Discussion

“Forward Guidance and Heterogeneous Beliefs,”
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Forward Guidance Policy

...are likely to warrant exceptionally low levels for the federal funds rate at least through mid-2013.

– FOMC Statement 8/9/2011
Key issue: how does the private-sector interpret forward-guidance?

A number of participants questioned the effectiveness of continuing to use a calendar date to provide forward guidance, noting that a change in the calendar date might be interpreted pessimistically as a downgrade of the Committee’s economic outlook rather than as conveying the Committee’s determination to support the economic recovery. If the public interpreted the statement pessimistically, consumer and business confidence could fall rather than rise.
– Minutes of FOMC 9/12/2012
What are the implications for optimal forward guidance policy if some agents doubt the central bank’s commitment, but not the path?
Basic framework

- New Keynesian framework
- Demand shock: $-\zeta$ for $T$ periods
- $-\zeta +$ Taylor-rule $\Rightarrow$ ZLB
- $T$ unknown to private-sector.
Forward Guidance Policy:

- Monetary Policy:

\[
R_t = \begin{cases} 
1 & t \leq T_{zlb} \\
\beta^{-1} & t > T_{zlb}
\end{cases}
\]

- c.b. chooses optimal \( T_{zlb} \geq T \).
Key model ingredient 1: beliefs

**Optimists**

\[ E_{o,0}(T) < T_{zlb} \]

**Pessimists (fraction \( \alpha \))**

\[ E_{p,0}(T) = T_{zlb} \]

**Higher-order beliefs**

For \( x_{jt} \in \{ c_{jt}, E_{jt} \pi_{t+1} \} \):

**Common Knowledge:** \( E_{i,0}(x_{jt}) = E_{j,0}(x_{jt}) \) for \( 0 \leq t \leq E_{o,0}(T) \)

**Conforming:** \( E_{i,0}(x_{jt}) = E_{i,0}(x_{it}) \) for \( t > E_{o,0}(T) \)
Large family: agree to disagree
Key model ingredient 2: transfers

- Family members agree on a transfer plan that equates wealth and consumption for all $t \geq E_{o,0}(T)$. 
Key model ingredient 3: optimal forward guidance

Simultaneous move Nash equilibrium:

- given beliefs and cons. plans, set $T_{cb} [\alpha, T, E_{o,0} (T)]$.
- given beliefs, p.s. chooses cons. plans, and
  $$T_{cb} [\alpha, E_{o,0} (T), E_{o,0} (T)] = T_{zlb}$$

Characterizing $T_{cb}$:

- Small $\alpha \Rightarrow T_{zlb} > T$.
- Large $\alpha \Rightarrow T_{zlb} = T$.
- $\exists \tilde{\alpha}$ s.t.
  $$\frac{\partial T_{zlb}}{\partial \alpha} > 0 \text{ for } \alpha < \tilde{\alpha} \text{ and } \frac{\partial T_{zlb}}{\partial \alpha} < 0 \text{ for } \alpha > \tilde{\alpha}$$

- Multiple equilibria? $T < E_{o,0} (T) \leq T_{zlb}$?
Forward Guidance: $T = 1, T_{zlb} = 2$

![Graphs of $E_{p,0c_{pt}}$, $E_{p,0\pi_t}$, $E_{o,0c_{ot}}$, $E_{p,0\pi_t}$]
Forward Guidance: $T = 1, T_{zlb} = 4$
• Pessimistic agents *misinterpret* forward guidance.
• Can explain “forward-guidance puzzle.”
• Theoretical and empirical support *against* guidance based on a calendar date $T_{zlb}$. 
Dispersion in “readiness to spend”
Michigan survey
For convenience, no lasting implications from forward guidance.

More realistically, optimistic/pessimistic hh’s take different financial positions, that persist long after the trap.

With heterogeneous beliefs, forward guidance might have long lasting effects.
Conclusion

- Paper reinforces message that what matters isn’t just forward guidance about the path of interest rates but guidance about the commitment to depart from normal monetary policy.

- Emphasis here is the optimal $T_{zlb}$ with heterogeneous beliefs.

- The change in forward guidance in December 2012 away from date-based guidance, consistent with changing the beliefs of the pessimistic agents about the length of the trap.

- These results do, depend, in part on strong assumptions:
  - common knowledge;
  - perfect foresight;
  - transfers of financial wealth after the trap;
  - timing protocol in game b/t central bank and private sector.