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Chapter one

Introduction

The financial services industry worldwide and in Ireland was booming when the first edition of this book was published in 2006. In the previous two decades the Irish financial sector had grown and evolved into an important part of the domestic economy. The success of the Irish Financial Services Centre (IFSC) added a strong international dimension to the industry.

In the intervening years the global financial system has gone from boom to bust at breathtaking speed. The Irish financial sector and the Irish economy were hit harder than most by the near collapse of the global financial system in 2008. It will be some years yet before the Irish financial system fully adjusts to the new realities. What is clear is that the domestic banking sector will become much smaller than it was at its peak. The international sector, based in the IFSC, held its own during the crisis and it can continue to increase in terms of employment and assets over the medium term.

REGULATORY CHANGES

The Financial Regulator was formally established on 1 May 2003 as the single regulator for virtually all financial services in Ireland, with the passing of the Central Bank and Financial Services Authority of Ireland Act 2003. Changes made in the aftermath of the 2008 financial crash have brought the Central Bank back to centre stage in the regulation of the Irish financial sector. The Central Bank Reform Act 2010, which commenced on 1 October 2010, created a new single unitary body – the Central Bank of Ireland – responsible for both central banking and financial regulation. This new structure replaced the previous related entities: the Central Bank and the Financial Services Authority of Ireland (Financial Regulator). Of even greater significance is the shift from a light touch regulatory regime to an intrusive and assertive regulatory regime.

IRISH FINANCIAL SERVICES INDUSTRY

Although the domestic banking sector will contract in the coming years, the Irish financial sector will continue to be a large employer. The statistics below show the scale of the industry at end-2009:

- The total assets of domestic credit institutions stood at €798,244.
- Employment in the banking sector alone stood at 37,178.
- Total assets under administration in Ireland amounted to €1,878bn (end-2010).
- The market capitalisation of the Irish Stock Exchange stood at approximately €48bn (end-2010).

(Sources: *Central Bank of Ireland; Irish Funds Industry Association.*)

The international financial sector is a significant contributor to the Irish economy, with employment being in the region of 24,000 at end-2010. In addition, there is significant employment in ancillary services such as legal, accounting, etc.

What has become clear through the turmoil of the financial crash and its aftermath is the vital role played by a modern economy's financial system. A malfunctioning or broken system can have devastating consequences for the real economy. In the early part of the 2000s we would have described the Irish banking system as malfunctioning. It fed and encouraged the creation of a property asset price bubble that resulted in a major dislocation of the Irish economy. In tandem with this price bubble was a huge build-up in private sector indebtedness to wholly unsustainable levels. The scale of the excess has only crystallised in the aftermath of the global financial crisis, and indeed it will be many years before the total cost of the debacle to the Irish economy is known.

Rebuilding and re-engineering a robust and vibrant banking sector that is fit for purpose is one of the most important challenges facing the Irish economy. Ensuring that all those working in the industry – from directors and senior managers to bank branch financial advisers – possess the requisite skills and knowledge is a vital aspect of this process.

Staff education and training is critical to the continued development of the Irish financial services industry. In most sectors of the industry employees must now attain relevant professional qualifications and industry qualifications from bodies such as the Institute of Bankers, the Life Industry Association, the Insurance Institute and others. This textbook has been written with the needs of this group to the forefront. The book will also benefit third-level students who are studying investments for the first time as it provides an

Irish perspective that usefully supplements the many excellent international introductory textbooks.

IMPACT OF THE FINANCIAL CRISIS ON INVESTMENT THEORY AND PRACTICE

It will be many years before the full impact of the seismic events of 2008 work their way through the world's financial markets and regulatory systems. Without timely and massive government and central bank intervention, the global system would have gone into meltdown, which would almost certainly have led to a global depression. This did not happen and the global economy and financial system recovered in 2009/10.

The fundamentals of investing have not changed, yet the financial crash has led to some awkward questions regarding aspects of investment theory and practice. For example, a core underpinning of passive fund management is that financial markets are by and large efficient. Trillions of euros of assets are managed on a passive basis throughout the world. Yet the financial crisis highlighted the inefficiency of many financial markets and showed that many financial securities were priced at levels that bore little relation to their true 'value' and risk level. Although some of the assumptions and conclusions of modern portfolio theory are being critically re-examined, the crisis has re-instilled interest in the tried and tested techniques of valuing securities based on their capacity to generate cash flows into the future.

If there is one lesson that the crisis has emphasised, it is that the fundamental value of an asset eventually manifests itself. Therefore, many of the concepts and techniques underlying the valuation of securities in the first edition of this book are being re-embraced by serious investors. The core principles underlying the theory and practice of investment management have not changed. Sensible diversification across asset categories and a clear understanding of the implications of financial leverage remain at the core of managing investment risk and return. Our view is that much of what went wrong over the past decade in financial markets was because too many participants across the financial system lost sight of these core principles of investment. Excessive use of leverage and the belief that financial engineering could somehow spirit away investment risk have been shown up for what they are: fool's gold.

ORGANISATION OF THE BOOK

This book introduces the basic building blocks of investment and reviews the operations of the industry from a variety of perspectives. These include the retail investor, the pension fund investor and also the professional fund

manager. The approach adopted is to introduce investment concepts and issues in a discursive manner. As far as practicable examples and illustrations are presented in the Irish setting.

Chapter 2 focuses on the mainstream investment assets: fixed interest, equities, property and cash. The key characteristics of each asset are outlined and basic valuation concepts such as dividend yield, price earnings ratio and gross redemption yield are introduced. The methods by which securities markets are organised and securities are issued and sold to investors are set out. The distinction between primary markets and secondary markets is explained and the mechanism by which an initial public offering is brought to the market is described. This chapter concludes with an outline of how securities are issued and traded on the Irish Stock Exchange.

Chapter 3 builds on Chapter 2 to provide a fuller analysis of bonds, including the valuation of bonds and the calculation of the flat yield and the gross redemption yield or yield to maturity. This chapter will help the reader to develop an understanding of how to value a bond by applying the time value of money concept. The nature of the inverse relationship between changes in interest rates and bond prices is examined and the important concept of duration is explained. The term structure of interest rates and its various applications are discussed. A new section on bonds as an asset class outlines the issues involved in managing bond portfolios. Corporate bonds and emerging market bonds are defined and examined. Finally index-linked bonds are described and compared with conventional fixed-interest bonds.

In Chapter 4 we examine ways of analysing and assessing the investment merits of a company's shares. What is the fair price for a share and how can we calculate it? What are the key financial ratios relevant to an analysis of the investment prospects of a company? What yardsticks should be employed to compare one share with another? Are there ways to establish the investment value of an equity market? How can equity markets in different countries be compared with one another? This chapter shows how discounted cash-flow techniques can be used to estimate the fair price of a share. The chapter then goes on to describe the most commonly used relative valuation techniques such as the price earnings ratio and the dividend yield.

Chapter 5 is a catch-all chapter that brings together the key quantitative yardsticks and financial ratios commonly used by investment practitioners. A brief description is provided for each concept together with illustrative examples where appropriate. Readers will find it useful to refer to this chapter when they wish to clarify the meaning of financial and valuation ratios that crop up regularly in any discussion of investments.

Chapter 6 introduces the key concept of risk and starts by distinguishing between the investor, the gambler and the speculator. It examines the

relationship between risk and return and sets out the different sources of investment return. It explores the subjective nature of risk and what risk means to different investors. The quantitative concept of risk as defined and measured by Markowitz is examined. The insights of the Markowitz approach are extended to the implications for portfolio construction.

Chapter 7 develops further the important concept of Markowitz diversification. This chapter shows how a concept such as the correlation coefficient can be used to construct portfolios. The concept of the efficient frontier is discussed and the impact on the efficient frontier of introducing a risk-free asset is explored. The separation theorem is also discussed. Markowitz portfolio theory is normative in the sense that it describes how investors should go about the task of selecting portfolios of risky securities. Capital market theory tries to explain how security prices would behave under idealised conditions. The most widely known model is the capital asset pricing model (CAPM). The CAPM is attractive as an equilibrium model because it can be applied to the job of portfolio construction relatively easily. It does have a number of weaknesses and alternative theories have been developed, the most important of which is arbitrage pricing theory.

Chapter 8 analyses derivative contracts, which now form an intrinsic part of the global financial fabric. Derivatives first emerged in a significant way in agricultural commodities markets in Chicago in the mid-nineteenth century. Although financial derivatives made their appearance quite early in the history of stock markets, they have really only come to prominence since the early 1980s. Today financial derivatives play a central role in all developed financial markets. This chapter focuses on describing basic futures and options contracts and analysing how they can be used either to manage risk or to speculate on the price movements of underlying securities.

Alternative assets are defined and their characteristics listed in Chapter 9. Interest in alternatives has grown exponentially over the past decade as investors have striven to find ways to deal with the volatility and risks associated with investing in stock markets. Private equity, hedge funds and commodities are three of the more important categories of alternative asset, and each of these is analysed in this chapter.

Chapter 10 discusses the alternative of indirect investing used by many investors. With indirect investing the investor pools his or her assets with those of others to create a single pool of money that is then managed by professional investment managers in accordance with a well-defined investment strategy. A key feature of indirect investing is that, while not directly responsible for the asset, the investor is exposed to the same market risk as if he or she did hold the asset directly, and also reaps whatever investment return the asset generates (less management fees and expenses). In Ireland the unit-linked funds offered by life assurance companies form the

backbone of the industry. The emergence of mutual funds – called open-ended investment companies or OEICs – has occurred as a result of EU Investment Services Directives. Once an OEIC is regulated in one EU country it can be sold throughout the EU. The basics of how these collective investment schemes are priced is discussed in this chapter. The role of investment advice and ensuring that individual investors are sold investment funds appropriate to their particular circumstances is a key issue that is addressed.

Chapter 11 introduces pension schemes and the legal and regulatory framework within which they operate. The role and responsibilities of pension fund trustees are outlined, particularly with regard to the fund's investments. The particular risks attaching to pension fund investment are described and investment objectives outlined. The central role of the trustees in determining investment strategy is discussed.

Chapter 12 examines the fund management industry, its scope, recent development, role and organisational structure. The key elements of investment management firms are introduced – philosophy, process, people and performance – and investment styles and skill sets are explored. The industry's investment decision-making processes and risk-control frameworks are outlined.

In Chapter 13 the central importance of growth and inflation is identified in determining asset prices and in driving both the real economy and the financial markets. The relevance of the economic cycle in influencing the asset allocation decision is discussed. Periods of speculative excess are examined to isolate their common denominators and to identify the insight that there is a difference between price and value.

Chapter 14 deals with the measurement of investment returns. The calculation methodologies most commonly used are described and their suitability for comparing returns across managers is discussed. Risk-adjusted return methodologies are also covered. The attribution of performance over the various sources of return is briefly outlined. The Chartered Financial Analyst Institute's Global Investment Performance Standards for the calculation and presentation of investment returns are described. The chapter concludes by discussing investment style analysis and manager selection.

In Chapter 15 we present an analysis of long-term historical investment returns. The decade ending in 2010 is examined in detail as it stands out due to the very low returns earned by equity and property investors compared with the long-run norms. A model for evaluating prospective investment returns is developed and shows that prospective returns are likely to continue to be lower than those achieved in the 1980s and 1990s. The implications of this for pension funds in particular is explored. This chapter concludes with a summary of what we believe will be some of the key structural

changes that are likely to become a feature of the financial services industry in Ireland over the next decade.

GUIDE TO USING THE BOOK

The book is organised to facilitate those students who are working full time in the industry and it is suitable for most financial industry qualifications where investments form part of the curriculum. For those studying for the Qualified Financial Adviser (QFA) exam, this book is a useful supplement to the various teaching manuals published by the professional bodies. Those studying for the QFA or a similar level qualification can be selective in their choice of chapters. The following chapters will cover what is required for many modules:

Chapter 1	Introduction
Chapter 2	Securities Markets and the Investment Assets
Chapter 5	Investment Arithmetic
Chapter 6	Investment, Investors and Risk
Chapter 10	The Retail Investor's Choices
Chapter 11	Pension Fund Investment
Chapter 12	Fund Management
Chapter 13	The Real Economy and the Markets
Chapter 15	Investment Returns: History and Prospects

Those studying for the Graduate Diploma in Financial Planning and other similar level qualifications should cover the entire book.

Learning objectives are outlined at the beginning of each chapter and there is a summary at the end of each chapter. Multiple choice questions, self-assessment tests and case study discussion topics are included in many chapters and provide readers with opportunities to check their comprehension as they work their way through the material. Above all, our objective is to provide readers with a good understanding of investments and at the same time to stimulate further their interest in the subject.

Chapter two

Securities Markets and the Investment Assets

In this chapter the focus is on the mainstream investment assets – fixed interest, equities, property and cash. The key characteristics of each asset are outlined and basic valuation concepts such as dividend yield, price earnings ratio (PER) and gross redemption yield are introduced. How securities markets are organised and the methods by which securities are issued and sold to investors are set out. The distinction between primary markets and secondary markets is explained and the mechanism by which an initial public offering is brought to the market is described. This chapter concludes with an outline of how securities are issued and traded on the Irish Stock Exchange.

Learning Objectives

After completing this chapter you should:

- **Have an understanding of the mainstream investment assets and the key characteristics of each security type**
- **Be able to distinguish between the primary and secondary markets for securities and be aware of the key players involved in the markets**
- **Be knowledgeable about the structure of the Irish Stock Exchange and how the market is organised.**

SECURITY TYPES

In this section the focus is on the mainstream investment assets – bonds, both fixed-interest securities and index-linked securities, equities, property and cash. The term 'bonds' is often used to refer to fixed-interest securities only, even though fixed-interest securities are just one type of bond. The characteristics of other types of bond are also described in this chapter.

However, we will follow the market convention and the discussion on bonds refers to fixed-interest securities, unless specifically stated otherwise.

Bonds (Fixed-Interest Securities)

Fixed-interest securities or bonds are loans raised by borrowers from investors at fixed rates of interest for fixed periods of time. The borrower may be a government, a government agency, a state or a corporation. The lender or investor may be an insurance company, a bank, a pension fund or a private individual.

Typically the borrower, or issuer of the bond, undertakes to pay the investors a fixed rate of interest each year for the fixed period (or fixed term) and to repay principal, i.e. the capital amount originally borrowed, when the loan becomes due (or matures) at the end of the period. Essentially bonds are loans with pre-specified terms and conditions; they have been used by borrowers and lenders for centuries and provide returns in the form of income and repayment at maturity. The early bonds were issued by governments, often for the purpose of funding wars or colonial escapades. The UK was a leader in this regard and by the nineteenth century there was an active market in British government securities.

Bonds issued by the UK Government are often referred to as Gilt Edged Securities or Gilts. The term 'gilt edged' has its origins in the gilt embossing on the certificates, which denoted ownership of the bonds. In time, however, it came to signify the high levels of quality and security attaching to bonds issued by the UK Government. Historically, the Irish bond market was closely linked to the British market, and in fact historically the Irish Stock Exchange was a constituent part of the London Stock Exchange. The Irish Stock Exchange is now an independent exchange that is governed by the Stock Exchange Act 1995. The fact that the Irish £ exchange rate was fixed at parity to sterling up to 1979 cemented this link even further. Now, as a founding participant in the euro, the Irish Government bond market effectively forms part of the Eurozone bond market.

Bonds are divisible and are typically denominated in nominal units of €100 for bonds issued by Eurozone borrowers. The fixed rate of interest refers to the rate payable annually per €100 nominal and normally on maturity bonds are repayable at par, i.e. at €100 per €100 nominal.

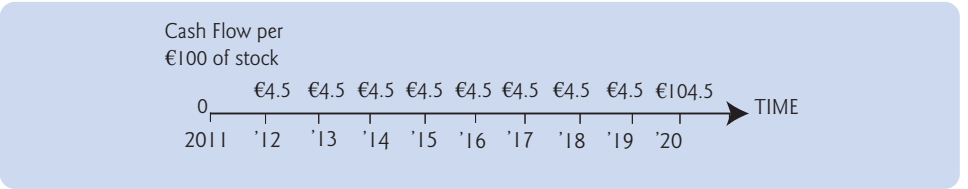
Listings of bonds appear frequently in the financial press and in lists prepared by investment houses and stockbrokers. A bond is identified by its fixed rate of interest (or coupon), its issuer and its redemption date. For example, an Irish Government bond (or stock) is described below:

Government Stock

4.5% Treasury 18.4.2020

The coupon on this bond is 4.5% and this means that the issuer, the Irish Government, will make an annual interest payment of €4.50 to the holder of each €100 nominal of the bond up to and including the maturity date. On the maturity date (18.4.2020) the issuer will pay the holder €100 per €100 nominal of the bond. It is useful to visualise these payments in the form of a 'timeline' as illustrated in Figure 2.1.

Figure 2.1 Timeline – 4.5% Treasury 2020



If we imagine that today is 18.04.2011, we can see that the cash flows that will be generated by this bond can be set out with certainty. Starting in April 2012 an interest payment of €4.50 will be made annually per €100 of stock. At the maturity or redemption date a final interest payment of €4.50 is made, plus €100 (the nominal value of the bond).

Bonds issued by governments are usually quoted on a stock exchange and therefore trade freely on the open market. Bond prices are quoted per €100 nominal. Between the issue of a bond and its final repayment (or redemption) its market price will fluctuate around €100 depending on the investment environment, most particularly interest rate levels, and the interaction of buyers and sellers. Therefore, it is more often the case that investors purchase bonds at a price that is different from their nominal or par value. Referring to our timeline, the par value of €100 establishes only the cash amount that will be repaid to the investor on the maturity date. Assume that for the bond identified in the previous paragraph we find that today this bond is priced at €95 per €100 nominal. It will therefore appear as follows in listings of bonds:

Government Stock	*Price*
4.50% Treasury 18.4.2020	95.00

From this information the returns available to an investor who is willing to hold the stock to redemption may be calculated. The investor receives two returns.

Annual Yield or Running Yield

This is the annual cash payment (investment income) of €4.50 for each €100 nominal of stock purchased. As the investor paid €95 for each

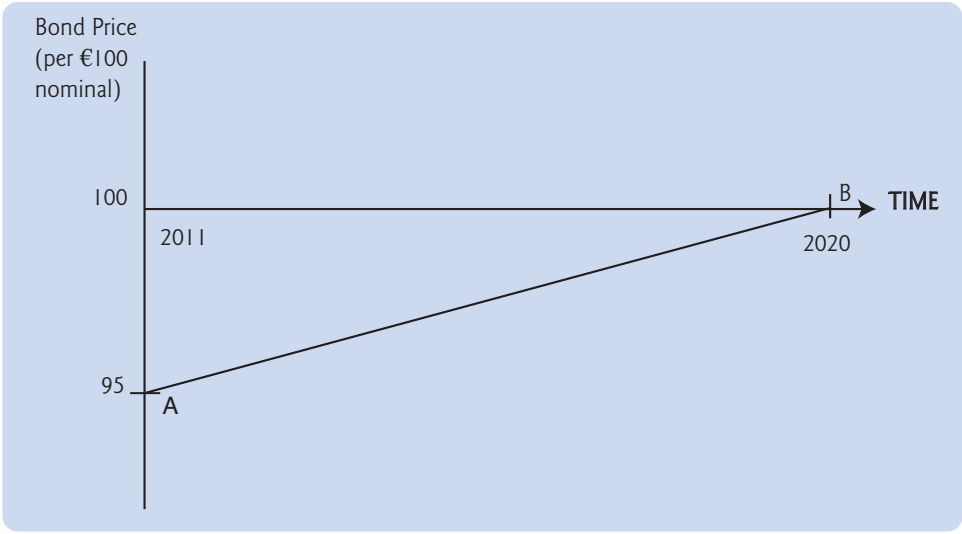
€100, he receives a cash income yield each year between now and 2020 of:

$$\frac{4.50 \times 100}{95} = 4.7\%$$

In addition, the investor must take into account the movement from the purchase price of €95 to the €100 at which the bond will finally be redeemed on 18.4.2020. Because the price of the bond is trading below the par value, this is a positive amount of €100 – €95 = + €5 over the period of some nine years.

Again it is useful to visualise what is going to happen in terms of the timeline depicted in Figure 2.2. The line AB shows that the bond price will gradually rise towards €100 and on the maturity date the price of the bond will be exactly €100.

Figure 2.2 Projected Capital Gain when Bond is Purchased below Par Value



Gross Redemption Yield (GRY) or Yield to Maturity (YTM)

The Annual Yield discussed above does not take this amount into account. A second yield calculation – the Gross Redemption Yield (GRY) or Yield to Maturity (YTM) – takes into account both the annual income and the gain (or loss, if the bond price is below par) from the current price of €95 to the value on redemption of €100. In the case of the bond discussed above, because the current price of €95 is below (at a discount to) €100, the GRY will be higher than the Annual Yield.

Conversely, a bond which is priced above (at a premium to) its par value will have a GRY that is below its Annual Yield.

Incorporating this information on returns into our bond listing extends its identification as follows:

Government Stock	*Price*	*Annual Yield*	*Gross Redemption Yield*
4.50% Treasury 18.4.2020	95.00	4.7%	5.2%

Strictly speaking, the GRY is the interest rate at which the bond's price equals the discounted present value of all future payments (in our example €4.50 each year until 2020 and €100 on 18.4.2020).

Investment decisions in the fixed-interest sector – which stocks to buy or sell – are normally made on the basis of Gross Redemption Yield. The GRY is discussed in more detail in Chapter 3.

The Bond Market

A large part of the global bond market consists of fixed-interest securities, as discussed above. Bonds issued by governments account for a very high proportion of all bonds issued. Investors generally categorise bonds by issuer. Table 2.1, for example, shows Irish fixed-interest government bonds outstanding. This type of information is generally available on a daily basis on the business pages of most newspapers.

Table 2.1 Irish Government Euro-Denominated Bonds Outstanding Friday 26 November 2010

Bond	Gross Redemption Yield (%)	Amount Outstanding (€ million)
4.0% Treasury Bond 2011	4.59	4,604
3.9% Treasury Bond 2012	5.91	5,595
5.0% Treasury Bond 2013	7.31	6,037
4.0% Treasury Bond 2014	8.17	11,857
4.6% Treasury Bond 2016	8.57	10,168
4.5% Treasury Bond 2018	8.91	9,256
4.4% Treasury Bond 2019	9.02	7,700
5.9% Treasury Bond 2019	9.08	6,767
4.5% Treasury Bond 2020	9.07	11,852
5.0% Treasury Bond 2020	9.13	7,715
5.4% Treasury Bond 2025	9.11	8,284
8.75% Cap Stock 2012*	6.38	18
8.25% Treasury Bond 2015*	6.31	7

Note: Bonds marked * are currently designated as Non-Benchmark Bonds.
Source: Irish Stock Exchange.

The terms 'bond market' and 'fixed interest market' are used interchangeably, because most investors think of bonds as offering a fixed stream of income into the future. However, the term 'fixed interest' is not fully appropriate as there are many types of bond that offer something other than a fixed income stream. Other bond types include:

- Floating-rate bonds: Rather than being fixed, the coupon on the bond is variable and is usually determined with reference to money market interest rates. Usually, such bonds have a par value of 100 and have a fixed maturity date when they will be redeemed at par value.
- Zero-coupon bonds: These bonds have no coupon (pay no interest), but are sold at a deep discount to their par value (usually 100). They have a fixed maturity date.
- Index-linked bonds: Coupon payment and the final redemption payment are linked to the inflation rate. Each year the coupon paid increases by the relevant rate of inflation and the redemption value also increases in line with the rate of inflation.
- Convertible bonds: Coupon payments are fixed for a period of time, but on redemption the holder will have the right to convert into some other security.

Index-Linked Securities

The key risk that investors face from fixed-interest bonds is unexpected inflation. Annual interest payments and eventual repayment of capital on the redemption date are fixed and will not change, regardless of changes in the inflationary background. Inflation erodes the purchasing power of the annual interest payments and the final capital repayment, as investors in fixed interest discovered to their heavy cost in the high-inflation period of the 1970s and early 1980s.

In response to the need of investors for a degree of protection against inflation, and to facilitate continued funding of government borrowing, the UK authorities in 1981 issued index-linked securities. Over subsequent years a relatively small number of governments have followed suit – the US, Australia, Canada, France and Sweden. Because of the open-ended nature of the promise to compensate investors for inflation, index-linked securities are almost entirely the preserve of government or government-backed issuers.

The first-known inflation-indexed bond was issued by the Massachusetts Bay Company in 1780. The modern market is dominated by the UK, US and France. Approximately one-quarter of all UK outstanding government debt is accounted for by index-linked bonds. The largest market is the US market, where index-linked bonds are called Treasury Inflation-Protected Securities

(TIPS). The total global value of outstanding inflation-protected securities amounts to approximately $2 trillion.

Index-linked securities protect the investor against the impact of inflation by linking both interest payments and the eventual payment on redemption to an index of retail or consumer prices.

Therefore, when an investor buys an index-linked stock he receives a return that will rise with inflation, but that will be constant in real terms, i.e. in terms of purchasing power.

The conventions for denominating and describing fixed-interest securities apply also to index-linked securities:

Index-Linked Bonds	*Price*	*Real Yield*
UK 2.5% Index-Linked 2024	273.5	1.0%
US 3.625% Index-Linked 2028	129.5	1.7%

A UK investor, therefore, buying the UK Government 2.5% Index-Linked 2024 receives over the remaining life of the stock a real yield of 1.0%, i.e. in excess of inflation. If UK inflation in the period to 2024 is 3% p.a., his return in nominal (cash) terms will be 4.0% per annum; if inflation rises to 5% his return will be 6.0% p.a. nominal. The UK Government has undertaken to compensate the investor for whatever level of inflation occurs in the period to 2024. Real rates of return available on index-linked securities are important in their own right for bond selection within the index-linked sector, but also as a government-guaranteed benchmark for evaluating returns on the other investment assets.

Index-linked bonds have very different investment characteristics from those of conventional bonds (see Table 2.2), and should be considered as a separate asset class.

Table 2.2 Index-Linked versus Conventional Fixed-Interest Bonds

	Fixed-Interest Bonds	**Index-Linked Bonds**
Inflation Risk	Extremely high	Fully protected
Income	Nominal income flows known	Uncertainty regarding nominal flows
Price Volatility	Bond price fluctuation driven by change in nominal yield	Bond price fluctuation driven by change in real yield

Calculating the Real Rate of Interest

The real rate of interest (or return) is given by the expression:

$R_r = (1 + R_n)/(1 + i) - 1$

where: R_r = real rate of interest
R_n = nominal rate of interest
i = inflation rate.

Therefore, if inflation is 3% and the gross redemption yield on long-term, fixed-interest bonds is 5%, the real rate of interest is:

$R_r = (1 + .05)/(1 + .03) - 1 = .0194$, i.e. 1.94% p.a.

Note that simply subtracting the rate of inflation from the nominal yield gives a close approximation.

Case Study: Eurozone Sovereign Debt Crisis

Bonds issued by governments are often referred to as sovereign issues. Bonds issued by countries such as the US, Germany, France and the UK are generally considered to be the safest (i.e. investors are highly confident that the issuer will meet all its obligations). Prior to the financial crisis that emerged in 2007/8, bonds issued by most developed-world governments were considered to be very safe. Hence the yield that, say, the Irish Government had to pay on its bonds was just a little higher, but very close to, the yield being paid by the German Government. In contrast, bonds issued by emerging countries were viewed as carrying a significant risk of default, and hence investors required a much higher yield before they would consider investing in such bonds.

On joining the euro, countries such as Ireland, Portugal and Greece initially enjoyed lower bond yields as investors began to assign a similar credit rating to all countries that adopted the euro. Hence all members of the Eurozone were able to fund their borrowing requirements at yields that were just a little higher than the yield on German bonds. For example, in 2008 the Irish ten-year bond was trading on a GRY of 4.6% compared with the German ten-year yield of 4.2%. The 'spread' between Irish and German Bunds was 40 basis points (0.4%). However, in August 2010 the Irish ten-year bond was trading at a GRY of 5.4%, compared with the German ten-year yield of 2.3% – a spread of 310 basis points (3.1%).

In early 2010 investors began to worry about those countries that were running very high fiscal deficits and that had been hit hardest by the credit crisis. Greece was perceived to be in a very weak position and yields on Greek bonds rose very sharply in the first half of 2010. Investors believed that there was a very high probability that

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the Greek Government would default on its obligations. The spread on Greek bonds went out to the unprecedented level of 860 basis points (8.6%). A joint IMF/Eurozone bail-out for Greece was put in place. By late 2010 similar concerns were developing over Irish, Portuguese and Spanish bonds. As the perceived weakest link, Ireland was forced to seek a bail-out and an €85 billion package was agreed in November 2010. Investors, governments and monetary authorities were expecting further difficulties to emerge during 2011 and beyond.

Yields on Benchmark Government Bonds

	August 2008	August 2010	November 2010
Germany	4.2%	2.3%	2.7%
Ireland	4.6%	5.4%	9.4%
Portugal	4.7%	5.3%	7.2%
Spain	4.5%	4.1%	5.2%
Greece	4.9%	10.9%	11.9%

Corporate Bonds

Just like governments, corporations issue debt securities to fund their long-term financial requirements and these are generally referred to as corporate bonds. They are a major source of capital for many businesses, along with equity and bank loans/lines of credit. Usually companies that issue corporate bonds are relatively large and have a high public profile and/or their shares are listed on recognised stock exchanges.

The US has the largest and most varied corporate bond market, although the advent of the euro has meant that the euro corporate bond market is now also very large. Fixed-interest corporate bonds have identical features to fixed-interest government bonds: they are issued with a par value and a fixed coupon that is calculated on this par value; they usually have a fixed maturity date when the investor receives the par value. In the US, corporate bonds are issued with a par value of $1,000, and almost all have a standard coupon payment structure.

Corporate bonds offer a higher yield compared with most government bonds as investors are exposed to the risk that the corporate issuer will default on its debt obligations. Many investors in corporate bonds rely on the credit ratings agencies to assess the risk of issuers of corporate bonds. These ratings agencies also assign credit ratings to bonds issued by governments.

Assessing Credit Risk – The Credit Ratings Agencies

Credit ratings published by Moody's, Standard & Poor's and Fitch IBCA are meant to capture and categorise credit risk. However, many institutional investors in corporate bonds supplement these agency ratings with their own credit analysis. The financial crisis brought heavy criticism of the ratings agencies for not properly assessing the credit risks of many securities.

The categories used by the major ratings agencies are shown in Table 2.3. Taking the Standard & Poor's (S&P) categorisations, the highest quality issuers are assigned the AAA rating. Very few issuers are assigned this high rating. Only bonds issued by the strongest countries such as the US, Germany, France and Japan enjoy the highest rating. Since the advent of the financial crisis many countries, including Ireland, have been downgraded by these agencies.

Table 2.3 Credit Ratings

Description	Moody's	Standard & Poor's	Fitch Ratings
High quality – 'investment grade'			
Fundamentally strong issues with minimal risk of default; commonly referred to as 'gilt-edged'	Aaa	AAA	AAA
High-quality issues, which differ only slightly from the highest rated issues due to some factor causing perceived long-term risk	Aa1 Aa2 Aa3	AA+ AA AA-	AA+ AA AA-
Good ability to meet repayment obligation, but more likely to be affected by changes in economic climate than higher rated issues	A1 A2 A3	A+ A A-	A+ A A-
Medium-grade issues with reasonable protection, as conditions remain stable over the long term	Baa1 Baa2 Baa3	BBB+ BBB BBB-	BBB+ BBB BBB-
Lower quality – below 'investment grade'			
Possess speculative as well as investment characteristics, with ongoing uncertainties relating to the financial environment, and only fair protection	Ba1 Ba2 Ba3	BB+ BB BB-	BB+ BB BB-
Issuer could currently meet obligations, but protection of principal and interest over the long term is small, and changes in circumstances may lead to default	B1 B2 B3	B+ B B-	B+ B B-

Investment Grade and Non-Investment Grade

A crucial cut-off point in terms of credit rating is whether an issuer is considered to be 'investment grade' or 'non-investment grade'. On the S&P system, BBB is the lowest rung of investment grade. If an issuer's bonds fall below investment grade, then the yield tends to rise quite sharply as many institutional investors have policies that forbid investing in below investment grade issues.

Equities

An equity investment is an investment in the ordinary shares (or share capital) of a limited company. The equity investor is a part-owner of the company and this part-ownership is represented by a share certificate which sets out the number of shares owned. The proportion of the company owned by the investor is determined by the relationship between the number of shares owned, as defined by the share certificate, and the total number of shares in existence (in issue). This is illustrated in the table below:

Company	Total No of Shares in Issue	No of Shares Owned by Investor A	% of Company Owned by A
Company X	1,000	10	1%
Company Y	1,000	1,000	100%
Company Z	1,000,000	50,000	5%

Note: In most markets paper share certificates have been 'dematerialised', with title to shares held on a custody platform.

Where the investor invests in the securities discussed earlier, fixed-interest and index-linked, he has a contractual relationship with the issuer to receive the interest payments and final redemption payment as set out in the terms of issue. He is entitled only to these returns; there is no entitlement to any further participation.

The position of the equity investor is dramatically different. His share certificate identifies his co-ownership of the company: of its lands, buildings, plant and machinery; its stocks, work in progress and finished goods; its products, market shares and brand names; its client lists and customer goodwill; the strategic expertise of its management team and the operational skills of its workforce.

Within the legal framework of the company these assets and attributes combine to generate a stream of profits into the future. The equity investor, as co-owner, participates pro rata to his shareholding in this stream of future profits or earnings.

On the one hand, where the company is successful and enjoys powerful growth in profits, the equity investor may enjoy very large returns. After the company has paid its workforce, its various suppliers, its bank for any interest charges arising and its taxes, all the remaining surplus, no matter how large, belongs (is attributable) to the ordinary shareholders.

On the other hand, if the company is unsuccessful and plunges into bankruptcy, all those with a legitimate claim on its assets must be satisfied before any repayment is due to shareholders. Typically, when a company fails there is little or nothing left for shareholders. Shareholders, of course, enjoy the benefit of limited liability; they have the rather small comfort of knowing that they cannot lose more than 100% of their investment!

The equity investor typically may expect to receive two types of return from an investment in a company:

i) An income return, based on the annual dividend (or distribution to shareholders) paid out of profits earned each year.
ii) A capital return, based on the increase in the share price as it rises to reflect a rising stream of profits into the future.

The income return – the dividend – is relatively stable and typically will rise, reflecting higher dividends as profits increase. However, in periods of difficult trading dividend payments may be reduced (or cut) or suspended altogether.

The capital return is uncertain and volatile, especially in the short term. It is subject to fluctuations in the company's own profitability and to external fluctuations in interest rates and in the stock market. In the long run the generality of share prices may be expected to rise, since they reflect higher profits as the economy grows. At any particular point in time, however, the share price in the stock market is determined by the interaction of buyers and sellers, i.e. it is subject to the laws of supply and demand.

Calculating Earnings Per Share (EPS) and Dividends Per Share (DPS)

Shareholders and investment analysts normally assess the investment merits of a company with reference to a variety of valuation metrics that are usually calculated on a per-share basis. The two most commonly used ratios are earnings per share (EPS) and dividends per share (DPS). The numerical example here illustrates how these important ratios are calculated:

ABC plc

Excerpts from ABC's Profit & Loss Account (€ millions)

Profit After Tax	€120 m
Dividends Paid	€40 m
Retained Earnings	€80 m

Current Share Information:

Number of Shares in Issue	1,000 million
Share Price	€2 per share

Market Capitalisation = shares in issue x share price

1,000 million x €2 = €2,000 m

Earnings Per Share = Profit After Tax/No. of shares in issue

€120 m / 1,000 m = 12.0 cent

Dividends Per Share = Dividends Paid/No. of shares in issue

€40 m / 1,000 m = 4.0 cent

The income return – which is based on a tangible, cash dividend – is measurable and is normally expressed as a dividend yield, calculated as follows:

$$\frac{\text{Dividend per share (cents)} \times 100}{\text{Share price (cents)}}$$

Therefore, for ABC plc with its share price standing at 200c, and assuming it has just paid an annual dividend of 4c per share:

$$\text{Dividend Yield} \quad \frac{4c \times 100}{200c} = 2\%$$

Normally the shareholders will expect the dividend to rise over time as, hopefully, the profits of the company increase. The capital return is uncertain and therefore cannot be quantified in advance.

The Price Earnings Ratio (PER)

The most commonly used convention for measuring and comparing company valuations is the Price Earnings Ratio or PER.

A company may be expected to generate a stream of profits into the future. The shareholder is a part-owner of that stream of profits.

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Earnings per share is a measure of the amount of profit after tax earned in a financial year, which is attributable to each share issued by the company.

The PER is a profit-based measure of the company's perceived worth, relating share price to earnings per share.

With ABC plc's share price at 200c and earnings per share (EPS) of 12c in its most recent financial year:

Price Earnings Ratio:

$$\frac{200c}{12c}$$

= 16.7 times

The higher the PER, the greater the expectation for future growth in earnings.

See Chapter 4 for a full analysis of the yardsticks employed to value equities.

Property

A property investment is an investment in bricks and mortar. Property investment may embrace both residential and commercial properties. In Ireland, on the one hand the private investor is heavily involved in the residential property market (houses, apartments, holiday homes). On the other hand, institutional involvement by pension funds and life companies in residential property is relatively low, both in Ireland and the UK. This is in contrast to the US and Continental Europe, where institutional investors are significant players in the residential property market. Commercial property investments typically include offices, retail shops and industrial buildings (factories, warehouses). Development opportunities include factory outlets (out-of-town retail shopping malls) and leisure centres. Property, especially commercial property, is a 'big ticket' activity. Involvement in the direct property market, i.e. where the investor owns the building, requires large resources – potentially very large. For this reason the market in commercial property is dominated by institutional investors and very high net worth individuals and families.

A variety of investment vehicles have been developed to enable smaller investors to indirectly access commercial property investment, including Real Estate Investment Trusts (REITs); property unit trusts, e.g. IPUT in Ireland; and property unit-linked funds promoted by the life assurance industry.

In Ireland unit-linked property funds sold by life assurance companies are a popular vehicle for property investment. Overseas, REITs have become popular. A REIT is in fact a company structure that has particular tax advantages to enable it to distribute most of its income without paying tax.

The income distributed to a shareholder only becomes taxable in the hands of the shareholder.

Like equities, property returns are not guaranteed. The returns enjoyed by the property investor depend on the success of the building in attracting tenants who, over time, will be willing to pay rising rents. Location is the critical factor in determining the long-term success of a property investment.

A particularly attractive feature of the Irish and UK office property markets from an investment perspective is the convention of the long leases incorporating upward-only rent reviews, normally after 5–7 years. This provides high visibility of rental returns. However, the law is being changed and it is likely that leases with upward-only rent reviews will become a thing of the past.

A key investment attraction of property is that it offers the prospects for a relatively high income that grows over time.

This income return is measured by the Rental Yield as follows:

$$\frac{\text{Current Rent Receivable}}{\text{Property Value}} \times 100\%$$

Assume that Investor A, owner of an office building valued at €10m, let the building three years ago at a rental of €0.5m per annum.

Rental Yield:

$$\frac{€0.5\text{ m}}{€10.0\text{ m}} \times 100 = 5\%$$

A second yield calculation, with applications in property valuation and in comparing different properties, is the **Equivalent Yield**. The Equivalent Yield allows for an uplift in the existing rent to current rental values.

Assume in the example above that the building could currently be let at €0.75m per annum, compared to the €0.5m agreed three years ago.

Equivalent Yield:

$$\frac{€0.75\text{ m}}{€10.0\text{ m}} \times 100 = 7.5\%$$

Investors in property may also benefit from capital appreciation, as capital values rise to reflect rising rents. Just like equities, such capital appreciation is uncertain and will depend on how well a particular property performs in terms of rental income growth. Capital appreciation will also be a function of overall trends in the economy; in particular, movements in interest rates and bond yields exert a large influence.

Of course, like equities, property involves substantial risks. If rents fall and the economy weakens, property values will fall and investors will experience reduced capital values.

Cash or Bank Deposits

Cash is normally regarded as a short-term investment and not usually as a suitable investment vehicle for long-term investors. In fact, cash plays three roles in investors' strategies.

i) It may be held to meet short-term obligations or liabilities, e.g. to meet payments to current pensioners.
ii) It may be a temporary home for funds as the investor awaits more attractive opportunities than those currently available.
iii) It may be an investment vehicle in its own right and held for longer periods if the investment environment is adverse. Holding cash will cushion the investor from the impact of falling values in the other investment assets and, importantly, will provide the wherewithal to buy the other assets when they have fallen into low ground. In other words, cash can play an important role as a diversifier of investment risk.

Cash returns, i.e. interest on deposits – no matter how low – always look attractive if the other assets are generating negative returns.

A critical consideration for the investor is to determine the appropriate term (or duration) of the deposit. Cash may be placed on deposit from periods ranging from one day (or overnight) out to one year, or even longer in the case of more sophisticated money-market instruments. Key considerations in determining the deposit term include:

- the investor's view of the outlook for interest rates;
- the investor's requirement to access the deposit to take advantage of market opportunities as they emerge;
- the availability of other sources of finance, including cash flows.

Perhaps even more critical is the creditworthiness of the deposit-taking institution. The marginal improvement in deposit rates that might be achievable by moving a deposit from a strong bank to a weaker bank will rarely compensate the investor for the loss of the deposit if the weaker bank should fail.

Uniquely among the investment assets, cash generates only one stream of return. The nominal value of the deposit is always fixed in absolute terms. An investor who puts €100 on deposit will always receive €100 on maturity of the deposit. Capital value is fixed; there is no capital return, positive or negative.

The investor receives an income return only. The interest rate will be fixed for the duration of the deposit, and if the deposit is renewed or rolled over the interest rate for the succeeding period will be set at the levels then prevailing.

Cash therefore provides certainty of income return only for relatively short periods. Because of fluctuations in interest rates there is no certainty of long-term income return, either in absolute (nominal) or real (after inflation) terms.

Cash or Money Market Instruments

Deposit or savings accounts held at banks, building societies and credit unions, and savings bonds and certificates issued by the Post Office, may be classified as non-marketable financial assets. Marketable money market instruments fall into a number of broad categories:

- **Treasury Bills (US); Exchequer Bills (Ireland):** This is the premier money market instrument, a fully guaranteed, very liquid IOU from the issuing government. Treasury bills are sold every week by auction at a discount to face value. Therefore, the discount determines the yield. Effectively, they are a zero-coupon bond with a short maturity, usually three, six or nine months. Outstanding (already issued) bills can be purchased and sold in the secondary market, which is an extremely efficient market where dealers in government securities stand ready to buy and sell these securities.
- **Commercial Paper:** A short-term, unsecured promissory note issued by large, well-known and financially strong corporations. Commercial paper is usually sold at a discount. Although issues can trade on a secondary market, most issues are held by the buyer to maturity.

Interbank Market

This is the marketplace where banks come together to borrow or lend from one another. As well as borrowing and lending amongst themselves banks can also lend money to and borrow money from the relevant central bank. While there is no physical location where transactions occur, properly functioning interbank markets are vital for the efficient functioning of financial systems.

Investment Assets and Alternative Investments

Our discussion has concentrated on the traditional investment assets of bonds, equities, property and cash. The vast bulk of funds invested resides within these asset categories either directly, or indirectly through financial products.

There is much debate about so-called alternative investment categories such as commodities and hedge funds. It is arguable whether these are alternative asset classes, or are merely different forms of trading strategies. These are reviewed in detail in Chapter 9. In this introductory chapter we confine ourselves to the traditional asset classes, and the table below sets out the key characteristics of each major asset class.

Asset	Type of Return	Advantages	Disadvantages
Cash	Interest income only	Capital is secure	Rate of return lower than other assets
Bonds (Fixed Interest)	Income return is known in advance; prospect of capital appreciation if bond is traded	Bonds issued by the large developed-world governments considered to be risk free (credit risk); cash flows are definite	Returns are not protected against inflation; long-term returns are likely to be lower than property or equities
Bonds (Index-linked)	Income return starts low but rises in line with inflation; principal amount at maturity rises in line with cumulative inflation over the life of the bond	Provides automatic protection against inflation by raising the coupon payments and the principal sum to be paid at maturity in line with the relevant inflation index	Likely to under-perform in a low-inflation environment
Property	Income in the form of rents which can be expected to grow over time; prospects for capital appreciation	Total returns will reflect the performance of the relevant local economy	Transaction costs are very high and property investments are generally very illiquid
Equities	Income in the form of dividends which can be expected to grow over time; prospects for capital appreciation	Total returns will reflect the performance of individual companies	Asset class that experiences the highest volatility of returns

HOW SECURITIES ARE ISSUED

Companies issue and sell securities to investors in order to finance their operations, as well as to expand their businesses. Usually companies issue equity and long-term corporate bonds to fund their long-term capital needs. Governments issue bonds to fund borrowing needs that may include a deficit

on day-to-day spending and spending on capital projects such as building a new roads infrastructure.

A market where a company or a government issues new securities for cash is referred to as a primary market. New sales of Irish government bonds, sales of new shares by, for example, CRH all occur on the **primary markets**. The issuers of these securities – the Irish government, CRH – receive cash from buyers of the new securities, who in turn receive new financial claims on the issuers. Where the issuer is selling securities for the first time, the issue is referred to as an initial public offering (IPO). One of the most high-profile and controversial IPOs on the Irish market was the sale of Eircom shares by the Irish Government in 1999. At the time equity markets had been rising for several years and telecom stocks had become the darlings of the market. The owner of Telecom Éireann (name later changed to Eircom) was the Irish government, which saw the flotation of Eircom as the first step in a process of bringing share ownership to a wide range of ordinary individuals. The government embarked on a major publicity campaign to market the shares to the ordinary public, most of whom had never invested directly in the stock market before. The process of setting the sale price and deciding on the marketing campaign was highly complicated.

The subsequent collapse in the share prices of technology and telecom companies in 2001/2 resulted in capital losses for most Eircom investors. Lessons were learnt when it came to the Aer Lingus IPO, which came to the market in 2006 with much less hype.

The key players in the sale of new securities, either an IPO or the sale of new securities by an already-listed company, are:

i) **The issuer.**
ii) **The originating investment bank.**
iii) **The underwriting syndicate** – usually the originating investment banker will put together a syndicate of banks that will agree to underwrite the issue. This ensures that if investors back off from purchasing the new securities at the last minute, the syndicate will buy the securities from the issuer at a pre-agreed issue price.
iv) **The selling group of investment bankers and stockbrokers** – this will usually comprise the underwriting syndicate (or the stockbroking arms of the syndicate members), possibly plus selected domestic and overseas brokerage houses.
v) **Investors** – these will include pension funds, insurance funds and unit trusts, as well as private investors.

Investment bankers act as intermediaries between issuers and investors. The issuer sells its securities to investment bankers, who in turn sell the securities to investors. As well as acting as an intermediary, the investment banker is

normally the key adviser to the company throughout the entire planning process that precedes a new issue. This advice covers topics such as the type of securities to be sold, the likely appetite amongst investing institutions for each different type of security, the price and the timing of the sale.

Underwriting New Issues: Often investment bankers will underwrite the newly issued securities. In other words they commit to purchasing the new securities at the placement price irrespective of market conditions. This is a very valuable service from the point of view of the issuers – it gives them certainty that they will receive cash for the newly issued securities. There is, of course, a price in high underwriting fees and/or a spread for the investment bank through purchasing the shares at a discount to the placement price. The lead investment bank will typically form a syndicate of investment banks to spread the risk. In turn these investment banks may further sub-underwrite the risks with the potential end-buyers of the securities – pension funds and investment funds. Although the investment bank or syndicate of banks buys the new securities from the issuer, their intention is to sell on the securities immediately to investors. In successful new issues the investment bankers quickly place the new shares with long-term institutional investors and retail investors.

After the IPO

Once securities are listed on a stock exchange, further issues can be made through a variety of routes. Any new securities issued will be exactly the same as the existing securities in terms of par value, rights to dividends, voting rights, etc. Companies whose shares are listed on an exchange can issue and sell new shares to existing and new shareholders through either a **Placing** or a **Rights Issue**.

In a Placing, new shares are issued by a company and sold to investors, who may already be existing shareholders but would normally include new investors. The sale of the shares will normally be organised by an investment bank (or a syndicate of banks for a large issue) appointed by the company. Usually the price of new shares will be pitched at a level that is close to the most recently traded price of the existing shares.

In a Rights Issue, new shares are offered only to existing shareholders. Usually the price of the new shares will be pitched at a significant discount to the most recently traded price of the existing shares. Companies will usually take the rights issue route when the amount of new capital being raised is large relative to its current market capitalisation. Rights issues are normally underwritten (for an underwriting fee) by the company's stockbroker or investment bank. From the company's perspective this guarantees that it will raise the targeted new capital.

From the perspective of the current shareholders in a company, a rights issue is attractive in that they have the option to retain their existing percentage stake in the company. An example illustrating the mechanics of a rights issue shows why this is so.

Rights Issue

A company has 1m shares in issue with a current market price of 40c. It has just announced a rights issue of 1 new share for every 3 shares held at a price of 30c per new share. The rights offer will be open for 21 days and during that period shareholders will be able to trade the nil-paid rights as well as the existing shares. Prior to the announcement of the rights issue a shareholder with 3 shares had an investment valued at:

$$3 \times 40c \text{ (original market value)} = €1.20$$

If this shareholder takes up his rights on the closing date of the offer, he will then have the following:

3 shares @ 40c	= €1.20
1 new share (cost 30c)	= €0.30
4 shares valued at	€1.50

Therefore: each share is valued at €1.50/4 = €0.375

Each share now has a theoretical value of 37.5c and this is known as the theoretical x-rights price.

During the offer period a shareholder can trade in the rights or what is known as the nil-paid shares, which will have a theoretical value of:

Ex-Rights price	–	Subscription price	= Nil-Paid price
37.5c	–	30c	= 7.5c

A shareholder who does not wish to take up his rights can sell the nil-paid shares in the market. In this way shareholders who choose not to take up the rights offer are not disadvantaged compared with those shareholders who subscribe for the new shares.

A shareholder who decides to subscribe for the new shares will of course increase his monetary stake in the company. However, his percentage stake will remain exactly the same pre and post the rights issue. This is because the mechanism of a rights issue ensures that a subscribing shareholder with (say) 1% of the company will take up 1% of the new issue. Shareholders who do not subscribe will see their percentage stake in the company decline, i.e. they will suffer some dilution. This does not involve any loss in value, since the shareholder has not invested any further funds in the company. Furthermore, the nil-paid shares can be sold in the market so that non-subscribing shareholders do not suffer any

loss if the new shares are priced at a discount to the 'old' shares. In some cases non-subscribing shareholders may use the proceeds of the sale of their nil-paid rights to subscribe for a fraction of their rights entitlement.

From the perspective of shareholders, and particularly small shareholders, the rights issue mechanism of selling additional shares is attractive and equitable. There are, however, some drawbacks from the company's perspective, namely:

- There is usually a significant time gap between the announcement of a rights issue and the subscription date. Shareholders must be provided with full and detailed information regarding the issue to ensure that they are fully informed about the prospects for the business. All relevant available information concerning the business must be made available to shareholders so that they can make an informed investment decision. During the offer period the market in the company's shares will be subject to normal market volatility. Clearly, adverse market developments outside anyone's control could severely jeopardise the eventual success of the issue. Because of this risk most companies will pay investment banks an underwriting fee to underwrite the issue if shareholders shun the issue for whatever reason. This clearly adds to the cost of selling new shares.
- Because of the onerous rules regarding a rights issue and the time involved, companies generally use this capital-raising mechanism sparingly. Therefore, rights issues will normally be resorted to only for major corporate events, such as a take-over, a major expansion or a major capital reconstruction.
- In times of distress, rights issues may be the only way for publicly traded companies to raise capital. They can do this by issuing new shares at a very large discount. This acts as an effective inducement to the existing shareholders to subscribe, since they would suffer substantial dilution in their percentage shareholding if they did not subscribe.

While a rights issue has some disadvantages in terms of cost and management time, it is the favoured mechanism in Europe for raising substantial additional capital. Where the number of new shares being sold is less than 10% of the outstanding issued share capital a company has the option of using a Placing to sell the new shares. Stock exchanges usually have rules regarding such placings to ensure that existing shareholders are equitably treated. In Ireland the price of the new shares must be at a discount of no more than 5% to the most recently traded price and the amount of shares issued cannot exceed 10% of the issued share capital. Placings have the advantage of much more rapid execution than a rights issue and the associated transactions costs are significantly lower.

From the perspective of company treasurers the availability of the rights issue alternative is a critical benefit of having a stock market listing. In a scenario where a company is going through a very difficult time, most sources of long-term finance tend to dry up. Banks are reluctant to extend finance to weak companies and bond investors are likely to shun issues of corporate bonds from distressed companies. Also, in times of overall market weakness even strong companies can find it difficult to raise finance at an acceptable cost. In such circumstances a company that requires long-term finance has the option of bringing a rights issue to the market. The price at which the shares are pitched may be low, implying a high cost of equity to the company. However, if the company requires extra finance for survival this is the price that it must pay. The key point is that for quoted companies access to the capital market virtually never dries up. This became very apparent in the aftermath of the financial crisis when many companies, in particular banks, raised vital new capital through the rights issue route.

STOCK EXCHANGES

A stock exchange will normally prescribe criteria for listing in terms of the history of the company, its profits and capital, the integrity of management, and other factors relevant to potential investors in the business. The Irish Stock Exchange (www.ise.ie) was originally part of the London Stock Exchange, but it is now an independent exchange. The Markets in Financial Instruments Directive (MiFID), implemented in November 2007, is the relevant legislation governing the Irish Stock Exchange (ISE) and its markets.

The Irish Stock Exchange Limited ('the company') is an Irish private company limited by guarantee. This legal structure was adopted in 1995 by the then founding member firms of the ISE, who formed the guarantors of the company.

Listing of Securities

The ISE is the designated competent authority for the listing of securities in Ireland. Any company that wishes to be admitted to the Official List is expected to comply with the basic conditions set out in the 'Listing Rules'. Some of the key provisions are set out below:

- The company must be validly organised under the laws of its country and must be operating in conformity with its articles of association.
- The securities must be freely transferable and at least 25% of any class of shares must be in the hands of the public. A percentage lower than 25%

may be acceptable to the ISE if the market will operate properly with a lower percentage.
- All fundraising exercises require a full prospectus to be prepared.

Continuing Obligations of Listed Companies

All applicants to the Official List automatically agree to comply with the conditions set out in the 'Continuing Obligations'. Some of the key requirements are set out below:

- A company must notify the ISE of any price-sensitive information.
- Directors' dealings must be announced and restricted to specified time periods.
- Explanatory circulars must be sent to shareholders regarding major acquisitions or disposals of assets.
- The company must have permission from shareholders to repurchase its own shares.
- A company must issue a half-yearly report within four months of the period end and a preliminary statement of annual results within four months of its year-end. Annual accounts must be produced within six months of the company's financial year-end.
- Issues of equity securities must be offered to existing shareholders in proportion to their shareholding (i.e. by way of a rights issue). This protection is meant to avoid the shareholders' interests being diluted. However, shareholders can vote to disapply these pre-emption rights and most listed companies have such shareholder approval. Normally, such approvals are capped at a predetermined percentage of a company's issued share capital, usually 10%.

The objective of these various listing requirements and continuing obligations is to ensure that a fair and orderly market is maintained in the company's listed securities at all times.

Dealing on the Irish Stock Exchange

The ISE operates one regulated market as defined by MiFID: the Main Securities Market (MSM), which is the market that most people are familiar with. The MSM is the principal market for Irish and overseas companies. It admits a wide range of security types such as shares, bonds and funds to listing and trading.

The ISE also operates the Enterprise Securities Market (ESM) and the Global Exchange Market (GEM), which are exchange-regulated markets and multilateral trading facilities (MTFs) as defined under MiFID Regulations.

The ESM is an equity market designed for growth companies. The GEM is a specialist debt market for professional investors.

Securities admitted to trading on the MSM and GEM are considered to be admitted to the Official List of the ISE.

The ISE operates a different dealing system for Irish government bonds and for equity and other quoted securities.

Irish Government Bonds

The Irish government bond market revolves around the primary dealers who are recognised by the National Treasury Management Agency (NTMA) and who apply for registration by the ISE as a primary dealer for Irish government bonds. The primary dealers are responsible for quoting continuous two-way prices in Irish government bonds. Primary dealers therefore commit their own capital as they act as principals when dealing in Irish bonds. As a recognised primary dealer a firm takes on certain obligations, which include quoting firm, two-way prices in those bonds specifically notified by NTMA, subject to minimum sizes and maximum bid–offer spreads. The existence of a continuous market in Irish government bonds enables stockbrokers to efficiently execute client orders in government bonds.

Primary dealers are granted certain privileges in return for making bid and offer prices. These include:

- Exclusive access to funding by NTMA through auctions of bonds.
- Access to NTMA for the purposes of borrowing and lending stock.

Irish Equity Market

Unlike the Irish government bond market, there are no primary dealers in Irish equities. Rather, the market in listed company shares is 'created' by the buy and sell orders that are generated by investors in Irish shares. The equity market may be characterised as an 'order-driven market'. In June 2000 the ISE moved to an electronic order-driven system called ISE Xetra. This system is the product of a strategic alliance between the ISE and the Deutsche Börse in Germany. The Xetra trading system is accessible by all member firms of the ISE through an IT package that provides their dealing rooms with direct access to the central trading system. Investors still give their buy and sell orders to stockbrokers, who then enter orders into the electronic system. Deals then occur when the system matches buy and sell orders. Use of the order book is governed by procedures, rules and market parameters. Each order must be:

- Firm.
- At the minimum size lot, or multiples of the lot size.

- For standard settlement.
- At a price that is an exact multiple of the tick size specified by the ISE.

The key advantage of this system is that it is cost-effective, as the cost of supporting primary dealers or market makers is avoided. A disadvantage is that there may be periods when it is difficult to trade in some shares, when there may be a very small number of active orders in the system.

The system does, however, offer the facility for market making to be conducted in one or more securities. Suitability criteria are laid down by the ISE and the market maker must at all times satisfy the ISE that it:

- Is appropriately authorised to deal on its own account.
- Has adequate systems and control procedures in place.
- Has suitably competent and experienced staff.

Settlement

Trades on markets run by the ISE use the following settlement platforms:

i) CREST for the settlement of equity and exchange-traded fund securities on the MSM and the ESM.
ii) Clearstream Bank Luxembourg, Euroclear Bank and Depository Trust Company (DTC) for the settlement of GEM securities.

SUMMARY

- Investment alternatives available to investors include fixed-interest securities (bonds), index-linked securities, equities, property, and cash or bank deposits.
- Equities and bonds are generally highly marketable and are easily traded on recognised stock exchanges.
- Deposits are non-negotiable, but are usually accessible at short notice and are therefore highly liquid.
- Property investments are marketable, but because of the large value per unit and high transactions costs property is a highly illiquid investment.
- Equity and property investments provide investors with returns that are closely linked to the performance of the overall economy and are therefore referred to as real assets. Cash and fixed-interest securities provide no such link to economic growth and may be referred to as nominal assets.
- The key risk facing investors in long-term, fixed-interest securities is that of unanticipated inflation. In contrast, index-linked securities promise

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returns that rise in line with inflation and therefore offer investors a risk-free real return.

- Investors in bonds also face issuer risk, i.e. the risk that the issuer (corporate or government) defaults on its obligations.
- A market where a company or government issues new securities for the first time is referred to as a primary market and such issues are referred to as initial public offerings (IPOs).
- Once issued on a stock market, securities can be bought and sold by investors on a daily basis on what is known as the secondary market.
- Once listed on a stock exchange, companies can issue further tranches of securities through either a rights issue or through a placing of new shares with investors.
- The Irish Stock Exchange (ISE) is the designated competent authority for the listing of securities in Ireland.
- The ISE operates different dealing systems for Irish government bonds, and for equity and other quoted securities.
- The Irish government bond market revolves around the primary dealers who are recognised by the National Treasury Management Agency (NTMA) and who apply for registration by the ISE as a primary dealer for Irish government bonds.
- The market in listed company shares is 'created' by the buy and sell orders that are generated by investors in Irish shares. The equity market may be characterised as an 'order-driven market'. In June 2000 the ISE moved to an electronic order-driven system called ISE Xetra.

QUESTIONS

1. Holding all other factors constant, which of the following is/are TRUE?

A. A bond sold at discount will experience a rise in price over time to reach par value.
B. A bond sold at premium will experience a rise in price over time to reach par value.
C. A bond sold at premium will experience a decline in price over time to reach par value.

1. B & C only
2. All of the above
3. A & C only
4. A only

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2. Why do investors invest in fixed-income securities?

A. A steady stream of income offered over the life of the bond's obligations.
B. A return of principal when the bond matures.
C. It is possible to earn capital gains when interest-rate movements are correctly predicted.
1. None of the above
2. A & B only
3. All of the above
4. B & C only

3. Regarding bonds, which of the following statement(s) is/are FALSE?

A. The vast majority of fixed-income securities have a specified repayment schedule and must mature at some future date.
B. Since stocks regularly pay dividends, stocks are fixed-income securities.
C. At the time the bond is issued, the coupon payments for a typical bond are specified and remain fixed for the life of the bond.
D. A buyer will get the principal back when a bond matures, assuming there is no default by the issuer.

4. Regarding the holder of an ordinary share, which of the following is/are FALSE?

A. Is guaranteed a specified dividend return.
B. Is senior to bondholders in terms of payment.
C. As the owner, can best be described as the residual claimant.
D. Has unlimited liability and is responsible for any loss created by the firm.
1. A, B & C only
2. A, B & D only
3. None of the above
4. D only

Questions 5 and 6 are based on the summary information below for ABC plc.

	€ Million
Sales	200
Operating Profit	30
Profit after Tax	20
Dividend	10
Retained Profits	10

ABC has 200 million shares in issue and the current market price is 100c.

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5. What are ABC's Earnings Per Share (EPS), and its dividend yield?

A. 1c; 2.5%
B. 100c; 5.0%
C. 10c; 5.0%
D. 10c; 10%

6. What is ABC's Price Earnings Ratio (PER)?

A. 20
B. 6.7
C. 10
D. 13.3

7. Which of the following statements is FALSE?

A. Investment returns from property investment depend on the success of the building in attracting tenants who over time will be willing to pay rising rents.
B. Property unit-linked funds promoted by the life assurance industry enable small investors to invest in the commercial property market.
C. Unlike equities, property returns are guaranteed and therefore property is a lower-risk investment than government bonds.
D. Commercial property investments typically include offices, retail shops and industrial premises such as factories and warehouses.

8. Which of the following statements regarding direct property investment is FALSE?

A. Location risk may be diversified away by building a portfolio of properties.
B. Property prices, like quoted equity and bond prices, are marked to market on a continuous basis.
C. By comparison with quoted property companies, Real Estate Investment Trusts provide superior tax transparency and narrower discounts to net asset values.
D. Direct property investments are relatively illiquid.

9. For index-linked government bonds, which of the following statements is TRUE?

A. The investor will earn the real yield originally purchased when the bond is sold in the market prior to redemption or on redemption.
B. An attraction of index-linked bonds is that the investor will receive a return that is fixed in nominal terms.

C. The price of an index-linked bond will fluctuate over its life. Inflation is the only driver of these fluctuations.
D. Index-linked bonds protect the investor against the impact of inflation by linking both interest payments and the eventual payment on redemption to an index of retail or consumer prices.

Case Study Exercise: Aer Lingus IPO

Below are excerpts from various public announcements leading up to the Aer Lingus IPO.

28.08.2006: Announcement of Intention to Float

The Minister for Transport of Ireland and Aer Lingus Group plc today announce the intention to seek admission of the Company's ordinary shares to the Official Lists of the Irish Stock Exchange and the United Kingdom Financial Services Authority . . .

AIB Corporate Finance and UBS Investment Bank have been appointed as joint sponsors to the Offer. AIB Capital Markets and UBS Investment Bank have been appointed as advisers to the Irish Government, joint global co-ordinators and joint bookrunners to the offer. Goldman Sachs International and Merrion Stockbrokers have been appointed as joint lead managers to the offer and as advisers to the Company.

27.09.2006: Announcement of Offer Price of €2.20 per Ordinary Share

The Minister for Transport and Aer Lingus Group plc today announce an offer price of €2.20 . . .

- Based upon the Offer Price, the market capitalisation of the Company on Admission will be €1.13bn.
- The Offer Shares will comprise 292.76 million Ordinary Shares.
- The number of ordinary shares held by the Selling Shareholder represent 34.8% of the entire issued share capital.
- At Admission, the Company will, through the issue of New Ordinary Shares, raise . . . gross proceeds of €501.80m . . . the commissions, fees payable by the Company are expected to amount to €30m

02.10.2006: Admission to Official Lists of the ISE and the UK Financial Services Authority and Commencement of Unconditional Dealings on the Main Markets of the ISE and of the London Stock Exchange

Aer Lingus is pleased to announce that its ordinary shares have been admitted to the Official List . . . And to trading on the Irish Stock Exchange's main market . . . (ticker symbol EIL 1) and on the London Stock Exchange main market (ticker symbol AERL).

1. **Identify the main players and outline their respective roles in the Aer Lingus IPO (i.e. the originating investment bank, the seller of the shares, etc.).**
2. **Calculate the total proceeds raised in the IPO and the value of the selling shareholders' holding at the issue price.**
3. **Estimate the cost of the issue as a percentage of the gross proceeds. Does this seem a reasonable cost of flotation?**
4. **Construct a flow chart plotting the movement of shares and cash between the various players.**