Why is there a home bias?

An analysis of foreign portfolio equity ownership in Japan

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This paper studies stock ownership in Japanese firms by non-Japanese investors from 1975 to 1991.

Main Idea: Foreign investors hold disproportionately more shares of firms in manufacturing industries, large firms, and firms with good accounting performance, low unsystematic risk and low leverage.

Objectives:

Problems Treated

- Why investor insufficiently diversify their portfolio internationally?
- Why foreign ownership of shares is still limited?
- Why do foreign investors prefer large firms?
- Does foreign investment affect expected returns on domestic securities?

Link between firm's characteristic (Leverage, Current Ratio, Beta …) and foreign investment

Show the investment performance of foreign investor.

Data Used:

Since 1975 in Japan, shares are registered.

The equally weighted measure of foreign ownership is quite small. It never exceeds 6%.

Year	Sample size (missing)[a]	Equally-weighted [Standard deviation]	Value-weighted
1975	868 (385)	2.46% [7.71]	4.64%
1976	988 (267)	2.34 [7.22]	4.47
1977	1,014 (250)	2.36 [7.10]	4.02
1978	1,043 (230)	2.35 [6.86]	3.39
1979	1,089 (191)	2.30 [6.67]	3.25
1980	1,106 (187)	2.73 [7.23]	4.80
1981	1,113 (204)	4.08 [8.44]	7.98
1982	1,118 (235)	4.45 [8.60]	8.80
1983	1,144 (251)	5.07 [8.96]	10.46
1984	1,191 (217)	5.76 [8.96]	11.31
1985	1,308 (109)	5.15 [8.28]	9.97
1986	1,298 (93)	5.17 [7.96]	8.97
1987	1,268 (77)	4.25 [7.25]	6.88
1988	1,309 (52)	3.77 [6.74]	4.50
1989	1,341 (82)	3.71 [6.11]	5.02
1990	1,426 (29)	3.99 [6.38]	4.76
1991	1,452 (13)	4.02 [6.50]	5.59

By looking at separate industry: On average, foreign investors invest 13.70% more of their Japanese portfolio in manufacturing than in the market portfolio.
Shares by non-Japanese investors is related to firm characteristics.
-Leverage (% of debt)
-Current Ratio (short run financial health of a firm
-Return on asset
-Beta (Volatility)
-Residual Variance
-Excess Return
-Market Value (Market Value of the firm)

Method:

a) Multiple regression to prove which firms' characteristics affect more foreign investors:

Variables	Full period: 1976–1991	Subperiod: 1976–1983	Subperiod: 1984–1991
Intercept	− 0.0635 (− 2.19; < 0.01) [0,10]	− 0.0370 (− 1.09; 0.01) [0,2]	− 0.0899 (− 3.29; < 0.01) [0,8]
Leverage	− 0.0397 (− 2.03; < 0.01) [0,12]	− 0.0452 (− 2.03; < 0.01) [0,6]	− 0.0342 (− 2.03; < 0.01) [0,6]
Current ratio	0.0017 (0.48; 0.04) [1,0]	0.0010 (0.23; 0.44) [0,0]	0.0024 (0.74; 0.06) [1,0]
ROA	0.1495 (1.72; < 0.01) [8,0]	0.1683 (1.69; < 0.01) [3,0]	0.1308 (1.75; < 0.01) [5,0]
Beta	0.0025 (0.61; 0.24) [4,1]	0.0006 (0.14; 0.80) [1,0]	0.0044 (1.07; 0.24) [3,1]
Residual variance	6.7279 (0.76; 0.08) [4,0]	12.1359 (1.41; 0.08) [3,0]	1.3199 (0.10; 0.73) [1,0]
Excess return	0.0036 (0.38; 0.55) [4,3]	0.0049 (0.45; 0.65) [2,1]	0.0022 (0.31; 0.69) [2,2]
Book-to-market	− 0.0246 (− 2.10; < 0.01) [1,10]	− 0.0390 (− 3.28; < 0.01) [0,7]	− 0.0101 (− 0.93; 0.18) [1,3]
Log (MV)	0.0127 (6.57; < 0.01) [16,0]	0.0114 (5.22; < 0.01) [8,0]	0.0140 (7.92; < 0.01) [8,0]
Average sample size Adjusted R^2 (%)	1,122 11.626	993 10.413	1,251 12.840

Average t-statistics are in parentheses; the second number in parentheses is the p-value for a t-test that the average t-statistic
is zero. Numbers in brackets are those of coefficients that are significantly positive at the 0.10 level
and those of coefficients that are significantly negative at the 0.10 level, respectively

b) **Cross-sectional and time-series data**. In that table, we estimate random-effect models using the Fuller-Battese method. This method divides the error term for a firm at year t into three components: an error for firm i across years, an error for firm i in year t and an error for year t common across firms.

c) An investigation of the size bias and export ratio, The Spearman's Rank Correlation Coefficient

Problem: investors hold shares in firms with which they are familiar and that investors are more likely to be familiar with large firms

Effect of the export ratio and the effect of size:

Exports/Sales ratio	Size quintiles					
	Smallest	2	3	4	Largest	All
Smallest (1)	1.03	2.63	3.39	4.87	8.16	3.69
	(0.96)	(2.85)	(3.36)	(5.04)	(9.62)	(3.84)
2	1.41	2.86	3.95	5.94	6.69	3.74
	(1.46)	(3.03)	(3.22)	(5.79)	(6.04)	(3.90)
3	2.26	2.44	3.99	5.09	7.73	4.10
	(2.55)	(2.25)	(4.34)	(4.15)	(5.92)	(3.81)
4	1.46	3.21	3.47	6.44	7.18	4.46
	(1.45)	(3.11)	(3.86)	(5.57)	(6.08)	(4.25)
Largest (5)	2.82	4.15	4.17	4.72	8.50	5.71
	(2.78)	(3.62)	(4.30)	(4.26)	(8.68)	(5.68)
(5) – (1)	1.79	1.52	0.78	– 0.15	0.34	2.02
[*t*-statistic]	[4.67]	[2.95]	[1.18]	[– 0.17]	[0.33]	[3.44]
All	1.80	3.05	3.79	5.41	7.66	
	(1.78)	(3.07)	(4.10)	(5.15)	(6.83)	

d) Size and Liquidity:

Do not have a measure of liquidity that we can use. However, shares with higher turnover (defined as volume divided by the number of shares outstanding) should be more liquid

Turnover ratio	Size quintiles					
	Smallest	2	3	4	Largest	All
Smallest (1)	0.83	2.06	2.38	3.90	4.80	2.71
	(0.86)	(2.02)	(2.36)	(3.82)	(4.92)	(2.64)
2	1.05	2.22	3.27	5.50	6.48	3.33
	(0.98)	(2.27)	(3.21)	(5.49)	(6.21)	(3.37)
3	1.27	2.32	4.36	5.57	7.85	4.10
	(1.33)	(2.37)	(4.62)	(5.95)	(6.64)	(3.49)
4	1.44	2.72	3.48	4.90	8.45	4.49
	(1.40)	(2.85)	(3.44)	(5.17)	(7.70)	(4.58)
Largest (5)	1.44	2.58	3.08	4.82	7.27	4.16
	(1.40)	(2.79)	(3.21)	(5.19)	(7.12)	(4.27)
(5) – (1)	0.61	0.52	0.70	0.92	2.47	1.45
[*t*-statistic]	[2.43]	[1.47]	[1.22]	[1.44]	[2.78]	[2.92]
All	1.21	2.38	3.31	4.94	6.97	
	(1.10)	(2.46)	(3.59)	(4.97)	(6.47)	

e) The investment performance of foreign investors Barriers to international investment

That take the form of a deadweight cost imply that the portfolio of domestic securities held by foreign investors should have a higher expected return than the portfolio held by domestic investors before taking into account the deadweight cost.

Period	Average monthly excess return
76/07 – 77/06	– 0.0699%
77/07 – 78/06	– 0.3734
78/07 – 79/06	0.7072
79/07 – 80/06	– 0.1564
80/07 – 81/06	0.4017
81/07 – 82/06	– 0.6305
82/07 – 83/06	0.9495
83/07 – 84/06	– 0.7257
84/07 – 85/06	– 1.2831
85/07 – 86/06	– 0.2069
86/07 – 87/06	– 0.6993
87/07 – 88/06	0.4136
88/07 – 89/06	0.7365
89/07 – 90/06	0.5461
90/07 – 91/06	0.2565
91/07 – 91/12	– 0.3085
76/07 – 84/06	0.0128
84/07 – 91/12	– 0.0520
76/07 – 91/12	– 0.0190

f**) Does foreign investment affect expected returns on domestic securities?**

Regress the individual stock returns of that month on foreign ownership. We use our previous timing convention in that we use the end of fiscal year t - 1 ownership data for12 months starting with July of year t.

Results:

a) Each year, foreign investors invest more in large firms controlling for the seven other firm characteristics. The coefficient on leverage is significantly negative in 12 years out of 16, indicating that foreign investors prefer firms with low leverage. There is a strong book-to-market effect in the first subperiod, but this effect weakens substantially in the second subperiod. In contrast, the return-on-assets effect is strong in the second half of the sample, but much less so in the first half. The other variables sometimes have significant coefficients, but they do not provide convincing results. The result that dominates Table 3 is the importance of firm size in the investment decisions of foreign investors.

b) same results as a)

c) The Spearman's Rank Correlation: To separate the effect of the export ratio and the effect of size, we present in Table 5 foreign ownership for size quintiles and foreign trade quintiles. Ignoring size, foreign ownership increases monotonically with the ratio of exports to sales, going from 3.69% for the lowest export ratio quintile to 5.71% for the largest. The impact of size is much larger, however, since foreign ownership is, on average, 1.80% for the smallest quintile and 7.66% for the largest quintile.

d)Using the same method: additional explanatory variable has little effect on the size coefficient.

e) Out of these 16 years, foreign investors underperform the value weighted PACAP index portfolio nine times. Foreign investors had a portfolio with a higher volatility than the market portfolio without any gain in expected return. This means that the portfolio they were holding was a poor proxy for the market portfolio

f) this effect seems weak and does not stand up when we allow for a size effect

Conclusion:

We confirm the existence of a substantial home bias using a different data source. We show, further, that ***ownership by foreign investors is consistently and strongly biased against small firms***. The cost to foreign investors of overinvesting in large firms is that their return in Japan is ***more volatile*** than if they held the Japanese market portfolio. We find that, although foreign investors do not earn a greater return than if they had held the market portfolio, the volatility of their monthly return is 5.38% whereas the volatility of the return of the market portfolio is 4.81%.
A model in which ***nonresident investors know more about large firms than small firms*** in the market in which they invest (other than their home market country) is one that can produce the cross-sectional patterns of ownership that we document.