

Discussion of
“Fiscal Multipliers in a Nonlinear World”
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IMPORTANT paper on key research & policy questions

Innovative, thought-provoking

Very valuable exercise. Suggests many interesting avenues for future research.

- **Financial Crisis triggered very low policy rate (ZLB)**
 - **Fiscal stimulus was used during crisis \Rightarrow debt \uparrow**
 - **In aftermath of crisis: ‘austerity’ $G \downarrow$, Taxes \uparrow**
 - **Literature argues that Fiscal spending multiplier **LARGER** at ZLB binds**
- e.g. Christiano & Eichenbaum (2011), many others**

$G \uparrow$

• In normal times, \Rightarrow nominal & real interest rate \uparrow

\Rightarrow dampens aggregate demand rise

• At ZLB: nominal interest rate does NOT rise;

real rate \downarrow (as expected inflation \uparrow)

\Rightarrow stronger rise in aggregate demand and GDP

Some studies based on NK DSGE models suggest that fiscal multiplier can be MUCH bigger at ZLB

E.g. Erceg & Lindé (JEEA, 2014)

⇒ fiscal austerity can be self-defeating (i.e. trigger fall in GDP that is so strong that gov't debt RISES).

These studies use models in which all equations are linearized (around steady state with non-binding ZLB), *except* interest rate equation

$$i_t = \text{Max}(0, \gamma_0 + \gamma_1 \pi_t + \gamma_2 Y_t)$$

**Braun, Körber & Waki (2012) argue that finding of large fiscal multipliers at ZLB is spurious:
artefact of LINEARIZATION**

**Braun et al. : stylized model with exact solution;
true multiplier at ZLB is in ‘conventional’ range,
i.e. much smaller than multiplier in linearized model**

But does Braun et al. results hold, in medium-scale model?

Jesper & Mathias address that question.

- **Compute deterministic (perfect foresight) non-linear solution of richer DSGE models (Dynare)**

KEY FINDINGS:

- In non-linear model, DEMAND shocks trigger much more muted responses of INFLATION & nominal interest rate (than in linearized model).

- At ZLB, **fiscal multipliers in non-linear model are much smaller than multipliers in linear model.**

The difference (non-linear vs. linear) is **INCREASING** in duration of ZLB

- Difference driven by **PRICE SETTING EQUATIONS & PRICE DISPERSION**

Non-linear model in which just non-lin. pricing equations are replaced by **LINEARIZED** pricing equations is **VERY** similar to **FULLY** linearized model

- **Can austerity be self-defeating, at ZLB, in no-linear model?**

Jesper & Mathias present NON-LINEAR model with FINANCIAL ACCELERATOR that generates big multipliers at ZLB

COMMENTS AND SUGGESTIONS:

- Easy to understand that non-linear model can produce very different responses than linearized model
- MORE DIFFICULT TO UNDERSTAND: **sign** of error due to linearization
- WHY is fiscal multiplier at ZLB **SMALLER** in non-linear model (than in linear model)?

INTUITION not clear from paper

NEED INTUITION !

▶ SHOULD DO NON-LIN vs LIN COMPARISON FOR OTHER MODELS

E.g.: for model with occasionally binding borrowing constraints (Guerrieri & Iacoviello, 2014)

Kollmann, Ratto, Roeger, in't Veld & Vogel (Economic Policy, 2015)

- ▶ Three-country model, 1995-2013 [Germany, rest of Euro Area, ROW] with **big shocks**; financial accelerator; sovereign debt.
- ▶ Estimated linearized model versions **without ZLB**
- ▶ Non-linear model generates dynamics (in response to estimated shocks) very similar to linearized model

- **Other useful things** the authors could do, using their non-linear model solution:

- ▶ **Comparison between positive and negative shocks**

- ▶ **Effect of size of shocks**

- ▶ **Paper focuses on role of ZLB for multiplier.**

In non-linear model, fiscal multiplier can be sensitive to **other state variables too (e.g. financial stress, health of financial system).**

- ▶ **Can/should aggressive fiscal policy be used to lower ZLB duration?**

● **CAN AUSTERITY BE SELF-DEFEATING?**

▶ **More theoretical and empirical research needed**

▶ **Might depend on type of spending cut**

Eg productive spending (education, infrastructure)

▶ **Combining G & Tax cuts (distorting taxes)**

▶ **Sovereign risk channel (Corsetti, Küster, Meier & Müller, 2013): $G \downarrow$ & $Debt \downarrow \Rightarrow$ sovereign debt yields \downarrow**

\Rightarrow private sector borrowing rates \downarrow

● **The models presented by Jesper & Mathias abstract from key aspects of central bank and fiscal policy that were key during and after crisis:**

▶ **quantitative easing**

▶ **bank rescue by governments**

Etc.

Need to include these model feature if want to use model to interpret events since crisis

SUMMARY:

VERY USEFUL PAPER

**LOOK FORWARD TO READING FUTURE
VERSIONS**

THANK YOU !