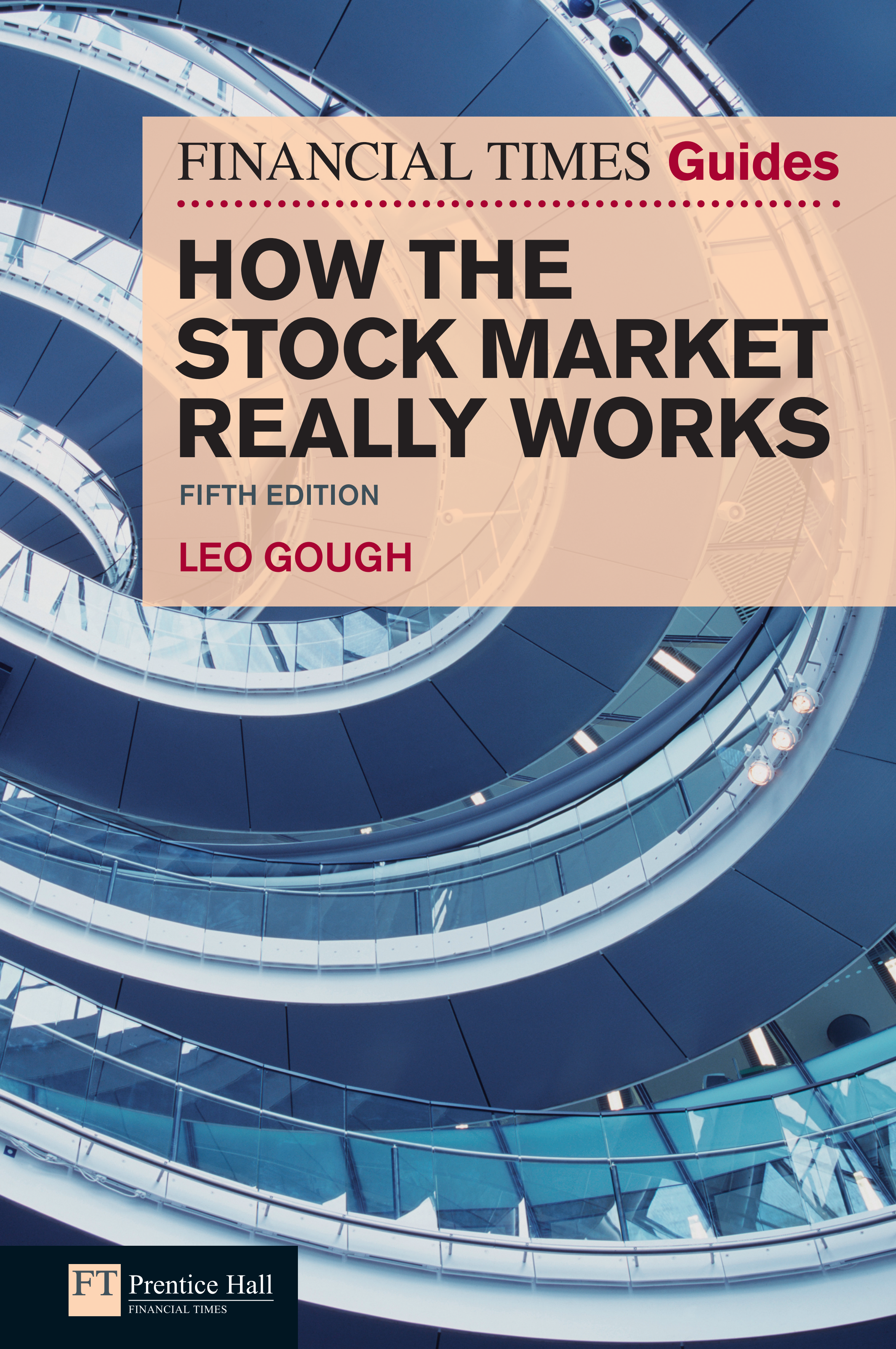

FINANCIAL TIMES **Guides**

HOW THE STOCK MARKET REALLY WORKS

FIFTH EDITION

LEO GOUGH

FT Prentice Hall
FINANCIAL TIMES

How the stock market really works

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Fifth edition

Leo Gough

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PEARSON EDUCATION LIMITED

Edinburgh Gate
Harlow CM20 2JE
Tel: +44 (0)1279 623623
Fax: +44 (0)1279 431059
Website: www.pearson.com/uk

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Introduction

For the last few years the financial news has been dominated by the series of financial crises that began in the US in 2007, spread to the international banking system and, by 2011, had become a threat to the solvency of a number of sovereign states, particularly in the West. Does this mean that the good times for investors are finally over, and that we should keep our savings under the bed from now on? Almost certainly not! Although the financial crisis (discussed in detail in Chapter 13) has been a serious shock, the financial markets still offer good opportunities to ordinary investors to make their assets grow respectably in the long term.

This book is an introduction to the complex world of the financial markets. These days, anyone can participate in them, even if they only have a small amount of money to start with. Few people get rich quick through financial investment, but a lot of people do badly by trying to do this; it is a much better strategy to build your wealth steadily over the long term, adding to your investments by saving from your income and reinvesting the money that your investments generate. If you do this for many years, following a disciplined and well-founded set of rules, you won't need to be particularly lucky or to have any amazing talent for spotting winning investments – the chances are that you will be able to build up a considerable sum of money to help support you in your old age and to provide your children with a good start early in life.

The 'guerrilla investor' concept, as outlined in this book, is all about being sceptical and self-reliant. Many people become so overwhelmed with all the strange terminology and bland assurances offered by the financial services industry that they throw up their hands in despair and sign their money over to the first scheme that looks plausible. This book argues that it is very important to learn as much as possible about the financial markets and about the extraordinary progress that has been made during the last few decades in the theoretical understanding of how stock markets work. This doesn't mean that guerrilla investors should try to do everything themselves

– for many people, the most sensible way to invest is through funds, such as index funds, unit trusts and investment trusts – but it is very important to develop the ability to discriminate between good deals and bad deals, more risky and less risky investments, and situations where your own actions can make a difference compared with ones where they cannot. Think of this book as a first step on the road to a lifetime of learning about investment while you put what you learn into practice in a steady, disciplined way.

Investment can be fun, and it shouldn't take over your life completely. Take it at your own pace, and enjoy the process. Don't be too worried or in too much of a hurry to make money, and you should be pleasantly surprised with the results you can achieve in the long run.

What's new in this edition

Since the major financial crisis began in 2007, there has been a lot of reckless talk about the evils of the financial markets, and a general disillusionment with investment. This is understandable, given that the UK, along with many other countries, had a good economic run for more than a decade, and that the preceding investment crisis, the dotcom bubble that burst in 2000, did not affect the general public very directly. Following the crisis that began in 2007, however, not only has the public been affected directly in terms of bank collapses, low bank lending, unemployment and public sector cuts across the board, but also some major international schemes, such as the EU's common currency, the euro, have come under threat in ways that seem to have come as an enormous surprise to many people.

In this new edition, throughout the book efforts have been made to show how investment issues and topics have been affected by the financial and economic turmoil, and to demonstrate that the fundamental principles of investing have not changed, despite new products, new problems and new market conditions. This new material includes:

- Updated tax information, including changes to ISAs and other tax-sheltered investment vehicles.
- New case studies of major investment scandals and collapses, including Icesave, Bernie Madoff and Greece.
- A detailed analysis of what happened in the series of crises between 2007 and 2011.

- A discussion of how major issues, such as climate change, global economic development, demographic change and population growth may affect investment in the future.
- More on the joys of index investing.
- A discussion of the life-stages approach to investment (Chapter 14), and how to develop a long-term financial plan.
- More on good ways and bad ways of buying overseas property or retiring abroad.

All investors pay attention to current events, but guerrilla investors need to think even more deeply about the long term. Crises and crashes come and go, even the big, nasty, long-lasting ones. So do booms and bubbles. Try to develop strategies that will enable you to survive as an investor through the vast range of market conditions that you will encounter during your investing lifetime. Use this book as a springboard to get started on this exciting and rewarding journey.

3

Bonds

A bond is an IOU issued by a government, local authority or a company in return for the loan of cash the investor is making. In most cases, a fixed rate of interest is payable to the bond holder (the investor), and the bond issuer promises to pay back the amount borrowed (the face value of the bond) at a certain time in the future. This is different from investing in shares because you do not buy any share of the ownership of the lender. Another important difference is that bonds are generally issued for a fixed period of time, and the money you have lent is repaid in full at the 'par value' when the term of borrowing expires.

In the UK, bonds are traditionally called 'stocks' and equities are called 'shares'; in the USA, fixed-interest securities are called 'bonds' and equities, 'stocks'. It is worth noting that a lot of new financial products are being described as 'bonds' (for example, certain structured products, see Chapter 7) when in fact they bear little relation to the bonds described here.

In this chapter we will look at:

- Bonds for guerrillas
- The market for bonds
- Rating bonds
- Gilts

- The other risks of bonds
- The varieties of bonds
- Auctioning new issues
- Understanding yields
- How to use bonds

Key terms

Par value – this is the value of the bond when it was issued (the face value). Par values vary considerably, and some bonds are issued for very large sums to attract institutional investors.

Maturity date – the day the bond expires

Yield – the total return you make on the bond

Bonds for guerrillas – using bonds for specific goals

Bonds are also known as fixed-income securities. They usually pay a fixed amount of interest twice a year until they expire. This feature – a very reliable cashflow – can be a powerful tool in controlling your finances, for example if you have a commitment, such as school fees, that you will have to fund at some point in the future. Top-grade government bonds usually offer a better interest rate than a bank deposit, but on average will not perform as well as shares in the long term.

Why buy bonds? The principal reasons are:

- to put aside a large sum of cash to fund a particular objective in the future
- to be sure of a regular income for a number of years
- to diversify your assets and reduce the volatility of your returns.

In the very long term, bonds are not a good place to park a very large proportion of your assets for the simple reason that they do not produce a good return in real terms (i.e. after taking inflation into account) over the long term. In the UK, the average annual real return for bonds has been 1.3 per cent[1] since 1900, and for many European countries they actually produced a negative return between the First World War and the 1990s. Bonds depend upon the longevity and strength of the borrowers (the bond issuers), and although governments are generally perceived as being secure borrowers, a little reflection on the upheavals of the twentieth century will remind us that this has not always been the case. In the 'Forsyte Saga' novels by John Galsworthy, the Victorian upper classes are depicted as keeping their wealth almost entirely in British government bonds because they think shares are too risky and they believe that the return on bonds will be enough to live on. Jane Austen, too, seems to have thought of government bonds as the best investment in her novel *Pride and Prejudice*, published in 1813. The times and economic conditions have changed, and few modern investors would agree with them in today's market!

So, bonds are best seen as a tool for specific purposes, and not as the answer to protecting your wealth and providing you with a good income in your retirement. To understand more about how useful they are as a tool, let's look at the following example:

Example: A roof fund

Jane has a thatched cottage, and she knows that within five to seven years she will have to pay for a new roof. She thinks this will cost about £50,000. Luckily, she has the money, but she decides not to put it into shares in case there is a market drop just when she needs to fix the roof. Instead, she buys 'zero-coupon' bonds (see page 74) which accumulate the interest until they mature in five years' time. The price of the bonds is discounted to reflect the interest accumulation, so Jane pays less than £40,000 for the bonds. When the bonds mature in five years' time, she will receive £50,000. With zero-coupon bonds, therefore, you don't receive payments of interest during the life of the bond – instead, you pay a much lower price for the bond initially than you will receive at maturity. Zero-coupon bonds are useful when you don't need a stream of interest payments, but just a lump sum at a future date. Remember, though, that you may have to pay tax on the interest you receive.

[1] Elroy Dimson, Paul Marsh and Mike Staunton, Credit Suisse Global Investment Returns Sourcebook 2010

The market for bonds

In most cases, you can sell a bond in the market any time before it matures. This is a useful characteristic, since it makes it a highly liquid asset, but it also carries a risk: because the coupon rate (interest rate) was fixed at the time the bond was originally issued, if interest rates have changed, the bond will change in value.

Although you can be quite certain of your total returns if you hold your bond to maturity, since your lender will repay you the par value at that time, you cannot be sure of the price of a bond in the market. If interest rates move higher than the coupon rate, the value of the bond will be lower, and if interest rates are dropping, the bond's value will rise.

At the time of writing, interest rates have been low for a long time but may start rising soon, which suggests that the market value for bonds could drop in the medium term. If you are buying bonds to hold until they mature, remember, this problem will not affect you.

How to use yields

The main way of assessing and comparing bonds is to calculate their yields. There are several types, as outlined below.

Nominal yield, or 'coupon rate'

The fixed interest rate given on the bond certificate. A bond with a coupon rate of 5 per cent will pay 5 per cent interest annually (often in staged payments every six months).

The current yield, or 'interest yield'

Suppose you buy a bond in the market; the price has changed from the par value, so how can you figure out the yield? The current yield, which is the coupon rate divided by the market price, gives you the figure.

Example

For example, you buy a bond with a coupon of 20 per cent and a face value of £200, and you pay £180. What is the current yield?

20.00 ÷ 180 = 0.1010

The current yield is 10.1 per cent. Remember, the current yield varies according to changes in the market value of the bond, which are driven by interest rates.

The yield to maturity or 'redemption yield'

This is the total return you receive if you hold a bond to maturity, accounting for the market price, the coupon and the years remaining until the bond matures. It also makes the assumption that you are able to reinvest the interest you receive elsewhere at the same rate.

If you are buying bonds you will not need to calculate the yields yourself – they are widely published in the financial press and your broker or financial adviser will be able to give you the figures.

Avoid the highest yields?

“bond investors are not aiming to make high returns”

As mentioned earlier, bond investors are not aiming to make high returns; they are aiming to make highly predictable returns. Bonds will usually generate better returns than cash deposits at a bank or building society, but they are nevertheless not very exciting results. This makes some bond investors restless and dissatisfied, and leads them to search for higher yields. In essence, high yields carry higher risk, often much higher risk, so this is not generally a wise move for a private investor: high yielding bonds may carry a much higher risk of default.

Although bonds are well regulated internationally, there is still a risk of default – in 1998, for example the government of Russia defaulted on its bonds and did not repay the money to the bondholders. While most of the investors were institutional, and so were presumably more able to cope with this setback, private investors do not need this kind of problem, so stick to high-grade bonds.

How do you know if a bond is high grade? You use one of the rating systems (see the next section). These are rating systems which assess the risk that a bond issuer may be unable or unwilling to pay the debt or the interest, and investors should always check a bond's rating before purchasing. Although rating systems are generally good, there have occasionally been nasty surprises, especially in the area of corporate bonds, which are bonds issued by companies. You may recall the collapse of the corporate giants WorldCom and Enron a few years ago (for more details, see Chapter 8); in these cases, the bonds that the two companies had issued were rated as high grade right up until the moment that the companies collapsed amidst allegations of false accounting.

For the average UK investor, the moral of the story is probably either to stick to British government bonds, known as gilts, which have never defaulted, or to special investment funds that hold a broad portfolio of government and corporate bonds.

For more on the different kinds of risk associated with bonds, see page 81.

Rating bonds

A bond's rating is especially important if you are investing in corporate bonds or in government bonds issued by countries that have only recently entered the market, and if you may sell them before they reach maturity. The three main rating companies, Moody's, Standard & Poor's and Fitch, all make independent assessments of how creditworthy a bond issuer is and rate accordingly. In general, however, they agree with each other on the rating, and may change it if the issuer's situation changes. You should be aware, though, that in recent years the ratings agencies have come under a lot of criticism. It has been alleged that their relationships with certain major financial institutions and corporations have been overly cosy, and that they have sometimes not downgraded their ratings as quickly as they should have done. This is an issue for corporate bonds, but should not matter if you are concentrating on UK gilts. See Chapter 13 for more details.

Bond credit ratings (investment grade)

Standard & Poor's	*Moody's*	*Fitch*
AAA	Aaa	AAA
AA+	Aa1	AA+
AA	Aa2	AA
AA–	Aa3	AA–
A+	A1	A+
A	A2	A
A–	A3	A–
BBB+	Baa1	BBB+
BBB	Baa2	BBB
BBB–	Baa3	BBB–

In general, a private investor, even an adventurous one, should stick to bonds whose ratings appear in the table above – 'investment grade' means they probably won't default – and preferably to bonds higher than AA–. However, as mentioned earlier, bonds that have lower ratings than BBB– are to be avoided, although they may offer better yields.

Until 1980, most of the developing countries were not able to issue bonds internationally. Since then there has been an explosion in the number of countries that issue bonds and, as you might expect, there have been a number of defaults, particularly on interest payments.

Some Asia-Pacific government bonds are not investment grade. A bond fund may mitigate the risk through diversification, but a fund that only invests in the government bonds of a risky country will be fully exposed to the default potential. Although it is rare for a government to default on its bonds, it can and does happen occasionally. The risk is not only that the issuer may not repay the loan on maturity, but also that it may suspend interest payments. Most of these problems have been fairly minor – Peru failed to make its coupon payments for 30 days in 2000, for example – but as mentioned earlier, there have been one or two serious defaults, such as Russia, which is thought to have eventually settled its debts for less than 20p in the pound. According to Moody's, all the countries that have defaulted in any way since 1985 were rated at B1 or less for a year or more before they defaulted, which, for all but the specialist, is surely a good argument for staying with the best rated bonds.

At the time of writing (early 2011), there is talk of the possibility of some major government bond defaults. Strong economies who have their hands relatively free, like the USA and the UK (yes, the UK still has a strong economy compared with most countries in the world) are unlikely to do this for two reasons: first, they have the option to print money, which has the effect of inflating away their debt, and second, it would be very bad business to default, since people would not trust them enough to buy their bonds again. Nevertheless, we should never say 'never' when trying to forecast the future. As is discussed in Chapter 13, some of the EU member states that are members of the eurozone (i.e. they have the euro as their currency) are also in trouble, and since they are not in a position to print money because of eurozone rules, there are fears that they could default on bond payments. In January 2011 the International Monetary Fund (IMF) warned that many other countries too, including Brazil and Japan, could be at risk of defaulting on their bonds. Perversely, the prospect of a worldwide sovereign debt crisis is a little reassuring, since it makes it more likely that the rich nations will work together to restructure the debts and avoid financial chaos. As always, time will tell; by the time you read this, the potential crisis may have been averted.

Gilts

For UK investors, playing safe usually means sticking to gilts. 'Gilts' or 'gilt-edged securities' are bonds issued by the British government. They get their name from their reputation for a very high degree of safety. It is thought, justifiably, that if you lend the British government money by buying gilts, it is extremely unlikely that it will default on the loan. The British government has issued gilts for hundreds of years without ever having failed to meet payments on the due dates. About two-thirds of the British national debt is funded by the issuance of gilts; at times, it has been as high as 80 per cent.

“for UK investors, playing safe usually means sticking to gilts”

Gilts are issued either for a fixed length of time, such as five years, or, more unusually, for an indefinite period. They pay interest half-yearly, and repay the capital at the end of the bond's life.

The return on gilts is generally lower than you can get by investing in more risky propositions, such as shares, but is often better than the interest rate you can get by simply keeping your money in a bank or building society. You can hold gilts in an ISA, thus sheltering them from tax. Most gilts are very liquid, meaning that they are easily bought and sold.

The best way to buy gilts?

You buy gilts through a stockbroker or directly from the government's Debt Management Office (DMO). The DMO has a 'purchase and sale service', which probably offers the cheapest means of buying gilts, but cannot give investment advice.

You can find out everything you ever wanted to know about gilts at the DMO's website at: **http://www.dmo.gov.uk.**

The other risks of bonds

The most important risk of investing in bonds is the risk of default, but there are some other risks that you should also be aware of, especially if you are not sure you are going to hold the bonds to maturity. In general these apply mainly to corporate and foreign bonds, so most UK investors need not be overly concerned if they are sticking to gilts. The risks are:

- Foreign currency – if you buy a bond denominated in a foreign currency, the exchange rate may go against you. If, however, you have a known future expenditure in a foreign currency – let's say, you are going to put a new roof on your Spanish villa in seven years' time – then it could make sense to buy Spanish bonds, currently denominated in euros, with the money you have earmarked for the roof.
- Inflation – don't forget that when inflation rises, the true value of the bond and its coupon payments will sink.

- Interest rates – as we have already seen, when interest rates rise and fall, the market value of the bond changes, so if you are selling before maturity, you could make a gain or a loss.
- Liquidity – sometimes there are financial crises and no one will buy your bonds at a fair price (this only applies to bonds being sold before maturity). Suppose there has been a banking disaster in the bond issuer's country, for instance, and all foreign investors have panicked. In such cases, you may have to wait a while before you can sell the bond in the market.
- Sovereign risk – this is the risk that the government of the bond issuer's country suddenly moves the economic goalposts in a way that affects bondholders. For instance, it might suddenly introduce exchange controls to prevent you from bringing the money home when you sell the bond. This can cause heavy losses.
- Intermediaries – some dishonest firms have, in the past, offered attractive package deals on bonds but have cheated their customers.

case study

The Barlow Clowes scandal – how a certain kind of punter is exploited

If you've ever heard of the Barlow Clowes affair in the 1980s, you may be wondering why gilts are said to be so safe, when thousands of people who invested in gilts through Barlow Clowes narrowly escaped losing their life-savings when the firm collapsed and two of its directors were jailed for theft. The point is that gilts are safe – it's the intermediaries who may not be. Many of the victims of Barlow Clowes had invested through financial intermediaries, creating two unnecessary layers between themselves and the dealers. It is a classic example of how investors can get caught by believing printed lies: it seemed so unlikely that a company would actually dare to make false statements in their literature and on consumer radio programmes on the BBC that investors assumed that it must be alright. The then Department of Trade and Industry's role in the affair was far from glorious – it knew about irregularities with Barlow Clowes for years before the collapse, and did nothing.

Low-risk, low-return investments have a great appeal to inexperienced investors who are afraid of losing money and are paralysed by the apparent complexities of the investment world. This type of investor can be persuaded to purchase by emphasizing safety above all other qualities – but they may be paying too high a premium for this safety. Safety, like any other investment characteristic, has its fair price.

Dishonest firms can sell 'scaredy-cat' investors overpriced products by disguising the charges. After a while, the investors start to itch for better returns. This is what Barlow Clowes exploited: the desire of people who want to have their cake and eat it by having a low-risk/higher-return investment. There is rarely such a thing widely available in the markets, since risk is correlated to reward. In general, the more risk you take, the more chance you have of a better return. Bonds, being generally low-risk investments, do not often give high returns.

To paraphrase Gertrude Stein, 'a bond is a bond is a bond'. In current market conditions, and in the long term generally, you are not going to make a better return on them than you can on equities without taking on more risk, such as buying very low-grade corporate bonds. There are going rates of return for bonds – if someone offers you a significantly better rate of return than is generally available elsewhere, be very, very sure that you understand exactly how they are able to achieve this. They may have no intention of keeping their promises!

The varieties of bonds

Bonds come in many different shapes and sizes, and it is worth getting to know the basic differences.

Index-linked gilts

These pay a rate of interest linked to the official inflation figures and the face value of the bond is adjusted for inflation when it is repaid. If you buy such a bond for its face value and keep it to redemption, you are therefore guaranteed to make a profit in real terms.

Undated bonds

Some gilts have no redemption date; the government simply goes on paying the interest for ever, unless it chooses to redeem. Others have a range of years (e.g. 2010–2015) within which the government can decide to redeem the gilt at any point. Others give a redemption date followed by the words 'or after' (e.g. '2010 or after'), meaning that the government can choose when it wants to redeem the gilt at any time after the redemption date.

Convertible bonds

Convertible bonds are usually issued by companies rather than governments, and offer the investor the chance to exchange bonds at some pre-agreed time for shares in the issuing company. Whether this is worth doing depends upon the market value of the shares when you convert. Obviously, if the shares have gone up you will make a capital gain by converting to shares and then selling them. The price of these bonds usually rises and falls with the share price, but at a lower rate. Usually the price at which you can convert to shares is set higher than the market price of the shares when the bonds are issued. Convertibles tend to be less sensitive to interest rate changes than normal bonds. Convertibles are usually sensitive to changes in the company's share price.

Debentures

Companies often issue debentures, which are an agreement to pay the interest – and repay the capital – out of the future earnings of the company. The bond is not secured on the fixed assets of the company, such as buildings, which are arguably less risky.

Asset-backed bonds

This is where the company offers the security of a specified asset it owns. If it cannot pay, the asset will be sold and the bondholders repaid.

Callable bonds

These bonds give the issuer the option to repay the bond early, and in return generally offer a higher rate of interest (the coupon rate). If the issuer does redeem the bond early, the chances are that it will be at a time when interest rates are lower and so the investors will have to buy bonds at a lower coupon rate.

Zero-coupon bonds

These pay none of the interest until the bond matures, and are usually priced at a discount to the value that will be paid at maturity to reflect this. In high-tax countries like the UK, they are generally thought to be unattractive, but can be useful if you have business in a low-tax jurisdiction.

Structured notes

These are not bonds, but look as if they are; a recent development, they are packaged products based on derivatives. Their benefits are generally for wealthy investors with plenty of cash to spare. See Chapter 7, page 161 for more details.

Ex dividend and cum dividend

Interest on bonds is usually paid every six months, so when you buy a bond in the market you will want to know if a dividend is just about to be paid. Approximately five weeks before the interest is paid the bond is declared to be 'ex dividend', meaning that if you buy it, the seller keeps the imminent dividend and the first dividend that you receive will be the subsequent one – this is indicated in the financial pages by 'xd'. Ex dividend bonds are cheaper than 'cum dividend' (meaning 'with dividend') bonds to compensate for the longer wait for the first dividend. Cum dividend bonds require the purchaser to pay for the 'accrued interest' since the last time the interest was paid.

So what kind of bond should you buy? It all depends on your individual circumstances, how much money you have in total, and your specific goals in holding the bond. Also, different bonds represent better or worse value at different times, so it is generally best to get advice from a broker or financial adviser just before you make a purchase.

Auctioning new issues

When a state body or a company wants to borrow money by selling bonds, it 'brings an issue'. In the USA, the government issues bonds to a regular timetable using the auction method. Individuals can obtain a tender form from a bank and apply for the bonds (usually Treasury bills which have a life of a year or less) at a set price, enclosing a cheque. Private individuals are classed as 'non-competitive bidders'. What happens is that institutions bid for large amounts of the bonds, at any price they choose, but usually quite close to the set price of $10,000 per bond. The US Treasury then accepts the highest bids to fulfil its quota and takes the average price of the accepted bids as the price to the non-competitive bidders, who are then refunded the difference between the average of the accepted bids and the price they paid when they applied for the bonds. In the UK, the practice of auctioning government securities has been adopted relatively recently, and purchasers don't know what kind of bond will be offered until about a week before the auction.

The price of bonds

The price of a bond varies according to macro-economic factors, of which inflation is the most important. If the interest rate in the market goes higher than the interest rate payable on a bond, the price you can get if you sell the bond goes down. Conversely, if the market interest rates go below a bond's interest rate, you can sell the bond for more than its face value.

Every day information on bonds is published in the *Financial Times* and elsewhere; you are given the current market price of the bond (which is usually different from its face value), the high and low of the market price in the current year (which gives you an idea of its volatility), and then two figures for 'yields'. Market prices quoted are the middle of the bid/offer spread, as with shares. The 'interest yield' simply tells you what percentage of your money you would get if you bought the bonds at the current market price. It is a simple calculation:

Example

Suppose the bond in question is 'Treasury 7 ¼ pc 2014': the 7 ¼ pc is the coupon rate for the bond, '2014' is the year when the government pays back the capital invested. Since you must buy the gilt for a price different from its face value, the 7 ¼ pc coupon does not tell you the interest rate you are getting. Let's say the market price is 102.88. You divide the coupon by the market price and multiply the result by 100:

$(7.25 \div 102.188) \times 100 = 7.1$ per cent

7.1 per cent is the interest rate, or interest yield, that you will get at the moment. Since the market price is higher than the face value of the bond, its interest yield is lower than its coupon, and if the market price rises, the yield will go even lower.

Understanding yields

"the yield is the crux of bond investing"

The yield is the crux of bond investing, because it is the tool you use to measure the return of one bond against another. It enables you to make informed decisions about which bond to buy.

As we have seen, the interest yield, or 'current' yield is the rate of return on your bond investment but it is not fixed, like a bond's stated interest rate. It changes to reflect the price movements in a bond caused by fluctuating interest rates.

To pick the best deal available between comparable bonds (remember that company bonds are more risky than gilts, so you would expect a better rate on them in compensation), it is better to use the 'redemption yield', or 'yield to maturity', which is also given in the financial pages.

Redemption yield

The redemption yield tries to account for the difference between the price you pay for the bond and what you will get for it on redemption, plus any capital gain you will realize (if you purchase the bond below par) or minus any capital loss you will suffer (if you purchase the bond above par). It also includes all the interest you will earn. It's a complicated sum that in practice is not worth calculating yourself, so you can just look up the redemption yield in the *Financial Times*. In principle, it works as follows:

Example

Annie buys a 10 per cent bond with a face value of £100 in the year 2015 for £111.11 because the current interest rate is 9 per cent. The term of the bond ends in four years' time in 2019 for £100.

Annie will make a capital loss of £11.11 if she holds the bond to redemption, which results from the difference between the price she paid (£111.11) and the face value (£100).

Step 1. Dividing the loss by the number of years left to run:

$11.11 \div 4 = 2.78$

£2.78 is the amount of capital loss per year.

Step 2. Annie calculates what percentage £2.78 is of £111.11, the price she paid for the bond:

£$2.78 \div 111.11 \times 100 = 2.5$ per cent

Step 3. At the time of purchase, interest rates were at 9 per cent, so the interest yield is:

Coupon ÷ market price × 100

$10 \div 111.11 \times 100 = 9$

Step 4. Annie works out the approximate redemption yield by subtracting the annual percentage of capital loss (see Step 1) from the interest yield (see Step 3):

$9 - 2.5 = 6.5$

Annie now knows that the redemption yield is roughly 6.5 per cent. It is only approximate because it doesn't take compound interest into account, so Annie looks up the published redemption yield in the financial press to get an exact figure.

Redemption yields are useful for comparisons, but they don't remove all uncertainty, since the underlying market prices on which they are based will fluctuate, and the figures only tell you what return you would get if you held the bond to redemption, not what will happen if you sell before.

When comparing the redemption yields, say of different gilts, you will notice that some are higher than others. Usually, the longer that the gilt has to run, the higher the redemption yield because investors expect a reward for tying up their money for a longer time. Another reason is that different countries will have different economic outlooks, and market expectations will affect the yield. This effect is called the 'normal yield curve' and is usual when interest rates are relatively low (Figure 3.1).

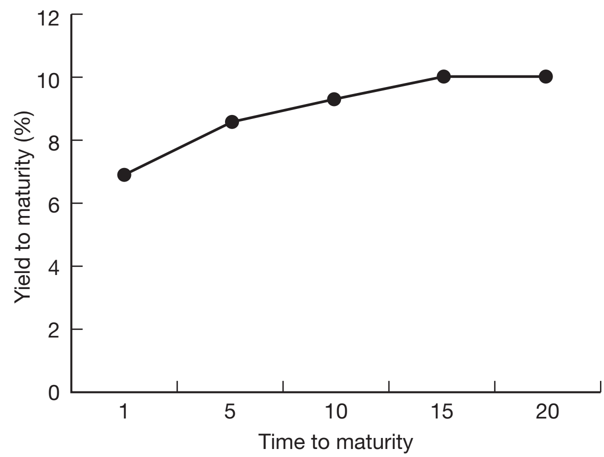

Figure 3.1 **The normal yield curve**

Since the price of bonds fluctuate in the market, the yields curves do too – they can vary by as much as 5 per cent during a typical year.

When there is uncertainty about interest rates, the market distorts the normal yield curve both by trying to guess what long-term interest rates will be and also by moving in and out of bonds in response to changes in interest rates elsewhere. Banks mainly buy short-term bonds ('shorts'), while the institutions tend to buy long-term ones ('longs'), leaving medium-term bonds (5–15 years) out in the cold, which can cause them to have a better yield than longs. When short-term interest rates are up, yields on short-term bonds improve. Uncertainty about interest rates can cause longs to have lower yields than the shorts, in which case the yield curve is inverted.

Figure 3.2 shows what can happen when there is uncertainty about interest rates. The hump in the curve over 10-year bonds indicates that they give a better yield than longs, reflecting their unpopularity. This can happen when interest rates are high but are expected to drop.

Sometimes the opposite happens and short-term interest rates are relatively higher than long-term rates. In this case, the yield curve changes to a 'downward-sloping' curve (Figure 3.3).

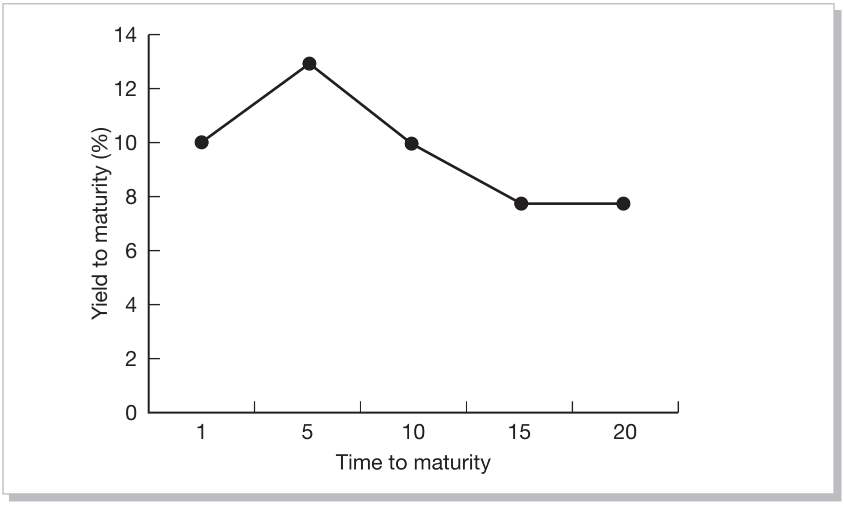

Figure 3.2 **An inverted yield curve**

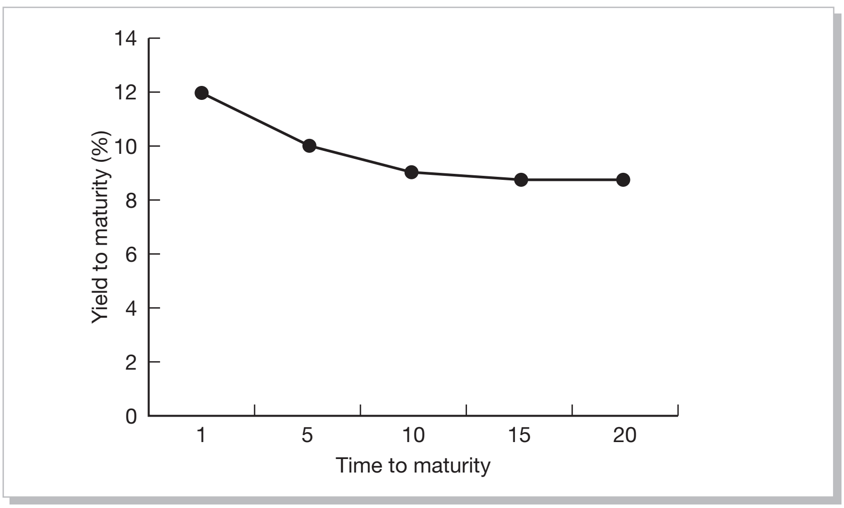

Figure 3.3 **A downward-sloping yield curve**

If you are a keen bond investor – as many retired people are – you can use yield curves to get a good sense of what market conditions are like for any type of bond you are interested in.

Bonds and ISAs

For UK taxpayers, interest on bonds is taxed at the rate of your tax band (see Chapter 12). In cases where you receive all the interest in one year (usually when the bond expires), this could affect your tax band, so it is worth doing some forward planning to take this into account. Is it worth using an ISA? It depends upon your tax status and your goals in purchasing bonds. The current ISA limit (for 2011–2012) is £10,340, so for instance if you are intending to use bonds to save for the purchase of an expensive new roof at a fixed time in the future, you might have to stagger your purchases to use up your annual ISA limits, or else not be able to keep all the bonds within the ISA.

Summary

The great thing about bonds is that they are predictable, and this, if you are reasonably affluent, allows you to manage your cashflow over the medium to long term. Like all other investments there are risks, and you can significantly increase these risks, either inadvertently or intentionally, by investing in certain types of bond. For example, you could choose to put all your money into, say, the bonds of a foreign government that is currently in default; you might make a profit if the government paid its debt, but this would be a big risk. Beware of investment schemes that seem to be based on bonds, but are really based on complicated derivatives (see Chapter 7) – they may not be as safe as they seem.

For private investors, the big danger is often the frustration they feel at the relatively low returns of bonds, which leads some people to invest in riskier fixed income schemes. Many people, especially when they are retired, see the interest they receive from bonds as something separate from the capital, to be creamed off as a nice little earner. By all means use investment income for daily expenses if you must, or if you can afford to, but don't imagine that this is going to make you richer – it could make you a lot poorer. At the end of a bond's term, the capital sum is returned, but its buying power will have shrunk through inflation. Perhaps the worst case of this in the twentieth century was in the 1920s, when respectable German widows literally starved to death as the value of their bonds were inflated away during the galloping Weimar hyper-inflation, when cash became virtually worthless. In such circumstances, you need to move your wealth into a different asset class fast to stop any further loss.

Perhaps such horrors couldn't happen here, but spending the interest from a bond is a way to use the law of compound *depreciation*, causing your assets to dissolve over the long term. Remember that the main financial characteristics of high quality bonds are:

- High liquidity – you can sell them very quickly, except for certain products.
- A fixed interest rate – useful in a world of fluctuating rates.
- Low risk – major governments pay their debts, mostly. The British government has never defaulted on gilts, although arguably it has pulled a few fast ones, like getting patriotic people to buy undated War Loans during the First World War. 'Undated' means 'I don't have to pay you back unless I feel like it, and if I ever do, it will be after inflation has made the bond worthless'.
- Low returns – you get the interest plus the chance of a small capital gain if you sell the bond in certain market conditions.
- Inflation risk – except for index-linked bonds, if you keep a bond to redemption, inflation may have reduced the value of the capital invested plus the interest earned. This risk is much greater on long-term bonds.

If you buy a bond just before market interest rates take a dive, you can make a substantial tax-free capital gain, as the market value of the bond will rise, but this doesn't happen very often. Buying bonds outside your own country in other currencies can be a good bet if you think the value of your own currency is falling. For those who don't want to become specialists in the field, bonds are basically safe and boring. You will have to keep a weather eye on the economy at all times if you hold long bonds unless you hold them to redemption, and even then you may find that inflation has taken a bite out of them.

The returns on safe, high-grade bonds are the best you can obtain at a low level of risk to maturity, and are probably best for most investors. Think of bonds as part of your asset allocation, functioning as ballast in your portfolio. Many advisers think that everyone should keep at least 30 per cent of their money in bonds, and much more if you are retired, but for younger people – say, under those 40 – there is a good argument for focusing exclusively on equities because they have a longer time horizon and therefore a better chance of seeing substantial capital growth.

> **“think of bonds as part of your asset allocation”**

In the next chapter we will turn to shares, which have very different investment characteristics from bonds, and examine the main issues and opportunities you should know about before entering the share markets.

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