Comments on:
“Are Daily Cross-Border Equity Flows Pushed or Pulled?”
by
John Griffin, Frederico Nardari, Rene Stulz

Steven B. Kamin
Federal Reserve Board

January 30, 2003
Plan of Discussion

• Theoretical Model

• Empirical Work

• Broader considerations
Some previous work on push/pull

• 1993: Calvo, Leiderman, and Reinhart
  – “Capital inflows and real exchange rate appreciation in Latin America: the role of external factors”

• 1996: Fernandez-Arias
  – “The new wave of private capital inflows: push or pull”

• 1996: Chuhan, Claessens, and Mamingi
  – “Equity and bond flows to Latin America and Asia: the role of global and country factors”

• 1999: Montiel and Reinhart
  – “Do capital controls and macroeconomic policies influence the volume and composition of capital inflows? Evidence from the 1990s”
“Common sense” view of capital flows

• Rates of return in a country rise

• Capital flows into that country
“Finance literature” view of capital flows

• Perfect capital markets -- all investors hold same global portfolio

• Increased Chilean returns both Chileans and foreigners raise desired portfolio allocations to Chile.

• Higher Chilean equity prices raise Chile weight in portfolios.

• No need for assets to change hands -- no need for capital flows.
“Asymmetric information” explanation of capital flows

• Foreigners know less than domestic investors.

• When domestic returns rise, foreigners revise expected returns more than do domestic investors.

• Therefore, foreigners buy stocks from locals.

• Explains home bias, too.
Some previous work on asymmetric info

• 1997: Brennan and Cao
  – “International portfolio flows”

• 2000: Seasholes
  – “Smart Foreign Traders in Emerging Markets”

• 2001: Choe, Kho, and Stulz
  – “Do domestic investors have more valuable information about individual stocks than foreign investors?”

• 2001: Froot and Ramadorai
  – “The Information Content of International Portfolio Flows”
First theoretical result:

- With home bias
- But without asymmetric info
- Higher returns → capital outflows!
**Example: Doubling of Chilean Stock Price**

<table>
<thead>
<tr>
<th></th>
<th>U.S. Investors</th>
<th>Chilean Investors</th>
</tr>
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<tbody>
<tr>
<td></td>
<td>Before</td>
<td>After</td>
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<tr>
<td>1. Wealth</td>
<td>$100</td>
<td>$50</td>
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<tr>
<td>2. U.S. stocks</td>
<td>$90</td>
<td>$5</td>
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<td>(90%)</td>
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<td>3. Chilean stocks</td>
<td>$10</td>
<td>$45</td>
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<tr>
<td></td>
<td>(10%)</td>
<td>(90%)</td>
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</tbody>
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### Example: Doubling of Chilean Stock Price

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<tr>
<td>1. Wealth</td>
<td>$100</td>
<td>$110</td>
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<tr>
<td></td>
<td>(90%)</td>
<td>(82%)</td>
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<tr>
<td>2. U.S. stocks</td>
<td>$90</td>
<td>$90</td>
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<tr>
<td></td>
<td>(90%)</td>
<td>(82%)</td>
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<tr>
<td>3. Chilean stocks</td>
<td>$10</td>
<td>$20</td>
</tr>
<tr>
<td></td>
<td>(10%)</td>
<td>(18%)</td>
</tr>
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</table>
Second theoretical result:

• With home bias

• But with asymmetric info and extrapolative expectations

• Higher returns in Chile → capital inflows
Third theoretical result:

- With home bias, asymmetric info & extrapolative expectations

- If country is large (like U.S.):

  higher U.S. returns
  capital *inflows* to Chile
  capital *outflows* from U.S.
II. Empirical Work
Database of Daily Stock Transactions

• How are these data collected?

• How do trends in these data compare with monthly and quarterly data from other sources?
Key Empirical Results

• Higher emerging market returns $\rightarrow$ capital inflows.
  - Consistent with:
    • Bohn and Tesar (1996)
    • Brennan and Cao (1997)
    • Froot, O’Connel and Seasholes (2001)
    • Richards (2002)

• Higher foreign returns $\rightarrow$ capital inflows.

?
Does role of U.S. returns reflect wealth effects?

Alternative explanations:

• Correlation of U.S. returns with reductions in risk aversion

• U.S. returns anticipate global growth
Is positive effect of U.S. returns on equity flows to emerging markets robust?

• Evidence in paper for role of U.S. returns weaker than for local returns.

• Previous work using lower frequency data find no such effect.
  – Bohn and Tesar (1996)
  – Brennan and Cao (1997)
Update Previous Work

• Quarterly data on equity inflows from IMF BOP database.

• 1990 - 2000

• Lagged dependent variables, trends, dummies for outliers
### Dep. Variable: Equity Inflows/Market Cap

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<thead>
<tr>
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<th>ARG</th>
<th>BRA</th>
<th>CHI</th>
<th>MEX</th>
<th>IND</th>
<th>KOR</th>
<th>THAI</th>
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<tbody>
<tr>
<td>Local</td>
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<td>.01</td>
<td>.00</td>
<td>.02</td>
<td>.02</td>
<td>.01</td>
<td>.01</td>
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<tr>
<td>Return</td>
<td>(2.34)</td>
<td>(.97)</td>
<td>(1.11)</td>
<td>(3.10)</td>
<td>(2.41)</td>
<td>(2.51)</td>
<td>(2.46)</td>
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</table>

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<tr>
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<tbody>
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<td>-.00</td>
<td>-.04</td>
<td>-.10</td>
<td>.01</td>
<td>.02</td>
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<tr>
<td>Return</td>
<td>(-.94)</td>
<td>(1.06)</td>
<td>(-.74)</td>
<td>(-2.14)</td>
<td>(-1.63)</td>
<td>(.43)</td>
<td>(1.55)</td>
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<td>Return</td>
<td>-.01</td>
</tr>
<tr>
<td>Only:</td>
<td>(-.18)</td>
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(t-statistics in parentheses)
Actual and Predicted Equity Inflows to Selected Latin American Countries
(Argentina, Brazil, Chile, Mexico)

* 1990 includes q2, q3, and q4 only.
** Data for Argentina 1990 - 1991 not available.
Actual and Predicted Equity Inflows to Selected East Asian Countries
(Indonesia, Korea, Thailand)

* 1990 includes q2, q3, and q4 only.
** Data for Indonesia 1990 - 1992 not available.
III. Broader Issues
Supply Matters as well as Demand

• Paper assumes fixed supply of equities
  – only new information causes equity flows

• But increased supplies of equities may also cause flows
  – even with no new info, no asymmetric info
Equity Issuance and Equity Inflows to Selected Latin American Countries
(Argentina, Brazil, Chile, Mexico)

* Data for Argentina 1990 - 1991 not available.
Equity Issuance and Equity Inflows to Selected East Asian Countries
(Indonesia, Korea, Thailand)

Private Capital Flows to Selected East Asian Countries
(Indonesia, Korea, Thailand)

Total Private Capital Inflows

Equity Inflows *

* Data for Indonesia 1990 - 1992 and 2001 not available.
Private Capital Flows to Selected Latin American Countries
(Argentina, Brazil, Chile, Mexico)

Data for Argentina 1990 - 1991 not available.
Conclusion

• Important contributions to our understanding of emerging market equity flows
  – theory with home bias and asymmetric information
  – novel daily data
  – new evidence of effect of returns on flows

• Lots more to be done.