

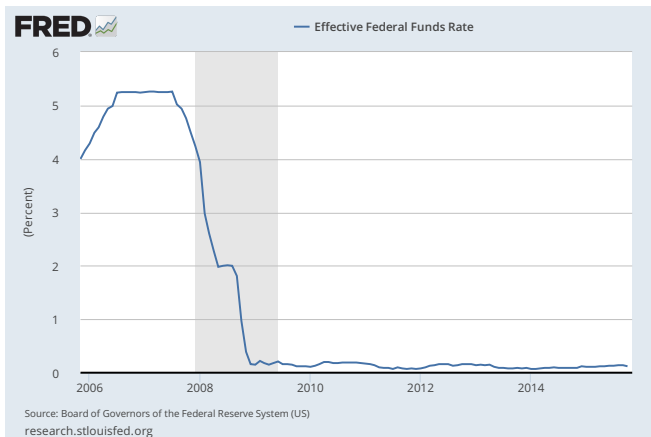
# MONETARY POLICY EXPECTATIONS AND ECONOMIC FLUCTUATIONS AT THE ZERO LOWER BOUND

Rachel Doehr  
*Claremont McKenna*  
&  
Enrique Martínez-García  
*FRB Dallas/SMU*

**SEA discussion by**  
Stephen Terry  
*Boston University*

# A HUGELY IMPORTANT QUESTION

How does monetary policy work at the ZLB?



# A THEORETICAL FRAMEWORK

## Model basics

The authors use a 3-equation NK framework with a NKPC, an IS curve, and a monetary policy rule

## Monetary policy shocks

Split into current policy rate shock, “conventional policy,” and a news shock about future rates, “forward guidance”.

**Key prediction:** response to news of lower future rate

	Normal Times	ZLB
$\Delta y_t$	? to -	+
$\Delta \pi_t$	+	+

**Mechanism:** lower future rates  $\rightarrow$  inflationary pressure  $\rightarrow$  policy contraction in normal times, no policy response at ZLB

# AN EMPIRICAL FRAMEWORK

## **Augmented VAR**

Inflation, unemployment rate, FFR, and SPF survey expectations of 1-year ahead T-Bill rate.

## **Panel VAR, subsamples, recursive identification**

Panel structure includes individual fcsts, estimated separately on pre-ZLB & post-ZLB data, fcst T-Bill rates ordered first.

## **IRF to positive shock to expected T-Bill rate**

*Normal*: unemployment declines ✓

*ZLB*: unemployment increases ✓

# MY TAKE

- ▶ Fantastic question!
- ▶ Well written and engaging paper with a lot of hard and really impressive work very evident throughout
- ▶ Comforting, immediately policy relevant finding: monetary policy is still effective through guidance!

## **Theoretical comments**

- Linearized model in a nonlinear environment
- Mechanism relies upon dramatic intertemporal substitution

## **Empirical comments**

- Price puzzle
- Some puzzling technical choices

# LINEARIZED MODELS & THE ZLB

## **A big problem, not just for this paper!**

ZLB is occasionally binding, explicitly nonlinear. Linearization or hybrid linearization with “regimes” gets the dynamics, magnitudes of fluctuations, and policy responses wrong.

## **Key cite**

Fernández-Villaverde, Guerrón, Gordon, Rubio-Ramírez.  
“Nonlinear Adventures at the Zero Lower Bound”  
*Journal of Economic Dynamics and Control* 2015

## **My suggestion**

Concede this explicitly in the text or remove theory

# FORWARD GUIDANCE MECHANISM

## **A suspiciously powerful force**

Lower future real interest rate  $r_{t+l}$  reduces the price of consumption  $C_{t+l-1}$  relative to  $C_{t+l}$ , putting upward pressure on the entire stream of consumption from  $t$  to  $t + l - 1$

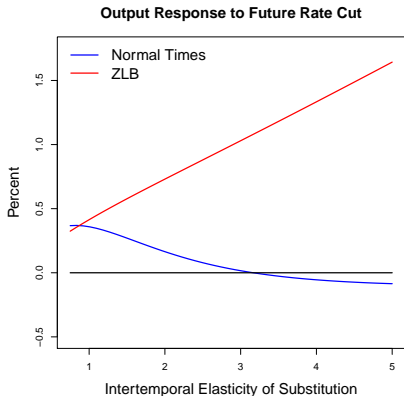
## **IES & magnitudes**

Motive to intertemporally exploit this rel. price difference, and hence the inflationary effects of a future interest rate cut, depends crucially on IES

## **Incomplete Markets**

Intertemporal substitution also requires absence of credit constraints, doesn't hold with incomplete markets (see recent paper McKay, Nakamura, and Steinsson 2015)

# FORWARD GUIDANCE MECHANISM



**IES value**

I'd prefer  $\approx 0.5$  (Hall 2009)

**My Suggestions**

- Mention nonlinearity of ZLB
- Highlight ambiguity of theory

Note: The figure plots the theoretical responses of output in the model to news of a 1% future interest rate cut in normal times and at the ZLB, varying the IES  $\sigma$ . For normal times, I use the authors' baseline calibration discussed in footnote 10. For the ZLB, I assume  $\alpha = 0.5$ , corresponding to an expected duration of the ZLB of two quarters.



# A CLASSIC PRICE PUZZLE

## **IRF to positive shock to expected T-Bill rate**

Inflation increases in normal times, at odds with model

## **Endogeneity concern, not just an issue for this paper!**

Financial crises, uncertainty shocks, nonlinearities in economy or policy rule...

## **My suggestions**

- Remove causal language, reduce structural interpretation
- Interpretation should rest on the fact that recursively identified shocks are not theoretical shocks.
- Recursively-derived IRFs are still useful and important! See, e.g. Christiano, Eichenbaum, & Trabandt (2015).

# SOME TECHNICAL CHOICES

## Why a Panel VAR?

Panel VAR structure incorporates individual SPF fcsts, complicating estimation & notation. Why preferred over consensus fcst, since the full distribution of forecasts isn't exploited? Precision?

## FFR variation in the ZLB state

VAR contains the current FFR in **both** the normal and ZLB periods. ZLB FFR parameters should be unidentified. Can only estimate the model because ZLB period extends backwards a few quarters (footnote 18). Based on my experience as a Fed RA drafting reports during this period, I don't agree that ZLB was fully anticipated in 2008:Q2 pre-Lehman.

## My Suggestions

- Drop panel VAR structure or check against consensus measure VAR
- Drop FFR in ZLB period, or use a nonlinear or regime-switching model which can account for this lack of FFR variation

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