

Role of foreign investors

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Questions

- 1 How do foreign investors make portfolio choices?
- 2 Do they possess a good 'investment technology' through which securities are chosen?
- 3 What is investment technology?
 - 1 Finance perspective: Produce superior stock market returns
 - 2 Economics perspective: Do the companies that they choose do well?

Competing answers

- Foreign investors know less and buy index funds
- Foreign investors know little, but financing constraints are pervasive and you could put capital almost anywhere and it would yield a strong marginal product
- Foreign investors know little and back the wrong companies
- Domestic investors are worse

Existing literature

- Dvorak, 2005: Customers of local brokerage firms in Jakarta vs. customers of foreign brokerage firms
- Choe, Kho, Stulz, 2005: Foreign investors suffer higher transactions costs in Korea
- Froot and Ramadorai, 2008: Foreign institutional investors do well on understanding country fundamentals.
- Albuquerque et. al. 2009: US investors are returns-chasing but that can be interpreted as superior information.
- Our work on ADR premia: Foreign investors are positive feedback traders.

Lines of attack

Aggregative evidence

Firm data Do foreign investors have high quality security selection?

Can we use conventional data about ownership structure to measure security selection?

Data description

- CMIE Prowess database
- Observe accounting data of firms
- Observe the structure of shareholding
- 'Foreign institutional investors' (FIIs)
- 'Domestic institutional investors' (DIIs)
- Large numbers of firms have zero values.

What firm characteristics matter?

Tobit that explains FII or DII ownership share:

	FII	t	DII	t
Insider holding	-0.13	-7.15	-0.03	-1.80
Log mktcap	7.13	29.99	3.89	22.09
Turnover ratio	0.45	1.23	-1.49	-5.53
Yield	-0.29	-3.27	-0.09	-1.36
Domestic beta	3.41	4.66	-0.48	-0.96
Global beta	0.71	1.71	-0.20	-0.62
Total Risk	-4.82	-2.77	-0.30	-0.24
Export to sales	0.01	1.11	-0.01	-0.80
Age	-0.11	-5.70	0.16	9.39
Is public sector	-6.00	-2.75	10.30	4.51
Tangibility	-0.03	-2.95	0.08	9.12
Low R and D	-0.33	-0.59	1.75	3.44
High R and D	1.00	1.65	-1.55	-2.66

Does not answer the question

- Is it good investment technology to buy shares of private, export-oriented firms?
- May or may not be the case.
- What is really important is the future outcome
- What we need: A design that would help us understand the investment technology of FIIs and DIIs

A mix of selection and treatment effects

- FIIs and DIIs have a selection technology
- Once a firm gets II this may change the outcomes
- Better corporate governance? Ease financing constraints?
- Some firms have both FII and DII: Cannot identify differences in investment technology.

Our approach

- Identify firms with high FII investment but low DII investment (“FII chosen firms”)
- Identify firms with high DII investment but low FII investment (“DII chosen firms”)
- Identify firms with low FII and low DII (“Control pool”)
- Comparison of future outcomes can be effective.

	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Both	181	141	134	185	241	375	442	495	416	421	428
High DII	927	980	962	807	708	598	635	572	593	539	483
High FII	35	41	38	63	97	141	207	246	262	236	274
None	1319	1466	1560	1508	1547	1496	1719	1732	1769	1838	1937
Sum	2462	2628	2694	2563	2593	2610	3003	3045	3040	3034	3122

How to do comparison?

- Compare future outcomes for FII chosen firms vs. DII chosen firms
- If FIIs have good quality security selection, then FII chosen firms will fare well in the future.
- Problem: Differences in asset allocation
- The portfolio strategy of FIIs might be different
- Size, P/B, Beta, Momentum.
- In traditional econometrics, we would put these on as controls in an OLS.

Are differences in portfolio strategy present?

	FII	t	DII	t
Intercept	-8.75	-16.81	5.41	19.81
Small size	30.49	24.35	20.10	25.95
Med size	6.92	9.44	4.71	9.32
Large size	1.38	2.78	1.50	3.99
Low Book-to-Price	1.56	2.47	5.56	9.14
Med Book-to-Price	4.99	10.23	2.74	6.52
High Book-to-Price	-0.42	-1.14	-0.03	-0.10
Low beta	4.63	7.51	-0.15	-0.33
Med beta	-0.85	-1.80	-0.10	-0.27
High beta	-0.01	-0.02	0.47	1.51

Our strategy

- 1 We have the FII Chosen and DII Chosen sets.
- 2 For each firm in these two sets, identify a partner from the Control pool that has similar size, B/P and β .
- 3 This gives a dataset containing N firms with high FII investment (but not DII investment) and another N firms with neither FII investment nor DII investment, where the two sets are matched by size, B/P and β . Estimate:

$$y_{i,t+k} - y_{i,t} = a_0 + a_1 D + e_{i,t}$$

Matching process – FII Chosen firms

Table : Number of matched pairs for high FII

	Low FII, Low DII	High FII, Low DII	Matched pairs
2002	1466	41	14
2003	1560	38	10
2004	1508	63	34
2005	1547	97	63
2006	1496	141	59
2007	1719	207	91
2008	1732	246	127
2009	1769	262	182
2010	1838	236	179
2011	1937	274	199

Does it yield good quality match balance?

Table : Standardised Difference for FII

	Before Matching	After Matching
Size	1.46	0.05
Book-to-Price	-0.75	-0.02
Beta	0.30	0.05

Table : Kolmogorov Smirnov Test for FII

	Before Matching	After Matching
Size	0.5716 (0)	0.048 (0.2194)
Book-to-Price	0.3061 (0)	0.0303 (0.7724)
Beta	0.1905 (0)	0.0438 (0.316)

Results: Example: at horizon of 2 years out

	FII		DII	
	Coef	sd	Coef	sd
Log Fixed Assets	0.14	0.039	-0.02	0.024

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Log Price	-0.11	0.070	0.09	0.037

Sensitivity analyses

- Many time horizons
- Four-factor world: Include momentum
- Size weighted results
- More extreme definitions for FII Chosen and DII Chosen

Qualitatively similar results

What have we learned?

- A strategy for measurement of security selection by foreign investors that can be easily implemented using conventional disclosures
- In the Indian case: FII chosen firms have: High asset growth, but poor productivity and inferior stock market returns.
- DIIs appear to invest in distressed firms
- DII chosen firms: Low asset growth, low output growth, but good productivity and good returns.

Thank you.