Consumption Risk Sharing, the Real Exchange Rate, and Borders: Why Does the Exchange Rate Make Such a Difference?

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Outline

1 **Summary of the paper**

2 Comments

- This paper studies the Backus-Smith puzzle
  - Document the importance of the nominal exchange rate in the Backus-Smith puzzle
  - Show standard international macro models fail to replicate this finding and why
  - Propose a solution

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- The real exchange rate and cross-country relative consumption are perfectly correlated under risk sharing

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- Not true in the data

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  - Kollmann (1995)

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Some Solutions to the Puzzle

- Demand shocks
  - $\sigma(c_t - c_t^*) = q_t + (\xi_t - \xi_t^*)$
- Supply shocks plus incomplete financial markets
  - Non-tradable goods (Benigno and Thoenissen, 2008)
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Empirical findings in Devereux and Hnatkovska (2010)

- The nominal exchange rate is important for the Backus-Smith puzzle.
  - Significant evidence of risk-sharing within the country
  - Risk-sharing is poor across countries
  - Failure of cross-country risk-sharing is mostly from nominal exchange rate movements.

- Other evidence in the literature
  - Risk-sharing is worse for country-pairs with the more volatile nominal exchange rate.
  - Countries (regions) with fixed exchange rates show better consumption risk sharing.

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A bare-bones model

- A simple extension of Clarida, Gali, and Gertler (2002)
  - Two countries and two shocks in each country
  - Calvo-style sticky prices
  - Monetary policy (Taylor) rules
- Analytical solution of the model
  - $\Delta c_t = \alpha_1 \Delta \varepsilon_t + \beta_1 \Delta a_t$
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What we learn from the bare-bones model

- corr($\Delta c_t, \tau_t$) depends on price stickiness
  - Price stickiness helps to replicate the Backus-Smith puzzle.
- The exchange rate peg does not change the sign of corr($\Delta c_t, \tau_t$).
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- Woodford-style price stickiness helps to reduce
  $corr(\varepsilon_t - \varepsilon_t^*, RER_t)$ under the fixed exchange rate.
    - Under the exchange rate peg, RER_t does not responde to
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- Shortcomings for the explanation with nontradable goods
  - Negative correlation between the terms of trade and the real exchange rate
  - Real exchange rate volatility is mainly driven by the relative prices between tradable and nontradable goods

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  - The TOT and the RE are positively correlated.
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- Low elasticity of substitution between home and foreign goods
    - TOT deteriorates after a positive shock $\Rightarrow$ negative wealth effect for the home country
    - Strong negative wealth effect + home bias in consumption $\Rightarrow$ demand for home goods declines
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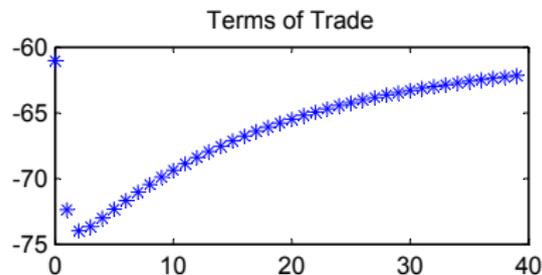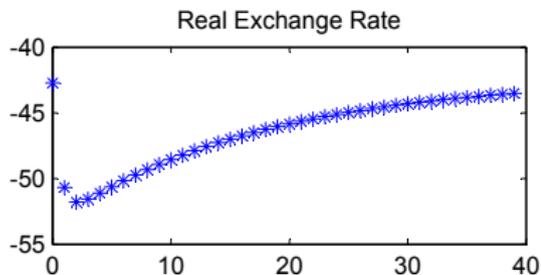 - Multiple equilibria

The effect of the exchange rate peg

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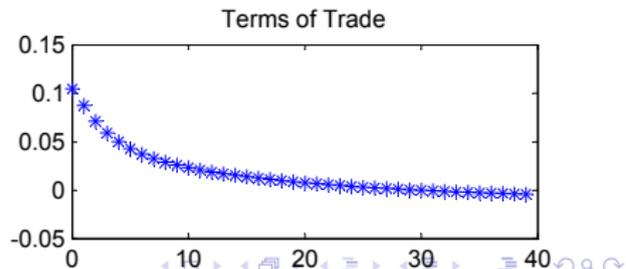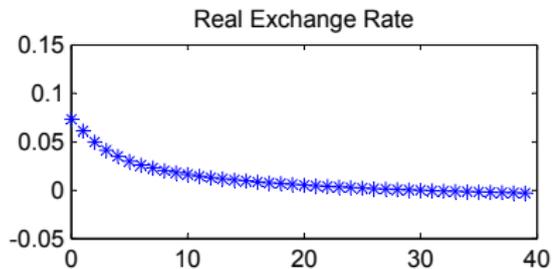   - A DSGE example (Wang, 2010)

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Figure: IRFs to a positive TFP shock

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    - Different channels to replicate the Backus-Smith puzzle
    - The bare-bones model only explains how demand shocks work.

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