Main ideas	What the authors do	Interpretations	Unstable is not optimal	Other analyses	Why worry
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Discussion of Evans and Honkapohja, "Robust Learning Stability."

James Bullard *President and CEO* Federal Reserve Bank of St. Louis¹

28 May 2008 Frontiers in Monetary Theory and Policy—IMES, BOJ

¹Views expressed are those of the author and do not necessarily reflect official positions of the FOMC or the Federal Reserve System. $\Box \rightarrow \langle \mathcal{O} \rangle \land \langle \mathcal{O} \rangle \land \langle \mathcal{O} \rangle$

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• That condition is known as *expectational stability*.

Main ideas	What the authors do	Interpretations	Unstable is not optimal	Other analyses	Why worry
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• Instrument rules plus various forms of "optimal" policy.

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- Replace decreasing gain with constant gain.
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• Keep policymaker information in line with reality.

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- Replace decreasing gain with constant gain.
 - Agents are trying to robustly track the changing environment in which they operate.
- Concentrate on operational rules in the sense of McCallum.
 - Keep policymaker information in line with reality.
- In particular, contemporaneous values of output and inflation are not known when policy decisions are made.

Main ideas	What the authors do	Interpretations	Unstable is not optimal	Other analyses	Why worry
0	0	0	0	0	0
0	•	0	0	0	0
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• There are many recommended good or "optimal" policies for this model ...

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• Policymakers following these recommended approaches in this environment would be surprised to find that the economy does not coordinate on the intended equilibrium.

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 - ... but most produce expectational instability in this setting.

- Policymakers following these recommended approaches in this environment would be surprised to find that the economy does not coordinate on the intended equilibrium.
- To obtain expectational stability, use the expectations-based rules of Evans-Honkapohja (2003, 2006).

Main ideas	What the authors do	Interpretations	Unstable is not optimal	Other analyses	Why worry
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• Stability is not a common mode of analysis in macroeconomics and monetary policy.

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- We are talking about locally to the REE.

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- One analogy: off-equilibrium play in games.
- Another analogy: default punishment in models with endogenous debt constraints.

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Expectational instability

• Some might worry that the unstable case is "not really observed."

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• Does it happen?

Main ideas	What the authors do	Interpretations	Unstable is not optimal	Other analyses	Why worry
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0	0	•	0	0	0
			0		

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- Does it happen?
 - Consider the breakdown of Bretton Woods.

Main ideas	What the authors do	Interpretations	Unstable is not optimal	Other analyses	Why worry
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- Does it happen?
 - Consider the breakdown of Bretton Woods.
 - And maybe we should worry about Sweden, as we will see below.

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Main ideas	What the authors do	Interpretations	Unstable is not optimal	Other analyses	Why worry
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Taylor-type rules

• Some potential for instability in the calibrated case.

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Main ideas	What the authors do	Interpretations	Unstable is not optimal	Other analyses	Why worry
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Taylor-type rules

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- Taylor rule fairs better than some other recommended rules studied later in the paper.
- Instability requires the combination of operational rules with constant gain learning.

Main ideas	What the authors do	Interpretations	Unstable is not optimal	Other analyses	Why worry
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0	0	0	0	0	0
0	0	0	•	0	0
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- Produces expectational instability if α_i sufficiently small.
- Similar results for Duffy/Xiao under commitment.
- Worrisome.
- The expectations-based approach of Evans and Honkapohja solves this problem and provides robust expectational stability.

Main ideas	What the authors do	Interpretations	Unstable is not optimal	Other analyses	Why worry
0	0	0	0	0	0
0	0	0	0	0	0
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• No interest rate smoothing, timeless perspective, goal is to implement the FOC.

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0	0	0	0	0	0
0	0	0	0	0	0

- No interest rate smoothing, timeless perspective, goal is to implement the FOC.
- Svensson and Woodford (2005) recommended rule equation (18) in the paper.
- Operational versions can be associated with instability under learning for reasonable gain parameters.

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Main ideas	What the authors do	Interpretations	Unstable is not optimal	Other analyses	Why worry
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- No interest rate smoothing, timeless perspective, goal is to implement the FOC.
- Svensson and Woodford (2005) recommended rule equation (18) in the paper.
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• Worrisome for Sweden? Figure 2?

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- Worrisome for Sweden? Figure 2?
- There is nothing optimal about instability.

Main ideas	What the authors do	Interpretations	Unstable is not optimal	Other analyses	Why worry
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Woodford NRE

• Woodford (2008) has considered an alternative approach to checking the robustness of policy to the possibility that expectations may not be fully rational.

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Woodford NRE

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- Avoids committing to a particular recursive algorithm to describe learning.
- But, expectational stability still plays a role in that analysis.

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• Many feel that recursive learning should be Bayesian.

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 - expectational stability conditions unchanged.
- Stability still an issue.

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Responding to expectations

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• Policymakers seem to do this at times ...

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Responding to expectations

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- Measurement issues.
- Potential games.

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• Instability can produce the "big ticket losses" that policymakers really worry about.