16

DEBT FINANCE FROM THE FINANCIAL MARKETS

Introduction

The concept of borrowing money to invest in real assets within a business is a straightforward one, yet in the sophisticated capital markets of today with their wide variety of financial instruments and forms of debt, the borrowing decision can be bewildering. Should the firm tap the domestic bond market or the Eurobond market? And what about syndicated lending, mezzanine finance and high-yield bonds? The variety of methods of borrowing finance is infinite. This chapter outlines the major categories of debt finance from the financial markets and illustrates some of the fundamental issues a firm may consider when selecting its finance mix. As you can see from the detail taken from the annual accounts of GlaxoSmithKline plc (Figure 16.1) a firm may need knowledge and understanding of a great many different debt instruments. The terms bonds, commercial paper, Eurobond, medium-term notes and loan stock mentioned in the extract are explained in this chapter. In addition we cover convertible bonds, foreign bonds, project finance, securitization and sale and leaseback.

In the sophisticated capital markets of today with their wide variety of financial instruments and forms of debt, the borrowing decision can be bewildering.

FIGURE 16.1
Loans and other borrowings for GlaxoSmithKline plc

	(31 Dec. 2002) £m	(31 Dec. 2001) £m
Loans and overdrafts due within one year:		
Bank loans and overdrafts	(263)	(307)
Commercial paper	(1,284)	(1,269)
Eurobonds and medium-term notes (MTNs)	–	(542)
Obligations under finance leases	(1)	(2)
Other loans	(3)	(4)
Loans due after one year:		
Bank loans	(3)	(11)
Eurobonds, MTNs and private financing	(3,054)	(2,059)
Loan stock	(14)	(16)
Obligations under finance leases	(12)	(12)
Other loans	(9)	(10)

Commercial paper comprises a US$10bn program, of which £1,284m was in issue at 31 December 2002.

In 2002, a £500m, 4.875% coupon bond and two, US dollar denominated, floating rate bonds totaling $495m were issued under the European Medium Term Note program. The group also raised $500m of floating rate debt through a private financing arrangement.

Source: GlaxoSmithKline plc Annual Report 2002

Bonds

A bond is a long-term contract in which the bondholders lend money to a company. In return the company (usually) promises to pay the bond owners a series of interest payments, known as coupons, until the bond matures. At maturity the bondholder receives a specified principal sum called the par, face or nominal value of the bond. This is usually £100 in the UK and $1,000 in the USA. The time to maturity is generally between seven and 30 years although a number of firms, for example Disney, IBM and Reliance of India, have issued 100-year bonds.

Bonds may be regarded as merely IOUs (I owe you) with pages of legal clauses expressing the promises made. Some corporate bonds are sufficiently liquid (many transactions, so selling without moving the price is possible) to trade on the London Stock Exchange, but the vast majority of trading occurs in the over-the-counter (OTC) market directly between an investor and a bond dealer. Thus, the investor who originally provided the firm with money does not have to hold on to the bond until the maturity date (the redemption date). The amount the investor receives in the secondary market might be more or less than what he/she paid. For instance, imagine an investor paid £99.80 for a bond that promised to pay a coupon of 9 percent per year on a par value of £100 and to pay the par value in seven years. If one year after issue interest rates on similar bonds are 20 percent per annum no one will pay £99.80 for a bond agreement offering £9 per year for a further six years plus £100 on the redemption date. We will look at a method for calculating exactly how much they might be willing to pay later in the chapter.

Bonds may be regarded as merely IOUs.

These negotiable (that is tradeable in a secondary market) instruments come in a variety of forms. The most common is the type described above with regular (usually semi-annual) fixed coupons and a specified redemption date. These are known as straight, plain vanilla or bullet bonds. Other bonds are a variation on this. Some pay coupons every three months, some pay no coupons at all (called zero coupon bonds – these are sold at a large discount to the par value and the investor makes a capital gain by holding the bond), some bonds do not pay a fixed coupon but one which varies depending on the level of short-term interest rates (floating-rate or variable-rate bonds), some have interest rates linked to the rate of inflation. In fact, the potential for variety and innovation is almost infinite. Bonds issued in the last few years have linked the interest rates paid or the principal payments to a wide variety of economic events, such as the price of silver, exchange-rate movements, stock market indices, the price of oil, gold, copper – even to the occurrence of an earthquake. These bonds were generally designed to let companies adjust their interest payments to manageable levels in the event of the firm being adversely affected by some economic variable changing. For example, a copper miner pays lower interest on its finance if the copper price falls. In 1999 Sampdoria, the Italian football club, issued a €3.5m bond that paid a higher rate of return if the club won promotion to the 'Serie A' division. If the club rose to the top four in Serie A the coupon would rise to 14 percent.

Debentures and loan stocks

The most secured type of bond is called a debenture. They are usually secured by either a fixed or a floating charge against the firm's assets. A fixed charge means that specific assets are used as security that, in the event of default, can be sold at the insistence of the debenture bondholder and the proceeds used to repay them. Debentures secured on property may be referred to as mortgage debentures. A floating charge means that the loan is secured by a general charge on all the assets of the corporation. In this case the company has a high degree of freedom to use its assets as it wishes, such as sell them or rent them out, until it commits a default which 'crystallizes' the floating charge. If this happens a receiver will be appointed with powers to dispose of assets and to distribute the proceeds to the creditors. Even though floating-charge debenture holders can force liquidation, fixed-charge debenture holders rank above floating-charge debenture holders in the payout after insolvency.

The terms bond, debenture and loan stock are often used interchangeably and the dividing line between debentures and loan stock is a fuzzy one. As a general rule debentures are secured and loan stock is unsecured but there are examples which do not fit this classification. If liquidation occurs the unsecured loan stockholders rank beneath the debenture holders and some other categories of creditors, such as the tax authorities. In the USA the definitions are somewhat different and this can be confusing. There a debenture is an unsecured bond and so the holders become general creditors who can only claim assets not otherwise pledged. In the USA the secured form of bond is referred to as the mortgage bond and unsecured shorter-dated issues (less than 15 years) are called notes.

Trust deeds and covenants

Bond investors are willing to lower the interest they demand if they can be reassured that their money will not be exposed to a high risk. This reassurance is conveyed by placing risk-reducing restrictions on the firm. A trust deed sets out the terms of the contract between bondholders and the company. The trustees ensure compliance with the contract throughout the life of the bond and have the power to appoint a receiver. The loan agreement will contain a number of affirmative covenants. These usually include the requirements to supply regular financial statements, interest and principal payments. The deed may also state the fees due to the lenders and details of what procedures are to be followed in the event of a technical default, for example non-payment of interest.

In addition to these basic covenants are the negative covenants. These restrict the actions and the rights of the borrower until the debt has been repaid in full. Some examples are as follows.

- *Limits on further debt issuance* If lenders provide finance to a firm they do so on certain assumptions concerning the riskiness of the capital structure. They will want to ensure that the loan does not become more risky due

to the firm taking on a much greater debt burden relative to its equity base, so they limit the amount and type of further debt issues – particularly debt which is higher (superior) ranking for interest payments and for a liquidation payment. Subordinated debt – with low ranking on liquidation – is more likely to be acceptable.

- *Dividend level* Lenders are opposed to money being taken into the firm by borrowing at one end, while being taken away by shareholders at the other. An excessive withdrawal of shareholder funds may unbalance the financial structure and weaken future cash flows.
- *Limits on the disposal of assets* The retention of certain assets, for example property and land, may be essential to reduce the lenders' risk.
- *Financial ratios* A typical covenant here concerns the interest cover, for example: 'The annual pre-interest pre-tax profit will remain four times as great as the overall annual interest charge'. Other restrictions might be placed on working capital ratio levels, and the debt to net assets ratio. In the case of Photobition the interest cover threshold is 3.25 – *see* Exhibit 16.1.

While negative covenants cannot provide completely risk-free lending they can influence the behavior of the management team so as to reduce the risk of default. The lenders' risk can be further reduced by obtaining guarantees from third parties (for example, guaranteed loan stock). The guarantor is typically the parent company of the issuer.

Despite a raft of safeguards the fact that bondholders are still exposed to some degree of risk was brought home painfully to the bondholders in Barings Bank in 1996. They had lent £100m on the understanding that the money would be used for standard merchant banking activities. When they lost their entire investment due to the extraordinary activities of Nick Leeson in the derivatives

Photobition cautions on covenants

Florian Gimbel

Photobition, the Surrey-based graphics business, admitted yesterday it could breach banking covenants over the level of its interest cover if US advertising spending continued to slow down.

The company, which also reported a sharp fall in half-year profits, said net debt has risen to £103.5m (£77.3m) after a number of US acquisitions …

Analysts forecast that cover might fall to 2.43 times at the year-end in June, below the required minimum of 3.25.

'If they breach the bank covenants, they will be at the mercy of debt holders,' said one analyst. 'They could have to renegotiate their debt, or make some form of debt-equity conversion. They might also resort to a rights issue.'

EXHIBIT 16.1 Photobition cautions on covenants

Source: *Financial Times* 28 February 2001

markets (see Chapter 20) their response was to issue writs for compensation from three stockbrokers and a dozen former Barings directors, claiming that misleading information was given about Barings' business when the bond issue was launched in January 1994.

Repayments

The principal on many bonds is paid entirely at maturity. However, there are bonds which can be repaid before the final redemption date. One way of paying for redemption is to set up a sinking fund that receives regular sums from the firm that will be sufficient, with added interest, to redeem the bonds. A common approach is for the company to issue bonds where it has a range of dates for redemption; so a bond dated 2008–2012 would allow a company the flexibility to repay a part of the principal in cash in each of the four years. Another way of redeeming bonds is for the issuing firm to buy the outstanding bonds by offering the holder a sum higher than or equal to the amount originally paid. A firm is also able to purchase bonds on the open market.

Some bonds are described as 'irredeemable' as they have no fixed redemption date. From the investor's viewpoint they may be irredeemable but the firm has the option of repurchase and can effectively redeem the bonds.

Bond variations

Bonds which are sold at well below the par value are called deep discounted bonds, the most extreme form of which is the zero coupon bond. It is easy to calculate the rate of return offered to an investor on this type of bond. For example, if a company issues a bond at a price of £60 which is redeemable at £100 in eight years the annualized rate of return (r) is:

$$60(1 + r)^8 = 100$$

$$r = \sqrt[8]{\frac{100}{60}} - 1 = 0.066 \text{ or } 6.6\%$$

(Mathematical tools of this kind are explained in the appendix to Chapter 2.)

These bonds are particularly useful for firms with low cash flows in the near term, for example firms engaged in a major property development that will not mature for many years.

A major market has developed recently called the floating rate note (FRN) market (also called the variable-rate note market). Two factors have led to the rapid growth in FRN usage. First, the oscillating and unpredictable inflation of the 1970s and early 1980s caused many investors to make large real-term losses on fixed-rate bonds as the interest rate fell below the inflation rate. As a result many lenders became reluctant to lend at fixed rates on a long-term basis. Secondly, a number of corporations, especially financial institutions, hold assets which give a

return that varies with the short-term interest rate level (for example bank loans and overdrafts) and so prefer to hold a similar floating-rate liability. These instruments pay an interest that is linked to a benchmark rate – such as the LIBOR (London Inter-Bank Offered Rate – the rate that safest banks charge each other for borrowed funds). The issuer will pay, say, 70 basis points (0.7 of a percentage point) over LIBOR. The coupon is set for (say) the first six months at the time of issue, after which it is adjusted every six months; so if six-month LIBOR is 10 percent, the FRN would pay 10.7 percent for that particular six months.

There are many other variations on the basic vanilla bond, two of which will be examined later – high-yield bonds and convertible bonds. We now turn to another major source of long-term debt capital – syndicated bank borrowing.

Syndicated loans

For large loans a single bank may not be able or willing to lend the whole amount. To do so would be to expose the bank to an unacceptable risk of failure on the part of one of its borrowers. Bankers like to spread their lending to gain the risk-reducing benefits of diversification. They prefer to participate in a number of syndicated loans in which a few banks each contribute a portion of the overall loan. So, for a large multinational company loan of, say, £500m, a single bank may provide £30m, with perhaps 100 other banks contributing the remainder. The bank originating the loan will usually manage the syndicate and is called the lead manager (there might be one or more lead banks). This bank (or these banks) may invite a handful of other banks to co-manage the loan who then persuade other banks to supply much of the funding. That is, they help the process of forming the syndicate group of banks in the general syndication – the process of getting other banks to agree to lend – these other banks are called participating banks. The managing banks also underwrite much of the loan – guaranteeing to provide the funds if other banks do not step forward.

Syndicated loans are available at short notice and can be provided discreetly (helpful if the money is to finance a merger bid, for example). They generally offer lenders lower returns than bonds, but as they rank above most bonds on liquidation payouts there is less risk. The loans carry covenants similar to those on bond agreements. The volume of new international syndicated loans now runs into hundreds of billions of pounds per year.

Pearson needed $6bn of bank loans to finance its purchase of Simon & Schuster in 1998; this is far too much for any one bank to provide. So Goldman Sachs and HSBC put together a syndicated loan package involving a number of banks – *see* Exhibit 16.2. A revolving credit facility gives Pearson the right to draw down short-term loans up to a maximum of $2bn as and when the need arises – this it can do at a number of points over a five-year period. Note that the loans are expected to be tradeable (bought and sold) in a secondary market so banks can sell off some of their loans if they wish to.

Pearson signs up facility to finance US acquisition

Simon Davies

Pearson, the UK media group which owns the *Financial Times*, has signed up $6bn of bank facilities to finance its acquisition of Simon & Schuster, the US publisher, and refinance outstanding syndicated loans. It is the latest in a line of substantial acquisitions to be financed through the syndicated loan market, following Texas Utilities' recent $11bn loan to fund its purchase of The Energy Group and jumbo loans from Imperial Chemical Industries and BAT Industries.

The new financing package has been put together by Goldman Sachs and HSBC and includes a $2.5bn five-year term loan, a $2bn five-year revolving credit and a $1.5bn 364-day loan. Investors expect the loans to be tradeable. This has become commonplace in the US but was only introduced to the euroloan market last year with the $8.5bn loan to ICI to finance its acquisition of Unilever's speciality chemicals business.

There has been considerable reluctance by European corporates to have bankers trading out of loans. The *quid pro quo*, in theory, is more attractive financing. Details of the terms of the loan were not available yesterday. A broader underwriting group will be put together in the next 10 days.

Pearson's credit rating from Standard & Poor's, the rating agency, has been put on negative outlook as a result of the acquisition, but its shares rose sharply yesterday.

EXHIBIT 16.2 Pearson signs up facility to finance US aquisition

Source: *Financial Times* 19 May 1998

Credit rating

Firms often pay to have their bonds rated by specialist credit-rating organizations. The debt rating depends on the likelihood of payments of interest and/or capital not being paid (that is, default) and on the extent to which the lender is protected in the event of a default by the loan contract (the recoverability of the debt). UK government gilts have an insignificant risk of default whereas unsecured subordinated corporate loan stock has a much higher risk. We would expect that firms in stable industries and with conservative accounting and financing policies and a risk-averse business strategy would have a low risk of default and therefore a high credit rating. Companies with a high total debt burden, a poor cash flow position, in a worsening market environment causing lower and more volatile earnings, will have a high default risk and a low credit rating. The dominant credit rating agencies are Moody's, Standard & Poor's (S&P), with Fitch and Dominion in third and fourth places.

The highest rating is AAA or Aaa (triple-A rated). Such a rating indicates very high quality. The capacity to repay interest and principal is extremely strong. Single A indicates a strong capacity to pay interest and capital but there is some degree of susceptibility to impairment as economic events unfold. BBB or Baa indicates adequate debt service capacity but vulnerability to adverse economic

conditions or changing circumstances. B and C rated debt has predominantly speculative characteristics. The lowest is D, which indicates the firm is in default or is very likely to default.

Ratings of BBB– (or Baa3 for Moody's) or above are regarded as 'investment grade' – this is important because many institutional investors are permitted to invest in investment grade bonds only (*see* Figure 16.2). Bonds rated below this are called high-yield (or junk) bonds. The specific loan is rated rather than the borrower. If the loan does not have a rating it could be that the borrower has not paid for one, rather than implying anything sinister.

The rating and re-rating of bonds is followed with great interest by borrowers and lenders and can give rise to some heated argument – *see* Exhibit 16.3. The exhibit also shows the proportion of bonds in each credit rating category defaulting in a five-year period. Those rated below investment grade have a much higher probability of default than high-grade bonds. For example CCC bonds had a worse than 50:50 chance of default.

FIGURE 16.2
A comparison of Standard & Poor's and Moody's rating scales

Standard & Poor's	Moody's	
AAA	Aaa	Investment grade bonds
AA+	Aa1	
AA	Aa2	
AA–	Aa3	
A+	A1	
A	A2	
A–	A3	
BBB+	Baa1	
BBB	Baa2	
BBB–	Baa3	
BB+	Ba1	Non-investment grade. High-yield 'junk' bonds
BB	Ba2	
BB–	Ba3	
B+	B1	
B	B2	
B–	B3	
CCC+	Caa1	
CCC	Caa2	
CCC–	Caa3	
CC	Ca	
C	C	

Companies and regulators go on the offensive in the global ratings game

Charles Batchelor

In public, at least, senior executives do not usually take issue with the ratings the credit agencies apply to their debt. But British Airways' reaction to the decision by Standard & Poor's on Tuesday to cut its long term credit rating to junk was an exception.

John Rishton, BA's finance director, expressed 'astonishment' that the agency should downgrade its credit rating at a time when the airline's fortune seemed to be improving.

'The [Iraq] war is over; Sars [severe acute respiratory syndrome] is fading; the US economy is showing signs of recovery and traffic volumes are improving from the worst levels,' an exasperated Mr Rishton explained. 'We have delivered all our targets and more.'

Mr Rishton is not alone in objecting publicly to a ratings agency downgrade. ThyssenKrupp was furious in February when its debt was downgraded to junk because of the scale of its pension deficit. 'S&P's decision is incomprehensible,' the German steelmaker said. 'The facts concerning ThyssenKrupp have not changed.'

In the past it has been rare for companies – who pay the agencies for their credit ratings – to attack them in public. However, agencies have recently been under fire for not spotting big financial catastrophes such as the Asian financial crisis of 1997 or the downfall of Enron in 2001.

For example, the three leading agencies – S&P, Moody's and Fitch – all accorded Enron investment grade status until four days before the US energy group's collapse.

… Chris Legge, head of European industrial ratings at S&P, defends the fact that the agencies sometimes appear to lag behind events by pointing out that they are taking a medium-term view – over three to five years – of a company's prospects.

S&P kept KPN, the Dutch telecommunications group, on investment grade throughout 2000-01 when the financial markets regarded its debt as, in effect, junk. KPN sorted out its finances and has since been upgraded.

There is a difficulty in timing, he argues. If an agency moves too soon on a downgrade, it risks being accused of triggering a company's problems. Too late and is blamed for missing the boat.

Ratings agencies argue that the key to their success has always been independent assessment. 'No company has ever said it is the right time to have a downgrade,' says Mr Legge.

The credit rating game is dominated by two agencies – S&P and Moody's Investors Service – which account for 80 per cent of the rating business.

Moody's rates 85,000 securities with a value of more than $30,000bn (£17,982bn) while S&P provides ratings for $30,000bn of debt from 37,000 issuers, including companies and government agencies.

They are followed, at some distance, by the French-owned Fitch Ratings and a fourth agency, Dominion Bond Rating Service, was added to the list of those approved by the US authorities this year.

S&P denies there is any conflict in charging the organisations it rates. But critics say there could be a temptation for it to be less aggressive on some debt ratings in a bid to win business with other issuers.

Some in the debt markets even suggest that the US agencies gave lenient ratings to European issuers in order to break into the market. 'There was pressure to get as many ratings as possible to get into Europe,' says one credit analyst.

'This led to ratings inflation.' Since then, he argues, agencies have been adjusting them downwards to more realistic levels.

Mr Legge says this would be business suicide. 'Our integrity is critical and is subject to scrutiny every day in the markets,' says Chris Legge, head of European industrial ratings at S&P. 'The predictive capacity of our ratings is good: that is why we are taken seriously.'

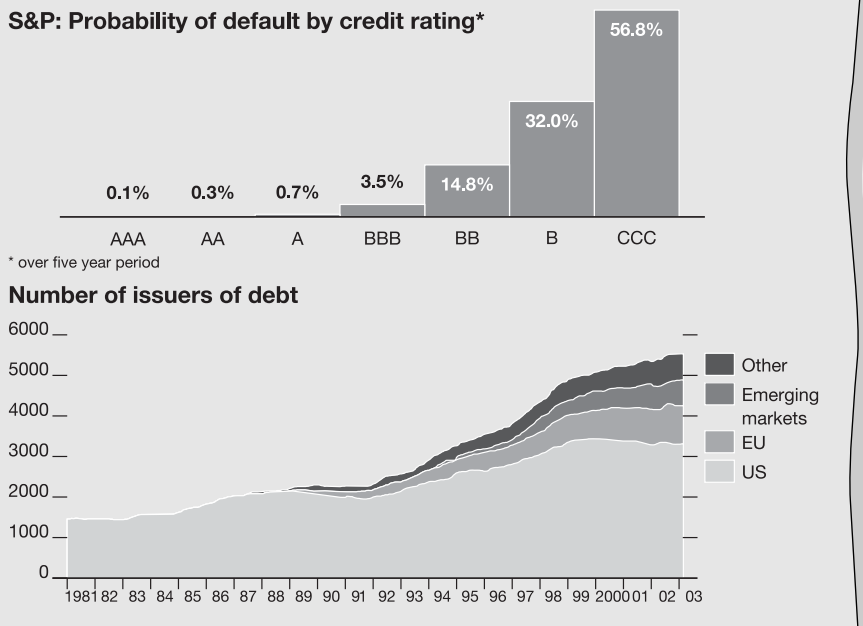


EXHIBIT 16.3 Companies on the offensive in the global ratings game

Source: *Financial Times* 5/6 July 2003

When examining data on default rates it is important to appreciate that default is a wide-ranging term, and could refer to any number of events from a missed payment to bankruptcy. For some of these events all is lost from the investor's perspective. For other events a very high percentage, if not all, of the interest and principal is recovered. Hickman (1958) observed that defaulted publicly held and traded bonds tended to sell for 40 cents on the dollar. This average recovery rate rule-of-thumb seems to have held over time. Standard & Poor's published a study of the recovery rates on defaulted bond issues in 1999. They obtained prices of defaulted bonds at the end of the default month for 533 S&P-rated straight-debt issues that defaulted between 1 January 1981 and 1 December 1997. Roughly, investors who liquidate a position in defaulted subordinated securities shortly after default can expect to recover, on average, 36–37 cents in the dollar.

Examples of ratings on long-term instruments are given in Table 16.1. The ratings here are for January 2004 and will not necessarily be applicable in future years because the creditworthiness and the specific debt issue can change significantly in a short period.

TABLE 16.1
Examples of ratings on long-term instruments in January 2004

	Currency of borrowing	S&P	Moody's	Interest (bid yield)
Canada (govt. of)	US$	AAA	Aaa	3.26
Toyota	Yen	AAA	Aaa	0.58
Wal-Mart	US$	AAA	Aa2	3.86
Du Pont	US$	AA–	Aa3	3.95
Unilever	US$	A+	A1	4.38
France Telecom	£	BBB	Baa3	6.38
Ford Motor	€	BBB–	A3	2.91
DaimlerChrysler	£	BBB	A3	5.51
Gazprom (Russian)	US$	B+	N/a	7.59
Invensys	€	B	Ba3	8.44
Argentina	US$	D	Ca	27.50
Argentina	€	D	Ca	45.55

Source: Shown in the *Financial Times* daily – see tables headed 'Global Investment Grade' and 'High Yield & Emerging Market Bonds'; particular issued used is 9 January 2004

A lot of weight is placed on bond ratings by investors and regulators. Sometimes they feel aggrieved when the analyst's powers of observation and judgment on default likelihood turn out to be limited. Standard and Poor's was severely criticized in 2003 for not noticing the deterioration in the Italian food giant, Parmalat until it was general knowledge. However, the agency hit back: 'We rely on the honesty and truthfulness of public audited information and private information,' an S&P spokesman said. 'We are not empowered or able to detect fraud. We are neither auditors nor regulators.'[1] Parmalat allegedly falsified documents showing €4bn in a bank account that did not actually exist. Investigators believe that €10bn is likely to be found missing from the company. Bond investors are likely to lose their entire investments.

Mezzanine debt and high-yield (junk) bonds

Mezzanine debt is debt offering a high return with a high risk. It may be either unsecured or secured but ranking behind senior loans. This type of debt generally offers interest rates two to nine percentage points more than that on senior

debt and frequently gives the lenders some right to a share in equity values should the firm perform well. It is a kind of hybrid finance ranking for payment below straight debt but above equity – it is thus described alternatively as *subordinated, intermediate*, or *low grade*. One of the major attractions of this form of finance for the investor is that it often comes with equity warrants or share options (see Chapter 19) attached which can be used to obtain shares in the firm – this is known as an 'equity kicker'. These may be triggered by an event such as the firm joining the stock market.

It is a kind of hybrid finance ranking for payment below straight debt but above equity.

Mezzanine finance tends to be used when bank borrowing limits are reached and the firm cannot or will not issue more equity. The finance it provides is cheaper (in terms of required return) than would be available on the equity market and it allows the owners of a business to raise large sums of money without sacrificing control. It is a form of finance which permits the firm to move beyond what is normally considered acceptable debt:equity ratios (gearing or leverage levels).

Bonds with high-risk and high-return characteristics are called high-yield (junk) bonds (they are rated below investment grade by rating agencies with ratings of BBs, Bas, Bs and Cs). These may be bonds that started as apparently safe investments but have now become more risky ('fallen angels') or they may be bonds issued specifically to provide higher-risk finance instruments for investors. This latter type began its rise to prominence in the USA in the 1980s. The US junk bond market has grown from almost nothing in the early 1980s to over $100bn of new issues each year. This money has been used to spectacular effect in corporate America – the most outstanding event was the $25bn takeover of RJR Nabisco using primarily junk bonds. The rise of the US junk bond market meant that no business was safe from the threat of takeover, however large – see Case study 16.1.

The US junk bond market has grown from almost nothing in the early 1980s to over $100bn of new issues each year.

The high-yield bond is much more popular in the USA than in Europe because of the aversion (constrained by legislation) to such instruments in the major financial institutions. The European high-yield bond market is in its infancy. The first high-yield bonds denominated in European currencies were issued as recently as 1997 when Geberit, a Swiss/UK manufacturer, raised DM 157.5m by selling ten-year bonds offering an interest rate which was 423 basis points (4.23 percent) higher than the interest rate on a ten-year German government bond (bund). Since then there have been over 100 issues. Nevertheless the European high-yield market remains about one-tenth the size of the US one. Exhibit 16.4 shows that although the market remains small relative to the investment-grade market in Europe and the high-yield bond market in the USA there has been the shift in the euro-denominated bond market toward high-yielders.

Case study 16.1

The junk bond wizard: Michael Milken

While studying at Wharton Business School in the 1970s Michael Milken came to the belief that the gap in interest rates between safe bonds and high-yield bonds was excessive, given the relative risks. This created an opportunity for financial institutions to make an acceptable return from junk bonds, given their risk level. At the investment banking firm Drexel Burnham Lambert, Milken was able to persuade a large body of institutional investors to supply finance to the junk bond market as well as provide a service to corporations wishing to grow through the use of junk bonds. Small firms were able to raise billions of dollars to take over large US corporations. Many of these issuers of junk bonds had debt ratios of 90% and above – for every $1 of share capital $9 was borrowed. These gearing levels concerned many in the financial markets. It was thought that companies were pushing their luck too far and indeed many did collapse under the weight of their debt. The market was dealt a particularly severe blow when Michael Milken was sentenced for infringing various laws, sent to jail and ordered to pay $600m in fines. Drexel was also convicted, paid $650m in fines and filed for bankruptcy in 1990. The junk bond market was in a sorry state in the early 1990s, with high levels of default and few new issues. However it did not take long for the market to recover. In 1993 $69.1bn was raised in junk bond issues and the annual amount raised has stayed well above $40bn since then.

Increasingly the term mezzanine finance is being confined to the high-yield/high-risk debt that is private rather than a publicly traded bond. There has been a rapid growth in this private-based mezzanine finance over the last 15 years. It has proved to be particularly useful to managers involved in those management buyouts (MBO) that require high levels of debt, that is, leveraged buyouts (LBOs). A typical LBO would have a financial structure as follows:

The term mezzanine finance is being confined to the high-yield/high-risk debt that is private.

- 60 percent from senior bank or other debt providers;
- 25–30 percent from subordinated debt – for example, mezzanine finance, unsecured low-ranking bonds and/or preference shares;
- 10–15 percent equity.

Fast-growing companies also make use of mezzanine finance. It has proved a particularly attractive source for cable television companies, telecommunications and some media businesses which require large investments in the near term but also offer a relatively stable profits flow in the long term.

Exhibit 16.5 describes the importance of the mezzanine finance market in Europe.

Mezzanine financing has been employed, not only by firms 'gearing themselves up' to finance merger activity, but also for leveraged recapitalizations. For instance, a firm might have run into trouble, defaulted and its assets are now under the control of a group of creditors, including bankers and bondholders. One way to allow the business to continue would be to persuade the creditors to accept alternative

Jump in issuance 'could lead to defaults'

Charles Batchelor

The recent sharp rise in the volume of euro-denominated 'junk' bond issues could lead to a surge in corporate defaults in about three years if the pattern of previous debt cycles is repeated.

This warning is contained in the annual review of European credit trends by Standard & Poor's, a leading credit rating agency.

Junk or speculative grade issuance – up to BB+ according to the agency's rankings – had risen 170 per cent this year to $13bn by mid-November, compared with a 24 per cent rise in non-financial bond issues to $191bn.

'It remains to be seen whether the increase in speculative-grade issuance in Europe is a healthy sign of market maturity or the harbinger of the next credit crisis,' said Barbara Ridpath, chief credit officer for Europe at S&P.

… The number of rating downgrades fell in 2003 and is expected to fall further next year. But downgrades still numbered 304 in the year to mid-November compared with only 66 upgrades.

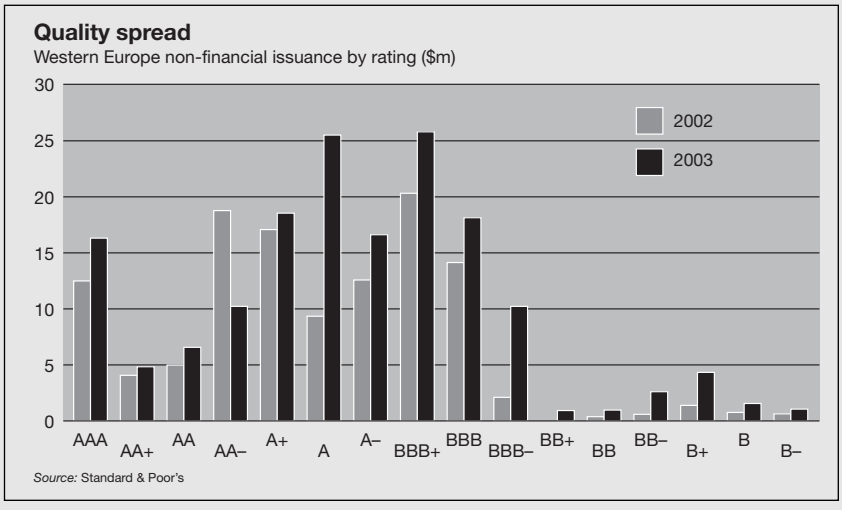


EXHIBIT 16.4 Jump is issuance 'could lead to defaults'

Source: *Financial Times* 10 December 2003

financial securities in place of their debt securities to bring the leverage to a reasonable level. They might be prepared to accept a mixture of shares and mezzanine finance. The mezzanine instruments permit the holders to receive high interest rates in recognition of the riskiness of the firm, and they open up the possibility of an exceptionally high return from warrants or share options should the firm get back to a growth path. The alternative for the lenders may be a return of only a few pence in the pound from the immediate liquidation of the firm's assets.

Mezzanine finance and high debt levels impose a high fixed cost on the firm and can be a dangerous way of financing expansion and therefore have their critics. On the other hand, some commentators have praised the way in which

Flexibility catches eye of investors

Rebecca Bream

Mezzanine investors take higher risks than bond buyers but get higher returns

While bond markets have been buffeted by volatility in recent months, private markets such as mezzanine debt have come into their own and impressed investors with their flexibility.

Mezzanine debt has long been used by mid-cap companies in Europe and the US as a funding alternative to high yield bonds or bank debt. This product ranks between senior bank debt and equity in a company's capital structure, and mezzanine investors take higher risks than bond buyers but are rewarded with equity-like returns …

Companies that are too small to tap the bond markets have been the traditional users of mezzanine debt, but it is increasingly being used as part of the financing package for larger leveraged acquisition deals. Although mezzanine has been more expensive for companies to use than junk bonds, the recent spread widening in the high yield debt markets has closed this source of funding and has made mezzanine look better value …

'There has been a lot of hype over the past few years about high yield bonds crowding out mezzanine debt, but now the situation is reversing,' says Simon Collins, head of debt advisory services at KPMG …

The structures of leveraged finance transactions are evolving to cope with the increased market volatility, and a greater use of mezzanine debt is part of this trend …

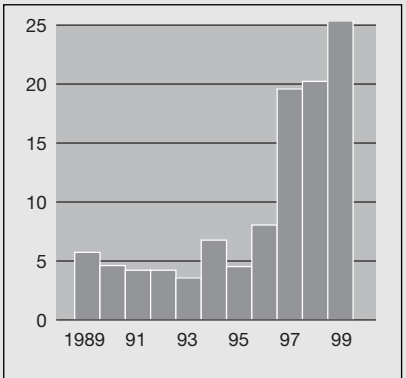
The characteristics of the mezzanine market make it well-suited to LBO deals – money can be raised quickly and discreetly as companies negotiate directly with mezzanine funds. 'There are inherent advantages to using mezzanine over high yield bonds. It is more flexible, offers better call protection and can be structured specifically for each deal,' says Mark Brunault, executive director at Pricoa.

New investors are being drawn to the European mezzanine market in search of higher returns, as illustrated by the burgeoning number of new funds established this year. In July, Mezzanine Management raised one of the largest independent mezzanine funds in the European market, worth $525m. Its first investment was a $12m mezzanine finance and equity injection into UK media monitoring company Xtreme Information …

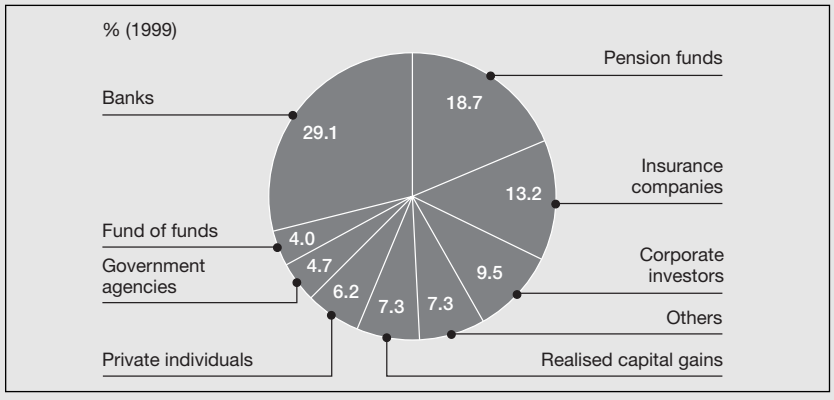
Many of the funds in the mezzanine market are cash rich, because of the popularity of the product and due to the current lack of major investment opportunities …

Mezzanine fund managers are unlikely to rush into deals, though, having recently been reminded of the risks involved in the mezzanine market. At the start of October Finelist, the car parts distributor that was bought by French rival Autodis in March, went into receivership. The €505m buy-

New European funds raised



Source: Global Private Equity 2000



Source: Global Private Equity 2000

out had been financed with leveraged loans and €275m of mezzanine debt, and had one of the largest deals in the European mezzanine market.

Finelist's collapse was triggered when it broke financial covenants on its debt, and receivers Ernst & Young have since been readying the business for sale and looking into allegations of financial irregularities. While the bank lenders have a good chance of recovering their money, the mezzanine lenders risk losing their subordinated investment. Goldman Sachs, which arranged the buy-out's financing, is thought to hold more than half of the imperilled mezzanine debt in its Mezzanine Partners II fund.

EXHIBIT 16.5 Flexibility catches the eye of investors

Source: *Financial Times* 3 November 2000

high gearing and large annual interest payments have focussed the minds of managers and engendered extraordinary performance. Also, without this finance, many takeovers, buyouts and financial restructurings would not take place.

Financing a leveraged buyout

If the anticipated cash flows are reasonably stable then a highly leveraged buyout may give an exceptional return to the shareholders. Take the case of Sparrow, a subsidiary of Hawk plc. The managers have agreed a buyout price of £10m, equal to Sparrow's assets. They are able to raise £1m from their own resources to put into equity capital and have borrowed £9m. The debt pays an interest rate of 14 percent and the corporate tax rate is 25 percent (payable one year after year end). Profits before interest and tax in the first year after the buyout are expected to be £1.5m and will grow at 25 percent per annum thereafter. All earnings will be retained within the business to pay off debt.

highly leveraged buyout may give an exceptional return to the shareholders.

TABLE 16.2
Sparrow – Profit and Loss Account and Balance Sheet (£000s)

	Years					
	1	**2**	**3**	**4**	**5**	**6**
Profit before interest and taxes (after depreciation)	1,500	1,875	2,344	2,930	3,662	4,578
Less interest	1,260	1,226	1,144	999	770	433
	240	649	1,200	1,931	2,892	4,145
Tax	0	60	162	300	483	723
Profits available to pay off debt	240	589	1,038	1,631	2,409	3,422

Balance Sheet

	Year						
	Opening	**1**	**2**	**3**	**4**	**5**	**6**
Equity	1,000	1,240	1,829	2,867	4,498	6,907	10,329
Debt	9,000	8,760	8,171	7,133	5,502	3,093	0
Assets	10,000	10,000	10,000	10,000	10,000	10,000	10,329

Notes: Past tax liabilities have been accepted by Hawk. Money set aside for depreciation is used to replace assets to maintain £10m of assets throughout. Also depreciation equals capital allowances used for tax purposes.

In the first few years the debt burden absorbs a large proportion of the rapidly increasing profits. However it only takes six years for the entire debt to be retired. The shareholders then own a business with assets of over £10m, an increase of over tenfold on their original investment. The business is also producing a large annual profit, which could make a stock market flotation attractive, in which case the value of the shares held by the management will probably be worth much more than £10m.[2]

Convertible bonds

Convertible bonds carry a rate of interest in the same way as vanilla bonds, but they also give the holder the right to exchange the bonds at some stage in the future into ordinary shares according to some prearranged formula. The owner of these bonds is not obliged to exercise this right of conversion and so the bond may continue until redemption as an interest-bearing instrument. Usually the

conversion price is 10–30 percent greater than the existing share price. So if a £100 bond offered the right to convert to 40 ordinary shares the conversion price would be £2.50 which, given the current market price of the shares of, say, £2.20, would be a *conversion premium* of:

$$\frac{2.50 - 2.20}{2.20} = 0.136 \text{ or } 13.6$$

In a rising stock market it is reasonable to suppose that most convertible bonds issued with a small conversion premium will be converted to shares. However this is not always the case. Northern Foods (with the brand names Express Dairies, Eden Vale, Fox's Biscuits, Palethorpe Sausages, Pork Farms and Bowyers) issued convertible bonds in February 1993. The issue raised £91.28m. The bonds were to be redeemed in 15 years if they had not been converted before this and were priced at a par value of £100. The coupon was set at 6.75 percent and the conversion price was at 326p per share. From this information we can calculate the *conversion ratio*:

$$\text{Conversion ratio} = \frac{\text{Nominal (par) value of bond}}{\text{Conversion price}} = \frac{£100}{£3.26} = 30.67 \text{ shares}$$

Each bond carries the right to convert to 30.67 shares, equivalent to paying 326p for each share at the £100 par value of the bond.

The conversion price was set at a premium of 18.11 percent over the ordinary share price at the time of pricing which was 276p ((326 – 276)/276 = 18.11%). At the time of the issue many investors may have looked at the low interest rate on the convertible (for 15-year bonds in 1993, 6.75 percent was low) and said to themselves that although this was greater than the dividend yield on shares (4–5 percent) it was less than that on conventional bonds, but offsetting this was the prospect of capital gains made by converting the bonds into shares. If the shares rose to, say, £4, each £100 bond could be converted to 30.67 shares worth 30.67 × £4 = £122.68. Unfortunately the share price by 2004 had fallen to about £1.35 and so the conversion right had not gained any intrinsic value – perhaps by the year 2008 it will be worthwhile exchanging the bonds for shares. In the meantime the investors at least have the comfort of a £6.75 coupon every year.

The value of a convertible bond (also called an 'equity-linked bond') rises as the value of ordinary shares increases, but at a lower percentage rate. If the share price rises above the conversion price the investor may exercise the option to convert if he/she anticipates that the share price will at least be maintained. If the share price rise is seen to be temporary the investor may wish to hold on to the bond. If the share price falls or rises by only a small amount the value of the convertible will be the same as a straight bond at maturity.

FIGURE 16.3
Summary of convertible bond technical jargon

- **Conversion ratio** This gives the number of ordinary shares into which a convertible bond may be converted:

$$\text{Conversion ratio} = \frac{\text{Nominal (par) value of bond}}{\text{Conversion price}}$$

- **Conversion price** This gives the price of each ordinary share obtainable by exchanging a convertible bond:

$$\text{Conversion price} = \frac{\text{Nominal (par) value of bond}}{\text{Number of shares into which bond may be converted}}$$

- **Conversion premium** This gives the difference between the conversion price and the market share price, expressed as a percentage:

$$\text{Conversion premium} = \frac{\text{Conversion price} - \text{Market share price}}{\text{Market share price}} \times 100$$

- **Conversion value** This is the value of a convertible bond if it were converted into ordinary shares at the current share price:

$$\text{Conversion value} = \text{Current share price} \times \text{Conversion ratio}$$

Most convertible bonds are unsecured but as the Case study on Greenhills shows, this is not always the case – a good thing for Hunter Ground!

Case study 16.2

SECURED CONVERTIBLE DEBENTURES

Greenhills

The first AIM-traded company to go into receivership was Greenhills, the restaurant operator. A major investor, Hunter Ground, appointed administrative receivers on 4 December 1996. Hunter Ground held secured convertible debentures from Greenhills worth £506,000.

Source: *Investors Chronicle*, 20 December 1996, p. 11. Reprinted with kind permission of the *Investors Chronicle*.

Advantages to the company of convertible bonds

Convertible bonds have the following advantages to the company.

1. *Lower interest than on a similar debenture* The firm can ask investors to accept a lower interest on these debt instruments because the investor values the conversion right. This was a valuable feature for many dot.com companies in the late 1990s. Companies such as Amazon and AOL could pay

5–6 percent on convertibles – less than half what they would have paid on straight bonds. In the case of Rank's convertible, issued in 2003, the coupon is 3.875 percent compared with 7.25 percent on a straight bond, saving £3m per year[3] – *see* Exhibit 16.6.

2. *The interest is tax deductible* Because convertible bonds are a form of debt the coupon payment can be regarded as a cost of the business and can therefore be used to reduce taxable profit.
3. *Self liquidating* When the share price reaches a level at which conversion is worthwhile the bonds will (normally) be exchanged for shares so the company does not have to find cash to pay off the loan principal – it simply issues more shares. This has obvious cash flow benefits. However the disadvantage is that the other equity holders may experience a reduction in earnings per share and dilution of voting rights.
4. *Fewer restrictive covenants* The directors have greater operating and financial flexibility than they would with a secured debenture. Investors accept that a convertible is a hybrid between debt and equity finance and do not tend to ask for high-level security, impose strong operating restrictions on managerial action or insist on strict financial ratio boundaries – notwithstanding the case of Greenhills (*see* Case study 16.2).
5. *Underpriced shares* A company which wishes to raise equity finance over the medium term, but judges that the stock market is temporarily underpricing its shares, may turn to convertible bonds. If the firm does perform as the managers expect and the share price rises, the convertible will be exchanged for equity.

Rank's £150m bond beefs up finances

By Charles Batchelor

Rank, the leisure group that owns the Hard Rock Café brand, yesterday launched a £150m convertible bond in a further strenghtening of its finances.

The bond, convertible into about 40m rank shares or 6.7 per cent of the company's existing equity at any time up to January 2009, will be used to repay existing debt and reduce financing costs.

Rank is taking advantage of the recent fall in bond interest rates that has prompted a round of refinancings of older, more expensive debt by a wide range of companies. Convertible issues allow companies to strengthen their finances without issuing shares and mean investors have to pay a premium if they do want to buy the shares. ...

The convertible will replace an existing £125m bond that carries a higher dividend – 7.25 per cent – and will save Rank about £3m in interest charges a year, equal to a 1.5 per cent boost in earnings per share. The new convertible was priced to carry a coupon of 3.875 per cent and to convert when the Rank share price is 31 per cent above yesterday's price of 287p – at 376p.

EXHIBIT 16.6 Rank's £150m bond beefs up finances

Source: *Financial Times* 4 December 2003

Advantages to the investor

The advantages of convertible bonds to the investor are as follows.

- They are able to wait and see how the share price moves before investing in equity.
- In the near term there is greater security for their principal compared with equity investment, and the annual coupon is usually higher than the dividend yield (annual dividend on shares divided by share price).

Exchangeable bonds

The bonds sold may not give the right to conversion into shares of the issuers, but shares of another company held by the issuer – *see* the cases of Hutchison and Whampoa, Telecom Italia and France Telecom in Exhibit 16.7. Note that the term exchangeable bond is probably more appropriate in these cases.

Valuing bonds

Bonds, particularly those traded in secondary markets such as the London Stock Exchange, are priced according to supply and demand. The main influences on the price of a bond will be the general level of interest rates for securities of that risk level and maturity. If the coupon is less than the current interest rate the bond will trade at less than the par value of £100. Take the case of an

Brakes applied to convertible bond market

One of Europe's most active periods of issuance has been slowed by volatile equities, writes Rebecca Bream

In January Hong Kong conglomerate Hutchison Whampoa sold $2.65bn of bonds exchangeable into shares of Vodafone, the UK mobile phone operator. Hutchison had been gradually divesting its stake in the UK group since completing a $3bn exchangeable bond deal last September.

This was followed at the end of the month by Telecom Italia which sold €2bn of bonds exchangeable into shares of subsidiaries Telecom Italia Mobile and Internet operator Seat.

In February France Telecom sold €3.3bn of bonds exchangeable into shares of Orange, completed at the same time as the mobile unit's IPO, and one of the biggest exchangeable bond deals ever sold in Europe.

EXHIBIT 16.7 Brakes applied to convertible bond market

Source: *Financial Times* 6 April 2001

irredeemable bond (where coupons are paid every year forever) with an annual coupon of 8 percent of the par value, i.e. £8 per year. When the bond was first issued general interest rates for this risk class may well have been 8 percent and so the bond may have been sold at £100. However interest rates change over time. Suppose that the rate demanded by investors is now 10 percent. Investors will no longer be willing to pay £100 for an instrument that yields £8 per year. The current market value of the bond will fall to £80 (£8/0.10) because this is the maximum amount needed to pay for similar bonds given the current interest rate of 10 percent. If the coupon is more than the current market interest rate the market price of the bond will be greater than the nominal (par) value. Thus if markets rates are 6 percent the irredeemable bond will be priced at £133.33 (£8/0.06).

The formula relating the price of an irredeemable bond, the coupon and the market rate of interest is:

$$P_D = \frac{i}{k_D}$$

where

P_D = price of bond
i = nominal annual interest (the coupon rate × nominal (par) value of the bond)
k_D = market discount rate, annual return required on similar bonds

Also:

$$V_D = \frac{I}{k_D}$$

where

V_D = total market value of all the bonds
I = total annual nominal interest payable on all the bonds

We may wish to establish the market rate of interest represented by the market price of the bond. For example, if an irredeemable bond offers an annual coupon of 9.5 percent and is currently trading at £87.50, with the next coupon due in one year, the rate of return is:

$$k_D = \frac{i}{P_D} = \frac{9.5}{87.5} = 0.1086 \text{ or } 10.86\%$$

Redeemable bonds

A purchaser of a redeemable bond buys two types of income promise; first the coupon, second the redemption payment. The amount that an investor will pay depends on the amount these income flows are worth when discounted at the

rate of return required on that risk class of debt. The relationships are expressed in the following formulae:

$$P_D = \frac{i_1}{1 + k_D} + \frac{i_2}{(1 + k_D)^2} + \frac{i_3}{(1 + k_D)^3} + \ldots \frac{R_n}{(1 + k_D)^n}$$

and:

$$V_D = \frac{I_1}{1 + k_D} + \frac{I_2}{(1 + k_D)^2} + \frac{I_3}{(1 + k_D)^3} + \ldots + \frac{R^*_n}{(1 + k_D)^n}$$

where

i_1, i_2 and i_3 = nominal interest per bond in years 1, 2 and 3…up to n years

I_1, I_2 and I_3 = total nominal interest in years 1, 2 and 3…up to n years

R_n and R^*_n = redemption value of a bond, and total redemption of all bonds in year n, at the redemption date, year n.

The Worked example of Blackaby illustrates the valuation of a bond when the market interest rate is given.

Worked example 16.1
BLACKABY PLC

Blackaby plc issued a bond with a par value of £100 in September 2001, redeemable in September 2007 at par. The coupon is 8% payable annually in September. The facts available from this are:

- the bond might have a par value of £100 but this may not be what investors will pay for it;
- the annual cash payment will be £8 (8% of par);
- in September 2007, £100 will be handed over to the bondholder.

Question 1

What is the price investors will pay for this bond at the time of issue if the market rate of interest for a security in this risk class is 7%?

Answer

$$P_D = \frac{8}{1 + 0.07} + \frac{8}{(1 + 0.07)^2} + \frac{8}{(1 + 0.07)^3} + \ldots \frac{8}{(1 + 0.07)^6} + \frac{100}{(1 + 0.07)^6}$$

£8 annuity for 6 years @ 7% = 4.7665 ¥ £8	=	38.132
plus $\frac{100}{(1 + 0.07)^6}$	=	66.634
P_D =		£104.766

Question 2

What is the bond's value in the secondary market in September 2004 if interest rates rise by 200 basis points between 2001 and 2004? (Assume the next coupon payment is in one year.)

Answer

P_D = £8 annuity for 3 years @ 9% = 2.5313 ¥ 8	=	20.25
plus $\frac{100}{(1 + 0.09)^3}$	=	77.22
		£97.47

Note that as interest rates rise the price of bonds falls.

If we need to calculate the rate of return demanded by investors from a particular bond when we know the market price and the coupon amounts we compute the internal rate of return. For example Bluebird plc issued a bond many years ago which is due for redemption at par of £100 in three years. The coupon is 6 percent and the market price is £91. The rate of return now offered in the market by this bond is found by solving for k_D:

$$P_D = \frac{i_1}{1 + k_D} + \frac{i_2}{(1 + k_D)^2} + \frac{R_n + i_3}{(1 + k_D)^3}$$

$$91 = \frac{6}{1 + k_D} + \frac{6}{(1 + k_D)^2} + \frac{106}{(1 + k_D)^3}$$

The skills learned in calculating internal rates of return in Chapter 2 are needed to solve this. At an interest rate (k_D) of 9 percent, the right side of the equation amounts to £92.41. At an interest rate of 10 percent the right-hand side of the equation amounts to £90.05. Using linear interpolation:

Interest rate	9%	?	10%
Value of discounted cash flows	£92.41	£91	£90.05

$$k_D = 9\% + \frac{92.41 - 91}{92.41 - 90.05} \times (10 - 9) = 9.6\%$$

The two types of interest yield

There are two types of yields used for fixed-interest securities. The *income yield* (also known as the flat yield, interest yield and running yield) is the gross (before tax) interest amount divided by the current market price of the bond expressed as a percentage:

$$\frac{\text{Gross interest (coupon)}}{\text{Market price}} \times 100$$

Thus for a holder of Bluebird's bonds the income yield is:

$$\frac{£6}{£91} \times 100 = 6.59\%$$

This is a gross yield. The after-tax yield will be influenced by the investor's tax position.

$$\text{Net interest yield} = \text{Gross yield } (1 - T),$$

where T = the tax rate applicable to the bondholder

The income yield is not the true rate of return available to the investor should he/she purchase the bond because it fails to take into account the capital gain (or loss) from holding the bond. At a time when bonds in the same risk class are offering rates of return greater than 6.59 percent it is obvious that any potential purchaser of Bluebird bonds in the market will be looking for a return other than from the coupon. That additional return comes in the form of a capital gain over three years of £9. The investor purchases at £91 and will receive the £100 par value when the bond is redeemed in three years. A rough estimate of this annual gain is (9/91) ÷ 3 = 3.3 percent per year.

When this is added to the interest yield we have an approximation to the second type of yield, the yield to maturity (also called the redemption yield). The yield to maturity of a bond is the discount rate such that the present value of all the cash inflows from the bond (interest plus principal) is equal to the bond's current market price. The rough estimate of 9.89 percent (6.59% + 3.3%) has not taken into account the precise timing of the investor's income flows. When this is adjusted for, the yield to maturity is 9.6 percent – the internal rate of return calculated above. Thus the yield to maturity includes both coupon payments and the capital gain or loss on maturity. The *Financial Times* quotes 'bid yields' for the bonds it displays – *see* Table 16.1 on page 414 and Exhibit 16.11 on pages 440–41 – and GRY (gross redemption yield) – *see* Exhibit 16.10 on pages 438–9. These can be read as the yield to maturity.

International sources of debt finance

Larger and more creditworthy companies have access to a wider array of finance than small firms. These companies can tap the *Euro-securities markets*, which are informal (unregulated) markets in money held outside its country of origin. For example there is a large market in *Eurodollars*. These are dollar credits (loans) and deposits managed by a bank not resident in the USA. This has the dis-

Euro-securities markets are informal (unregulated) markets in money held outside its country of origin.

tinct advantage of transactions not being subject to supervision and regulation by the authorities in the USA. So, for example, an Italian firm can borrow dollars from a Spanish bank in the UK and the US regulatory authorities have no control over the transaction.

There is a vast quantity of dollars held outside the USA and this money is put to use by borrowers. The same applies to all the major currencies – the money is lent and borrowed outside its home base, so is beyond the reach of the domestic regulators. Today it is not unusual to find an individual holding a dollar account at a UK bank – a *Eurodeposit* account – which pays interest in dollars linked to general dollar rates. This money can be lent to firms wishing to borrow in Eurodollars prepared to pay interest and capital repayments in dollars. There are large markets in Euromarks, Eurosterling and Euroyen.[4] The title 'Euro' is misleading as this market is not limited to the European currencies or European banks and is unconnected with the European single currency, the euro. The title came about because the modern market was established when the Soviet Union transferred dollars from New York to a French bank at the height of the cold war in 1957. The cable address happened to be EUROBANK. The euro currency was not even a gleam in the eye of a euro-enthusiast at the time. Nowadays, Eurosecurities business is transacted daily in all of the major financial centers.

The companies large enough to use the Eurosecurities markets are able to put themselves at a competitive advantage *vis-à-vis* smaller firms. There are at least four advantages:

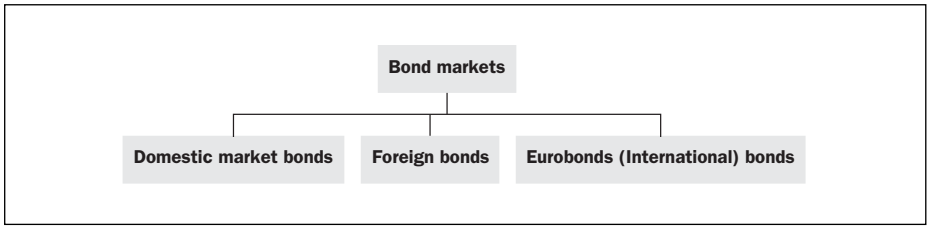
- The finance available in these markets can be at a lower cost in both transaction costs and rates of return.
- There are fewer rules and regulations.
- There may be an ability to hedge foreign currency movements. For example, if a firm has assets denominated in a foreign currency it can be advantageous to also have liabilities in that same currency to reduce the adverse impact of exchange-rate movements (see Chapter 21).
- National markets are often not able to provide the same volume of finance. The borrowing needs of some firms are simply too large for their domestic markets to supply. To avoid being hampered in expansion plans large firms can turn to the international market in finance.

For these internationally recognized firms there are three sources of debt finance:

- the domestic or national market;
- the financial markets of other countries which make themselves open to foreign firms – *the foreign debt market*;
- the Eurosecurities market which is not based in any one country, so is not regulated by any country.

For example, there are three bond markets available to some firms – as shown in Figure 16.4.

FIGURE 16.4
Bond markets



Foreign bonds

A foreign bond is a bond denominated in the currency of the country where it is issued when the issuer is a non-resident. For example, in Japan bonds issued by non-Japanese companies denominated in yen are foreign bonds. (The interest and capital payments will be in yen.) Foreign bonds have been given some amusing names: foreign bonds in Tokyo are known as Samurai bonds, foreign bonds issued in New York and London are called Yankees and Bulldogs respectively. The Netherlands allows foreigners to issue Rembrandt bonds and in Spain Matador bonds are traded. Foreign bonds are regulated by the authorities where the bond is issued. These rules can be demanding and an encumbrance to companies needing to act quickly and at low cost. The regulatory authorities have also been criticized for stifling innovation in the financial markets. The growth of the less restricted Eurobond market has put the once dominant foreign bond market in the shade.

Eurobonds (International bonds)

Eurobonds are bonds sold outside the jurisdiction of the country of the currency in which the bond is denominated. So, for example, the UK financial regulators have little influence over the Eurobonds denominated in sterling, even though the transactions (for example interest and capital payments) are in pounds. They are medium- to long-term instruments. Eurobonds are not subject to the rules and regulations which are imposed on foreign bonds, such as the requirement to issue a detailed prospectus. More importantly they are not subject to an interest-withholding tax. In the UK most domestic bonds are subject to a withholding tax by which basic rate income tax is deducted before the investor receives interest. Interest on Eurobonds is paid gross without any tax deducted – which has attractions to investors keen on delaying, avoiding or evading tax. Moreover, Eurobonds are bearer bonds which means that the holders do not have to disclose their identity – all that is required to receive interest and capital is for the holder to have possession of the bond. In contrast, UK domestic bonds are registered, which means that companies and governments are able to identify the owners. Bearer bonds have to be kept in a safe place as a thief could benefit greatly from possession of a bearer bond.

Eurobonds are not subject to the rules and regulations which are imposed on foreign bonds.

Despite the absence of official regulation, the International Securities Market Association (ISMA), a self-regulatory body founded in 1969 and based in Switzerland, imposes some restrictions, rules and standardized procedures on Eurobond issue and trading.

Eurobonds are distinct from euro bonds, which are bonds denominated in euros and issued in the euro currency area. Increasingly, people differentiate between the two by calling Eurobonds 'international bonds' leaving the title euro for the currency introduced in 1999. Of course, there have been euro-denominated bonds issued outside the jurisdiction of the authorities in the euro area. These are euro Eurobonds.

The development of the Eurobond market

In the 1960s many countries, companies and individuals held surplus dollars outside of the USA. They were reluctant to hold these funds in American banks under US jurisdiction. There were various reasons for this. For example, some countries, particularly the former Soviet Union and other communist bloc countries of the cold war era, thought their interests were best served by using the dollars they had on the international markets, away from the powers of the US authorities to freeze or sequestrate (seize) assets. More recently this sort of logic has applied to countries such as Iran, Iraq and Libya. Also in the 1960s the American authorities had some very off-putting tax laws and created a tough regulatory environment in their domestic financial markets. These encouraged investors and borrowers alike to undertake transactions in dollars outside the USA. London's strength as a financial center, the UK authorities' more relaxed attitude to business, and its position in the global time zones, made it a natural leader in the Euro markets. The first Eurobond was issued in the early 1960s and the market grew modestly through the 1970s and then at a rapid rate in the 1980s. By then the Eurodollar bonds had been joined by bonds denominated in a wide variety of Eurocurrencies. The market was stimulated not only by the tax and anonymity benefits, which brought a lower cost of finance than for the domestic bonds, but also by the increasing demand from transnational companies and governments needing large sums in alternative currencies and with the potential for innovatory characteristics. It was further boosted by the recycling of dollars from the oil-exporting countries.

In 1979 less than $20bn worth of bonds were issued in a variety of currencies. As can be seen from Table 16.3 the rate of new issuance is now over $2,000bn a year, with a total amount outstanding of over $10,000bn. In any one year approximately 40–50 percent of new bonds are denominated in dollars. Euro-denominated issues account for 40–50 percent of issues. The yen is the currency of issue for 5–10 percent of international bonds, with all the other currencies put together making up 10–15 percent. Even though the majority of Eurobond trading takes place through London, sterling is not one of the main currencies, and what is more, it tends to be large US and other foreign banks located in London which dominate the market.

Sterling is not one of the main currencies.

TABLE 16.3
International bond issues

Year ($bn)	1998	1999	2000	2001	2002	2003 1st 9 months
Straights – fixed rate	847	1,232	1,129	1,590	1,455	1,753
Equity-related	47	52	57	72	43	61
Floating-rate issues	293	485	518	643	603	382
Total	1,186	1,769	1,704	2,305	2,101	2,195

Source: Bank for International Settlements (BIS) *Quarterly Review*, www.BIS.org, December 2003, December 2002, November 2000, March 2001, June 2001, February 2000, March 1999.

While the Eurobond market was dominated by dollar issues for the first 39 years, in 2003 euro-denominated issues overtook dollar issues – *see* Exhibit 16.8.

Types of Eurobonds (International bonds)

The Eurobond market has been extraordinarily innovative in producing bonds with all sorts of coupon payment and capital repayment arrangements (for example, the currency of the coupon changes half-way through the life of the bond, or the interest rate switches from fixed to floating rate at some point). We cannot go into detail here on the rich variety but merely categorize the bonds into broad types.

- *Straight fixed-rate bond* The coupon remains the same over the life of the bond. These are usually made annually, in contrast to domestic bond semi-annual coupons. The redemption of these bonds is usually made with a 'bullet' repayment at the end of the bond's life.
- *Equity related* These take two forms:
  - *Bonds with warrants attached* Warrants are options which give the holder the right to buy some other asset at a given price in the future. An equity warrant, for example, would give the right, but not the obligation, to purchase shares. There are also warrants for commodities such as gold or oil, and for the right to buy additional bonds from the same issuer at the same price and yield as the host bond. Warrants are detachable from the host bond and are securities in their own right, unlike convertibles.
  - *Convertibles* The bondholder has the right (but not the obligation) to convert the bond into ordinary shares at a preset price.
- *Floating-rate notes (FRNs)* Table 16.3 shows the increasing importance of FRNs. These have a variable coupon reset on a regular basis, usually every three or six months, in relation to a reference rate, such as LIBOR. The size of the spread over LIBOR reflects the perceived risk of the issuer. The typical term for an FRN is about five to 12 years.

European issues go from strength to strength

It began with Autostrade's international bond in 1963, writes Charles Batchelor

Euro-denominated bond issues have for the first time overtaken the much longer-established market for dollar-denominated international bonds, crowning the Eurobond market's 40th anniversary, just five years after the creation of the single European currency.

Autostrade, the Italian motorway operator, launched the Eurobond market in July 1963 with a £15m 15-year bond, creating the foundation for a market that employed thousands and also cemented London's position as an international financial centre.

'The events of 40 years ago provided the legal and financial structure that created the current market,' said Charlie Berman, co-head of European credit market at Citigroup. 'The story 40 years on from Autostrade is that the non-US capital market is as big and important as the US market. That is quite extraordinary.'

The US dominated the market for foreign bond issues in the post-war years.

The recurrent US balance of payments deficits meant there was no shortage of dollars held on deposit by banks outside the US and, by the end of the 1950s, the offshore dollar pool had climbed to $17bn.

During 1962, the City realised that those dollars could support issues led by European banks. SG Warburg took the lead, negotiating with regulators in the UK and elsewhere to enable the launch of Autostrade's deal.

Two-and-a-half weeks later, the fledging market received a crucial boost when President John F Kennedy announced the introduction of Interest Equalisation Tax. This aimed to improve the US balance of payments, but the result was to increase the cost of US borrowing by European issuers.

It was by no means certain London would emerge ahead of the continental European centres. Several US banks had European bases in Paris while Swiss banks dominated distribution in the early years. Fortunately for the UK, the restrictive approach adopted by the tax authorities and banks in continental Europe made London a more efficient and profitable base.

In the early 1970s, the US authorities removed constraints intended to safeguard the balance of payments but by then the Eurobond market was so well established that New York was unable to regain a dominant international role.

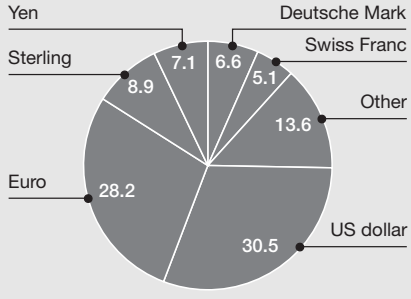
London may have benefited from the early regulatory inflexibility of individual European countries but constant vigilance is required to fight off new threats. A swathe of directives from Brussels covering issue prospectuses, market abuse and investment services have awakened fears of tighter regulation.

'Europe is going through a legislative feeding frenzy,' said Richard Britton, a consultant to the International Securities Market Association. 'But it pays little attention to the fact that markets operate on a global scale. Almost half of Eurobond issues are from outside the European Union. If you impose strict regulations they could go elsewhere.'

Bonds: 40 years down the road

Eurobond issues by currency*

Market share, 1963-2003 (%)



Source: Thomson Financial * Total amount raised: **$8,248bn**

EXHIBIT 16.8 European issues go from strength to strength

Source: *Financial Times* 25 September 2003

Within these broad categories all kinds of 'bells and whistles' (features) can be attached to the bonds, for example *reverse floaters* – the coupon declines as LIBOR rises; *capped bonds* – the interest rate cannot rise above a certain level; *zero coupon* – a capital gain only is offered to the lender.

The majority of Eurobonds (more than 80 percent) are rated AAA or AA and denominations are usually $1,000, $5,000 or $10,000 (or similar large sums in the currency of issue).

It is clear from Table 16.4 that corporations account for a relatively small proportion of the international bond market. The biggest issuers are the banks. Issues by governments ('sovereign issues') and state agencies in the public sector account for about one-fifth of issues. Also strongly represented are governments and international agencies such as the World Bank, the International Bank for Reconstruction and Development and the European Investment Bank.

Corporations account for a relatively small proportion of the international bond market. The biggest issuers are the banks.

TABLE 16.4
Issuers of international bond issues

	Year		
	2001 $bn	2002 $bn	2003 (9 months) $bn
Financial institutions	1,711	1,633	1,716
Corporate issuers	348	210	197
Governments	171	173	200
International organizations	75	84	83
Total	2,305	2,100	2,195

Source: Bank for International Settlements (BIS) *Quarterly Review*, www.BIS.org, December 2003

Issuing Eurobonds

With Eurobonds a bank (lead manager or book runner) or group of banks acting for the issuer invite a large number of other banks or other investors to buy some of the bonds. The managing group of banks is responsible for underwriting the issue (guaranteeing to buy if no one else does) and it may enlist a number of smaller institutions to use their extensive contacts to sell the bonds – 'the selling group'.

Eurobonds are traded on the secondary market through intermediaries acting as market makers who quote prices at which they are ready to buy or sell. Most Eurobonds are listed on the London or Luxembourg stock exchanges, but the market is primarily an over-the-counter one, that is, most transactions take place outside a recognized exchange. Deals are usually conducted using the telephone,

computers, telex and fax, rather than through a centralized trading place. It is not possible to go to a central source for price information. Most issues hardly ever trade, and those that do take place in private between the customer and the bond dealer – there is no obligation to inform the public about the deal. In 2000 the ISMA set up Coredeal, an electronic trading platform for 6,000 international securities, out of 16,000 in issue. It is in competition with many other recently created electronic platforms. The extent to which electronic platforms will replace telephone dealing is as yet unclear. Figure 16.5 presents the advantages and disadvantages of Eurobonds.

To conclude the discussion of Eurobonds we will consider a few examples and deal with some of the jargon.

FIGURE 16.5
Advantages and drawbacks of Eurobonds as a source of finance for corporations

Advantage	*Drawback*
1 Large loans for long periods are available.	1 Only for the largest companies – minimum realistic issue size is about £50m.
2 Often cheaper than domestic bonds. The finance provider receives the interest without tax deduction and retains anonymity and therefore supplies cheaper finance.	2 Bearer securities are attractive to thieves and therefore safe storage is needed.
3 Ability to hedge interest rate and exchange-rate risk.	3 Because interest and capital are paid in a foreign currency there is a risk that exchange-rate movements mean more of the home currency is required to buy the foreign currency than was anticipated.
4 The bonds are usually unsecured. The limitations placed on management are less than those for a secure bond.	4 The secondary market can be illiquid.
5 The lower level of regulation allows greater innovation and tailor-made financial instruments.	

From Tuesday to Friday, the *Financial Times* carries a small article giving a brief description of the new issues in the international bond market. The issues on Friday 16 January 2004 are described in Exhibit 16.9. Note that a 'sovereign issue' is a government borrowing; a 'transaction of £100m' is regarded as 'small'; not all bonds are sold at '100', i.e. par value (whether that be $10,000 or £1,000, etc.); an 'inflation-linked' bond has a return that varies with published inflation numbers.

The Saturday edition of the *Financial Times* shows the 50 most liquid sterling denominated bonds – *see* Exhibit 16.10. About one-half are from government or quasi-government, the rest from UK corporations.

The *Financial Times* also publishes a table (Monday–Friday) showing a selection of secondary-market bid prices of actively traded international and emerging market bonds. This gives the reader some idea of current market conditions and rates of return demanded for bonds of different maturities, currencies and riskiness – *see* Exhibit 16.11.

Car sector groups busy in wake of Daimler deal

Adrienne Roberts

More car sector names appeared on the bond market yesterday in the wake of DaimlerChrysler's deal earlier in the week, with small transactions from Toyota and BMW and an announcement by the luxury car-maker Porsche.

BMW US Capital, guaranteed by the German car-maker BMW, added £100m to its outstanding 4.625 per cent 2006 bond. The issue, which carried an A1 rating from Moody's, was led by an ABN Amro and JP Morgan.

Toyota Motor Credit Corporation, rated triple-A by both Moody's and S&P, offered a €100m bond maturing in January 2008. UBS was sole lead.

In the pipeline, Porsche announced it had mandated Merrill Lynch and ABN Amro for a bond issue worth several hundred million dollars, to be placed with US private investors.

The German company, which has the highest profit margins in the auto sector, said the bond would be used for its long-term financing needs and would replace a €256m issue – nicknamed the 'SUV bond' – launched in 1998 to fund the development of its Cayenne sports-utility vehicle.

But Porsche said the new issue would not be used to fund the development of an updated version of its 911 sports car, widely expected later this year, or a possible fourth model range.

Elsewhere, the German chemical group **Bayer** sold a €460m, 3.75 per cent five-year bond through CSFB.

In the sovereign market, the French Treasury sold €4bn of 15-year inflation-linked bonds. The deal had been marketed at a minimum size of €3bn and increased to €4bn after the order book reached about €5.5bn.

'This deal fills the gap in the inflation-linked curve. France has supplied the 10-year sector and 30-year sector, and Italy did a good job supplying the five-year sector. The one missing benchmark point was the 15-year,' said Ziad Awad, syndicate manager at Goldman Sachs, which was joint lead manager with BNP Paribas, Deutsche Bank and Société Générale.

Money managers bought 31 per cent of the bonds, with pension and insurance companies taking up another 29 per cent. Central banks bought a relatively large 10 per cent of the issue.

NEW INTERNATIONAL BOND ISSUES

Borrower	Amount m	Coupon %	Price	Maturity	Fees %	Spread bp	Book-runner
■ US DOLLARS							
Sistema Capital SA(a)	350	8.875#	100.00	Jan 2011	undiscl	–	CSFB
Excelcomindo Fin Co BV(b)	350	8.00#	99.495	Jan 2009	undiscl	–	CSFB/M Stanley/UBS
Braskem SA	250	11.75#	100.00	Jan 2014	undiscl	+775(4¼ Nov13)	CSFB/UBS Inv'ment Bank
Banco Bradesco SA*	100	3.625#(s)	99.93	Jan 2007	0.35	+155(2⅝Nov06)	BNP Paribas
■ EUROS(e)							
Siena Mtgs 03-4 SrL,A1(c1)≠	220.4	(c1)	100.00	Sep 2005	undiscl	–	M Stanley/MPS Finance
Siena Mtgs 03-4 SrL,A2(c2)≠	1.16bn	(c2)	100.00	Mar 2011	undiscl	–	M Stanley/MPS Finance
BCP Finance Bank Ltd≠	500	(d)	99.868	Feb 2009	0.15	–	BNPP/Deutsche Bank
Bradford & Bingley plc≠	500	(g)	100.007	Jan 2009	0.15	–	ABN Amro/CSFB
Bayer Corporation	460	3.75	99.074	Jan 2009	undiscl	+45(swaps)	CSFB
BFCM(h,S)≠	300	5.00	101.87	Sep 2015	0.40	+66.6(3¾ Jul13)	Royal Bank of Scotland
KBC Ifima NV≠	300	(j)	100.054	Jan 2009	0.15	–	Lehman Brothers
Banco BPI SA(k)≠	250	(k1)	100.056	Jan 2007	0.125	–	Nomura International
Unibanca(m,S)≠	100	(m1)	99.646	Jan 2014	0.20	–	Banca IMI
Toyota Motor Credit Corp	100	2.375(l)	97.191	Jan 2008	0.20	–	UBS Investment Bank
■ STERLING							
BMW US Capital LLC(n)	100	4.625	99.417R	Dec 2006	0.20R	+38(7½Dec06)	ABN Amro/JP Morgan
ASIF III (Jersey) Ltd(o)	100	4.375	98.911	Dec 2008	1.875	–	RBC Capital Markets
■ YEN							
KBC Ifima NV≠	21bn	(r)	100.02	Feb 2006	undiscl	–	Nomura International
■ SWISS FRANCS							
ANZ Banking Group Ltd(t)	100	2.25	101.25	Dec 2008	0.25	+1(swaps)	BNP Paribas (Suisse)

Bond issue details are online at www.ft.com/bondissues. Final terms, non-callable unless stated. Yield spread (over relevant government bond) at launch supplied by lead manager. *Unlisted. ≠Floating-rate note. #Semi-annual coupon. R: fixed re-offer price; fees shown at re-offer level. a) Puttable on 28/1/07 at par. b) Callable from 27/1/07 at 104 falling 2%pa to par. c) Secured on Italian residential mortgages originated by Banca MPS. Callable from 16/3/11 at par; if not called, coupon margins double. c1) Av life: 1.7 yrs. 3-mth Euribor +10bp. c2) Av life: 5.6 yrs. 3-mth Euribor +23bp. c3) Also: Classes B of €51.4m and C of €36.7m. d) 3-mth Euribor +15bp. e) Spreads relate to German govt bonds unless stated. g) 3-mth Euribor +15bp. h) Fungible with €500m. Plus 126 days accrued. j) 3-mth Euribor +10bp. k) Fungible with €250m. Plus 14 days accrued. k1) 3ME +12½bp. l) Long 1st. m) Callable from 30/1/09 at par. m1) 3-mth Euribor +60bp to 30/1/09, then +120bp. n) Fung with £250m. Plus 31 days accrued. o) Fung with £350m. Plus 29 days accrued. r) 3-mth Libor flat. s) Short 1st. t) Fung with SFr250m. Plus 58 days accrued. S) Subordinated.

Exhibit 16.9 Car sector groups busy in wake of Daimler deal

Source: *Financial Times* 16 January 2004

● Sterling bond prices

Issue	Fri price	Week chge	GRY	Inc yld	Moody rtg	S&P rtg	Issue size	Sprd to Gilts
EIB 7 8/12/03	100.00	0.00	0.00	0.00	Aaa	AAA	2100	–
Gecc 5 1/8 12/1/04	99.98	0.07	0.00	5.13	Aaa	AAA	1070	–403
Abbey Nat 5 1/4 12/1/04	100.03	0.12	3.77	5.25	Aa2	AA–	575	–26
Barclays 6 1/2 16/2/04	100.20	0.05	4.00	6.49	Aa1	AA	500	–2
RBS 6 5/8 2/3/04	100.33	–0.02	3.95	6.60	Aa1	AA	500	–8
Abbey Nat 6 1/2 5/3/04	100.35	–0.03	3.80	6.48	Aa2	AA–	650	–22
Lloyds 7 3/8 11/3/04	100.58	0.08	3.51	7.33	Aa1	AA–	400	–52
EIB 10 3/8 22/11/04	105.13	–0.06	4.19	9.87	Aaa	AAA	400	–
EIB 6 26/11/04	101.43	0.02	4.26	5.92	Aaa	AAA	2950	–
KFW 6 5/8 26/11/04	101.98	0.02	4.23	6.50	Aaa	AAA	450	–
World Bank 6 1/4 26/11/04	101.68	0.02	4.21	6.15	Aaa	AAA	400	–
Canada 6 1/4 26/11/04	101.65	0.05	4.24	6.15	Aaa	AAA	500	–
Ford 7 1/4 05	102.23	0.47	5.11	7.09	A3	BBB–	300	93
BMW 6 1/8 05	102.83	0.32	4.52	5.96	A1		150	33
Glaxo 8 3/4 1/12/05	107.45	0.25	4.52	8.14	Aa2	AA	500	33
EIB 6 1/8 7/12/05	103.10	0.27	4.38	5.94	Aaa	AAA	1750	19
NAT Grid 8 29/3/2006	106.35	0.25	4.88	7.52	A1	A	240	47
BT 12 1/4 06	115.10	0.20	4.95	10.64		A–	329	54
Halifax 8 3/4 10/7/06	108.88	0.34	4.86	8.04	Aa3	AA–	400	45
EIB 7 5/8 7/12/06	108.00	0.32	4.61	7.06	Aaa	AAA	1550	20
Daimler 7 1/2 06	105.60	0.37	5.36	7.10	A3	BBB	350	95
Carlton 7 5/8 07	106.70	0.57	5.40	7.15	Baa3	BBB–	200	88
Lloyds 7 3/4 18/6/07	108.78	0.40	4.89	7.12	Aa1	AA–	300	38

Issuer: Barclays Coupon: 6.5 percent Redemption date: 16.2.04

Bond price with par value set at 100

Gross (before deduction of tax) redemption yield

Issue	Fri price	Week chge	GRY	Inc yld	Moody rtg	S&P rtg	Issue size	Sprd to Gilts
World Bank 7 1/8 30/7/07	107.75	0.42	4.69	6.61	Aaa	AAA	675	17
Tesco 7 1/2 07	107.80	0.52	5.03	6.96	A1		325	51
BNG 7 3/8 6/8/07	108.35	0.45	4.76	6.81	Aaa	AAA	865	24
EIN 7 5/8 7/12/07	109.83	0.14	4.80	6.94	Aaa	AAA	950	28
Toyota 6 1/4 07	105.35	0.55	4.71	5.93	Aaa	AAA	250	20
Halifax 6 3/8 3/4/08	105.33	0.49	4.94	6.05	Aa2	AA	450	44
BG Transco 8 7/8 08	114.50	0.55	5.16	7.75	A2	A	250	66
Hilton 7 1/4 08	106.65	0.55	5.54	6.80	Baa2		175	104
EIB 6 1/4 7/12/08	106.33	0.59	4.77	5.88	Aaa	AAA	1300	27
Pru 5 1/2 09	101.68	0.62	5.13	5.41			250	60
Boots 5 1/2 09	102.43	0.58	4.97	5.37	A1	A+	300	44
EIB 5 1/2 7/12/09	103.43	0.77	4.82	5.32	Aaa	AAA	2300	29
World Bank 5 3/4 7/12/09	104.60	0.77	4.83	5.50	Aaa	AAA	400	31
EIB 9 1/2 9/12/09	123.80	0.82	4.82	7.67	Aaa	AAA	500	29
Scot Pwr 6 5/8 10	107.53	0.58	5.14	6.16	A2	A–	200	61
Tesco 6 5/8 10	108.35	0.80	5.12	6.11	A1		150	60
EIB 6 1/4 15/4/14	110.28	1.38	4.94	5.67	Aaa	AAA	1500	27
Safeway 6 1/2 14	107.63	1.64	5.52	6.04	Baa1	BBB+	150	84
EIB 8 3/4 25/8/17	136.80	1.77	4.96	6.40	Aaa	AAA	1000	27
Halifax 9 3/8 15/5/21	145.80	1.87	5.27	6.43	Aa3	AA–	500	59
EIB 5 3/8 7/6/21	104.60	1.77	4.97	5.14	Aaa	AAA	1875	28
Italy 6 4/8/28	113.10	2.00	5.05	5.31	Aa2	AA	1500	42
EIB 6 7/12/28	115.60	2.35	4.90	5.19	Aaa	AAA	3600	27

Latest prices for Friday 9th January. Bonds shown are a selection of those available on the Bondscape service. GRY Gross redemption yield.
Source: Bondscape

Income yield (interest yield)

Credit rating

Amount issued in million of pounds

Spread to government bond rate (gilt). The extent to which the rate of interest (GRY) is greater than that on a UK government bond of the same length of time to maturity (in this case 0.84%)

Exhibit 16.10 Sterling bond prices

Source: *Financial Times* 10/11 January 2004

GLOBAL INVESTMENT GRADE

Jan 13	Red date	Coupon	S&P* Rating	Moody's Rating	Bid price	Bid yield	Day's chge yield	Mth's chge yield	Spread vs Govts
■ US $									
Conoco Inc	04/04	5.90	A–	A3	101.1410	1.25	–0.02	–0.14	+0.01
IBRD	04/04	4.75	AAA	Aaa	101.1300	0.82	–0.34	–0.23	-0.08
Ford Motor Cr	02/06	6.88	BBB-	A3	106.7600	3.42	–0.08	–0.33	+1.79
Walt Disney	03/06	6.75	BBB+	Baa1	109.4700	2.32	–0.02	–0.37	+0.65
Morgan Stanley	04/06	6.10	A+	Aa3	108.1200	2.37	—0.03	–0.25	+0.74
American Elec	05/06	6.13	BBB	Baa3	107.8580	2.63	–0.02	–0.28	+0.55
FHLMC	07/06	5.50	AAA	Aaa	108.1100	2.15	—0.05	–0.24	+0.09
Canada	11/08	5.25	AAA	Aaa	109.8000	3.04	–0.05	–0.22	+0.02
Wal Mart	08/09	6.88	AAA	Aa2	116.2170	3.63	–0.02	–0.23	+0.47
Du Pont	10/09	6.88	AA–	Aa3	115.9570	3.76	–0.02	–0.11	+0.45
Phillips Petr	05/10	8.75	A–	A3	126.1700	4.04	—0.02	–0.19	+0.59
Unilever	11/10	7.13	A+	A1	116.7400	4.26	+0.03	–0.11	+1.24
Bank America	01/11	7.40	A	Aa3	117.6400	4.44	–0.15	–0.24	+1.39
JP Morgan	02/11	6.75	A	A2	112.8000	4.60	–	–0.17	+1.55
France Telecom	03/11	9.00	BBB	Baa3	121.2900	5.36	+0.03	–0.31	+2.33
FNMA	03/31	6.75	AAA	Aaa	117.6400	5.49	–0.01	–0.14	+0.51
Goldman Sachs	11/14	5.50	A+	Aa3	103.3900	5.09	–	–0.17	+0.99
Italy	09/23	6.88	AA	Aa2	119.6600	5.26	+0.01	-0.10	+0.28
Pacific Bell	03/26	7.13	A+	A1	112.7780	6.07	–0.01	-0.04	+1.10
Lockheed	12/29	8.50	BBB	Baa2	132.5970	6.00	–	–0.15	+1.02
Daimler Chrysler	01/31	8.50	BBB	A3	120.4600	6.83	–0.05	–0.38	+1.85
FHLMC	03/31	6.75	AAA	Aaa	117.6200	5.49	–0.11	–0.18	+0.51
AOL	04/31	7.63	BBB+	Baa1	116.3790	6.35	+0.04	–0.25	+1.37
Gen Motors Acc	11/31	8.00	BBB	A3	113.1100	6.93	+0.01	+0.13	+1.95
■ €									
Hypothekenbank	01/04	3.25	AAA	Aa1	99.9930	3.77	–0.09	+1.50	+1.75
Ford Motor Cr	02/04	5.63	BBB–	A3	100.1100	3.09	+0.45	+0.06	+1.07
EIB	04/04	5.25	AAA	Aaa	100.7500	2.10	–0.03	–0.07	+0.09
Olivetti Fin	07/04	5.83	BBB+	Baa2	101.7400	2.47	–0.05	–0.06	+0.46
BNG	04/05	5.00	AAA	Aaa	103.3600	2.28	+0.01	–0.22	+0.20
BASF	07/05	5.75	AA–	Aa3	104.8500	2.45	+0.01	–0.24	+0.05
Deutsche Telec	07/06	6.38	BBB+	Baa3	107.4500	3.20	+0.04	–0.26	+0.55
Eurohypo	02/07	4.00	AAA	Aaa	102.9900	2.96	+0.02	–0.24	+0.31
Depfa Pfandrbnk	01/09	3.75	AAA	Aaa	101.0900	3.51	+0.04	–0.22	+0.23
Mannesman Fin	05/09	4.75	A	A2	104.2100	3.86	+0.02	–0.27	+0.31
Deutsche Fin	07/09	4.25	AA–	Aa3	102.5700	3.72	–0.02	–0.20	+0.18
Repsol Int Fin	05/10	6.00	BBB	Baa2	109.0400	4.33	+0.03	–0.20	+0.58
Elec de France	10/10	5.75	AA–	Aa3	109.8800	4.05	+0.03	–0.21	+0.31
HVB	09/11	5.00	n/a	Aa3	105.6400	4.12	+0.02	–0.19	+0.21
■ YEN									
Nippon Teleg	03/06	3.35	AA–	Aa2	106.9297	0.15	–0.02	–0.04	–
Tokyo Elec	11/06	2.80	AA–	Aa3	107.2473	0.26	–0.03	–0.03	–
Toyota Motor	06/08	0.75	AAA	Aaa	100.8200	0.56	–0.01	–0.04	+0.17
KFW Int Fin	03/10	1.75	AAA	Aaa	105.8200	0.79	–0.01	–0.03	+0.04
Chubu Elec	07/15	3.40	AA–	Aa3	120.3921	1.35	–0.06	–0.05	–

Jan 13	Red date	Coupon	S&P* Rating	Moody's Rating	Bid price	Bid yield	Day's chge yield	Mth's chge yield	Spread vs Govts
■ £									
Gen Elec Cap	05/05	5.75	AAA	Aaa	101.7800	4.33	–0.01	–0.11	+0.17
DaimlerChrysler	12/06	7.50	BBB	A3	105.6200	5.34	–0.01	–0.11	+1.02
Halifax	04/08	6.38	AA	Aa2	105.4200	4.91	+0.02	–0.03	+0.45
Boots	05/09	5.50	n/a	A1	102.3000	4.99	–0.01	–0.09	+0.47
France Telecom	03/11	8.75	BBB	Baa3	114.2800	6.24	–	–0.09	+1.66

US $ denominated bonds NY latest; all other London closing. * Standard & Poor's

Source: Reuters

HIGH YIELD & EMERGING MARKET BONDS

Jan 13	Red date	Coupon	S&P* Rating	Moody's Rating	Bid price	Bid yield	Day's chge yield	Mth's chge yield	Spread vs US
■ HIGH YIELD US$									
Tyumen Oil	11/07	11.00	BB–	n/a	115.7500	6.28	+0.10	–0.55	+4.19
Gazinvest	10/08	7.25	n/a	Ba2	101.6300	6.84	+0.18	–0.37	+3.82
Gazprom	03/13	9.63	B+	n/a	114.0000	7.48	+0.09	–0.64	+3.38
Kazkommertsbk	04/13	8.50	BB–	n/a	108.0000	7.29	–0.34	–0.59	+3.20
■ HIGH YIELD €									
Messer Griesheim	06/11	10.38	B+	n/a	115.2500	7.78	–0.04	+0.02	+3.89
Invensys	04/05	5.50	B	Ba3	97.2800	7.91	–0.29	–0.39	+5.84

Exhibit 16.11 Global investment grade

Source: *Financial Times* 14 January 2004

Medium-term notes (MTNs)

By issuing a note a company promises to pay the holders a certain sum on the maturity date, and in many cases a coupon interest in the meantime. These instruments are unsecured and may carry floating or fixed interest rates. Medium-term notes (MTN) have been sold with a maturity of as little as nine months and as great as 30 years, so the word 'medium' is a little deceiving. They can be denominated in the domestic currency of the borrower (MTN) or in a foreign currency (Euro MTN). MTNs normally pay an interest rate above LIBOR, usually varying between 0.2 and 3 percent over LIBOR.

A MTN programme stretching over many years can be set up with one set of legal documents. Then, numerous notes can be issued under the program in future years. A program allows greater certainty that the firm will be able to issue an MTN when it needs the finance and allows issuers to by-pass the costly and time-consuming documentation associated with each stand-alone note (bond). The program can allow for

bonds of various qualities, maturities, currencies or type of interest (fixed or floating). Over the years the market can be tapped at short notice in the most suitable form at that time, e.g. US$ rather than £, or redemption in three years rather than two. It is possible to sell in small denominations, e.g. $5m, and on a continuous basis, regularly dripping bonds into the market. Banks charge a 'commitment fee' (around 10 to 15 basis points) for keeping open the option to borrow under an MTN programme, even if the company chooses not to do so in the end. Management fees will also be payable to the syndication of banks organizing the MTN facility.

Commercial paper

The issue and purchase of commercial paper is one means by which the largest commercial organizations can avoid paying the bank intermediary a middleman fee for linking borrower and lender. Commercial paper promises to the holder a sum of money to be paid in a few days. The lender buys these short-term IOUs, with an average life of about 40 days (normal range 30–90 days, but can be up to 270 days), and effectively lends money to the issuer. Normally these instruments are issued at a discount rather than the borrower being required to pay interest – thus the face value (amount paid on redemption) will be higher than the amount paid for the paper at issuance. Large corporations with temporary surpluses of cash are able to put that money to use by lending it directly to other commercial firms at a higher rate of effective interest than they might have received by depositing the funds in a bank.

This source of finance is usually only available to the most respected corporations with the highest credit ratings, as it is usually unsecured lending (no collateral), but there are occasional issues that offer security of a specific asset or a guarantee from a bank. Standard & Poor's and Moody's use a different grading system for short-term instruments (e.g. 'A–1' or 'P–1' are the highest ratings). The main buyers, such as money market mutual funds, are often restricted to having the bulk of their portfolios in the form of 'tier-one' rated issues – top ratings from credit rating agencies. Tier-two and tier-three issues do exist, but the demand is very limited.

While any one issue of commercial paper is short term it is possible to use this market as a medium-term source of finance by 'rolling over' issues. That is, as one issue matures another one is launched. A commercial paper program (a revolving underwriting facility) can be set up by a bank whereby the bank (or a syndicate of banks) underwrites a specified sum for a period of five to seven years. The borrower then draws on this every few weeks or months by the issue of commercial paper to other lenders. If there are no bids for the paper the underwriting bank(s) buys the paper at a specified price. Eurocommercial paper is issued and placed outside the jurisdiction of the country in whose currency it is denominated.

Companies need to be wary of being too reliant on commercial paper. A number have found their credit ratings lowered unexpectedly, making it impossible to obtain roll-over finance from the CP market, resulting in severe disruption to plans, and even to liquidation.

Project finance

A typical project finance deal is created by an industrial corporation(s) providing some equity capital for a separate legal entity to be formed to build and operate a project, for example an oil pipeline, an electricity power plant. The project finance loan is then provided as bank loans or through bond issues direct to the separate entity. The significant feature is that the loan returns are tied to the cash flows and fortunes of a particular project rather than being secured against the parent firm's assets. For most ordinary loans the bank looks at the credit standing of the borrower when deciding terms and conditions. For project finance, while the parent company's (or companies') credit standing is a factor, the main focus is on the financial prospects of the project itself.

For project finance the main focus is on the financial prospects of the project itself.

To make use of project finance the project needs to be easily identifiable and separable from the rest of the company's activities so that its cash flows and assets can offer the lenders some separate security. Project finance has been used across the globe to finance power plants, roads, ports, sewage facilities and telecommunications networks. A few recent examples are given in Exhibit 16.12.

Project finance has grown rapidly over the last 25 years. Globally, about £50bn is lent in this form per year. A major stimulus has been the development of oil prospects. For the UK, the North Sea provided a number of project finance opportunities. Many of the small companies which developed fields and pipelines would not have been able to participate on the strength of their existing cash flow and balance sheet, but they were able to obtain project finance secured on the oil or fees they would later generate.

Project finance has funded …

A telephone infrastructure
In 2000 Hutchinson UK 3G raised £3bn by way of project finance to part-fund the building of the UK's fifth mobile network. This was three-year debt without recourse to shareholders.

A copper mine
In 2003 First Quantum Minerals used project finance to develop its Kinsanshi copper project in Zambia. US$163m was needed.

A power plant in Indonesia
In 1994 banks lent the developers of the $1.8bn Paiton 1 power plant project $180m with no government guarantees, repayable over eight years at a rate of 2.25 percentage points over LIBOR.

Electricity generating in Victoria
In 1996 banks agreed to lend A$2bn to PowerGen (the UK company) for the development of the coal-fired plant at Yallourn in Victoria, Australia despite the fact that there was no power purchase agreement in place – this is unusual as the lenders like to see reasonable certainty over the cash flows of the project before committing themselves. Here they are taking the risk that the price of electricity might fall.

EXHIBIT 16.12 Project finance has funded

Source: Based on *Financial Times*, 21 August 1996, *Financial Times*, 27 October 2000, *Investors Chronicle* 28 March 2003

There is a spectrum of risk sharing in project finance deals. At one extreme there are projects where the parent firm (or firms) accept the responsibility of guaranteeing that the lenders will be paid in the event of the project producing insufficient cash flows. This is referred to as *recourse finance* because the lenders are able to seek the 'help' of the parent. At the other extreme, the lenders accept an agreement whereby, if the project is a failure, they will lose money and have no right of recourse to the parent company. If the project's cash flows are insufficient the lenders only have a claim on the assets of the project itself rather than on the sponsors or developers.

Between these two extremes there might be deals whereby the borrower takes the risk until the completion of the construction phase (for example, provides a completion guarantee) and the lender takes on the risk once the project is in the operational phase. Alternatively, the commercial firm may take some risks such as the risk of cost overruns and the lender takes others such as the risk of a government expropriating the project's assets.

The sums and size of projects are usually large and involve a high degree of complexity and this means high transaction and legal costs. Because of the additional risk to the lenders the interest rates charged tend to be higher than for conventional loans. Whereas a well-known highly creditworthy firm might pay 20 basis points (0.20 percent) over LIBOR for a 'normal' parent company loan, the project company might have to pay 100 basis points (1 percent) above LIBOR.

Advantages of project finance

Project finance has a number of advantages.

1. *Transfer of risk* By making the project a stand-alone investment with its own financing, the parent can gain if it is successful and is somewhat insulated if it is a failure, in that other assets and cash flows may be protected from the effects of project losses. This may lead to a greater willingness to engage in more risky activities which may benefit both the firm and society. Of course, this benefit is of limited value if there are strong rights of recourse.
2. *Off-balance-sheet financing* The finance is raised on the project's assets and cash flows and therefore is not always recorded as debt in the parent company's balance sheet. This sort of off-balance-sheet financing is seen as a useful 'wheeze' or ploy by some managers – for example, gearing limits can be bypassed. However, experienced lenders and shareholders are not so easily fooled by accounting tricks.
3. *Political risk* If the project is in a country prone to political instability, with a tendency towards an anti-transnational business attitude and acts of appropriation, a more cautious way of proceeding may be to set up an arm's length (separate company) relationship with some risk being borne by the banking community, particularly banks in the host country. An example of this sort of risk is given in Exhibit 16.13.

4. *Simplifies the banking relationship* In cases where there are a number of parent companies, it can be easier to arrange finance for a separate project entity than to have to deal with each of the parent companies separately.

Enron

In 1995 the state of Maharashtra in India suddenly revoked the contract it had with Enron for the construction of a power project, creating major problems for Enron and its bankers.

EXHIBIT 16.13 'Regulatory risk' exists in many parts of the world …

Sale and leaseback

If a firm owns buildings, land or equipment it may be possible to sell these to another firm (for example a bank, insurance company or specialized leasing firm) and simultaneously agree to lease the property back for a stated period under specific terms. The seller receives cash immediately but is still able to use the asset. However the seller has created a regular cash flow liability for itself. For example in 2000 Abbey National, the mortgage bank, sold its branch network and its Baker Street head office (221b Baker Street – the home of Sherlock Holmes) totaling 6.5m sq.ft. The 722 branches and head office will be occupied by Abbey National under leases as short as one year, and as long as 20. The objective was to obtain flexibility in accommodation so that the bank can change with its customers and with the industry. It allowed the firm to 'concentrate on banking rather than being property developers, which is not our job' (John Price, Director of Property, *Financial Times*, 20 October 2000, p. 27).

The seller receives cash immediately but is still able to use the asset.

In 2003 Jarvis Hotels sold and leased back nine properties in a £150m deal. This followed British Telecommunications £2bn, 7,000-property deal with Land Securities. These deals release cash tied up in assets, allowing the firms to concentrate on what they regard as their core businesses. A number of retailers have used their extensive property assets for sale and leaseback transactions so that they could plow the proceeds into further expansion.

In many countries the tax regime encourages sale and leaseback transactions. For example, some property owners are unable to use depreciation and other tax allowances (usually because they do not have sufficient taxable profits). The sale of the asset to an organization looking to reduce taxable profits through the holding of depreciable assets enables both firms to benefit. Furthermore, the original owner's subsequent lease payments are tax deductible.

A sale and leaseback has the drawback that the asset is no longer owned by the firm, so any capital appreciation has to be forgone. (However, clawback arrangements are possible, which allow the seller to receive a share of any increase in the value of the property, e.g. if say a factory site was granted planning permission for houses.) Also long lease arrangements of this kind usually provide for the rental payments to increase at regular intervals, such as every three or five years. There are other factors limiting the use of sale and leaseback as a financial tool. Leasing can involve complex documentation and large legal fees, which often make it uneconomic to arrange leases for less than £20m. There is also a degree of inflexibility: for example, unwinding the transaction if, say, the borrower wanted to move out of the property, can be expensive. Another disadvantage is that the property is no longer available to be offered as security for loans.

One of the attractions of sale and leaseback is the possibility of flattering the balance sheet. MG Rover, short of cash as a stand-alone company sold and leased back its famous Longbridge car plant in 2004 – *see* Exhibit 16.14.

Another advantage of sale and leaseback is that it makes managers more aware of the cost of holding property and can lead to greater efficiency – *see* Exhibit 16.15.

MG Rover gains from Longbridge cash injection

John Griffiths

MG Rover is to receive a cash boost of £42.5m from a sale-and-leaseback deal for the Longbridge car plant, near Birmingham.

Under the deal, which covers 228 acres including most of MG Rover's production facilities. the carmaker has been granted a 35-year lease with an option to renew.

Both sides stressed yesterday that MG Rover's operations would continue unhampered but with provisions for the 'sensible release' of surplus land at MG Rover's option.

The carmaker, which employs 6,500, mainly at Longbridge, will use the proceeds mainly for product development. MG Rover will pay £3.6m a year initially under the leaseback terms.

MG Rover, which lost £111m last year, urgently needs new vehicles to replace its ageing model range, in particular a car to replace its mid-sized Rover 45/MG ZS.

… Some 4.25m sq ft of buildings are covered by the leaseback. …

… 'This deal generates cash for our cars business today and allows us to continue to invest in the car company's many product development activities,' said Kevin Howe, MG Rover chief executive. 'It puts to work one of our assets but in no way restricts the day-to-day running of the business.'

EXHIBIT 16.14 MG Rover gains from Longbridge cash injection

Source: *Financial Times*, 7 January 2004

Property leasing link with market return discovered

Juliana Ratner

Companies that lease some of their property have better shareholder returns, according to new research.

The study of more than 5,000 UK-listed companies from 1989 to 2002 showed that investment in companies that lease between 60 and 80 per cent of their property had a 71 per cent greater return than an investment in all the companies in the study.

Companies that lease 65 per cent of their real estate have the highest market-value-to-book-value ratio compared with those that lease all or own all of their property, according to a study by the Cass Business School in London, commissioned by Donaldsons, the property adviser.

The market appears to punish companies that own all of their property because too much capital is tied up in real estate, and also does not favour those that lease all of their property, because landlords jump to the front of a queue in the event of bankruptcy, said Meziane Lasfer, professor of finance at Cass.

One of the more surprising results of the study is that companies that lease more property are more efficient, because they see their rental payments move through the profit and loss accounts and are more aware of their costs, Mr Lasfer said.

'Leased property is treated as an expense so companies try to wring maximum efficiencies from it to justify that expense,' said Keith Martin, head of corporate division at Donaldsons.

'All too often property owned by a company is taken for granted and treated as a free good.'

EXHIBIT 16.15 Property leasing link with market return discovered

Source: *Financial Times* 3 May 2003

Securitization

In the strange world of modern finance you sometimes need to ask yourself who ends up with your money when you pay your monthly mortgage, or your credit card bill or the instalment payment on your car. In the old days you would have found that it was the organization you originally borrowed from and whose name is at the top of the monthly statement. Today you cannot be so sure because there is now a thriving market in repackaged debt. In this market, a mortgage lender, for example, collects together a few thousand mortgage 'claims' it has (the right of the lender to receive regular interest and capital from the borrowers); it then sells those claims in a collective package to other institutions, or participants in the market generally. This permits the replacement of long-term assets with cash, improving liquidity and gearing, which can then be used to generate more mortgages. The borrower is often unaware that the mortgage is no longer owned by the original lender and everything appears as it did before, with the mortgage

This permits the replacement of long-term assets with cash, improving liquidity and gearing.

company acting as a collecting agent for the buyer of the mortgages. The mortgage company usually raises this cash by selling asset-backed securities to other institutions (the 'assets' are the claim on interest and capital) and so this form of finance is often called *asset securitization*. These asset-backed securities (ABS) may be bonds sold into a market with many players.

Asset backed securitization involves the pooling and repackaging of a relatively small, homogeneous and illiquid financial assets into liquid securities.

The sale of the financial claims can be either 'non-recourse', in which case the buyer of the securities from the mortgage firm bears the risk of non-payment by the borrowers, or with recourse to the mortgage lender.

Securitization has even reached the world of rock. Iron Maiden issued a long-dated $30m asset-backed bond securitized on future earnings from royalties in 1999. It followed David Bowie's $55m bond securitized on the income from his earlier albums and Rod Stewart's $15.4m securitized loan from Nomura. Tussauds has securitized ticket and merchandise sales, Keele University has securitized the rental income from student accommodation and Newcastle United and Everton football clubs have securitized their future season ticket sales.

The innovation continues: The income from loans to Hong Kong taxi drivers worth HK$3 billion were securitized in 2003, as were the cash flows from 502 UK funeral homes and 21 crematoriums (raising £210m).

This form of securitization is regarded as beneficial to the financial system, because it permits banks and other financial institutions to focus on those aspects of the lending process where they have a competitive edge. Some, for example, have a greater competitive advantage in originating loans than in funding them.

Conclusion

We covered debt finance described as short- and medium-term available to almost any firm in the previous chapter. Long-term debt finance has been thoroughly examined in this chapter together with financial market-based short- and medium-term finance. However the most important source of finance has only been touched on briefly so far, that is shareholders' ownership capital. The next chapter looks at the details of raising this type of capital from the stock market and in a variety of other ways.

Topics covered later in the book draw on the knowledge gained in this section of the book (Chapters 15, 16 and 17) to permit informed discussion of such crucial questions as: What is the appropriate mixture of debt and equity? How can the risk of certain forms of finance (for example a floating-interest-rate term loan) be reduced?

Websites

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www.bankofengland.co.uk	Bank of England
www.economist.com	The Economist
www.FT.com	Financial Times
www.fitchibca.com	Fitch IBCA
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www.standardandpoors.com	Standard & Poor's

Notes

1 Quoted in the *Financial Times,* 23 December 2003, p. 21 Charles Batchelor 'Agencies under fresh pressure on rating worth'.

2 This example is designed to show the effect of leverage. It does lack realism in a number of respects; for example it is unlikely that profits will continue to rise at 25 percent per annum without further investment. This can be adjusted for – the time taken to pay off the debt lengthens but the principles behind the example do not alter.

3 This 7.25 percent is the nominal coupon rate. The actual rate of return Rank would have to pay in Decmber 2003 on the issue of a new five-year bond was 6 percent.

4 Just to confuse everyone, the traders in these markets often refer all types of eurocurrencies, from eurosterling to euroyen generically as 'eurodollars', failing to reserve that title for US dollars.