

Where Do Australians Invest?

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Abstract

Preliminary results suggest that Australia's external holdings of equity and debt as a percentage of national income almost doubled between 1997 and 2001. However Australia's international investment position as a percentage of national income is one of the lowest amongst the major OECD countries. In 2001 approximately two thirds of Australia's total investments were invested in the United States and the United Kingdom. By contrast Australia's trade share (exports plus imports as a percentage of Australia's total world trade) with these countries was approximately twenty percent in the same year. The major determinants of Australia's geographical allocation of portfolio investment indicate a broad correspondence between stock market capitalisation of destination countries and the allocation of Australian financial investments but with some deviations from that baseline, where the deviations are correlated with Australian trade patterns. Australia's disproportionate investment in a few countries can be attributable to an extension of the home bias puzzle that has been observed by many researchers.

INTRODUCTION

Australia's international investment position as a percentage of national income is one of the lowest among the major OECD countries. In fact, Australia's external investment position on the international ladder relative to other countries as illustrated in Tables 1 and 2 had not changed by 2001. Australia's increased international investment position over 1997-2001 is almost entirely attributed to increased equity investment doubling from 8.7 percent of GNI to 16.6 percent of GNI over five years.

Table 1 Aggregate External Portfolio – Industrial Countries 1997

	Equity		Long Term Debt		Short Term Debt		Total	
	US \$ m	% GNI	US \$ m	% GNI	US \$ m	% GNI	US \$ m	% GNI
UK	461553	36.4	483354	38.10	27080	1.82	971987	76.68
Netherlands	127314	30.1	115425	27.30	---	---	242739	57.43
Sweden	52367	2.23	16451	0.70	2739	1.15	71557	28.93
Singapore	16199	15.6	4527	4.30	2061	2.36	22787	21.89
Italy	75233	6.35	172239	14.50	10391	0.92	257863	21.77
United States	1197446	14.50	542898	6.60	---	---	1740344	21.14
Canada	105920	17.30	17491	2.90	4859	0.71	128270	20.99
Germany	235648	10.10	255333	10.90	---	---	490981	20.95
France	99604	6.60	205938	13.70	---	---	305542	20.31
Japan	158771	3.20	712161	14.40	31324	0.69	902256	18.27
Australia	32870	8.70	7449	2.00	1217	0.32	41536	10.60
New Zealand	5002	8.00	1448	2.00	---	---	6450	10.36
Spain	22308	3.70	24771	4.10	---	---	4707	7.77
Korea	976	0.19	8101	1.50	4428	0.99	13505	2.58
Hong Kong	(c)	(c)	(c)	(c)	(c)	(c)	(c)	(c)
Switzerland	---	---	---	---	---	---	---	---

Note: Data are for end 1997. --- Data unavailable. (c) Data not disclosed due to reasons of confidentiality. *Source:* International Monetary Fund (2000a). For Germany data is from International Monetary Fund (2000b). GNI data from World Bank (1997).

Table 2 Aggregate External Portfolio – Industrial Countries 2001

	Equity		Long Term Debt		Short Term Debt		Total	
	US\$ million	% GNI	US\$ m	% GNI	US \$m	% GNI	US\$ m	% GNI
Switzerland	247409	93.00	227602	85.56	15494	5.82	490505	184.39
Netherlands	235023	61.00	244746	63.56	5900	1.53	485669	126.12
Singapore	30020	34.40	42943	49.27	33584	38.53	106547	122.25
Hong Kong	94615	54.57	85877	49.53	25108	14.48	205600	118.58
UK	558379	37.50	667303	44.79	78362	5.26	1304044	87.53
Sweden	103989	43.71	38981	16.39	1526	0.64	144496	60.74
France	201752	14.50	462133	33.16	46445	3.33	710330	50.97
Italy	239472	21.29	307580	27.35	4970	0.44	552022	49.09
Germany	381184	19.70	401582	20.72	8850	0.46	791616	40.85
Canada	200674	29.40	17663	2.59	5132	0.75	223469	32.79
Spain	58698	10.00	103395	17.56	11050	1.88	173143	29.40
Japan	227351	5.00	1004878	22.02	57525	1.26	1289754	28.26
New Zealand	7618	14.80	4733	9.18	71	0.14	12422	24.10
United States	1612669	16.30	500541	5.06	135309	1.37	2248519	22.75
Australia	64160	16.65	14396	3.73	796	0.21	79352	20.59
Korea	1300	0.29	5284	1.18	1451	0.32	8035	1.79

Note: Data are for end 2001. *Source:* Coordinated Portfolio Investment Survey data for 2001. GNI data from World Bank (2001).

Table 3 and 4 below lists the major destination countries for Australia's portfolio investment in 1997 and 2001 respectively. In 1997 over half (approximately 58%) of Australia's total investment was invested in the United States (44.31%) and the United Kingdom (14.15%), by 2001 the figure had climbed to 66%. By contrast Australia's trade share (exports plus imports as a percentage of Australia's total world trade) with the USA and UK combined was approximately 19.75 in 1997. By 2001 Australia's trade share with these countries remained approximately the same. Reflecting subdued investment conditions in Japan Australia's total equity investment position declined substantially from 10.7% percent of total investment in 1997 to 5.8 % in 2001. By contrast Australia' trade share with Japan remained constant over 1997 – 2001 at approximately 16 per cent.

The geographical spread of Australia's equity investment as a percentage of total portfolio investment overseas is approximately similar to the spread of total investment abroad as shown

in Tables 3 and 4, however, debt is more concentrated in the US (50%) while the UK is the source of approximately 10% of Australia's debt.

Table 3 Australia's Foreign Investment: Major Destination Countries 1997

% Share	Australia's total investment (%)	Australia's equity investment (%)	Australia's debt* investment (%)	Australia's trade (%)	World's domestic equity and bond markets (%)	World GNI (%)
US	44.31	43.47	49.31	15.06	47.31	27.72
UK	14.15	15.45	9.95	4.69	8.20	4.27
Japan	9.49	10.69	5.40	16.58	6.80	16.63
Netherlands	1.84	2.22	0.46	0.87	1.29	1.42
France	3.63	4.11	2.08	1.70	4.40	5.07
Germany	5.08	4.04	10.44	3.53	7.90	7.89
Switzerland	2.69	3.40	(c)	0.80	1.49	1.05
Hong Kong	2.17	2.43	1.40	5.17	1.07	0.55
Italy	2.40	2.49	2.36	2.40	1.30	3.99
Canada	1.35	1.21	2.16	1.43	0.84	2.06
Spain	0.95	0.92	1.22	0.54	1.80	2.04
NZ	1.18	0.26	2.15	5.77	0.02	0.21
Korea	0.42	0.21	1.44	5.59	0.41	1.76
Singapore	0.46	0.58	(c)	3.75	0.18	0.35
Sweden	1.38	1.37	1.62	1.04	0.37	0.83

Note: Data are for 1997. * Long term securities (c) indicates that a non-zero datum was not disclosed for reasons of confidentiality. **Source:** Investment shares calculated from IMF survey data. Trade share calculated from IMF's Direction of Trade Statistics. GNI share calculated from World Bank 2001 data. World's domestic share and bond market data calculated from FIBV data on value of domestic share trading and value of domestic bond trading.

Table 4 Australia's Foreign Investment: Major Destination Countries 2001

% Share in	Australia's total investment (%)	Australia's equity investment (%)	Australia's debt* investment (%)	Australia's trade (%)	World's domestic share and bond markets (%)	World GNI (%)
US	56.01	58.26	48.28	14.13	53.61	31.29
UK	9.98	9.05	14.30	4.78	8.59	4.72
Japan	5.82	5.79	5.81	16.03	4.76	14.44
Netherlands	4.59	5.53	0.67	1.10	1.49**	1.22
France	3.66	3.99	2.37	1.61	4.90**	4.41
Germany	3.07	2.60	5.38	3.50	3.93	6.13
Switzerland	1.56	1.87	0.29	0.67	1.66	0.84
Hong Kong	2.75	2.17	5.49	7.50	0.61	0.55
Italy	1.26	1.10	2.05	2.37	5.90	3.56
Canada	1.12	0.96	1.51	1.47	1.19	2.16
Spain	0.80	0.81	0.78	0.65	2.30	1.86
NZ	1.03	0.09	3.67	4.87	0.02	0.16
Korea	0.54	0.63	0.15	5.81	1.01	1.42
Singapore	0.98	0.68	2.36	3.86	0.18 ^t	0.28
Sweden	0.52	0.54	0.44	0.75	0.78	0.75

Note: Data are for 2001. * Long term securities. ** Data for Netherlands and France has been estimated due to non-availability of data. Total stock and bond value has been taken for Singapore due to non-availability of domestic stock and bond value.

DETERMINANTS OF AUSTRALIA'S INVESTMENT PATTERNS

What factors explains why these few countries (US, UK and Japan) should be the destination for such a substantial proportion (approx 70% in 1997 and 72% in 2001) of Australia's overseas investment? Firstly, two of these countries (US and Japan) are Australia's most significant trading partners with approximately 15% and 16% of total trade conducted with each respectively as indicated by the 1997 and 2001 CPIS data. These countries are among the largest economies in the world with major shares of the world's share and bond markets.

The determinants of Australia's geographical allocation of portfolio investment by performing a multivariate regression of Australia's destination country portfolio shares on the share of Australia's trade with each country, financial market share and share in world GNI respectively. Here we employ the following empirical specification in line with Honohan and Lane (2000).

$$S_{1997,2001} = \alpha + \alpha_1 T \quad (1)$$

$$S_{1997,2001} = \alpha + \alpha_2 M \quad (2)$$

$$S_{1997,2001} = \alpha + \alpha_1 T + \alpha_2 M \quad (3)$$

$$S_{1997,2001} = \alpha + \alpha_1 T + \alpha_2 M + \alpha_3 G \quad (4)$$

where,

S = Destination country's portfolio share in Australia (1997, 2001)

T = Share of Australia's trade with each country (1997, 2001)

M = Financial Market share of each country in World Financial Markets (1997, 2001).

Financial Market share is the sum value of domestic share and bond trading.

G = Country's share in World GNI (1997, 2001)

Equation (1) indicates Australia's portfolio share of the destination country in terms of the share of Australia's trade with destination country. Equation (2) represents Australia's portfolio share of the destination country in terms of destination country's share of the world financial markets (capitalised value). Equation (3) considers the Australia's portfolio share of the destination country in terms of the share of Australia's trade with destination country and destination country's share of the world financial markets. Finally equation (4) represents the Australia's portfolio share of the destination country in terms of the share of Australia's trade with destination country; destination country's share of the world financial markets and destination country's GNP shares as explanatory variables.

Table 5 reports the multivariate regression¹ results for Australia's destination country portfolio shares on the share of Australia's trade with each country, financial market share and share in world GNI. Column 1 shows that when only trade share is included in the regression approximately 46 per cent of the cross-country variations in the share of Australia's investment portfolio can be explained by trade patterns alone. Column (2) indicates a broad correspondence

¹ The results for individual equity and long-term components are quite similar and can be made available upon request from the authors. We just report the findings for overall portfolio shares.

between the stock market capitalisations of destination countries and the allocation of Australian investment. In particular the share of the destination country in terms of their share of the world financial markets (capitalised value) explain almost the entire (96%) of the geographic pattern of Australia' foreign portfolio investment. Column (3) combines the trade share and the world financial markets share variable; together these two variables explain 97 per cent of portfolio investment patterns. Adding GNP shares in column (4) to the previous set of explanatory variables adds no further explanatory power to our results. Table 6 repeats the above exercise for 2001; the results show no appreciable difference over those for 1997.

Table 5 Regression Analysis for 1997

Explanatory variable: Destination country's share investment	Equation (1)	Equation (2)	Equation (3)	Equation (4)
Australia's trade	1.45 (2.17)**		0.22 (5.26)*	0.37 (1.96)***
World financial market		0.96 (28.41)*	0.87 (44.11)*	0.97 (9.57)*
World GNI				-0.24 (-1.00)
Adjusted R ²	0.46	0.96	0.97	0.97

Table 6 Regression Analysis for 2001

Explanatory variable: Destination country's share investment	Equation (1)	Equation (2)	Equation (3)	Equation (4)
Australia's trade	1.56 (1.66)		0.08 (1.98)***	0.21 (2.66)**
World financial market		1.03 (75.63)***	1.00 (50.51)*	1.11 (22.32)*
World GNI				-0.24 (-2.24)**
Adjusted R ²	0.35	0.98	0.98	0.98

Note: Dependent variable is portfolio share of each country. Ordinary least square regressions. White corrected t-statistics in parentheses. R² is percentage of total variation explained by independent variables. *,**,*** denote significance level at 1, 5 and 10 percent respectively.

Column 2 shows a very close correspondence between investment shares and the share of each destination in global market capitalization.

EXPLAINING THE INVESTMENT BIAS

One possible explanation relates to the costs of information acquisition. In contrast to textbook assumptions that perfect information is freely available, learning about international investment opportunities is a costly activity in the real world. Perhaps Australia's disproportionate investment in countries which hold the majority of the world's stock market capitalisation and which we are familiar with through trading and other links (culture) can be attributable to lower costs of acquiring information about investment opportunities in those countries.² However this should not be overemphasised when it comes to explaining the bias in portfolio investment. The costs of holding a geographically 'neutral' world portfolio can be greatly reduced through the use of global index funds marketed by international financial intermediaries.

The bias towards investing in three of the world's developed capital markets namely the US, UK and Japan with some deviations from that baseline with countries due to Australian trading patterns may be interpreted as an extension of the home bias puzzle that has been observed by many researchers. As pointed out by French and Poterba (1991) and others, the home bias puzzle is the phenomenon that the disproportionate bulk of investment portfolios consist of domestic equities and bonds, despite the observable gains to international diversification. Huberman (1997) work on geographical distribution of shareholders in US telephone companies indicates familiarity bias even within countries. A propensity to invest in familiar locations may reflect psychological factors in determining investment decisions.³

² See Ghosh and Wolf (1998) and Portes and Rey (1999) regarding the importance of informational variables.

³ See Shleifer (2000) regarding the study of behavioural finance.

Finally the lack of a significant correspondence between investment and trade flows associated with Australia and Asian markets (except Japan) requires some comment. One area to consider here is that many financial markets in Asia including China's are not well developed. This lack of development is reflected in the low weights for the region in the global market indices which drive so much of the allocation of portfolio investment in the world i.e. Asia's account in the Morgan Stanley MSCI global equity index for less than 4% and is even smaller for the global bond market indices. The shares are very much smaller than the region's 25% share in world GDP. The share of Australia's outward portfolio investment going to Asia accounts for only 10.9% of the total portfolio investment in 2002 (Reserve Bank of Australia Bulletin, November 2003).

Preliminary results suggest that Australia's external holdings of equity and debt as a percentage of national income almost doubled between 1997 and 2001. This increase is almost entirely attributed to increased equity investment. However, it is noteworthy that Australia's international investment position as a percentage of national income is one of the lowest amongst the major OECD countries. In 1997 over half of Australia's total investments were invested in the United States and the United Kingdom (combined) this fraction climbing to approximately two thirds by 2001. By contrast Australia's trade share (exports plus imports as a percentage of Australia's total world trade) with the USA and UK (combined) was approximately twenty percent in 1997 and 2001 respectively. Reflecting subdued investment conditions in Japan Australia's total equity investment position declined substantially from 1997 to 2001. By contrast Australia's trade share with Japan remained constant over 1997 – 2001.

We began our investigation into the determinants of Australia's geographical allocation of portfolio investment by performing a series of regression tests to determine the factors driving Australia's investment patterns. Major findings indicate a broad correspondence between the stock market capitalisations of destination countries and the allocation of Australian investment

but with some deviations from that baseline, where the deviations are correlated with Australian trade patterns.

The bias towards investing in three of the worlds developed capital markets namely the US, UK and Japan with some deviations from that baseline with countries due to Australian trading patterns may be interpreted as an extension of the home bias puzzle that has been observed by many researchers.

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