

Discussion of :

**DSGE MODEL WITH PARTIAL
DOLLARIZATION**

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This paper:

DSGE sticky-price Open Economy Model

with many standard features:

monopolistic competition, habit formation, real wage rigidity,

capital accumulation with costs to adjusting investment, lots of exogenous shocks

e.g. shocks to risk premia ...

New Open Economy Macro Models

Estimation: Lindé et al., Lubik-Schorfheide,

de Walque, Smets & Wouters, Rabanal-Tuesta

US or European data

CONTRIBUTIONS OF THIS PAPER :

- **NEW FEATURE : PARTIAL DOLLARIZATION**
 - 1) Currency substitution : households use dollar and local currency for domestic purchases
 - 2) Price dollarization: some domestic firms set (sticky) prices in dollars
 - 3) Financial dollarization (not in draft)
- **MODEL ESTIMATED USING PERUVIAN DATA**
(Bayesian method)

Why partial dollarization matters for macro behavior and monetary policy

- Currency substitution : demand for local currency more volatile (affected by foreign interest rate and exchange rate); effect on consumption
- Price dollarization: exchange rate affects relative prices between domestic goods in home market

Thus: exchange rate more important in transmission mechanism; exch rate stabilization more important

Results :

- Currency substitution more important than price dollarization
- Peruvian monetary policy stabilizes exchange rate
- Low degree of price stickiness (approx. 2 qrtr)
- Foreign interest rate shocks are key drivers of Peru's GDP, investment (stronger international transmission effect than among most industrialized countries); Mendoza, Uribe etc.

Main comments and suggestions

A. Model specification

B. Econometrics

C. What drives the results ?

A. Specification:

A.1. **Currency substitution** (CS) should be modeled in more flexible manner;
allow for non-linearities, threshold effects

**big potential benefits from slightly more
general set-up**

Currency substitution :

Paper assumes money in utility function

$$U = U(C_t, Z_t) \quad Z_t = \left(\frac{M_t}{P_t}\right)^{1-\delta} \left(\frac{S_t D_t}{P_t}\right)^\delta$$

M : local currency, D : dollars, S : exchange rate

$$-U_{c,t} \frac{1}{P_t} + U_{\frac{M}{P},t} \frac{1}{P_t} + E_t \beta U_{c,t+1} \frac{1}{P_{t+1}} = 0$$

$$-U_{c,t} \frac{S_t}{P_t} + U_{\frac{DS}{P},t} \frac{S_t}{P_t} + E_t \beta U_{c,t+1} \frac{S_{t+1}}{P_{t+1}} = 0$$

Euler equations: $U_{c,t} = \beta E_t U_{c,t+1} (1 + i_t) \frac{P_t}{P_{t+1}}$, $U_{c,t} = \beta E_t U_{c,t+1} (1 + i_t^*) \frac{P_t/S_t}{P_{t+1}/S_{t+1}}$

$$U_{c,t} \frac{i_t}{1+i_t} = U_{\frac{M}{P},t}, \quad U_{c,t} \frac{i_t^*}{1+i_t^*} = U_{\frac{DS}{P},t}$$

$$\frac{1-\delta}{\delta} \frac{DS}{M} = \frac{i/(1+i)}{i^*/(1+i^*)} \quad \Rightarrow \quad D = \frac{\delta}{1-\delta} \frac{i/(1+i)}{i^*/(1+i^*)} \frac{M}{S}$$

Likely that, empirically, $D=0$ when i smaller than threshold

Key parameter: substitution elasticity between M & M : allow this elasticity to differ from unity.

A.2. Price dollarization

Fraction of firms that set dollar prices likely to be endogenous, time-varying (function of local currency inflation)

Dollar pricing: what goods ?

Perhaps mainly big-ticket items (houses, cars, investment goods) ?

If this is the case, then prices less likely to be sticky;

Bargaining over prices; need a bargaining model

B. Econometrics

Model estimated using data on:

GDP, C, Invest, CPI, interest rate, real wage, real exchange rate, terms of trade

Should use data on: local currency holdings,
dollar holdings (dollar deposit data available),
prices of 'dollar goods' (more difficult to get)

to permit stronger identification/tests of novel model features

C. The Results:

Paper does not show what data features
'Currency subst.' Model allows to capture
better than standard model

Results puzzling: ALL model variants
generate standard deviations of key macro
variables that are MUCH more volatile than
empirical stds (see Table 6, p.62).

Why ?

Summary:

nice paper on important questions,
new data

But:

need more flexible specification,
estimate model using additional variables

so that can better understand the key
mechanisms and data features.