Discussion of ‘Near-Rational Exuberance’
by Bullard, Evans and Honkapohja

by

Robert J. Tetlow
Division of Research and Statistics
Federal Reserve Board
Washington, D.C.


The following reflects the views of this discussant only and not necessarily the views of the Federal Reserve Board or any other members of its staff.
Motivation

- Observation that the use of judgment (a.k.a. “add factors”) is widespread at policy institutions


- Concern that “the judgmental adjustment of forecasts may create more problems than it solves” (p. 2).
Objective

• Define a concept—exuberance equilibrium—such that:

1. consistent expectations exists, in the sense of Hommes and Sorger (1998) meaning that agents’ beliefs of model structure are ratified by the data;

2. individual rationality reigns, meaning no agent has an incentive to depart from the use of the add-factored forecast if other agents are using it (a Nash equilibrium in beliefs); and

3. learnability obtains, meaning that the process of recursive updating of forecasting model coefficients is locally stable.

• Show that exuberance equilibria have unpleasant properties

• Show that exuberance equilibria are “worrisomely plausible”

• Show how policy can be devised to avoid exuberance equilibria.
Key assumptions/requirements

- Symmetric beliefs (except for the forecaster).

- Judgment has a time-series representation--but forecasters are not privy to it.

\[
y_t = \beta y_{t+1}^e + u_t \tag{1}
\]

\[
y_{t+1}^e = E_t y_{t+1} + \xi_t \tag{6}
\]

\[(1 - \rho L)\xi_t = \eta_t \tag{2}\]

\[
y_t = by_{t-1} + \nu_t + a(\sigma^2_\eta / \sigma^2_u, \rho, \beta)\nu_{t-1} \tag{3}\]

- Judgment needs to be “small” but persistent to satisfy exuberance equilibrium conditions.
Remarks

- The required smallness and persistence of judgment to obtain the authors’ key result is appealing because the appearance of unimportance may suggest why the FOMC would not simply tell the staff about their judgments.

- It is interesting that persistence in the PLM (that is \( a \) in equation (3)) need not be very close to the persistence of the judgment itself (\( \rho \) in equation (2)).

- The finding that high persistence in model (\( \beta \)) and in the judgment (\( \rho \)) makes exuberance equilibria more likely is reminiscent of the findings elsewhere about low frequency specification errors and model uncertainty.

- Exuberance equilibria looks a lot like sunspots (or bubbles)—more persistence and higher variability than otherwise—but without the requirement of indeterminacy.

- The result that standard LQG optimization procedures are insufficient to rule out exuberance equilibria echoes the emphasis many place on model uncertainty in general and robustness of monetary policy design in particular.
Observations and Questions

1. The symmetric information assumption is restrictive
   - there are cases where the private sector and the policy maker appear to have the same judgment but the forecaster does not: e.g., the “new economy” in 1996-98 [see, Tetlow and Ironside (2004)].
   - In most cases, however, it is not a case of the private sector and the FOMC sharing a belief in a basic model but imparting a common extra-model belief on the system

2. The characterization of judgment is unconventional
   - judgment is characterized as a stochastic process…
   - …but the forecaster does not know the judgment because of an information constraint
   - more conventionally, we think of judgment as something that defies time-series representation because of its episodic nature; more like an exogenous variable.

<table>
<thead>
<tr>
<th>Table 1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alternative characterizations of knowledge of judgment</td>
</tr>
<tr>
<td>Private sector</td>
</tr>
<tr>
<td>“head winds”</td>
</tr>
<tr>
<td>Y2K</td>
</tr>
<tr>
<td>New economy</td>
</tr>
</tbody>
</table>
3. Whence exuberance?

- In sunspot stories of the great inflation [Lubik-Schorfheide (2003), Tetlow and von zur Muehlen (2004)] we know from where the problem arises: a policy error. Here we get exuberance just because people want to believe.

4. What is reality?

- The characterization here is that the private sector and the FOMC both believe in this judgment, while the forecaster (the Board’s staff) is doing the right thing—even if they are only doing the right thing out of ignorance.

- If the staff also believed the judgment, then it would be part of the model.

- Hence, it appears as though the paper is as much about bad forecasting as it is about the misuse of judgment.
Suggestions for future work

The paper makes the simplifying assumption that judgment is entirely orthogonal to everything. In fact, judgment, whether the Fed’s or the private sector’s, whether correct or incorrect, arises for a good reason, usually the misinterpretation of an unfamiliar disturbance (Y2K, productivity growth shocks).

How important are the particular features of the consistent expectations equilibria to the results and how does that concept differ from self-confirming equilibria used elsewhere in the literature?

The paper suggests that the Fed’s sharing of beliefs with the private sector is deleterious for performance. Does this suggest a motive for the FOMC to return to the days of monetary mystique? That is, to horde information?