# Discussion of Cook and Devereux: "Sharing the Burden: International Policy Cooperation in a Liquidity Trap"

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# The paper

- Question: Optimal global policy response to country-specific shock which pushes (possibly several) economies into liquidity trap?

- Great paper, lots of (well integrated) algebra; argument very transparent

- Discussion
  - Summary of main results
  - Remarks on relevance in the context of the crisis

# Model / Setup

- Two country model
  - Sticky prices; PCP: full pass-through
  - Complete financial markets
- Various degrees of good market integration (home bias)
- Monetary policy can stabilize output gap and inflation as long as natural interest rates $\geq 0$
- Negative demand (preference) shock, persisting with probability $\mu$ (no endogenous state variables)

# Equilibrium relationships
# (in deviations from steady state)

- Complete financial markets (full risk sharing)

$$\sigma\left(c_t^* - \left\langle c_t - \varepsilon_t \right\rangle\right) = rx_t$$

- Complete trade integration (no home bias)
  - Real exchange rate constant
  - Real interest rates equal across countries

$$\sigma\left\langle c_t - \varepsilon_t \right\rangle = \sigma E_t \left\langle c_{t+1} - \varepsilon_{t+1} \right\rangle - (r_t - E_t \pi_{t+1}) = -\frac{1}{(1-\mu)}(r_t - \mu\pi_t)$$

$$\sigma c_t^* = \sigma E_t c_{t+1}^* - (r_t^* - E_t \pi_{t+1}^*) = -\frac{1}{(1-\mu)}(r_t^* - \mu\pi_t^*)$$

# (Moderate) negative demand shock in home country: "normal times"

- Assume Taylor rules for monetary policy (that is, less than full stabilization)

- Full good market integration: real interest rate declines by same amount in home and foreign

- Home bias: domestic real rate falls more

$$rx_t = \sigma\left(c_t^* - \langle c_t - \varepsilon_t \rangle\right) = \frac{1}{1-\mu}\left[(r_t - \mu\pi_t) - (r_t^* - \mu\pi_t^*)\right] < 0$$

  - Real exchange rate (terms of trade) **depreciation**
  - Expenditure switching towards domestic goods

# (Very large) negative demand shock in home country: liquidity trap

- Deflation and constrained policy rate: real rate rises; more so at home iff home bias

$$rx_t = \sigma\left(c_t^* - \langle c_t - \varepsilon_t \rangle\right) = \frac{1}{1-\mu}\left[(0 - \mu\pi_t) - (0 - \mu\pi_t^*)\right] > 0$$

- Real **appreciation**: exchange rate movement amplifies negative output effect of shock

- Fiscal multiplier large: lower real rates depreciate exchange rate (adds to beneficial effect of intertemporal substitution)

# Optimal cooperative policy w/o commitment

- Fiscal and monetary policy set to maximize world welfare

- Negative demand shock in Home which implies negative natural interest rates

- Monetary policy
  - No home bias: set both policy rates to zero
  - Strong home bias: foreign policy rate > 0
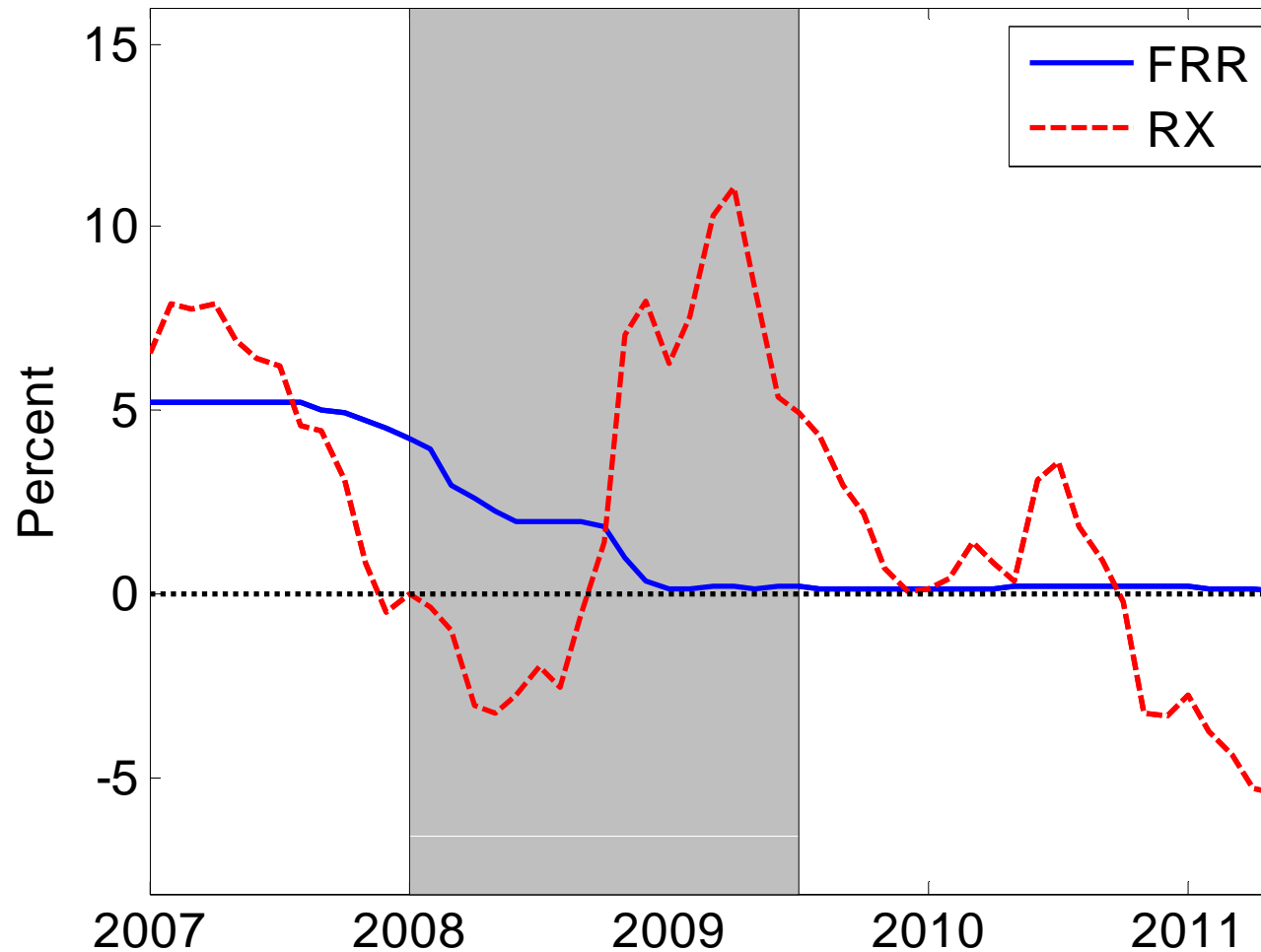    → stabilize real exchange rate

# Government spending

- Domestic spending should increase, and more so than foreign spending

- Foreign spending should increase in baseline scenario

- Yet, if foreign policy rate is set to zero (suboptimally), optimal foreign spending can be negative

# Summary / Questions

- In a nutshell:
  - domestic demand shock affects both countries (natural interest rates fall)
  - Optimal policy response may be asymmetric: raise foreign policy rate to depreciate home real exchange rate
- Questions
  - Paper (current version) silent on empirical relevance?
  - What's possibly missing? Some qualifications…

# US policy rate and real effective exchange rate (relative to 12/2007)

# Two concerns…

1. Key mechanism in the model
   - Complete pass-through/law of one price: real exchange rate perfectly correlated with terms of trade
   - real exchange depreciation worsens terms of trade → expenditure switching

→No longer true in models of local-currency pricing pioneered by Mick (Betts and Devereux 1996, Devereux 1997…)

# 2. International transmission of financial crisis

- This paper: US financial sector meltdown gave rise to
  - **Country-specific demand** shock
  - Transmitted to ROW via **trade**
  - Foreign output falls less in case of home bias
  - Counterfactual, as far as US-EA is concerned…

# Output growth (yoy) and simultaneous collapse
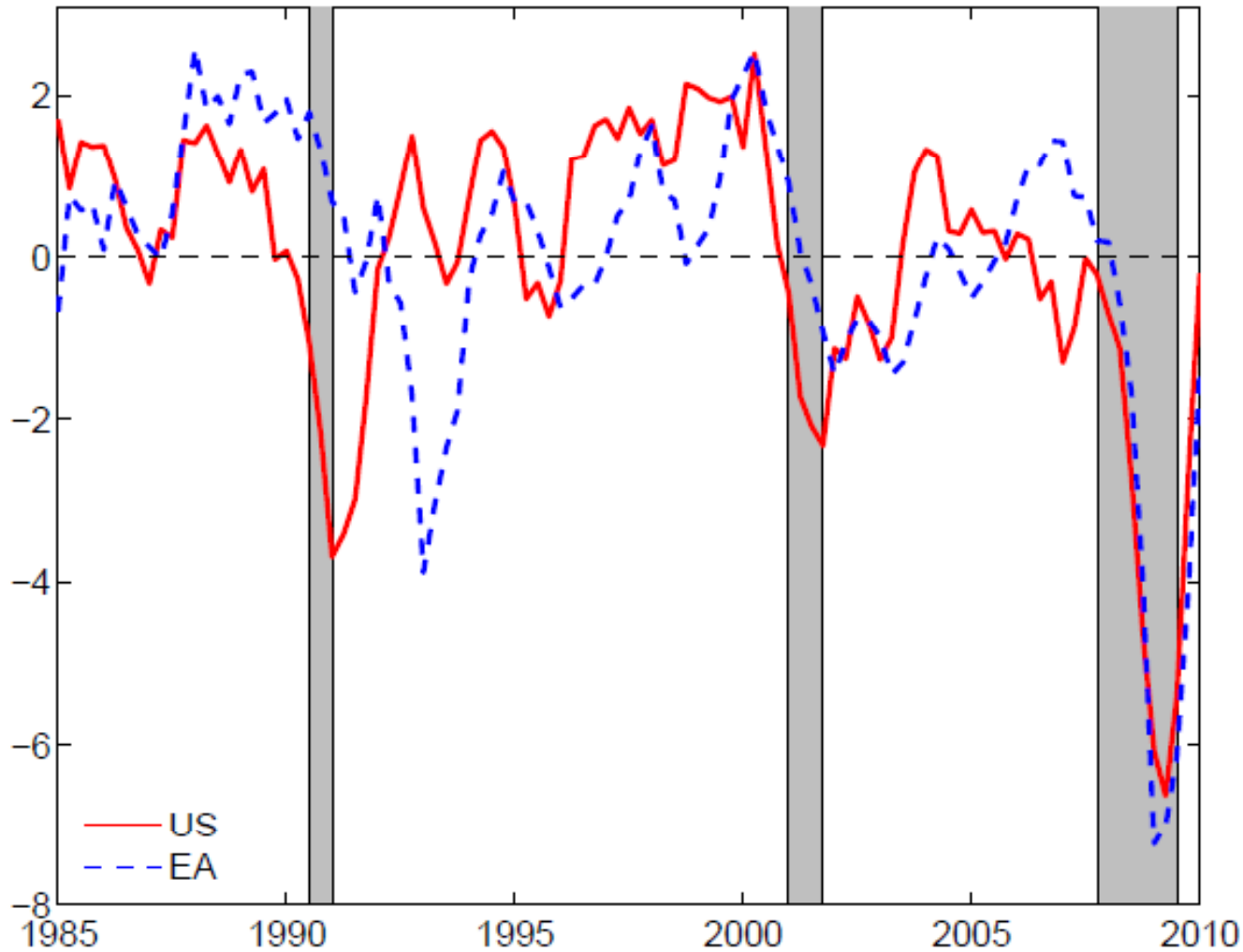
- What about financial channels of international transmission? E.g. Devereux and Yetman (2011)
- Also Kollmann, Enders and Müller (2011): Country-specific financial shock triggers simultaneous decline in activity

# Kollmann et al: U.S. financial shock destroys global bank capital…
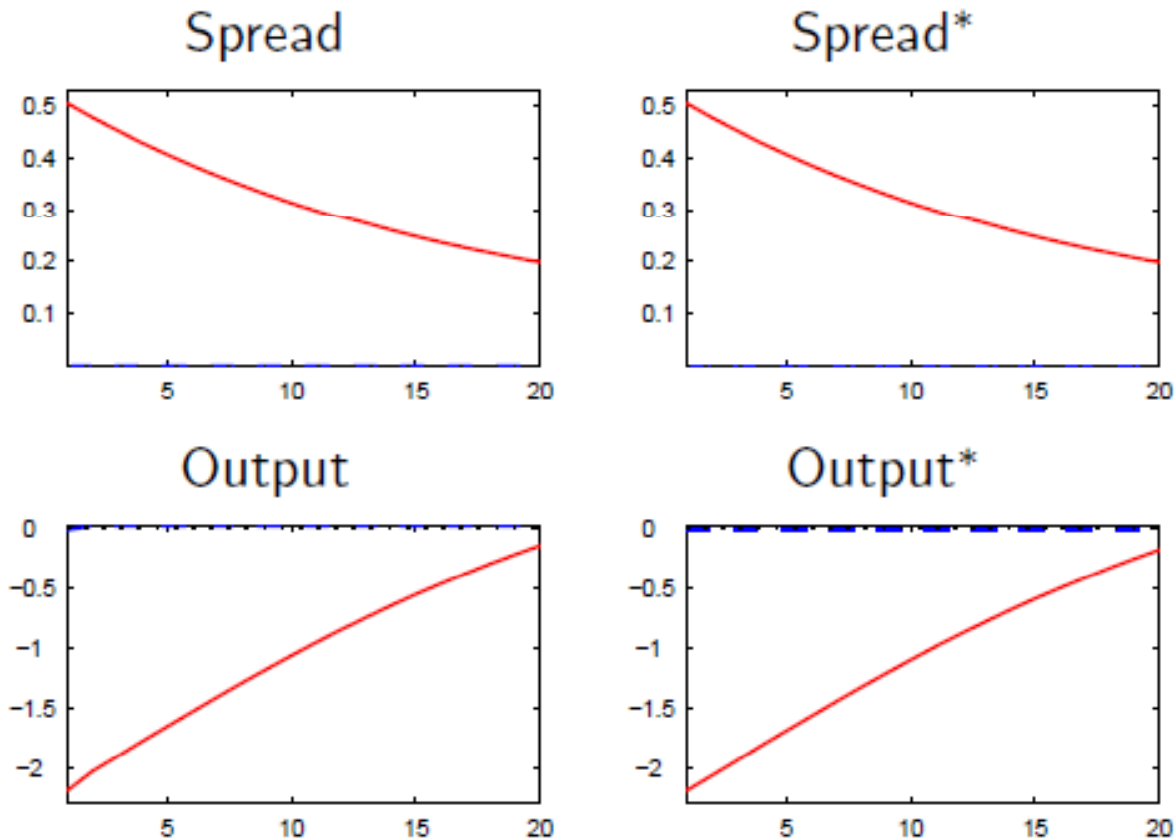


→ZLB relevant in sticky price version of the model, but optimal policy response completely symmetric