

# The Fiscal Cost of Quantitative Easing

Adrien d'Avernas, Antoine Hubert de Fraisse, Liming Ning, and Quentin Vandeweyer

Discussion by Paolo Varraso  
Tor Vergata University of Rome

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## What is the paper about?

- QE  $\Rightarrow$  purchase of LT assets financed by interest-bearing ST reserves
  - ▶ QE exposes central bank to **interest-rate risk**
  - ▶  $\uparrow i \Rightarrow$  refinance reserves at higher rate  $\Rightarrow$  operational losses, ultimately borne by taxpayers

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- **Key question:** How can we measure the fiscal cost of QE?
- **Approach:**
  - ▶ **Consolidated government** perspective  $\Rightarrow$  QE =  $\downarrow$  debt maturity
  - ▶ Theoretical framework to think about **optimal QE size**
    - ▶ trade-off between **tax smoothing** and **aggregate demand management**
  - ▶ Quantification of deadweight losses from distortionary taxation

# Main Results

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  - ▶ additional benefit of **shortening debt maturity**
  - ▶  $\downarrow$  debt maturity  $\Rightarrow \downarrow$  precautionary savings  $\Rightarrow \uparrow$  aggregate demand
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$$\overbrace{\begin{array}{c} \uparrow \text{rollover risk} \\ \text{marginal cost} \end{array}} = \overbrace{\begin{array}{c} \uparrow \text{output} \\ \text{marginal benefit} \end{array}}$$

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- **Key result: deadweight losses < output gains** for all US QE

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- Literature has studied optimal debt maturity when the government faces **uncertainty about future fiscal deficits**.
- If larger deficits are associated with lower long bond prices, then issuing long-term debt enhances tax smoothing. (Angeletos 2002, Faraglia et al., 2018)
  - ▶ adverse fiscal shock  $\Rightarrow \downarrow$  market value of long-term debt  $\Rightarrow \uparrow$  tax smoothing

marginal cost of QE =  $\uparrow$  rollover risk +  $\uparrow$  fiscal risk

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- Historically the Fed has preferred a **passive** unwinding strategy.
  - ▶ Securities are allowed to mature without reinvestment.
- Does the assumed *timing* and *pace* of the exit affect the measured cost of QE?
  - ▶ Faster exits ⇒ ↑ realized losses if long-term rates rise abruptly.
  - ▶ Slower exits ⇒ delay normalization and persistent tax distortions.
- Would be good to extend the measurement exercise to allow for passive runoffs.

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- Interest-rate risk in the model arises from shocks to productivity
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- Interest-rate risk in the model arises from shocks to productivity
- For QE to have a positive output effect, LT bonds must offer a risk premium — that is, they must be a relatively poor hedge against underlying productivity shock
- It is not immediately clear why LT bonds have a positive beta in the model
  - ▶ Appendix provides a formal derivation to support this assumption
  - ▶ It may be helpful to provide some economic intuition
- Perhaps using a **discount factor shock** could generate a term premium more naturally.  
(Greenwood et al., 2015)

## One Small Comment

- **Refinancing risk** may be a better label.
- Rollover risk in the sovereign borrowing literature generally associated to
  - ▶ self-fulfilling debt crises, or
  - ▶ failure to roll over maturing debt in treasury auctions.
- Avoiding self-fulfilling rollover crises may call for issuing shorter-term debt.  
(Bocola and Dovis, 2019)

# Conclusion

- Very nice and highly relevant paper!
- Careful and convincing assessment of the deadweight losses arising from refinancing risk
- Incorporating additional sources of fiscal risk could be important for a more comprehensive assessment of QE costs.
- It may be worthwhile to further explore the implications of different exit strategies.