Comments on:

The Impact of Capital Inflow on Asset Prices in Emerging Asian Economies
by
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- Motivation – Some Stylized Facts on the Quantum, Composition, Role of Capital Flows

- Empirical Methodology and Results

- What does this mean? Policy Implications?

Question and Motivation

- The paper asks an important question: did the "surge" in capital inflows post Asian crisis drive the appreciation in asset and currency prices and, by extension, create the same macroeconomic vulnerabilities of the mid 1990s? Was history about to repeat itself?

- The authors motivate their analysis by pointing to the (1) volume of capital inflows; (2) emphasize the role of portfolio flows in the overall composition

But was there really a "surge" in net flows?

- Gross capital inflows were approaching historical highs between 2003-6

- But so were gross capital outflows! Dramatic and unprecedented rise in resident investment abroad

- Net capital inflows (as % of GDP) were much closer to historical averages and much below levels in the run-up to 1997; no surge in "net" capital inflows

- Net inflows into ASEAN countries negative or close to zero during time period of authors' analysis; even gross inflows negative for much of the period in these countries

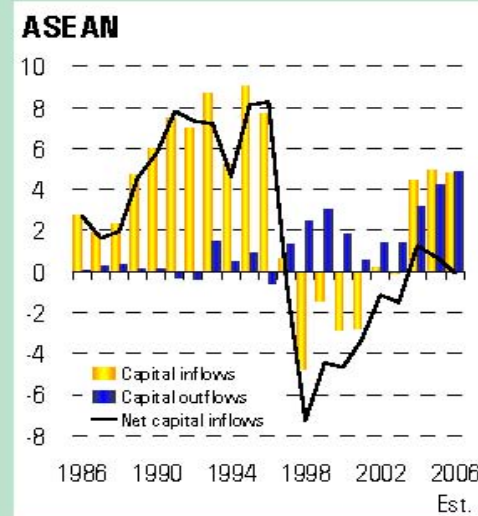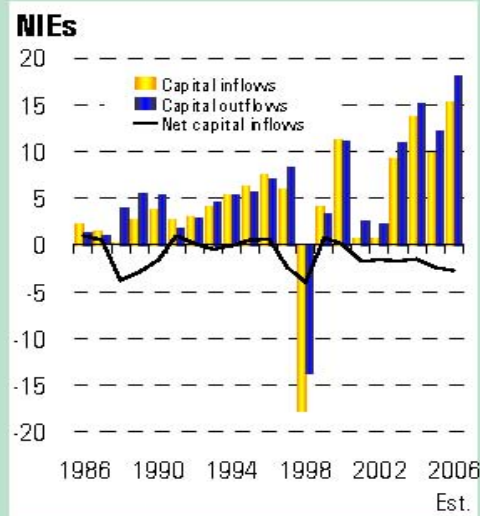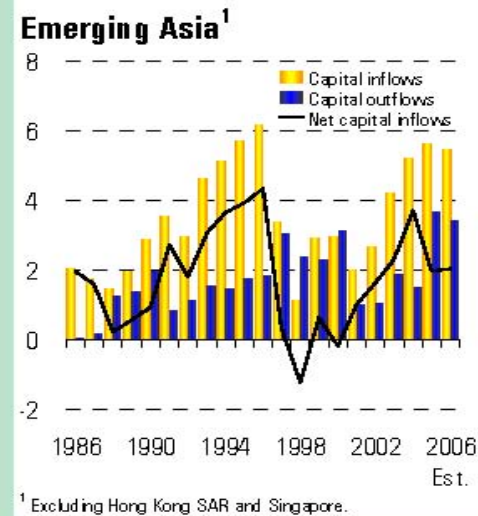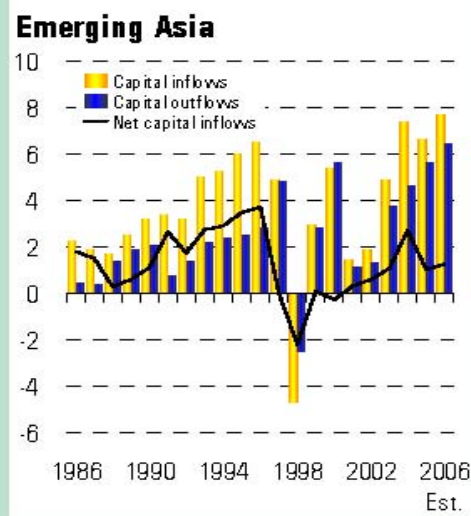- Real action in China and India, not part of the authors sample

Figure 1.25. Emerging Asia: Net Private Capital Flows
(In percent of GDP)

Legend:
- Direct investments
- Portfolio investments
- Other investments
- Net inflow
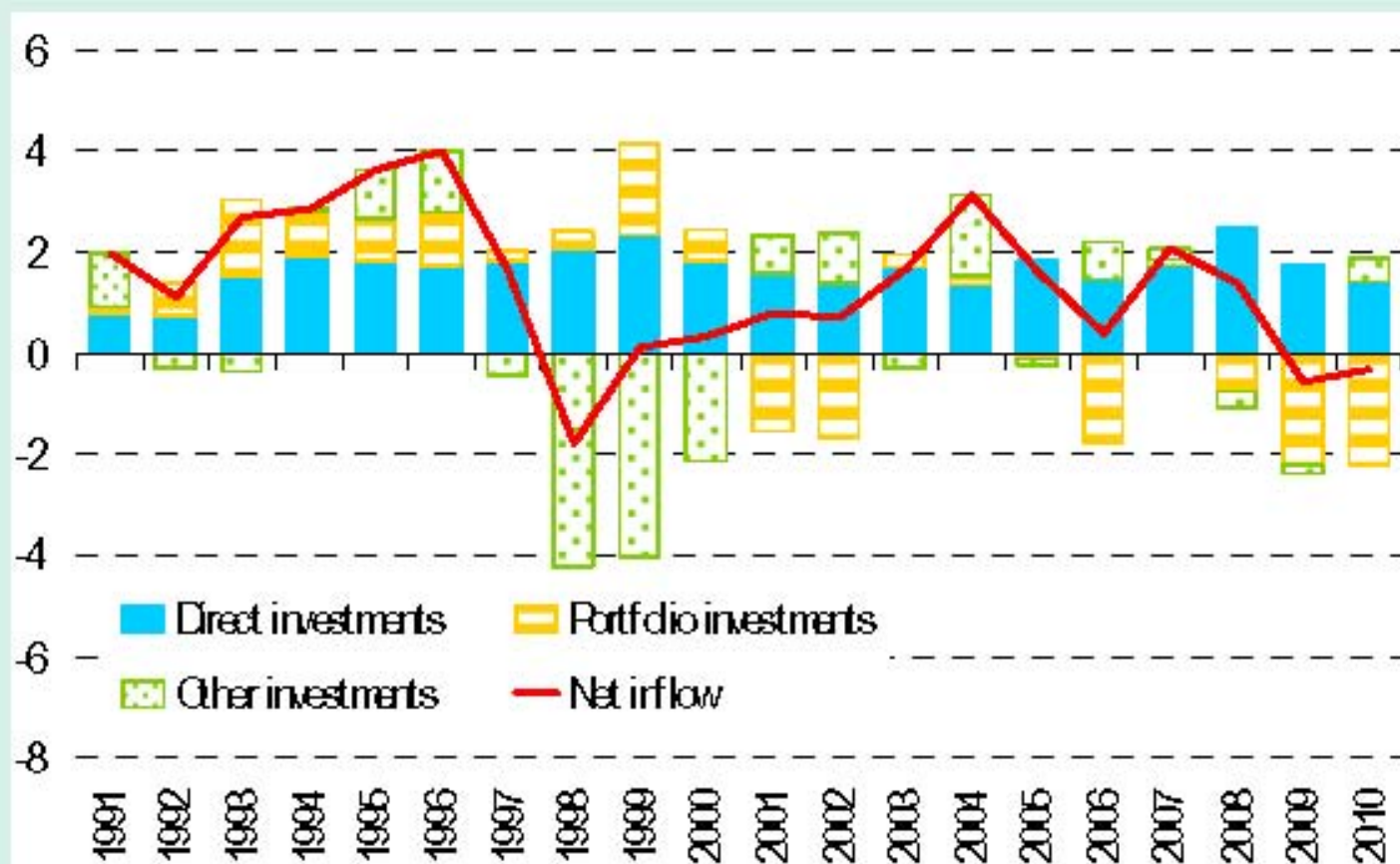
Source: IMF, WEO database.

(Prj.)

Figure 2.7. Net Capital Inflows

(In percent of GDP)

Emerging Asia

Legend:
- Capital inflows
- Capital outflows
- Net capital inflows

Emerging Asia[1]

Legend:
- Capital inflows
- Capital outflows
- Net capital inflows

[1] Excluding Hong Kong SAR and Singapore.

NIEs

Legend:
- Capital inflows
- Capital outflows
- Net capital inflows

ASEAN

Legend:
- Capital inflows
- Capital outflows
- Net capital inflows

Sources: CEIC Data Company, Ltd.; IMF, International Financial Statistics; WEO database; and staff estimates.
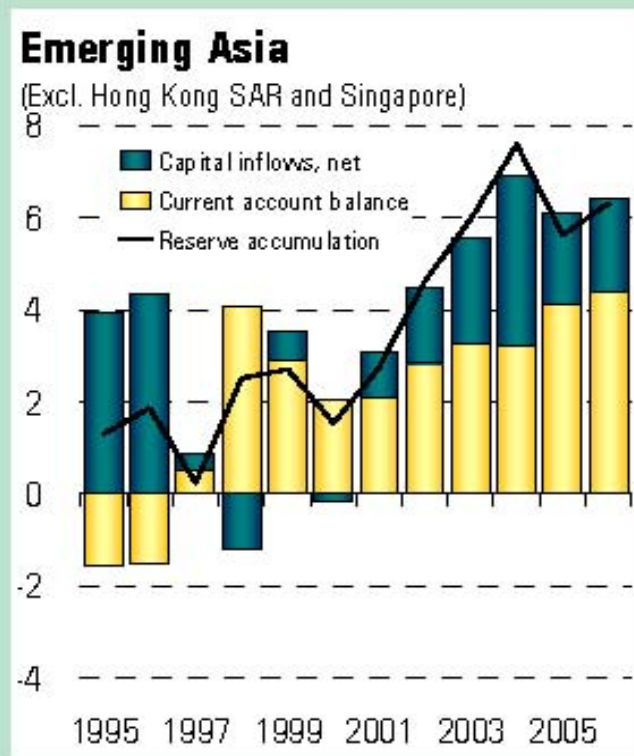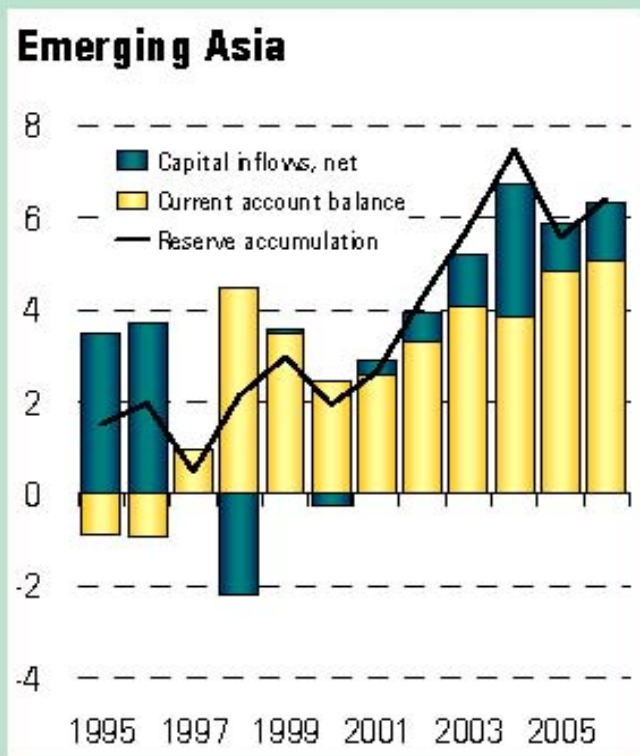
The Nature of Capital Outflows

- Dramatic rise in capital outflows attributable to variety of factors (cap account liberalization, global and developed corporate FDIs, recycling of reserves etc)

- While bond outflows have traditionally been dominant, steady rise in equity and direct investment outflows; by 2006 they contributed for almost half of all outflows

- While some fraction of outflows represents reserve recycling, large fraction of outflows represent diversification by domestic household/institutional investors into foreign assets

- Potentially, this diversification away from domestic assets has moderated the domestic asset price increase and mitigated the impact of gross capital inflows on domestic asset prices

Have capital flows been the main source of pressure on exchange rates?

- Pressure on nominal exchange rate appreciation and reserve accumulation driven primarily by robust current account surpluses than net capital inflows (except in 2004)

- As such, the "liquidity channel to asset price inflation" that authors refer to influenced much more by current account surpluses than net inflows

Figure 2.10. Balance of Payments and Reserve Accumulation
(In percent of GDP)

Emerging Asia

- Capital inflows, net
- Current account balance
- Reserve accumulation

Emerging Asia
(Excl. Hong Kong SAR and Singapore)

- Capital inflows, net
- Current account balance
- Reserve accumulation

Sources: CEIC Data Company, Ltd.; IMF, *International Financial Statistics*; WEO database; and staff estimates.

A priori, one can be more guarded about the impact of capital flows on asset prices this time?

- No particular surge in gross inflows for ASEAN countries (exception Korea); gross inflows even negative for some years

- Aggregate net flows negative or small in ASEAN economies; incomparable to pre-1997

- Exchange rate pressure driven more by current account surpluses than net flows

- Risks of capital flow reversal resulting in a currency crisis – with all of its undesirable implications – minimal on account of large FX reserve build-up

Evolution of the Composition Of Gross Capital Inflows

- Authors focus attention on increases in direct and portfolio investment

- But sharp increase in "other investment" between 2004-6 reflecting increases in bank and firm borrowing?

- By 2006, "other investment" inflows had surpassed portfolio inflows

- Recognition of the increase/importance of bank borrowing is important because it raises doubts about authors' assumption of contemporaneous exogeniety of asset prices vis-à-vis capital inflows

Emerging Asia[1] : Breakdown of Recent Capital Flows

	2004	2005	2006 Est.
Total Inflows	220	272	303
Direct Investments	85	116	120
Portfolio Investments	73	92	90
of which Equity	52	76	60
of which Debt	21	15	30
Other Investments	62	64	92
of which Banks	29	16	48
of which Others	33	48	44
Total Outflows	64	177	190
Direct Investments	22	31	40
Portfolio Investments	26	78	168
of which Equity	20	27	54
of which Debt	5	50	113
Other Investments[2]	16	68	-18

Sources: CEIC Data Company Ltd.; IMF, *International Financial Statistics* ; WEO database; and staff estimates.

[1] Excludes Hong Kong SAR and Singapore.

[2] Breakdowns of other investment outflows are not available.

Figure 1.9. Changes in International Claims of Reporting Banks vis-à-vis Asia

(Adjusted for exchange rate changes; in billions of U.S. dollars)
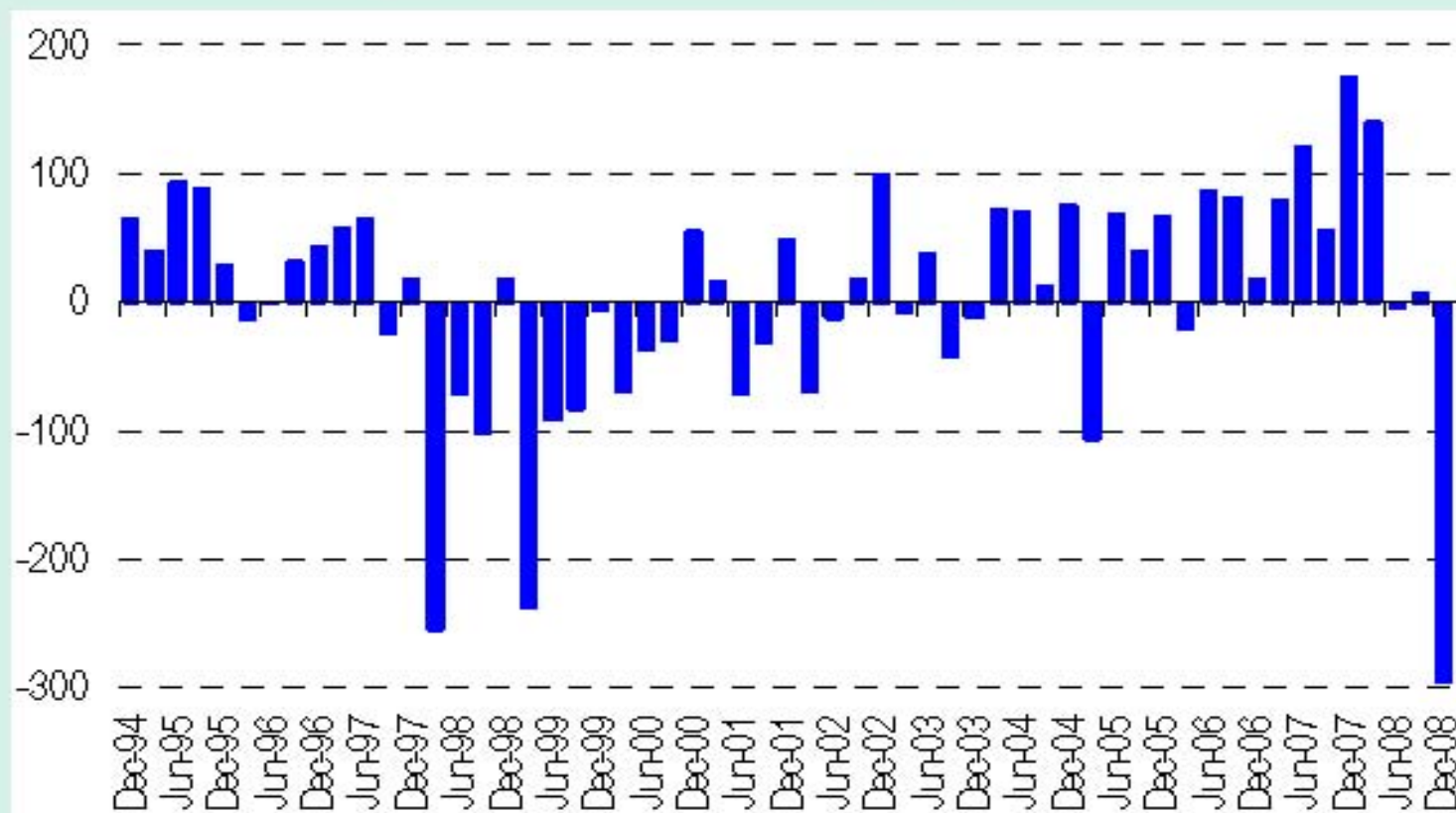
Source: Bank for International Settlements, Locational Banking Statistics, April 2009.

Empirical Methodology and Results

- Authors run a panel VAR to examine the effects of capital flows on asset prices; use Cholesky decomposition and place assumptions of contemporaneous exogeniety on certain parameters to achieve identification

- Main comments on methodology
  - Choice of control variables
  - Identification assumptions and reverse causality
  - Issue of non-stationarity
  - Other issues and extensions

Choice of Control Variables

- Control variables could be guided more by economic theory or some analytical model

- In baseline model authors use output (Y) and price level (P) as controls; extended model uses cap outflows and interest rate

- P seems an odd control variable? Given stickiness of prices (by authors own admission and results) and incomplete pass-through from exchange rates to prices, is P the best variable to capture the "nominal and monetary" condition of the economy?

- Typically "domestic credit" or some "monetary aggregate" (say M2) used as a better determinant of asset prices. Why not replace P with one of these?

Identification Issues

- To achieve identification in recursive VAR, authors assume that
  - output and price level are contemporaneously exogenous to capital flows, asset and currency prices;
  - capital flows are contemporaneously exogenous to asset prices
  - some asset prices contemporaneously exogenous to other asset prices (based on order)

- While these assumptions are statistically important for identification, how realistic are they from an economics standpoint?

Identification Issues

- Won't capital inflows be induced by changes in land and real estate prices within a quarter?
  - Bank borrowing (which has grown sharply) and on-lending into real estate market in response to price changes (a la mid 1990s)?
- Won't output possibly be affected by capital flows within a quarter since significant fraction is FDI?
- Isn't some price pass-through possible within a quarter from changes in the NEER?
- Isn't a quarter enough for changes in one asset price (e.g. stock, bond, land) to affect the price of other assets through a spill-over effect?
- If so, corresponding coefficients of these variables biased; alternative identification strategy needed??

Simultaneity between NEER and capital flows

- Given recursive nature of model, both orderings involving NEER raise questions

  - In first ordering, CAP flows assumed to be contemporaneously exogenous (within a quarter) to NEER

    - How realistic is it to assume that capital flows are not induced by the exchange rate? Hasn't capital (banking, derivative) been attracted to Asia on account of expected appreciations?

  - In second ordering, CAP flows react to NEER but only affect the NEER with a lag of a quarter?

    - Is it reasonable to assume such a lag? Possibly if governments are closely managing exchange rates and reacting with lags,

- More generally, is this the best framework to use if we suspect contemporaneous simultaneity between capital flows and asset/currency prices?

Worries about non-stationarity?

- Variables run in levels/log-levels; non-stationarity issues?

- No unit root and cointegration tests?

- Did authors try first-differencing (fn 7)?

- Explain more about Bayesian approach in paper

Other Issues and extensions

- Why China, India not in sample?

- What motivated choice of four lags? Was the Akaike or Schwarz information criterion used?

- Data used from Q1 1999 to Q1 2006. Why not extend the model through 2007 given large inflows and asset price increases in those years as well?

- Why weren't bond prices used as one of the asset prices?

- Why not report the impact of capital outflow shocks on asset prices? Did outflows mitigate asset price rise?

- Why not use only "equity flows" (instead of both equity and bond flows) to see if results change

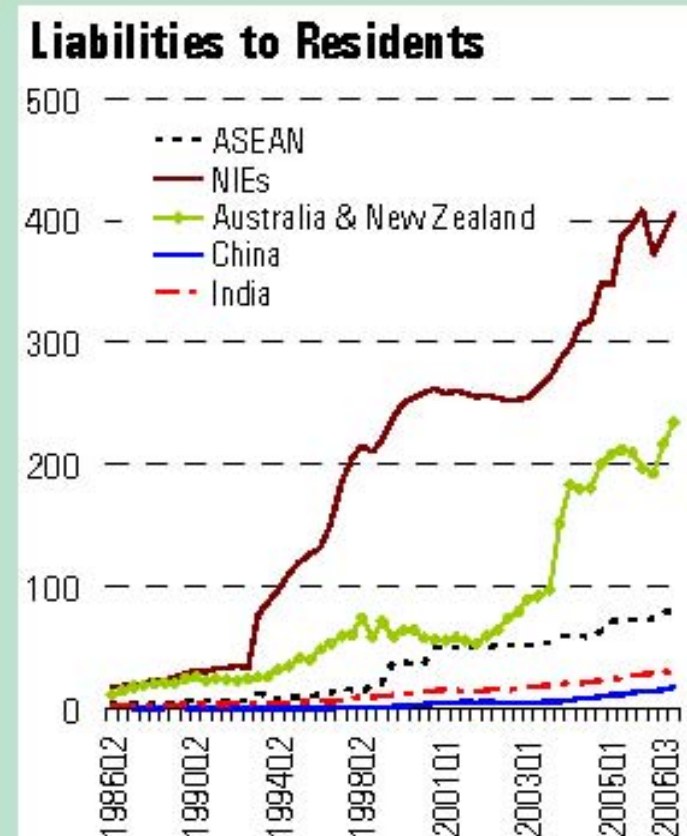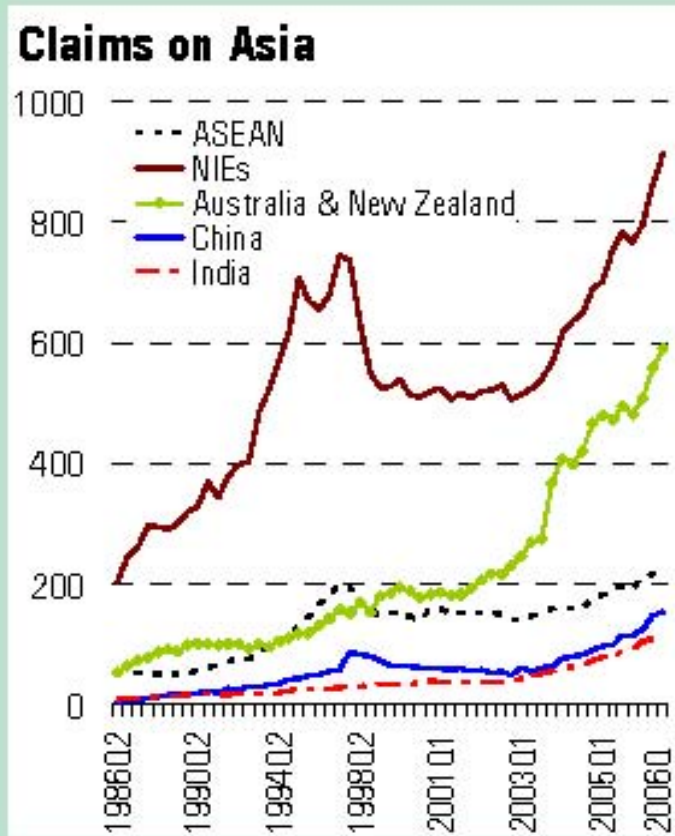# So What Do Results Mean? Policy Implications?

- Capital inflow shocks explain very little fluctuation in asset prices

- Can we draw any implications from this?
  - Did massive sterilization work? Were these countries (temporarily) able to ward off the impossible trinity?

  - Or are Asian economies just more broad based now, able to absorb capital flows without generating sharp asset price increases?

  - Or have capital outflows done the trick? Mitigating the impact of capital inflows onto asset prices?

Thank You

Important Differences Compared to the mid 1990s

- In motivating study, authors should set a more holistic context and appreciate key nuances
  - Gross versus net capital inflows
  - The role of current account surpluses versus net capital inflows
  - Evolution of the composition of inflows
  - Much larger FX reserves
  - Structural reforms in banking and financial sectors

Figure 2.3. International Banks' Claims on and Liabilities to Asia
(In billions of U.S. dollars)

Claims on Asia

- ASEAN
- NIEs
- Australia & New Zealand
- China
- India

Liabilities to Residents

- ASEAN
- NIEs
- Australia & New Zealand
- China
- India

Sources: Bank for International Settlements, *Locational and Consolidated Banking Statistics.*