The Real Exchange Rate, Sectoral Allocation and Development in China and East Asia

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1. Introduction

- Two broad strands of literature on Asian exchange rate regimes:
  - Estimating extent of exchange rate flexibility vis-à-vis US dollar and trade-weighted exchange rate.
  - Categorize de facto Asian exchange rate regimes (e.g. Reinhart-Rogoff, Levy-Yeyati and Sturzenegger, Shambaugh, IMF, etc.)
Distinct but related body of work tries to rationalize the causes of reserve build-up:

i) insurance (i.e. prevent a crisis),

ii) mercantilism (i.e. stimulating growth),

iii) reducing exchange rate volatility.

Figure 1: International Reserve Holdings by Emerging Asia, 1990-2009*

*Note: 2009 (July)
Source: Authors’ computations from CEIC database.
- The last rationale (i.e. managing exchange rate volatility) is unconvincing.
  - Implies that international reserves do not change much on average.
  - Reserves are being accumulated on a sustained basis in Asia implying leaning against the wind.

- *One caveat on volatility and growth…*

- First two rationale have different motivations but similar action of “leaning against the wind”.

- At least until GFC most studies concluded Asia holds more than enough precautionary reserves.

- Desire to keep exchange rates from appreciating significantly.

- Maintaining a stable and “competitive” exchange rate one of the cornerstones of Asian industrialization strategies:

- Emulated by South Korea and other NIEs in the 1960s and 1980s.

- Near NIEs in Southeast Asia (MIT) pegged currencies to the US dollar benefitted from a revaluation of the yen following the Plaza Accord of 1984-85

- China’s RMB devaluation in January 1994 and continued USD peg helped transform into world’s factory and export powerhouse.

- Discussion on Asian exchange rate regimes appears to miss an important aspect:

  - Asymmetries -- Within limits appears to be greater preference to allow depreciations rather than appreciations.

  - Scant discussion of the issue in the debate of *de facto* exchange rate regimes in Asia.
Objectives of presentation:

- Analytical discussion on real exchange rate undervaluation and impact on real economy.

- References:
  
  Main:

  Supplementary:

Table 1: De facto IMF Exchange Rate Classifications as of April 2008

<table>
<thead>
<tr>
<th>Country</th>
<th>As of April 31, 2008</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bangladesh</td>
<td>Other conventional fixed peg arrangement</td>
</tr>
<tr>
<td>Bhutan</td>
<td>Other conventional fixed peg arrangement</td>
</tr>
<tr>
<td>Brunei Darussalam</td>
<td>Currency board arrangement.</td>
</tr>
<tr>
<td>Cambodia</td>
<td>Managed floating with no pre-determined path for the exchange rate.</td>
</tr>
<tr>
<td>China</td>
<td>Crawling peg.</td>
</tr>
<tr>
<td>Hong Kong, SAR</td>
<td>Currency board arrangement.</td>
</tr>
<tr>
<td>India</td>
<td>Managed floating with no pre-determined path for the exchange rate.</td>
</tr>
<tr>
<td>Indonesia</td>
<td>Managed floating with no pre-determined path for the exchange rate.</td>
</tr>
<tr>
<td>Japan</td>
<td>Independently floating.</td>
</tr>
<tr>
<td>Korea</td>
<td>Independently floating.</td>
</tr>
<tr>
<td>Laos, P.D.R.</td>
<td>Managed floating with no pre-determined path for the exchange rate.</td>
</tr>
<tr>
<td>Malaysia</td>
<td>Managed floating with no pre-determined path for the exchange rate.</td>
</tr>
<tr>
<td>Myanmar</td>
<td>Managed floating with no pre-determined path for the exchange rate.</td>
</tr>
<tr>
<td>Nepal</td>
<td>Other conventional fixed peg arrangement.</td>
</tr>
<tr>
<td>Pakistan</td>
<td>Managed floating with no pre-determined path for the exchange rate.</td>
</tr>
<tr>
<td>Philippines</td>
<td>Independently floating.</td>
</tr>
<tr>
<td>Singapore</td>
<td>Managed floating with no pre-determined path for the exchange rate.</td>
</tr>
<tr>
<td>Sri Lanka</td>
<td>Other conventional fixed peg arrangement.</td>
</tr>
<tr>
<td>Thailand</td>
<td>Managed floating with no pre-determined path for the exchange rate.</td>
</tr>
<tr>
<td>Vietnam</td>
<td>Other conventional fixed peg arrangement.</td>
</tr>
</tbody>
</table>

Source: IMF data on Classification of Exchange Rate Arrangements and Monetary Frameworks.
Calvo and Reinhart (2002) noted exchange rate policy in the 1990s in emerging economies best characterized as “a fear of floating”

Asian exchange rate regimes in the 2000s may be more precisely described as being a “fear of appreciation” or “fear of floating in reverse” (Levy-Yeyati and Sturzenegger, 2007).

Pontines and Rajan (2010) find that responses of Asian central banks to rates of appreciation stronger than to depreciations of same magnitude.

- Estimated asymmetric parameter higher for NEER than USD rate for India, Singapore and Thailand.

So leaning against the wind especially for appreciations. Why?
3. Real Exchange Rate Undervaluation

- Policy of exchange rate undervaluation is unorthodox or at least at odds with most neoclassical/mainstream wisdom.

  - Policymakers should keep the real exchange rate (RER) close to its equilibrium level.

  - RER overvaluation stifles economic growth and export competitiveness while undervaluation leads to inflationary concerns.

- China’s and East Asia’s unorthodox development has centered on suppressing the price of nontradables goods relative to tradables (i.e. RER undervaluation).
Defining the Real Exchange Rate

- RER -- two sets of relative prices -- relative price of traded goods between countries (price competitiveness) and relative price of tradables and nontradables within a country.

\[
q = \frac{s + p^{T*} - p^T}{(a)} + \frac{\beta (p^{N*} - p^{T*}) - \alpha (p^{N} - p^{T})}{(b)}
\]

where: \(a = s + p^{T*} - p^T\), and \(b = \beta (p^{N*} - p^{T*}) - \alpha (p^{N} - p^{T})\).
- With trade openness of economies likely that the LOP in traded goods tends to hold over time (at least among the East Asian economies).
  - More empirics needed. Parsley (2007) -- about 60% of variations in bilateral RER in East Asian can be explained by relative price of tradables and non tradables.

- If so the RER is primarily a reflection of relative prices of tradables and nontradables.

![Figure 3: Initial Equilibrium](image)

- Initial equilibrium: point 1.
- At point 1, consumption and production are equal (NT and T).
Figure 4: RER undervaluation in a Static Setting

- Initial equilibrium: point 1.
- After devaluation, disequilibrium: Consumption (point 3) and Production (point 2)
  \( C_n' > X_n' \) and \( C_t' < X_t' \)

Figure 5: Undervaluation with Expenditure Contraction

- Initial equilibrium: point 1.
- After devaluation, disequilibrium: Consumption (point 3) and Production (point 2).
- Expenditure contraction to close the Excess of NT demand (budget line IV and point 2’)
  \( C''_n = X''_n \) and \( C'_t < X'_t \)
Why create such distortions?

- Conventional arguments:
  - Demand for nontradables is limited by size of the domestic market and is relatively inelastic while that for exportables is highly elastic.
  - Export markets are more dynamic and allow a country to rapidly move up the value-added chain.

- This combination of macroeconomic policies (RER undervaluation and demand contraction) was clearly used by China and its East Asian neighbors.

- However, while the nontradables sector may not have grown as rapidly as the tradables sector, it has, nonetheless, grown quite rapidly (Barnett and Brooks, 2006).

- So something doesn’t add up….
Common answer — so-called Arthur-Lewis classic dual-sector model where wages are set in the rural sector as supply of labor is almost perfectly elastic.

May have been true in the early stages of industrialization but most data suggests that wages started rising fairly quickly.

Cai Fang (2007) has argued that China has already reached the “Lewis turning point” and there would be significant upward pressures on industrial wages.

Dynamic Growth Effects and Market Failures

Think beyond usual (static) resource reallocation effects and emphasize dynamic gains from favoring export-linked manufacturing (Rodrik, 2008).

Benefits could be in form of learning-by-doing and demonstration effects that are external to the firm.

Left to themselves markets would under-produce such goods.
- Government intervention could jump-start growth via RER undervaluation to internalize these externalities.

- RER undervaluation could act as type of industrial policy helping propel East Asian economies into global manufacturing powerhouses.

- Also, by channeling resources into production of tradables may be positive productivity spillovers to nontradables sector and keep output of that sector up despite relative price decline.

- So there may be dynamic expansionary effects which balance the static contractionary effects.
While we have discussed protectionism, why mercantilism?
- Why run a trade surplus per se (i.e. choose point 5’ which is welfare-inferior to point 5)?

Aizenman and Lee (2008) call former (i.e. supporting tradables) “financial mercantilism” and latter (i.e. trade surpluses and reserve hoarding) “monetary mercantilism” (MM).

MM may be due to desire to build-up net foreign assets for precautionary purposes as a war-chest against future crises (Caroll and Jeanne, 2009 and Durdu, et al., 2008) – *Intertemporal choice*...
4. Conclusion

- Most evidence indicates greater degree of exchange rate flexibility in regional economies.

- However there remains high level of fixity to the USD regardless of the *de jure* exchange regime.

- Fact that reserve building up implies there is leaning against the wind.

- There seems to exist asymmetry in FX intervention responses to currency appreciations versus depreciations particularly in the case of NEERs.

- East Asian policies led to sectoral reallocation of resources which may have helped transform them into industrial and export powers.

- With positive externalities from producing tradables which may also benefit the nontradables sector country may be able to produce and consume more of both goods simultaneously.
- Plausible growth story for East Asia and China.

- These policies have also contributed to external imbalances with the US as well as globally.

- From China’s perspective why consider changing its policy stance if undervalued RER-based development strategy has been so successful?

- Dynamic growth story based on externalities from producing more tradables unlikely to be valid forever.

- Over time productivity of tradables sector should outpace that of nontradables and real wages must rise as the country develops. -- “Balassa-Samuelson” effect.

- China clearly been feeling intense price pressures and labour unrest in recent times.

- Additional concerns that large-scale FX intervention runs a serious risk of generating increases in inflation and growing costs of holding low-yielding foreign exchange reserves.
More sustainable strategy may be to allow RER to appreciate somewhat and reorient production and consumption towards nontradables.

So the Chinese undervaluation policy and its hitherto export-led growth paradigm may have reached its limits.

Further RMB revaluation with expansion of domestic demand may be necessary going forward.
Substantial increases in domestic demand in China requires domestic structural reforms:
- Remove domestic cost distortions, upgrade domestic financial markets and safety nets and reduce retained earnings of firms.

China announced on June 19, 2010 that it will abandon its currency peg to the dollar and manage the Rmb more flexibly against a currency basket.
- Similar announcement on July 21, 2005 when it started allowing the RMB to gradually appreciate vis-à-vis the US dollar. That policy was put on hold from July 2008 due to GFC.

Not at all apparent that even if China does revalue the RMB significantly over time the US current account deficit will see any perceptible/significant improvement.

Between mid-2005 and mid-2008 RMB rose about 20 percent against US dollar and about 15 percent in REER terms while China’s external imbalances with the US and in aggregate rose.

More importantly, Japanese experience with Plaza Accord in the mid-1980s may also be relevant here.
- The Plaza Accord emphasizes that it is fallacious to assume we live in a two country world.
Implications for more flexible (and presumably stronger RMB) for the rest of Asia?

Prisoner’s dilemma with regard to exchange rate policies in Asia implies potential benefits from pursuing a more coordinated approach to deal with monetary and exchange rate policies.

Coordination does not imply straight-jacketing all countries to a common exchange rate regime.

Asian economies may consider gradually moving towards pegging to a currency basket.

Thank you!