Financial Markets Edition 13 Addendum Published December 2025

The Financial Markets Workbook Edition 13 has been updated to reflect the following changes:

Chapter 1, Section 4.1

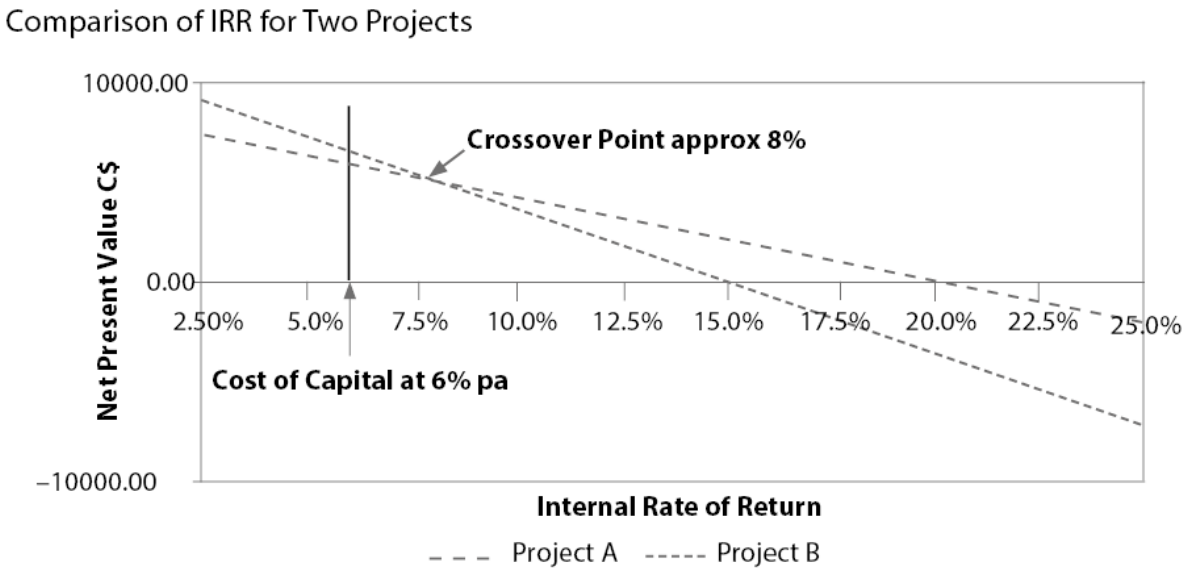
Text has been amended to read: "For example, in a 5-for-2 bonus issue (ie, they receive 5 shares for every 2 held)"

Chapter 1, Section 5.1

Text has been amended to read: "Upon conversion, the profit attributable to ordinary shareholders becomes £1,276,000 (ie, £1,266,000 + £10,000). Therefore, the fully diluted EPS for 20X2 is £1,276,000 / 1,143,750 shares = 111.56p per share."

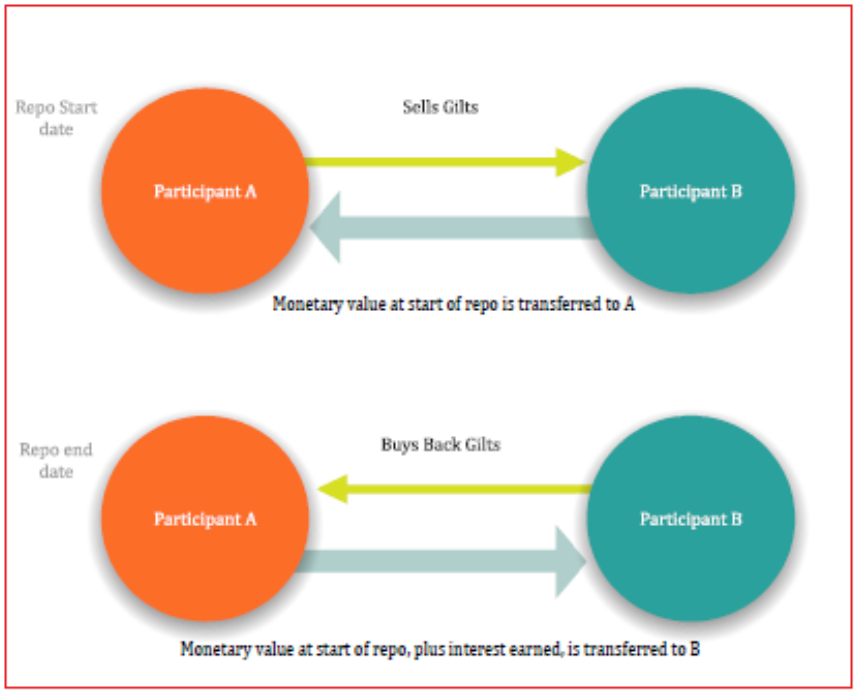
Chapter 2, Section 4.3.1

Chart has been amended to:



Chapter 4, Section 2.3.12

Chart has been amended to:



Chapter 4, Section 4.1.2

Table has been amended to read “period” replacing “year”.

Chapter 4, Section 5.4

Text has been amended to read:

The table below again uses the annuity discount factor, and the two assumed NRY rates have been entered for the two scenarios. The important modification that has been made to the cash flows is that the 8% coupon has been netted to a 4.8% coupon (assuming a 40% income tax rate), although the redemption amount of the bond (which is not subject to tax) has been left at its gross value – also its par value of 100 rupees.

Assumed NRY = 5%				
Timing of Cash Flows	**Cash Flow in rupees**	**Discount Factor**		**PV in rupees**
T_0				(98.60)
T_1 to T_4	4.80	$[1/0.05] \times [1 - (1/1.05^4)]$	3.5460	17.02
T_4	100 .00	$1/1.05^4$	0.8227	82.27
			Bond Price	**0.69 rupees**

Assumed NRY = 5.5%				
Timing of Cash Flows	**Cash Flow in rupees**	**Discount Factor**		**PV in rupees**
T_0				(98.60)
T_1 to T_4	4.80	$[1/0.055] \times [1 - (1/1.055^4)]$	3.5052	16.82
T_4	100.00	$1/1.055^4$	0.8072	80.72
			Bond Price	**(1.06) rupees**

As can be seen from the above analysis of the cash flows, the NRY rate of 5% is too low and 5.5% is too high, hence the NRY must lie between these two points.

The total range of values covered as a result of this 0.5% (ie, 5.5% – 5%) difference in yield is a value of 1.75 rupees (ie, 0.69 – (-1.06)). The method of interpolation moves the NRY so far from 5% towards 5.5% that it extinguishes 0.69 rupees of this 1.75 rupees interval.

The NRY is therefore approximately 5% + ((0.69/1.75) x 0.5%) = 5.00% + 0.197% = 5.197%.

Chapter 5, Section 1.2

Text has been amended to read:

In the US, securities can be issued to 'sophisticated investors' under Regulation D of the Securities and Exchange Commission (SEC) regulations and are known as private placements. The securities – which can be quite attractive, but also entail high risk – are made available to high-net-worth individuals (HNWIs) who have demonstrated investment experience. They are sold without the stringent requirements of a formal public offering prospectus that would be required for an IPO.

In the EU, the Prospectus Directive (PD) previously allowed European companies to place securities with qualified investors under relaxed disclosure rules. However, the PD was fully replaced by the Prospectus Regulation (PR) in 2019, which aims to harmonise prospectus rules across the EU and simplify requirements for certain types of issuances. See chapter 8, section 5.2 for more information on the PR.

Following the UK's exit from the EU, the PR was carried over into UK law (ie, 'onshored'); however, the PR has now been superseded by the Public Offers and Admissions to Trading Regulations (POATRs) 2024, which came into force on 24 January 2024. Under the POATRs 2024, public offers of securities are permitted only if they fall within specified exemptions or are conducted via an FCA-authorised platform. The FCA has full discretion to decide when a prospectus is required and what it must contain.

Chapter 5, Section 1.2.2

Text has been amended to read:

One method of valuing a share is to use the Gordon growth model, also known as the constant growth rate dividend discount model (DDM). This is a simple method of estimating a share valuation or price from a future series of the current dividends, expected dividend growth, and return required. The formula for calculating the share valuation using this approach is as follows:

Share price = Next dividend / (Return required – Dividend growth)

Chapter 5, Section 1.2.3 - Dividends

Text has been amended to read:

Many companies aim to present a stable and steadily rising pattern of dividend payments from year to year. Sharp changes from the usual pattern may be taken by investors as a signal of a change in the company's fortunes, which may cause a shift in the share price. For example, a dividend cut or a suspension can unsettle investors, and trigger a downward cycle in the share price. This was evident during the global financial crisis and again during the COVID-19 pandemic, when many large organisations faced financial strain. In the financial services sector, regulators required firms to reduce or suspend dividend payouts, to strengthen balance sheets and make them more resilient, thus enabling them to provide financial support to households and businesses in challenging economic conditions.

Chapter 5, Section 1.2.3 - State of the Wider Economy

Text has been amended to read:

The following table shows the correlation of returns between several MSCI equity indices over the ten years to 31 May 2025, in US dollar terms:

	MSCI Equity Indices						
	World	**US**	**Germany**	**UK**	**Japan**	**Emg Mkts**	**BRIC**
World	1.00						
US	0.99	1.00					
Germany	0.88	0.81	1.00				
UK	0.85	0.76	0.88	1.00			
Japan	0.83	0.77	0.82	0.75	1.00		
Emg Mkts	0.75	0.69	0.76	0.72	0.71	1.00	

Source: MSCI
Note that only half of the table is displayed as correlation matrices are symmetrical.

Over this time period, the correlation between UK and US equities was 0.76x, between UK and global equities at 0.85x, and between US and global equities was 0.99x. Regarding the latter, the US (as the world's largest economy) represents a large proportion of the MSCI World Index[1], hence explaining the near-perfect correlation between the two.

The correlations between Japan and emerging markets with the West are lower in comparison, of 0.75–0.83 and 0.69–0.76, respectively (it is worth noting that equity indices tend to be more strongly correlated during periods of market stress).

On a related theme, there is a strong influence between the state of the world economy, and the price levels of major commodities such as oil, copper, and other industrial metals. Emerging markets are greatly influenced by the prices of commodities both as major consumers (in the case of India) and where exports of commodities comprise a substantial proportion of national economic output (in the case of China and Brazil).

Chapter 5, Section 1.2.4 - Historic Performance of Equities

Text has been amended to read:

Capital Appreciation

Over a long time period, studies have revealed that equities have produced the best real (inflation-adjusted) returns of all the main asset classes over the long term. The long-term growth seems spectacular when we consider that $100 invested in a broad portfolio of US equities in 1928, with income reinvested, would have grown to approximately $1,130,698.13 by the end of 2024 (or 10.1% a year) as computed from returns on the S&P 500[2]. This is despite large market falls in the interim period, including the Great Depression, 1970s stagflation, the 1987 Black Monday crash, the dot-com bubble, the global financial crisis, and the COVID-19 pandemic, and periods of geopolitical instability such as oil shocks and recent inflationary surges.

While the equity market has been bleak at times, booms and busts are an inherent part of investing in volatile markets. For example, a contrarian investor who defied bearish opinion and invested at the bottom of the market from March 2009 (when the S&P 500 had fallen to 679) would have seen their investment grow significantly by the end of 2021, when the index reached 4794. Such episodes underscore the long-term resilience and rewarding nature of equities, despite short-term turbulence.

We can see that timing and timescale are also important factors in investing. Ideally, in terms of timing, an investor would be able to put their money into the stock market just as it begins a strong rise and would manage to take their money out just before it fell. That follows the old wisdom of buy low and sell high – ie, buy when the stock price is low and sell when it is high. However, market timing is very difficult to predict, and sudden events can cause stock market falls. Hence, there is a common saying in the investment world: *'it's about time in the markets, not timing the markets'*.

One point is that spreading an investment over time can reduce some of the effects of market volatility. Instead of a single investment of, say, £10,000 made in 1999 (when many global stock markets were at their peak), if an investor had invested perhaps £2,000 per year over the next five years, then the principle of cost averaging would have lessened the impact of poor returns for equities over the years.

The lesson drawn from this is that equities are not an asset class that can be abandoned so easily, despite having experienced some tumultuous events.

Dividends

Over time, dividends have played an essential role in generating shareholder value and providing consistent income streams. Historically, dividends have accounted for a significant portion of total returns from equities, contributing to the long-term compounding of wealth for investors. Between 1960 and 2024, for example, 85% of the cumulative total return of the S&P 500 Index can be attributed to reinvested dividends and the power of compounding (ie, 30% on an average annual basis)[3].

Chapter 5, Section 1.5.1

Text has been amended to read:

Share prices are observed to move when new information is received, and will fairly reflect that new information. Professor Eugene Fama[4], an American economist, developed the efficient market hypothesis (EMH) which, in summary, claims that financial markets are informationally efficient. Therefore, a market would be efficient with respect to an information set if the price fully reflects that information set and the price would be unaffected by revealing the information set to all market participants. The EMH is a lively area of debate among investors and traders.

Chapter 5, Section 2.1.2

Text has been amended to read:

Golden shares were commonly also used by governments during the privatisation of nationalised companies, allowing them to retain effective control. This mechanism was intended to prevent events such as foreign takeovers or significant holdings being acquired by non-domestic entities, particularly in industries of national importance. Other governments, such as in Brazil's, have also employed golden shares to maintain influence over state-run enterprises. (The EU has ruled golden shares illegal, arguing that they are unjustified and disproportionate to the interests of the company and the broader economy.)

Chapter 5, Section 3

Section 3 has been added to read:

3. Private Equity (PE)

Learning Objective

6.1 Explain and appraise the characteristics of investing in private equity: definition and key properties of private equity; problems due to information asymmetry; risk, liquidity and return; performance of private equity; principal problems and liquidity issues, plus implications should liquidity fall

3.1 Introduction

Private equity (PE) refers to equity investments in companies that are not listed on a stock exchange. This can involve investing in private firms or acquiring shares in publicly listed companies (plcs) with the intention of taking them private. As a form of non-public equity financing, PE is often considered an alternative asset class due to the specialised expertise required to identify, acquire and manage these investments effectively.

The origins of the PE market date back to 1946. Since then, its evolution has followed over a series of boom-and-bust cycles through to the early 1980s. In more recent decades, the growth of PE activity has been closely connected with the rise in leveraged buyouts (LBOs) – a process that that involves acquiring companies primarily by using borrowed funds, with the assets of the acquired company

often serving as collateral – and the increasing use of sophisticated derivatives to hedge the debt associated with these transactions.

Investment in PE can be provided by both large institutional investors and retail investors. Often, PE investment funds are structured as limited partnerships, and as noted above, are not publicly traded. These funds often employ significant debt financing to support their acquisitions, particularly through LBOs, which remain a common strategy in the sector.

In the UK, certain products offer indirect exposure to PE, and are listed and traded on regulated markets or multilateral trading facilities (MTFs). These investment structures (typically PE funds) undertake a range of pooled investment activities. By investing in such a fund, investors gain indirect access to the fund's portfolio. The underlying investment made include:

- venture capital start-ups
- private medium-sized firms seeking expansion finance
- public firms seeking finance for a management buyout or an LBO
- firms in financial distress – known as 'special situations', or
- public financing of infrastructure projects.

The size of the PE market has increased substantially in recent years and has been encouraged by:

- potential for higher returns (albeit with higher risk and lower liquidity in illiquid PE investments)
- development of the limited partnership as an intermediary. This has mitigated some of the problems of investing in PE for many investors, specifically with regard to information asymmetry (see section 4.9) and conflicts of interest with regard to incentives, and
- regulatory changes, permitting more PE investment by pension funds.

3.2 Investors in Private Equity

PE represents an important asset class that has received much attention from pension plans, family offices and various investors in the private wealth market.

The major motive for investing in OE is to achieve high risk-adjusted returns amid greater diversification. However, banks and corporations may invest in the market to obtain leverage off their other activities. Entrepreneurial individuals (business angels) may invest in start-ups. Otherwise, investors tend to be partnerships.

Most institutional investors do not invest directly in privately held companies, lacking the expertise and resources necessary to structure and monitor the investment. Instead, institutional investors will invest indirectly through a PE fund.

Certain institutional investors have the scale necessary to develop a diversified portfolio of PE funds themselves. However, others will invest through a fund of funds (FOF) to create a more diversified approach relative to what a single investor could construct.

3.3 Investment Categories

The main categories of investments are venture capital (VC), distressed companies, LBOs and mezzanine finance. The first category tends to apply specifically to smaller, newer firms. The remaining three categories may apply to firms of all sizes.

3.3.1 Venture Capital

VC may be early-stage ventures (either start-up or early-stage production) or later stage (seeking rapid growth in sales or an exit route for some investors). Sales revenue could be up to £50 million. Companies have limited access to bank lending lines if they are small and too immature, but greater

access if they are larger and more mature. Investors are normally partnerships, but business angels may get involved for smaller companies.

3.3.2 Distressed Companies

When a company's statement of financial position shows high gearing in the form of debt, it is likely that both its shares and bonds have a high yield. To improve the statement of financial position, the company may decide to offer new bonds to a new group of buyers.

Investors in distressed companies normally seek to influence the negotiations over the restructuring of the debt pile and subsequent strategic direction of the firm. With a renewed focus on improving the cash flow within the distressed company, asset sales of non-core businesses are likely to follow, together with a possible improvement in the distressed bond price.

3.3.3 Leveraged Buyouts (LBOs)

LBOs normally rely on a large syndicate of banks, hedge funds and PE groups to lend money to an LBO vehicle. In turn, the LBO vehicle normally seeks to buy a controlling interest in a company's equity using a high amount of borrowed capital. The borrowed capital is usually supplied by a syndicate of investors in exchange for LBO bonds. These bonds tend to pay a high yield given the high-risk approach of the investment vehicle. Thereafter, there is potential for the new management team to reduce costs and improve profitability through non-core disposals.

3.3.4 Mezzanine Finance

Mezzanine capital is often a more expensive way of financing for a company, as it does not usually qualify as 'secured' or 'senior' debt. As mezzanine is unsubordinated (often unsecured and lower in priority in the event of bankruptcy), investors usually demand a higher yield relative to more senior forms of debt. In the capital structure, it ranks between secured debt and ordinary equity if the company goes into default.

3.4 Middle Market Companies

This would include profitable companies in stable industrial areas. Such companies may have access to bank credit as well as equity finance. Larger firms may access the private placement market directly. Investors are typically partnerships. The motives for PE finance here may be as follows:

- expansion, either through capital expenditure or acquisitions
- changing capital structure with a refinancing, and
- changing ownership due to an owner retiring or a corporate spin-off.

3.5 Public Companies

The takeover of a public company by a private company involves a plc buying out the shareholders (partly or entirely) in order to become partly or entirely private. They usually have access to debt markets as well as PE. Investors are typically partnerships.

A recent example is the takeover of UK investment platform Hargreaves Lansdown by a private equity consortium led by CVC Capital Partners, Nordic Capital and the Abu Dhabi Investment Authority in 2024–25. Valued at about £5.4 billion, the deal resulted in Hargreaves Lansdown being delisted from the LSE. This high-profile transaction illustrates the continuing importance of PE in reshaping ownership of plcs.

Possible reasons for PE buyouts with public companies are:

- management buyouts (usually companies with strong cash flow)

- LBOs (usually companies with strong cash flow)
- financial distress (turnaround situations if bank credit is not available)
- the desire to avoid company registration costs and public disclosure, or
- raising funds when the industry is out of favour with public investors.

3.6 Returns

Returns are generally higher in the private equity (PE) market for many other asset classes. However, this is counterbalanced by higher risk and low liquidity of investments. Returns tend to be highest for venture capital, followed by distressed companies, LBOs and then mezzanine capital. However, returns will vary depending on economic conditions.

According to the S&P Listed Private Equity Index[1], PE firms have generated an annualised total return of 12.29% over the past 10 years to May 2025. This is 1.79 pp better than the global stock market, as measured by the MSCI World Index[2]. Notably, this premium of PE over a stock market could be interpreted as compensation to investors for holding illiquid investments, since PE investors tie money in for a lengthy time period (typically from six to ten years).

3.7 Risks

Investments in limited partnership interests are considered illiquid, and according to the tenets of investment theory, such investments should earn a premium over equities or bonds to compensate for this illiquidity. However, PE investments also carry significant risks – for example, investors in a PE fund could lose their entire investment if the underlying portfolio fails. Risk levels vary: venture capital funds (which invest in early-stage companies) are generally the riskiest, while mezzanine capital funds (which back more mature companies yet to go public) tend to carry lower risk.

To manage these risk, P investors must carry out through due diligence. This includes assessing the managers' abilities, experience, track record in similar types of investments, level of commitment and compensation arrangements. There is some evidence that these factors can have a significant impact on the success of a PE investment.

From a risk perspective, the following points should be considered:

a. **Illiquidity** – PE investments are not easily sold. While a secondary market exists, transactions are typically complex and infrequent compared to publicly traded securities. This limits investors' ability to exit before the fund matures.
b. **Long-term commitment** – PE investments are long-term in nature, often taking several years to yield returns. While marketing materials may emphasise diversification benefits and high historical returns, actual PE investments carry significant risks (often comparable to small-cap public stocks); and losses are not uncommon, particularly in early-stage ventures.
c. **Concentration and diversification** – PE investments can carry a higher degree of stand-alone or idiosyncratic risk. As such, investors should ensure that their overall portfolios are sufficiently large and diversified to absorb potential losses.

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1 S&P Dow Jones Indices, May 2025. S&P Listed Private Equity Index. Retrieved from https://www.spglobal.com/spdji/en/idsenhancedfactsheet/file.pdf?calcFrequency=M&force_download=true&hostIdentifier=48190c8c-42c4-46af-8d1a-0cd5db894797&indexId=5475945 (Accessed: July 2025)

2 MSCI, May 2025. MSCI World Index (USD). Retrieved from https://www.msci.com/documents/10199/178e6643-6ae6-47b9-82be-e1fc565ededb (Accessed: July 2025)

d. **Capital commitments** – Investors typically commit capital to a fund over a multi-year period, commonly five years. They must be prepared to meet capital calls during this time, often on short notice.

3.8 Information Asymmetry

Information asymmetry can also impact a PE investment portfolio. Information asymmetry can be broadly summarised as the different degrees of knowledge and information available to the buyers/sellers of a business or investment product resulting from how much they have access to the true nature of the product's merits and demerits. Within PE investment in particular, it can give rise to the following problems:

- **Adverse selection** – the problem that occurs before the transaction. Owners and managers know far more about their business than potential investors. This is particularly so within PE because a firm is required to make very few public disclosures. A business's good points will tend to be highlighted and its weaknesses overlooked. The true risk of the firm is hidden, and leads to an adverse selection problem for individuals involved in indirect investment through PE funds.
- **Moral hazard** – the problem that occurs after the transaction is made, as the manager is involved in undesirable activities (from the investors of the PE). After PE financing has been put in place, managers may alter their behaviour and run the business to benefit themselves at the expense of investors, in the absence of regulatory reporting requirements. In this instance, the risk of the firm will increase after investors have committed funds.

To some extent, these problems can be mitigated by thorough due diligence before investing and continued monitoring of the company afterwards.

3.9 Differences between PE Investment and Publicly Traded Securities

The deal and the price paid by an accredited investor are negotiated directly with the management of the PE firm or its general partner (GP). PE investments are less visible to the general public, whereas conventional publicly traded securities are transparent in terms of the prices quoted through a highly regulated market-making system. Moreover, the opacity surrounding PE investments has fuelled controversy over their valuations, as they often appear to remain robust even when listed markets experience significant sell-offs, leading to debates about the accuracy and reliability of their reported performance.

A PE investor becomes a limited partner. As a result of this status, they can request and get access to all information including internal investment plans and policy set by the PE management in the investment project. In conventional investments, this information is only available through publicly released information in the market.

PE investors play an active role in the investment activity throughout the period that they are invested in the investment project. Conventional investors have a more formal principal-agent relationship in which the day-to-day decisions of the board are made by the management of the company.

3.10 Investing in PE Funds

The majority of investors participate in the PE market through PE funds. Among these funds, buyout funds represent the largest segment, measured either in assets under management (AUM) terms or size of the capital committed.

In buyout funds, the segment can be separated into large-cap buy-out funds and intermediate-cap buyout funds. Large-cap buyout funds usually deal with large-cap companies which desire to make

an asset sale of a non-performing business unit, or have a spin-off or an equity-carve out business that they want to divest.

PE funds will carry out due diligence on potential candidates and will then take steps to purchase. Once the firm has been purchased, it will then be de-listed as a publicly traded stock. After work has been carried out on the company to restore its profitability, it can later be re-listed in a SIPO process.

Intermediate-cap stocks are often not publicly listed in the first place, and these are purchased without the need to de-list. The intention with these stocks is to improve the performance and capabilities of the firm for it to be listed on the public market.

Buyout firms can realise value gains through a sale of the acquired company, an IPO or by way of a dividend capitalisation (which involves the issuance of debt to finance a special dividend to the general and limited partners of the PE fund partnership).

Many PE funds require a substantial initial investment (often several million pounds) plus additional investment in the first few years of the fund. Investors must be prepared to have their capital locked up for a long period. This disadvantage is offset by the possible benefits of annual returns, which can be up to 30% in some cases.

Most PE fund investment opportunities are only offered to high-net-worth individuals (HNWIs), or so-called 'sophisticated investors', and institutional investors. The investor will typically become a limited partner in the fund in which they invest.

Often, PE funds offer performance incentives, whereby the manager is paid a proportion of any rise in the fund's net asset value (NAV). The objective of performance incentives is to align the interests of the partnership and the managers of the business: to grow the value of the portfolio and achieve a profitable return in the investment upon exit.

3.10.1 PE Partnerships

PE partnerships have two major participants:

- **Partnerships** have a life that is fixed by contract, usually around ten years. For the first three years or so, the general partners will invest the partnership's capital. After this, they will manage and liquidate the partnership's investments. Liquidation proceeds will then be distributed to investors.
- **Limited partnerships** would appear to offer problems for investors, since their investments are illiquid over the life of the partnership and investors have little control over the running of the partnership. However, limited partnerships have a valuable role to play in mitigating risks in the PE market.
- **General partners (GPs)** are the senior managers who manage the partnership's investments. They usually invest only a small proportion of the partnership's capital base (say 1%). GPs usually have industry or entrepreneurial experience. There may be associates who will hope to become GPs.
- **Limited partners (LPs)** are institutional and other investors who invest the bulk of the money in the partnership. LPs will tend to run several legally separate partnerships at the same time, with some at the investment phase and some in the liquidation phase.

3.10.2 Relationship Between Partnership and Portfolio of Companies

When selecting companies, investments are first screened for some basic criteria, and most investments are rejected at this stage. Criteria include the following:

- type of investment (eg, startup versus middle market)

- industry area
- location, and
- whether it is within the partnership's areas of expertise.

Extensive due diligence for a final selection from the initial screening will include:

- visits to the company
- discussions with employers, suppliers and customers
- use of lawyers, accountants and consultants to examine the company
- for new start-ups, examining the management quality and feasibility of the product
- for established firms, understanding the existing business in detail
- for distressed companies, meetings with lenders
- for management buyouts, focus on succession issues, and
- for LBOs, focus on cash flow forecasts and the ability to repay debt.

3.10.3 Direct Control Mechanisms

In addition to the provision of incentives, direct control mechanisms are an effective way of aligning the interests of investors and the management.

- **Board representation** – GPs on the board may have the requisite skills to run the company (due to their backgrounds) and the necessary resources. They can, therefore, exercise significant influence on the company's direction.
- **Voting rights** – the partnership's stake may be sufficiently large to give majority control or to give very significant influence. Even if the partnership owns less than 50% of the company, it may ensure that its shares have special voting rights to give it control.
- **Access to additional financing** – the partnership will not give the company all its required funds at the beginning but will have several rounds of financing. This gives the partnership the ability to withhold future funds if it feels this is necessary. In addition, the partnership will have the power to inspect company records and information and to receive financial information on a timely basis if requested.

One other form of control retained by partnerships is the right to veto certain transactions.

Chapter 6, Section 8.5.10

Text has been amended to read

CGT Deferral Relief

SEIS shares provide CGT relief, but there is a key difference compared with EIS: while EIS allows 100% of a gain to be deferred, SEIS permanently exempts 50% of the reinvested gain. Reinvesting a capital gain into qualifying SEIS shares therefore reduces an individual's CGT liability on that gain, up to £100,000 of reinvested gains per tax year.

Chapter 7

Numbering has been adjusted due to amendments.

Chapter 7, Section 1.1

Text has been amended to read:

Paragraph before bullet points
There are three ways that derivatives can be used:

Final paragraph
Derivatives are also used for anticipating future cashflows and asset allocation changes (eg, to take advantage of anticipated short-term directional market movements or to implement a change in strategy). For example, if a fund manager expects to receive a large inflow of cash to be invested in a particular asset, then derivatives can be used to fix the price at which it will be bought and offset the risk that prices will have risen by the time the cash flow is received.

Chapter 7, Section 1.2

Text has been amended to read:

Since the global financial crisis of 2007–08, derivatives markets – particularly in the US, UK and EU) – have been subject to extensive regulatory reforms to address gaps and weaknesses in oversight that the crisis exposed.

Chapter 7, Section 1.2.2

Text has been amended to read:

The European Market Infrastructure Regulation (EMIR) was adopted in 2012, when the UK was still a member of the EU. It was intended to:

- **Enhance transparency** in the derivatives markets by introducing detailed reporting requirements.
- **Mitigate counterparty** risk by requiring that standardised contracts are cleared through CCPs wherever possible, for example.
- **Reduce operational risk** by requiring market participants to monitor and mitigate risks such as fraud and human error.

The directive was updated in 2022 by the **European Securities and Markets Authority (ESMA)** under EMIR REFIT, and became applicable in 2024. To comply with the revised requirements, counterparties must update reports of any outstanding derivative contracts within 180 calendar days from the new reporting start date.

EMIR has been written into UK law, so it continues to apply post Brexit. The FCA has also made amendments to reporting requirements under UK EMIR – the aim of which is to ensure a more globally consistent dataset, thus enabling authorities to better monitor for systemic and financial stability risk.

Chapter 7, Section 1.4

Text has been amended to read:

Financial institutions play a key role in the derivatives market. They act as intermediaries, matching buyers with sellers and earning commission fees for providing this service, while also participating directly as traders themselves. For example, a bank may use derivatives to manage its exposure to changes in interest rates, and a pension fund might use them to protect the value of its assets against potential losses.

Broadly, derivative market participants can be classified into the following categories, based on their trading motives as discussed in section 1.1:

- **Speculators** – embrace risk to earn a price.
- **Margin traders** – a type of speculator who use leverage to make a quick profit from movements in prices. This is a high-risk strategy, which can yield huge profits if executed correctly, but could also result in huge losses if carried out incorrectly or if the market shifts.
- **Hedgers** – risk averse traders who aim to secure their investment portfolio against market risk and price fluctuations.
- **Arbitrageurs** – use low-risk imperfections in different markets to gain profits.

Chapter 7, Section 2

Text has been amended to read

Learning Objective

8.7 Explain the main types, characteristics, and pricing of exchange-traded derivatives: convertibles, covered, and uncovered warrants - factors influencing pricing; bases for calculation and actual calculation; significance and uses; futures - factors influencing pricing; bases for calculation; significance and uses; options - factors influencing pricing; bases for calculation and actual calculation; significance and uses

8.9 Explain the main types, characteristics, risks and pricing of OTC derivatives: forwards and forward rate agreements (FRAs); OTC option products; contracts for difference; swaps – interest rate, currency, equity and commodity, bond; credit default swaps; credit derivatives; structured products

Generally, derivatives can be divided into two broad categories based on where they are traded:

- **Exchange-traded derivatives (ETDs)** – standardised contracts that are traded on organised exchanges and cleared through a central clearing house.
- **Over-the-counter (OTC) derivatives** – privately negotiated contracts traded directly between counterparties rather than on an exchange. These contracts are typically customised to meet the specific needs of the parties involved.

There are four main types of derivatives: futures, forwards (including forward rate agreements), options and swaps. Futures and options are exchanged-traded, while forwards and swaps are OTC.

Derivatives can also be classified according to their complexity: vanilla (in their simplest and most standardised form) and exotic (with more complex features or payoff structures).

We will consider these instruments in the sections below.

Chapter 7, Section 2.1.1

Text has been amended to read

The price agreed today is the only element of the futures contract that is open to negotiation. However, the exchange does specify the minimum permitted movement in price and the method of quotation.

The standardised terms within each contract are set out in a legal document called the contract specification – for example, a stated number of barrels of oil or ounces of gold. The aim of the contract specification is to promote transparency across all users of the exchange; it goes to great lengths to detail precisely what is acceptable in terms of the quality and type of asset to be traded.

A fixed future date for when the contract expires (expiration date) and a window for when delivery can be made is also laid down by the exchange. Although it is a set day within the month, the fixed future date is often referred to as the contract month. For example, many futures contracts have delivery months spaced evenly throughout the year, such as March, June, September and December.

Provided the contracts have a common underlying asset and a common delivery date, then the contract is said to be fungible (ie, identical to, and substitutable with, others traded on the same exchange). For example, all March long gilt futures on ICE Futures Europe are fungible. A March long gilt future on ICE Futures Europe is not fungible with a June long gilt future on the same exchange, because the delivery dates are different.

Futures contracts benefit from the involvement of a central clearing house, which becomes the legal counterparty to both the buyer and the seller through a process called novation. This means that the clearing house guarantees the performance of the contract, which significantly reduces counterparty risk for both parties. By acting as an intermediary, the clearing house ensures that the obligations of each side are met even if one party defaults, thus enhancing the overall safety and stability of the futures market.

Futures are available on a wide range of futures contracts, covering various asset classes such as interest rates, government bonds, credit products, currency exchange rates, stock market indices and commodities.

How Futures Prices Move

With all futures contracts, the tick is a fundamental concept which needs to be clearly understood to see how the instruments change in value and the contractual commitment that is undertaken by both parties to the contract. Recall from section 4.3.1 that:

- The **tick size** is the smallest permitted quote movement on one contract.
- The **tick value** is the change in the value of one contract if there is a one-tick change in the quote.

Unit of Trade

A contract can be valued by multiplying the index value by £10. That is:

Unit of trade = Index value x £10

For example, if the index stood at 7200, then one contract would have a value of 7200 x £10 = £72,000.

Under these circumstances, a speculator or a hedger may buy (or take a long position) in the index future, or may wish to sell (or take a short position) in the index future.

A speculator who believes that the FTSE 100 is about to move upwards could gain long exposure to the index by buying a single futures contract which would in effect give the speculator £72,000 of exposure to the market. Another speculator who believes that the FTSE 100 is going to go down might decide to sell (or go short of) the index as a result of selling a single futures contract which would mean that they would be short of £72,000 worth of the index, and would profit if the market falls.

In contrast to the pure speculator, who is really interested in following hunches about the future direction of the index and is attempting to benefit from making the right call and going either long or short, a hedger is someone who already has a stake in the market and is looking to hedge their risk by having an offsetting position in the futures market. If by chance someone owned exactly £72,000 worth of stocks which were representative of the index, and that person becomes nervous that the market is about to go down, then selling a single futures contract would provide an offset or hedge to the loss of value of the actual holdings of equities.

Example

You are managing a £36 million pension fund portfolio, and you believe that the market is about to fall. The index and the future currently stand at 7200. The alternatives are:

- to sell the portfolio and move into cash/bonds – this will avoid the market fall, but will clearly incur massive dealing costs, or
- to set up a short hedge using the futures contract.

Delivery

Index futures contracts are cash-settled. That is, rather than the two parties exchanging the underlying asset and the pre-agreed price at the delivery date, they simply settle up by the payment from one to the other of the difference in value.

Short Hedge

A short hedge is where someone takes a short position on a futures contract. Short hedges are typically carried out by a hedger (when an asset is expected to be sold in the future) or by a speculator (who anticipates that the price of a contract will decrease).

Example

The future is quoted at 7200, hence each contract will hedge £72,000 (ie, 7200 × £10) of the exposure. To hedge the full portfolio, exactly 500 contracts are needed (£36 million / £72,000).

Consider the position if the market (and the futures contract) were to fall 200 points:

Cash Position

Old portfolio value = £36 million

New portfolio value = £36 million x 7000 / 7200 = £35 million

Profit/loss = New portfolio value - Old portfolio value = £36 million - £35 million = -£1 million

In other words, a loss of £1 million.

Futures Position

Sold index at 7200

Bought index to close position at 7000

Points gain: 200 points or 200 / 0.5 = 400 ticks.

Hence, the total profit on 500 contracts sold short will be:

Profit = Ticks x Tick value x Number of contracts = 400 x £5.00 x 500 = £1 million

Chapter 7, Section 2.1.3 - Comparison with Call Options

Text has been amended to read

Aspect	Warrants	Options
Issuer	Issued by private parties, typically the corporation on which the warrant is based.	Typically issued by options exchanges or market makers.
Dilution	Dilutive when issued by the company; new shares are created when exercised.	Not dilutive – exercise involves transfer of existing shares (except employee stock options).
Voting rights	Do not carry voting rights.	Do not carry voting votes.

Aspect	Warrants	Options
Standardisation	Not standardised – terms vary by issue (eg, conversion ratio defined in the offer documents).	More standardised – consistent terms such as contract size and expiration periods.
Trading venue	Issued OTC by individual companies, and can be listed and traded on stock exchanges.	Traded on organised public exchanges.
Typical lifetime	Longer – they can last several years (up to 15 years).	Shorter – usually measured in months, and rarely more than two or three years.
Expiration value	Worthless if not exercised before expiry, unless the stock price exceeds the exercise price.	Same principle – worthless is out-of-the-money at expiration.

Chapter 7, Section 2.2.1

Text has been amended to read

The main disadvantages of forwards are:

- **Counterparty risk** – since forwards are privately negotiated OTC contracts, there is a risk that one party may default, as there is no clearing house guaranteeing the trade, therefore exposing the other party to potential losses.
- **Cost** – forwards often involve higher transaction costs due to the need for customisation, negotiation and legal arrangements, which can make them more expensive than standardised futures.
- **Liquidity** – the bespoke nature of forwards means that there are fewer opportunities to find a willing counterparty to enter or exit a position before the contract matures, which makes it more difficult and potentially costly to close out or transfer the contract early.

Chapter 7, Section 2.2.2

Text has been amended to read:

Interest Rate Swaps

A straightforward interest rate swap (a so-called plain vanilla swap) involves one party exchanging a floating interest rate obligation for another party's fixed-rate obligation – this is called a fixed-for-floating or floating-for-fixed swap, also known as a coupon swap. The floating rate will be determined on the swap's reset date – for example, for a fixed versus six-month floating swap, the reset date will be every six months. Once the floating rate is determined, the swap will start accruing interest as of its effective date. As well as fixed-for-floating and floating-for-fixed, swap can also both be fixed-to-fixed, where both legs are based on fixed interest rates.

The swap specifies particular periods, at the end of which the net cash flow exchanges will take place. At each payment date, a net payment is made between the two participants.

In a simple three-year interest rate swap, with quarterly payments based on an agreed principal, effective from 1 January 2026, a fixed interest rate is exchanged for a floating interest rate. The first payment is on 1 April 2026, the second on 1 July 2026, and so on. There are many complex variations of this basic example.

With the agreement of both parties, and after an evaluation or mark-to-market of the swap's value, either party can initiate action to cancel or end the swap after an agreed payment. When this happens, all calculations of accrued interest are based on the swap's termination date. This is the date that the swap officially ceases to exist.

Currency Swaps

A basis swap is a specific type of currency or interest rate agreement where both sides exchange floating interest rate payments, but these payments are based on different benchmark rates or different currencies. For example, an investor might exchange payments linked to SOFR for payments linked to €STR. The term 'basis swap' therefore covers a range of structures that allow parties to manage mismatches between different floating-rate benchmarks or funding costs across currencies.

Equity Swaps

Equity swaps (also called index swaps) are an exchange of future cash flows where payments on at least one leg is linked to the performance of equities or an equity index. They are sometimes used to avoid withholding taxes or obtain leverage. They also enable the creation of a synthetic portfolio of shares without the need to buy all of the individual underlying shares and incur the transaction costs for doing so.

Bond Swaps

A bond swap is an investment strategy where an investor sells one bond and simultaneously buys another to improve their overall portfolio position. The idea is that by replacing one bond with another, investors can better align their portfolio with their financial objectives or market outlook in a targeted and efficient way.

Common reasons for bond swaps include tax loss harvesting (selling a bond at a loss to offset capital gains taxes while buying a similar bond), yield pick-up (trading a lower-yield bond for one with a higher yield) and improving the quality of their bond portfolio (moving from a lower-rated bond to one with higher credit quality). Investors may also conduct swaps to manage interest rate risk, by adjusting the duration or maturity of their holdings.

Title has been amended to read: **Total Return Swaps**

Chapter 7, Section 3

Text has been amended to read

There are two main criteria for categorising derivatives.

- **Exchange-traded** – listed and traded on a regulated exchange, with standardised contract terms and credit risk managed through the clearing house
- **Over-the-counter (OTC)** – privately negotiated with bespoke terms and credit risk managed bilaterally between counterparties.
- **Derivatives** can either: represent a commitment to enter into a transaction at future date; or provide optionality, allowing one party to choose whether to transact if it is advantageous while obliging the other party to transact if requested.

Chapter 7, Section 3.6

Text has been amended to read

There are many variations on the basic interest rate swap, as outlined in more detail below, such as amortising swaps and inflation swaps, but even these are not generally classed as exotic. 'Exotic' is not a formally defined term, but usually refers to derivatives with features or payoffs that are more complex than standard vanilla contracts, often including path-dependent options. Vanilla options can be priced according to well-known models (eg, **Black-Scholes**, but with many subsequent enhancements since its 1973 introduction1), such that the fair value of two options in the same asset class but with different contract terms can be assessed with reasonable accuracy; these are termed path-dependent.

Chapter 7, Section 3.7

Text has been amended to read:

See section 5.6.4 of this chapter for more information on the Greeks.

Chapter 7, Section 4

Text has been amended to read:

Cryptocurrency derivatives marketplaces emerged in the early 2010s, but initially attracted little attention from mainstream financial institutions and investors as digital assets were widely viewed as niche and highly speculative, and the regulatory landscape was still in its infancy. Since then, cryptocurrencies have expanded significantly (as we saw from chapter 3, section 1.1, there are now thousands of cryptocurrencies in existence), leading to the development of more marketplaces and the creation of innovative products (eg, perpetual swaps).

In 2017, two derivatives marketplaces, CME Group and Cboe Global Markets (two of the world's largest derivatives exchanges), announced that they would offer cash-settled Bitcoin futures contracts. A Bitcoin futures contract enables a trader to lock in a fixed number of Bitcoins at an agreed price for a future date. However, Cboe Global Markets discontinued this product in 2019 due to low trading volumes.

Prices for Bitcoin futures contracts on these two marketplaces were different because they used different data to calculate the reference rates against which trades were settled:

CME Group's prices were (and still are) based on aggregated trading information from four major **cryptocurrency** exchanges: Bitstamp, GDAX, itBit and Kraken.

In contrast, Cboe Global Markets based its reference rate solely on data from the Gemini Exchange, which is relatively small compared to CME's broader basket of exchanges. One drawback of this approach is that Bitcoin spot prices have historically varied considerably across trading venues, thus raising concerns that a narrower data source may not fully reflect the true market price and could create opportunities for manipulation of the reference rates.

Bitcoin futures were primarily designed for institutional investors, aiming to provide them with a regulated avenue to speculate on or hedge against Bitcoin price movements without needing to directly hold the cryptocurrency. This helped to address concerns about volatility, custody and regulatory compliance.

However, recognising the growing interest in Bitcoin among retail investors, some brokerages (such as Ameritrade) began offering access to Bitcoin futures trading for select retail customers, allowing them to trade alongside institutional investors. While retail participation remains smaller than institutional involvement, it signals a broader acceptance and integration of digital assets into traditional financial markets. As regulatory frameworks continue to develop and market infrastructure evolves, the accessibility and adoption of Bitcoin futures by both institutional and retail investors are likely to continue expanding.

Opportunities for trading Bitcoin options have also emerged. In 2017, the first regulated Bitcoin options were launched by New York-based cryptocurrency trading start-up FTX US (formerly LedgerX). While FTX US collapsed in 2022, other exchanges and trading platforms have since launched their own Bitcoin options products, which continue to gain traction among sophisticated investors seeking to hedge or speculate on Bitcoin price volatility.

Interestingly, some market observers argue that the entire cryptocurrency market can be viewed as a derivatives market in itself because the price of many altcoins are closely tied to Bitcoin's price movements. This is partly because many exchanges do not offer direct fiat pairs for every cryptocurrency, so traders often use Bitcoin or other major tokens as a bridge asset. For example, an investor interested in Ethereum might first buy Bitcoin with fiat currency, and then exchange their Bitcoin for Ether.

Despite tighter regulation, some crypto exchanges continue to experiment with innovative or derivative-like products under new names and formats, often pushing the boundaries of what regulators permit. As digital asset markets evolve, regulators are expected to further clarify the status and permissible forms of cryptocurrency derivatives to better protect investors and maintain market integrity.

Chapter 7, Section 5.1

Heading amended to read: Relationships to Underlying Securities

Text amended to read:

The 'derived' nature of their name infers that derivatives have a close relationship with their underlying securities. With the exception of 'exotic' options and structured products, it is generally possible with appropriate software to observe and predict with some degree of accuracy the change in price of one with that of the other.

Chapter 7, Section 5.2

Text amended to read:

In the derivatives markets, there are two main methods of settlement:

- **Physical settlement** – the seller in the contract chooses to deliver the underlying asset to the buyer on a predetermined date, and the buyer of the risk pays the full value of the principal against delivery of the defaulted asset. This could be a specific asset agreed in advance (reference asset or obligation) or any financial obligation of the given issuer, eg, a bond or a derivative contract.
- **Cash settlement** – instead of delivering the underlying asset, the seller pays a net cash amount that reflects the value of the position to the buyer. This is typical for derivatives contracts, which are settled at maturity (or earlier, if closed out) by a cash payment from the party who is **out-of-the-money** to the party who is **in-the-money**. The sum payable may be based on the market price at which a reference asset (eg, bond issued by a third-party company) trades after a default or other credit event.

Bullets amended to read:

- **Physical Settlement** – the following types of derivatives are physically settled:
- **Cash Settlement** – the following types of derivatives are cash settled:

Chapter 7, Section 5.2.1

Text amended to read:

Settlement

Most futures contracts are either cash settled or, for physically deliverable contracts, rolled forward or closed out before expiry to avoid physical delivery. For example, commodity futures are often physically settled if held to maturity, while financial futures (eg, index futures) are typically cash settled.

In option contracts, if there is a possibility that the option may be exercised, then the holder bears counterparty risk on the seller, just as with any derivative that involves a confirmed transaction (eg,

swaps, futures, FRAs, CFDs). The option seller's counterparty risk is generally limited to the payment of the upfront premium and the obligation to settle via physical delivery if the option is exercised (eg, spot FX settlement risk or physical commodity delivery). Apart from this, the option seller does not have any further claim on the buyer.

In the case of forwards and swaps, both parties assume ongoing counterparty risk throughout the life of the contract, as there are typically no upfront payments. Settlement risk arises at maturity or on each payment date when the agreed cash flows or the underlying assets are exchanged.

Contracts for difference (CFDs) are mainly cash-settled. In CDSs, if a default occurs, the agreed compensation can be settled by a cash payment or by physical delivery.

Chapter 7, Section 5.6.1

Text amended to read:

Derivative contracts depend on clear and enforceable legal agreements.

For exchange-traded derivatives, participants must be of the relevant exchange and accepts its rules and terms.

OTC derivatives are usually governed by standardised legal frameworks, the most widely used being the International Swaps and Derivatives Association (ISDA). These agreements, which are tailored for different products, are negotiated bilaterally between counterparties before trading begins.

One area that continues to attract significant legal scrutiny is credit default swaps (CDSs), which are covered in section 8.6.1 of this chapter. The definition of a 'credit event' – such as default, bankruptcy, a major drop in asset value, or debt restructuring – can vary in interpretation, sometimes creating opportunities for disputes or misuse. A high-profile example is homebuilder Hovnanian and hedge fund GSO Capital Partners in 2018, where the parties deliberately engineered a missed payment to trigger CDS pay-outs from which GSO profited. This case highlighted weaknesses in contract definitions.

To address the concerns raised by this event and to restore market confidence in the product, the ISDA published the Narrowly Tailored Credit Event (NTCE) Supplement and NTCE Protocol, which amended the 2014 ISDA Credit Derivatives Definitions, effective from 2020. This applied two key new provisions:

- **A 'failure to pay' credit deterioration requirement** – if a firm's failure to pay does not directly or indirectly result from/in a deterioration in the issuer's creditworthiness, then this will not result in a default (see below).
- **An amendment to the definition of 'outstanding principal balance'** – if a bond or loan has been issued at a material discount, then the discounted issue level (not the par value) will be used as the reference point for the purposes of determining the payout under the credit default.

Concerns surrounding CDSs were raised again in 2023, following the collapse of Credit Suisse. In response, at a meeting of EU states that year, the European Commission highlighted the opacity and illiquidity of single-name CDS contracts. New legislation, implemented in March 2024 and detailed in Article 8(a) of Regulation (EU) 2024/791 (known as the MiFIR Review), mandates that these CDSs adhere to transparency rules.

Chapter 7, Section 5.6.3

Text amended to read:

With derivatives, settlement risk refers to the possibility that one party will fail to deliver the agreed cash payment or underlying asset when due, even though the other party has fulfilled or is ready to fulfil their obligations. This risk applies to both physically settled contracts (such as commodity futures, deliverable FX forwards or options exercised into the underlying asset) and cash-settled contracts (where the final payment depends on the market value of a reference asset), as well as both exchange-traded and OTC derivatives (although generally lower with those that are exchange-traded since exchange-traded derivatives benefit from central clearing, standardised contracts and strict margining).

Settlement risk can arise from counterparty default, operational errors or timing mismatches. It can be managed by using robust clearing arrangements, netting agreements and collateralisation.

Dealing risk arises during the execution and management of derivative transactions. It includes the risk of errors in trade booking, confirmations or mismatched terms, as well as fraud or unauthorised trading. Poor controls in dealing can lead to settlement failures, disputes over contract terms or unexpected market exposures. Effective dealing risk management relies on clear procedures, prompt confirmations, reliable trade capture systems and robust oversight to ensure that transactions are accurately agreed, recorded, and monitored throughout their lifecycle.

Chapter 7, Section 5.6.4

Text amended to read:

Although cash and futures prices generally move broadly in line with one another, the basis is not constant. During some periods, cash prices move faster than futures, and vice versa.

This movement in basis is brought about by a variety of factors. Most important is the relationship between supply and demand.

Text above table has been amended to read:

To illustrate this, consider a wheat farmer who has a short hedge (they hold physical wheat and sell wheat futures) to protect themselves against a price fall in 20X2.

Chapter 7, Section 6.2.2

Equation has been amended to read:

Ticks moved on the day = (Today's closing price – Yesterday's closing price) / Tick size

Example has been amended to read:

An investor is long 20 December Euroyen futures on the SGX. The contract closing price is 99.7750, down from its previous closing price of 99.7825. The contract's minimum price fluctuation is 0.0025.

Each Euroyen futures contract is based on a notional principal of JPY 100 million for a three-month deposit. Because the contract represents a three-month interest period, the value of a 1.0 price movement is: 100 million × 3 / 12 = JPY 25 million.

A price change of 0.01 (ie, one basis point) therefore equals: 25 million × 0.01 = JPY 250,000.

Therefore, the minimum price fluctuation of 0.0025 equates to a tick value of JPY 625 (ie, 0.0025 x 250,000). The investor will have JPY 37,500 debited from their account, for the day's variation margin.

Calculation:

Ticks moved = (99.7750 – 99.7825) / 0.0025 = -3 ticks

Variation margin = -3 x 625 x 20 = JPY -37,500

Chapter 7, Section 7.2

Text has been amended to read:

The clearing system at the exchange level is typically structured into three tiers: the clearing house, clearing members, and non-clearing members. Clearing members are divided into two categories:

- General clearing members, who clear trades for themselves, their direct clients and other exchange members.
- Individual clearing members, who clear trades only for themselves and their direct clients.

Clearing houses are usually owned by their members, the exchange or both, with ownership structures varying by institution.

The tiers are clearing house, clearing members and non-clearing members, as follows:

Chapter 7, Section 7.3

Heading amended to read: Exchange-Cleared OTC Products

Chapter 7, Section 7.6

Text has been amended to read:

OTC derivatives transactions are reported to trade repositories (TRs), which are electronic platforms operated by legal entities. TRs centralise and maintain records of all OTC derivative contracts, and share this data with relevant authorities to enhance the market's overall transparency and reduce systemic risk.

In the UK and EU, the tasks of TRs are determined by the scope of UK EMIR and EU EMIR respectively.

Chapter 7, Section 7.7

Paragraph deleted before new first paragraph.

Table entry amended to read:

Asia	
Osaka Exchange	Part of the Japan Exchange Group (JPX). A physical and electronic market. Trades futures and options on the Nikkei 225 index, as well as individual Japanese shares. Previously called Osaka Securities Exchange (OSE).

Chapter 7, Section 7.9.1

Text has been amended to read:

This is a technique (which originated in the commodities markets) whereby a position in the physical underlying asset is traded for a futures position. The transaction is agreed privately between both parties away from the exchange and is reported back to the exchange once completed. EFPs are used primarily to adjust physical market positions at a low trading cost. The underlying asset in the physical and futures positions must be the same or closely related. An EFP by itself will not change either party's net risk position materially, but EFPs are often used to set up a subsequent trade which will modify the investor's market risk exposure at low cost. It is occasionally called 'against actual' (AA).

In order that an EFP transaction can take place, the physical and futures components must be particularly similar in terms of either value and/or quantity. EFP transactions have a number of benefits for market participants, which explain their existence. These are:

- **Counterparty credit exposure** can be reduced when an existing physical position is exchanged for a futures position, allowing counterparties to release credit, clearing their credit limits for further trading.
- **Reduced balance sheet and margin requirements** – by netting physical positions against offsetting futures positions, margin and credit limit requirements can be reduced.
- **24-hour trading** – EFP transactions can normally be negotiated around the clock, but must be registered during exchange business days between explicit time brackets.

Chapter 7, Section 7.9.2

Text has been amended to read:

This is similar in structure to an EFP, but instead of exchanging a physical asset, a dealer swaps an OTC derivative position (eg, an interest rate swap) for a corresponding futures position. The OTC swap must be economically related to the futures contract, so that the swap and futures positions can be used effectively for hedging.

Both EFPs and EFSs are part of the wholesale trading facilities that most exchanges offer, such as ICE. One of their main advantages is that they reduce risks associated with trading in the central order book. ICE utilises a methodology called Eris to replicate the cash flows of OTC swaps using futures contracts.

Chapter 7, Section 8

Heading amended to read: Trading of OTC Derivatives

Text has been amended to read:

Learning Objective

8.10 Describe and explain the trading of OTC derivatives: mechanisms, procedures and processes; wholesale trading facilities; standard and bespoke deals, contracts and agreements; market transparency, reporting and monitoring; order/instruction flow and order type; confirmation, maturity, expiry, margin, liquidity, exercise and delivery

OTC derivatives can be negotiated and entered into away from any exchange, directly between the two counterparties.