



Brief contents

1	The world of finance	1
2	Financial intermediation and financial markets	22
3	Financial institutions	39
4	Monetary policy and interest rate determination	61
5	Domestic and international money markets	96
6	The domestic and international bond market	117
7	Portfolio analysis: risk and return in financial markets	156
8	The capital asset pricing model	188
9	Stockmarkets and equities	215
10	The efficiency of financial markets	247
11	The foreign exchange market	269
12	Theories of exchange rate determination	300
13	Financial futures	334
14	Options	362
15	Option pricing	388
16	Swap markets	412
17	Regulation of the financial sector	432

Contents



<i>Preface</i>	xx
1 The World of Finance	1
1.1 Introduction	1
1.2 Financial centres	2
1.3 The role of a financial centre	3
1.4 Money markets, capital markets and the banking system	5
1.5 Services of a financial centre	7
1.6 The growth of the financial services industry	10
1.7 The globalization of financial markets	10
1.8 Technology	11
1.9 Deregulation	13
1.10 Financial innovation	15
1.11 Types of financial innovations	16
1.12 Emerging markets	16
1.13 Problems concerning investment in emerging markets	17
1.14 The future	18
1.15 Conclusions	20
2 Financial Intermediation and Financial Markets	22
2.1 Introduction	22
2.2 Surplus and deficit agents	23
2.3 What is a financial security?	24
2.4 Types of financial claims: debt and equity	24
2.5 The role of financial intermediaries	26
2.6 Provision of a payments mechanism	26
2.7 Maturity transformation	27
2.8 Risk transformation	27

2.9	Liquidity provision	29
2.10	Reduction of contracting, search and information costs	29
2.11	Types of financial markets	30
2.12	The classification of financial markets	33
2.13	The role played by financial markets	34
2.14	Participants in financial markets	34
2.15	Conclusions	36
3	Financial Institutions	39
3.1	Introduction	39
3.2	The central bank	40
3.3	The implementation of monetary policy	41
3.4	Management of the national debt	41
3.5	Supervisory function	41
3.6	Types of financial intermediaries	43
3.7	Deposit institutions	43
3.8	The banking sector	44
3.9	Savings institutions	45
3.10	Insurance companies	45
3.11	The phenomenon of Bancassurance	47
3.12	Mutual funds or unit trusts	48
3.13	Investment companies and investment trusts	49
3.14	Pension funds	51
3.15	Specialist financial institutions	52
3.16	Venture capital companies	52
3.17	Hedge funds	53
3.18	Finance companies or finance houses	55
3.19	Factoring agencies	56
3.20	The role of financial institutions	57
3.21	Conclusions	58
4	Monetary Policy and Interest Rate Determination	61
4.1	Introduction	61
4.2	The functions of money	62
4.3	Bills and bonds	62
4.4	The operation of monetary policy	64
4.5	Monetary policy in practice and the announcement effect	67
4.6	The commercial banking system and the narrow and broad money supply	70
4.7	Formula for the money multiplier	73
4.8	Controlling the money supply	74
4.9	The determination of interest rates	75
4.10	The loanable funds approach to interest rate determination	76

4.11	Money market or loanable funds theory?	80
4.12	Inflation and interest rates	81
4.13	Fiscal policy and interest rates	84
4.14	Other factors influencing the interest rate	84
4.15	Theories of the yield curve	85
4.16	Expectations theory	87
4.17	Liquidity preference theory	89
4.18	Preferred habitat theory	89
4.19	Market segmentation theory	90
4.20	The importance of alternative views of the term structure	91
4.21	Problems with monetary policy	92
4.22	Conclusions	92
5	Domestic and International Money Markets	96
5.1	Introduction	96
5.2	Types of domestic money market instruments	97
5.3	Treasury bills	97
5.4	Commercial paper	99
5.5	The interbank market	100
5.6	Bankers' acceptances	100
5.7	Repurchase agreements	101
5.8	Certificates of deposit	102
5.9	The international money market	103
5.10	Euromarkets	103
5.11	The origins and development of the Euromarkets	104
5.12	The characteristics of the Eurodollar market	106
5.13	The competitive advantage of Eurobanks	107
5.14	The coexistence of domestic and Eurobanking	109
5.15	The creation of Eurodeposits	109
5.16	The pros and cons of the Eurocurrency markets	111
5.17	Syndicated loans	111
5.18	Euronotes	112
5.19	Conclusions	113
6	The Domestic and International Bond Market	117
6.1	Introduction	118
6.2	Trading in government bonds	118
6.3	Determining the price of government bonds	118
6.4	Clean and dirty bond prices	121
6.5	The current yield	121
6.6	The simple yield to maturity	122
6.7	Yield to maturity	122
6.8	The par value relation	124
6.9	Bond price volatility	124

6.10	Duration	126
6.11	Modified duration	127
6.12	The duration for a portfolio of bonds	130
6.13	A formula to calculate duration	131
6.14	Duration and the problem of curvature of the bond–price relationship	131
6.15	The usefulness of the duration measure	132
6.16	Yield curves	133
6.17	Corporate bonds	134
6.18	Credit ratings	134
6.19	Risks associated with corporate bonds	138
6.20	Financial innovation and corporate bonds	138
6.21	Junk bonds	140
6.22	Medium-term notes	141
6.23	The international capital market	142
6.24	Motivations behind international capital flows	142
6.25	The origins and development of the Eurobond market	143
6.26	Typical features of a Eurobond	144
6.27	Control and regulation of the Eurobond market	147
6.28	The management of a Eurobond issue	148
6.29	Innovations in the Eurobond market	150
6.30	Conclusions	151
7	Portfolio Analysis: Risk and Return in Financial Markets	156
7.1	Introduction	156
7.2	Determining the price of a financial asset	157
7.3	The rate of return on a security	158
7.4	The variance and standard deviation of the rate of return	159
7.5	Risk on a security	160
7.6	Covariance and correlation of rates of return	162
7.7	Different types of investors	163
7.8	The indifference curves of risk-averse investors	164
7.9	Portfolio theory	166
7.10	Reducing risk through diversification	166
7.11	Measuring risk on a portfolio	167
7.12	The two-asset efficiency frontier	169
7.13	The minimum variance portfolio in the two risky asset case	171
7.14	The portfolio efficiency frontier	173
7.15	Market risk and specific risk	176
7.16	The efficient set with a riskless security	178
7.17	The market portfolio	180

7.18	The market price of risk	182
7.19	Measuring the market index	182
7.20	Conclusions	183
8	The Capital Asset Pricing Model	188
8.1	Introduction	188
8.2	The market model	189
8.3	Portfolio risk and return using the market model	191
8.4	The capital asset pricing model	192
8.5	Assumptions of the CAPM	193
8.6	The theory behind the CAPM	194
8.7	Expressing the CAPM in risk premium form	198
8.8	The securities market line	199
8.9	The CAPM in action: measuring the beta coefficient	202
8.10	Empirical testing of the CAPM	204
8.11	The empirical evidence on the CAPM	205
8.12	The multifactor CAPM	207
8.13	The arbitrage pricing theory critique of the CAPM	208
8.14	Conclusions	209
9	Stockmarkets and Equities	215
9.1	Introduction	215
9.2	The major international stockmarkets	216
9.3	Stockmarket participants	218
9.4	The primary and secondary market	218
9.5	Different types of equity	219
9.6	The buying and selling of shares	220
9.7	A rights issue	221
9.8	A simple model of the pricing of a rights issue	222
9.9	Does the performance of the stockmarket matter?	223
9.10	The pricing of equities	224
9.11	The dividend pricing approach	224
9.12	The Gordon growth model	225
9.13	A non-constant growth version of the dividend discount model	228
9.14	The dividend irrelevance theorem	229
9.15	Measurement of the required rate of return	229
9.16	The subjectivity of share pricing	231
9.17	Forecasting future dividends: business risk and the effects of gearing	232
9.18	Debt or equity finance?	236
9.19	Other approaches to equity valuation: financial ratio analysis	237
9.20	The usefulness of financial ratios	242
9.21	Conclusions	243

10	The Efficiency of Financial Markets	247
10.1	Introduction	247
10.2	Three levels of efficiency	248
10.3	The efficient market hypothesis and a random walk	249
10.4	Implications of various forms of efficiency tests	251
10.5	Active versus passive fund management	252
10.6	Testing for weak market efficiency	253
10.7	Tests of the random-walk hypothesis	253
10.8	Filter rule tests	254
10.9	Other statistical tests	255
10.10	The day of the week effects	255
10.11	The January effect	256
10.12	The winner–loser problem	257
10.13	Testing for semi-strong market efficiency	258
10.14	The results of event studies	260
10.15	The size effect	261
10.16	The price–earnings effect	261
10.17	The earnings–announcement effect	262
10.18	Stockmarket crashes	263
10.19	Testing the strong form of market efficiency	264
10.20	Directors’/managers’ share purchases	264
10.21	Information content of analysts forecasts	264
10.22	Conclusions	266
11	The Foreign Exchange Market	269
11.1	Introduction	269
11.2	Exchange rate definitions	270
11.3	Characteristics of and participants in the foreign exchange market	272
11.4	Arbitrage in the foreign exchange market	273
11.5	The spot and forward exchange rates	275
11.6	A simple model for determining the spot exchange rate	276
11.7	Alternative exchange rate regimes	280
11.8	Determination of the forward exchange rate	284
11.9	Nominal, real and effective exchange rates	290
11.10	Conclusions	295
12	Theories of Exchange Rate Determination	300
12.1	Introduction	300
12.2	Purchasing power parity theory	301
12.3	Absolute PPP	302
12.4	Relative PPP	303
12.5	Measurement problems in testing for PPP	303
12.6	Empirical evidence on PPP	305

12.7	Summary of the empirical evidence on PPP	308
12.8	Explaining the poor performance of purchasing power parity	309
12.9	Modern theories of exchange rate determination	311
12.10	Uncovered interest rate parity	312
12.11	Monetary models of exchange rate determination	313
12.12	The flexible-price monetary model	314
12.13	The Dornbusch sticky-price monetarist model	317
12.14	A simple explanation of the Dornbusch model	317
12.15	A formal explanation of the Dornbusch model	319
12.16	A money supply expansion and exchange rate overshooting	325
12.17	Importance of the Dornbusch overshooting model	327
12.18	The Frankel real interest rate differential model	327
12.19	Conclusions	330
13	Financial Futures	334
13.1	Introduction	334
13.2	The growth of futures exchanges	335
13.3	Comparison between futures and forward contracts	336
13.4	The symmetry of profits/losses on futures/forward positions	338
13.5	Exchange-traded derivative contracts versus the over-the-counter market	338
13.6	Trading in exchange futures contracts	340
13.7	The role of the clearing house	340
13.8	Open-interest and reversing trades	341
13.9	Stock-index futures	343
13.10	The pricing of a stock futures index	346
13.11	Short-term interest rate futures	348
13.12	The pricing of sterling futures	350
13.13	Using interest rate futures	352
13.14	Bond futures contracts	353
13.15	Currency futures	355
13.16	The pricing of currency futures	357
13.17	Conclusions	358
14	Options	362
14.1	Introduction	362
14.2	The growth of options markets	363
14.3	Options contracts	363
14.4	A call option contract	365
14.5	A put option contract	367
14.6	Stock-index options	369
14.7	Interest rate options	371

14.8	Currency options	372
14.9	The uses of option contracts	373
14.10	Differences between options and futures contracts	375
14.11	A currency option versus a forward contract for hedging	376
14.12	A currency option versus a forward for speculating	378
14.13	Option strategies	379
14.14	Exotic options	383
14.15	Conclusions	384
15	Option Pricing	388
15.1	Introduction	388
15.2	Principles of option pricing	389
15.3	Intrinsic value and time value	390
15.4	The distribution of the option premium between time and intrinsic value	391
15.5	The Black–Scholes option pricing formula	396
15.6	Different measures of volatility	401
15.7	The calculation of historical volatility	402
15.8	Problems with the Black–Scholes option pricing formula	403
15.9	The sensitivity of options prices	403
15.10	Put–call parity	404
15.11	Conclusions	407
16	Swap Markets	412
16.1	Introduction	412
16.2	Potential swap scenarios	414
16.3	An interest rate swap	416
16.4	A currency swap agreement	420
16.5	The role of the intermediary in the swap	423
16.6	The secondary market in swaps	425
16.7	Distinguishing characteristics of the swap market from the forward and futures markets	426
16.8	Reasons for the existence of the swap market	426
16.9	Innovations in the swap market	427
16.10	Conclusions	428
17	Regulation of the Financial Sector	432
17.1	Introduction	432
17.2	The rationale for government intervention	433
17.3	The objectives of government regulation	435
17.4	Types of government regulation	435
17.5	Regulation of the banking sector	438
17.6	Statutory versus self-regulation	439

17.7	Regulation in the United Kingdom	440
17.8	Big Bang, 1986	441
17.9	The Financial Services Act 1986	442
17.10	The Banking Act 1987	444
17.11	European regulation	444
17.12	The First Banking Directive 1977	445
17.13	The Second Banking Directive 1989	446
17.14	International regulation: the Basle Accord 1988	447
17.15	The Basle II Accord 2004	450
17.16	Conclusions	454
	<i>Solutions to Multiple Choice Questions</i>	455
	<i>Glossary</i>	457
	<i>References</i>	468
	<i>Further Reading</i>	472
	<i>Index</i>	475

The World of Finance

1

CHAPTER OUTLINE

- 1.1 Introduction
- 1.2 Financial centres
- 1.3 The role of a financial centre
- 1.4 Money markets, capital markets and the banking system
- 1.5 Services of a financial centre
- 1.6 The growth of the financial services industry
- 1.7 The globalization of financial markets
- 1.8 Technology
- 1.9 Deregulation
- 1.10 Financial innovation
- 1.11 Types of financial innovations
- 1.12 Emerging markets
- 1.13 Problems concerning investment in emerging markets
- 1.14 The future
- 1.15 Conclusions

1.1 Introduction

The world of finance has changed beyond all recognition over the last few decades, and among the most important changes have been:

- 1 the so-called globalization of the world of finance with literally trillions of dollars swirling around the global financial markets;
- 2 the unprecedented increase in the volume of funds and the size of the financial services industry;
- 3 the increasing institutionalization of markets with funds increasingly managed on behalf of individual investors by pension funds, unit trusts, mutual funds, insurance companies and the like;

- 4 the range of new instruments traded such as junk bonds and derivative instruments such as swaps, futures and options;
- 5 the use of new technology;
- 6 the development of the internet enabling retail customers to access online dealing and banking;
- 7 increased pressures on banks as they have seen corporate lending fall dramatically due to the development of new forms of corporate finance such as Eurobonds;
- 8 the trend towards deregulation of the financial sector;
- 9 the use of the Euro in financial markets following the creation of a European Monetary Union in January 1999 and its introduction at street level in January 2002; and
- 10 the increased importance of so-called emerging markets and their economies.

These changes have not taken place in isolation from each other, rather they have fed off each other, and interacted in a dynamic self-reinforcing manner.

In this opening chapter we attempt to give an overview of the world of finance. We look at some of the factors that have influenced the development of the financial services industry from the 1980s up to the present. In particular we focus upon four factors: the globalization of financial markets; the impact of technology; the deregulation of the financial services industry; and the importance of product innovation. We then proceed to a brief look at the so-called emerging markets and some of the obstacles that these markets will have to tackle. The chapter concludes with a rather speculative gaze into the financial crystal ball.

1.2 Financial centres

Most developed countries of the world have a major financial centre that meets much of the demand for financial services of the domestic market, and these centres increasingly compete to various degrees for international business. New York, London and Tokyo vie with each other for recognition as the premiere financial centre. At the European level, London is the preeminent financial centre but in some areas it faces healthy competition from Paris and Frankfurt. In Southeast Asia, although Tokyo is the dominant financial centre it finds itself increasingly in competition with centres such as Singapore and Hong Kong. Financial centres, whether major or relatively minor, increasingly find themselves competing in a global marketplace both to retain their domestic market and for international business. Many governments have sought to enhance the status of their financial centres, especially since a

competitive financial centre can prove to be an important foreign exchange earner and provide employment for substantial numbers of people. A healthy financial centre can also aid an economy by channelling investors' funds into the best-performing investments and businesses.

1.3 The role of a financial centre

A financial centre has a number of diverse and important roles to play. Perhaps the most important is to recycle funds from deficit to surplus agents in the most efficient manner possible, and this is illustrated in **Figure 1.1**. The figure shows surplus agents, made up of individuals, companies and

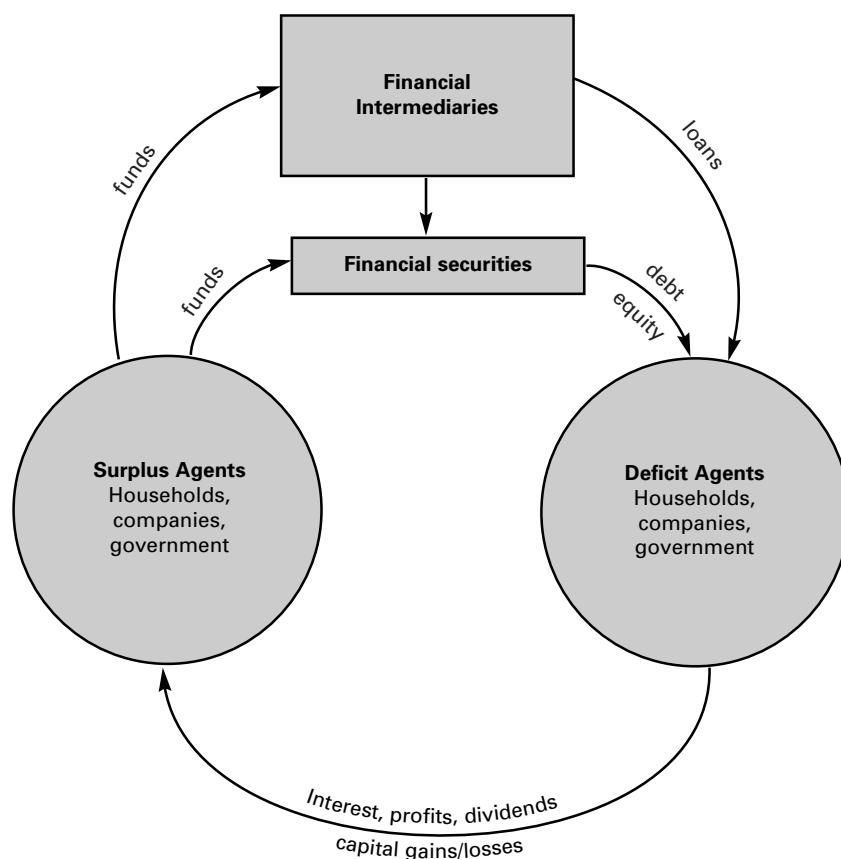


Figure 1.1 The role of a financial centre

Notes: Surplus agents are generally risk-averse, with relatively short-term horizons. Deficit agents are generally risk-taking, with medium to long-term horizons.

public/private bodies including central government that have surplus funds that they wish to invest. On the other hand, there are individuals, companies and public/private bodies including central government that need to borrow money and do not have sufficient current funds themselves. A key role of a financial centre is to channel funds from the surplus agents to the deficit agents in as efficient a manner as possible. However, it must be recognized that there is an enormous amount of heterogeneity within the two groups. Agents with surplus funds vary enormously, with some individuals saving only for the short term, some for the long term, for retirement and the like. Similarly, companies with excess money balances might wish to invest only for the short run or in some cases for the long term. When it comes to the deficit agents, their needs are again very varied, with some individuals requiring just short- or medium-term loans to solve a short-term cash problem, whereas others borrow long-term, for example by taking out a mortgage to finance a house purchase. Similarly, some companies need to borrow only short-term to iron out certain cash-flow problems, while others need to borrow long-term to undertake new investment.

One of the prime functions of a financial centre is to facilitate the transfer of funds from deficit to surplus agents. For this purpose, a financial centre will have a range of what are known as financial intermediaries that design products/securities to facilitate the exchange of funds between the surplus and deficit agents. In designing such products/securities, it must be recognized that there are significant problems that need to be overcome. In general, surplus agents tend to be risk-averse, that is only willing to take increasing risks with their surplus funds so long as there is a sufficient increase in expected return to compensate them for those risks. Because they are risk-averse, surplus agents tend to want to invest in fairly low-risk financial instruments. Also, surplus agents in general have quite short-term time horizons and usually require the ability to access their funds at very short notice. By contrast, in general the deficit agents frequently require funds to undertake risky ventures – for example a company may borrow money to set up a new factory that may or may not succeed, an individual may borrow to set up a company that may or may not succeed. Also, the time frame of deficit agents is typically longer than that of surplus agents, they require funds normally for the medium to long-term time horizon. The heterogeneity within the two groups and the different risk and time preferences of deficit and surplus agents need to be somehow reconciled if there are to be economically significant transfers of funds between the two groups. As we shall see in Chapter 3, there exists a wide range of financial intermediaries with niches that try to meet the varying needs of both surplus and deficit agents. In much of this book we shall also be looking at a range of financial securities such as Treasury bills, commercial bills, Treasury and corporate bonds and equities that exist

to meet the varying risk–return and time preferences of both surplus and deficit agents.

Today's financial centres are increasingly global, concerned not only with channelling funds from domestic savers to domestic borrowers but also from international investors to international borrowers. In transferring these funds a financial centre must provide a range of products to meet investors' and borrowers' diverse demands at a competitive price. In addition, a financial centre should provide a range of financial services to meet the demands of investors, borrowers, firms, governments and households. Among the services most in demand are foreign exchange, risk management, insurance, swaps, secondary and primary markets in bonds and equities, domestic and international bank lending, a range of derivative instruments and research/advisory services.

1.4 Money markets, capital markets and the banking system

The transfer of funds in the financial system is carried out by several means, three of the most important being money markets, capital markets (bond and equity markets) and the banking system. There are considerable differences in the relative importance of these as a means of recycling funds between economic agents. In **Table 1.1** we present the figures for stockmarket capitalization in 2002, which show the importance of the stockmarket particularly for the United States and the United Kingdom. In those economies there has been a long tradition of firms relying on stockmarkets as a source of finance, but this is much less the case in countries like Germany and Japan which have tended to rely on their banking systems as a means of recycling finance.

Debt markets are another key means of deficit agents raising finance through the issue of short-term debt instruments like Treasury and commercial bills (less than a year) or Treasury and corporate bonds (usually 1 to 30 years). As **Table 1.2** shows, there are considerable differences in both the size of the debt markets and the balance between government and private-sector debt issuance. In the United States there is also huge use by corporations of the debt markets to raise finance. In Europe the corporate bond market is less-developed and is much more extensively used by governments to finance their fiscal deficits, and this has also been true of Japan where since the collapse of its bubble economy in the early 1990s the government has made frequent recourse to debt finance to prop up its economy.

Countries like Germany and Japan have traditionally relied on close relationships between their banking systems and corporations as a means of financing their corporations, and banks have been allowed to have stakes in

Table 1.1 GDP data (2003) and global stockmarkets (end 2004) (US \$ billions)

	GDP	Stockmarket capitalization	Capitalization as % of GDP	Domestic/foreign company listings
United States	10,986	16,324	148.6	5226/871
Japan	4,302	3,558	82.7	2276/30
United Kingdom	1,799	2,816	156.6	2486/351
Germany	2,409	1,195	49.6	660/159
Euronext	2,718	2,441	89.8	999/334
Italy	1,471	789	53.6	269/9
Canada	867	1,178	135.8	3597/33
World	36,163	37,622		

Notes: (1) The domestic/foreign company listings refer to 2004. (2) Euronext is a merger of the Paris, Lisbon, Brussels and Amsterdam Exchanges, GDP data for all 4 countries. (3) The United States figures combines the three national exchanges, The New York Stock Exchange, The National Association of Securities Dealers Automatic Quotations (NASDAQ) and the American Stock Exchange (AMEX). The NYSE is by far the largest in terms of Capitalization (78%), NASDAQ (21%) and Amex (less 1%). The NASDAQ has more listed companies (3,229) compared to the NYSE (2,293) but these are generally smaller value companies. The Amex (575) tends to specialise in small companies that may not meet the listing requirements of the other two exchanges.

Sources: IFSL, International Federation of Exchanges (FIBV.com).

companies, a situation not normally allowed in the USA or the UK. As **Table 1.3** shows, the Japanese banking system, despite Japan's smaller economy, is actually greater in terms of assets than the US banking system. In fact, it can be seen that the US banking system's assets are significantly lower as a percentage of GDP compared to the other economies listed in the table. Interestingly, there is a significant difference in the importance of the banking system in terms of GDP between the USA and the UK despite their similarities with respect to the importance of stockmarkets and debt securities.

Table 1.2 Global debt securities, 2002 (US \$ billions)

	Public	Private	Total	Total debt as % of GDP
United States	4,533	14,516	19,049	181.7
Japan	4,842	2,073	6,915	174.0
United Kingdom	474	1,446	1,920	122.6
Germany	860	2,348	3,208	161.0
France	781	1,151	1,932	134.4
Italy	1,208	823	2,031	171.0
Canada	500	307	807	109.6
World	16,565	27,005	43,570	

Source: IMF.

Table 1.3 Bank assets, 2002 (US \$ billions)

	Bank Assets	Bank assets as % of GDP
United States	5,889	56.2
Japan	6,212	156.4
United Kingdom	3,724	186.9
Germany	2,970	149.1
France	3,162	219.9
Italy	1,790	150.7
Canada	1,100	149.5
World	40,063	

Note: The above figures are for assets of commercial banks.

1.5 Services of a financial centre

To stake a claim to being a key international financial centre, a centre should have some or all of the following characteristics and offer the following kinds of services:

- There should be a large number of both domestic and foreign banks and the centre should have a reasonable share of international bank lending.
- There should be a substantial amount of foreign exchange business conducted.
- There should be a significant offshore market; that is, deposit and lending markets that deal in currencies different from those of the financial centre.
- The stockmarket should be well-capitalized and offer investors a high degree of liquidity.
- The centre should be a major market for corporate bond finance, be it with domestic bond issues, foreign bond issues or Eurobond issues.
- There should be a range of financial institutions and associated services other than commercial banks, such as merchant/investment banks, insurance companies, securities houses, brokers, accountancy firms, commercial law firms and consultancy services.
- The centre should have a significant presence in derivative markets such as future and forward contracts, options and swaps.

In **Table 1.4** we present some useful comparative statistics on five key financial centres of the world, namely London, New York, Tokyo, and for

Table 1.4 The importance of different financial centres, 2001–04 (percentage shares)

	UK	US	Japan	France	Germany	Others
Cross-border bank lending	19	10	9	7	11	44
Foreign equities turnover	45	33	–	–	3	19
Derivatives turnover:						
<i>Exchange-traded</i>	6	26	2	3	12	51
<i>Over-the-counter</i>	36	18	3	9	13	21
Insurance, net premium income						
<i>Marine</i>	19	13	14	5	12	37
<i>Aviation</i>	39	23	4	13	3	18
International bonds:						
<i>Primary</i>	60	n.a.	n.a.	n.a.	n.a.	n.a.
<i>Secondary</i>	70	n.a.	n.a.	n.a.	n.a.	n.a.
Foreign exchange	31.3	19.1	8.2	2.7	4.9	33.8

Source: IFSL, BIS.

comparative purposes France and Germany. London differs from the other two financial centres in one very important respect, it is heavily dependent on international business in its claim to be a preeminent financial centre. New York is supported in its claim of being a preeminent financial centre by the huge size of the US economy, and likewise Tokyo has the second largest economy to support it, and these two financial centres are much more domestically oriented in their business. One figure that amply illustrates the international nature of the UK financial sector in 2003 is that there were some 686 authorized banks operating in the country of which some 501 were incorporated outside of the UK. This dominance in international banking in large part also accounts for the 31.3% share of London in the daily foreign exchange turnover; the global figure for daily foreign exchange trading in April 2004 was \$2,408 billion, far in excess of the annual UK gross domestic product.

Table 1.5 shows that the insurance industry is also a significant part of the financial services sector, with the United States and Japan by far the largest markets followed by the UK. However, in terms of insurance premiums per capita, the UK is in fact a more significant market with premiums per capita being significantly lower in France, Germany and Italy. In **Table 1.6** we can see that in terms of institutional funds under management, the US market is

Table 1.5 The world's largest insurance markets, 2002

	Gross insurance premiums (\$ billions)	Premium per capita
United States	1,000	\$3,462
Japan	446	\$3,499
United Kingdom	237	\$3,879
Germany	136	\$1,628
France	125	\$2,064
Italy	84	\$1,435

Source: Swiss Re.

Table 1.6 Distribution of funds under management, 2001 (US \$ billions)

	Pensions	Insurance	Mutual funds	Total
United States	7,010	3,946	6,970	17,927
Japan	1,235	1,635	466	3,336
United Kingdom	1,200	1,428	363	2,991
Germany	125	838	211	1,174
France	65	783	705	1,553
Italy	65	248	356	669

Source: IFSL.

Table 1.7 Derivative exchanges, 2003, by daily notional value of turnover

Exchange	Turnover (US \$ billions)
Chicago Mercantile Exchange	1,324
Euronext.Liffe	884
Eurex	354

Note: Eurex is a merger of the German and Swiss derivatives exchanges.

Source: IFSL.

clearly a dominant player with its pension funds and mutual funds of roughly equal significance as institutional investors. By contrast, in Japan mutual funds are less significant as institutional investors, while the insurance industry is more significant. **Table 1.6** shows that the balance of funds between these different forms of institutional investors varies significantly between countries. **Table 1.7** presents some statistics on three of the key global derivative markets, with the Chicago Mercantile Exchange being followed by London's Euronext.LIFFE exchange and the German/Swiss Eurex in terms of the daily values of notional turnover.

1.6 The growth of the financial services industry

The financial services sector has expanded since the 1980s to become important both in terms of employment and as a percentage of gross domestic product. In the UK, employment in the financial services industry rose from 782,000 in 1981 to 1,047,000 in 2003. Not only that, but in 2003 it is estimated that the sector was a net exporter for the British economy to the tune of £17 billion in 2003 with some £6.9 billion of that total coming from insurance. A number of influences have led to the rapid expansion of the financial services industry since the 1980s, in particular the continued globalization of finance, the adoption and impact of new technology, government deregulation of financial services, and an unprecedented amount of financial innovation resulting in a range of new financial instruments and products. Given that there were so many positive influences combining at the same time, and to a large extent feeding off each other, it is not surprising that the sector grew and changed so dramatically. We now briefly examine some of the major forces for change since 1980.

1.7 The globalization of financial markets

The term globalization was one of the buzzwords that characterized the financial services industry in the 1980s. In the modern world people can now communicate with one another almost instantaneously and at low cost, information is speedily disseminated, and governments have greatly reduced and in many cases removed controls on the movement of funds. The growth of international trade has outpaced the economic growth rates of most countries, making them more trade-dependent. In turn, these factors have stimulated the demand for trade-finance products, such as foreign exchange management and borrowing and lending facilities in foreign countries, and currencies. The breakdown of the Bretton Woods system of pegged exchange rates in the early 1970s made currencies more volatile both in the short and medium term. At the same time businesses have become more global and so too have international investors who have sought the benefits of international portfolio diversification. All these factors have contributed to the phenomenon of the 'globalization' of financial markets.

Globalization is a loose term capturing the idea that the world of finance has become a globalized industry; national financial markets are increasingly integrated into a globally integrated network of markets. In layman's terms the concept is about the ability to 'do anything anywhere'. Globalization has many characteristics; borrowers seeking to raise funds are no longer limited

purely to their national markets, they can raise funds on the financial markets of other countries. Similarly, investors that have surplus funds are no longer restricted to the investment opportunities of their national markets but can increasingly take advantage of investment opportunities in other nations. Financial institutions seek to have a global presence both as a means of expansion and to retain their existing customers who are ever more reliant on trade and economic interactions with foreign customers. Governments, by abolishing exchange controls as the Conservative government did on coming into office in the United Kingdom in 1979, or by relaxing controls, have enabled financial capital to seek out investment opportunities in other countries.

Globalization is not always beneficial, there is the problem of a loss in local knowledge – do bankers in London really know the best firms to lend to or the best banks to buy in the United States? In the 1970s and early 1980s huge sums of money were lent to countries in Latin America, and a moratorium of its debt repayments by Mexico in 1982 sparked off an international debt crisis as the Mexicans were quickly followed by Brazil, Argentina and Venezuela. Globalization also led to problems in detecting wrongdoing; the main operations of Bank of Commerce and Credit International (BCCI) were based in the United Kingdom, but its headquarters was in Luxembourg. In 1995, Barings bank was brought to the brink of collapse by the infamous Nick Leeson operating on behalf of the bank on the SIMEX exchange in Singapore.

Globalization has also brought with it increased interactions and spillovers between markets, amply illustrated during the Asian financial crisis of 1997 when investors decided to pull out of Asian stocks and currencies almost indiscriminately. This led to large falls in the values of some Asian currencies and stockmarkets and caused major economic disruption to their economies. In general, across the globe it seems to be the case that stockmarkets and bond markets move increasingly in synch with each other and, as we shall see, this reduces the potential for investors and fund managers to reduce risks to their portfolios.

1.8 Technology

The 1980s witnessed an unprecedented increase in the use of new technology, and especially the widespread use of computers in the financial services industry. New technology has enabled some markets such as the London Stock Exchange to switch over to screen-based trading. Improved information systems mean the almost instantaneous transfer of price-sensitive information around the globe, and computers have enabled the industry to store and analyse masses of information. More importantly, computers have enabled

new complex products to be devised and priced in real time. The complexity of some of these products has meant that higher skills are required than those of traditional traders, and many advertisements for trading positions in the financial services industry require PhDs in mathematics, engineering and physics.

Technology has also had a dramatic effect on the way banks conduct their business, process and dispense payments. Automatic telling machines (ATMs) have reduced the need for cashiers and the increased use of debit cards has dramatically reduced the cost of processing payments – the marginal cost of making a transfer made by a debit card is less than 5 per cent of processing a cheque payment. Technology has enabled retail banks to offer a wider range of services, including internet banking which gives customers the ability to examine their balances and make transfers speedily. The use of sophisticated databases means that new services can be targeted at the customer, rather than wait for customers to enter branches.

The adoption of new technology has enabled the financial services industry to become more efficient and offer its clients a better range of products and quality of service. Many back-room operations and processing operations can now be carried out in cheaper locations than traditional more expensive financial centres, and in recent years many banks have relocated some of their information technology functions to India where labour costs are significantly cheaper. Technological advances have greatly reduced communication costs and improved the speed and capacity to act, as information is rapidly transmitted from one financial centre to another, reducing the cost of executing orders and enhancing the ability of financial markets to monitor and analyse financial, political and economic developments.

Nonetheless, new technology has not always been viewed as purely advantageous by the industry. New technology can be very expensive to implement and some very costly mistakes have been made. For example, the London Stock Exchange had to abandon a planned paperless trading system called TAURUS in 1995 at an estimated cost of £400 million due to problems with the system. Another problem with new technology is that while it can bring cost savings there can be increased costs in the way of expensive information technology (IT) staff. In addition, new hardware and software are very expensive and the need for 'backward compatibility' with existing systems means that taking full advantage of the latest developments is often very difficult for existing firms, while less so for new entrants who can in some cases quickly establish significant market shares.

There are also issues of security and reliability associated with new technology; cases of 'hacking' and people gaining access to confidential client information are big worries for many companies. New technology also increases the mobility and demands of customers who shop around for the

best quotes. In sum, many financial institutions that have invested heavily in new technology find it difficult to earn an adequate return on their capital investments, especially as any advantage they may gain is usually only transient as their competitors catch up. One very important aspect of new technology is that it has changed the balance between fixed and variable costs and in so doing made market share an increasingly important issue. For example, new ATMs and debit payments systems are extremely costly to install and set up, but the marginal operating costs are relatively low. This has tended to mean that firms require a large and increasing market share to cover the high initial investments and to reap rewards from their investment.

1.9 Deregulation

Governments have always intervened to regulate the financial services industry, but since the 1980s there has been a fundamental shift towards less regulation by many governments; this shift is known as the process of deregulation.

Government policies in the 1980s were particularly favourable for the development of the financial services industry, as deregulation in the United Kingdom was followed by deregulation on the continent. The UK government introduced a range of tax breaks for savers such as TESSAs (tax exempt special savings accounts), personal equity plans (PEPs), and shifted the tax structure from taxes on income to taxes on expenditure which left consumers with larger disposable incomes. While indirect taxes were increased on goods and services, financial products remained largely exempt which increased their relative attractiveness.

The UK government adopted a privatization programme that benefited the financial services through advice, consultancy and underwriting fees. The programme also increased public interest in shares in general. While technology may have been the driving force enabling firms to offer a wider range of financial services, deregulation has been essential in permitting financial institutions to offer the new services. There are numerous arguments in favour of and against regulation and these are worth reviewing.

One of the major arguments in favour of regulation is the need for investor protection. Investors need to be protected from misinformation which encourages them to invest in products that are unsuitable, and they need to be protected against the misuse of their funds once they have been handed over (for example, fraud). However, many in the financial services industry oppose regulation which they argue increases costs to meet compliance. In addition, regulation can prevent the introduction of new innovative

products. Another problem is that financial centres around the world find themselves in competition with one another for business, and for this reason centres are especially keen to avoid heavy-handed regulations which drive business away to other centres that adopt a more light-handed approach. This is one of the lessons of the development of the Eurodollar market where US regulations clearly stimulated the development of the market.

Another problem of regulation is that too much investor protection can create a problem known as **moral hazard**. Moral hazard occurs when insuring against an event makes the insured-against event itself more likely to occur. For example, if governments guarantee investors' money this may encourage investors to place their money in institutions offering the highest return, since regardless of the risks involved investors know that their principal is safe. Overall, this can then lead investors to place too much of their funds with high-risk institutions resulting in a misallocation of savings. This factor undoubtedly played a significant part in the savings-and-loans fiasco in the United States at the end of the 1980s. In the early 1980s, the savings and loans business was deregulated and competition for funds led to many such institutions offering high rates of interest. Most investors' deposits were insured by the Federal Deposit Insurance Corporation (up to \$100,000), and investors consequently placed their funds with the highest-interest-paying institution. In a bid to meet these interest payments many savings institutions lent money to increasingly risky ventures, many of which subsequently failed, making many savings-and-loans institutions insolvent. The result was that the Federal Deposit Insurance Corporation was required to pay out far more than it had received in premiums. Ultimately, the US taxpayer is footing a bill estimated to be close to \$300 billion spread over 30 years.

It is clear that most governments need to strike a balance between regulation and the need to allow their financial services industry to develop without over-burdensome restrictions. The 1980s witnessed considerable financial deregulation. London experienced the 'big bang' in 1986, which involved ending the broker-jobber divide and fixed commissions for share-dealing. The reform was motivated by the desire to improve the competitiveness of London share-dealing, and has been considered important in maintaining London's competitiveness as an international financial centre.

However, although there was a general trend towards deregulation of national financial systems, there was one clear exception to this trend at the global level in the Basle Accord of 1988. Regulators and central banks had become increasingly concerned that the process of globalization had led to increased interactions between banks from different countries, with a perceived danger that a banking crisis in one country could transmit itself to other countries. Hence there was an attempt to ensure that banks had sufficient capital to

absorb potential losses, which resulted in the Basle Accord. As we shall see in Chapter 17, this first initiative in global regulation inevitably encountered much criticism and a new so-called Basle II Accord has been reached to address these problems, to come into force in 2006.

1.10 Financial innovation

By financial innovation we mean the design of new financial instruments or the packaging together of existing financial instruments. There are two main views on why financial innovation occurs. One cynical view is that innovations are primarily designed to overcome the effects of regulations and to exploit tax loopholes, whilst another view is that they are all about designing products to meet the wide variety of needs of investors to improve the efficiency with which they can achieve those objectives. The 1980s witnessed the rapid development and widespread availability of a whole range of financial products; examples include the proliferation of new types of options and futures contracts, warrants, swaps, junk bonds, index-tracking unit trusts, and secondary markets in third-world debt. The greater availability and wider financial product range means that firms and investors are better able to achieve their risk–return investment objectives, with the wider range, in addition, attracting new custom.

There were a number of forces in the 1970s and 1980s that lay behind the rapid pace of financial innovations. One was the greater volatility in both goods and financial markets. The early 1970s witnessed the breakdown of the Bretton Woods system of fixed exchange rates and witnessed high exchange rate, stockmarket and interest rate volatility. Following the first oil price shock of 1973 when the oil price was quadrupled by the OPEC cartel, many countries suffered high and volatile inflation rates. The more turbulent environment greatly increased the demand for financial products to protect investors' and borrowers' interests.

The 1980s also witnessed the widespread introduction of highly sophisticated computers and the development of appropriate software, enabling new and more sophisticated products. Deregulation and greater competition in the financial sector undoubtedly had the effect of increasing both the range and quality of financial products offered. Information flows greatly improved and this led customers to demand products that enabled them to cope with rapidly changing forces. The 1990s witnessed the rise of the internet and the ability of retail customers to buy and sell shares, access financial information, and carry out their banking online, and the impact and implications of all of this are still being felt by the financial services industry.

1.11 Types of financial innovations

Examples from the wide range of innovations include the following:

- 1 Market-broadening innovations – these work to increase the liquidity of markets by attracting new investors and providing new opportunities for borrowers.
- 2 Risk-management innovations – these have the effect of redistributing financial risk exposure from agents that are risk-averse to agents that are willing to undertake the risks.
- 3 Arbitraging innovations – in these agents exploit arbitrage opportunities either within or between different markets, often to take advantage of loopholes in the regulatory or tax framework.
- 4 Pricing innovations – seek to reduce the cost of achieving a specific investment objective.
- 5 Marketing innovations – in addition to innovative financial instruments, financial markets are also adept at finding innovative methods of selling and distributing financial products.

1.12 Emerging markets

Since the 1980s there has been a rapid rise in the significance of financial markets in most of the so-called emerging-market countries. Countries in Southeast Asia and Latin America have long found themselves attracting the interest of investors from the industrialized nations, this interest being very much spurred on by the rapid rates of economic growth of these countries. In more recent years, the newly independent countries of Eastern Europe that have emerged since the break up of the Soviet Union in the 1990s have also attracted the interest of international investors. In particular, countries like Poland, Hungary and Russia itself have attracted significant capital inflows. Many of these Eastern-bloc countries joined the European Union in April 2004 which will, over time, no doubt lead to further strengthening of their economies and lead them to further develop their financial systems, including measures to attract foreign investment. The emerging markets' stockmarkets have often offered spectacular returns, but also on many occasions the falls have led to equally large losses such as during the Mexican crisis of late 1994–early 1995 and the East Asian financial crisis of 1997, when markets like Hong Kong fell from 16,500 to a low of around 6,500. At the time of writing in late 2004 the Hong Kong index has since recovered to the 13,000 level. One of the lessons for investors is that overexposure to a single emerging

market is a risky business, but this does not necessarily apply to exposure to a portfolio of emerging markets.

1.13 Problems concerning investment in emerging markets

Although there is a strong theoretical case for international portfolio diversification, there are a number of reasons why investment managers in developed countries are reluctant to invest more significant amounts of money in emerging markets, and why investors are often warned to be wary of investment in such markets. These reasons include:

- *Poor accounting standards.* In developed financial markets there are usually strict regulations and standards regarding reporting the financial positions of companies. In many emerging markets, however, standards are often relatively poor making it extremely difficult for investors to ascertain a clear picture of the financial worth of a company.
- *Governance of companies.* In developed financial markets companies are run by directors who act as agents for shareholders. In theory, at least, directors are selected on merit and can be replaced if performance is unsatisfactory. In many emerging markets, control of companies is often exerted by a board made up of founding family shareholders who are not necessarily best-suited to the job.
- *Information costs.* In developed financial markets, most quoted companies are subject to detailed financial analysis and the costs of acquiring good quality information are relatively low. When investing in emerging markets, however, there are language barriers and also far less dissemination of information, which means that the costs of acquiring good quality information are relatively high.
- *Political risks.* In developed financial markets governments are relatively stable and the election of the opposition to government does not necessarily have any significant influence on financial markets. In emerging markets, however, foreign investors face the risk of controls being imposed restricting the outflow of their investments, and often face withholding taxes (that is, taxes on dividends and interest paid to foreign investors) or the threat of the impositions of such taxes. There are some tax treaties between countries that enable investors to gain a credit for the payment of such taxes so that they do not pay double taxation, but this is not always the case and the process of claiming the tax credit can be cumbersome. In extreme instances, foreign investors face the risk of expropriation of their assets and even nationalization of the enterprises they have invested in.

- *Foreign exchange risk.* Investment in emerging markets may result in a capital and income gain measured in the currency of the emerging market economy. However, these investments need to be converted back into the developed country's currency for a comparison to be made with domestic investments. The currency change may provide a gain or loss representing an additional risk that is not present with domestic investments.
- *Controls on foreign investments.* In many emerging markets, governments can impose costly restrictions on how foreigners can invest and manipulate their investments. For example, foreign investors may only be allowed a certain proportion of investment in domestic companies, or allowed shares that have more limited voting rights than domestic investors.
- *Higher transaction costs.* In developed financial markets, deregulation and greater competition have had the effect of greatly reducing brokerage commissions. In most emerging markets these costs are significantly higher, and there are also additional costs associated with foreign exchange commissions and communication for the execution of orders.

1.14 The future

Predicting the future is a hazardous business. Looking back over the last 35 years many of the important events for financial markets have been shocks that were largely unforeseeable. The oil-price hike of 1973–74 meant that huge OPEC (Oil Petroleum Exporting Countries) surpluses were placed on the international money markets much of which was then lent on to Latin America. In 1982, a moratorium on Mexico's debt repayments triggered off the international debt crisis that preoccupied many major international banks which by then had heavy exposure to the Latin American countries throughout the 1980s. The 1987 stockmarket collapse hit trading volumes on stockmarkets overnight. The reunification of East and West Germany in 1989 led to Germany becoming a big borrower of funds on global financial markets. Similarly, the Asian financial crisis of 1997 was largely unforeseen, yet it was undoubtedly one of the most turbulent events to ever affect global financial markets. The disintegration of the Soviet empire provided new opportunities and risks as witnessed by the 1998 Russian default. Likewise, stockmarkets went into a major downswing following the 11 September 2001 attacks on the twin buildings of the World Trade Centre, a single shock that was totally unforeseen.

Nonetheless, there are a number of trends that will undoubtedly have a major impact. One is that financial technology will continue to penetrate into the home consumer market. The internet enables consumers to manage

their bank accounts and make payments for goods and services directly from home. One can safely predict that 'electronic cash' will emerge and people will be able to top up their electronic cash-card from home. Retail banking will increasingly become a tough commodity business with consumers allocating more of their money to deposit accounts and less to current accounts. On the loan side, the ability to easily search the market for the most competitive loan rates will further erode profit margins.

Technology is also likely to impact heavily upon the way many financial instruments are traded. In New York and Tokyo, shares are still traded on the stock exchange floor and futures and options contracts involve traders gathering around a pit. The plain fact is that technology makes such arrangements an anachronism and it is only a matter of time before screen-based trading becomes the norm. The experience of London is instructive in this regard. When screen-based trading was first introduced following big bang in 1986, it was supposed to complement trading on the stock exchange floor, however within two weeks trading on the floor ceased and screen trading became the London norm.

In Europe the successful commencement of Monetary Union in January 1999 followed by the introduction of the euro in January 2002 has already had a profound effect on Europe with mergers between the Amsterdam, Paris, Lisbon and Brussels stock exchanges in the form of the Euronext exchange. Since there is little doubt that the euro will be a low-inflation currency (the Germans will see to that!), it will eventually emerge as a major reserve currency to rival the US dollar. The euro will over time lead to greater demands for a truly single market in the financial services industry, and removing national governments' ability to unilaterally print money will lead to a greater focus on economic reforms of social security and pension systems.

The regulatory environment in Europe is also changing rapidly, and the ability of financial firms to sell their services in other European Union countries will increase. European policy is increasingly based on the concept of 'mutual recognition' and the so-called 'passport' principle. The concept of mutual recognition is that countries in the European Union agree on the minimum standard for an insurance company or bank, and once this standard is agreed the financial institution is free to sell its services in all the European Union countries. In effect, once a licence to operate is obtained in one European Union country, because of the 'mutual recognition' involved, the financial institution has a 'passport' to sell its services in all the other European Union countries. This new regulatory environment contrasts with the old days when attempts to agree on full standards never got anywhere, and financial institutions required a separate licence to operate in each European Union member country.

The significance of emerging-market economies will no doubt be one of

the biggest events over the next few decades. Countries like China and India have relatively low GDPs per capita and very underdeveloped financial systems, but they are rapidly growing economies and their demands for finance and financial products will grow significantly. There is no doubt that they will look to developed capital markets such as the United States, UK and Japan for sources of finance and for ideas on which to develop their own financial services industries. The demand for Indian and Chinese-speaking investment bankers can be safely predicted to rise! Similarly, the Eastern-bloc economies can be expected to grow rapidly over time and they too will seek to develop their own financial sectors.

1.15 Conclusions

The world of finance like the global economy has undergone major changes over the last three decades and many further changes can be expected in the future. To quote an old adage, the only constant is change. Present-day financial institutions and the way of doing business today are likely to look very out-dated in 30 years' time. Nonetheless, there are some fundamental principles of finance that do not change; one is that higher return is usually associated with higher risk, and another is that financial instruments and financial institutions will only survive in a marketplace if they are able to meet clients' needs at a competitive price. In the rest of this book we shall be looking in more detail at the role played by the financial sector of the economy, and the various financial instruments that exist.

MULTIPLE CHOICE QUESTIONS

- | | | |
|--|--|--|
| <p>1 Which is the largest foreign exchange market centre in the world?</p> <p>a The United States. <input type="checkbox"/></p> <p>b United Kingdom. <input type="checkbox"/></p> <p>c Japan. <input type="checkbox"/></p> <p>d Germany. <input type="checkbox"/></p> | <p>3. UK <input type="checkbox"/></p> <p>4. Euronext <input type="checkbox"/></p> | <p>3. Japan <input type="checkbox"/></p> <p>4. Euronext <input type="checkbox"/></p> |
| <p>2 Which of the following represents the order of global stockmarkets in terms of total market capitalization.</p> <p>a 1. USA <input type="checkbox"/> b 1. USA <input type="checkbox"/></p> <p>2. Japan <input type="checkbox"/> 2. UK <input type="checkbox"/></p> | <p>c 1. Japan <input type="checkbox"/> d 1. USA <input type="checkbox"/></p> <p>2. USA <input type="checkbox"/> 2. Japan <input type="checkbox"/></p> <p>3. UK <input type="checkbox"/> 3. Germany <input type="checkbox"/></p> <p>4. Euronext <input type="checkbox"/> 4. UK <input type="checkbox"/></p> | <p>3 The daily volume of global foreign exchange turnover per day in 2004 was approximately:</p> <p>a \$600 billion? <input type="checkbox"/></p> <p>b \$1,000 billion? <input type="checkbox"/></p> <p>c \$2,400 billion? <input type="checkbox"/></p> <p>d \$10,000 billion? <input type="checkbox"/></p> |

- 4 Which of the following represents the order of countries with the largest outstanding public debt in 2002?
- a 1. USA b 1. Japan
 2. Japan 2. USA
 3. Italy 3. Italy
 4. Germany 4. Germany
- c 1. Japan d 1. USA
 2. USA 2. Japan
3. France 3. UK
 4. Germany 4. Italy
- 5 Which of the following countries has the largest amount of commercial bank assets in 2002?
- a Japan.
 b USA.
 c UK.
 d France.

SHORT ANSWER QUESTIONS

- 1 What are the key roles of a financial centre and to what extent is London a different financial centre than New York?
- 2 Discuss the pros and cons of the use of new technology in financial institutions.
- 3 Discuss what is meant by financial innovation. What are the five types of financial innovation that can occur?
- 4 What is meant by 'globalization of financial markets'? Discuss the pros and cons of the globalization process in the world of finance.
- 5 Briefly describe five reasons as to why emerging markets may not prove popular with international investors.

Further reading

- Bain, K. and Howells, P. (2004) *Financial Markets and Institutions*, Financial Times/Prentice-Hall.
- Bodie, Z., Kane, A. and Marcus, A. (2004) *Investments*, 5th edn, McGraw-Hill.
- Buckle, M. and Thompson, J. (2004) *The UK Financial System: Theory and Practice*, 3rd edn, Manchester University Press.
- Valdez, S. (2003) *Introduction to Global Financial Markets*, 4th edn, Palgrave Macmillan.

Glossary



This glossary provides a set of terms that are commonly used. It is not exhaustive and some of the terms are not used in the book but provided here for information.

- AAA** the highest credit rating that can be issued. Implies that bonds issued by the issuer are extremely safe with a very low probability of default.
- Abnormal Return** a return in excess of what could be expected given the risk characteristics of a security.
- Active Management** the buying and selling of securities designed to achieve high levels of returns compared to passive management or just tracking an index.
- Alternative Investment Market (AIM)** a market for smaller companies that may not meet the listing requirements of the main UK Stock Exchange. The market was set up in June 1995.
- American Depository Receipt** a security that is traded on the American stock exchange, which represents an underlying share in a foreign company that is not formally listed on the US stock exchange.
- American Option** an option that can be exercised at any time prior to maturity.
- Annuity** a policy which makes a series of fixed payments over a specified period of time.
- Arbitrage** the process of exploiting a pricing anomaly to make riskless guaranteed profits.
- Aribitrageur** a person that seeks to exploit a pricing anomaly to make riskless profits. In practice the term can be used to describe risk taking individuals/funds that take on risky takeovers.
- Asian Option** an option whose payoff depends upon the average price of the underlying over a specified period of time rather than a traditional option whose payoff depends upon the price of the underlying upon maturity. Also known as an average option.
- Asset Backed Security (ABS)** a security that is backed by real underlying assets or cash flows.
- At the Money Option** an option whose strike price is the same as the price of the underlying.
- Assurance** part of the insurance business dealing with life insurance and pensions.
- Back Office** part of a financial institution that deals with accounting, settlement, record maintenance etc.
- Backwardation** when one market maker's selling (offer) price rate is less than another's buy (bid) price, this means there is an arbitrage opportunity. In normal market conditions the selling price is above the bid price.

- Balance Sheet** an accounting statement of a company's assets and liabilities and net worth.
- Bancassurance** a French term used to describe banks involved in the selling of insurance products along with traditional deposit and lending services.
- Bank for International Settlements (BIS)** Based in Basle and is known as the central banker's bank since it specializes in central banking issues and the stability of the financial system.
- Bankruptcy** a situation where an individual or company is unable to repay its debts.
- Barrier Option** an option whose payoff depends upon whether or not the underlying asset price has passed a particular point.
- Basis Point** one hundredth of one per cent, i.e. 0.01%, e.g. 5 basis points = 0.05%.
- Basis Risk** the risk that a particular hedging strategy will not work as well as intended since the futures/options positions and cash market may not move to exactly offset the hedged risk.
- Bear** an expression that describes a pessimist that thinks that the prices of shares/bonds or other securities/assets will fall in price.
- Bear Market** a market in which security prices fall by a substantial amount. In the US a fall in the S&P 500 or Dow Jones by 20% or more is often classified as a bear market.
- Bearer Bond** a bond whose coupon and principal is payable to whoever is in possession, there is no central register of the bond's ownership.
- Benchmark Bond** usually a government bond the interest upon which provides a benchmark to measure the performance of other bonds such as corporate bonds. For international comparisons the yield on 10 year government bonds is often used.
- Beta** a measure of a security's sensitivity to market movements or systematic risk. A share with a beta of 1 tends to move by a similar percentage to the market. While one with a beta of 2 tends to move up or down twice as much as the market over time.
- Bid-Ask Spread** the amount by which the ask rate exceeds the bid rate, e.g. a bid rate of £10 and ask rate of £11 implies a bid-ask spread of £1.
- Bid Rate** a dealer's rate at which the dealer buys a security, e.g. bank deposit, bonds, foreign exchange, shares – it will be lower than the offer (ask or selling) rate.
- Big Bang** a term used to describe the deregulation of the UK stock exchange in October 1986.
- Bill of Exchange** a signed promise to pay by the receiver of goods/services to the supplier a certain sum of money. The supplier may sell the bills at a discount to a third party.
- Black-Scholes formula** a model used to price a European call option premium which was published in 1973 by Fisher Black and Myron Scholes.
- Blue Chip** a term used to describe the shares of a well known and well regarded company. The company will have a good track record.
- Bond** a security issued by a borrower in return for funds which has longer than 1 year to maturity. The issuer agrees to pay the bond buyer a series of cash flows over the life of the bond.
- Book Value** the net asset value of a company, that is, the value of tangible assets less intangible assets and less liabilities.
- Bretton Woods** a fixed but adjustable exchange rate system agreed at Bretton Woods in 1944 in which major currencies were pegged to the US dollar \pm 1% either side of an assigned central parity. Also set up the International Monetary Fund and the World Bank.
- Broker** an agent (individual or firm) that buys/sells securities on behalf of a client in return for a fee.
- Bubble** a term used to describe fast dramatic price rises of shares or something else that is likely to prove unsustainable.

- Bull** an expression that describes an optimist that thinks that the prices of shares/bonds or other securities assets will rise in price.
- Bull Market** a market which experiences strong sustained price rises.
- Bulldog** a bond issued by a foreign entity on the UK market in pounds.
- Bund** A German government bond
- Buy and Hold** a passive investment strategy in which one buys shares etc and holds onto them through market fluctuations in the belief that they will perform well in the long term.
- Cable** a term used by dealers to describe the pound in terms of the dollar on the foreign exchange market.
- Call Back Feature** a clause giving the issuer of a security the right to redeem the security prior to maturity.
- Call Money** money lent by banks to other banks/security houses that can be recalled at noon each day.
- Call Option** the right but not the obligation to buy a security/commodity/asset at a predetermined price.
- Cap** an agreement between a borrower and a lender to set an upper limit to the interest rate payable on a loan.
- Capital Adequacy** the amount of capital needed by a financial institution to cover potential losses.
- Capital Adequacy Ratio** a ratio of a bank's capital to its weighted risk adjusted assets.
- Capital Asset Pricing Model (CAPM)** a model that is used to determine the expected rate of return on a security, based on its risk characteristics as measured by its beta.
- Capitalization** the market capitalization of a company is the number of shares times the price per share.
- Capital Markets** the markets where economic agents such as governments and firms raise capital for more than a year and where such financial securities are traded, such as the equity and bond markets.
- CBOE** Chicago Board Option's Exchange.
- CBOT** Chicago Board of Trade.
- Certificate of Deposit** a certificate which certifies that a deposit of a certain amount has been made at a bank and specifying the interest to be paid, usually issued by a commercial bank. Can be used as collateral for a loan.
- Cheapest to Deliver Bond** a bond whose price is the cheapest to deliver in fulfilment of a bond futures contract upon expiry.
- Chinese Wall** a barrier put in place within a financial institution to prevent conflicts of interest within the institution.
- Chooser Option** an option where the holder has the choice whether it is a put or call option at a given point of time.
- Clean Price** the price of a bond excluding the accrued interest since the last coupon payment.
- Clearing House** a central body that clears and guarantees futures and options contracts and monitors the positions of parties to the contracts.
- CME** Chicago Mercantile Exchange.
- Collar** a contractual limit within which the interest rate on a loan or the exchange rate on a contract may lie, e.g. 8%–10% or \$1.25/€1 to \$1.30/€1. As such it is a combination of a Cap and a Floor.
- Commercial Bank** a bank that is primarily involved in the traditional line of banking that is taking in deposits and making loans.
- Common Stock** an American term for ordinary shares which confer ownership rights of the company and entitle the owner to voting rights and a share of the profits. However, as an owner the stockholder is last in line if the company is liquidated.
- Convertible Bond** a bond that can be converted into either shares or some other asset at some point.

- Corporate Bond** a bond issued by a company.
- Counterparty Risk** the risk that a counterparty to a contract will fail to settle the contract.
- Coupon** the rate of interest payable on a bond when issued. Usually paid semi-annually.
- Credit Derivative** a derivative whose price is determined by the credit risk of economic agents.
- Credit Rating** an assessment of a company's credit worthiness, that is, its ability to repay its debt. The two main credit rating agencies are Moody's and Standard and Poors.
- Cross Rate** the rate of exchange between two currencies implied by their exchange rates vis-à-vis a third currency, e.g. \$1.80/£1 and \$1.20/€1 implies a cross rate of €1.50/£1.
- Cumulative Dividend** a limitation placed upon a company, ensuring the payment of preferred dividends before making distributions to common shareholders. If a company fails to make a dividend payment to a preferred shareholder with a cumulative dividend, the company is required to catch up the payment before any other payments can be made to common shareholders.
- Currency Option** an option that gives the holder the right but not the obligation to buy/sell a particular currency at a predetermined rate at a given point in time.
- Currency Swap** a swap that involves the two parties exchanging cash flows in two different currencies.
- Debenture** in the UK it is a bond secured against assets. In the USA and Canada it is an unsecured bond backed only by the credit worthiness of the issuer.
- Debt-Equity Ratio** the ratio of a firm's debt to its equity.
- Delivery Month** the month in which a contract expires and delivery of the underlying asset is required or the contract is settled for cash.
- Default** a situation when an economic agent fails to meet a contractual payment of interest or principal.
- Default Risk** the risk that an economic agent (company, government or individual) will not pay either the interest and or principal on a debt obligation.
- Derivative** a contract the price of which is derived from the price of an underlying asset. Examples of derivatives are futures, forwards, options and swaps.
- Devaluation** situation where a currency is devalued in a fixed exchange rate regime to a new lower value against another currency.
- Dividend** a cash payout per share to shareholders announced by a company's board.
- Dividend Discount Model** a model for valuing shares.
- Dividend Yield** the annual dividend per annum as a percentage of the share price.
- Dirty Price** the price of a bond including the accrued interest.
- Discount** the difference between the lower price paid for a security and its face value on issue. For example, a Treasury bill with a face value of \$1000 is sold at \$970 implying a discount of \$30.
- Disintermediation** the process of borrowing or lending by a company without going to a bank. For example, the issuance of a corporate bond rather than the taking out of a loan from a bank.
- Dow Jones Industrial Average** a price weighted index of 30 major US companies. The index was originally based on 12 stocks and created by Charles Dow in 1896, the modern index of 30 companies began in 1928.
- Dragon Bond** A dollar denominated bond issued in Asia.
- Duration** a measure of the sensitivity of a bond's price to changes in bond yields.
- Earnings** the profits of a company over a specified period of time usually after tax.
- Earnings Yield** earnings per share (net of tax) as a percentage of the share price.
- Efficient Market Hypothesis (EMH)** a theory that says security prices reflect all available information thus making it difficult for investors to make abnormal returns.

- Emerging Market** the market of a country which is experiencing rapid economic growth but whose income per capita usually makes it a low to middle income economy.
- Equity** shares which represent ownership of a company.
- Equity Risk Premium** the expected excess return above the risk-free rate of interest which is required to compensate for the riskiness of investing in shares.
- EUREX** the European Exchange which is a merger of the German DTB exchange and the Swiss SOFFEX exchange.
- Euro Libor** the London interbank offer (lending) interest rate on the Euro.
- Eurobond** a bond denominated in a different currency to the country of issue, e.g. a dollar bond issued in London is a dollar denominated Eurobond.
- Eurocurrency** a short term deposit/loan made outside of the country of that currency, for example, a 3 month yen deposit/loan made in London.
- Eurodollar** a short term deposit or loan made in dollars outside the United States.
- Eurobank** a bank that specializes in making short-term deposits and loans in a variety of foreign currencies.
- European Option** an option that can only be exercised upon maturity.
- Exchange Rate** the rate at which one currency can be exchanged for another.
- Exercise Price** the price at which an option may be exercised. Also known as the strike price.
- Exotic Option** an option which has special features compared to standard put/call options.
- Factoring Agency** usually a subsidiary of a bank that specializes in buying trade debts at a discount to the face value, this helps provide companies with cash flow more speedily.
- Federal Funds Rate** an overnight interest rate at which one US bank lends funds to another. The Federal Reserve Open Market Committee sets a target for such interest rates at its FOMC meeting.
- Federal Reserve Bank** the central bank of the United States, it is made up of 12 Regional Reserve Banks that carry out the monetary policy set by the FOMC.
- Floating Rate Note** a bond (note) that has a variable coupon or rate of interest. For example, it may be expressed at 1% above dollar LIBOR and will fluctuate according to changes in dollar LIBOR.
- Footsie** a term used to describe the FTSE100 share index.
- Foreign Bond** a bond issued in the domestic currency of the country of issue but by a foreign entity. For example, IBM (a US company) issues a sterling bond in London.
- Forward Contract** a contract to buy/sell a security or commodity at a predetermined price and a predetermined date in the future.
- Forward/Forward** an agreement to lend/borrow money at a predetermined interest rate in the future for a given amount of time. For example, an agreement to lend/borrow \$1million for three months in six months' time at 4%.
- Free Cash Flow** the amount of net cash generated by a company after paying ongoing expenses.
- FSA** the Financial Services Authority, a financial regulator in the UK.
- FTSE100** an index of 100 of the largest capitalization company shares listed on the UK market.
- Fund Manager** the person responsible for investing a unit trust/mutual funds assets and investment strategy.
- Futures Contract** a standardized agreement to buy/sell a security at a predetermined price at a given date in the future.
- GAAP** Generally Accepted Accounting Principles, the US system of rules, procedures and conventions governing the reporting of accounts by companies.
- Gearing** the ratio of a company's debt to equity.

- Global Depository Receipt (GDR)** a security issued in more than one foreign country which represents ownership of shares in a foreign company. The shares are held by the issuer of the receipt and they trade like domestic shares in the market in which they are traded. *See also* American Depository Receipt.
- Gilts** the name used to describe bonds issued by the UK Treasury. The name comes from the fact that they used to be issued with gilt edges.
- Gordon Growth model** a model used to value a share assuming that dividends on the share grow at a constant rate.
- Grey Market** an informal market for a security that sets a price for a security prior to the opening of the official market.
- Growth stock** a term that describes shares in a company that is expected to grow very rapidly over the next few years.
- G7** the group of 7. UK, USA, France, Germany, Italy, Canada and Japan.
- Hedge Fund** a term used to describe a fund which actively seeks to make high returns for its investors, it may go both long and short on securities including use of derivatives for this purpose. The fund usually raises its capital from wealthy individuals and increasingly institutional investors.
- Hedging** the process of undertaking a transaction to reduce or eliminate risk.
- Holder** the agent that buys a call or put option.
- Hostile Takeover** a takeover bid for a company that is strongly resisted by the target company.
- Immunization** a hedging strategy that matches the duration of assets and liabilities and so minimizes the impact of interest rate changes on net worth.
- Implied Volatility** the volatility that is expected in the market implicit from the option premium.
- Indenture** the terms associated with a bond contract. For example, the coupon to be paid, conversion rights, call back features etc.
- Index** usually refers to a stock index like FTSE 100, S&P500, CAC40, Dax etc.
- Index Arbitrage** a strategy which aims to make a profit at any significant departure of stock exchange futures prices from their theoretical values. It involves selling futures and buying shares if the futures premium is too big and buying futures and selling shares if the futures premium is too small. It may involve the use of programme trades.
- Interbank Market** the market which deals with bank lending and borrowing with other banks.
- Initial Margin** the initial deposit required by an Exchange/Broker when opening a futures contract or writing an option contract.
- Insider Trading** the buying or selling of a security by someone who has access to privileged information not publicly available. In most countries such trading is illegal.
- Insurance** the business of collecting premiums so that policy holders can claim money if they suffer losses when insured.
- International Banking Facility (IBF)** a facility whereby an institution based in the US can make short-term deposits/loans in dollars in the United States without the need to meet regulatory requirements or hold reserves. This enables US banks to compete with Eurobanks but they can only conduct business with foreign residents not US residents.
- In the Money Option** an option that would have some intrinsic value if exercised immediately. For a call option the current price of the underlying is above the strike price. For a put option the current price of the underlying is below the strike price.
- Intrinsic Value** the value that would be realized if an option were exercised immediately. For a call option the intrinsic value is the amount by which the current price of the underlying exceeds the exercise price. For a put option the intrinsic value is the amount by which the current price of the underlying is below the strike price.

- Inverted Yield Curve** a yield curve that has a negative slope, that is short-term interest rates are higher than long-term interest rates.
- Investment Banking** that part of banking that deals with corporations and high end securities. For example new equity issues (IPOs), rights issues, bond issues, mergers and acquisitions, fund management, investment management etc.
- Investment Grade** a bond that has a credit rating of BBB (Standard and Poors) or Baa (Moody's) or better.
- Investment Trust/Company** a company that holds stakes in the form of shares in other companies. It can engage in takeovers, breakups and falls under company law.
- IPO** Initial Public Offering, an American term used to describe the floating of a company on the stockmarket for the first time.
- IPMA** International Primary Markets Association, oversees Eurobond issues.
- Issuer** an entity, e.g. company or government that sells a security to raise funds.
- Junior Security** bond with less claim to income and assets than a senior security.
- Junk Bond** a high risk high yield bond with a credit rating of below BBB (Standard and Poors) or Baa (Moody's).
- Kangaroo Bond** a bond issued in Australia in Australian dollars but by a foreign entity.
- Knock In Option** an option that will 'kick in' only once a certain price has been reached.
- Knock Out Option** an option contract that will no longer be valid if a certain price is met.
- Lead Manager** a bank that takes a lead role in the issue of a corporate bond or a syndicated bank loan.
- Letter of Credit** a guarantee (letter) made by a bank that a buyer of a product/service will make a payment. Should they not, then the payment will be made by the Bank.
- Leverage** a company's debt to equity ratio. Also used to describe the use of a limited amount of capital to make large financial bets on the financial markets.
- Leveraged Buyout** a term used to describe the takeover of a company primarily financed by the issuance of debt in the form of bonds or bank loans by the acquiring company.
- Libor** London interbank offer (lending) rate. A rate of interest at which one bank will lend to another on the London interbank market. There is dollar LIBOR, Euro LIBOR, sterling LIBOR and Yen LIBOR according to which currency is being lent.
- LIFFE** London International Financial Futures Exchange.
- Liquidity** the extent to which a security/asset can be easily traded in large volumes with moving the price. A share or bond with high liquidity can be bought and sold quite easily and will usually have a low bid offer spread.
- Liquidity Ratio** the ratio of a bank's liquid assets to its eligible liabilities.
- Listed Security** a security that receives a listing by a recognized Exchange due to it meeting the requirements of that Exchange for listing purposes. A listing usually ensures good liquidity and that the company issuing the security is committed to making certain information publicly available.
- LME** London Metals Exchange.
- Long Position** describes the position of a trader/institution that has a positive net holding balance in financial securities or commodities. They will benefit if the price rises.
- Macaulay Duration** The weighted-average term to maturity of the cash flows on a bond. The weight of each cash flow is determined by dividing the present value of the cash flow by the price of the bond.
- Margin Call** a demand for a cash deposit by a broker/exchange in order to bring a margin account to a required level.
- Market Maker** a broker/dealer that will buy/sell up to a specified amount of a security by quoting bid-offer price.

- Management Buyout (MBO)** a buyout of shares by the management/directors of a company, usually results in the company being made private.
- Matador Bond** a bond issued in Spain in Euros by a non Spanish entity.
- MATIF** Marche a Terme Internationale de France. The French Futures Exchange.
- Medium Term Note** a bond (note) that matures in 5–10 years. May pay a fixed or variable rate of interest.
- Merchant Bank** a bank that deals mainly with trade finance, underwriting and medium to long term company loans. *See also* Investment Bank.
- Merger** a situation when two companies agree to become one company. This involves shares in one of the companies being replaced by shares in the acquiring company.
- Mezzanine Finance** finance that lies between debt and equity, it is less senior than debt but more senior than equity.
- Modified Duration** a formula that measures the sensitivity of the price of a bond to changes in the rate of interest.
- Money Laundering** the process of recycling illegal money (e.g. obtained through trading illegal drugs) through the money markets so as to make it appear to be a legitimate source of funds.
- Money Market** the market for money market securities with a maturity of less than one year.
- Mutual Fund** an American term for a fund that pools funds from a variety of investors and invest them in shares and/or bonds. In the UK it is known as a Unit Trust.
- NASDAQ** National Association of Securities Dealers Automated Quotation system, an electronic stockmarket in the United States which started in 1971 and tends to specialize in fast growing technology companies, although over 5000 companies are quoted on the system.
- Notional Principal Amount** the value of the principal in a swap agreement upon which the exchanged interest rate payments are based.
- Nikkei 225** a well known index measuring the performance of 225 Japanese shares.
- Off Balance Sheet Liability** a bank liability that is not recorded on the bank's balance sheet. For example, an underwriting liability or a letter of credit.
- Offer for Sale** a way of bringing a company to market either via an auction process or at a fixed price per share.
- Offshore Market** a market for loans or deposits of a currency outside of the country of issue of that currency. For example, dollar loans/deposits made outside of the United States. *See also* Eurocurrency.
- Open Market Operation** the buying or selling of money market securities by the central bank aimed at expanding or contracting the money supply and influencing money market rates of interest.
- Open Outcry** a system for setting prices on securities/commodities in a trading pit by traders shouting out buy/sell orders in a face to face scenario.
- Option** the right but not the obligation to buy/sell shares, bonds, foreign exchange, commodities etc at a given (exercise/strike) price at or before a predetermined date in the future.
- Out of the Money Option** an option that has no intrinsic value. For a call option the price of the underlying is below the strike price. For a put option the price of the underlying is above the strike price.
- Over the Counter Market** a market where trading does not take place in an organized Exchange. For example, a bank might sell an option to buy or sell a currency at a given exchange rate. Contracts are typically tailor made by a bank or financial institution to meet the specific need of the buyer.
- Par Value** the nominal face value of a security upon issue eg a £100 Treasury bill or a \$1000 Eurobond.
- Passive Management** a strategy that involves buying and holding shares usually to track a well known market index.

- Payout Ratio** the percentage of earnings paid out in dividends. It is calculated as dividend per share divided by earnings per share.
- Perpetuity** a security that pays out a constant stream of cash flows into the indefinite future with no redemption date.
- Pit** a place where futures, options and other securities and commodities are traded via an open outcry system.
- Preference Shares** shares where the holder is entitled to a given dividend. Holders of preference shares have a priority over ordinary shareholders with regard to dividends and also entitlement to a share of the assets should the firm go into liquidation. However they have a lower priority than debt holders.
- Present Value** the value of a future series of cash flows at today's value when discounted at a certain rate of interest.
- Price-Earnings (PE) Ratio** the price of a share divided by the earnings per share after payment of tax.
- Primary Market** the market where securities are sold when first issued.
- Private Banking** Banking which specializes in providing services for wealthy clients.
- Promissory Note** a signed note promising to pay a specified sum of money on a given date.
- Purchasing Power Parity** a theory that exchange rates are determined by relative goods prices in two countries. For example if the same car costs \$40,000 in the US and £20,000 in the UK then the appropriate PPP rate is \$2/£1.
- Put Option** the right but not the obligation to sell a security/commodity/asset at a predetermined price.
- Quanto Option** an option on a share price in one currency but which pays out in a different currency.
- Rating** the credit rating assigned to a company. Also, a share analyst might make a rating on whether to buy or sell a share.
- Real Interest Rate** the amount by which the rate of interest exceeds the inflation rate. For example, if the rate of interest is 6% and the inflation rate is 3.5% then the real interest rate is 2.5%.
- Real Option** a right to do something that arises from a business investment decision. For example, an investment of £100 million in China might create the option to expand the investment in the future or provide an option to set up a factory in India as well etc.
- Redeemable** a security such as a share or bond that can be redeemed by the issuer in accordance with the conditions set out when the security was issued.
- Red Herring** a preliminary prospectus that is issued by a company prior to an IPO or a bond issue outlining the basic proposed terms of issue and basic information about the company.
- Reinsurance** the business of laying off potential insurance liabilities with a reinsurer.
- Repo** a sale and repurchase agreement. An agreement by the seller to buy back the security at a future date. As such, the discount at which it is sold determines the rate of interest.
- Reverse Repo** the same as a repo, but the deal has been initiated by the buyer of the security.
- Reverse Takeover** the takeover of a company listed on the stock exchange by an unlisted company. The unlisted company is normally smaller but via this process can obtain a stock exchange listing in the newly merged company.
- Revolving Credit** a commitment by a lender to lend money on a recurring basis under predefined conditions.
- Rights Issue** the issuance of new shares by a company to raise new finance. The shares are offered to current shareholders first in proportion to the number of shares that they own. A shareholder can transfer their rights to a third party.

- Risk Averse** an investor that will only take on increased risk if there is sufficient prospective return to compensate.
- Russell 2000** an index of the performance of 2000 smaller size US companies shares.
- Schatz** a short term German government bond of 2–5 years till maturity.
- Secondary Market** the market for buying and selling a security that has already been issued on the primary market.
- Securities Exchange Commission (SEC)** a powerful US regulatory body responsible for overseeing US securities markets and investor protection.
- Securitization** the process of borrowing money through issuance of a security which is backed by stream cash flows or other assets. For example, a bond may be issued, the payments of which may be financed from mortgage or rental income.
- Senior Security** a security such as debt instrument the holder of which must be paid before holders of other junior securities such as equity are paid.
- Settlement Date** the date by which a security trade must be settled, that is, the date when a buyer of the security must pay for the security and by which the seller must deliver the security to the buyer.
- Settlement Price** the price at which a security is settled. For derivatives, it is an important price since the daily settlement price will determine the amount of variation margin that may be required.
- Share** a security that signifies partial ownership of a company, the shareholder has a part claim on the company's assets and may be paid a dividend from the company's profits. The value of the share will fluctuate with the company's performance and prospects.
- Short Selling** to sell a bond or share that the seller does not own in the hope that the price will fall and can be bought back at a lower price. Traders are short on a security if they have a negative net position in that security or asset.
- Short Squeeze** a situation where there has been heavy short selling of a stock but a price rise means that the short sellers find they have to buy the stock back to cover their losses, but this then forces the price further upwards.
- Soft Commodities** coffee, sugar, orange juice, tea etc. non metals.
- Sovereign Risk** the risk that a country will default on its debt.
- Spot Market** a market in which the commodity/asset/security is paid for and delivered immediately. Often used in the currency market when talking about the spot exchange rate between one currency and another.
- Spread** the difference between the bid and offer rate.
- Stag** a person that buys a newly issued share in the hope of selling it quickly after issue at a premium to the price paid for it.
- Standard & Poor's 500 index (S&P500)** an index made up of 500 major US shares which are chosen by market capitalization, liquidity, and industry group. The index is value weighted and calculated on a continuous basis throughout the day. It is one of the most widely watched stock indices in the world.
- Stock Split** a process of splitting up a stock into smaller parts normally done to improve liquidity in the share. For example, a \$200 share may be split into 5 shares of \$40 each in a 5 for 1 stock split. In the UK it is known as scrip issue.
- Straddle** an option strategy that involves the simultaneous purchase of call and put options on a share at the same strike price.
- Strangle** an option strategy that involves the simultaneous purchase of call and put options on a share at different strike prices.
- Strike Price** the price at which an option holder has the right to buy or sell a security.
- Subordinated Debt** a bond or loan that should a company go into liquidation is less senior to other bonds, the bondholder can only expect payout once the more senior debt holders have been paid. Also known as junior debt.
- Sumarai Bond** a yen denominated bond issued in Japan by a foreign entity

- Swap** an exchange of cash flow obligations between two parties.
- Swaption** an option to do a swap sometime in the future.
- Syndicate** a term used to describe a group of financial institutions that underwrite a debt issue or undertake a joint bank loan known as a syndicated bank loan.
- Syndicated Bank Loan** a large bank loan made to a borrower by a group of banks. The syndicate is usually led by a lead bank which makes a percentage of the loan itself and then syndicates the rest to the other banks.
- Takeover** a situation where an acquiring company makes a bid for a target company. A hostile takeover ensues if the acquired company resists the takeover or a friendly takeover occurs if the target company welcomes the bid.
- Tender** to make a bid to buy Treasury bills or bonds or other financial securities.
- Tick** the smallest possible price movement in a security eg 0.01 or 1/32.
- Time Value** the part of an option premium that is not part of the intrinsic value.
- Tombstone** a formal advertisement in the financial press of a potential or successful issue of a bond, syndicated bank loan, issue of commercial bond etc.
- Traded Option** a standardized option contract that is traded on an exchange and which can be sold prior to maturity.
- Tranche** related securities that are offered at the same time but which have different risk/reward characteristics and/or different maturities. For example, one tranche of a bond issue might be partly in dollars and the other tranche in euros or one part at 5 years to maturity and another tranche at 10 years till maturity.
- Treasury Bill** a short term debt instrument issued by the Treasury of 12 or less months till maturity. Treasury bills are issued at a discount to their face value.
- Treasury Bond** a long-term debt instrument issued by the Treasury which makes fixed coupon payments to the holder and pays the principal back upon maturity. In the US the bond is usually 10 years or over with 2–9 year bonds being called Treasury Notes.
- Underwriting** the process of issuing an insurance policy.
- Underwriting Syndicate** a group of banks that agree to buy any unsold part of a newly issued security.
- Unit Trust** a fund that pools money from investors and then invests them in a range of securities. *See also* Mutual Fund.
- Unsubordinated Debt** debt which is senior with respect to repayment than other debt or junior securities.
- Value at Risk** a statistical modelling technique used to estimate the probability of portfolio losses based on an analysis of the behaviour of past prices and volatilities.
- Volatility** a statistical measure of the tendency of a security to rise or fall over a given time frame. Usually calculated by looking at a security's variance.
- Warrant** an option attached to a bond that gives the holder the right to buy or sell a security at a given price. It differs from a normal option in that the company issuing the bond is issuing the warrant rather than an Exchange. In addition a warrant may be exercisable in several years compared to several months as is the case with an exchange traded option. Warrants can be detached from the bond and traded separately from the bond.
- Withholding Tax** a tax on investment income aimed specifically at non residents (ie foreigners).
- Yankee Bond** a bond issued in the United States in dollars but by a foreign entity.
- Yield to Maturity (YTM)** the rate of return on a bond expressed as a percentage per annum if it is held till maturity. The YTM takes account of all coupon payments and any prospective capital gains/losses as well as the term to maturity and assumes that coupon payments can be reinvested at the YTM.

Index

- Active fund management 252–3
- Aggressive securities 200–1, 219
- Allotment policy 219
- Announcement effect 67–70
- Annuities 47
- Arbitrage 35, 273–5, 286–90, 304, 310–11, 326, 331, 342, 351, 364, 419, 423
 - cross currency 275
 - financial centre 275
- Arbitrage Pricing Theory 208–10
- Arbitrageur 373
- Association of International Bond Dealers 147
- Asymmetric information 433–4
- Auction issue 31, 98

- Bancassurance 47
- Bankers acceptance 100–1
- Banking Act 444
- Banks 118
 - commercial 30, 44–5, 57, 102
- Basis risk 357
- Basle Accord 14–15, 447–51
- Bearer form 145–7
- Beta 189–93, 205, 258
- Bid–ask spread 29, 35, 218, 248, 397, 442
- Big bang 14, 441–3
- Black–Scholes option pricing formula 388, 396–403
- Bonds
 - clean price 121
 - convertible 145, 150
 - corporate 29, 63, 134, 150
 - dirty price 121
 - domestic 7, 142
 - Eurobond 7, 142–51
 - foreign 7, 142
 - government 29–30, 47, 118–20
 - price formula 119–20
 - price volatility 124–31
- Bought deal 31
- Bretton Woods 10, 15, 138, 280, 335
- Broad money supply 70
- Broker 33, 35, 218, 220–1, 272–3, 441
- Building societies 43, 52
- Business risk 232

- Call back 150
- Call market 32
- Call option – *see options*
- Call provision 134, 138–9
- Call risk 138
- Capital
 - adequacy 42, 437, 447–51
 - base 28
- Capital Asset Pricing Model (CAPM) 192–210, 258
- Capital flight 144
- Capital Market Line 178–80, 197, 199
- Cash market 33
- Central bank 40–2, 64–79, 83–4, 95, 98, 113, 146, 273
- Certificate of deposit 92, 96, 102–3
- Characteristic line 190
- Chartists 251–2, 266
- Cheapest to deliver bond 354
- Chinese wall 252, 442
- Closed funds 49
- Commercial banks 43, 70–5, 217, 272
- Commercial bills/paper 55, 99–100, 237
- Continuous market 32
- Contractionary monetary policy 66–7, 75
- Contracting cost 29–30, 48
- Convertible bond 138–9, 145
- Corporate bonds 24, 45, 134–142
- Cost of carry 217
- Counterparty risk 336–8

- Coupon payment 62–4, 118–120
- Covered interest parity 286–9
- Credit rating 56–7, 99, 107, 113, 134–8, 140, 142, 145, 149, 151
- Credit risk 138
- Cross rates 274–5
- Current ratio 241
- Current yield 121
- Curvature 131–2

- Day of the week effect 255–6
- Debt
 - coverage 241
 - instrument 24–5
 - market 5–6
- Debenture bonds 134
- Debt–equity ratio 232–7
- Debt versus equity finance 236–7
- Default risk 25, 27, 44, 85, 97, 136, 140, 363, 425
- Defensive securities 200–1, 210
- Deposit
 - insurance 106, 436
 - taking institutions 29, 43–4, 102
- Deregulation 13–15, 58
- Diminishing marginal utility of wealth 164
- Direct placement 98
- Discipline function 34
- Diversifiable risk 157, 176–7, 193, 199–200
- Dividend 24, 50, 58, 219, 224–9, 258
 - payout ratio 239
 - pricing model 225–9
 - yield 189, 205, 236, 239, 345, 347
- Dividend irrelevance theorem 229
- Dominance principle 173–4, 181
- Dornbusch model 317–27
- Duration 85, 126–33

- Earnings
 - announcements 262
 - per share 238
 - yield 239
- Efficiency frontier 169–76, 194
- Efficient diversification 177–8, 183
- Efficient market hypothesis 34, 247–67
 - weak form 249–58
 - semi strong form 249, 252, 258–64
 - strong form 249, 252, 264–5
- Efficiency
 - allocative
 - operational
 - frontier
- Efficient portfolio
- Eligible reserves 96
- Emerging markets 16–20
- Endowment policies 46
- Equity
 - different types of 236–7
 - finance 23–5
 - pricing of 224–9
- Eurobonds 142–51
- Eurocommercial paper 113
- Eurocurrency markets 97, 103–11
- European Monetary Union 19, 40
- European option *see options*
- European Union 19
- Euronotes 112–13
- Event risk 138
- Event studies 260–1
- Exchange rate
 - bid–offer spread 271–2
 - definition 270
 - effective 291–4
 - forward rate 275–6, 284–90
 - nominal 290–3
 - spot rate
 - real 291–3
 - risk 157
- Expansionary monetary policy 65–7
- Expectations theory 87–8
- Exposure limits 437
- Exotic options 383
- Externalities problem 433

- Factoring agency 56–7
- Federal Deposit Insurance Corporation (FDIC) 14, 103, 109
- Filter rule tests 254–5
- Financial centres 2–5, 14
- Finance companies 55–6
- Financial innovation 15–6
- Financial intermediaries 22–3, 109–10
 - role of 26–30, 57–8
 - types of 43–58
- Financial intermediation 22, 80
- Financial liabilities 25–6
- Financial market
 - classification 33–4
 - role of 34–5
- Financial ratio analysis 237–43
- Financial security 23–4
- Financial Services Act 442–3
- First Banking Directive 445–6
- Fiscal policy 84
- Fixed exchange rate 281–4
- Floating rate note 140, 145
- Floating exchange rate 280, 237
- Foreign exchange market 30, 269–97
- Forward exchange rate 284–90
- Frankel model 327–30
- Futures 334–58
 - bond 353–5
 - comparison with forwards 336–8
 - currency 355–8
 - exchanges 335–6
 - nearby contract
 - short term interest rate 348–53
 - stock index 343–7

- Gearing 232–6
- General insurance 46–7
- Gilt edged market makers (GEMMS) 118
- Globalization 10–11
- Gordon growth model 225–9
- Hedge funds 53–5
- Hedging 36, 344–5, 348, 352–7, 373–4, 376–8, 384
- Hire purchase 56
- Index tracking funds 15, 49
- Inflation 81–4
- Information costs 29–30, 48
- Initial margin 336, 340–1, 344
- Insider trading 252, 264, 434–5
- Interbank market 100, 110
- Interest equalization tax 105, 143
- Institutionalization 35
- Insurance companies 7, 45–7, 118, 134, 216
- Interest rate
 - determination 75–81
 - long term 62, 87, 92
 - nominal 62, 316
 - real 62, 81–4, 316
 - short term 62, 64, 92
- International banking facilities 106
- International Swap Dealers Association 413
- Internet 2, 12, 15, 18
- Intrinsic value 390–1, 397
- Investment banks 35, 100, 102, 147
- Investment companies 49–50
- January effect 256–7
- Jobber 33, 441
- Junk bonds 2, 134, 140–1
- Lead bank 148–9
- Letter of credit 99
- Loanable funds theory 76–81
- LIBOR 100, 107, 145, 416
- LIFFE 34, 334–5, 362
- Listed security 49
- Liquid asset ratio 241
- Liquidation 241–2
- Liquidity 23, 29, 32, 35–6, 42, 44, 62, 85, 151, 218, 224, 364
- Liquidity preference theory 89
- Liquidity requirements 53, 219, 437
- Long Term Capital Management 55
- Management group 148
- Margin payments 340–1
- Market capitalization 238
- Market maker 29, 32, 35, 218
- Market model 189–91
- Market portfolio 180–2
- Market risk 157, 176–8, 181, 189, 192–3, 199–200, 210
- Maturity transformation 27, 36
- Medium term notes 141–2
- Monetary policy 64–70, 92
- Money
 - functions of 62
 - demand 75–6, 315
- Money market 30, 33, 55, 64, 75, 96–114
- Money multiplier 73–4
- Monetary base 70
- Monetary models 313–31
- Moody's 135–7
- Moral hazard 14, 434
- Mutual fund 48–9, 54, 57, 265
- Mutual recognition 19, 444–5
- Naïve diversification 176–7, 83
- National debt 41, 84
- Note issuing facilities (NIFs) 112–3
- Off balance sheet
 - activity 448
 - exposure 413, 428, 449
- Offshore market 7, 94, 104
- OPEC 15, 18, 106
- Open interest 341–2
- Open market operation 41, 65–7, 114
- Options 62, 362–84
 - American 363
 - call 363, 365–7
 - currency 372–3
 - delta 403–4
 - European 363, 397
 - exercise price 364
 - exotic 383
 - gamma 404
 - growth of
 - in the money 391–6
 - interest rate 371–2
 - intrinsic value 390–1
 - out of the money 391–6
 - premium 364, 368
 - pricing of 388–408
 - profit/loss profile on a call 366–7
 - profit/loss profile on a put 368
 - put 363, 367–9
 - stock index 369–71
 - strategies 379–82
 - strike price 364, 389
 - versus futures 375–9
- Ordinary shares 24, 219
- Over the counter market 33–4, 338–40
- Overshooting 317–26
- Par value relation
- Passive fund management 9, 252–3
- Payments mechanism 26–7
- Pension funds 35, 51–2, 57, 91, 118, 134, 218, 344

- Political risks 17
- Portfolio diversification 17, 48, 166–76
- Portfolio theory 166–83
- Preemptive rights offering 31
- Preference share 24, 219–20
- Price earnings effect 261–2
- Price-earnings ratio 205, 240
- Price to book ratio 241
- Primary gearing 232–6
- Primary market 23, 30–31, 33
- Principal agent problem 218–19
- Private placements 31
- Privatization 13, 45
- Proprietary trading 273
- Public issue 98
- Purchasing power parity 300–11, 317
- Puttable bond 139
- Put-call parity 388, 404–7
- Put option *see options*

- Quality spread 137
- Quantity theory of money 83–4

- Random walk 249–51, 253
- Rational bubble 263
- Regulation of financial sector 105–6, 109, 147–8, 432–52
 - disclosure requirements 434, 436
 - investor protection 435–6
 - licensing 435–6
 - objectives of 435
 - prudential 435–6
 - rationale for 13
 - statutory versus self regulation 439–40
 - structural 435–6
 - United Kingdom 440–1
- Repurchase agreement (Repo) 101–2
- Required rate of return 227, 229–31
- Reserve
 - requirement 75, 99, 106, 108
 - ratio 70–75
- Return on capital employed 238–9
- Reversing trade 341–2
- Rights issue 32, 50, 221–3
- Risk 160–2
 - aversion 63–5
 - default 25, 27, 44, 85, 97, 136, 140, 363, 425
 - free 97, 157, 160, 164, 178–82, 193–206, 389, 397, 404
 - liquidity 44
 - loving 164
 - management 28, 42
 - neutral 164
 - reinvestment 90
 - regulatory 44
 - transformation 27–8, 36
- Risk premium 82–4, 89–90, 198–9
- Run test 255

- Screen based market 19, 32
- Second Banking Directive 446–7
- Secondary market 23, 31–3, 49, 62–4, 97, 100, 148–9, 151, 218–9, 223, 340, 420
- Securities market 30
- Securities market line 199–201
- Securitization 92
- Selling group 148
- Settlement 33
- Settlement price 33, 341, 343–4
- Shares in issue 237–8
- Short selling 54, 220–1, 336
- Size effect 261
- Specific risk 151, 176–7, 181, 192, 199–204
- Speculator 36, 288, 373–4
- Standard and Poor's ratings 135
- Stock index futures 54, 343–8
- Stockmarket crash 18, 263–4
- Straddle 380–1
- Straight 145, 150
- Strangle 380–2
- Supervision 41–2
- Syndicated loans 111–13
- Systematic risk 157, 192–3, 438
- Swap 62, 145, 412–29
 - absolute advantage 417
 - basis 428
 - buy back 425
 - callable 428
 - comparative advantage 417–20
 - comparison with forward 426
 - currency 420–3
 - forward rate 428
 - index 428
 - innovations in 427–8
 - interest rate 416–20
 - plain vanilla 416–7
 - puttable 428
 - role of intermediary 423–4
 - rollar coaster 428
 - secondary market 425
 - swap reversal 425
 - swap sale 425
 - swaption 428
 - zero coupon 427–8

- Takeover 223, 240
- Technology 11–13, 19
- Tender issue 98
- Tier 1 capital 448
- Tier 2 capital 448
- Traded goods 303–4
- Tranches 98
- Transaction costs 18, 32, 90, 109, 193, 248, 255–6

- Treasury bills 41–2, 62–3, 84, 142, 150–1, 157, 160, 239
- Treasury bonds 41–2, 62–3, 84, 142, 150–1, 157, 160, 239
- Type I, II, III & IV liabilities 25–6
- Underwriting 30–1, 99–100, 113, 219, 222
- Underwriting group 148–9
- Uncovered interest parity 312–13, 326, 328
- Unsystematic risk 157, 176–7, 190–1
- Unit Trust 48–9, 54, 57, 218
- Universal banks 44
- Variation margin 337, 340–1, 343
- Vehicle currency 272–3
- Venture capital companies 52–3
- Volatility 42, 389, 401–2
- Warrant 13, 139, 145–6, 150 383
- Winner–loser problem 257–8
- Withholding tax 17, 143–4, 146–7
- Yield 121–4
 - current 121
 - simple 122
 - to maturity 122–4
- Yield curve 41, 62, 85–91
 - expectations theory 87–8
 - liquidity preference theory 89
 - preferred habitat theory 90
 - market segmentation theory 90–1

