances that threaten those functions
 - **Resilience** crucial
 - Also secondary goal: “Support government policies”
 - Not the stability of the graveyard (Tucker: Political decision on standard of resilience)
- Instruments
 - Normal times, crisis prevention: Supervision, regulation, communication, stress tests ...
 - Crisis times, crisis management: ...
- Authority(ies)
 - Varies across countries: FSA(s), CB, Treasury, ...
- **Monetary and financial-stability policies are very different**

Should monetary policy have a third goal, financial stability? 1

- Answer: No
- **Economic policies should only have goals that they can achieve**
- Monetary policy **can** achieve price stability and full employment (thus suitable goals)
- Monetary policy **cannot** achieve financial stability (thus **not** suitable goal)
- There is no way monetary policy can achieve sufficient resilience (more capital, less funding risk,...) of the financial system
- **No systematic effects** of MP on financial stability: Signs often indeterminate, effects normally small
- Leaning against the wind (LAW)?

Should monetary policy have a third goal, financial stability? 2

- Best **theoretical** argument for LAW (Jeremy Stein, 2013):
“[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 **it gets in all of the cracks**”
- But **empirical** estimates 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
- **Qualitative** results are not enough;
quantitative results are needed, **numbers!**

Should monetary policy have a third goal, financial stability? 3

- Car metaphor 1 (Bill White)
 - Currently MP on accelerator; FSP on brake: Not good
 - Policies are close substitutes
- Car metaphor 2
 - MP keeps steady speed: Uphill accelerator, downhill brake
 - FSP keeps airbags and safety belts on
 - Policies are mostly orthogonal
- **MP** tightens/eases **financial conditions** through policy-rate path to achieve price stability and full employment
 - This has **no systematic effect** on financial stability (sometimes positive, sometimes negative, usually small or zero, depending on circumstances)
- **FSP** affects **resilience** through capital and funding regulation
 - This has **no systematic effects** on financial conditions (may sometimes tighten, sometimes ease, usually small or zero, depending on circumstances)
- Policies **mostly orthogonal**

Should monetary policy and financial-stability policies be conducted separately or coordinately?

- In normal times, crisis prevention: Conducted separately, also when conducted by the same authority
 - But each policy should be fully informed about the conduct and impact of the other policy and take that into account
 - Nash equilibrium rather than coordinated equilibrium/joint optimization
 - MP much more effective in achieving price and real stability
 - FSP much more effective in achieving financial stability
- In crisis times, crisis management: Full cooperation and coordination of policies by FSA, CB, MoF, bank-resolution authority, ...

Should monetary policy and financial-stability policies be conducted by the same authority or different ones?

- Separate decision-making bodies w/ separate goals and instruments
- Accountability and efficiency justify all financial-stability instruments in one authority
- Two clean models that should work well: UK and Sweden
- UK model
 - BoE: Two committees, MPC and FPC (Kohn, Tucker)
- Swedish model
 - FSA: Financial stability, all macro- and microprudential instruments
 - Riksbank: Monetary policy, no financial-stability instruments (except liquidity support in crises, but **not monopoly** on that)

Swedish model

- Gov't Aug 2013: New strengthened framework for financial stability
- Swedish FSA
 - Main responsibility for financial stability
 - All macro- and microprudential instruments
 - Boundary between macro- and microprudential policy unclear, especially in Sweden (oligopoly of 4 banks dominate financial sector)
 - Efficiency and accountability: Micro- and macropru together, in one authority
 - But legal authority remain to be fixed
- Riksbank
 - No macroprudential instruments
- Financial Stability Council
 - Members: MoF (chair), FSA, NDO (bank resolution authority), RB
 - Forum for discussion and exchange of information, not decisions
 - Published minutes, reports from workgroups
 - FSC will lead crisis management in crisis

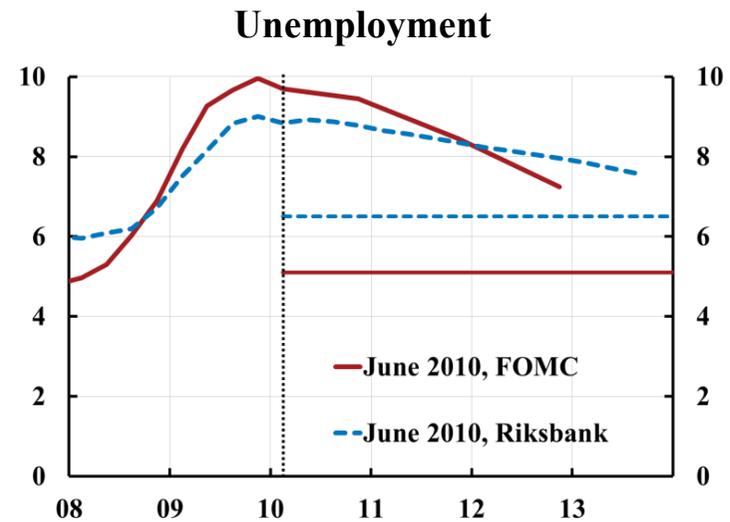
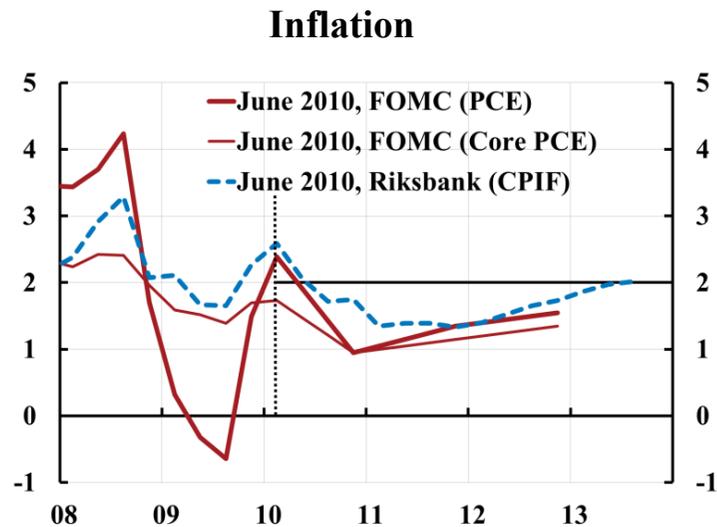
What if monetary policy would pose a threat to financial stability?

- BoE model, Aug 2013: Forward-guidance promise
- 3rd knockout: If the FPC would judge that monetary policy poses a significant threat to financial stability that it cannot contain with its instruments
- It should be the FS authority, not the MP one, to make the judgement and warn the MP authority
- The MP authority may then adjust monetary policy or not
- Effectively “comply or explain”
- But preserves the independence of monetary policy

Leaning against the wind (LAW)

- Policy strongly promoted by BIS
- Followed by Norges Bank and RBA
- Previously followed by the Riksbank, but now dramatically abandoned

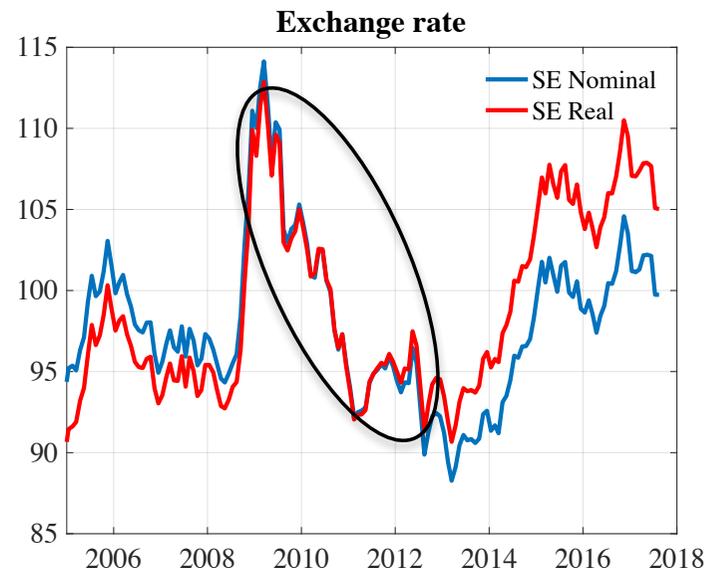
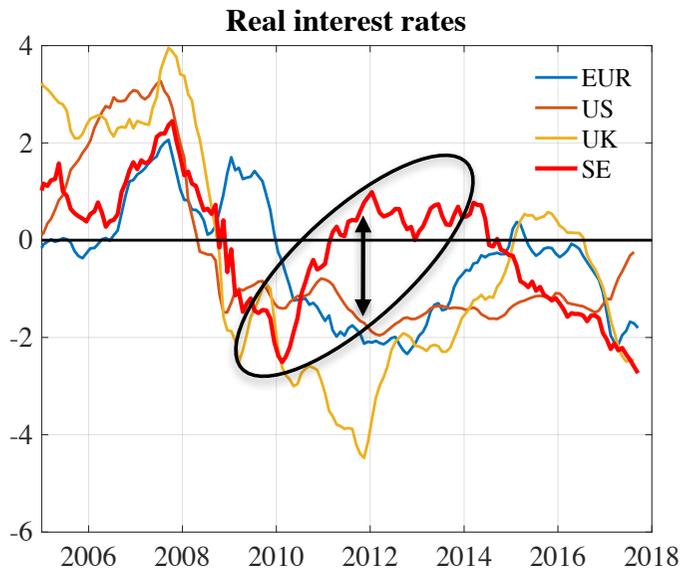
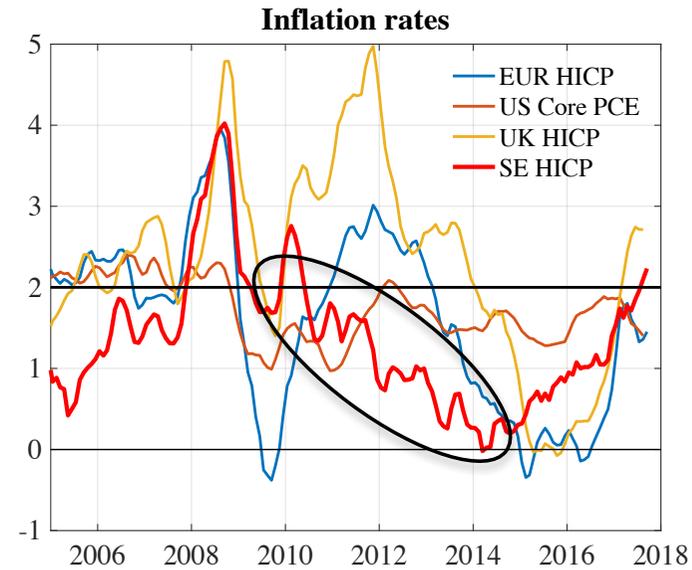
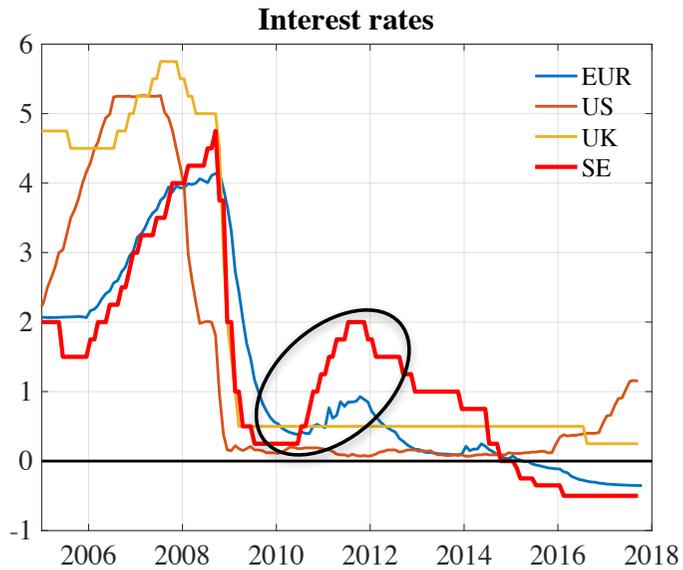
Fed and Riksbank forecasts June 2010



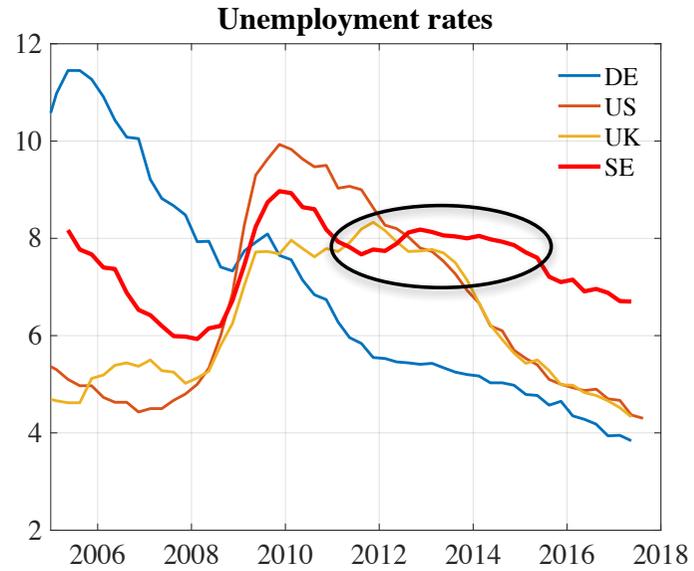
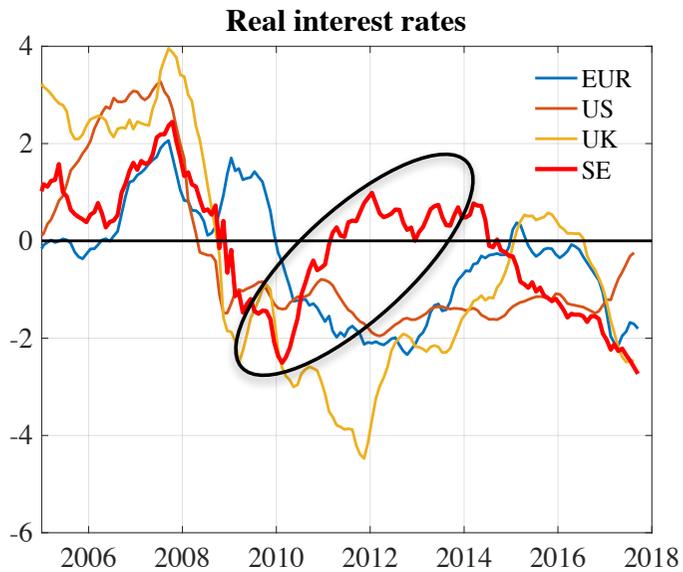
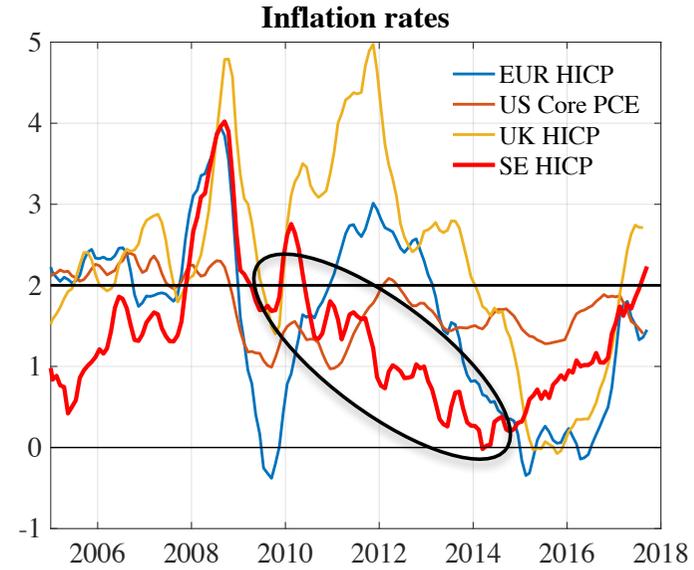
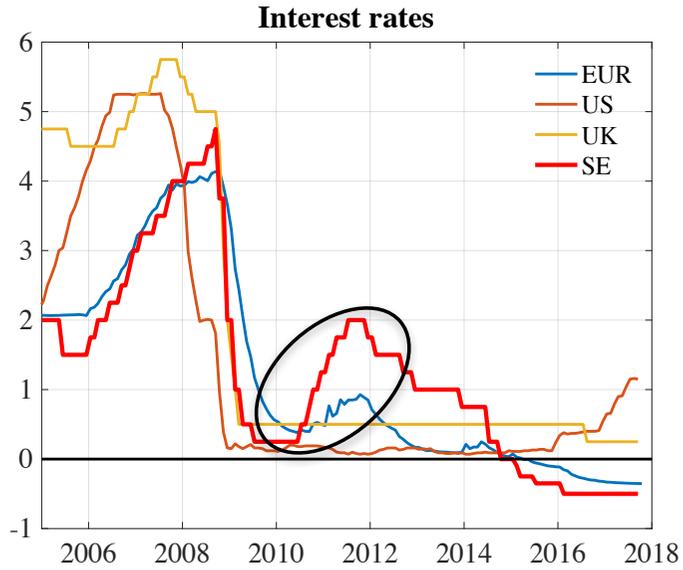
- Riksbank and Fed forecasts quite similar
- Policies very different
 - Fed: Continue to keep policy rate between 0 and 0.25%, forward guidance, prepare QE2
 - Riksbank: Start raising the policy rate from 0.25% to 2% in July 2011
 - What if the Fed had followed the Riksbank example?

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

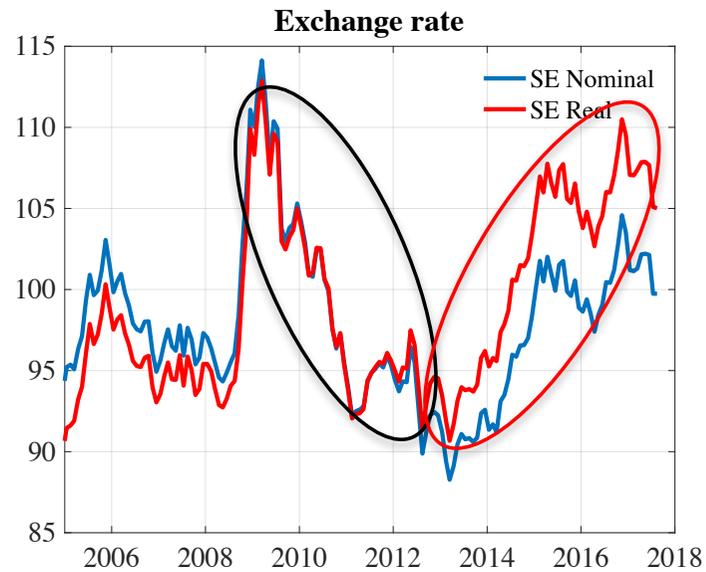
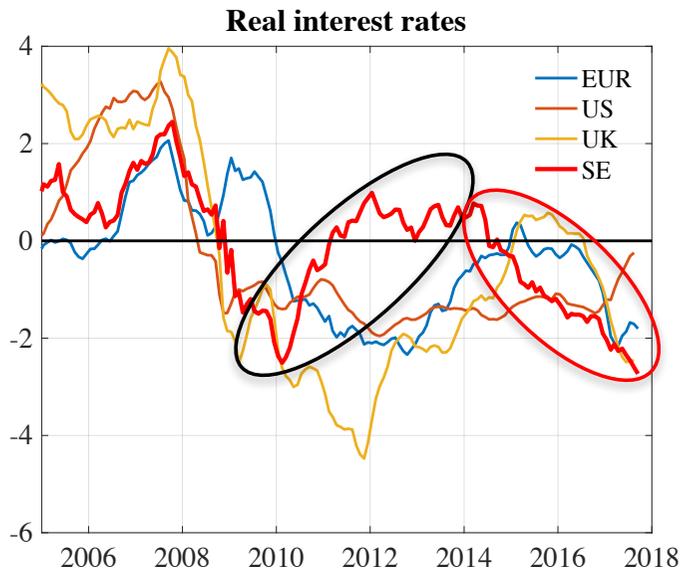
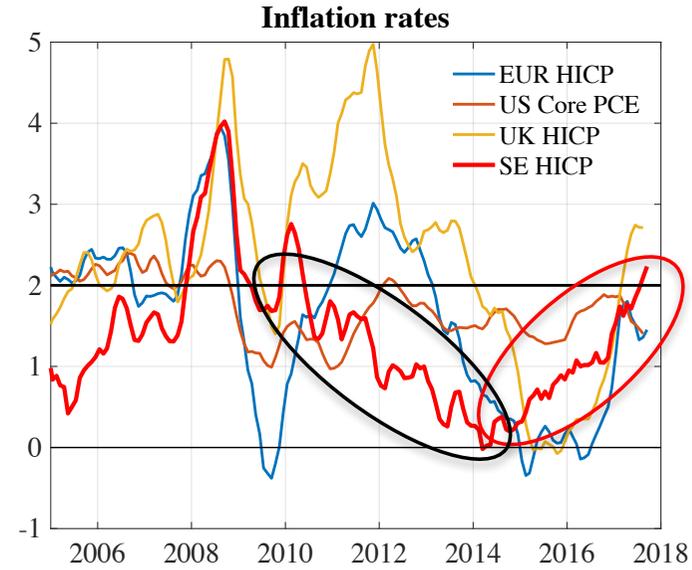
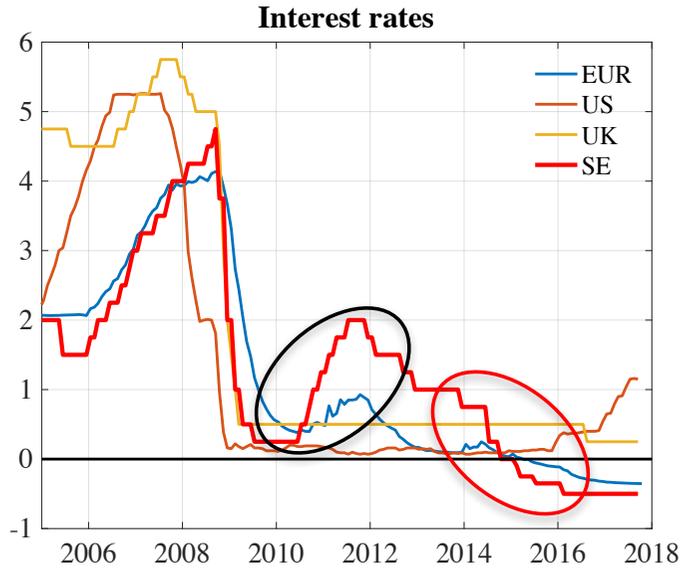
The Swedish experience: LAW



The Swedish experience: LAW

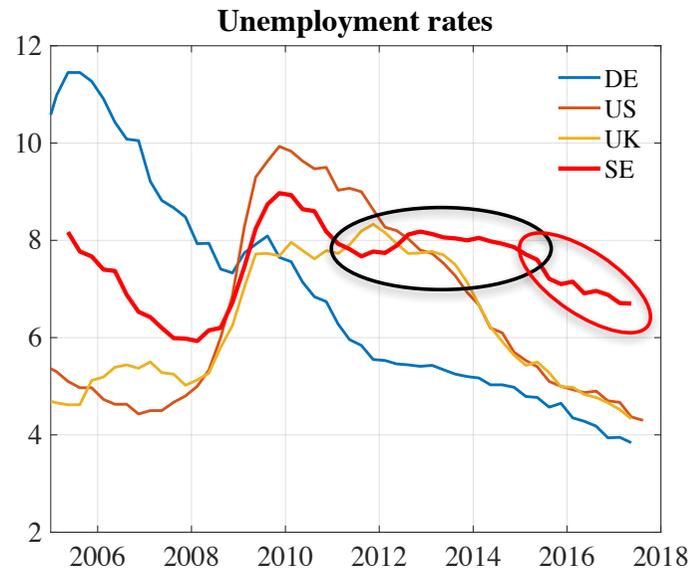
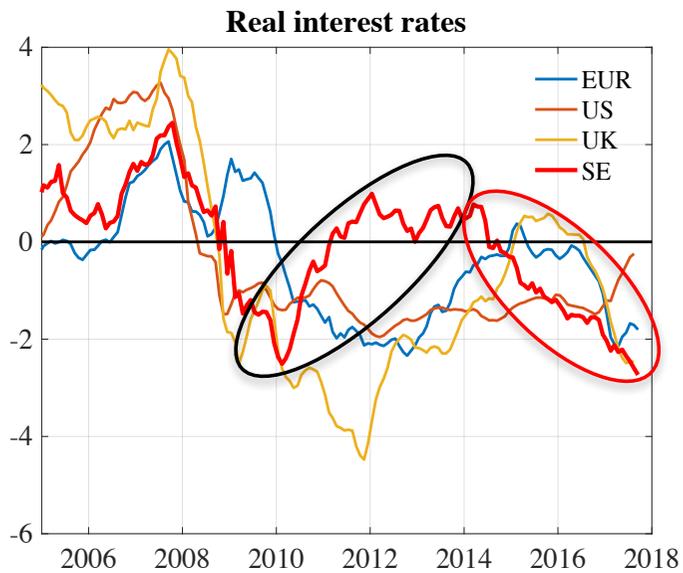
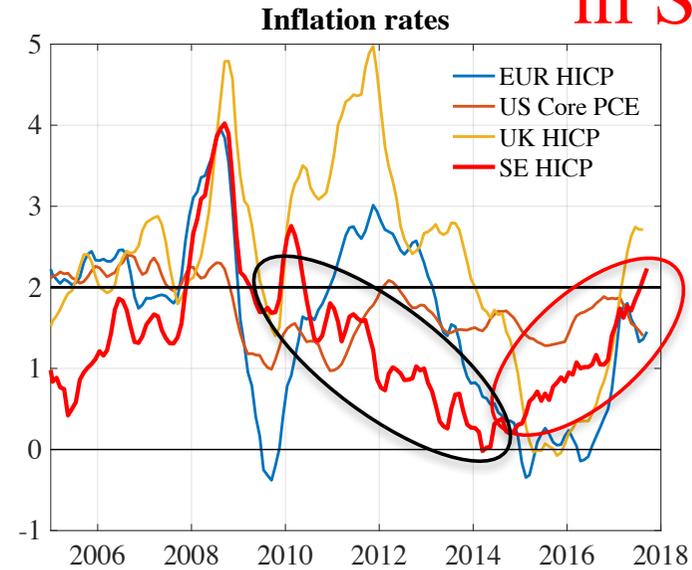
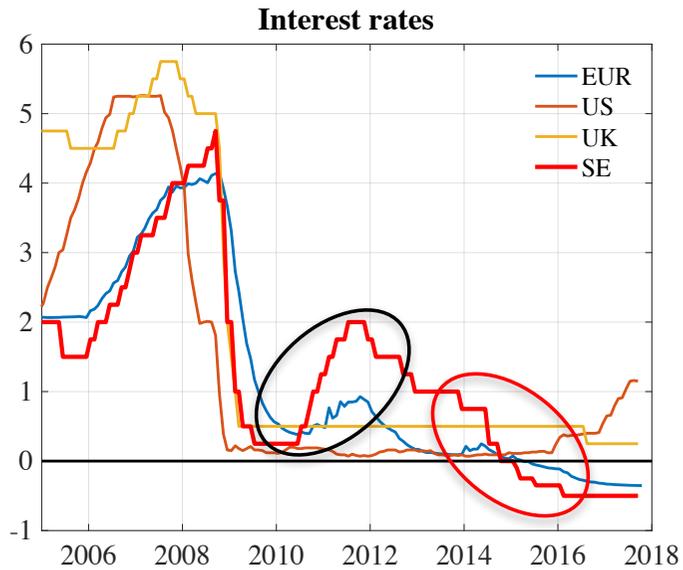


The Swedish experience: Turnaround



The Swedish experience: Turnaround.

MP works
in Sweden!



Leaning against the wind (LAW)?

- Widespread skepticism against LAW beyond BIS, Norges Bank, RBA
- Bernanke; Draghi; Yellen; Evans; Williams; IMF 2015; FOMC 2016; Allen, Bean, De Gregorio 2016, “Independent Review of BIS Research”; Sveriges Riksbank 2017
- But the debate seems to continue

Widespread skepticism against LAW

- **Bernanke (2015):** “As academics (and former academics) like to say, more research on this issue is needed. But the **early returns don't favor the idea** that central banks should significantly change their rate-setting policies to mitigate risks to financial stability.”
- **Evans (2014):** “Indeed, any decision to instead rely on more-restrictive interest rate policies to achieve financial stability at the expense of poorer macroeconomic outcomes must pass a cost-benefit test. And such a test would have to clearly illustrate that the adverse economic outcomes from more-restrictive interest rate policies would be better and more acceptable to society than the outcomes that can be achieved by using enhanced supervisory tools alone to address financial stability risks. **I have yet to see this argued convincingly.**”
- **Williams (2015):** “[M]onetary policy is **poorly suited** for dealing with financial stability, **even as a last resort.**”
- **IMF (2015),** “The question is whether monetary policy should be altered to contain financial stability risks. ... Based on our current knowledge, and in present circumstances, the **answer is generally no.**”
- **FOMC (2016):** “Most participants judged that the **benefits** of using monetary policy to address threats to financial stability would **typically be outweighed by the costs** ... ; some also noted that the **benefits are highly uncertain.**”
- **Allen, Bean, and De Gregorio (2016), “Independent Review of BIS Research”:** “so far the **[BIS] argument for LAW** seems to have **cut relatively little ice** with those actually responsible for setting monetary policy. In part, that is because of the **lack of convincing evidence** that the expected benefits outweigh the expected costs.
...in some cases the research programme appeared **somewhat one-eyed**. [Of 9 projects on financial stability and monetary policy] the first and (to some extent) the fifth seem **motivated primarily by a desire to overturn Svensson's [2017] conclusion on the inadvisability of LAW.**
...the research effort ... seems **excessively focussed on building the case for LAW**, rather than also investigating the scope for other policy actions to address financial stability risks.” [Reference updated.]
- **Sveriges Riksbank (2017, p. 13):** “It is not likely that small increases in the repo rate would have any tangible effects on household indebtedness. **A large increase in the repo rate could certainly slow down the buildup of debts but would also lead to higher unemployment, a much stronger krona and lower inflation.** Other measures more specifically aimed at reducing the risks associated with household debt have less negative effects on the economy as a whole.”

Cost-benefit analysis of LAW 1

- Costs of higher policy rate:
A weaker economy: Lower inflation and higher unemployment
 - If no crisis: Non-crisis loss is larger (1st cost)
 - *If* crisis occurs: Crisis loss is larger if the economy is initially weaker because of LAW (2nd cost, the main cost)
 - 2nd cost disregarded in previous literature (including my own work)
- Possible benefits: Lower probability or magnitude of crisis
- Empirically, costs exceed benefits by a substantial margin
- Reason: Policy-rate effects on probability and magnitude too small
- Somewhat surprisingly, **less effective financial-stability policy**, with higher probability, larger magnitude, or longer duration of a crisis tends to **increases costs more than benefits** (increases 2nd cost)
- Robust result: **Overturing** it requires policy-rate effects **5-40 std. errors larger** than benchmark empirical estimates

Svensson (2017), “Cost-Benefit Analysis of Leaning Against the Wind,”
Journal of Monetary Economics 90 (October)

Cost-benefit analysis of LAW 2

$$E[L_t] = (1 - p_t)E[L_t^n] + p_tE[L_t^c]$$

$$= (1 - p_t)E(u_t^n - u_t^*)^2 + p_tE(u_t^n + \Delta u_t - u_t^*)^2$$

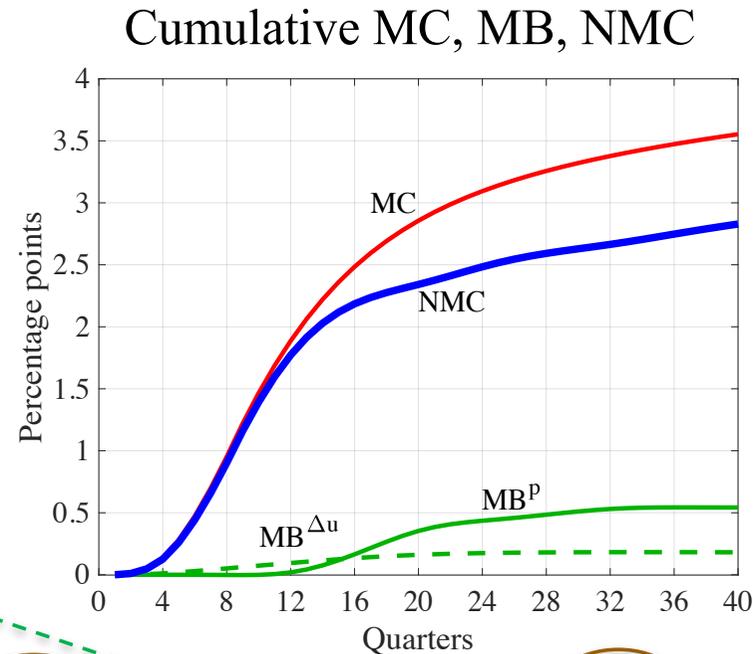
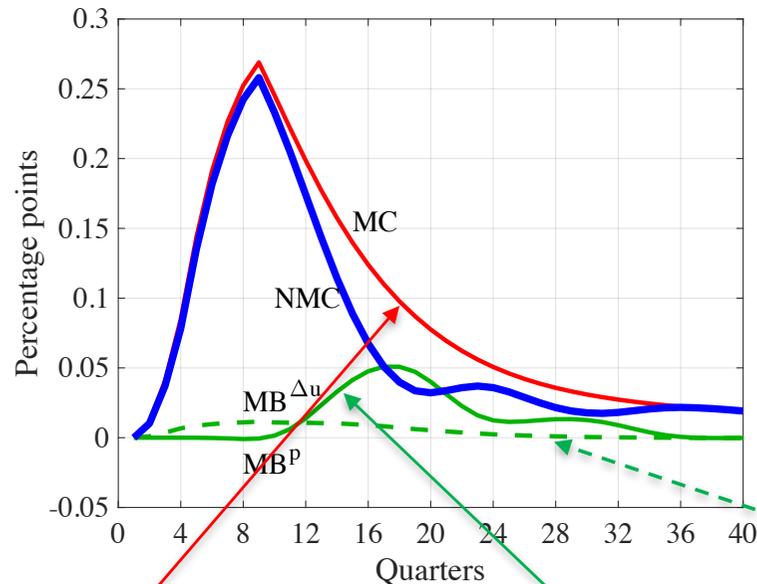
p_t prob. of crisis; L_t^n non-crisis loss; L_t^c crisis loss (indirect loss functions, flexible inflation targeting); u_t^n non-crisis unempl.; u_t^c crisis unempl.; u_t^* optimal unempl. for $p_t = 0$ (optimal flexible infl. targeting); Δu_t crisis unempl. increase (magnitude of crisis) (net of “cleaning”);

- LAW: $di > 0$ at $u_t^n = u_t^*$ (optimal FIT for $p_t = 0$):**

$$\begin{aligned}
 \frac{d}{di} E[L_t] |_{u_t^n = u_t^*} &= 2p_t E[\Delta u_t] \frac{du_t^n}{di} \quad [2^{\text{nd}} \text{ cost: } \frac{dL_t^c}{du_t^n} > 0] \\
 &\quad - E[(\Delta u_t)^2] \left(-\frac{dp_t}{di}\right) - 2p_t E[\Delta u_t] \left(-\frac{d\Delta u_t}{di}\right) \\
 &\equiv \text{MC}_t - \text{MB}_t^p - \text{MB}_t^{\Delta u}
 \end{aligned}$$

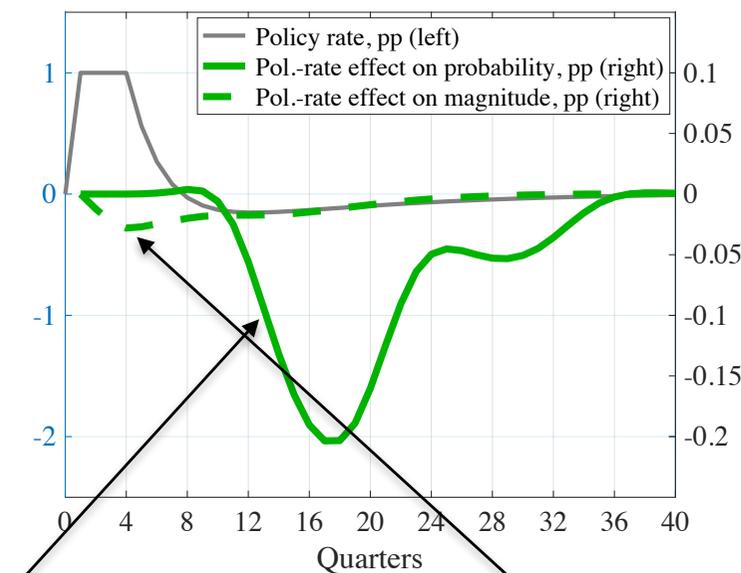
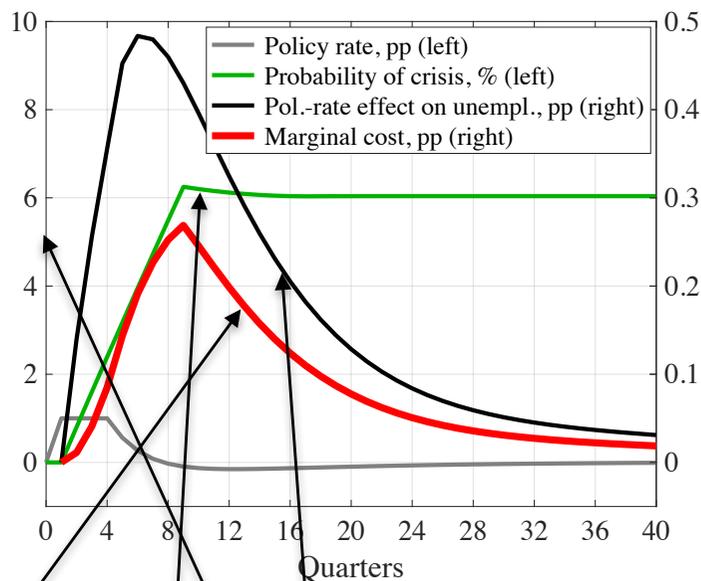
Svensson (2017), “Cost-Benefit Analysis of Leaning Against the Wind,”
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Cost-benefit analysis of LAW 3



- $MC_t = 2p_t\Delta u \frac{du_t}{di}$; $MB_t^p = (\Delta u)^2 \left(-\frac{dp_t}{di}\right)$; $MB_t^{\Delta u} = 2p_t\Delta u \left(-\frac{d\Delta u_t}{di}\right)$
- 5 inputs: Probability of crises (p_t); magnitude of crises (Δu); policy-rate effects on unemployment (du_t/di), probability (dp_t/di), and magnitude ($d\Delta u_t/di$)
- Few assumptions, very simple, transparent (preferred to complicated analysis)
- Easy to redo
- Framework for comparing new and old results

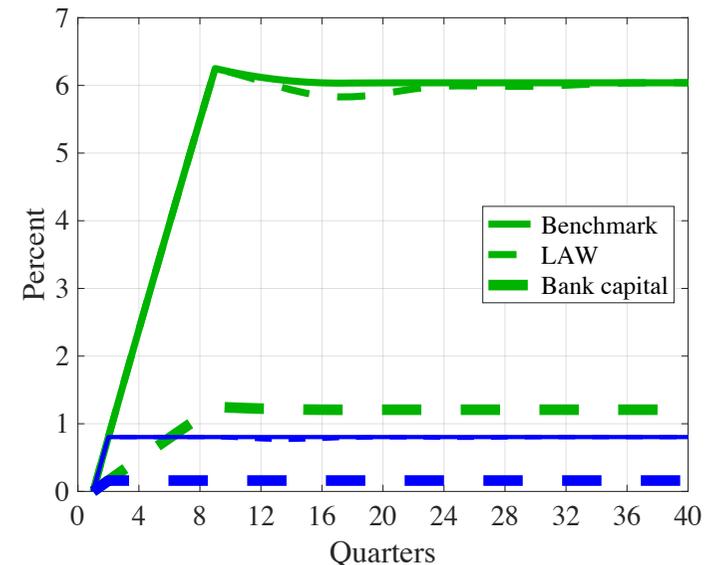
Cost-benefit analysis of LAW 4 Components MC, MB



- $MC_t = 2p_t\Delta u \frac{du_t}{di}$; $MB_t^p = (\Delta u)^2 \left(-\frac{dp_t}{di}\right)$; $MB_t^{\Delta u} = 2p_t\Delta u \left(-\frac{d\Delta u_t}{di}\right)$
- Representative benchmark estimates:
 Policy-rate effects on
 unemployment (IMF 2015, Riksbank),
 probability (IMF 2015, Schularick and Taylor 2012; Riksbank 2014)
 magnitude (Flodén 2014; Jorda, Schularick, and Taylor 2013; Riksbank 2014)

For financial stability, no choice but to use financial-stability policy

- Probability of **crisis** and **crisis start** (solid)
- Policy-rate effects (dashed)
- Dagher, Dell’Ariccia, Laeven, Ratnovski, Tong (2016), “Benefits and Costs of Bank Capital,” IMF SDN/16/04
- 20% bank capital relative to risk-weighted assets might have avoided 80% of historical banking crises in OECD since 1970 (DDLRT, 2016, fig. 7)
- Effect of capital on probability of crises: Shift from solid to thick dashed lines



Systematic LAW?

- Implies lower average inflation and interest rates, larger risk for ELB

- Policy rule, no LAW:
$$i_t = r + \pi_t + \gamma(\pi_t - \pi^*)$$

- Take (unconditional) mean:
$$E[i_t] = r + E[\pi_t] + \gamma(E[\pi_t] - \pi^*) \quad (1)$$

- Assume avg Fisher eqn:
$$E[i_t] = r + E[\pi_t] \quad (2)$$

- By (1) and (2):
$$E[\pi_t] = \pi^*, \quad E[i_t] = r + \pi^*$$

- LAW:
$$i_t = r + \pi_t + \gamma(\pi_t - \pi^*) + \alpha_t, \quad E[\alpha_t] = \alpha > 0$$

- Take mean:
$$E[i_t] = r + E[\pi_t] + \gamma(E[\pi_t] - \pi^*) + \alpha \quad (3)$$

- By (2) and (3) :
$$E[\pi_t] = \pi^{**} \equiv \pi^* - \alpha/\gamma < \pi^*$$

$$E[i_t] = r + \pi^{**} < r + \pi^*$$

- **Lower** average inflation and policy rate
- **Larger** risk for ELB
- **Good?**

Summing up

- **Economic policies should only have goals that they can achieve**
- **Monetary policy should not have financial stability as a goal**
- Monetary and financial-stability policies
 - Have different goals, instruments, effects, and (often) authorities
 - **Are very different, mostly orthogonal**
 - **Should normally be conducted separately**, by separate decision-making bodies (also when conducted by the same authority), but each policy under full information about the conduct of the other policy
 - The UK and Sweden provide two clean systems, with clear separation and accountability
- What if monetary policy would pose a threat to financial stability?
 - **FS authority judges and warns**, MP authority decides whether to act
- Should monetary policy ever “lean against the wind” (LAW)?
 - **Only if supported by convincing cost-benefit analysis**
 - **Remember the Swedish LAW 2010-2013 and turnaround 2014**
 - **The cost-benefit framework presented is simple, transparent, and easily applied**
 - **Systematic LAW may lower average inflation and interest rate**

