# Comments on
# "A MODEL OF GLOBAL CURRENCY PRICING"

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# Overview

- Welfare comparison across PCP, LCP, DCP, and GCP (and BCP), which firms use for their pricing.
  - PCP: Producer currency pricing (export source country)
  - LCP: Local currency pricing (export destination country)
  - DCP: Dominant currency (dollar currency) pricing (USD)
  - GCP: Global currency pricing (currency basket like SDR)
  - (BCP): Bitcoin currency pricing (independent of any country)

- NKOE model: monetary policy matters.
  - How to set the monetary policy depends on firms' pricing behaviors
  - If monetary policy objective is to maximize global welfare cooperatively (internalizing externality each other), then
    - Under PCP, welfare is highest.
    - BCP equals to GCP with the optimal basket.

# Key math

- Household in country $i$,

$$\mathbb{E}\sum_{t=0}^{\infty}\beta^t\left(\ln C_{it}-L_{it}\right). \quad C_{it}=\frac{C_{Nit}^{v}C_{Tit}^{1-v}}{v^v(1-v)^{1-v}}, \quad P_{it}=P_{Nit}^{v}P_{Tit}^{1-v},$$

- Budget constraint (?) $\quad P_{it}C_{it}=W_{it}+T_{it}+\Pi_{it}+\mathrm{B}(\mathrm{z}_{it})$

  - Assume "complete market" by state-contingent bond

  - Assume firm profits are taxed$\rightarrow$ lump-sum transfer to HH?

- Firms in country $i$, year $t$, produce: $\quad Y_{it}=Z_{it}L_{it}$

  - Marginal cost $\quad MC_{jt}=W_{jt}/Z_{jt}$

  - $\theta$ portion of firms can adjust price perfectly ex post.

  - $1-\theta$ cannot: sticky price set at the beginning of period.

$$\max_{\bar{P}_{Njt}(\omega)} E_{t-1}\left\{Q_{jt}\left[\left(\bar{P}_{Njt}(\omega)-(1-\tau_{jt})MC_{jt}\right)\left(n_jY_{Njt}(\omega)\right)\right]\right\}$$

# Key math

- Log consumption deviation from the first best (flexible price):
  - Non-tradable and domestically produced tradables:

$$c_{Nit} - \tilde{c}_{Nit} = c_{iit} - \tilde{c}_{iit} = \theta(m_{it} - z_{it});$$

  - Imports

$$PCP : c_{jit} - \tilde{c}_{jit} = \theta(m_{jt} - z_{jt});$$

$$LCP : c_{jit} - \tilde{c}_{jit} = \theta(m_{it} - z_{jt});$$

$$DCP : c_{jit} - \tilde{c}_{jit} = \theta(m_{1t} - z_{jt});$$

$$GCP : c_{jit} - \tilde{c}_{jit} = \theta(m_{gt} - z_{jt}).$$

- MP ($M_{it} = P_{it}C_{it}$. log M=$m_{it}$) mitigate effects of prod shock $z_{it}$.
- PCP with globally cooperating MP is the best.
- BCP equals to GCP with the optimal basket.

# Non-cooperative case differs

- Here, CBs do not care about its effects on foreigners.
  - But, PCP result is the same; For others, different.

Table 1: The price targeting rule of country $i$ under various pricing paradigms, $i \in \{1, 2, ..., N\}$

| Pricing Paradigm | Cooperative Game | Nash game |
|---|---|---|
| PCP | PPI | PPI |
| LCP | CPI | CPI |
| DCP | The currency $i$ price of all goods priced in currency $i$ and consumed **globally** | The currency $i$ price of all goods priced in currency $i$ and consumed by country $i$ |
| BCP | The currency $i$ price of all goods priced in currency $i$ | The currency $i$ price of all goods priced in currency $i$ |
| GCP | The currency $i$ price of all goods priced in currency $i + \alpha_i \times$ the global currency price of all goods priced in global currency and consumed **globally** | The currency $i$ price of all goods priced in currency $i + \alpha_i \times$ the global currency price of all goods priced in global currency and consumed **by country $i$** |

# Shocks to MP effectiveness

- Before, the welfare ranking under the cooperative game is

$$PCP \succeq GCP(BCP) \succeq DCP \succeq LCP.$$

- With high volatility of MP shocks needs to be reduced, too.
  → GCP is better because MP shock risks can be pooled.
  ( by minimizing domestic losses under the optimal basket)

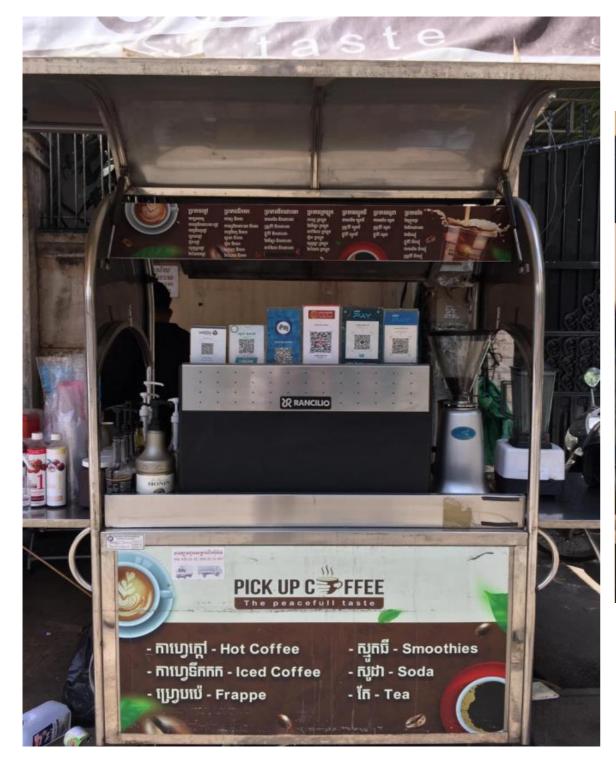$$GCP \succeq PCP = DCP = LCP.$$

- These pricing behaviors are also chosen by firms in a decentralized way as (strategic) equilibrium.

# Comments

- Great paper! Key result: GCP provides insurance for MP shocks
- Maybe too long –Focus on key results, but explain setup details.
- What is "complete market" assumption?—other name seems better, because MP shocks are imperfectly mitigated.
- Not clear about the household budget constraint.
  - Robustness on lump-sum transfers & profit ownership
  - Can cross-border share holdings mitigate the MP shocks?
- Sticky firms seem to face a concave objective function
  - Why not the insurance against foreign MP provided for firms?
- Choice by firms – Are there any heterogeneity or asymmetric eq? (some firms choose PCP, others LCP, etc) or two price offering?
  - Even for a symmetric firm setup as assumed.
  - (If with heterogeneous firms, choice of CPs may differ, too.)

# Ueda and Hay 2023 (and continues)
## Cambodia field survey on Fintech and Dollarization

- Real estate on store counter is a constraint.



**ABA Pay**　　**AliPay**　　**Acleda Pay**

# 48% Dollarization: shop survey on pricing

- Price tags are likely to be missed in small shops, where KHR may be more used.
- Indeed, half of the pricing (with/without price tags) are in KHR.

**Currency for Pricing with/without tags**

**37+11= 48% dollarized in retail transactions**



(blank) 1%

USD&KHR 11%

KHR 51%

USD 37%