



Coming Wars in Investment Management

Table of Contents

Executive Summary.....	5
Introduction	
History	
Prospects	
Theory	
Techniques	
Administration	
Performance Measurement	
Corporate Governance	
Globalisation	
Organisation and Decision Making	
Distinct Cultures and Industry Growth	
Marketing and Distribution	
Location	
Socioeconomic Impact	
The Future	
Conclusion	
Introduction	18
Chapter 1 – Information Technology and Globalisation	25
Introduction	
Information Technology	
Globalisation	
Summary	
Chapter 2 – Process Diversity and Complexity – A Key Battleground.....	40
Introduction	
Bonds	
Equities	
Innovations	
Chapter 3 – Corporate Governance.....	47
Introductio	
The Global Situation	
Impact of Activism	
Chapter 4 – Performance Measurement.....	52
What is Performance Measurement?	
Different Technical Measures	
Risk-adjusted Performance	
Benchmarks	
Performance Attribution	
Summary	

Chapter 5 – Administration.	61
Introduction	
The Functions of Administration	
How the Job is Done	
Chapter 6 – Mathematics and Quantitative Techniques.	73
Introduction	
Bonds	
Equity Selection	
Derivatives	
Asset Allocation and Portfolio Construction	
Performance Measurement and Attribution	
Portfolio Construction and the Investment Process	
The Place of Mathematics	
Chapter 7 – Organisation and Decision Making.	83
The Role of Fund Management	
Activities and Profile	
Chapter 8 – The Distinct Cultures.	102
Chapter 9 – Sources of Growth.	117
Chapter 10 – Corporate Pension Funds – Growth or Decay?....	119
Introduction	
The Case for Defined Benefit Schemes	
The Case Against	
Conclusion	
Chapter 11 – Alliances, Invasions and Empires.	123
Chapter 12 – Marketing and Distribution.	125
Introduction	
The Players	
Methodology	
Distribution Channels	
Distribution Strategies	
Summary	
Chapter 13 – The Future of Financial Centres.	142
Chapter 14 – Socioeconomic Aspects.	147
Chapter 15 – Optimal Size and Visions of the Future.	149
Chapter 16 – Fees and Profitability.	155
Chapter 17 – Conclusion.	160

Changes in the Investment Environment
New Developments
Issues and Challenges

Profitability Pressures
What the future Holds

Appendix. 168

Executive Summary

Introduction

A period of rapid transformation is underway in the investment management industry. One of the most visible manifestations of change is the rash of industry restructuring which is going on. Successful organisations are embarking on joint ventures, mergers and takeovers.

The impetus for change comes from developments which are now widely recognised. Globalisation, deregulation and information technology, all familiar catchwords, are among the main driving forces. Though these influences are not new, the investment management industry has been slow to respond to them. It still has not adapted fully to changes already wrought by these forces, let alone has it prepared for further massive changes to come. Innovative instruments, including the very versatile derivatives, are severely under-exploited by most investment managers. Eventually, however, competitive pressures and client demand will force adjustments to be made.

Changes in client preferences and needs have always been a powerful determinant of the rate of progress of the industry.

History

Investment management activity in its modern form goes back many centuries and from the outset was international in character. In the 14th century, Genoa was a pre-eminent centre. From the early 17th century Amsterdam dominated the financial scene: the establishment of a stock exchange, issues of securities and even derivatives trading date back to those early days. London's dominance began in the 18th century, coinciding with its growing role in global trade, military and physical spheres. In this century, after having been eclipsed by New York for a few decades, London looks set to regain its role as the global capital of finance.

Prospects

Private banking, unitised funds and private sector pension schemes will remain locomotives for explosive growth in the investment management industry. Demography, the flourishing of entrepreneurs, middle-class expansion and growth in savings and wealth worldwide will be among the underlying causes.

Different groups of companies are poised to fight it out in the worldwide struggle for clients. Banks, wholesale and retail, life insurance companies and large investment management houses offering mainstream products such as managed futures funds and quantitative products are also in the fray. Though small, they have the potential to increase market share substantially.

Theory

Participants have to cope with the growing complexity of investment management techniques as a major factor in the quest for clients. These techniques represent the application of impressive theoretical advances in five decades.

Rigorous analytical methodology in equities was introduced in the 1930s, as was the concept of duration, a central risk measure for bonds. The enunciation of the principles of portfolio diversification and immunisation in the 1950s was the next major sign post. The 1960s saw the efficient market hypothesis, random walk theory and the capital asset pricing model, all of which still attract fierce controversy. Their core message – that the market cannot be beaten – has led to the growth of indexation, a trend which, if it continues on, has major implications for the shape of the industry.

Black and Scholes produced their path-breaking model for options valuation in 1973, almost coinciding with the opening of the Chicago options exchange. The result was a revolution in capital markets which has yet to exert its full impact on the inertia-prone investment management industry.

Techniques

Since the mid-1970s, sophisticated quantitative techniques have been developed in bond analysis and portfolio construction involving concepts such as convexity, horizon analysis, option-adjusted spread models and contingent immunisation. sophisticated dividend discount models have been devised for equities

Apart from the principle of market efficiency, other major debates divide the investment world. Some quantitative approaches rely on identifying risk with short-term volatility which others find unacceptable. While there are wider concepts of risk generally regarded as relevant to the industry, a universally acceptable mathematical formulation has yet to be found.

The use of quantitative techniques in general is another issue which attracts both strong support and hostility. The case for using these is not strengthened by exaggerated claims by their proponents. On the other hand, purely intuitive methods have severe limitations in coping with the growing complexity of fund management processes.

Administration

The contribution from information technology is not confined to sophisticated investment processes. It is also critical to the more mundane function of investment administration. Inefficiency in this sphere increases costs, absorbs management time and, worst of all, can create serious losses through errors such as failure to settle. Provision of timely and accurate information to top management and investment personnel is another key responsibility.

Often, the back office, a neglected area, suffers from archaic practices. Backwardness in exploiting technology is even more pronounced here than is the case with fund managers. In the long run, a cost-effective and well-run office will have a critical impact on the profitability and competitiveness of the investment management operation as a whole.

A key decision which an administration department needs to make is the selection of a custodian. A good choice here will reap rewards in terms of enhanced cost-effectiveness of the back office function. For a global house, several different paths are possible. One involves appointing a single global custodian as the point of contact for all deals with the outside world. An alternative is to go directly to regional and national custodians worldwide. Many factors enter into this equation, including a trade-off between costs and time. Emerging markets require special attention because of their generally backward procedures. This, of course, is not true universally. Hong Kong is putting into place a highly advanced system designed for the needs of the next century.

Currently, the leading global custodians are all US firms. The situation in this respect is very fluid. Competition is exerting intense downward pressure on prices with new types of players entering the business of custodial services. These include stockbrokers as well as the larger investment management firms themselves. As technology progresses towards the ideal of electronic compatibility worldwide, costs will continue to fall.

Performance Measurement

Investment performance statistics are currently one of the main weapons in the fight for clients. Performance, both relative to a benchmark and in absolute terms, is of relevance. Different technical measures need to be used for different purposes. The time-weighted return is designed to calculate and compare decision makers' performance while the internal rate of return is more appropriate for the actual return on an investment. Computing limitations affected accuracy of calculations in the past, but less so now. Today, data quality is the bigger problem. Nonstandard investments such as derivatives, venture capital, property and other unquoted investment need special treatment.

Investment performance arises from luck as well as good judgement. It is important to distinguish between the two for the estimation of strengths and weaknesses of an operation. Unfortunately, it is difficult to interpret performance figures with confidence in their statistical validity in any reasonable time frame.

Higher returns are often the reward generated by taking higher risks. Risk-adjusted performance measures have been devised to allow for this. Unfortunately, risk is assumed to be the same as short-term volatility. Practitioners who do not accept this concept of risk would be equally dismissive of performance figures based on it. The choice of the appropriate benchmark is also important to avoid misplaced conclusions. Sadly, many firms manipulate the selection of benchmarks to present themselves in a favourable light.

Corporate Governance

Corporate Governance, a topical issue in the 1990s, is an aspect of the investment process impinging directly on companies. CalPERS, the giant US pension fund, was a leading force in the movement which originated in the US and is now spreading elsewhere.

Dissatisfaction with company performance was the initial motivation. Large investors are constrained by the size of their holdings from selling them readily. Bringing direct pressure to bear on management is a more feasible option. It actually brings results in terms of better company performance and higher investment returns, as CalPERS has found. The movement has now spread its wings.

Globalisation

Globalisation has already made a substantial contribution to process complexity and diversity of choice in investment. The forces which are drawing the world together have not yet run their course.

The many aspects of globalisation embrace world trade, capital flows, economic factors and industries. It influences and is influenced by the fiscal and regulatory environment worldwide. The nature of services needed by fund managers is changing, often for the better. Investment research and financial markets have to be looked at from a global perspective.

Globalisation will continue in its multifaceted way. The need for restructuring in investment management firms will become ever greater, bearing in mind that their response to the current level of globalisation is already far from adequate.

Socioeconomic Impact

Regulatory and fiscal policy are always important in fund management. The current and likely future size of the industry is such that the media and politicians will not be able to ignore it. The socioeconomic aspect of the industry will be important. The wrong image could lead to adverse regulatory and fiscal action affecting the industry's future.

Key issues in the 1990s contributing to the industry's external impact embrace corporate governance, utility of defined benefit pension schemes, securitisation, indexation, and the role of offshore funds.

The World's Top 200 Fund Managers

Rank 1990	Institution	Country	Assets under mgmt (\$bn)	Type
1	Prudential Insurance	US	209.6	IN
2	American Express	US	185.2	IM
3	Union Bank of Switzerland	Switzerland	184.9	BK
4	Nippon Life	Japan	183.4	IN
5=	Credit Suisse	Switzerland	140.0	BK
5=	Swiss Bank Corporation	Switzerland	140.0	BK
7	Metropolitan Life	US	134.0	IN
8	Zenkyoren	Japan	132.5	IN
9	Equitable Life Assurance Society	US	130.0	IN
10	Dai-ichi Mutual Life	Japan	127.9	IN
11	Fidelity Management and Research	US	118.8	IM
12	Bankers Trust	US	113.9	BK
13	Nomura Group	Japan	112.9	IM
14	Merrill Lynch	US	112.0	IM
15	Sumitomo Mutual Life	Japan	109.5	IN
16	Citicorp	US	104.7	BK
17	Sears Roebuck	US	103.0	IM
18	Post Office Life Insurance Bureau/Kampo	Japan	102.0	IN
19	Algemeen Burgerlijk Pensioenfonds	Netherlands	94.8	PF
20	JP Morgan	US	85.5	BK
21	Prudential Corporation	UK	83.5	IN
22	TIAA-CREF	US	83.1	PF
23	Wells Fargo Nikko	US	83.0	IM
24	Allianz Group	Germany	82.0	IN
25	Casissse des Depots et Consignations	France	81.1	BK

26	Mitsubishi Trust and Banking	Japan	80.2	BK
27	Aetna Life	US	80.1	IN
28	Meiji Mutual Life	Japan	74.3	IN
29	Deutsche Bank	Germany	73.1	BK
30	Sumitomo Trust & Banking	Japan	73.0	BK
31	Mitsui Trust & Banking	Japan	70.6	BK
32	Daiwa Securities Group	Japan	69.1	IM
33	Allmanna Pensionsfonden	Sweden	68.7	PF
34	Kemper Financial Services	US	68.6	IM
35=	State Street Bank & Trust	US	67.0	BK
35=	Yasuda Trust & Banking	Japan	67.0	BK
37	Mellon Bank	US	66.0	BK
38	Nikko Securities Group	Japan	65.8	IM
39	Mercury Asset Management	UK	61.4	BK
40	Capital Group	US	60.0	IM
41	Yamaichi Securities Group	Japan	59.5	IM
42	Asahi Mutual Life	Japan	58.6	IN
43	PNC Financial	US	57.0	BK
44	Credit Lyonnais Group	France	56.3	BK
45	Paribas Group	France	56.2	BK
46	Nationale-Nederlanden	Netherlands	56.0	IN
47	Vanguard Group	US	55.8	IM
48	Morgan Stanley Group	US	53.5	IM
49	The New England Investment Cos	US	53.0	IM
50	Toyo Trust & Banking	Japan	52.8	BK
51	Barclays de Zoete Wedd Investment Management	UK	51.5	BK
52	The Travelers Corporation	US	50.8	IN
53	Union des Assurances de Paris	France	50.4	IN
54=	New York Life Insurance	US	50.1	IN
54=	Northern Trust	US	50.1	BK
56	John Hancock Financial Services	US	50.0	IM
57	Scudder, Stevens & Clark	US	49.8	IM
58	Invesco MIM	UK	49.6	IM
59	Dresdner Bank Group	Germany	49.5	BK
60=	Australian Mutual Provident Society	Australia	49.0	IN
60=	Societe Generale	France	49.0	BK
62	California Public Employees	US	48.4	PF
63	Trygg-Hansa SPP Group	Sweden	47.4	IN
64=	Franklin Resources	US	46.4	IM
64=	Mitsui Mutual Life	Japan	46.4	IN
66	General Electric	US	45.0	IM
67	Xerox	US	44.9	IM
68	Banque Nationale de Paris	France	44.5	BK
69	Banc One	US	44.0	BK
70	Robert Fleming Holdings	UK	43.8	BK
71	United Asset Management	US	42.9	IM

72	Putnam Companies	US	42.0	IM
73	Wellington Management	US	41.7	IM
74	Daiwa Bank	Japan	41.2	BK
75=	Iduna Vereinigte Lebensversicherung	Germany	40.5	IN
75=	Schroder Investment Management	UK	40.5	BK
77	Yasuda Mutual Life	Japan	39.9	IN
78	Norwich Union Life Insurance	UK	39.5	IN
79	Groupe des Assurances Nationales (GAN)	France	39.3	IN
80	Zurich Insurance Group	Switzerland	39.0	IN
81	Standard Life Insurance	UK	37.2	IN
82	Pacific Mutual	US	37.1	IM
83	NY State & Local Retirement System	US	36.7	PF
84	Lombard, Odier & Cie	Switzerland	36.2	BK
85	Postel Investment Management Ltd	UK	36.1	IM
86	Legal and General Assurance	UK	35.7	IN
87	Groupe Axa	France	35.0	IN
88	Caisse de Depot et Placement du Quebec	Canada	34.0	IM
89	Assurance Generales de France	France	33.9	IN
90	Chuo Trust & Banking	Japan	33.5	BK
91	Chiyoda Mutual Life	Japan	33.3	IN
92	Taiyop Mutual Life	Japan	32.4	IN
93	T Rowe Price Associates	US	31.6	IM
94	CIGNA Investments	US	31.5	IN
95	Lloyds Bank Group	UK	31.3	BK
96	Commercial Union Assurance	UK	30.5	IN
97=	Desjardin	Canada	30.0	IN
97=	Manufacturers Life Insurance	Canada	30.0	IN
97=	Pictet & Cie	Switzerland	30.0	BK
97=	Toho Mutual Life	Japan	30.0	IN
101=	Aegon	Netherlands	29.7	IN
101=	USF&G	US	29.7	IM
103	Principal Financial Group	US	29.6	IM
104=	Primerica	US	29.4	IM
104=	Swiss Life Group	Switzerland	29.4	IN
106	Swiss Reinsurance	Switzerland	28.9	IN
107	Mitchell Hutchins	US	28.8	IM
108	First Chicago	US	28.5	BK
109=	Tokio Marine & Fire	Japan	27.8	IN
109=	Transamerica	US	27.8	IM
111=	Baring Investment Management Holdings	UK	27.6	BK
111=	Commerzbank	Germany	27.6	BK
113=	Bank of New York	US	27.1	BK

113=	Midland Bank Group	UK	27.1	BK
115	Zurcher Kantonalbank	Switzerland	27.0	BK
116	New Jersey Division of Investment	US	26.6	PF
117	Boatmen's Trust	US	26.0	BK
118	Lincoln National	US	25.9	IM
119	Massachusetts Mutual	US	25.7	IN
120	Sun Trust Banks	US	25.3	BK
121	ITT Hartford	US	25.4	IN
122=	NCNB	US	25.0	BK
122=	Winterthur Group	Switzerland	25.0	IN
124	Sun Alliance Insurance Group	UK	24.9	IN
125	Massachusetts Financial Services	US	24.6	IN?
126	New York state Teachers	US	24.5	PF
127	Royal Insurance	UK	24.3	IN
128	Skandia Group	Sweden	23.9	IN
129	Teachers Retirement System of Texas	US	23.7	PF
130	Central Provident Fund	Singapore	23.5	PF
131	National Coal Board Pension Fund (CIN Mgmt)	UK	23.4	PF
132	Banque Indosuez	France	23.2	BK
133	Northwestern Mutual Life	US	23.1	IN
134	Security Pacific	US	23.0	BK
135	Kokusai Group	Japan	22.9	IM
136	Robeco Group	Netherlands	22.8	IM
137	NM Rothschild Asset Management	UK	22.4	BK
138	First Interstate Bancorp	US	22.3	BK
139=	Kyoei Life	Japan	22.0	IN
139=	Munchener Rucknersicherungs	Germany	22.0	IN
139=	PGGM	Netherlands	22.0	PF
142	Delaware Holding	US	21.9	IM
143	Guardian Royal Exchange Assurance	UK	21.7	IN
144	Trust Co of the West	US	21.2	BK
145=	Mutual of New York (MONY)	US	21.1	IN
145=	Scottish Widows Fund & Life Assurance	UK	21.1	IN
147	Yasuda Fire & Marine	Japan	21.0	IN
148=	Corestates Financial	US	20.8	BK
148=	Harris Bankcorp	US	20.8	BK
150	National Mutual Group	Australia	20.5	IN
151=	Ameritrust	US	20.4	BK
151=	Bank Julius Baer	Switzerland	20.4	BK
153=	Miller, Anderson & Sherred	US	20.3	IM
153=	County Investment Management	UK	20.3	BK
155	C&S/Sovran	US	20.0	BK

156	Eagle Star Holdings	UK	19.9	IN
157	Confederation Life	Canada	19.7	IN
158	Ohio Public Employees Retirement Board	US	19.6	PF
159	Asahi Investment Trust	Japan	19.5	IM
160	Liberty Mutual	US	19.4	IN
161=	Goldman Sachs Asset Management	US	19.1	IM
161=	TSB Group	UK	19.1	BK
163=	Nihon Dentai Life	Japan	18.3	IN
163=	Volkspflege Lebensversicherung	Germany	18.3	IN
165=	Baltica Holding	Denmark	18.2	IN
165=	Ohio State Teachers	US	18.2	PF
167=	Daido Mutual Life	Japan	18.0	IN
167=	Great-West Life Assurance	Canada	18.0	IN
167=	Wells Fargo Bank	US	18.0	BK
170	California State Teachers	US	17.9	PF
171	State of Wisconsin Investment Board	US	17.8	PF
172	Bank of Liechtenstein	Liechtenstein	17.7	BK
173	Electricity Supply Pension Scheme	UK	17.6	PF
174=	La Baloise	Switzerland	17.5	IN
174=	US Trust Co	US	17.5	IM
176	Daihyaku Mutual Life	Japan	17.4	IN
177=	Kleinwort Benson Investment Management	UK	17.3	BK
177=	National City, Cleveland	US	17.3	BK
179=	Employees Provident Fund	Malaysia	17.1	PF
179=	Lincoln Capital Management	US	17.1	IM
181	ABN AMRO	Netherlands	16.9	BK
182=	Oppenheimer Management	US	16.6	IM
182=	Taiyo Investment Trust	Japan	16.6	IM
184	Chemical Banking Corporation	US	16.4	BK
185=	State of Michigan	US	16.3	PF
185=	Fayez Sarofin	US	16.3	IM
187	Ontario Teachers Pension Fund	Canada	16.0	PF
188=	Credit Commercial de France	France	15.9	BK
188=	Fukoku Mutual Life	Japan	15.9	IN
188=	Templeton International	Bahamas	15.9	IM
191	Victoria Feuer Versicherung	Germany	15.7	IN
192	Sun Life Corporation	UK	15.4	IN
193	Fischer Francis Trees & Watts	US	14.9	IM
194	AMEV/VSF Group	Netherlands	14.7	IN
195=	Taisho Marine & Fire	Japan	14.6	IN
195=	Sanford C Bernstein	US	14.6	IM
197=	First Bank System	US	14.5	BK
197=	Friends Provident Life Office	UK	14.5	IN
197=	Brown Brothers Harriman	US	14.5	BK

200	Allied Dunbar Assurance	UK	14.3	IN

A Quiet Flood (\$bn)				
Cross-border Investment				
	1988	1989	1990	1991
Gross Equity Flows	1,213	1,598	1,441	1,320
Net Equity Flows	21.1	92.3	11.0	102.2
Cross-exchange trading	342.6	582.9	873.9	763.5
Foreign share trading	1,555	2,181	2,315	2,083
Gross Equity Flows, % of market capitalisation	6.5	7.7	7.4	8.1

Where the Money Goes: Net Equity Flow (\$ bn)				
	1988	1989	1990	1991
Total*	21.1	92.3	11.0	102.2
Investors from:				
United States	(0.6)	20.9	11.9	43.3
Japan	3.0	17.9	6.3	3.6
Britain	7.2	29.8	(0.8)	25.8
Continental Europe	8.1	16.4	3.8	15.2
Rest of World	3.4	7.4	(10.2)	14.3
Money to:				
United States	(1.8)	11.5	(15.1)	11.0
Japan	6.8	7.0	(13.3)	46.8
Britain	4.3	3.1	4.9	5.8
Continental Europe	13.0	42.1	15.5	21.2
Rest of World	(1.2)	28.6	18.9	17.4
of which:				
Emerging Markets	(4.3)	14.8	14.0	14.3

Source: Bang Securities *Totals differ due to rounding

Table 1.1

International Equity Flows

(\$bn)

	Investors from: Market to:					
	US	Japan	UK	Cont. Europe	Rest of World	Total
US	-	17.23	12.91	7.97	5.20	43.31
Japan	1.18	-	(0.85)	0.94	2.35	3.62
UK	(0.31)	14.37	-	7.36	4.42	25.84
Cont. Europe	0.54	11.31	(2.88)	2.00	3.21	14.19
Rest of World	9.61	3.91	(3.44)	0.11	3.38	13.67
Total	11.02	46.83	5.84	18.38	18.57	100.64

Source: Baring Securities

Table 1.2

Largest Centres for Institutional Equity Investment management

Rank	City	Current Estimated Equities managed \$ Billion
1	Tokyo	1812
2	New York	421
3	London	410
4	Geneva	266
5	Zurich	247
6	Boston	165
7	Paris	142
8	Frankfurt	122
9	San Francisco	98
10	Toronto	83
11	Philadelphia	76
12	Los Angeles	74
13	Edinburgh	69
14	Chicago	58
15	Basle	52

Source: Technometrics

Table 1.3

Stock Exchange Comparisons

Figures in £bn for 1991 ranked by domestic market value

	Domestic companies quoted	Fixed Interest	Equity	Total	Domestic & Foreign New Equity	Fixed Interest	Domestic Equity	Total	Foreign companies quoted
New York	1,676	1,179	1,896	3,075	31.4	7	765	819	105
Tokyo	1,627	607	1,666	2,273	3.2	124	438	564	125
Germany	649	583	210	793	4.9	368	221	594	578
London	2,006	218	541	759	24.1	589	179	906	541
Paris	443	300	186	486	2.5	330	58	390	231
NASDAQ	3,841	0	292	292	4.4	0	375	390	253
Amsterdam	260	93	90	183	7.9	33	23	56	234
Zurich	162	50	93	143	0.2	na	na	194	243
Toronto	1,127	na	142	142	2.7	na	31	31	69
Copenhagen	256	114	27	141	1.2	193	5	198	11
Johannesburg	740	25	99	124	1.9	115	5	120	30
Brussels	182	79	38	117	0.5	1	3	5	160
Madrid	430	23	79	102	1.3	3	20	23	3
Australia	968	27	77	104	7.2	9	26	35	37
Others		1,467	1,304	2,771	32.6	438	510	954	
Total		4,765	6,740	11,505	126	2,210	2,659	5,085	

Market share, Percentages

Domestic Market values Turnover

	Fixed Interest	Equity	Total	Fixed Interest	Domestic Equity	Foreign Equity
New York	24.7	28.1	26.7	0.3	28.8	21.8
Tokyo	12.7	24.7	19.8	5.6	16.5	0.9
Germany	12.2	3.1	6.9	16.7	8.3	2.3
London	4.6	8.0	6.6	26.7	6.7	63.9
Paris	6.3	2.8	4.2	14.9	2.2	0.9
NASDAQ	0.0	4.3	2.5	0.0	14.1	6.9
Amsterdam	2.0	1.3	1.6	1.5	0.9	0.0
Zurich	1.0	1.4	1.2	0.0	0.0	0.0
Toronto	0.0	2.1	1.2	0.0	1.2	0.0
Copenhagen	2.4	0.4	1.2	8.7	0.2	0.0

Johannesburg	0.5	1.5	1.1	5.2	0.2	0.0
Brussels	1.7	0.6	1.0	0.0	0.1	0.5
Madrid	0.5	1.2	0.9	0.1	0.8	0.0
Australia	0.6	1.1	0.9	0.4	1.0	0.0
Others	30.8	19.3	24.1	19.8	19.2	2.8
Total	100.0	100.0	100.0	100.0	100.0	100.0

Source: Stock Exchange Quarterly, January - March 1992

Note: Where a country has more than one Stock exchange, only the biggest is shown

Table 1.4