CHAPTER 19

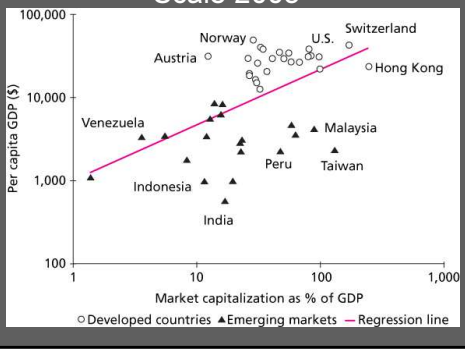
Globalization and International Investing

19.1 GLOBAL MARKETS FOR EQUITIES

Background

- Global market
  - US stock exchanges make up approximately 45.8% of all markets
  - Emerging market development
  - Market capitalization and GDP

Figure 19.1 Per Capita GDP and Market Capitalization as a Percentage of GDP Log Scale 2003



19.2 RISK FACTORS IN INTERNATIONAL INVESTING

Issues

- What are the risks involved in investment in foreign securities
- How do you measure benchmark returns on foreign investments
- Are there benefits to diversification in foreign securities

Exchange Rate Risk

- Variation in return related to changes in the relative value of the domestic and foreign currency
- Total Return = Investment return plus return on foreign exchange
- Not possible to completely hedge a foreign investment

Returns with Foreign Exchange

- Return in US is a function of two factors
  1. Return in the foreign market
  2. Return on the foreign exchange

Returns with Foreign Exchange

$$1 + r(US) = \left[1 + r_f(FE)\right]\frac{E_1}{E_0}$$

r(*US*) = return on the foreign investment in US Dollars

r(*FM*) = return on the foreign market in local currency

E_0 = original exchange rate

E_1 = subsequent exchange rate

Return Example: Dollar Depreciates Relative to the Pound

Initial Investment : $100,000

Initial Exchange: $2.00/ Pound Sterling

Final Exchange:$2.10/ Pound Sterling

Return in British Security: 10%

Return in US Dollars

$(1 + r_{US}) = (1.10)\ (1.05) = (1.155)$

$r_{US} = 15.5\%$

Return Example: Dollar Appreciates Relative to the Pound

Initial Investment : $100,000

Initial Exchange: $2/ Pound Sterling

Final Exchange: $1.85/ Pound Sterling

Return in British Security: 10%

Return in US Dollars

$(1 + r_{US}) = (1.10)\ (.9250) = (1.0175)$

$r_{US} = 1.75\%$

Figure 19.2 Stock Market Returns in US Dollars and Local Currencies for 2003

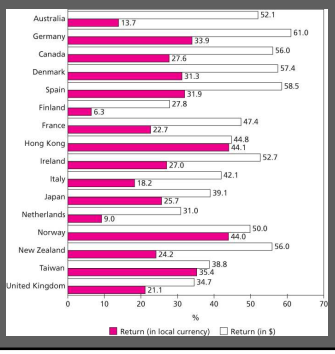


Table 19.3 Rates of Change in the US Dollar Against Major World Currencies, 1999-2003 (monthly data)

TABLE 19.3

Rates of change in the U.S. dollar against major world currencies, 1999–2003 (monthly data)

A. Standard Deviation (annualized)

Country Currency	Euro (€)	U.K. (£)	Japan (¥)	Australia ($A)	Canada ($C)
Standard deviation	10.20	7.35	10.14	12.00	6.34

B. Correlation Matrix

	Euro	U.K.	Japan	Australia	Canada
Euro	1.00				
U.K.	0.73	1.00			
Japan	0.44	0.32	1.00		
Australia	0.48	0.32	0.37	1.00	
Canada	0.31	0.23	0.26	0.75	1.00

C. Average Annual Returns from Rolling Over One-Month LIBOR Rates

Country	Currency	Return in Local Currency	Gains from Exchange Rates	Average Annual Return in U.S. $	Standard Deviation of the Average Annual Return
U.S.		3.68		3.68	
Australia	A$	5.06	−2.74	2.33	5.36
Canada	C$	4.01	−3.14	0.87	2.84
U.K.	£	4.84	−0.45	4.40	3.29
Europe	€	3.41	0.14	3.55	4.56
Japan	¥	0.15	−0.10	0.06	4.54

Source: Exchange rates: Datastream; LIBOR rates: www.economagic.com.

Other Risks in International Investing

- Imperfect exchange rate risk hedging
- Country - Specific
- Composition
  - Political
  - Financial
  - Economic
- Composite Ratings

Table 19.4 Composite Ratings for October 2004 and November 2003

TABLE 19.4

Composite risk ratings for October 2004 and November 2003

Rank October 2004	Country	Composite Risk Rating October 2004	Composite Risk Rating November 2003	October 2004 Minus November 2003	Rank in November 2003
	Very low risk				
1	Norway	**92.3**	90.5	1.75	2
14	Japan	**84.5**	86.3	−1.75	9
15	United Kingdom	**84.0**	84.0	0	17
	Low risk				
42	United States	**77.5**	75.8	1.75	48
44	China	**76.8**	77.3	−0.5	40
55	Mexico	**74.8**	70.5	4.25	65
67	India	**71.8**	69.0	2.75	72
	Moderate risk				
86	Argentina	**67.5**	64.0	3.5	92
109	Indonesia	**62.5**	60.8	1.75	108
	High risk				
119	Lebanon	**59.0**	55.5	3.5	124
125	Sierra Leone	**58.3**	50.8	7.5	133
	Very high risk				
139	Iraq	**38.0**	41.5	−3.5	138
140	Zimbabwe	**36.3**	34.3	2	140

Source: *International Country Risk Guide*, October 2004, Table 1.

Table 19.5 Variables Used in the PRSs Political Risk Scores

TABLE 19.5

Variables used in PRS's political risk score

Political Risk Variables	Financial Risk Variables	Economic Risk Variables
Government stability	Foreign debt (% of GDP)	GDP per capita
Socioeconomic conditions	Foreign debt service (% of GDP)	Real annual GDP growth
Investment profile	Current account (% of exports)	Annual inflation rate
Internal conflicts	Net liquidity in months of imports	Budget balance (% of GDP)
External conflicts	Exchange rate stability	Current account balance (% GDP)
Corruption		
Military in politics		
Religious tensions		
Law and order		
Ethnic tensions		
Democratic accountability		
Bureaucracy quality		

Table 19.6 Current Risk Ratings and Composite Forecasts

TABLE 19.6

Current risk ratings and composite risk forecasts

	Composite Ratings		Current Ratings		
Country	Year Ago November 2003	Current October 2004	Political Risk October 2004	Financial Risk October 2004	Economic Risk October 2004
Japan	86.3	**84.5**	82	46.5	40.5
United States	75.8	**77.5**	82	33.5	39.5
China, People's Rep.	77.3	**76.8**	70.5	44.5	38.5
India	69	**71.8**	63.5	44.5	35.5
Indonesia	60.8	**62.5**	50.5	37.5	37

Source: *International Country Risk Guide*, October 2004, Table 2B.

19.3 INTERNATIONAL INVESTING: RISK, RETURN, AND BENEFITS FROM DIVERSIFICATION

International Investment Choices

- Direct Stock Purchases
- Mutual Funds
  - Open End
  - Closed End
  - WEBS

Questions on Assessing Performance in US Dollars in Foreign Markets

- Are emerging markets riskier
- Is exchange rate risk important in international portfolios
- Are there diversification benefits to international investing

Figure 19.3 Annualized Standard Deviation of Investments Across the Globe ($ returns), 1999-2003

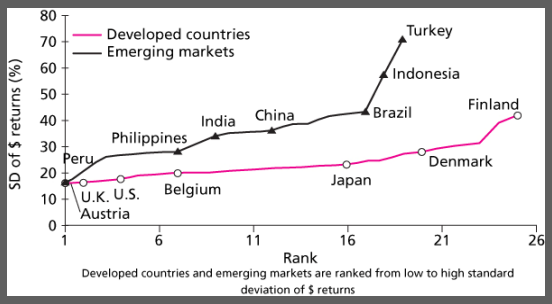


Figure 19.4 Betas on US Stocks Across the Globe 1999 - 2003

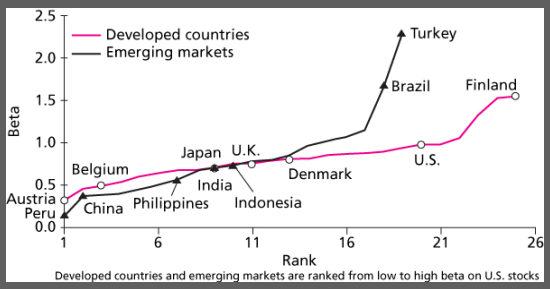


Figure 19.5 Annualized Dollar Return of Investments Across the Globe 1999 - 2003

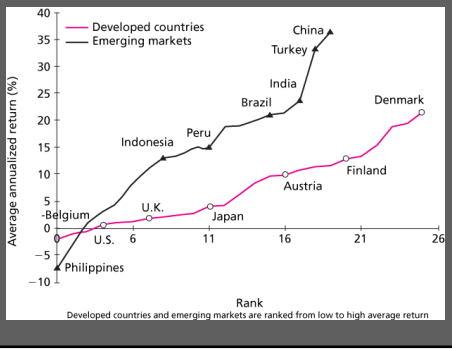


Figure 19.6 Standard Deviation of Investments Across the Globe in US Dollars versus Local Currency

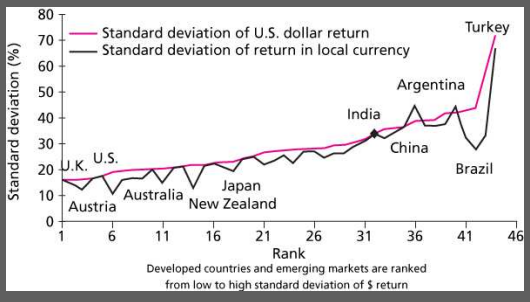


Figure 9.7 Beta in $US versus Local Currency

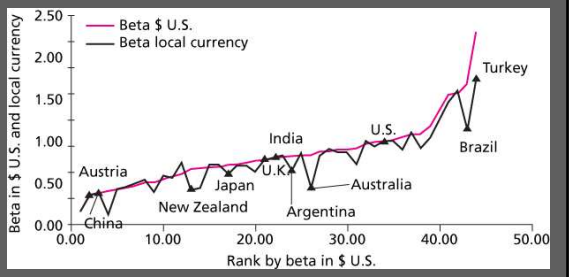
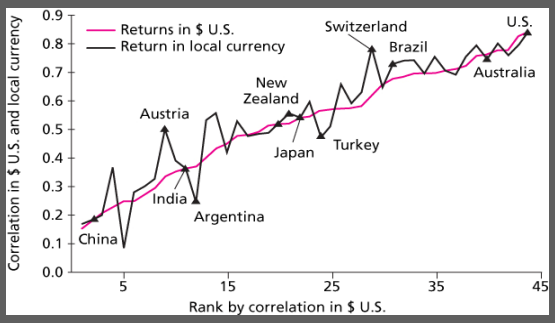


Figure 19.8 Correlation of Returns in $US and Local Currencies 1999 - 2003



Diversification Benefits

- Evidence shows international diversification is beneficial
- Possible to expand the efficient frontier above domestic only frontier
- Possible to reduce the systematic risk level below the domestic only level

Figure 19.9 International Diversification. Portfolio Diversification as a Percentage of the Average Standard Deviation of a One-Stock Portfolio

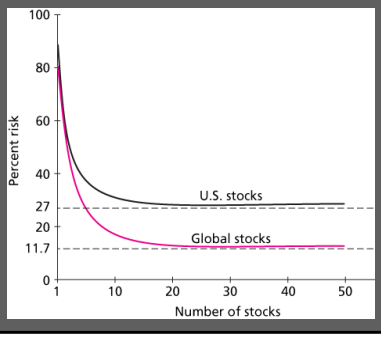


Figure 19.10 Ex-Post Efficient Frontier of Country Portfolios

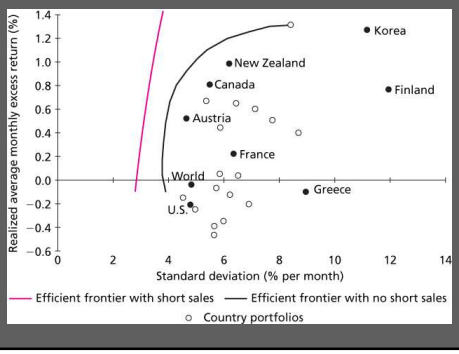


Figure 19.11a Efficient Frontier of Country Portfolios (world expected excess return = .3% per month)

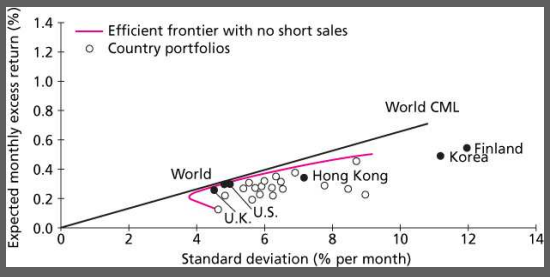


Figure 19.11b Efficient Frontier of Country Portfolios (world expected excess return = .6% per month)

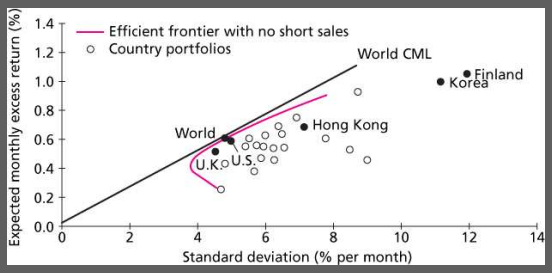
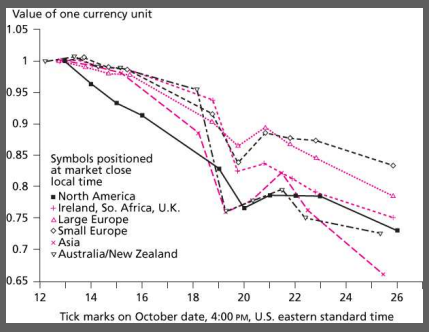


Figure 19.12 Regional Indexes Around the Crash, October 14 – 26, 1987

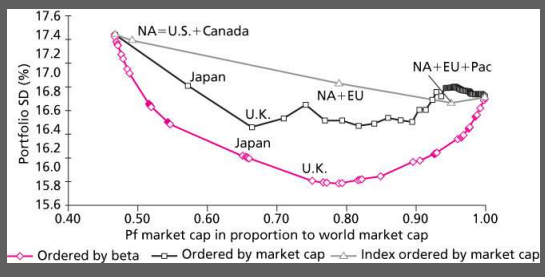


19.4 HOW TO GO ABOUT INTERNATIONAL DIVERSIFICATION AND THE BENEFIT WE CAN EXPECT

Risk Reduction

- Choosing among efficient portfolios
- Choosing lowest beta or covariance indexes
- Choosing largest capitalization indexes

Figure 19.13 Portfolio SD, Countries Ordered by Beta, and by Market Cap, Indexes Ordered by Market Cap



19.5 INTERNATIONAL INVESTING AND PERFORMANCE ATTRIBUTION

Performance Attribution

- Currency Selection
- Country Selection
- Stock Selection
- Cash / Bond Selection