“A Proposed Monetary Regime for Small Commodity-Exporters: Peg the Currency in Terms of the Export Price”
Jeffrey Frankel

“The Role of Sterilized Intervention in Exchange Rate Stabilization Policy”
Michael Hutchison

Discussion by
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Stabilizing the Economy: What Roles for Fiscal and Monetary Policy?
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Introduction and summary

• How should small open economies manage their exchange rates?

• These papers present two slightly contrarian views:
  – Frankel: commodity-producing countries should peg their currencies to the relevant commodities.
  – Hutchison: sterilized intervention may have a role to play in stabilizing the exchange rate.
“A Proposed Monetary Regime for Small Commodity-Exporters: Peg the Currency in Terms of the Export Price”

Jeffrey Frankel
Frankel’s insight

• With a commodity-backed currency, the vagaries of the commodity market will affect your terms of trade.
• If you’re a small commodity exporter, you have to accept those market vagaries, and deal with them as best you can.
• Linking the terms of trade to the commodity price helps deal with those vagaries.
A minimal model

- Home country produces two goods: nontradables and a commodity (coffee).
- It exchanges coffee for tradables, which are consumed along with nontradables.
- Coffee price is exogenous.
- Full employment + equilibrium in nontradables market $\rightarrow P_N/P_T$. 
Initial equilibrium

Start out assuming $\frac{P_N}{P_T} = \frac{P_N}{P_C}$
Response to fall in coffee price

- Increase in $P_N / P_C \rightarrow$ reallocation away from coffee production, towards nontradables.

- A decline in $P_N / P_T$ (more expensive imports) is required to restore equilibrium.
Impact of coffee price decline

$P_{N}/P_{C}$ rises

$P_{N}/P_{T}$ falls
Where’s the money?

- The price of the currency unit has no role here — all prices are relative.
- Why, then, does it matter what the currency is pegged to?
- It comes down to whether the exchange rate does the adjusting, or the price level.
To peg to the dollar…

- The dollar peg:
  - The value of the currency is fixed at 1 peso/$.
  - If the market price of coffee is $1/lb, then the peso price of coffee is 1 peso/lb.
  - If the market price drops to $0.50/lb, and the exchange rate remains fixed, \( P_N / P_C \) will rise to 2.
  - “Old” \( P_N / P_T \) \( \Rightarrow \) internal imbalance, \( P_N \) must fall to restore equilibrium.
...or to to coffee?

- The coffee peg:
  - The value of the currency is fixed at 1 peso/lb.
  - If the market price of coffee is $1/lb, then the exchange rate will be 1 peso/$.
  - If the market price drops to $0.50/lb, then the exchange rate will depreciate to 2 pesos/$.
  - Since $P_T = e P_T^*$, $P_N / P_T$ falls proportionally.
  - “Hard-wired” accommodation.
So the logic is:

- *Some* peg is needed for monetary discipline.
- Absent nominal rigidities, *any* peg will do.
- But nontradables’ prices are probably sticky, and slow to adjust.
- A commodity peg minimizes the need for adjustment in the price of nontradables.
How would the nominal exchange rate behave in this regime?

• Suppose:
  – The pesos/lb price of coffee is fixed, and
  – The $/lb price of coffee is given by history.

• Counterfactual nominal exchange rate = constant ÷ $/lb market price.

• Volatility, but no trend depreciation.
Columbia’s exchange rate under a coffee peg

![Graph showing exchange rate trends from January 1990 to January 2000. The x-axis represents years: Jan-90, Jan-95, Jan-00. The y-axis represents the exchange rate with Jan 1990 = 1. Two lines are plotted: one for the actual peso/$ EX, and another for the EX counterfactual.]
Commodity price counterfactuals for currency pegs

- Frankel looks at the volatilities of the pesos/lb nominal market price, and the real price:
  \[
  \text{pesos/lb} \div \text{pesos/(local goods)} \times \$/\text{(US goods)}_{\text{base year}}
  \]
- Nominal price volatility usually would have been lower under $ (or ¥ or DM) pegs.
- *Real* price volatility would have been *higher*.
  - Presumably due to positive correlation between pesos/lb and pesos/(local goods)…
  - Comparability of CPI baskets across countries?
Export performance under alternative pegs

• Real exchange rate counterfactuals:
  – Commodity peg: fix pesos/lb, take pesos/(local goods) as given.
  – Currency peg: use real prices in $, ¥ or DM terms, take pesos/(local goods) as given.

• Use plausible elasticities for export demand.

• Results: commodity peg helps, just when it should.
Limitations of the approach

• The counterfactuals assume no change in path of domestic price level, pesos/(local goods).
  – Commodity peg will probably have a big impact on the CPI — especially through tradables’ price.

• Perhaps more useful to analyze the behavior of $P_N / P_T$ under alternative pegs.
  – Should display negative correlation with $P_N / P_C$.
  – Assume PPP for tradables…
  – Some rudimentary model needed nontradables.
Other reservations

- Frankel’s prescription applies cleanly to the “pure” case in which no tradables (other than the commodity) are produced locally.
- Commodity-induced exchange rate fluctuations would affect domestic tradables production.
- What is the optimal degree of accommodation in this case — less than one-for-one?
- Under what conditions (e.g., min export share) would a commodity peg dominate a dollar peg?
Hard peg issues

• A commodity peg might mitigate exchange rate misalignments, making the peg more viable…
  – But is there any reason to believe a commodity peg would be immune to speculative attack?

• How do you create a commodity-backed currency in practice?
  – Hold physical coffee bean reserves (for example), and be willing to exchange them for currency?
Why not an inflation target?

• Terms of trade fluctuations present a challenge to IT, but this can be addressed by:
  – using a relatively long targeting horizon, and
  – appropriate use of escape clauses.

• Examples:
  – The Bundesbank raised its inflation goal in 1979 in response to the oil price shock.
  – South Africa in 2001-02: low gold price → depreciation → missed inflation target.
“The Role of Sterilized Intervention in Exchange Rate Stabilization Policy”

Michael Hutchison
Hutchison’s conclusions

- Sterilized exchange rate intervention *is* effective, at least in the very short term…

- But the Chiang Mai initiative is too limited to effectively stabilize exchange rates.
Sterilized intervention: could it be effective?

- Three possible transmission channels:
  - Portfolio balance effects
  - The “classical” signaling channel (information about future monetary policy)
  - The “information signaling hypothesis” (monetary authority’s private information about fundamentals)
Sterilized intervention: *is it effective?*

- Two kinds of empirical evidence:
  - Time series analysis: yields weak (at best) evidence for the efficacy of sterilized intervention.
  - Event study method: yields relatively strong evidence that sterilized intervention *is effective.*

- Why the different conclusions?
The time series approach

• Hutchison: time series techniques are “problematic.” Why?
  – Sporadic nature of intervention does not violate classical statistical assumptions.
  – Standard time series estimators should “work.”

• Illustration: has BOJ intervention been effective?
**Time series evidence for Japan**

results of Granger causality tests

Dependent variable = net $ purchases

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⇒ strengthening ¥ → $ purchases

Dependent variable = Δ exch rate

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<th>net $ purch</th>
<th>Δ exch rate</th>
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⇒ $ purchases → no measurable effect on ¥
The event study approach

- Fundamental difficulty: the timing and duration of interventions are endogenous.
  - Victory is declared when the exchange rate turns around — even if not caused by intervention.
  - This will tend to exaggerate the effects of intervention.

- Nonparametric definition of “success” may find an effect, even when it is quantitatively small.
Policy implications

• Why do we care about the very short-term exchange rate movements generated by sterilized intervention?

• Is there any evidence to suggest sterilized intervention really can “burst a bubble”?
Conclusions

- Both papers challenge conventional wisdom on exchange rate policy.
- Frankel’s novel proposal may be worth considering for some countries — but much more work is needed.
- Hutchison’s careful analysis suggests re-thinking sterilized intervention’s role (or lack thereof) in stabilization policy.