The global factor in neutral policy rates: some implications for exchange rate rates, monetary policy and policy coordination

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Discussion

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The model and its implications

Implication of standard open macro DSGE model:

- Under no cooperation, optimal monetary policy must respond to foreign factors conveying information on foreign productivity

→ correlation of policy even if no cooperation

- In the simplest model presented, equilibrium exchange rate only adjusts to idiosyncratic shocks to output gap

→ What looks like beggar-by-neighbour policy is just equilibrium adjustment in a model where there is trade balance at every period

- Small deviation from the assumptions lead to optimal monetary policy responding to both foreign productivity and the ouput gap and exchange rate adjusting to both foreign and home output gap

A practical man recommendation

- Cooperation difficult to implement + challenge for rule based policy
- Therefore adopt a minimalistic approach: cooperate on information sharing to identify foreign factors to which Nash optimal monetary policy must respond
- Minimalistic approach justified also by the interpratation of literature's findings pointing to small advantages from cooperation

A global model

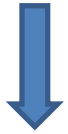
Euler equations – country i:

$$\mathsf{E}_t \Delta C_{i,t+1} = \gamma_i r_t^W + \alpha_i \mathsf{E}_t \left(\pi_{t+1}^W - \pi_{i,t+1} \right)$$

- Only under pure autarky only domestic variables matter
- Otherwise expected C depends on both domestic and foreign variables
- The Euler equation generates a restricted VAR on international consumption data: common component in expected consumption

EMPIRICS 1
How well does this model fit the data?

- Inter-temporal model of CA fails empirically
- However joint estimation with international data tells us that restricted VAR with common component generated by world interest rate does better than unrestricted VAR in forecasting consumption



- Estimate joint multi-country model for 1970-2005 sample
- Compare with one country models
- Evaluate out-of sample prediction of long term nominal interest rate

RESULT: the multi-country model does very well!!

Restricted and unrestricted model
Results

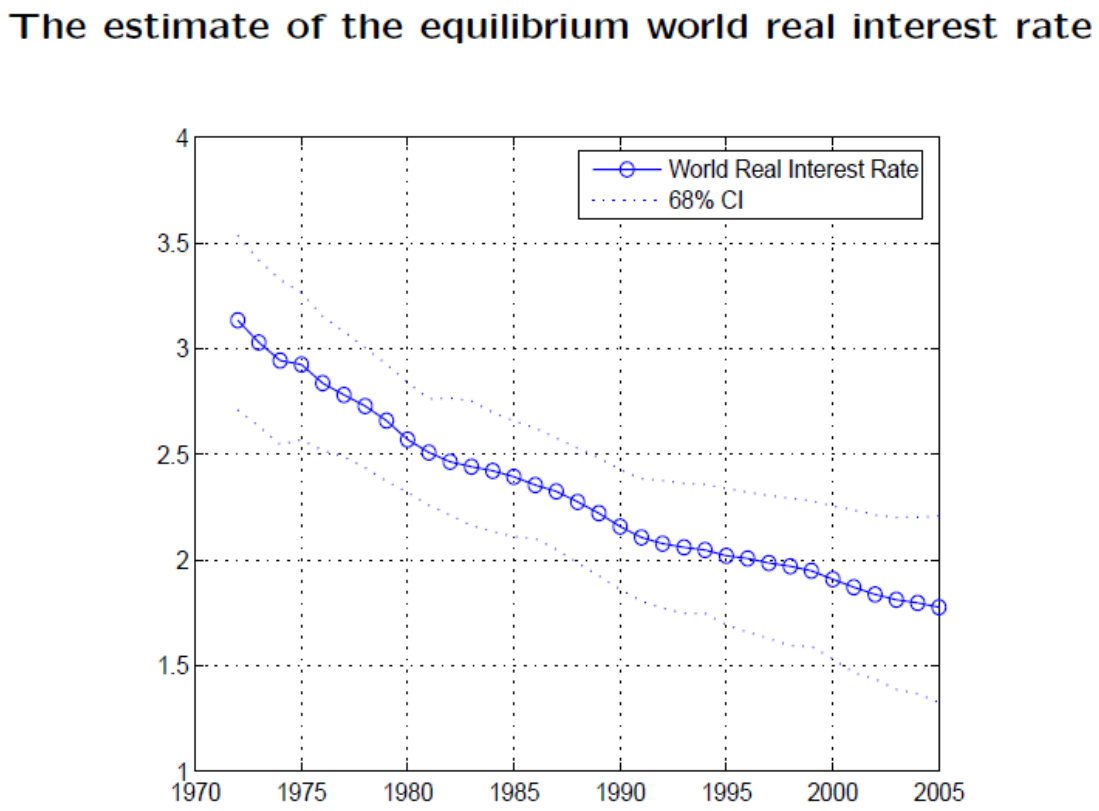
Table 2: Forecasting Consumption one year ahead -restricted and unrestricted world model

	Unrestricted	Restricted
Canada	1.03	0.97
Germany	0.78	0.76
France	0.82	0.73
UK	1.01	1.76
Italy	0.88	0.81
Japan	0.61	0.52
USA	1.05	1.36

MSE ratios w.r.t to naive forecast

Evaluation sample: 1990-2005

Common component of expected consumption



EMPIRICS 2

Consider richer set of domestic variables

Is now-casting with foreign data helpful?

Not necessarily!

From the intertemporal budget constraint:

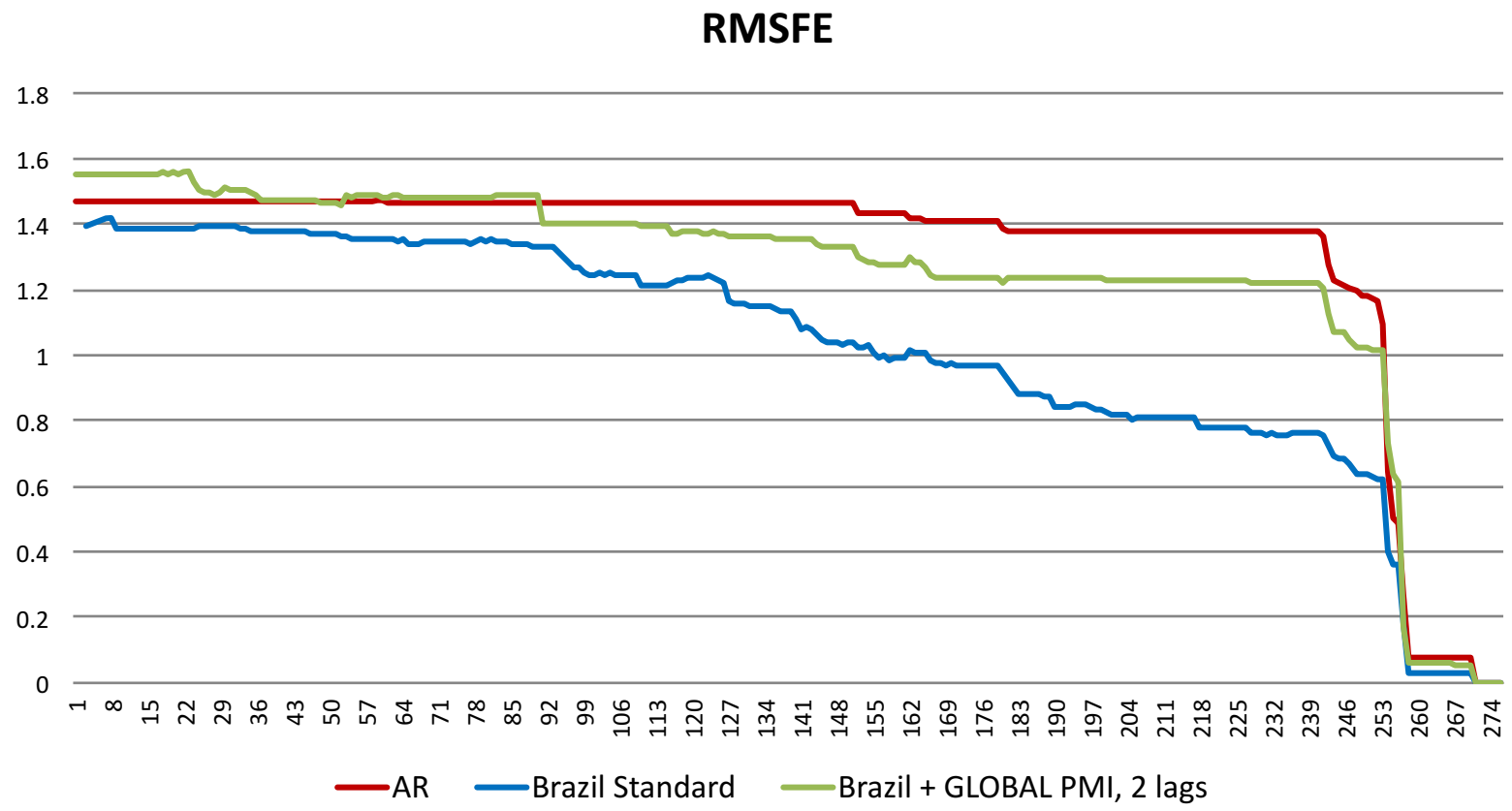
$$ca_{it} := no_{it} - c_{it} = \gamma_i r_{i,t} - E_t \sum_{h=1}^{\infty} \beta_i^h (\Delta no_{i,t+h} - \gamma_i r_{i,t+h})$$

where $r_{i,t} = r_t^W + \frac{\alpha_i}{\gamma_i} \mathsf{E}_t \left(\pi_{t+1}^W - \pi_{i,t+1}\right)$

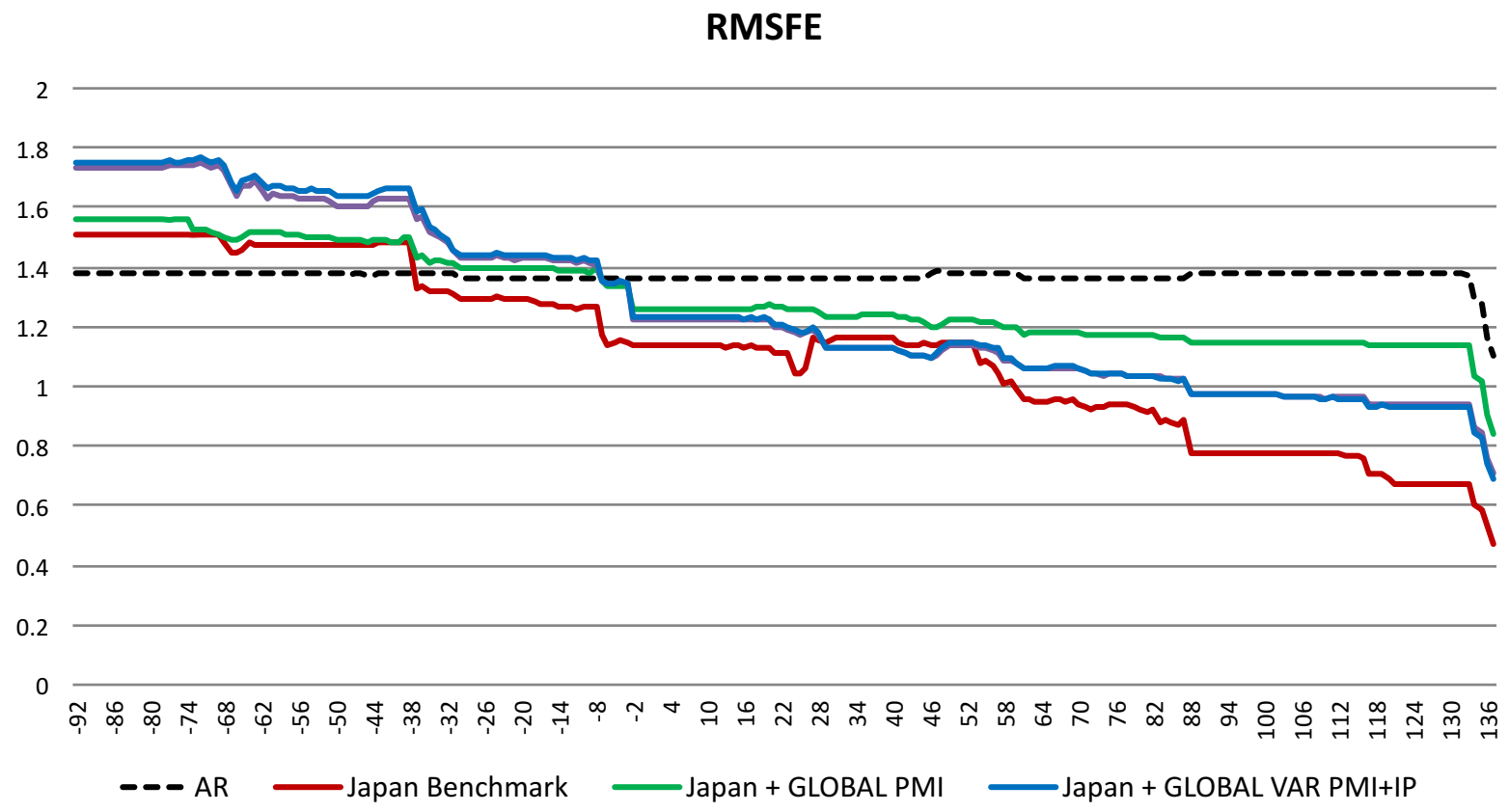
- Current account data contain information on future net output and interest rate

Sufficient statistics?

NOW-CASTING RESULTS IN REAL TIME: BRAZIL
Out of sample, 2007-2015



NOW-CASTING RESULTS IN REAL TIME: JAPAN
Out of sample, 2006-2015



Tentative evidence

- Exploiting low frequency common component of international data helps forecasting consumption

- However, short term forecasting using rich set of domestic data including current account information does not improve using foreign data

A more complex model of the equilibrium rate

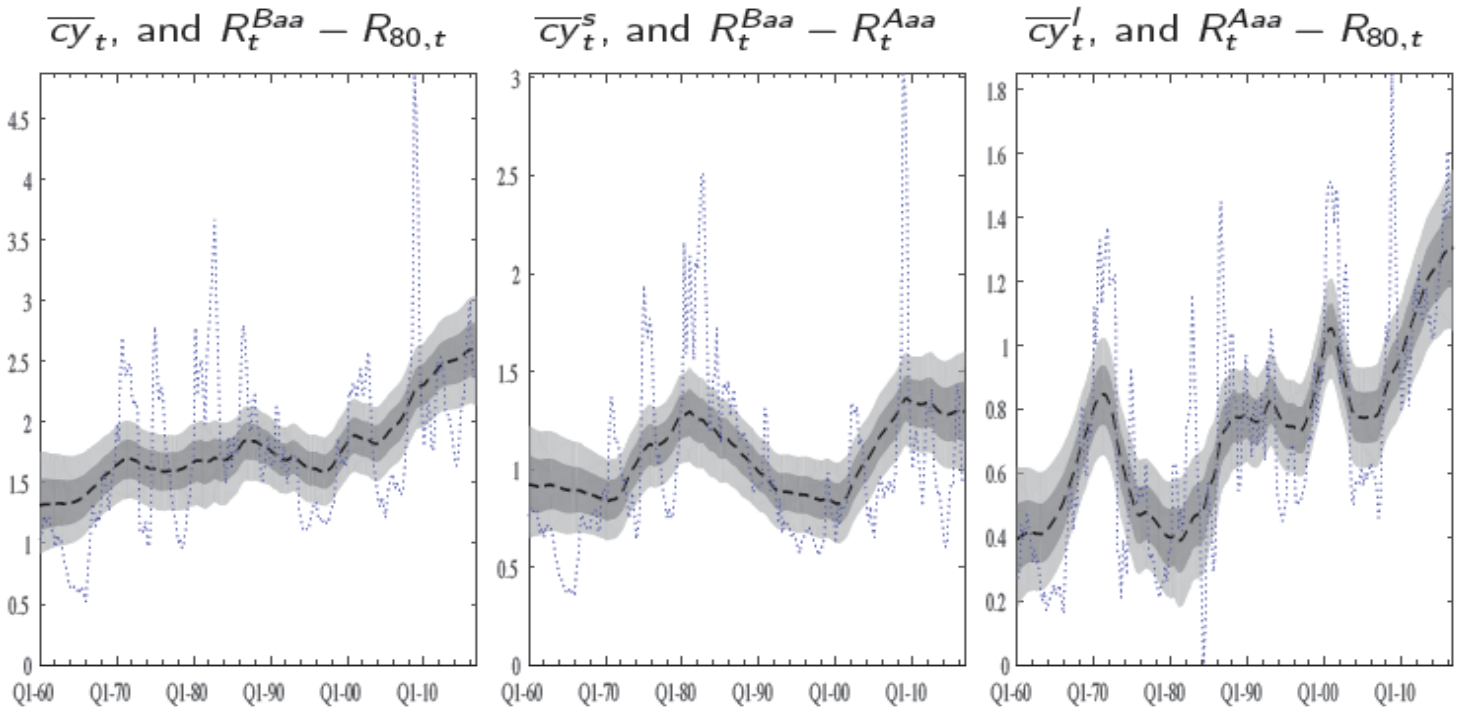
- Empirically, preference for safety and liquidity matter
- Treasury bonds are valued not only for their financial returns, but also for their safety and liquidity

- Recent empirical (BPEA 2017 and Caballero et al 2017): much of the steady decline in Treasury rates since the late 1990s is due to an increase in the premium that investors are willing to pay for safety and liquidiy (demand for safe assets)

➢ Returns on securities that are less liquid and less safe than Treasuries, such as corporate bonds, have declined much less

Convenient yields (risk premia) from Del Negro et al. BPEA, 2017

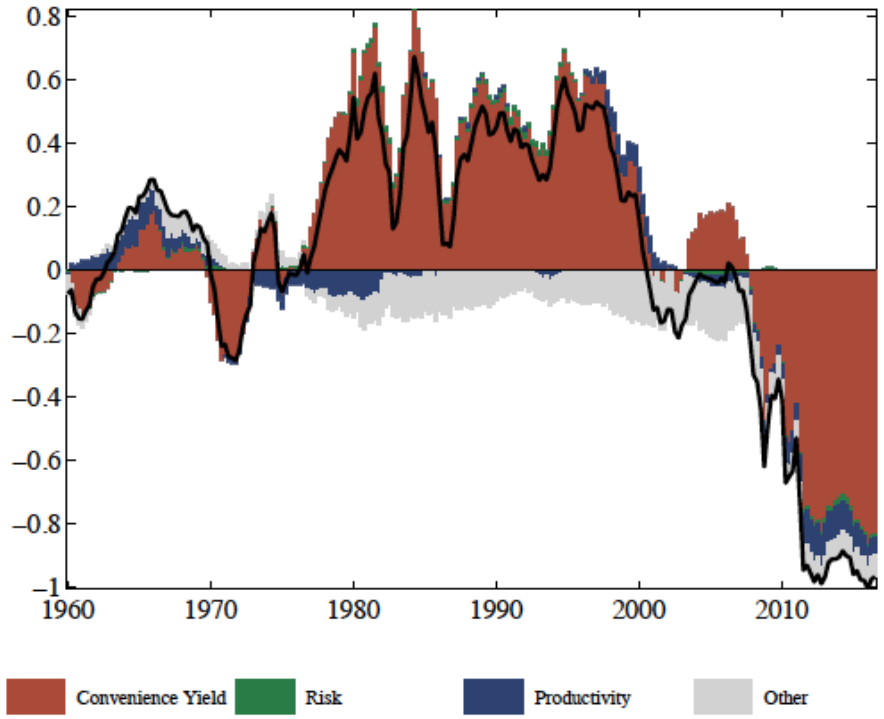
$\overline{cy}_t$, $\overline{cy}^s_t$, $\overline{cy}^l_t$, and Spreads



Del Negro et al, BPEA 2017

DSGE Result #2: Convenience Yield is the main driver of trends in r_t^*

Decomposition of Thirty-year Ahead Forward Rate ($E_t r^*_{t+30Y}$)



Combine this evidence with literature pointing to international correlation of risk premia

- Miranda Agrippino and Rey, 2015: "*The return of a risky asset is determined by both global and asset specific factors, with the former being linked to the aggregate market volatility and the degree of risk aversion of the market*"

- *This suggests that the global interest rate is affected by risk premia*
- *…. which opens the scope for cooperation in terms of macro-prudential policy*

Conclusion

- Reasonable practical man's considerations on costs of cooperation in terms of communication and credibility
- Standard model suggests channels of home/foreign factors interaction even with no cooperation that may be exploited in forecasting by central banks
- Empirically, common factors help forecasting consumption at home although in richer now-casting model foreign information reflected in domestic data
- Paper is silent on the need for cooperation in globalized markets with correlated risk: cooperation may be needed especially in the area of macropru