Exchange Rate Policy and Regional Trade Arrangements

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Objective

To analyse the impact of the level and volatility of exchange rates on bilateral trade among East Asian economies

- 16 economies - ASEAN+3, Hong Kong, Macau and Mongolia) in 1990-2010.

Outline

1. Introduction
2. Literature review: relationships between exchange rates and trade flows.
3. Trends on trade and RTAs in East Asia.
4. Tensions between exchange rate level and stability; are the tensions exacerbated in an RTA?
5. Empirical results.
6. International policy coordination: the competencies of the IMF and WTO, the two multilateral institutions with primary responsibility for exchange rate policies and international trade,
    1. concluding that the link between exchange rate and trade policies has fallen into a gap since the gold exchange standard ended in 1971-3.
7. The final section draws conclusions and discusses policy implications.

Literature Review

- **Since early 1970s extensive literature relating ER volatility to trade**
  - General conclusion = negative relationship, stat sig, but economic significance is not large

- **More recent literature on ER valuation/depreciation and trade/growth**
  - Surprisingly inconclusive given the presumption that undervaluation is good for growth

- **Interpretation: ER level & volatility matter for trade, but these are conditional relationships**
  - e.g. financial development, sectoral composition, time . . .

Trade and RTAs in East Asia

Export-oriented economies

- changing orientation since late 1980s
  - ⬆ share of intra-Asian trade
  - more IIT, regional value chains (RVCs), *Factory Asia*

RTAs uncommon in 20th. Century, but proliferated since 2000

- some aim at regional integration in a traditional way (AFTA, ASEAN+3)
- some have specific terms
  - note leadership of Singapore, despite free trade policies
  - closely connected to flourishing RVCs

Exchange Rate Level and Stability in an RTA.

- RTA imposes a constraint on trade policy autonomy
  - are members tempted to use ER protectionism as an alternative to traditional TBs?
- If the goal is to create a more integrated economic space, then an RTA = pressure for ER stability

Is there a tension between these two forces?
  - Is the choice conditional, and if so on what?
    - In EU attempt to create ER stability in 1972 broke down due to national monetary policy variations. In 1990s most EU members abjured use of ER changes in favor of ER stability
    - East Asia is at a different stage of integration, but strengthening of RVCs may alter the balance of attractiveness

Estimating Equations

$$\ln(X_{ijt}) = \beta_o + \beta_1 \ln(Y_i Y_j)_t + \beta_2 \ln D_{ij} + \beta_3 \ln(Area_i Area_j) + \beta_4 Cont_{ij} + \beta_5 Lang_{ij} + \beta_6 RTA_{ijt} + \beta_7 EXRDep_{ij}t + \beta_8 RTA_{ijt} \times EXRDep_{ijt} + \varepsilon_{ijt}$$

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X_{ijt} = exports from i to j at time t, Y = GDP, D = distance between i and j, Area = land mass.

Cont, Lang and RTA are dummies for contiguity, common language, and belonging to the same regional trade agreement at time t.

EXRDep = the rate of currency depreciation of country i to country j at time t,

EXRVol = a measure of exchange rate volatility created by calculating the standard deviation of the daily changes in exchange rates in each year for each pair of East Asian economies.

ε_{ijt} is assumed to be well behaved.

Empirical Results (country-pair fixed effects)

	(1)	(2)	(3)	(4)
lnGDP	1.35***		1.30***	
lnGDP per cap		1.00***		1.52***
RTA	0.37**	0.27**	0.40***	0.56***
EXRDep	0.54*	0.53*		
EXRDep*RTA	1.34*	1.10*		
EXRVol			- 0.37*	- 0.46*
EXRVol*RTA			- 0.89**	- 1.21**
n	3,875	3,877	3,869	3,871
R²	0.33	0.07	0.34	0.08

*** statistically significant at the 1% level. ** statistically significant at the 5 % level.
* statistically significant at the 10 % level.

Results (continued)

Standard GM variables have expected signs, as do ER depreciation (+ve) and ER volatility (-ve).

Interaction terms;

- ER depreciations augment the positive impact of an RTA on bilateral trade.
- ER volatility reduces the positive impact of an RTA on bilateral trade.

Interpretation:

- an RTA member may want to use ER depreciation to stimulate trade or to protect producers from competition, but the ER variation will reduce the trade-augmenting benefits from the RTA.

International Policy Coordination

The link between exchange rate and trade policies has fallen into a gap since 1971-3.

- neither of the two multilateral institutions with primary responsibility for exchange rate policies and international trade, the IMF and WTO, has appropriate powers
  - IMF articles outlaw protracted intervention, but there are no sanctions
  - WTO has sanctions, but an imprecise definitions of ER protectionism

Is the link better managed on a regional level?

Conclusions

- This paper analyses the impact of the level and volatility of exchange rates on bilateral trade in 1990-2010 among sixteen East Asian economies (ASEAN+3, Hong Kong, Macau and Mongolia), many of which have shifted from being in no RTAs in 1990 to having a range of RTA partners today.
- In a variety of standard gravity model specifications, exports are positively related to the rate ER depreciation and to RTA membership and negatively related to ER volatility.
- The novel finding is that interaction terms indicate that both exchange rate effects are magnified when the two economies have a trade agreement.
  - We (tentatively) interpret
    - the level result as indicating that, because a RTA restricts governments' trade policy instruments, they are more likely to use ERs for trade policy ends.
    - the volatility result as evidence that, because East Asian RTAs are related to RVCs, ER volatility is especially harmful to trade flows within RTAs.

Policy Implications

- RTAs among countries wishing to participate in RVCs can target desirable trade facilitation measures, including ER stability.

- There is, however, a potential time-inconsistency problem.
  - If a consequence of the RTA is intensified pressure on import-competing producers, then a member may resort to ER depreciation for protection.
  - ER depreciation is potentially harmful to other countries, implying the need for some monitoring mechanism within the RTA, comparable to avoiding the IMF-WTO policy gap at the global level.

- With deepening integration, the desire for ER stability will outweigh the desire to retain a protectionist tool.
  - the evolutionary path in the EU.
  - a similar time path within ASEAN, not so clearly focused on ERs.

  How extensive such pressures will be in East Asia depends upon how many countries seriously desire to be in the integrated economic area.