

Chapter 1

International Investment: Current State and Challenges from the US Perspective

*Hung-Gay Fung**, *Xiaoqing Eleanor Xu†*
and Jot Yau‡

We discuss the growth of world financial markets with common stocks, bonds, and other new financial instruments such as futures, GDRs and ETFs. We document patterns of international capital flows and discuss their related issues, which include: 1) how capital flows affect economic growth; 2) the cost of capital; and 3) increased linkages among different markets around the world. Home bias in global investment remains an issue that is not easily explained in the light of globalization.

We also discuss patterns of foreign portfolio investments and their implications for US investors. We show the importance of various types of investments in terms of maturity and asset class. The most popular industries for foreign investors are Thrifts and Mortgage Finance, Pharmaceuticals, Metals and Mining, Paper and Forest Products, and Media and Insurance.

Keywords: Global investment; home bias; capital flows; global market linkage; cost of capital.

* College of Business Administration, University of Missouri–St. Louis, One University Boulevard, St. Louis, MO 63121, USA. Email: fungh@msx.umsl.edu.

† Stillman School of Business, Seton Hall University, 400 South Orange Avenue, South Orange, NJ 07079, USA. Email: xuxe@shu.edu.

‡ Albers School of Business and Economics, Seattle University, 901 12th Avenue, Seattle, WA 98122-1090. Email: jjau@seattleu.edu.

1. Introduction

Financial markets across the globe are overflowing with common stocks, bonds, and other financial instruments such as futures and options. In terms of market capitalization, the three largest regions are the US, the Euro area, and Japan, representing US\$47.6 trillion, US\$26.6 trillion, and US\$17.3 trillion of the financial assets, respectively (Table 1). As of 2004, equities were apparently the key driver of the growth of global financial assets and the key component in the financial markets, while bonds accounted for 36% of US\$122.6 trillion of the world's financial assets, and 40% of the US\$47.6 trillion of US financial assets.

In the past two decades, capital flows across countries have increased substantially, particularly those flows to developing countries, leading to the globalization of financial markets. In 2005, the flows of investment across borders hit US\$6 trillion, representing about only 4% of the total financial assets.¹ The relatively small amount of

Table 1. Financial Assets in the World, 2004

Countries and Regions	Total Financial Assets (US\$ billion)
US	47,612
Euro area	26,567
Japan	17,323
Emerging Asia	9,581
UK	6,710
Australia, New Zealand and Canada	5,046
Other Western Europe	3,620
Latin America	2,554
Hong Kong and Singapore	1,820
Eastern Europe	1,780
Total	122,613

Source: McKinsey & Co., *The Wall Street Journal*, January 10, 2007.

¹ Source: *The Wall Street Journal*, January 10, 2007.

international flows (although large in absolute dollar terms) compared to the total size of the entire financial system indeed represents a myth in financial theory that requires further research.

Analysis of international investment can take two approaches. The first one is investigating why investors invest across borders from an issuer's (or investor's) perspective. The reasons behind cross-border investment may include seeking higher returns with lower risk, benefits of diversification, and growth opportunities. The analysis of global investment entails different asset allocation and investment strategies along with risk management in the light of increasing price, exchange rate, and interest rate volatilities. Furthermore, we can examine alternative investment opportunities in the global financial market such as real estate, venture capital, hedge funds and managed futures. Some of the issues are discussed and presented in other chapters in the book.

The second approach to analyzing international investment is taking a broader view of the international investment issues and examining the general patterns of portfolio fund flows and their related economic issues related to cross-border investments. We take this approach in this chapter and discuss: 1) the patterns of cross-border capital investment; 2) the costs and benefits of international capital flows; 3) the limits of financial globalization such as the home bias; and 4) the development of new markets and globalization in Section 2. We will present and discuss the trends in foreign portfolio investments in the US in Section 3.

2. International Portfolio Investment Flows

2.1 Pattern of International Capital Flows

Table 2, Panel A, shows the cumulative flows of portfolio investments for different countries/regions, while Panel B indicates the annual flows from 1996 to 2004. The figures of Panel A indicate that industrial countries (such as G7, a group of seven industrialized countries) have registered the most flow of funds in the range of US\$12 trillion

Table 2. Global Capital Flows
Panel A. Cumulative Flows of Portfolio Investment 1996–2004 (US\$ billion)

		1996	1997	1998	1999	2000	2001	2002	2003	2004
G7 Countries	Outflow	4,284.96	4,921.63	6,007.09	7,304.29	7,473.95	7,225.96	7,612.37	10,087.46	12,002.40
	Inflow	5,477.51	6,295.52	7,557.04	8,922.74	9,129.95	9,155.06	9,843.18	12,704.04	15,326.88
Developed Countries/Territories (Excluding G7 Countries)	Outflow	970.09	1,094.24	1,484.04	1,866.58	2,162.63	2,757.29	4,103.39	5,648.40	3,079.69
	Inflow	1,349.32	1,592.83	2,017.80	2,453.25	2,723.09	3,050.80	4,305.15	5,776.38	3,483.35
Developing Countries	Outflow	40.88	58.44	70.64	108.67	119.60	99.22	110.84	152.20	122.52
	Inflow	185.77	254.94	268.07	307.94	333.26	633.45	638.89	756.57	815.02
Asia	Outflow	943.43	914.14	1,070.41	1,260.21	1,507.51	1,597.03	1,768.97	2,219.36	2,603.12
	Inflow	601.94	657.74	709.82	1,283.54	1,168.75	1,091.28	1,021.16	1,380.04	1,747.23
Europe	Outflow	1,780.05	2,149.28	3,040.70	3,821.75	4,153.49	4,656.66	6,294.51	8,631.15	6,658.10
	Inflow	3,424.97	4,003.12	5,204.95	6,025.23	6,396.36	6,590.09	8,403.06	11,266.76	10,110.37

(Continued)

Table 2. (Continued)

Panel A. Cumulative Flows of Portfolio Investment 1996–2004 (US\$ billion)

		1996	1997	1998	1999	2000	2001	2002	2003	2004
North America	Outflow	1,566.60	1,842.40	2,172.23	2,676.51	2,564.99	2,320.29	2,249.85	3,147.98	3,648.77
	Inflow	2,607.81	3,089.22	3,532.80	3,919.90	4,187.60	4,484.23	4,682.45	5,695.73	6,763.98
Latin America	Outflow	33.04	40.69	45.35	58.49	60.89	44.63	44.56	59.29	71.69
	Inflow	115.60	141.89	138.87	141.35	131.99	377.74	342.39	406.91	468.16
Oceania	Outflow	47.84	48.88	55.13	79.61	87.25	91.44	105.36	150.16	191.95
	Inflow	238.09	223.33	226.17	272.40	267.45	272.91	306.96	444.82	540.51
Africa	Outflow	3.11	12.39	18.87	42.59	46.79	31.79	32.22	45.69	
	Inflow	25.54	29.52	32.31	44.00	38.11	27.34	37.53	48.66	
Total Cumulative Flows	Outflow	4,374.06	5,007.78	6,402.69	7,939.17	8,420.92	8,741.85	10,495.46	14,253.63	13172.90
	Inflow	7,013.95	8,144.82	9,844.92	11,686.41	12,190.26	12,843.59	14,793.55	19,242.93	19627.33

Table 2. (Continued)

Panel B. Annual Change in Flows of Portfolio Investment 1997–2004 (US\$ billion)

		1997	1998	1999	2000	2001	2002	2003	2004
G7 Countries	Outflow	636.67	1,085.46	1,297.20	169.66	-247.99	386.41	2,475.09	1,914.94
	Inflow	818.01	1,261.52	1,365.70	207.21	25.11	688.12	2,860.86	2,622.84
Developed Countries/Territories (Excluding G7 Countries)	Outflow	124.15	389.80	382.54	296.05	594.66	1,346.10	1,545.01	-2,568.71
	Inflow	243.51	424.97	435.45	269.84	327.71	1,254.35	1,471.23	-2,293.03
Developing Countries	Outflow	17.56	12.20	38.04	10.93	-20.38	11.63	41.36	-29.68
	Inflow	69.17	13.13	39.87	25.32	300.20	5.44	117.68	58.45
Asia	Outflow	-29.28	156.27	189.80	247.30	89.52	171.94	450.39	383.76
	Inflow	55.80	52.08	573.72	-114.79	-77.47	-70.12	358.89	367.18
Europe	Outflow	369.24	891.42	781.05	331.74	503.17	1,637.84	2,336.64	-1,973.05
	Inflow	578.15	1,201.83	820.27	371.14	193.72	1,812.97	2,863.70	-1,156.39
North America	Outflow	275.80	329.83	504.28	-111.52	-244.70	-70.44	898.13	500.79
	Inflow	481.41	443.58	387.10	267.70	296.63	198.22	1,013.28	1,068.25

(Continued)

Table 2. (Continued)

Panel B. Annual Change in Flows of Portfolio Investment 1997–2004 (US\$ billion)

		1997	1998	1999	2000	2001	2002	2003	2004
Latin America	Outflow	7.65	4.66	13.15	2.40	-16.26	-0.07	14.73	12.41
	Inflow	26.29	-3.03	2.48	-9.36	245.75	-35.35	64.52	61.25
Oceania	Outflow	1.04	6.25	24.48	7.64	4.19	13.92	44.80	41.79
	Inflow	-14.76	2.84	46.23	-4.95	5.46	34.05	137.86	95.69
Africa	Outflow	9.28	6.48	23.72	4.20	-15.00	0.43	13.47	
	Inflow	3.98	2.79	11.69	-5.89	-10.77	10.19	11.13	
Total Annual Change in Flows	Outflow	633.72	1,394.91	1,536.48	481.75	320.92	1,753.62	3,758.17	-1,034.30
	Inflow	1,130.87	1,700.10	1,841.49	503.85	653.33	1,949.96	4,449.38	435.98

Notes:

1. Source of data: International Monetary Fund *IFS* CD-ROM Version 1.1.55.

2. G7 Countries include the US, Canada, France, Germany, Japan, Italy, and the UK; Asia includes China, Japan, and 22 other countries; North America includes the US and Canada; Latin America includes Mexico, Brazil, and 14 other countries; Oceania includes Australia and New Zealand and Africa includes Angola and 22 other countries.

outflows and US\$15 trillion inflows of capital. Panel B shows that in 2001, the annual capital fund outflows were abruptly and substantially reduced because of the September 11 terrorist attack in the US. One interesting pattern is that only the G7 countries had experienced growth in foreign portfolio flows, whereas other developed countries, including Europe, experienced a decline in the portfolio flows after September 11. Asian countries had growth in both inflows and outflows of foreign investments.

Table 3 presents the statistics of the capital flows in and out of the equity capital markets for various countries and regions. The equity market is an important driving force behind international fund flows that entail more risk. Figures in Table 3, Panel A, indicate the cumulative flow of funds to the equity market, which in general are quite consistent and stable across time and within geographic regions. The G7 countries are the major recipients of foreign equity funds and key investors in other countries' equity. The Asian market is a growing market. Panel B of Table 3 presents the change in annual flows. Similar to the patterns in Table 2, we find a drop in capital flows to the equity markets (such as G7 and Europe) during 2000–2002.

Panel A of Table 4 shows the cumulative capital flows to the bond market, while Panel B shows the annual flows. Again, the G7 countries are the largest recipients of the inflows and outflows. Investors are primarily interested in government bills and bond markets, which are much safer than equity markets. Panel B of Table 4 shows that the effect of global sentiments of the terrorist attack on the bond market was much less than that of the stock market, most likely due to the nature of the government securities.

2.2 Costs and Benefits of International Capital Flows

The dismantling of the restrictions on capital flows during the past three decades has led to growth in the globalization of financial markets and international capital flows. It has been suggested that development of a global financial market reduces the cost of capital worldwide and hence enhances the financial and economic growth of the country. At the same time, there are also costs associated with

Table 3. Capital Flows of Equity
Panel A. Cumulative Flows of Equity 1996–2004 (US\$ billion)

		1996	1997	1998	1999	2000	2001	2002	2003	2004
G7 Countries	Outflow	1,907.17	2,273.24	2,821.94	3,979.65	3,940.05	3,484.98	3,100.41	4,414.60	5,410.31
	Inflow	1,729.33	2,198.69	2,921.86	4,227.92	4,015.58	3,516.60	2,978.98	4,228.44	5,003.21
Developed Countries (Excluding G7 Countries)	Outflow	420.13	495.28	673.01	951.01	1,098.93	1,202.05	1,416.79	2,063.44	1,277.86
	Inflow	596.59	759.44	1,049.95	1,382.81	1,529.39	1,615.83	2,402.42	3,201.49	1,569.46
Developing Countries	Outflow	4.12	13.90	21.95	50.03	54.73	46.50	50.38	70.84	40.35
	Inflow	49.18	78.83	74.17	90.47	92.04	210.19	208.20	285.83	315.84
Asia	Outflow	155.31	159.47	211.60	288.46	355.23	360.57	350.10	481.85	636.96
	Inflow	325.55	310.03	332.10	889.06	752.38	655.93	598.87	920.07	1,177.63
Europe	Outflow	1,067.46	1,291.84	1,688.53	2,477.74	2,654.79	2,527.83	2,594.48	3,670.42	3,258.83
	Inflow	1,241.22	1,627.27	2,304.37	3,003.84	3,057.78	2,853.37	3,407.87	4,601.98	3,226.02

(Continued)

Table 3. (Continued)
Panel A. Cumulative Flows of Equity 1996–2004 (US\$ billion)

		1996	1997	1998	1999	2000	2001	2002	2003	2004
North America	Outflow	1,069.67	1,280.41	1,556.10	2,106.98	1,968.54	1,738.81	1,511.11	2,230.22	2,675.16
	Inflow	706.94	988.86	1,292.38	1,659.39	1,701.28	1,621.33	1,386.87	1,891.41	2,160.91
Latin America	Outflow	0.60	1.87	4.79	9.14	8.96	13.05	15.98	25.80	31.88
	Inflow	25.52	35.35	25.29	20.53	12.78	101.77	79.30	120.94	163.77
Oceania	Outflow	35.93	37.84	41.27	61.49	65.74	67.00	72.67	106.24	132.67
	Inflow	61.41	61.35	73.20	101.00	89.48	93.25	92.98	147.84	158.62
Africa	Outflow	2.47	11.03	15.98	38.55	42.50	28.77	28.07	39.89	
	Inflow	14.59	14.26	18.79	27.73	23.77	17.21	24.64	34.54	
Total Cumulative Flows	Outflow	2,331.44	2,782.46	3,518.27	4,982.36	5,095.76	4,736.03	4,572.41	6,554.42	6,735.50
	Inflow	2,375.23	3,037.12	4,046.13	5,701.55	5,637.47	5,342.86	5,590.53	7,716.78	6,886.95

Table 3. (Continued)

Panel B. Annual Change in Flows of Equity 1997–2004 (US\$ billion)

		1997	1998	1999	2000	2001	2002	2003	2004
G7 Countries	Outflow	366.07	548.70	1,157.71	-39.60	-455.07	-384.57	1,314.19	995.71
	Inflow	469.36	723.17	1,306.06	-212.34	-498.98	-537.62	1,249.46	774.77
Developed Countries (Excluding G7 Countries)	Outflow	75.15	177.73	278.00	147.92	103.12	214.74	646.65	-785.58
	Inflow	162.85	290.51	332.86	146.58	86.44	786.59	799.07	-1,632.03
Developing Countries	Outflow	9.78	8.05	28.08	4.70	-8.23	3.88	20.46	-30.49
	Inflow	29.65	-4.66	16.30	1.57	118.15	-1.99	77.63	30.01
Asia	Outflow	4.16	52.13	76.86	66.77	5.34	-10.47	131.75	155.11
	Inflow	-15.52	22.07	556.96	-136.68	-96.45	-57.06	321.20	257.56
Europe	Outflow	224.38	396.69	789.21	177.05	-126.96	66.65	1,075.94	-411.59
	Inflow	386.05	677.10	699.47	53.94	-204.41	554.50	1,194.11	-1,375.96
North America	Outflow	210.74	275.69	550.88	-138.44	-229.73	-227.70	719.11	444.94
	Inflow	281.92	303.52	367.01	41.89	-79.95	-234.46	504.54	269.50

(Continued)

Table 3. (Continued)
Panel B. Annual Change in Flows of Equity 1997–2004 (US\$ billion)

		1997	1998	1999	2000	2001	2002	2003	2004
Latin America	Outflow	1.27	2.92	4.35	-0.18	4.09	2.93	9.82	6.08
	Inflow	9.83	-10.06	-4.76	-7.75	88.99	-22.47	41.64	42.83
Oceania	Outflow	1.91	3.43	20.22	4.25	1.26	5.67	33.57	26.43
	Inflow	-0.06	11.85	27.80	-11.52	3.77	-0.27	54.86	10.78
Africa	Outflow	8.56	4.95	22.57	3.95	-13.73	-0.70	11.82	
	Inflow	-0.33	4.53	8.94	-3.96	-6.56	7.43	9.90	
Total Annual Change (no double counting)	Outflow	451.02	735.81	1,464.09	113.40	-359.73	-163.62	1,982.01	220.97
	Inflow	661.89	1,009.01	1,655.42	-64.08	-294.61	247.67	2,126.25	-795.29

Notes:

1. Source of data: International Monetary Fund *IFS* CD-ROM Version 1.1.55.

2. G7 Countries include the US, Canada, France, Germany, Japan, Italy, and the UK; Asia includes China, Japan, and 22 other countries; North America includes the US and Canada; Latin America includes Mexico, Brazil, and 14 other countries; Oceania includes Australia and New Zealand and Africa includes Angola and 22 other countries.

Table 4. Capital Flows of Bonds
Panel A. Cumulative Flows of Bonds 1996–2004 (US\$ billion)

		1996	1997	1998	1999	2000	2001	2002	2003	2004
G7 Countries	Outflow	2,377.80	2,648.40	3,185.15	3,324.62	3,533.89	3,740.96	4,511.97	5,672.86	6,592.09
	Inflow	3,748.18	4,096.84	4,635.18	4,694.84	5,114.40	5,638.48	6,864.19	8,475.60	10,323.67
Developed Countries (Excluding G7 Countries)	Outflow	549.98	598.96	811.04	915.57	1,063.69	1,555.21	2,686.62	3,584.97	1,801.85
	Inflow	752.70	833.35	967.84	1,070.45	1,193.71	1,434.98	1,902.76	2,574.93	1,913.89
Developing Countries	Outflow	35.42	44.46	48.63	58.61	64.89	52.04	59.78	79.01	82.11
	Inflow	136.57	176.08	193.87	217.50	241.18	423.25	430.64	470.75	499.17
Asia	Outflow	788.12	754.64	858.78	971.72	1,152.28	1,236.46	1,418.87	1,737.53	1,966.16
	Inflow	276.39	347.71	377.71	394.49	416.36	435.35	422.28	459.96	569.59
Europe	Outflow	1,642.25	1,934.00	2,523.04	2,699.02	2,850.77	3,488.44	5,060.58	6,631.10	5,465.70
	Inflow	2,183.73	2,375.83	2,900.56	3,021.43	3,338.62	3,736.72	4,995.20	6,664.83	6,884.38

(Continued)

Table 4. Capital Flows of Bonds
Panel A. Cumulative Flows of Bonds 1996–2004 (US\$ billion)

		1996	1997	1998	1999	2000	2001	2002	2003	2004
North America	Outflow	496.94	562.00	616.13	569.52	596.45	581.47	738.75	917.76	973.61
	Inflow	1,900.88	2,100.36	2,240.42	2,260.51	2,486.33	2,862.90	3,295.56	3,804.32	4,603.07
Latin America	Outflow	32.45	38.80	40.58	49.33	51.91	31.57	28.58	33.50	39.81
	Inflow	90.06	106.54	113.57	120.82	119.21	275.97	263.08	285.98	304.37
Oceania	Outflow	11.92	11.04	13.86	18.11	21.51	24.43	32.69	43.93	59.28
	Inflow	176.68	161.98	152.97	171.40	177.97	179.66	213.98	296.97	381.89
Africa	Outflow	0.64	1.35	2.87	4.04	4.31	2.38	3.46	3.44	
	Inflow	10.94	15.25	13.51	16.27	14.31	10.14	12.86	14.13	
Total Cumulative Flows	Outflow	2,972.32	3,301.83	4,055.26	4,311.74	4,677.23	5,364.75	7,282.93	9,367.26	8,504.56
	Inflow	4,638.68	5,107.67	5,798.74	5,984.92	6,552.80	7,500.74	9,202.96	11,526.19	12,743.30

(Continued)

Table 4. (Continued)
Panel B. Annual Change in Flows of Bonds 1997–2004 (US\$ billion)

		1997	1998	1999	2000	2001	2002	2003	2004
G7 Countries	Outflow	270.60	536.75	139.47	209.27	207.07	771.01	1,160.89	919.23
	Inflow	348.66	538.34	59.66	419.56	524.08	1,225.71	1,611.41	1,848.07
Developed Countries/Territories (Excluding G7 Countries)	Outflow	48.98	212.08	104.53	148.12	491.52	1,131.41	898.35	-1,783.12
	Inflow	80.65	134.49	102.61	123.26	241.27	467.78	672.17	-661.04
Developing Countries	Outflow	9.04	4.17	9.98	6.28	-12.85	7.74	19.23	3.10
	Inflow	39.51	17.79	23.63	23.68	182.07	7.39	40.11	28.42
Asia	Outflow	-33.48	104.14	112.94	180.56	84.18	182.41	318.66	228.63
	Inflow	71.32	30.00	16.78	21.87	18.99	-13.07	37.68	109.63
Europe	Outflow	291.75	589.04	175.98	151.75	637.67	1,572.14	1,570.52	-1,165.40
	Inflow	192.10	524.73	120.87	317.19	398.10	1,258.48	1,669.63	219.55
North America	Outflow	65.06	54.13	-46.61	26.93	-14.98	157.28	179.01	55.85
	Inflow	199.48	140.06	20.09	225.82	376.57	432.66	508.76	798.75

(Continued)

Table 4. (Continued)
Panel B. Annual Change in Flows of Bonds 1997–2004 (US\$ billion)

		1997	1998	1999	2000	2001	2002	2003	2004
Latin America	Outflow	6.35	1.78	8.75	2.58	-20.34	-2.99	4.92	6.31
	Inflow	16.48	7.03	7.25	-1.61	156.76	-12.89	22.90	18.39
Oceania	Outflow	-0.88	2.82	4.25	3.40	2.92	8.26	11.24	15.35
	Inflow	-14.70	-9.01	18.43	6.57	1.69	34.32	82.99	84.92
Africa	Outflow	0.71	1.52	1.17	0.27	-1.93	1.08	-0.02	
	Inflow	4.31	-1.74	2.76	-1.96	-4.17	2.72	1.27	
Total Annual Change	Outflow	329.51	753.43	256.48	365.49	687.52	1,918.18	2,084.33	-859.26
	Inflow	468.99	691.07	186.18	567.88	947.94	1,702.22	2,323.23	1,231.24

Notes:

1. Source of data: International Monetary Fund *IFS* CD-ROM Version 1.1.55.

2. G7 Countries include the US, Canada, France, Germany, Japan, Italy, and the UK; Asia includes China, Japan, and 22 other countries; North America includes the US and Canada; Latin America includes Mexico, Brazil, and 14 other countries; Oceania includes Australia and New Zealand and Africa includes Angola and 22 other countries.

globalization, such as spillover effects from crises. We discuss these benefits and costs in the following sections.

2.2.1 *Economic Growth*

It has been asserted that financial development through liberalization promotes economic growth. However, previous studies find mixed evidence on this assertion. While some studies provide evidence in support of the positive role of financial development on economic growth, others provide little evidence.

Xu (2000) examines the effects of permanent financial development on domestic investment and output in 41 countries. The results indicate that there is strong evidence that financial development is important to growth and that investment is an important channel through which financial development affects economic growth. Rioja and Valev (2004), using data from 74 countries, find that financial development has a strong positive influence on productivity growth and output.

Love (2003) provides evidence showing that financial development impacts economic growth by reducing financing constraints that would otherwise distort the efficient allocation of investment. The magnitude of the changes in the cost of capital in a country with a low level of financial development is twice as large as in a country with an average level of financial development.

Arestis *et al.* (2001) use time series model from five developed countries (France, Germany, Japan, the UK, and the US) to show that banks play a more important role in promoting growth than the stock market. The results imply that the contribution of the stock market to economic growth has been exaggerated. Similarly, Manning (2003) shows that bank finance is of particular importance for growth in non-OECD member countries, but their tests suffer from the identification problem where the effect of financial development is correlated with factors. From a somewhat different perspective, Andersen and Tarp (2003) provide empirical evidence questioning the assertion that financial development leads to economic growth, because increased competition in the financial sector may disturb prudent bank behavior.

The rational interpretation of these mixed results suggest that there may be limits of globalization on growth, which may probably be due to the home bias in global investments (to be discussed below) and the existence of barriers for global investments that include information barriers and government regulations.

2.2.2 Cost of Capital

In the past two decades, a pattern of increasing integration of international markets has emerged. Barriers to international investments among developed economies have slowly and steadily diminished. As a result, the global risk factors are expected to be increasingly important for portfolio selection. Recent empirical evidence has shown that global factors, particularly the exchange rate, affect the pricing of securities. In contrast, the evidence on the lowering of the cost of capital from the stock market is less compelling.

Investors who can move capital freely across countries would probably do so in order to diversify their portfolios. That is, they can form a portfolio with lower risk with the same return or same risk with higher return. DeSantis and Gerard (1997) show that a portfolio diversified internationally among ten major developed countries could have the same volatility with a higher return of 2.5%. Adding emerging markets to this portfolio would lead to more gains from diversification.

If some of the portfolio risks can be diversified away, one would expect the cost of the capital of a firm to be lower. An international capital asset pricing model would be appropriate for evaluating the impact of the global factor on the cost of capital. Koedijk and Dijk (2004) use an international capital asset pricing model to examine if the global risk factor indeed lowers the cost of capital in an integrated financial market. They have presented evidence that global risk factors are not vitally important for practical cost of capital calculations, a surprising result which contradicts expectation.

Bekaert and Harvey (1997) argue that the ratio of the dividend to the share price is a good proxy for the cost of capital. They find that the ratio declines as a country liberalizes, but the decline is relatively

small (less than 1%). Their results suggest that the impact of globalization on the cost of capital for a country is limited. Again, this may be the result of limited foreign investments in the liberalized financial market of these countries (home bias).

2.2.3 Increased Financial Linkages

Financial markets are linked together if capital flows can move freely from one country to another. It is conceivable that the news from one country could significantly affect a market in another country or location. Xu and Fung (2002) investigate the pricing linkages of dually listed American Depository Receipts in the US and China, while Fung *et al.* (2001) show pricing relationships in futures contracts. Both studies demonstrate strong pricing linkages among the same assets traded in different locations. Thus, it seems clear that the risk premium of an asset would be determined globally, not locally, if the financial market is, indeed, fully integrated. Chan *et al.* (1992) show that the risk premiums on the US and Japanese markets are linked together, inferring a strong co-movement between the two markets.

Goldstein and Folkerts-Landau (1994) document an increased correlation for the 10-year yields in the seven largest developed countries and the US 10-year bond yield. Moreover, Ilmanen (1995) provides evidence that there is a strong common factor in interest rate movements across developed countries. These results indicate that there are common forces driving the debt market in individual countries because of the globalization of financial markets.

Increase in correlation of stock returns across countries over time is less obvious, but the contagion effect across market is apparent. Bekaert and Harvey (1997) find that only nine of the 17 emerging markets show higher correlation over time, implying weak evidence of increased correlation over time. However, it is apparent that there is evidence of a contagion effect among financial markets during a financial crisis. Chan-Lau *et al.* (2004) argue that contagion can be understood as the probability of observing large return realizations simultaneously across different financial markets, but contagion effects are not necessarily related to increased correlation in returns

across markets. They show that contagion effects differ significantly across markets. Goh *et al.* (2005) report strong contemporaneous co-movements among five ASEAN countries during the 1997 Asian currency crisis but no increase in correlation across markets over time. Beakert *et al.* (2005) provide evidence of contagion in a model allowing for time variation of market integration.

2.3 Home Bias

There is ample evidence that investors overweigh domestic stocks in their investment portfolio, suggesting a home bias in global investments. Various reasons have been suggested to explain the home bias by invoking market imperfections such as departures from purchasing power parity, information asymmetries between domestic, higher transaction cost, investment barriers of trading imposed by foreign governments, and over-optimism of domestic investors toward domestic assets (Karolyi and Stulz, 2003; Lewis, 1999).

As assets in developing countries are primarily controlled by family owners as the large shareholder, there appears to be a close relation between corporate governance and portfolios held by investors, a result that explains the home bias pattern of global investments (Dahlquist *et al.*, 2003; La Porta *et al.*, 2002).

Stulz (2003) suggests that rulers of sovereign states and corporate insiders pursue their own interests at the expense of the outside investors, constituting the “twin agency problems.” The resulting ownership concentration in countries limits the inflows of capital into these countries and thus their economic growth, and financial development.

Table 5, Column (a), shows the US holdings of foreign long-term securities. The amount of foreign holdings increased over time from US\$870 billion in 1994 to US\$3.57 trillion in 2005. At the same time, the foreign holdings of US long-term financial assets also increased dramatically from US\$1.24 trillion in 1994 to US\$6.26 trillion in 2005, representing 15.8% of the US long-term securities outstanding. The ratios reflecting the US holdings of foreign assets to total US outstanding securities show an increasing trend from 5.5% in 1994 to 9.0% in 2005. If US investors really intend to diversify fully across the global

Table 5. Holdings of Long-Term Securities by US Investors Offshore and by Foreign investors in the US (US\$ billion)

Year	US holdings of foreign L/T securities (a)	Foreign holdings of US L/T securities (b)	a/b % (c)	US L/T securities (d)	a/d % outstanding (e)
1994/12	870	1,244	70	15,700	5.5
2002/06	2,129	3,926	54	32,169	6.6
2003/06	2,367	4,503	53	33,443	7.1
2004/06	3,027	5,431	56	37,499	8.1
2005/06	3,574	6,262	57	39,583	9.0

Column (c) is the ratio (%) of US holdings of foreign long-term (L/T) securities, while column (e) is the ratio (%) of US holdings securities to total US long-term securities outstanding.

Source: Computed from the data from the Department of Treasury, www.ustreas.gov/tic.

securities, we expect these ratios to be large. As they are less than 10% of the US total issues of securities, they are relatively small because the size of the US economy is about one-third of the global economy. The statistics in Table 5 suggest that home bias remains pertinent in the US global investments, although the degree of home bias has declined over time in terms of long-term securities.

2.4 Development of New Markets and Globalization

One advantage of globalization is the proliferation of new markets that enable investors to invest abroad and hedge the risks associated with investments. The creation of new markets takes several forms. First, the growth of global depository receipts (GDRs) has enabled investors across the globe to invest in foreign securities. At the same time, securities in emerging markets, once restricted to foreign investors, have become available to global investors through listing in offshore markets. For example, as of December 31, 2006, 451 of the 2,764 stocks listed on the New York Stock Exchange are by non-US companies.

Second, the development of exchange-traded funds (ETFs) market has become phenomenal. In particular, ETFs have become increasingly important in the US. For example, they now account for more than half of the daily trading volume on the American Stock Exchange (AMEX). As of March 2007, there are 44 international ETFs tracking equity markets from different countries or regions traded on AMEX. It seems that the product trajectory is upward because these instruments offer lower cost and more flexibility to investors who are interested in investing in international financial markets. In brief, investors can participate in both continuous long and short positions, which are available throughout the trading hours of the day.

Third, for securities such as Eurodollar, currency, and government bond futures that have been traded in different parts of the global market, their pricing has been thoroughly examined by researchers and market participants to ensure consistency throughout the world for profit motives. The round-the-clock trading enhances the price discovery function, synchronized pricing of securities, information flow, and efficiency of the global market.

Fourth, trading methods differ across market types, such as auction and market-makers. In addition, electronic trading across markets has been used to ensure rapid information dissemination and price recovery. The electronic trading offers an efficient way of trading worldwide, enabling transparency of the prices as investors can observe these prices quickly.

Fifth, the globalization of venture capital (VC) funds has allowed US investors to invest in creative innovation and entrepreneurship ventures outside the US, including international venture capital hotbeds in Europe, China, Israel, and India (Table 6).

Finally, new products are created to overcome domestic market impediments. For example, the rise of non-delivery forward contracts (NDFs) is a case in point. The NDFs provide investor a way to hedge risks associated with non-convertible currencies whose prices may be misaligned. These products help globalize the different segments of the world market into one market that offers investors opportunities for risk-taking or hedging purposes.

Table 6. Global Venture Capital Hotbeds (2005)

Country	VC Investments (US\$ billion)	VC Investing Rounds
US	22.1	2239
Europe	4.3	1020
UK	1.2	307
France	0.8	213
Germany	0.6	106
Sweden	0.3	96
China	1.1	233
Israel	1.1	171
India	1.1	92

Source: Ernst & Young Global Venture Capital Report 2006.

3. Foreign Portfolio Investments in the US

In recent years, securities have replaced bank lending as the primary means for cross-border fund flows (Bertaut and Grier, 2004). When the US needs external financing, the US government and corporations can directly issue securities (debts and stocks) to raise external funds, instead of relying on global bank loans. As a result, the percentage of foreign ownership of US securities has sharply increased as shown in Table 7.

The resulting foreign holdings of US securities reveal several interesting characteristics. First, foreign investors hold more US debts than US equities. Second, the visible foreign holding of short-term US debts is only a recent phenomenon because the debts held by foreign investors are largely long-term. The long-term debts issued are primarily the US Treasuries, US agencies, and corporates. Third, in recent years, foreign investors appear to be more interested in holding corporate bonds, whose amount exceeds that of the US Treasuries since 2002.

Table 8 shows the value of foreign holdings of US securities by countries. The total amount of foreign investments in the US market was about US\$6.86 trillion. Most of the foreign funds were invested in the US equity market (US\$2.1 trillion). The second category was in the corporate bonds market, which amounted to US\$1.73 trillion.

Table 7. Foreign Holdings of US Securities (US\$ billion)

Types	1984/12	1989/12	1994/12	2000/3	2002/6	2003/6	2004/6	2005/6
Long-term securities	268	847	1,244	3,558	3,926	4,503	5,431	6,262
Equities	105	275	398	1,709	1,395	1,564	1,930	2,144
Debt	163	475	846	1,849	2,531	2,939	3,501	4,118
US Treasury	118	333	464	884	908	1,116	1,426	1,599
US agency	13	48	107	261	492	586	619	791
Corporate	32	191	276	703	1,130	1,236	1,455	1,729
Short-term debt	n/a	n/a	n/a	n/a	412	475	588	602
US Treasury	n/a	n/a	n/a	n/a	232	269	317	284
US agency	n/a	n/a	n/a	n/a	88	97	124	150
Corporate	n/a	n/a	n/a	n/a	92	110	147	168
Total	n/a	n/a	n/a	n/a	4,338	4,979	6,019	6,864

Note: n/a denotes not available.

Source: Department of Treasury, www.ustreas.gov/tic.

Table 8. Value of Foreign Holdings of US Securities by Countries, June 30, 2005 (US\$ billion)

Country	Total	Equity	Long-Term Debt			Short-Term Debt
			Treasury	Agency	Corporate	
Japan	1,091	178	572	140	103	100
UK	560	260	45	23	215	16
China, PR	527	3	277	172	36	40
Luxembourg	460	151	30	33	208	37
Cayman Islands	430	151	30	42	180	26
Belgium	335	18	13	51	248	5
Canada	308	221	14	4	55	13
Netherlands	262	161	17	18	58	8
Switzerland	238	129	29	11	55	15
Bermuda	202	59	24	28	70	20
Country unknown	196	2	*	*	193	1
Rest of world	2,254	811	546	266	310	322
Total	6,864	2,144	1,599	791	1,729	602

Note: *denotes amount less than \$500,000.

Source: Department of Treasury, www.ustreas.gov/tic.

The third category was the US Treasury and Agency debts, which totaled about US\$1.6 trillion. Japan and China were the two largest investors in the US Treasury and Agency debt markets, while the UK and Japan were the two largest countries investing in the US equity market.

In light of the heavy investment of foreign money in the corporate equity and debt market, it is interesting to see which industries have attracted most foreign investors. Table 9 shows the top ten foreign holdings of US securities by individual countries in 2005. The top five popular industries ranked by foreign investors with the amount of investment in parentheses are: Pharmaceuticals (US\$133.2 billion), Thrifts and Mortgage Finance (US\$130.9 billion), Media (US\$120.0 billion), Oil and Gas (US\$110.6 billion), and Insurance (US\$107.1 billion).

Pharmaceuticals and Oil and Gas were also two popular industries for foreign investors in 2005, while the corporate debt instruments were in the Thrifts and Mortgage Finance (US\$117.7 billion) and

Table 9. Top 10 Foreign Holdings of US Securities by Industry, June 20, 2005 (US\$ billion)

Industry	Total	Equity	ST Debt	LT Debt	
Pharmaceuticals		133.2	122.1	0.0	11.1
Thriffs and mortgage Finance	130.9	13.0	0.2	117.7	
Media	120.0	84.4	0.0	35.5	
Oil and Gas	110.6	107.2	0.3	3.1	
Insurance	107.1	81.8	0.0	25.3	
Metals and Mining	78.8	21.6	0.7	56.6	
Software	73.4	72.0	0.0	1.5	
Specialty Retail	58.7	44.9	0.6	13.3	
Paper and Forest Products	57.3	13.8	0.0	43.5	
Personal Products	37.1	31.8	0.4	4.9	
All foreign holdings	6,864.3	2,143.9	602.0	4,118.4	

Source: Department of Treasury, www.ustreas.gov/tic.

Metals and Mining (US\$56.6 billion), reflecting the attractiveness of steady cash flows from these industries to bondholders.

4. Conclusions

This chapter discusses the growth of the world financial markets with common stocks, bonds, and other new financial instruments such as GDRs, ETFs, and derivatives. In terms of market capitalization, the three largest regions are the US, the Euro area, and Japan. We document patterns of international capital flows and discuss various issues related to capital flows. That is, how capital flows affect economic growth, the cost of capital, and increased linkages among different markets around the world. However, home bias remains an issue that is not easily explained in light of globalization.

We also discuss patterns of foreign portfolio investments in the US, and vehicles of investment in terms of: 1) maturity — short-term versus long-term investments; and 2) asset class — equities versus debt instruments. Finally, we discuss which US industries have attracted the interest of foreign investors. We find that the most popular industries for foreign investors have been Thrifts and Mortgage Finance,

Pharmaceuticals, Metals and Mining, Paper and Forest Products, and Media and Insurance.

Although we have observed an increasing growth of capital flows in the past two decades, there have been renewed barriers established restricting foreign direct investments in recent years in different countries from Canada to China, because of the fear of intense competition and national security issues (*The Wall Street Journal*, July 6, 2007). The extent of the adverse effects rising from these restrictions of foreign investments on the overall capital flows across borders merits investigation. In addition, the ebbs and flows of market impediments related to capital flows across countries represent an interesting phenomenon that is worth studying in future research.

References

- Andersen, T. B. and F. Tarp, 2003, Financial liberalization, financial development, and economic growth in LDCs, *Journal of International Development*, 15, 189–209.
- Arestis, P., P. O. Demetriades, and K. B. Kuintel, 2001, Financial development and economic growth: The role of the stock market, *Journal of Money, Credit, and Banking*, 33(1), 16–41.
- Bekaert, G. and C. R. Harvey, 1997, Emerging equity market volatility, *Journal of Financial Economics*, 43, 29–77.
- Bekaert, G., C. R. Harvey, and A. Ng, 2005, Market Integration and contagion, *Journal of Business*, 78(1), 39–69.
- Bertaut, C. C. and W. L. Grier, 2004, Recent developments in cross-border investments in securities, *Federal Reserve Bulletin*, Winter, 19–31.
- Chan, K. C., G. A. Karolyi, and R. M. Stulz, 1992, Global financial markets and the risk premium on US equity, *Journal of Financial Economics*, 32, 137–168.
- Chan-Lau, J. A., D. J. Mathieson, and J. Y. Yao, 2004, Extreme contagion in equity markets, *IMF Staff Paper*, 51(2), 386–408.
- Dahlquist, M., L. Pinkowitz, R. M. Stulz, and R. Williamson, 2003, Corporate governance and the home bias, *Journal of Financial and Quantitative Analysis*, 38(1), 87–110.
- DeSantis, G. and B. Gerard, 1997, International asset pricing and portfolio diversification with time-varying risk, *Journal of Finance*, 52, 1991–1913.

- Fung, H. G., W. K. Leung, and X. Xu, 2001, The information role of US futures trading in a global financial market, *Journal of Futures Market*, 21, 1090–2001.
- Goh, K. L., Y. C. Wong, and K. L. Kok, 2005, Financial crisis and intertemporal linkages across the ASEAN-5 stock markets, *Review of Quantitative Finance and Accounting*, 24, 359–377.
- Goldstein, M. and D. Folkerts-Landau, 1994, International capital markets: Development, prospects, and policy issues, *International Monetary Fund*, Washington, D.C.
- Ilmanen, A. 1995, Time-varying expected returns in international bond markets, *Journal of Finance*, 50, 481–506.
- Karolyn, A. and R. M. Stulz, 1997, Are financial assets priced locally or globally? In *Handbook of the Economics of Finance*, G. Constantinides, M. Harris, and R. Stulz (eds.), Amsterdam, The Netherlands: North-Holland, 2003.
- Koedijk, K. G. and M. A. Van Dijk, 2004, Global risk factors and the cost of capital, *Financial Analysts Journal*, 60(2), 32–38.
- La Porta, R., F. Lopex-de-Silanes, A. Shleifer, and R. Vishny, 2002, Investor protection and corporate valuation, *Journal of Finance*, 57, 1147–1170.
- Lewis, K. K., 1999, Trying to explain home bias in equities and consumption, *Journal of Economic Literature*, 37, 571–608.
- Love, I., 2003, Financial development and financing constraints: International evidence from the structural investment model, *Review of Financial Studies*, 16(3), 765–791.
- Manning, M. J., 2003, Finance causes growth: Can we be so sure? *Contribution to Macroeconomics*, 3(1), 1–22.
- Rioja, F. and N. Valev, 2004, Finance and the sources of growth at various stages of economic development, *Economic Enquiry*, 42(1), 127–140.
- Stulz, R. M., 2003, The limits of financial globalization, *Journal of Finance*, 60(4), 1595–1638.
- Xu, X. and H. G. Fung, 2002, Information flows across markets: Evidence from Chinese stocks dually listed in Hong Kong and New York, *Financial Review*, 37, 563–588.
- Xu, Z. 2000, Financial development, investment, and economic growth, *Economic Inquiry*, 38(2), 331–34.