What makes home bias abate? The evolution of foreign ownership of Indian firms

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The big facts

1986	First country fund
1992	‘FII’ framework
2001	Reforms of capital controls and equity market institutions largely complete.
2003	Foreign ownership of shares $\approx$ \$11 billion
2007	Foreign ownership of shares $\approx$ \$151 billion

Why?

Home bias perspective

	March 2001	March 2007
ICAPM weight of India	0.42	1.53
Actual weight of India	0.04	0.24
Home bias metrics		
1 - (actual/ICAPM)	0.92	0.82
ICAPM /actual	10.38	5.42

Potential explanations

- *Capital flows are exogeneous, a fad*:
  Did flows to EMs at large exogenously go up? Is this a fad? Did India become fashionable?
- *Capital flows are caused by domestic events*:
  Or, did the firms achieve characteristics that are conducive to internationalisation of liabilities?

Part I

Sources of change

Three sources of change

- Indian market capitalisation goes up, while foreigners preserve their ownership of Indian shares. ("ICAPM effect")
- Changes in insider ownership - for foreigners to buy shares, insiders ("promoters") have to reduce ownership. ("Stulz effect").
- Traditional sources of home bias - information asymmetries, liquidity, etc.

Accounting for change

M is Indian market cap (in dollars)
p is insider shareholding
g is fraction of outsider shareholding with foreigners
F is dollar value of foreign shareholding.

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$M(1-p)\Delta g$	Traditional home bias explanations
$g(1-p)\Delta M$	Response to bigger M
$-gM\Delta p$	Stulz effect.

Indian experience

Year	For. own. (fraction of outsider)	Insider own. (fraction of total)	Market capn. (Trn. Rs.)	For. mktcap. (Trn. Rs.)
2001	**0.2049**	0.4804	4.80	**0.51**
2002	0.2271	0.5122	5.50	0.61
2003	**0.2105**	0.5161	5.37	**0.55**
2004	0.2798	0.5354	11.51	1.49
2005	0.3091	0.5555	16.63	2.28
2006	0.3349	0.5323	29.69	4.65
2007	**0.4100**	0.5471	35.13	**6.52**

Decomposition of ΔF

(Billion rupees)

	Components				
Year	Traditional	ICAPM	Stulz	Discrepancy	ΔF
2002	59	77	-40	-1	97
2003	-43	-13	-4	1	-62
2004	371	799	-62	158	950
2005	217	703	-104	28	788
2006	358	2046	231	269	2366
2007	1193	1011	-213	119	1872

Implications for our exploration

- The massive jump from 2003 to 2006 was not caused by a ‘Stulz effect’ – if anything this was playing *against* a rise in foreign ownership.
- The bigger fraction of outside shareholding being purchased by foreigners is essential to what happened.
- We must explain why g changed.

Part II

Explaining changes in the fraction of outside shareholding held by foreigners, utilising firm-level data

Cross-sectional variation

- If foreigners were country-picking, they would buy index portfolios
- g would be the same across firms
- The data vehemently disagrees.
- There is massive firm-variation in g
- Foreigners are very picky about what firms they invest in.

The zero-foreign-ownership phenomenon

- Suppose g is zero
- In $F = g(1 - p)M$, changes in p or M stop mattering as long as the firm is not even off the starting line.
- The ICAPM effect and the Stulz effect are not operative as long as $g \approx 0$.

We define 'zero foreign ownership' companies as those with $g < 0.05$.

Number of firms

Year	Zero	Nonzero	Total
2001	1359	465	1824
2002	1537	432	1969
2003	1643	421	2064
2004	1510	549	2059
2005	1418	736	2154
2006	1292	949	2241
2007	1297	1087	2384
Sums	10056	4639	14695

Modeling this

- The tobit model is a natural choice: we observe zero or the above-zero foreign ownership.
- For starters, an OLS with non-zero observations:

Coefficient	Value	t statistic
2001	8.89	10.93
2002	8.73	10.06
2003	9.08	10.13
2004	11.52	15.50
2005	11.75	19.09
2006	14.92	27.40
2007	19.04	37.44

Size-related explanators

- Market capitalisation
- Market capitalisation held by outsiders
- Total assets

All three are correlated, so interpretation of any one needs to be done with care.

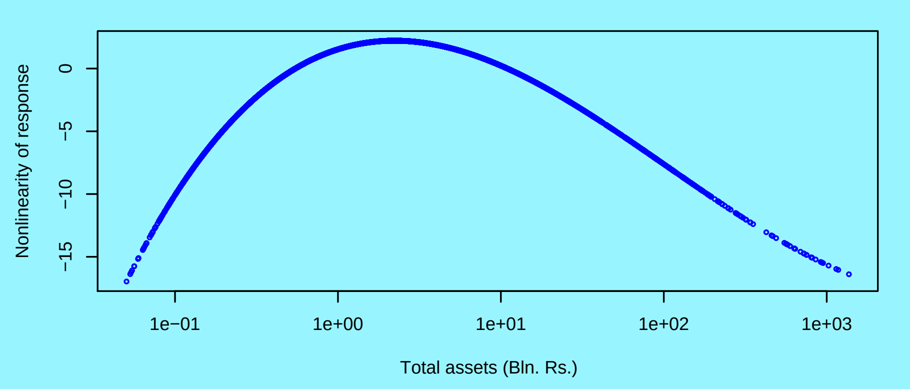
Equity financing explanators

- Turnover ratio $\times$ log market capitalisation
- Last 12 months returns (-0.005)
- Has an offshore listing (+13.569)
- Outside shareholding

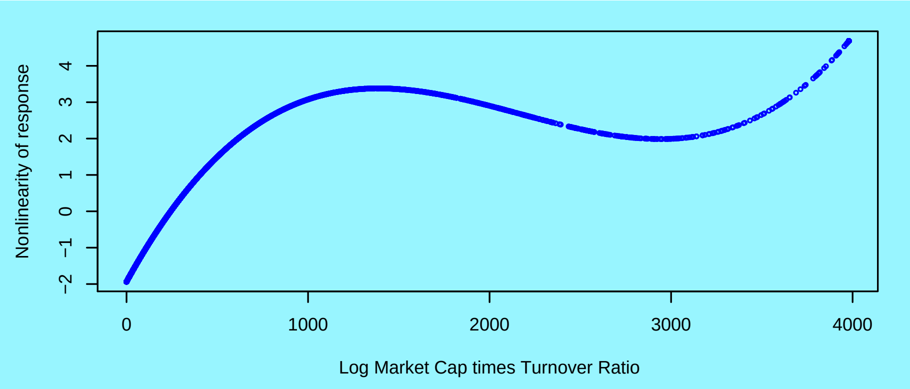
Other firm characteristics

- Year of incorporation
- Total assets per unit value added (i.e. capital intensity)
- Gross fixed assets per unit total assets (i.e. tangibility)
- Is an exporting firm.

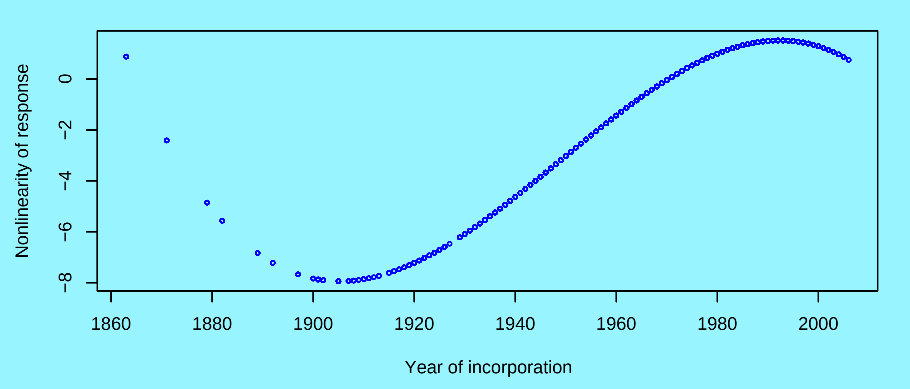
Response to total assets



Response to product of turnover ratio and log market capitalisation



Response to year of incorporation



Year fixed effects

$$H_0 : \text{f.2003} = \text{f.2007}$$

cannot be rejected.

Summary

Why did the F rise by roughly 13 times in 4 years?

1. *Stulz effect:* was *exacerbating* home bias.
2. *A decomposition of changes in F*: The change in 2007 was: -213 owing to the 'Stulz effect', +1011 owing to bigger market capitalisation, +1193 owing to bigger g.
3. *A tobit model of g:* Size explanators, equity financing explanators, and other firm characteristics.
4. *Firm characteristics, not country characteristics:* After controlling for these firm characteristics, year fixed effects have little year-to-year fluctuation.

The surge of foreign investment into India was largely about modified firm characteristics.

This is not to say that macroeconomic conditions do not matter

- In a downturn, market capitalisation, total assets, turnover ratio will all induce a decline in g. (Last 12 months returns will help).
- If SEBI and DEA make mistakes, stock market liquidity will go down.
- In the future, these country-characteristics could impact on firm characteristics and thus generate a decline in g and thus F.
- The limited claim here is: after controlling for firm characteristics, g looks the same between 2003 and 2007.

Thank you.