Comments on Patrick Pintus'

Procyclical International Capital Flows, Debt Overhang and Volatility

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The paper

- Interesting and well-executed paper

- Studies the implications of the procyclicality of capital flows for:
  - Equilibrium determinacy
  - Output and consumption volatility
  - Welfare

Model

$$Max \int_0^{\infty} e^{-\rho t} \frac{C(t)^{1-\theta} - 1}{1-\theta} dt$$

$$\begin{aligned} s/t \qquad \dot{H} + \dot{K} - \dot{D} &= wL + (R_K - \delta)K + (R_H - \delta)K - rD - C \\ D &= \lambda K \end{aligned}$$

$\lambda > 0$ is the credit multiplier

Main Findings

- Countries with high debt-GDP ratios are prone to boom-bust episodes and sunspot equilibria

- These economies also exhibit large consumption and output volatility

- Consumption allocations in these economies are Pareto dominated by those prevailing in "stable" economies

Comments

- Assumptions
  - Procyclicality of capital flows
  - Binding borrowing constraint
  - Use of human capital as collateral
- Predictions

Assumptions: Procyclicality of capital flows

- How procyclical are capital flows ?

  In the model: binding borrowing constraint + linearization imply that the correlation between output and capital inflows is 1

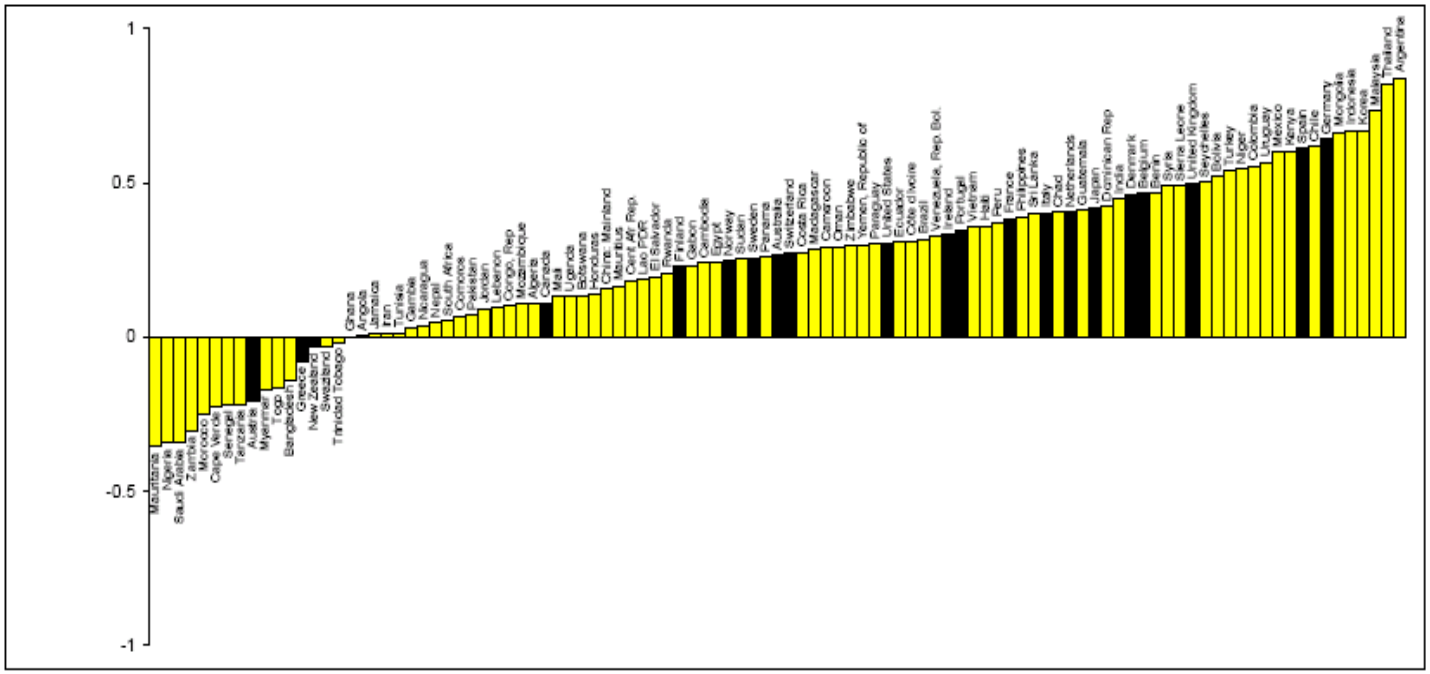
  However, evidence reported by Kaminsky et al. (2004) suggests that the correlation between output and net capital inflows is rather weak (especially for low and middle-income countries)

Correlations between the Cyclical Components of Net Capital Inflows and Real GDP

Countries	Correlations	
	HP Filter	Band-Pass Filter
OECD	0.30*	0.25*
Middle-High Income	0.35*	0.26*
Middle-Low Income	0.24*	0.20*
Low Income	0.16*	0.10*

Note: An asterisk denotes statistical significance at the 10 percent level.
Sources: IMF, *International Financial Statistics* and *World Economic Outlook*.

Country Correlations between
the Cyclical Components of Net Capital Inflows and Real GDP
1960-2003



Assumptions: Binding borrowing constraint

- What do large values of λ mean ?
  - Large debt burden
  - Low level of financial development (small fraction of self-financed investment)
  - High financial integration
  - Easy access to international capital markets

  Is it good or bad to have a large λ ?

Assumptions: Binding borrowing constraint

- In countries with large values of λ,
  - It is more likely that debt overhang leads to under-investment
  - Consumption allocations are Pareto dominated

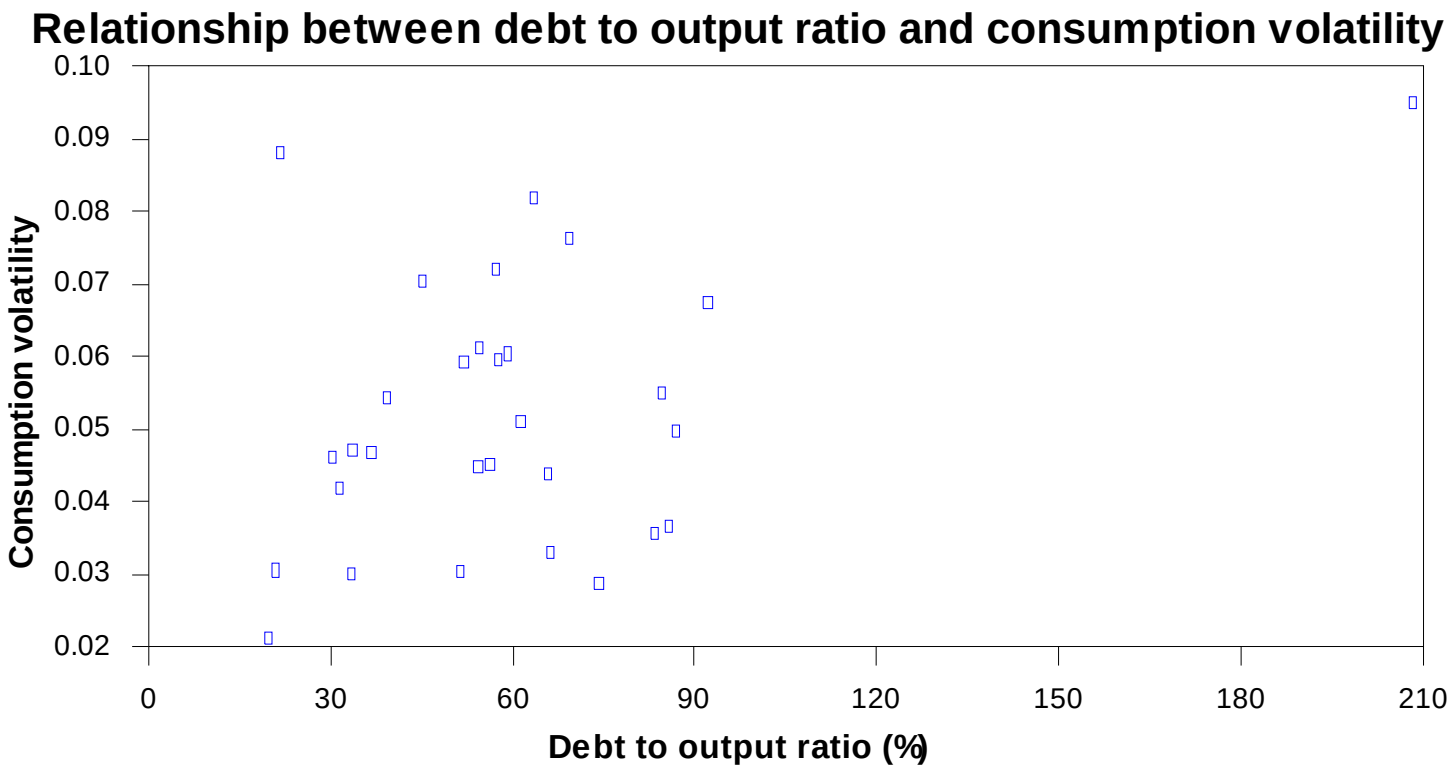
  These results are counter-intuitive if we think of these countries as being less credit-constrained than those with smaller values of λ

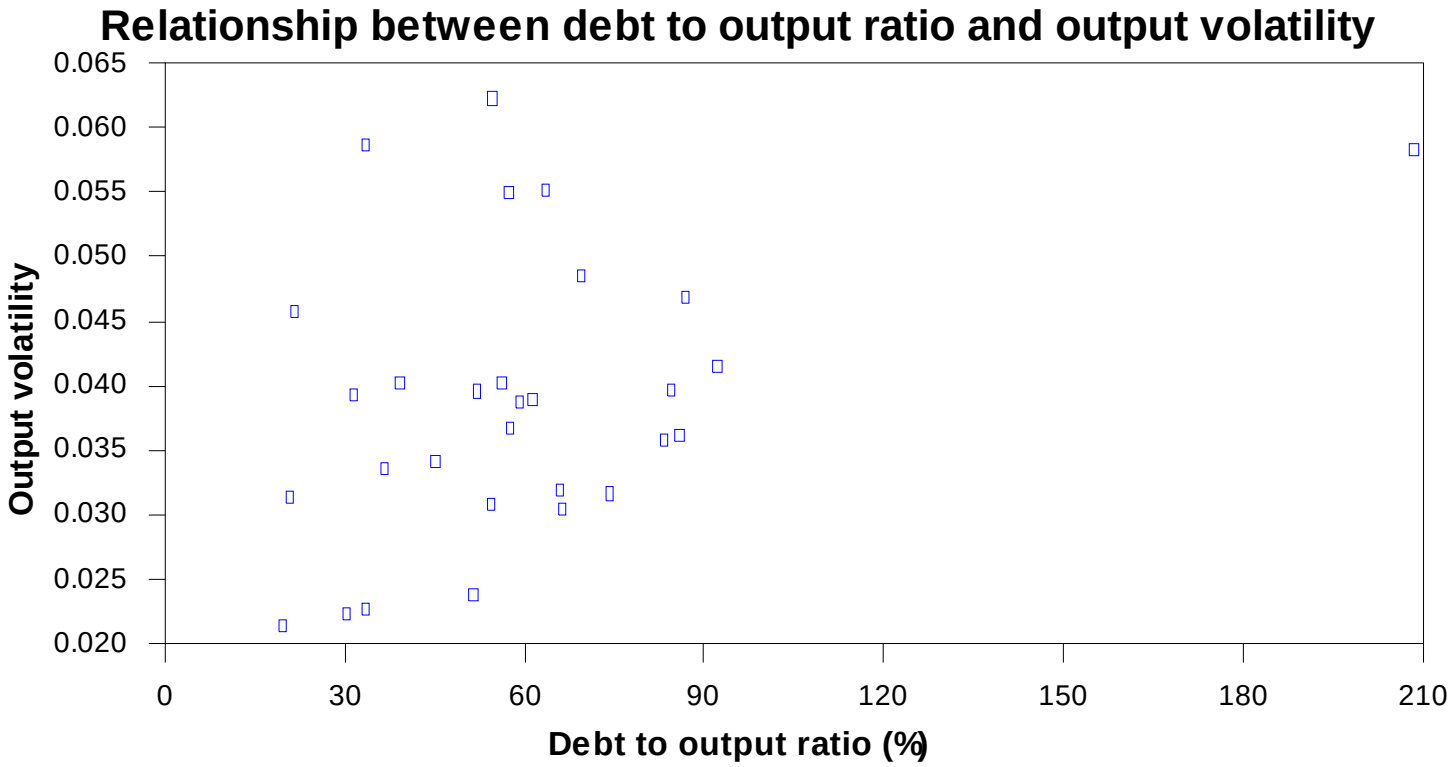
Assumptions: Use of human capital as collateral

- Extension of the model: Use of human capital as collateral
  - Human capital is not easily repossessed or monitored
  - Hard to find real-world examples where human capital is used as collateral

Predictions

- Testable implication of the model: countries with large debt-GDP ratios should display high consumption and output volatility


Relationship between debt to output ratio and consumption volatility
Consumption volatility
0.10
0.09
0.08
0.07
0.06
0.05
0.04
0.03
0.02
0
30
60
90
120
150
180
210
Debt to output ratio (%)


Relationship between debt to output ratio and output volatility
Output volatility
0.065
0.060
0.055
0.050
0.045
0.040
0.035
0.030
0.025
0.020
0
30
60
90
120
150
180
210
Debt to output ratio (%)

Predictions

- What do the data say:

$Corr\left(\frac{D}{Y}, \sigma_c\right)$	$Corr\left(\frac{D}{Y}, \sigma_y\right)$
0.41	0.39

$\Longrightarrow$ The model is consistent with the data along this dimension