Discussion of Forward Guidance, Quantitative Easing, or both?

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Federal Reserve Board[1]

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[1] The views expressed in this discussion are those of the author and do not necessarily reflect the position of the Federal Reserve Board or the Federal Reserve System.

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$\Longrightarrow$ Perform quantitative analysis using estimated DSGE model

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  - Harrison (2011): bond-in-utility
  - De Graeve and Theodoridis (2017): financial intermediary with adjustment costs

Key Results

- CCF (2012) find that the effects of the LSAPs II are likely to be small
  - Median effect on GDP growth rate is 0.13% and on inflation is $3bp$.
- De Graeve and Theodoridis (2017)
  - Peak effect on GDP growth rate is 0.6% and on inflation is 0.25%.

Why did CCF (2012) find small effects?

- Households
  - 2 types:
    - **unrestricted**: can invest in both short and long bonds, transaction cost when investing in long bonds
    - **restricted**: can only invest in long bonds, no transaction cost
  - The percentage of restricted household is estimated to be small

- Transaction cost is assumed to be a function of the market value of long-term bonds

  - However, the elasticity of the transaction cost to the market value of long-term bonds is also estimated small.

Why did CCF find small effects?

- Euler Equations for *unrestricted* household

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- Transaction cost is function of market value of long-term bond $\zeta = \zeta \left(P_{L,t} B^L_t \right)$

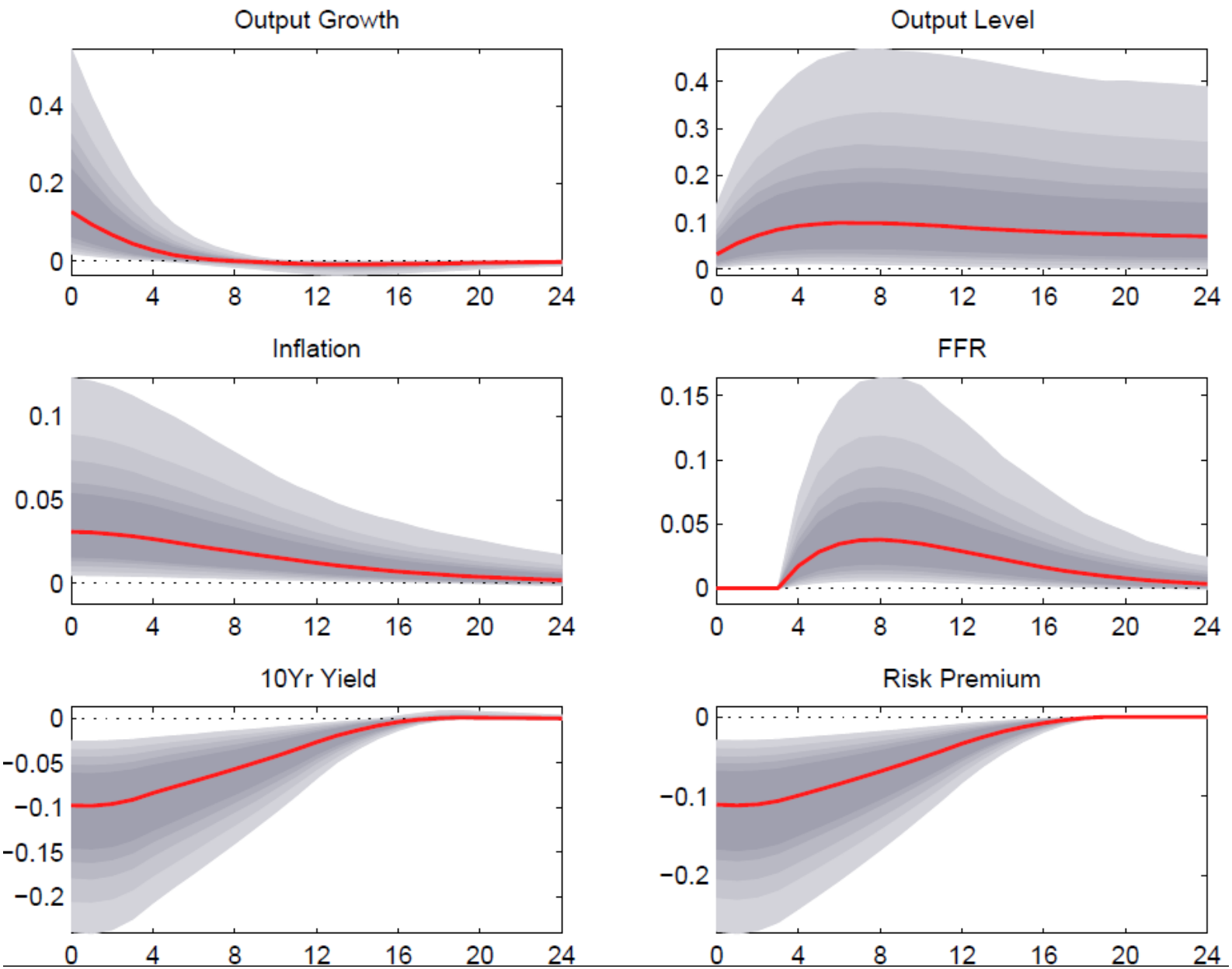
Posterior Estimates

- Market frictions parameters:

		Prior			Posterior		
	Dist	5%	**Median**	95%	5%	**Median**	95%
$100\zeta'$	G	0.307	**1.285**	3.429	0.086	**0.327**	0.826
ω_u	B	0.321	**0.733**	0.965	0.824	**0.947**	0.993

  - Data pushes against segmentation

Simulation of LSAP II (Posterior)



Why Did De Graeve and Theodoridis Find Big Effects?

The authors attribute their findings to

- Government bond maturity structure
- Government bond supply rule and tax rule
- Inflation target in the monetary policy rule
- Both short-term debt and long-term debt are used as observables

Why Did De Graeve and Theodoridis Find Big Effects?

- In De Graeve and Theodoridis (2017), what matters for the real economy is the deposit rate r_t^h. r_t^s and r_t^l do not affect agents' saving/consumption decision directly.

- In CCF (2012), both short rate and long rate affect agents' decision directly.

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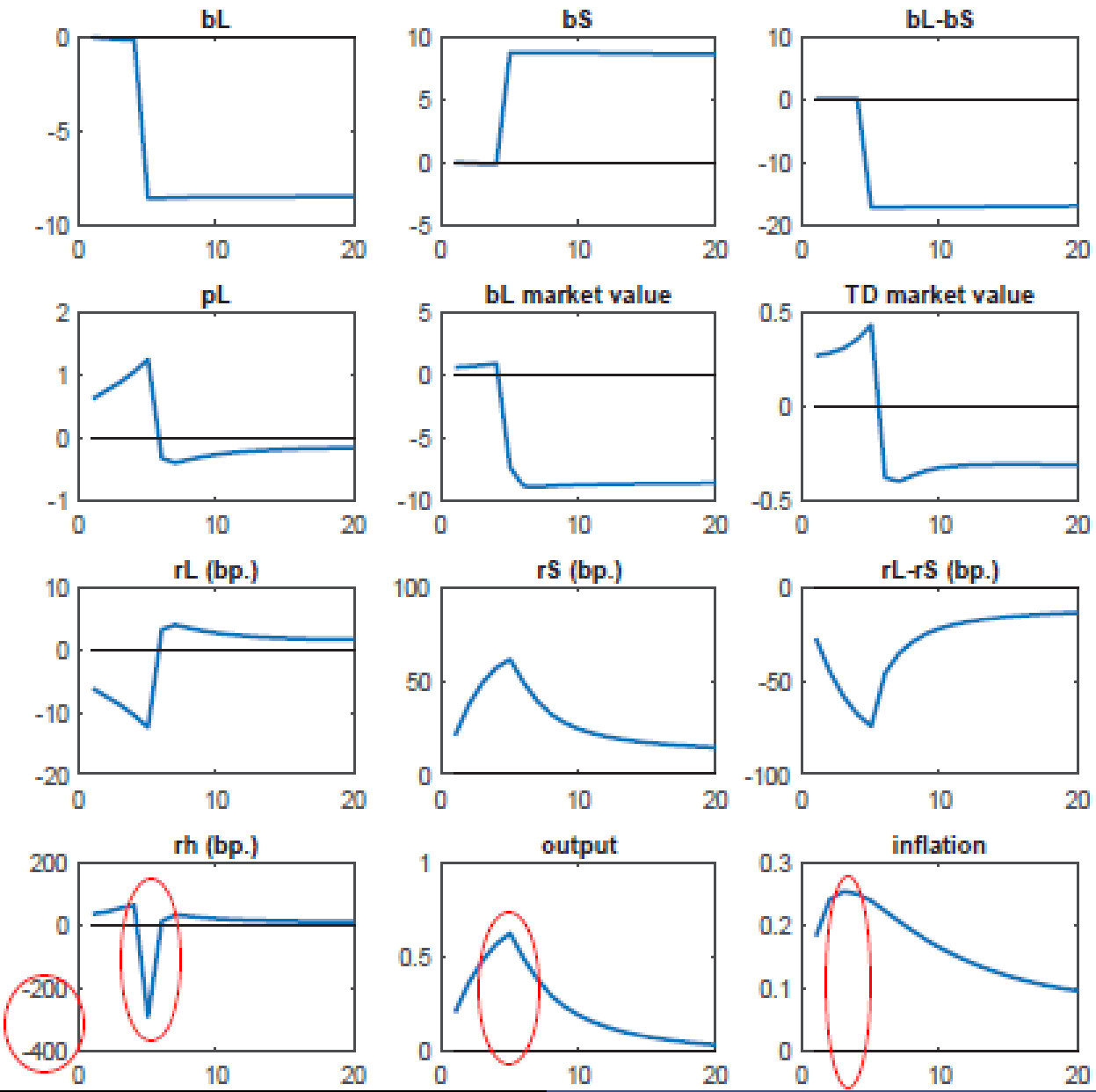
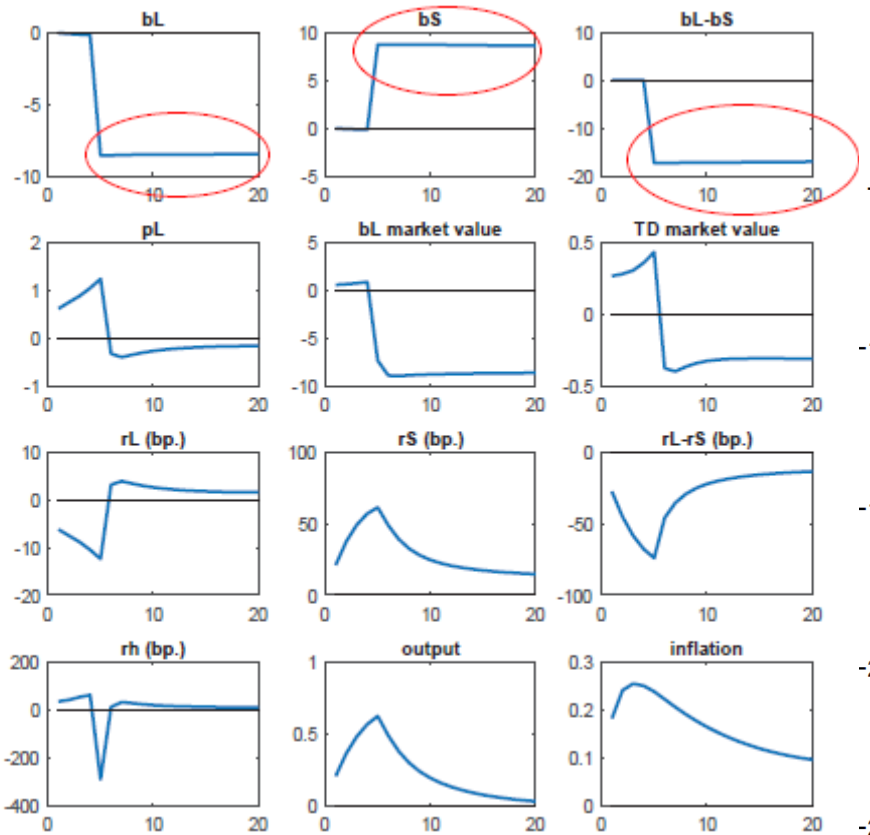


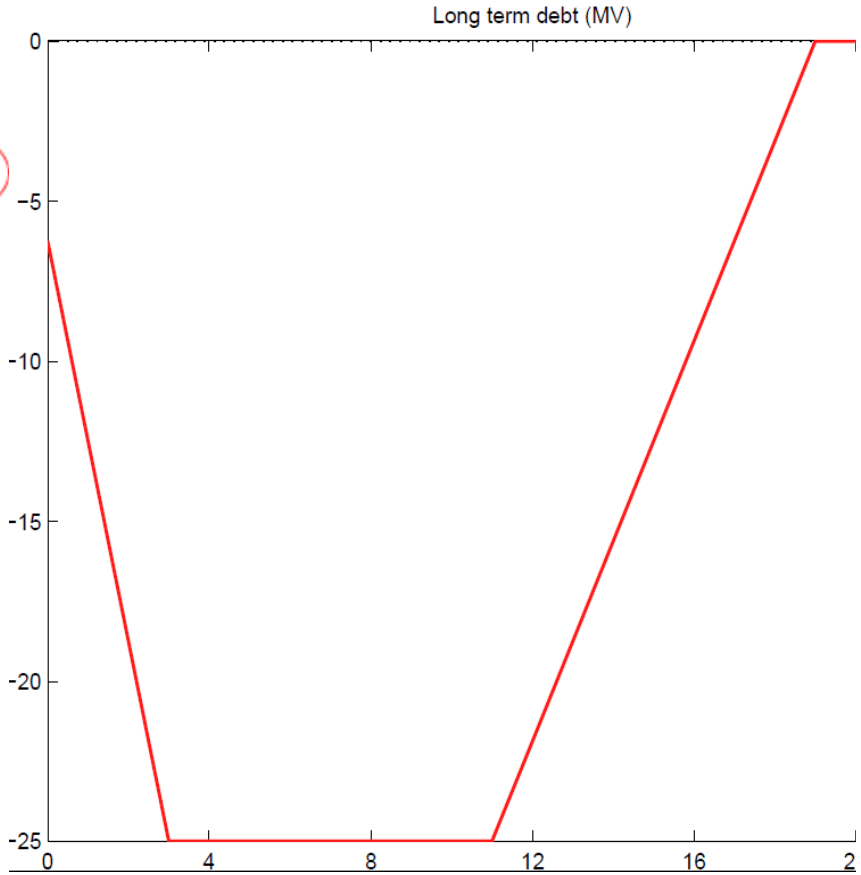
- Deposit rate dropped about 3%. LSAPs shock works like a fed funds shock, and a 3% fed funds shock!! This is what drives the macro effects.
    - However this is inconsistent with the LSAPs II experience.
    - This is also inconsistent with ZLB.

Why Did De Graeve and Theodoridis Find Big Effects?

- In De Graeve and Theodoridis (2017), the LSAPs II shock is nearly **permanent.**
  - Authors call a **permanent** anticipated shock "forward guidance" and they prefer the model with anticipation because of the higher marginal likelihood.
    - We should compare marginal data density
    - The model is estimated through 2015. Given the extended period of extremely low policy rates, it is not surprising the model with anticipation shocks, which also appear in the Taylor rule to, is preferred to the standard model.
  - In CCF (2012), agents have perfect foresight of the entire purchase path.
  - In reality the central bank announces the purchase amount and purchase pace in advance.
- Standard DSGE models are only adequate to analyze business cycle fluctuations along a stable growth trend.

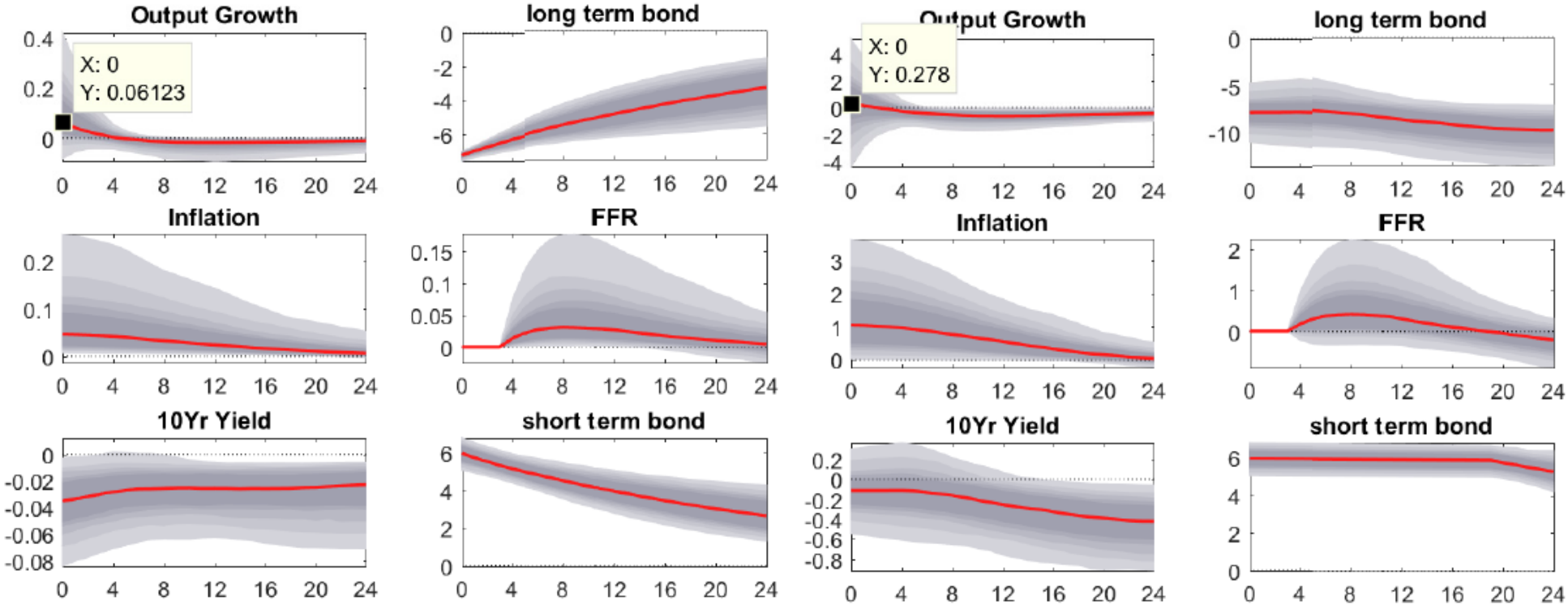
LSAPs II shock





Some Simulation Exercises using CCF

IRF of bond supply shock(original parameter)IFR of permanent bond supply shock



Conclusion

- Very ambitious paper that makes a significant contribution to the community of studying the unconventional monetary policy.
- Although the authors find substantial effects of the LSAPs, I suspect this is due to the model specifications that may be inconsistent with some dimensions of the data
- It is still premature to claim how effective the LSAPs are. Further investigation is necessary.