Discussion of
“Have We Underestimated the Probability of Hitting the Zero Lower Bound?”
by Chung, Laforte, Reifschneider, and Williams

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Revisiting Monetary Policy in a Low Inflation Environment
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The views expressed in this discussion are those of the author and are not necessarily reflective of views at the Federal Reserve Bank of New York or the Federal Reserve System.
The Question

- “Have We Underestimated the Probability of Hitting the ZLB?”
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“Have We Underestimated the Probability of Hitting the ZLB?”

Answer depends on

1. Shocks
2. Dynamics
3. Policy
The Modelling Approach

- Stochastic simulations of dynamic models
The Modelling Approach

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1. Shocks
   - Residuals estimated on samples ranging from 1961- to 1984-

2. Economic Structure
   - Wide range of models: FRB/US, EDO, TVP-VAR, LW, GARCH
   - Structural and statistical, including time-varying parameters and volatilities

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The Modelling Approach

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2. Economic Structure
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3. Policy
   - Estimated interest rate rules, with ZLB imposed on FRB/US, EDO and LW
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The Answer

YES
We underestimated the probability of hitting the ZLB because...
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1. **Shocks**
   - The Great Moderation put us to sleep
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2. **Structure**
   - Models are too “stable”
   - Need TVP, stochastic volatility, fat tails...
   - ...or perhaps more "structural" non linearities (e.g. Brunnermeier and Sannikov, 2010)
Behind the Answer

- We underestimated the probability of hitting the ZLB because

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3. **Policy?**
We underestimated (the probability of hitting) the ZLB

What can bring us there and what happens there
We underestimated (the probability of hitting) the ZLB
  What can bring us there and what happens there
Too much focus on the probability can be misleading
Looking at the last 55—rather than 25—years, the Great Recession is not that unusual as a macro phenomenon
But is this the right answer?
My Take

- We underestimated (the probability of hitting) the ZLB
  - What can bring us there and what happens there
- Too much focus on the probability can be misleading
- Looking at the last 55—rather than 25—years, the Great Recession is not that unusual as a macro phenomenon
- But is this the right answer?
- Emerging narrative on the Great Recession features a chain of “structural” events (including some policy choices), with perhaps one genuine random event (Lehman’s failure)
- Reproducing the macro consequences of those events—including hitting the ZLB—through a series of large aggregate shocks is possible and might be useful as data description, and even as a forecasting tool, but is of limited use when trying to improve policies
My Take

- **Either** the GR was a highly unpredictable event
  - We are off the hook
- **Or** the GR was a plausible scenario given the housing bubble (or even the tech bubble...), and we did not get it
  - We must rethink policy and models
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Or the GR was a plausible scenario given the housing bubble (or even the tech bubble...), and we did not get it
  • We must rethink policy and models

Not convinced of “The GR was a 2% probability event that we assessed at 0.02% because of the GM”
  • If true, we are on the hook, but fix is easy
How Surprising Was the Great Recession?

- Paper mixes models and samples: difficult to isolate role of shocks and structure
- Replicate CLRW’s macro forecasts as of 2007:Q4
  - With medium-scale DSGE in Justiniano, Primiceri, Tambalotti (2010)
  - Changing samples and shocks
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GM Estimates with Long Sample Shocks

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The Long View

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Conclusions

- From a probabilistic perspective, a standard macro model calibrated to the evidence on the last 55, rather than 25 years, puts the Great Recession squarely within the realm of the possible.
- This seems more a challenge than a success for the model: most would agree that the GR was different!
- Understanding and modelling how it was different, even if it produced “familiar” macro outcomes, should lead to better macroeconomics and better policy.

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