

Uncertainty Betas and International Capital Flows

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NBER, Universities Research Conference
The Macroeconomic Consequences of Risk and Uncertainty
September 2014

The general research question

- What are the effects of volatility shocks in an open economy?
- In particular what are the effects on capital flows?

Outline

- On the empirical exercise
- On the model
- On gross v/s net capital flows

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- Why not focus on relative volatility (i.e. $\sigma_i - \sigma_w$) directly? (except for the fact that **uncertainty betas** sounds cool)

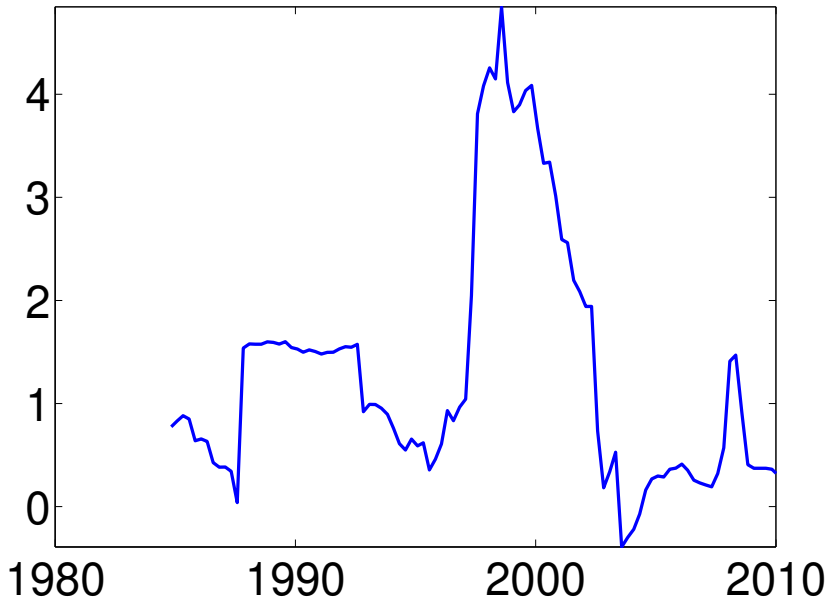
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- If idiosyncratic variations in volatility (i.e. ε_{it}) are large, empirical exercise misses some informative variation
- Might argue β s pick up “exogenous” variation in volatility; not necessarily the case as some relative volatility is incorporated in $(\beta^H - \beta^L)\Delta\sigma_w$
- Asian countries during the 1997 crisis are high β : most likely causation runs from idiosyncratic Asian volatility to world volatility.

Uncertainty β in Malaysia



Suggestion

- Repeat VAR exercise using shocks to relative uncertainty
- Should be easy enough to do
- Interesting regardless of the results

Main finding

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 - Large and significant decline in gross positions
 - Small (non significant) net accumulation of FA by domestic

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- For foreign agents driven by reallocation within the risky portfolio, for domestic driven by flight to safety

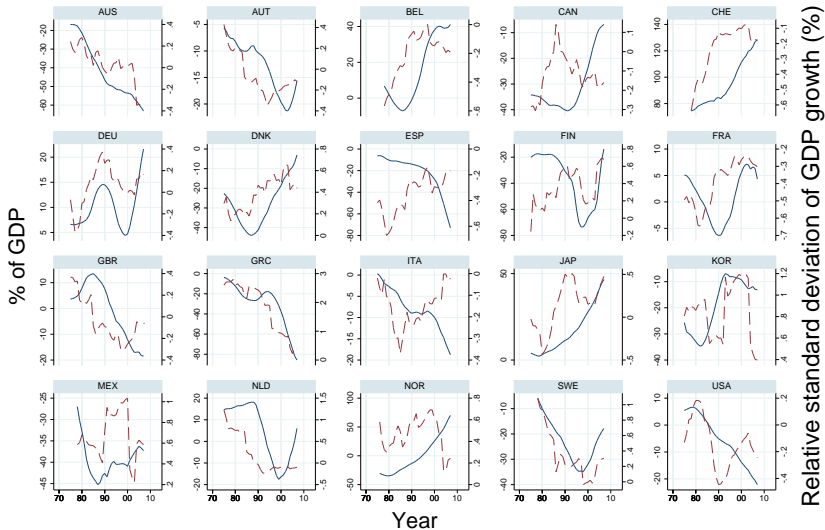
Why the alternative model?

- Complementary story for why both countries reduce their exposure to foreign assets
- More direct link between volatility and portfolio decision

On volatility and net positions

- Fogli and Perri (2014) focus on relation between relative volatility and net positions (imbalances)
- Main finding is that increase in relative volatility strongly associated with accumulation of foreign assets

Relative volatility and external imbalances



Relative volatility and external imbalances

Dependent variable is Net Foreign Assets

Volatility of GDP Growth	19.70*** (3.74)	16.94*** (4.91)	16.89*** (4.58)	17.36*** (5.87)	14.59** (5.11)	15.20*** (4.97)	15.56*** (4.83)	
Average GDP Growth		-11.78 (7.32)	-10.82 (7.34)	-12.08 (7.54)	-15.78* (8.22)	-10.44 (8.53)	-15.07 (9.22)	-22.90** (9.52)
Average Inflation			1.33 (1.64)	3.04 (2.06)	3.04 (2.16)	2.06 (2.22)	2.95 (2.27)	2.30 (2.55)
Volatility of Inflation			-0.07 (3.74)	-1.63 (3.61)	-1.19 (3.39)	-0.81 (3.38)	-1.43 (3.12)	-0.46 (3.29)
Volatility of Govm. Cons. Growth				-3.48 (4.21)	-6.17 (4.77)	-6.35 (4.94)	-5.01 (4.85)	-5.89 (5.46)
Financial Openness 1					0.74 (3.81)	1.40 (4.20)	0.44 (4.56)	1.13 (4.95)
Financial Openness 2					2.85 (4.64)	1.66 (4.04)	1.71 (3.95)	2.15 (3.93)
Trade Openness						-6.69 (7.01)	-5.91 (6.37)	-5.52 (6.57)
Share Young							1.25 (1.27)	1.36 (1.30)
Share Old							-2.24 (2.95)	-2.04 (3.01)
<i>N</i>	647	647	647	631	618	618	618	618
adj. R^2	0.820	0.824	0.824	0.828	0.806	0.814	0.819	0.808

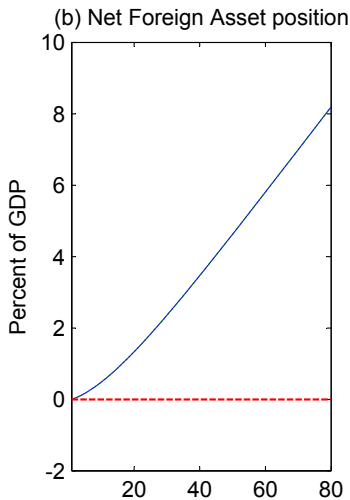
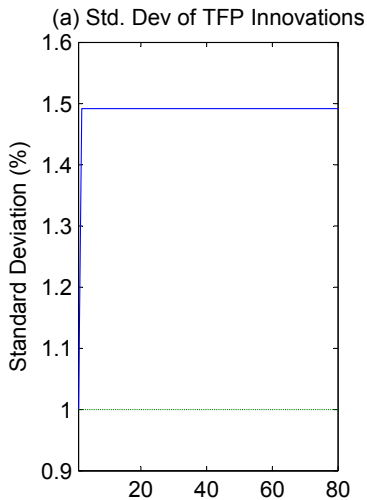
All regressions include country and year fixed effects. Robust standard errors, clustered at the country level, in parentheses

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

What explains this relationship?

- Increase in domestic risk/volatility
- Domestic agents increase precautionary saving (more patient)
- Because domestic capital is more risky and has decreasing returns
-> accumulate more foreign assets

Model's impulse response to a volatility shock



- In simple (only net position), calibrated open macro business cycle model response quantitatively consistent with data

Why stronger effect of volatility on net positions?

- Different measure of volatility (GDP based v/s stock market based) possibly more connected with precautionary motive

Conclusions

- Interesting and clear paper
- Contributes to growing literature showing that risk/uncertainty/volatility important determinant of allocation of resources, especially in **open, integrated** economies