

Discussion of
“Macroeconomic Volatility and External
Imbalances”

by Alessandra Fogli and Fabrizio Perri

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Overview of the Paper

- **Central Question:** What are the effects of time-varying macroeconomic volatility on capital flows?

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- **Empirically:** shows that higher macroeconomic volatility is associated with larger NFA accumulation in the cross section of OECD countries
- **Theoretically:** shows that standard open economy model with time-varying volatility in TFP can account for this
- Interesting and very well executed paper

Outline

- Empirical results
- Review of mechanism:
 - Endowment economy
 - Production
 - Nature of financial frictions
- Sources of shocks
- Other comments

Empirical Results

- $NFA_{it} = \delta VOL_{it} + \gamma \mathbf{X}_{it} + \alpha_t + \phi_i + \epsilon_{it}$
- Main result $\hat{\delta} > 0$: large economic significance

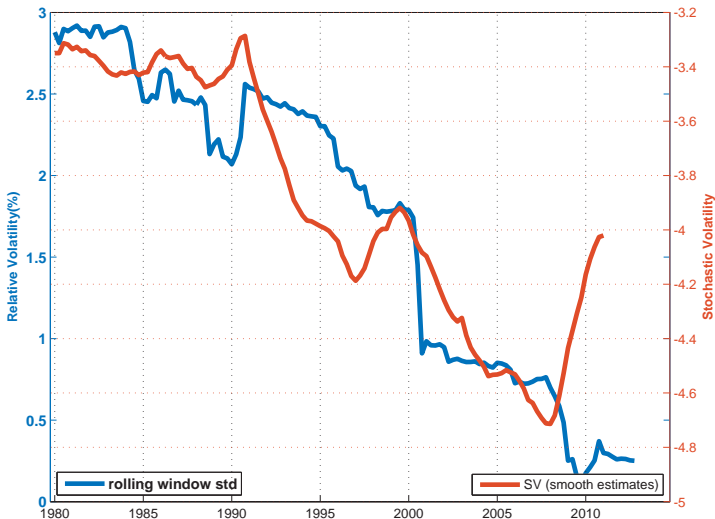
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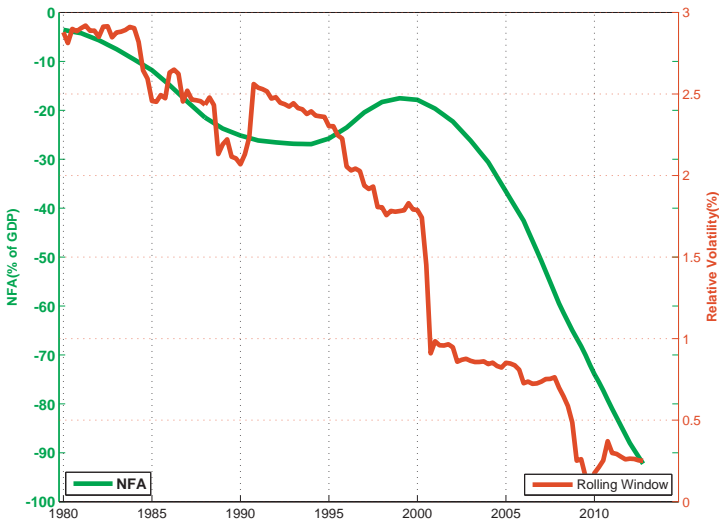
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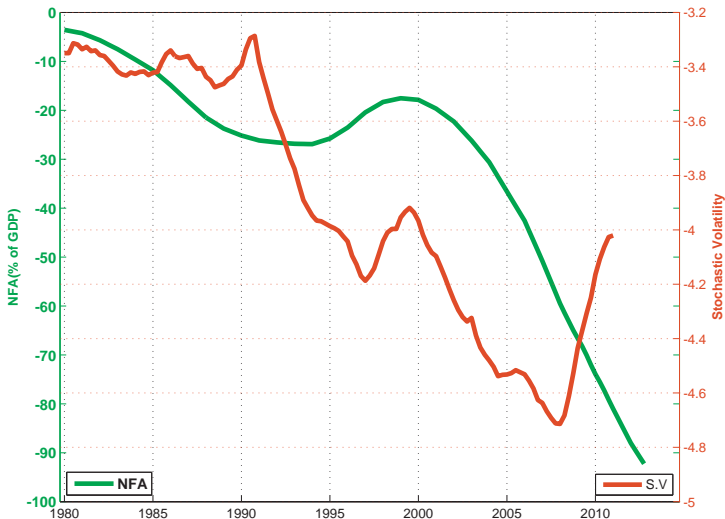
Greece: Rolling window std vs. S.V



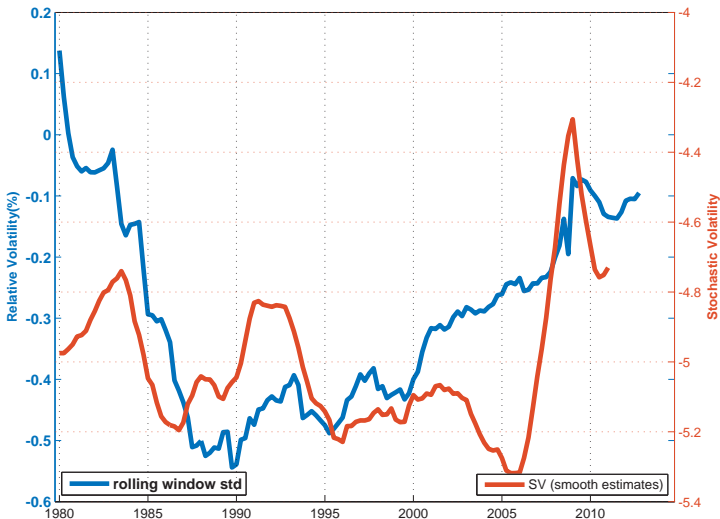
Greece: Rolling Window Vol and NFA



Greece: Smooth Estim. of S.V. and NFA



Italy: Rolling window std. vs. S.V



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 - **NFA vs. Current Account ?**
 - Emerging markets: reverse causality?

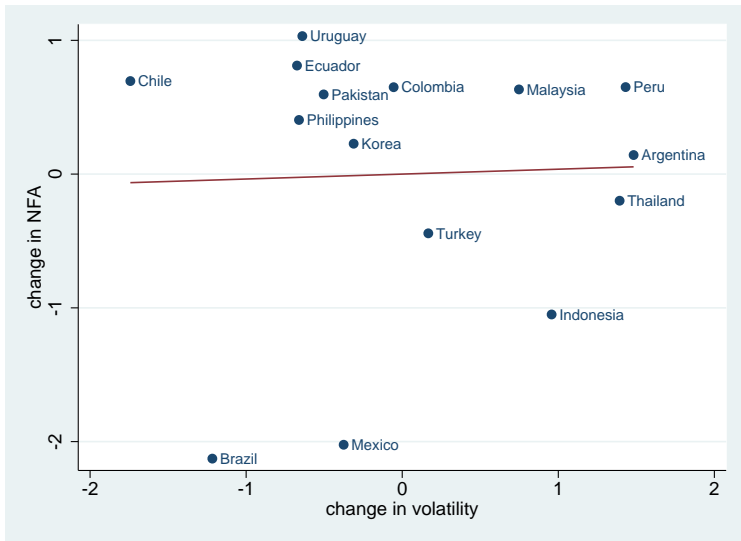
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Emerging Markets



Rep. agent problem in Home Country

$$\mathbb{E}_t \sum_{t=0}^{\infty} \beta^t \frac{c_t^{1-\gamma}}{1-\gamma}$$

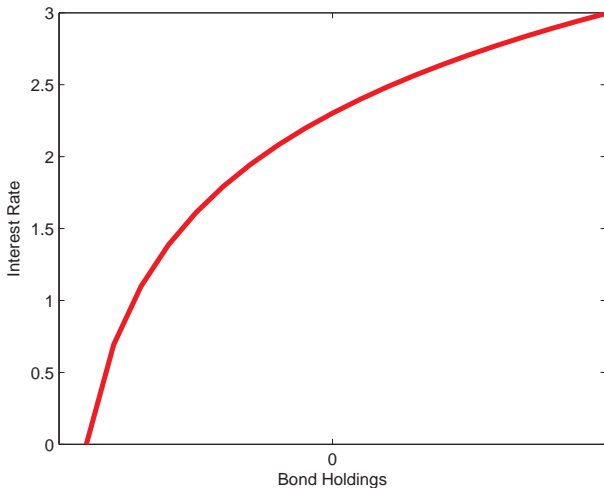
$$b_{t+1} + c_t = b_t(1+r) + y_t$$

Endowment process (paper models production):

$$\log(y_t) = \rho \log(y_{t-1}) + \exp\{\sigma_t\} \epsilon_t$$

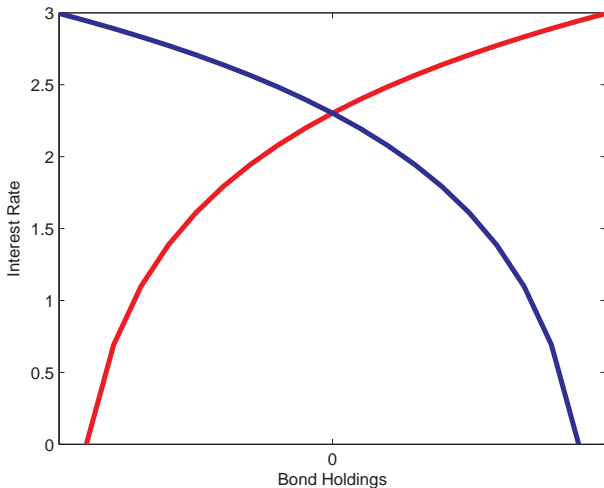
$$\sigma_t = (1 - \rho_\sigma)\bar{\sigma} + \rho_\sigma \sigma_{t-1} + \eta \epsilon_{\sigma_t}$$

Graphical Intuition



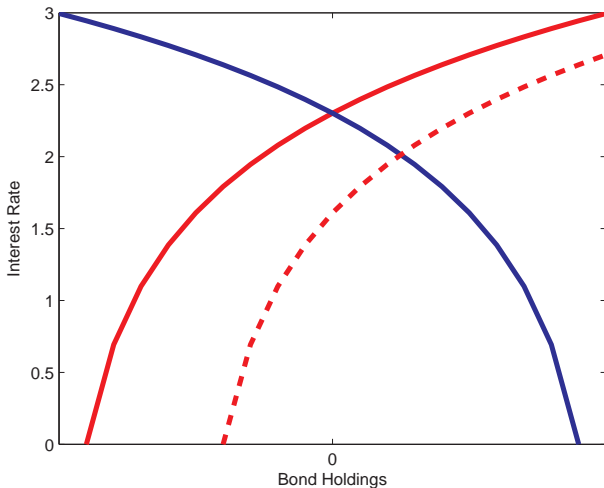
Supply of bonds by home country

Graphical Intuition



Demand of bonds by foreign country

Graphical Intuition



Increase in home volatility

Production Economy

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- Prec. savings vs. news effects
- Ambiguous effects?

Endogenous Borrowing Limit

- No default borrowing constraint (default punished with autarchy)
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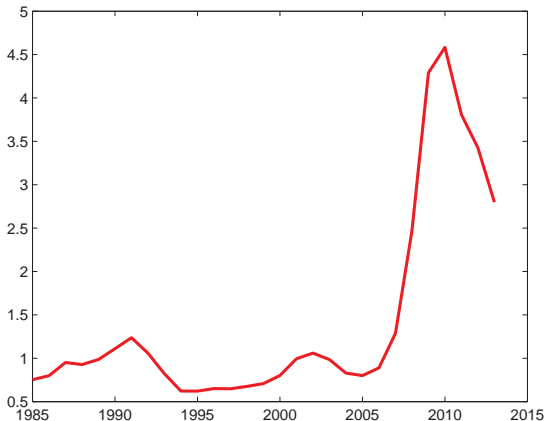
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Low Default during Great Moderation



Delinquencies On All Loans And Leases, All Commercial Banks

Margin/Collateral Constraint

- Now suppose that default is punished with seizure of assets
- $b_{t+1} \geq -\kappa_t q_t k_{t+1}$, q_t price of capital
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- Unambiguous increase in NFA

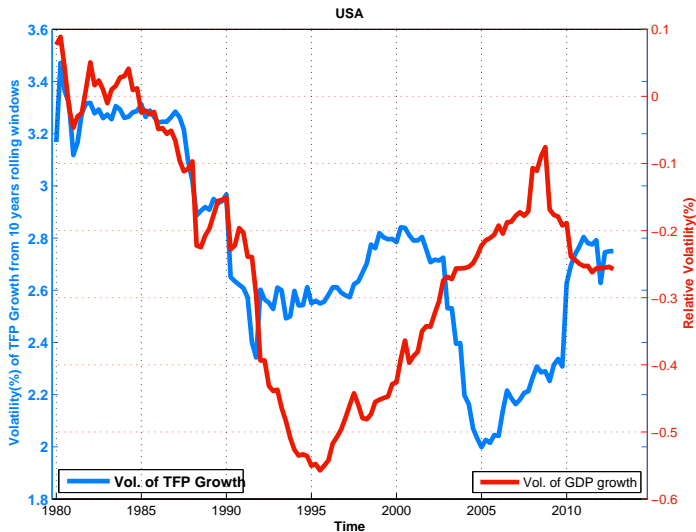
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- Time-varying vol. of output due to changes in vol. of TFP
- Simplification?
- Parameters of volatility shock to TFP set to fit business cycle moments
- Alternative would be to estimate S.V. model for TFP using a likelihood-based approach (Kim, et al. 1998; Fernandez-Villaverde et al. 2011, etc)
- Feed in the estimated volatility and assess the effects on NFA

USA: std of TFP vs std of GDP



Shocks to volatility of TFP (ctd)

- Other alternatives:
 - Shocks to volatility of “financial shocks”, “risk premium”
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- Other alternatives:
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- Important to disentangle empirically which are more important.

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- Negative fiscal shock and limited commitment (Cuadra, Sanchez and Sapriza, RED 2010)
- Systemic risk: link between risk-taking and output volatility (e.g. Bianchi & Mendoza 2013)
- Important to evaluate empirically importance of vol. shocks in models with non-linear amplif. mechanism (Bocola, 2014)

Other comments

- Policy implications? “Imbalances”?
- “Imbalances” largely driven by reserve accumulation by foreign central banks (Bianchi, Hatchondo and Martinez, 2013). Three country model?
- Expand model to allow for equity flows/risky capital

Conclusions

- Thoughtful and interesting paper in important topic.
 - Excellent execution
- Several avenues for future research:
 - Predictions for gross flows
 - International finance puzzles?
 - How should policies (e.g. capital controls) should react to volatility shocks?