Dan Cao & Pedro Gete's: "Demand for Collateral, Foreign Holdings of U.S. Treasuries and Taxes on Capital Flows"

Discussion by **Alexander Monge-Naranjo**

CFSP, Bretton Woods August 26, 2011

This paper:

Interesting, careful, innovative mechanism.

Work in progress.

Concerns about substance and execution.

A communiqué sent to the UK Treasury RE: 1944 Bretton Woods Conference

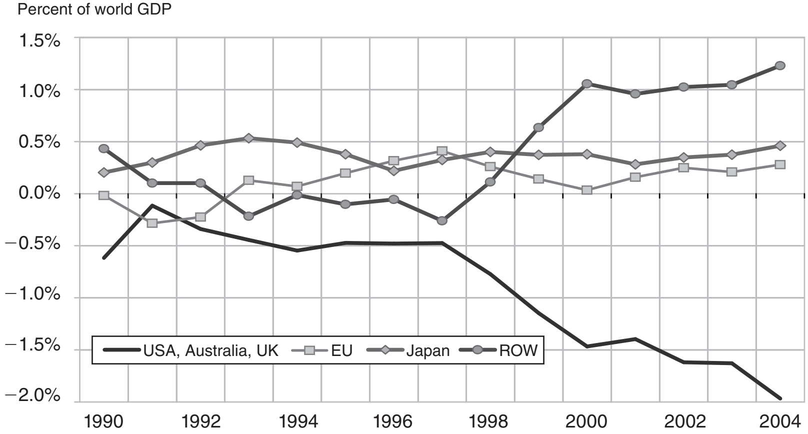
> "Twenty-one countries have been invited which clearly have nothing to contribute and will merely encumber the ground, namely, Columbia [sic], Costa Rica, Dominica, Ecuador, Salvador [sic], Guatemala, Haiti, Honduras, Liberia, Nicaragua, Panama, Paraguay, Philippines, Venezuela, Peru, Uruguay, Ethiopia, Iceland, Iran, Iraq, Luxembourg. The most monstrous monkey-house assembled for years. To these might be added: Egypt, Chile and (in present circumstances) Yugo-slavia [sic]."
> **John Maynard Keynes**

...well, things have changed....

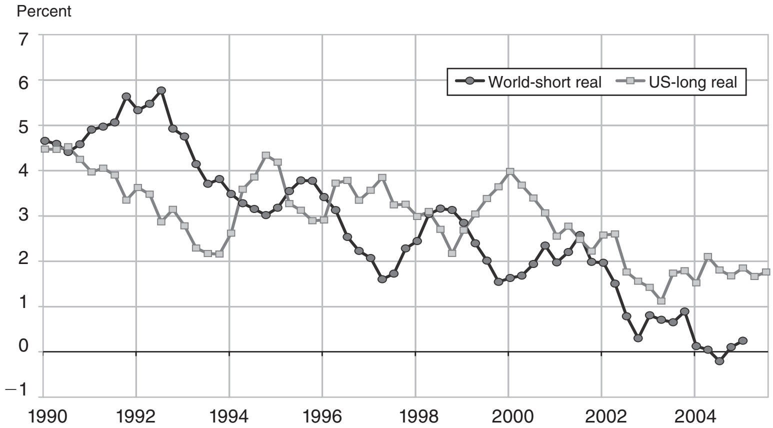
Key Issues for the world economy

why emerging countries are accumulating so much financial assets?

why in US T-bills and T-bonds?

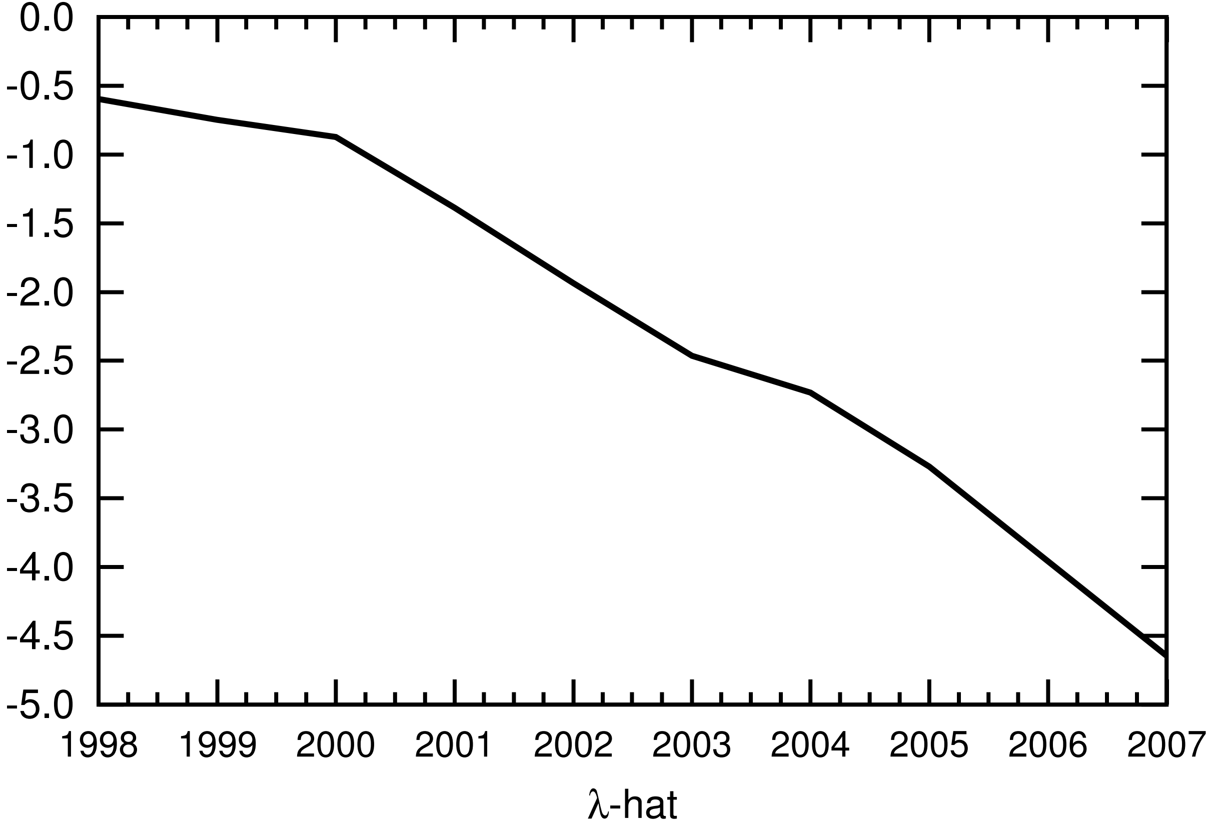


A. Current account by region (percent of world output)



B. World and US real interest rates

By 2007 China owns claims on the U.S. equal to 4.64% of the U.S. GDP.



Hypotheses:

differences in the supply of assets (Caballero, Farhi, Gourinchas)

differences in the enforcement (Mendoza, Quadrini, Rios-Rull)

differences in the riskiness (Prassad, Angeletos, Panousi, Tserynnokov)

US T-bills/T-bonds have collateral value (Cao and Gete)

Overview: Model

Financial markets: $\{b, R\}, \left\{k, R^{US}\right\}$, $R^{US} < R$, $m \geq 0$.

$$
\begin{aligned}
v(e, b, k) &= \max\left\{u(c) + \beta \int v\left(e', b', k'\right) P\left(de', e\right)\right\} \\
\text{st} &: \\
c &\leq e + b + k - \frac{k'}{R^{US}} - \frac{b'}{R^{US}} \\
k' &\geq 0 \\
b' &\geq -mk'
\end{aligned}
$$

Special case: $$P(A, e) = \begin{cases} \mathbf{1}_{\bar{\mathsf{e}}}(A) & \text{if } \mathsf{e} = \underline{\mathsf{e}} \\ \mathbf{1}_{\underline{\mathsf{e}}}(A) & \text{if } \mathsf{e} = \bar{\mathsf{e}} \end{cases}$$

Results

$\mathbf{m \leq 1}$: role of US bonds: storage of value

e=ē: $k' > 0$, $b' = 0$.

e=e̲: $k' = 0$, $b' = 0$.

$\mathbf{m > 1}$: role of US bonds: permits to borrow.

e=ē: $k' = 0$, $b' > 0$.

e=e̲: $k' > 0$, $b' < 0$.

Comment 1: Puzzling observable implications

Emerging markets countries' demand for T-bills:

Recession: Increase.

Boom: Decrease.

Countries facing a Sudden stop: Large accumulation of US T-bills?

Comment 2: Equilibrium type vs. a country's type

Two country model: $b_{1,t} = -b_{2,t}$.

if $m_i \leq 1$, and $m_j > 1$ then $b_{j,t} = 0$; k is the only store of value.

mixing an individual constraint with a market clearing condition.

Cannot use differences in equilibria for differences across individuals.

Alternative: continuum of countries

some with $m_i \leq 1$, some with $m_j > 1$.

key difference: countries free to save in EM debt.

$m_i > 1$:

expansions: lend in EM debt: $k' = 0$, $b' > 0$.

recessions: borrow, use T-bills as permits: $k' > 0$, $b' < 0$.

$m_i \leq 1$:

expansions: save in EM debt, $b' > 0$.

recessions: no borrowing: $k' = 0$, $b' = 0$.

Preferred Alternative:

continuum of SOE, all with $m \leq 1$.

Stochastic shocks, country and world level.

Richer structure of securities, perhaps two-period lived.

Objective:

Optimal to use REPO (with $m_i \leq 1$) to keep exposure to other assets.

Comment 3: $m > 1$?

Theoretical foundation? Can this be generated from a participation constraint? I don't think so, but...

Empirical support? Yes for use of REPOs, but in general $m \leq 1$.

Reserve management in the Central Bank of Costa Rica:

use of repos? Yes, very often.

why? quick generation of liquidity, favorable interest rates.

terms? durations typically of two weeks; sometimes up to three months. Exclusively T-bills or T-bonds.

values of m? Can be high, close to one. Values depend on the rating of the country. A value greater than one is unheard of, at least in Costa Rica (BB rating).

why reserves in T-bills? Mandate is for liquidity over return. The mentality is to be ready for any crisis/shortage, and other normal fluctuations. The prospect of a crisis is always there. The downside risks in higher return-higher risk securities could be fatal for the Central Banker....

but huge inefficiencies in the long-run! Yep. More sophisticated Central Bankers have created "Sovereign Investment Funds," with much higher returns. Most notably:

Singapore,

Norway

Saudi Arabia

Chile

Other Central Bankers have noticed.....

The big issue: Global Imbalances

Have taken place in the past, e.g. years before Bretton Woods, 1944.

US had accumulated most of the gold!

Typically associated with the emergence/'industrialization' of countries.

....England, US, Japan,...China?

Transfers of gold and financial assets.

Long run gains for emerging countries: future emergence of other countries.

like OLG of emerging countries?