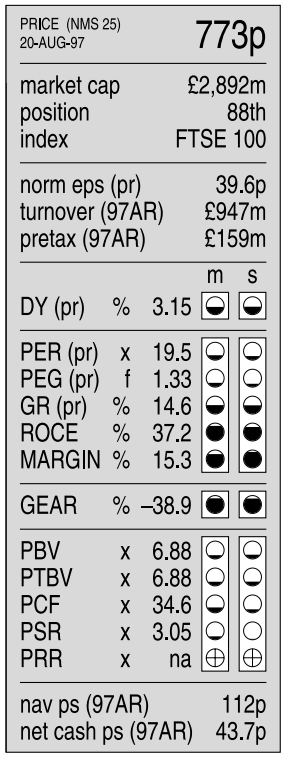
Contents

Cutting Through The Jargon: REFS abbreviations at a glance

1M - one month
3M - three months
6M - six months
1Y - one year
Ann - announcement
AR - annual report
AVE PER - Average price earnings ratio
Beta rel - a measure of volatility
BLMBG - Bloomberg code
Dirs - directors
dps - dividend per share
DY - dividend yield
E - estimate
EPIC - Stock Exchange reference code
EPS - earnings per share
Excl - excluding intangibles
f - factor
fin - final
FRS3 -Financial Reporting Standard 3
GEAR - gearing
GR - earnings growth
Incl - including intangibles
Int - interim report
k - thousands
m - millions or market
Maj - major shareholders
MARGIN - operating margin
market cap - market capitalisation
n - number
nav - net asset value
net curr assets - net current assets
NMS - normal market size
Norm - normalised
ntav - net tangible asset value
Ords - Ordinary Shares
p - pence
PBV - price to book value
PCF - price to cashflow
PEG - price earnings growth factor
PER - price earnings ratio
position - ranking by value
Pr - profits
(pr) - prospective
PRR - price to research ratio
Prelim - preliminary announcement
ps - per share
PSR - price to sales ratio
PTBV - price to tangible book value
r - ratio
Relative - performance vs market
ROCE - return on capital employed
ROE - return on equity
SEDOL - Stock Exchange identification number
s - Sector
T/O - turnover
x - times
xd - ex-dividend
yr - year

The Key Statistics

At the top right-hand side of each company entry is a shaded panel like this one:



The panel is highlighted to catch your eye because the figures in it give you an instant fix on the company in question. They include key statistics to enable you to decide whether or not the company is of immediate investment interest.

PRICE

Price

The price taken is the mid-market close on the latest possible day before going to press.

When a rights issue is in progress, the shares are suspended or a company has made or received a takeover bid, the letters R, S or T will appear to the right of the price. The date and nature of the event are also shown in the ACTIVITIES/OUTLOOK panel under the graph.

The symbol NMS within the brackets means normal market size. It gives an idea of the share's liquidity by showing the average trading quantity for the stock. NMS bands are in thousands with a lowest level of 500 and a highest of 200,000. *REFS* shows these two levels as .5 and 200 respectively and always takes off the last three noughts. For example, 'NMS 5' indicates an average market trade of between 3751 and 6667 shares.

The complete table of NMS Band levels is as follows:

NMS Band	REFS figure	Share Equivalent			No. of SEAQ Securities
500	0.5	0	–	667	674
1000	1	668	–	1,333	779
2000	2	1,334	–	2,400	411
3000	3	2,401	–	3,750	236
5000	5	3,751	–	6,667	264
10,000	10	6,668	–	12,000	154
15,000	15	12,001	–	18,000	80
25,000	25	18,001	–	33,000	121
50,000	50	33,001	–	60,000	88
75,000	75	60,001	–	93,000	18
100,000	100	93,001	–	160,000	9
200,000	200	more than 160,000			5

The share equivalent column indicates the range represented by each NMS band. The fourth column shows the number of stocks in each band.

Market Cap

MARKET CAPITALISATION (market cap)

The 'market capitalisation' of a company is calculated by multiplying the market price of its ordinary shares by the number in issue. It gives an instant idea of the size and substance of a company.

Position

POSITION

This shows the current position of the company within the market overall, after ranking all fellow constituents including investment trusts.

Index

INDEX

Each share is included in one of the following six categories and ranked according to its position. The table below summarises the distribution in June 1998:-

	Including Investment Trusts	**Excluding Investment Trusts**
FTSE 100	100	99
FTSE 250	250	219
FTSE SmallCap	504	421
FTSE All-Share	854	739
FTSE Fledgling	827	700
FTSE AIM	306	306
Non-Index	194	194
Total	**2181**	**1939**

The position of a share gives an idea of whether or not it is firmly placed in its index or is likely to be promoted or demoted. For example, a share in the FTSE 100 Index with the position of 99 might be hanging in there by its teeth.

The Review Panel meets each quarter to decide upon which companies are to be demoted or promoted. The new positions are always reflected in the next issue of REFS

The importance of promotion to and demotion from one index to another, or in and out of the indices altogether, should not be under-estimated. Many institutions only buy shares in the main indices and most tracker funds are compelled to buy a promoted share and sell a demoted one. Advance warning of the likelihood of promotion or demotion is therefore crucially important.

NORMALISED EARNINGS PER SHARE (norm eps)

Norm eps

The most important feature of the EPS entry in *REFS* is that it is not a reported figure but, where possible, a rolling 12-month view of expected earnings over the next year. Because of this, it changes every month and gives a dynamic, up-to-date view of a company's future profitability.

Whenever future estimates are available, *REFS* focuses on the 12 months immediately ahead and this is indicated, in brackets, by the letters 'pr' (denoting prospective). If no forecast is available, historic figures based on the last reported 12 months results are used.

The prospective normalised EPS figure is calculated by apportioning brokers' consensus forecasts for the current and next financial periods. For example, if the calculation were made on 1st March 1998, for a company with a financial year ending on 30th June 1998, a third (four months) of the consensus estimate for the current year would be added to two-thirds (eight months) of the estimate for the following year ending 30th June 1999.

The 12-months ahead method of calculation used in *REFS* has three important advantages:-

1. The company entries and tables are always as up-to-date and dynamic as possible.
2. The figures in the tables are always as comparable as possible.
3. The figures in the tables (and the company entries) are smoothed to avoid violent swings in ranking in the tables on the day results are announced.

In response to the introduction of Financial Reporting Standard 3 (FRS3), several different versions of EPS have evolved. The most useful of these, from an investor's point of view, is normalised EPS, which has been adopted by *REFS* in the key statistics panel.

The key differences between FRS3 EPS and normalised EPS are that normalised EPS exclude exceptional items and possess three important characteristics:-

1. They reflect the underlying trading performance of the company.
2. They can be used as a measure of performance against expectations.
3. They clarify the historic record of the operating performance of a company.

The main limitation of normalised EPS is that they reflect the results achieved during a given accounting period, although the company's structure may have changed subsequently. For example, normalised earnings include the results of trading businesses which have been discontinued or sold and include only part of the results of businesses acquired during the year.

TURNOVER

Turnover

Turnover is the total sales (excluding VAT) of a company as shown by the last annual report (AR) or by the preliminary announcement of results (PA) for the following year.

Turnover gives an immediate indication of the size and stature of a company.

Pre-tax

PRE-TAX PROFITS

Pre-tax profits are the total profits of a company before tax as shown by the last reported accounts (AR) or by the preliminary results (PA) for the following year.

Moons

THE MOONS

Any statistic has little value unless it is examined in relation to other statistics of a similar nature. Clearly, the most relevant comparisons are with the average of the whole market (first column - M) and with the average of other companies in the sector (second column - S).

The moons should be used as gauges to show at a glance if a company's ratios or percentage returns are good news or bad. The moons are calibrated to show the position of a company in the market as a whole and in its sector. The key point is that the blacker the moons the better the statistics. In other words, in *REFS* - black is beautiful.

To give an example, full black moons against the PER would mean that the PER was the lowest in the market and in its sector. Blank moons against return on capital employed would mean that the returns were the worst in the market and the sector. If a company was in a sector containing twenty companies and it held the fifth best position for a particular statistic, the relevant moon would be three quarters black.

The statistics are grouped together. The PER, PEG, GR, ROCE and MARGIN are all growth statistics, whereas the PBV, PTBV, PCF, PSR and PRR are all value statistics. This makes it possible to see at a glance from a cluster of black moons whether a share is an attractive growth company or an asset situation.

DY

DIVIDEND YIELD (DY)

The dividend yield is an important investment tool. There is very strong evidence to support the argument that high-yield portfolios outperform the market as a whole:-

1. During the 20 years from 1977 to 1997, £1000 invested in the average UK Growth unit trust, with dividends reinvested, grew to £18,184; in the UK Growth & Income sector the comparable figure improved to £20,343 and in Equity Income to £20,572. The best growth fund grew to £33,829, the best growth & income fund to £33,609 and the best income fund to £33,646 (figures by Micropal).

2. Michael O'Higgins' book, *Beating the Dow*, clearly demonstrates that, on a total return basis, high yielding stocks beat the American market as a whole. One of O'Higgins' systems simply selects the ten highest-yielding Dow stocks. At the end of each year he repeats the whole exercise again, selling those companies that no longer measure up and replacing them with new high-yielders.

O'Higgins' statistics show that, by following this system over a period of 18 1/2 years from 1973 to 1991, an investor would have enjoyed an average annual gain of 16.61% compared with only 10.43% on the Dow. The ten stock portfolio outperformed the Dow 13 times out of 19. After adding dividends received, but with no charge for commissions, the cumulative gain before tax was more than 1750% against only 560% on the Dow.

DY

One reason high-yielding shares outperform the market on a total return basis is that they are usually companies that are out of favour. The stockmarket over-reacts to good and bad news, often driving up the prices of growth shares to dizzy heights and leaving less popular (and apparently more risky) stocks to languish at bargain levels. In essence, therefore, buying high-yielding shares contains a strong element of contrary thinking.

Another reason high-yielding shares do well is advanced by O'Higgins. He points out that, historically, dividends have accounted for 40% - 50% of the total return on the Dow, so a higher annual payout represents a significant cumulative advantage to shareholders.

In the UK too, the 1994 BZW Equity-Gilt Study made it clear that over the previous 75 years dividends have accounted for about 42% of the nominal total return on equities. Because UK companies do not cut dividends lightly, they are also a much firmer element of total return than share price growth based on potentially volatile earnings.

There is another possible reason for high-yielders being relatively strong performers. When analysts examine a share and assess its likely future value, say a year hence, not all of them factor into the equation the extra income that is likely to be received in hard cash and could be reinvested. In some cases, it is a significant factor which is only too easy to overlook.

The arguments for buying the shares of high-yielding companies are compelling. But it is worth pointing out that there is a definite cyclicality in buying high-yielding shares. In a climate of falling interest rates, they perform well as investors become more income-conscious. However, this can easily change.

It is a dangerous game to buy shares just because they appear to have a high yield. A high yield can indicate the market's concern that the dividend may be cut. To be selective, investors following a high-yield system should avoid companies with dividends that are very poorly covered, or for other reasons seem likely to be reduced.

To help assess the risk of a dividend cut, a range of important factors is highlighted in other panels of each company entry:

1. *Dividend cover* - A dividend that is poorly covered is much more likely to be cut. A well-covered dividend is likely to be maintained or increased.

2. *Cash flow per share* - EPS provide cover for the dividend in terms of profits, but cash flow per share is a stronger test of future dividend-paying capacity.

3. *Gearing or net cash* - Companies with very high borrowings may have difficulty in paying dividends, even if they make substantial profits. Major creditors can press for repayment and balance sheets may need to be repaired before dividends can be freely paid.

Clearly a company with a strong dividend cover, high cash flow per share and net cash is unlikely to cut its dividend. Conversely, a company with poor dividend cover, weak cash flow and high gearing is very likely to do so.

To ensure that *REFS* is as up-to-date and active as possible, the dividend yield is based on the consensus of brokers' dividend estimates for the 12 months ahead. As with EPS, this is

DY

usually a combination of forecasts for the current and following financial years, apportioned on a pro-rata basis. For example, in the October issue of *REFS*, the yield for a company with a year ending 31st December includes three months of the consensus forecast for the current year and nine months of the following year's estimate.

When future estimates are available, this is indicated by the letters 'pr' in brackets, and the dividend yield is based on the consensus of brokers' forecasts for the 12 months immediately ahead. If there is no forecast, historic figures based on the last reported 12 months results are used.

As already explained, the method of calculation used in *REFS* ensures that the company entries are as up-to-date and dynamic as possible.

The first stage of calculating the dividend yield is to add back the basic rate of tax (1998/99 - 20%), which has been deducted by the company. Assuming a 2.1p dividend, the calculation is as follows:-

$$\frac{2.1p \times 100}{80\ (100\text{-}20)} = 2.63p, \text{ which is the gross dividend}$$

The dividend yield is the gross dividend as a percentage of the share price. If the shares trade at 200p, the calculation is as follows:

$$\frac{2.63p \text{ (the gross dividend)}}{200p \text{ (the share price)}} \times 100 = 1.31\%$$

The first column of moons indicates the level of the dividend yield relative to the market as a whole, and the second column relative to the company's sector. A full black moon shows a relatively high dividend yield and a blank moon a relatively low or non-existent one.

PRICE-EARNINGS RATIO (PER)

PER

As an investment measure, the Price-Earnings Ratio (PER) is, in many ways, like a ranging shot. It gives an investor an instant fix on the kind of company that is under review and the market's expectations.

The PER is best used to measure how much an investor is being asked to pay for future earnings. A growth stock with a higher prospective PER than the market average clearly anticipates above average future earnings growth. Conversely, a growth stock with a low PER expects below average future performance.

Very high PERs can be dangerous. The slightest setback to expectations can cause a vicious downturn in the share price. In contrast, low PER stocks are relatively safe, although often uninspiring. Utilities, for example, often trade on very low PERs.

Recovery stocks often command very high PERs at the bottom of their cycle when a substantial recovery is anticipated. At the top of the cycle, their PERs can then fall to below-average levels. Because of this, great care should be taken when comparing the PERs of companies in different sectors.

PER

The weakness of the PER in isolation is that it does not tell you how much you are paying in relation to the estimated future growth in earnings. It is therefore a one-dimensional measure. For example, how much should be paid for a stock growing at 40% per annum compared with another growing at 20% per annum? The price earnings growth factor PEG – see below, pinpoints the relationship between the PER and the growth rate, making it a far more pertinent and effective investment measure.

REFS has focused upon the 12 months immediately ahead as the most dynamic and useful measure of a company's PER. As already explained, the prospective normalised EPS figure is calculated by apportioning estimates from the current and following financial periods. For example, if the calculation was made on 1st April 1998 for a company with a year ending on 30th June 1998, a quarter of the estimate for the current year would be added to three-quarters of the estimate for the year ending 30th June 1999. As the prospective PER in *REFS* is based on the prospective normalised EPS figure, it will always cover the 12 months following the calculation date.

The method of calculation used in *REFS* ensures that the company entries are as up-to-date and dynamic as possible.

When future estimates are available, this is indicated by the letters 'pr' in brackets and the PER is based on the consensus forecast for the 12 months immediately ahead. If there is no forecast, historic figures based on the last reported 12 months results are used.

The PER is calculated by dividing the company's share price by its earnings per share (EPS). For example, if the share price of a company is 100p and its earnings per share are 5p, the PER is 20.

In May 1998, the average UK company had an historic PER of approximately 19 and, after forecast growth, a prospective PER of about 15. The forecast growth may seem to be substantial, but in fact a large element of it was anticipated recovery from previous setbacks as opposed to pure growth. Individual companies making up the market average of 15 had PERs ranging from 3 to over 150, but the vast majority were between 10 and 30.

The moons show the PER of a company relative to the market and then relative to its sector.

PRICE-EARNINGS GROWTH FACTOR (PEG)

PEG

As we have seen, the PER of a company is of limited use as an investment tool because it only gives a one-dimensional measure of the price of a share relative to future earnings per share; it does not show if that price represents good or bad value.

The Price-Earnings Growth factor is a much more sophisticated measure because it relates the PER of a company to its future earnings growth rate and gives a better indication of value. Everyone knows that great growth shares merit a high PER, but the PEG helps you to determine how high and whether or not the shares are a buy or are losing touch with reality.

PEG

The PEG factor is calculated by dividing the prospective price-earnings ratio of a share by the estimated future growth rate in earnings per share. In May 1998, for example, the average UK share had a prospective multiple of 15 and was looking forward to increased year-ahead earnings growth of 8%. The average prospective PEG was therefore 1.9 (15/8). A low PEG value indicates that investors are paying a relatively low price for future earnings growth; a high PEG indicates that the shares are relatively more expensive.

A PEG below the average is superficially attractive, but the market is at a high level so when searching for bargains subscribers should be focusing on shares with PEGs of below one.

Over the long term, it has paid to buy the market on a PEG of one or below. Because of this, a company growing at 15% per annum would obviously be very appealing on a multiple of 15 or less. At a growth rate of 20% per annum, a multiple of 20 would also be good value.

Because the prospective PEG is a dynamic measure, it is always calculated by apportioning figures from the current and following financial periods using estimates in just the same way as for prospective PERs and normalised prospective EPS.

When a PEG is based on the consensus forecast for the next twelve months, this is indicated by the letters 'pr' in brackets. If there is no forecast, historic figures based on the last twelve months are used.

As already explained, the method of calculation used in *REFS* ensures that the company entries are as up-to-date and dynamic as possible.

How the PEG method works is best illustrated by the hypothetical example of a company growing at 25% per annum on a prospective PER of 16. This would give a very attractive PEG of 0.64. When the forecast becomes a reality, and next year's projected growth of a further 25% becomes the focus of attention, the shares then enjoy a double benefit. First, from the higher earnings figure used in analysts' calculations and, second, from a change in status as the market accepts that a higher PER is justified. At an early stage in the company's development, the PER might rise from 16 to 20, so the earnings gain of 25% would be compounded by a further 25% increase from the status change, resulting in a total gain of 56.25%.

To illustrate the dramatic impact this can have on the share price, imagine that before the announcement of results, expected earnings of 10p per share and a PER of 16 implied a price of 160p. After the announcement, the higher PER of 20 on forecast earnings of 12.5p would result in a share price of 250p.

In addition to helping to maximise the upside potential from a share, the PEG can also be used as a defensive measure. A company with a below average PEG is obviously less vulnerable (all other things being equal) than a share with an above average PEG. It is therefore worthwhile periodically calculating the average PEG of a growth portfolio to evaluate how defensive it would be in a bearish climate.

There are a number of important caveats to bear in mind:-

1. The PEG factor is designed especially to measure growth stocks. It does not work well for recovery stocks, cyclicals and asset situations.

Frequently, it is difficult to distinguish between recovery and growth. For the PEG measure to work at its best, the figures should be based on sustainable growth or the expectation of it.
Coming out of a recession, almost all companies are recovering to a greater or lesser extent. However, those with a record of consistent growth over the previous four years are very different from companies which have suffered from a major setback and are trying to recover to their former profit levels.

REFS has classified companies as growth stocks and awarded them a PEG only if they have at least four years of consecutive earnings per share growth. This can be either in the last four years if there is no forecast, or a combination of past growth (usually two years) and future forecast growth (usually the current year and the one ahead). The *REFS* approach is dynamic as it allows companies that are benefiting from a recent management change to qualify for a PEG. A quick visual impression can also be obtained from the graph, which clearly shows whether or not a company is a growth share under this definition.

2. A low PEG factor is, by itself, not a sufficient reason to buy a share. Although compromises are often necessary, the selected company should ideally have a competitive advantage, strong cash flow, insignificant debt and positive news-flow.

3. The PEG method of selecting growth stocks works at high levels of growth, but the dangers of high PERs are much greater. For example, a share growing reliably at 30% per annum would, in today's markets, merit a PER of at least 30. Growth at such a high rate is not, however, usually sustainable, so the downside risk is increased. The effects of a change in news-flow, even from excellent to reasonably good, could have a disastrous effect on a stock with a high PER (especially if it has no dividend yield).
The PEG measure works at its best with companies which have earnings growing at 15 - 25% per annum, with PERs within five points either way of the average. Based on the average prospective PER of 15, the best and safest results would be obtained with growth stocks with PERs in the 12 - 20 bracket.

4. PEGs are calculated on normalised earnings. The earnings forecasts are based on consensus figures obtained from a very large number of UK brokers. These figures are updated monthly, but the reliability of their consensus forecast (and therefore the PEG) is much enhanced if a large number of brokers are covering the company. The forecast is also more reliable if there is a small difference between individual estimates and the overall consensus figure.

5. Brokers' estimates of future EPS may be based on the assumption that the company will have a below-normal tax charge. In some cases it may enjoy this benefit for several years to come; in others EPS may suffer a setback as the tax charge rises to a normal level.

As with other investment criteria, the PEG cannot be considered in isolation. However, it is the single financial statistic that gives an instant fix on whether growth shares appear to be cheap or dear.

The column of moons shows the PEG relative to the market and the company's sector. A full black moon shows a very low PEG, a half-filled moon an average one and a blank moon a very high one.

GR

GROWTH RATE (GR%)

The growth rate of a share is an important investment criterion, but it clearly has to relate to the prospective PER and the consistency and sustainability of the future earnings stream. If *REFS* has given a company a PEG, this means that there are at least four years of consecutive earnings growth made or forecast. The company can then be classified as a growth share and the growth rate becomes a much more meaningful figure.

When future estimates are available, these are indicated by the letters 'pr' in brackets and growth rates are based on the consensus forecast for the 12 months following the calculation date.

If no future estimates are available, the growth rate is based upon the average growth in historic normalised EPS over the last two years. However, if the growth in the second year is less than the first, the second and most recent year's EPS growth is used instead.

As with normalised EPS, PERs, PEGs and DYs, the growth rate is calculated by apportioning the figures from the current and following financial periods covered by estimates, the aim being to show the rate of growth for the 12 months immediately ahead.

ROCE

RETURN ON CAPITAL EMPLOYED (ROCE)

The ROCE is calculated by expressing the operating profit before tax as a percentage of the year-end capital employed.

The main features of ROCE as an investment measure are as follows:-

1. High ROCE (in the region of 20% or more) is a validation of a company's competitive advantage. It indicates that the company has something special to offer - products or services that command a high return. It usually follows that margins are above average. The trend of both capital employed and margins is, therefore, of considerable importance.

2. Comparison of the ROCE of a company with others in its sector is a far more pertinent measure than comparison with the market as a whole. Companies with low returns are always suspect because they are in danger of becoming loss-making if trading conditions deteriorate. Companies with exceptionally high returns may invite competition for their products or services, unless they are fully protected by patents or in some other way.

3. The ROCE of a company should always be compared with the current cost of borrowing. If the ROCE is significantly higher, further borrowing adds to EPS; if the ROCE is lower, further borrowing will reduce EPS.

4. Companies with low ROCE are often the subject of changes in management control which, in turn, are frequently followed by a rights issue. The most acid test of new management is whether or not it is able to lift the return on capital employed.

5. The obvious attraction of a high ROCE is that a greater than average amount of profit can be ploughed back into the business for the advantage of shareholders. The plough-back is then employed again at the higher than average rate and helps to generate further growth in EPS. For this reason, a high ROCE is usually a common denominator of great growth stocks.

ROCE

ROCE has not been calculated for banks and insurance companies. The ROCE of most property companies and of some financial companies should be viewed with caution, as the statistic may not be particularly meaningful.

Capital employed is the sum of ordinary and preference share capital plus reserves, debentures, loan stocks, all borrowings including obligations under finance leases, bank overdraft, minority interests and provisions. Deductions include investments in associated companies. The basic idea is to arrive at a final figure that will tell you how much money (whatever the source) is being employed in the operation of a business. The resultant figure is then compared with the operating profits before tax, exceptional items, interest, dividends payable and share of profits or losses of associated companies. The percentage this figure bears to adjusted capital employed gives investors a measure of the return the business can produce on the capital employed within it.

A significant problem arises with goodwill, brand names, patents, copyrights, newspaper titles and the like. There is no doubt that intangible assets can be immensely valuable, but the accounting treatment of them can vary considerably. For example, brand names sometimes have no value in the balance sheet and, at other times, they are written up in value to a significant proportion of the net assets. The difficulty is that no fair value can really be established unless a competitive auction tests the market. Any valuation made by the board is essentially arbitrary and, therefore, subjective.

In *REFS* all intangibles are excluded. This treatment has the following advantages:-

1. It is consistent.

2. It measures the operating efficiency of a business by comparing operating profits with operating assets.

3. It does not change the operating efficiency of a business being acquired. For example, an acquiring company may pay double tangible asset value for a business. If the resultant goodwill were left in the balance sheet, this would halve the ROCE of the business in the accounts of the acquiring company. In fact, the operating efficiency of the business acquired would remain unchanged and this is reflected in the *REFS* figures which exclude goodwill.

The REFS approach of excluding intangibles is flattering to very acquisitive companies that might be over-paying for the businesses they acquire. The writing-off of the goodwill paid for businesses acquired will result in higher returns on capital employed in the accounts of acquiring companies. The high returns are being made by the operating assets, not on the purchase consideration (including goodwill) paid by the acquiring companies. This should be borne in mind when judging the ROCE of conglomerates and other particularly acquisitive companies.

MARGIN

Margin

Margin is the ratio of operating profit to turnover. For example, a company with operating profits (trading profit before tax, interest and associates' contribution) of £10m and a turnover of £100m has an operating margin of 10%. Generally speaking, a high margin is a good sign.

Margin

For the purpose of calculating margins, *REFS* defines operating profits as trading profits before tax, interest, other investment income and any share of associated company profits. Capital profits and losses, and other exceptional items, are also eliminated.

A company's operating margin is a vitally important investment statistic that links price-to-sales ratios and price-earnings ratios. Increasing sales are of much less value if margins are falling drastically. If margins are being maintained or are expanding, they quickly translate into increased net profits.

The figure in the key statistics panel gives the operating margin based on the last full year's accounts.

There are a number of caveats to bear in mind when considering margins as an investment measure:-

1. Very high margins invite competition. Unless the barriers to entry are very strong, other companies will be attracted to the industry. Ideally a company will combine high margins with products or services that are 'unique' and difficult to emulate; well-patented products are a good example.

2. Very low margins add to the risk of any investment. A small fall in sales can have a disproportionate and sometimes disastrous effect on profits. Equally, the slightest upward movement can have a very beneficial effect.

3. Companies with a history of low margins, in industries that have become used to them, find it very difficult to increase their margins. Treat with scepticism extravagant claims about future increases in margin.

4. The significant improvement of margins is usually based upon some kind of product or service enhancement. Try to identify these from press cuttings or brokers' circulars.

5. Major changes in margins frequently occur as a result of new top management. The recent record of margins should therefore be looked at in this context.

6. Very choppy margin records usually indicate businesses in industries that are subject to periodic price wars and/or are very cyclical. Beware of buying into such a company during a period of very high margins, unless there is very strong evidence that it will be different this time around.

The columns of moons show the margin relative to the market and the company's sector. A full black moon shows relatively high margins, a half-filled moon average ones and a blank moon relatively low margins.

NET GEARING (GEAR)

GEAR

A strong cash position is a clear advantage for a company; conversely, excessive gearing can be dangerous and can at times threaten a company's survival.

As a guideline, net gearing of over 50% calls for further investigation. This is especially the case if a large proportion of overall borrowings are short-term. A highly-geared company is more vulnerable to changes in interest rates. It is also more vulnerable to a sudden recession or unexpected major strike, as it is more likely to be fully invested and committed operationally.

If the net gearing percentage is worrying, the sector moon should be checked to ascertain the norm for the industry.

The net gearing figure in the key statistics is calculated by taking the total borrowings less cash, treasury bills and certificates of deposit, and expressing the resultant figure as a percentage of shareholders funds including intangibles, such as brand names, copyrights and goodwill. Note that the cash figure does not include marketable securities as they may be difficult to realise in an emergency. A minus sign indicates negative net gearing and denotes a net cash position (also expressed as a percentage of shareholders' funds including intangibles).

A much fuller explanation of the method of calculation and the implications of gearing is set out under GEARING, COVER.

PRICE-TO-BOOK VALUE (PBV)

PBV

The PBV is obtained by dividing the share price of a company by its net asset value per share. The same result is, of course, obtained by dividing the company's market capitalisation by its net assets.

The difficulty with PBV as a meaningful investment criterion is defining the word 'value'. Copyrights, patents and brand names, for example, can be worth little or nothing, or many times their cost or book value. No fair value can really be established unless a competitive auction tests the market. Any valuation made by the board is essentially arbitrary and subjective.

A further problem is that companies treat intangible assets in different ways. Some revalue them in their balance sheets, others write them off completely or in part, immediately or over a period. Comparisons are therefore difficult to make and stark figures can be misleading.

Other more tangible assets such as plant and machinery, factories, office buildings, hotels and the like, can also have dubious value. For example, specialised machines that may soon become obsolescent, and factories in the middle of nowhere, are impossible to value accurately. Valuations of assets like these tend to be subjective and book values are often far removed from the underlying true worth.

Benjamin Graham, the dean of value investing, makes the general point that it is unwise to buy a share at a price above its book value. Conscious of the difficulty of valuing most fixed assets, he preferred to buy at two-thirds of current net asset value, taking no account of assets like factories and machinery and after deducting all debt. However, in his time, Graham was spoilt for choice and few such extreme bargains exist today.

In general terms, PBV is a primitive investment measure that can at times provide a small degree of comfort to shareholders in a company. If the book value is well in excess of the

PBV

share price (a low PBV) it can also point to the possibility of a takeover; however, quality of the assets is all-important.

Jim O'Shaughnessy, in his book *What Works On Wall Street*, reviewed 40 years of data from the Standard & Poors COMPUSTAT database - 1954-1994. He found that stocks with a low PBV gave an above average annual return of 14.38% against the market average of 12.45%. Conversely, stocks with a high PBV gave a poor return of only 7.47%.

PTBV

PRICE-TO-TANGIBLE BOOK VALUE (PTBV)

The PTBV is obtained by dividing the share price of a company by its net asset value per share after deducting intangibles. The same result is, of course, obtained by dividing the company's market capitalisation by its tangible net assets.

Because of the arbitrary nature of assets like copyrights, patents and goodwill, *REFS* provides this harsher measure of a company's net asset value. Excluding all intangibles has the additional advantage of being consistent, so that inter-company comparisons can be made on a more even footing. The resultant figures should be treated with caution because, in some cases, the intangible assets (that have been deducted) will have a tremendous value, whereas in others they may be worth very little. Also, even the tangible assets may be of questionable value.

PCF

PRICE-TO-CASH FLOW (PCF)

The PCF of a company indicates how much annual cash flow you are buying per share. A high PCF shows that cash flow is slim in relation to the share price. Conversely, a low PCF is usually very attractive. If the PCF is much higher than the PER, the causes of the difference need to be established.

From an accounting point of view, a company's ability to pay investors an increasing flow of dividends is determined by its profitability. In practice, however, a more important measure of its financial health is its cash flow.

The PCF, in itself, does not indicate a strong cash flow; it simply tells you if the share price is high or low in relation to it.

A company's net cash flow has to fund the following:-

1. Repayment of any loans
2. Future capital expenditure
3. Dividends on ordinary shares.

Cash flow is a key measure of the capacity of a business to service these requirements, helping to highlight:-

a) If creative accounting has been at work. (This is determined by seeing if there is a major disparity between the trend of cash flow and EPS on a normalised basis, i.e. excluding non-trading profits and losses).

b) If the future dividend is safe. Earnings are usually more volatile than cash flow and there is a greater relationship between cash flow and dividends than between cash flow and earnings.

c) Future liquidity and gearing. Cash flow is the raw material that will be used to pay off debts and improve liquidity. Without an adequate supply, gearing will increase and liquidity will deteriorate.

d) If a company has been over-trading. If earnings per share are expanding rapidly and cash flow is shrinking, this can indicate over-trading; for example, excessive funds may be locked up in growing debtors. This, in turn, raises the question of whether credit policy is too lax or customers are unable to pay.

e) If future expansion plans and proposed capital expenditure can be funded from within. This, in turn, is a kind of cross-check on the validity of a high PER linked to expansion plans and capital expenditure.

Capital expenditure requires special attention. It is accepted as an appropriation rather than as a charge against cash flow. However, in some cases capital expenditure is necessary for the continuance of a business (e.g. the replacement of old machines with new ones for the same purpose).

Capital expenditure on brand new machines for a new and additional factory is quite another matter. Unfortunately, it is not possible to distinguish readily between capital expenditure on expansion and on necessary replacement. Investors should, therefore, keep an eye on the level of capital expenditure each year and try to determine from broker and press comment how much of it is expansionary (as opposed to necessary replacement).

PCF is calculated by dividing a company's market capitalisation by its cash flow. In *REFS*, cash flow is derived from the Cash Flow Statement, which is a mandatory requirement imposed by the Accounting Standards Board.

The Cash Flow Statement splits cash flow into different categories and classifies sources of movements into their economic causes. Headings include Net Cash Inflow from Operating Activities and this figure must be reconciled with operating profits. Apart from depreciation and associated company profits, the main additional items are increases and decreases in stocks, debtors and creditors. A typical reconciliation might be as follows:-

	£000
Operating profit	1000
Depreciation	100
Increase in stocks	(10)
Increase in creditors	50
Decrease in debtors	40
NET CASH INFLOW FROM OPERATING ACTIVITIES	1180

PCF

RETURNS ON INVESTMENTS AND SERVICING OF FINANCE		
Interest received	100	
Interest paid	(250)	
Interest element of finance lease rentals payment	(40)	
Dividends received from associated undertaking	60	
Dividends paid (excluding ordinary dividends)	(20)	
Net Cash Outflow From Returns On Investments And Servicing Of Finance		(150)
TAXATION		
UK corporation tax paid	250	
Overseas tax paid	30	
		(280)
NET CASH FLOW		*750*

If the company's market capitalisation was £15.0m, this would mean that the PCF was

$$\frac{£15.0m}{£750,000} = 20$$

Jim O'Shaughnessey, in *What Works On Wall Street*, found that during the period 1954-1994, stocks with a low PCF gave an average annual return of 13.58% against a market average of 12.45%. Conversely, stocks with a high PCF gave a very poor return of only 6.80%.

PSR

PRICE-TO-SALES RATIO (PSR)

The PSR is an invaluable tool for spotting recovery situations, especially with companies that are making losses and are therefore in a kind of 'black hole'. When this happens, there is no PER and sometimes no dividend yield against which to value the shares. The PSR then comes into its own and provides a measure of a business's potential value, if and when it recovers. All other things being equal, a share with a low PSR is obviously better value than one with a higher PSR.

Needless to say, turnover is only valuable to a business if it can eventually be converted into profit. Contracting companies, for example, report very high turnover, but, except in building booms, rarely make much profit. Profit margins, the trend of margins, and sector comparisons should, therefore, be studied in conjunction with PSR statistics. Sector comparisons often reveal interesting anomalies and investment opportunities in particular industries.

Another important and variable factor is the level of a company's debt. A company with no debt and a low PSR is clearly a better proposition than a company with very high debt and the same PSR. At some time in the future, the debt will need to be repaid and further equity will almost certainly be issued. The extra shares then have to be added to the market capitalisation, increasing the PSR of the company in question.

It follows that gearing should be at reasonable levels to make PSR comparisons valid. Otherwise notional allowances need to be made to allow for the likely issue of further equity. The method of calculating the allowances would, of course, have to be consistent between the companies compared, but certainly the PSR should not be taken at its face value for a company that is very highly-geared.

PSR

Many investors are used to looking at the market capitalisation of a company against its sales and are used to referring to sales as being a multiple of the market capitalisation. The PSR is the inverse of that ratio, and is used to be consistent with, and to make comparisons more valid with, the other ratios used in *REFS*.

The PSR is calculated by dividing the company's market capitalisation by its total sales, excluding VAT. This is the same as dividing the company's share price by the company's sales per share.

To take a simple example, in March 1991, Next had a market capitalisation, based on a price of 30p, of £100m and sales of £400m. The PSR was therefore a very attractive 0.25 -£100m/£400m, and it is no surprise that, with new management, by August 1994 the share price had recovered to 261p.

It is interesting to note that Next still had such a low PSR even after the sale of Grattan, when some kind of recovery was foreseeable. Prior to that, in December 1990, its market capitalisation had slumped to £24m against forecast sales, including Grattan, of £800m. The PSR was therefore an astonishingly attractive 0.03, although, at that stage, recovery was very difficult to foresee.

A low PSR is one of the best value measures, preferable in my view, to a low PBV. Kenneth Fisher, the American ace investor, in his excellent book *Superstocks*, writes about the PSR at length and believes it to be the most powerful single investment measure. Jim O'Shaughnessy, in *What Works On Wall Street*, found that during the period 1954-1994 stocks with a low PSR gave one of the best annual returns of 15.42% against the market average of 12.45%. Conversely, stocks with a high PSR gave a very poor return of only 4.15%.

PRICE-TO-RESEARCH AND DEVELOPMENT RATIO (PRR)

PRR

The PRR is only a useful measure for companies which engage, as a way of life, in a substantial amount of research and development expenditure every year. Companies in pharmaceuticals, electronics, bio-tech and computer software are typical examples. The PRR will, therefore, only be shown in company entries where there has been research and development expenditure of over 1% of market capitalisation as shown by the latest Annual Report.

The PRR is obtained by dividing the market capitalisation of a company by the total research and development expenditure. This is the same as dividing the share price by the research and development expenditure per share. For example, if the market capitalisation of a company is £200m and the research and development expenditure is £5m, the PRR is 40.

The PRR provides a quick and easy check on the relative amounts being spent on research and development by different companies in the same sector. It is also helpful as an investment measure if a company is making losses and is in a valuation 'black hole'. On occasions, the PRR can provide startling evidence that such a significant amount is being spent on research and development that the shares ought to be a bargain, if and when the company recovers.

Examples include Kewill Systems, which had a very attractive PRR of 2 in January 1993, when the shares were 47p (end of 1993 -265p); Avesco had a PRR of 3 in January 1993, when the shares were only 15p (end of 1993 - 130p after a 1 for 3 rights issue at 63p); Kalamazoo had a PRR of 4 in early 1993, when the shares were 30p (end of 1993 - 100p).

PRR

Kenneth Fisher, in *Superstocks*, again writes at length about PRR's and believes them to be a very powerful measure for technology stocks, especially when used in conjunction with low PSRs.

nav ps

NET ASSET VALUE PER SHARE

The net asset value per share is based on information disclosed in the last published annual report. The figure is calculated without deducting intangibles so it is comparable to the PBV not the PTBV.

net cash ps

NET CASH PER SHARE

Net cash per share is also based on information disclosed in the last published annual report. It is only shown when the figure is positive so cash plus near-cash assets must exceed borrowings due within one year.

It is important to bear in mind that a strong net cash per share position does not necessarily mean that a company is in great shape financially. For example, relatively short term borrowings, when they became due in say 15 months, might be sufficient to extinguish the cash position when they are repaid.

Share Capital, Holdings and Dealings

Below the activities analysis there is a panel showing each class of share, the number in issue and a description. Preference shares and warrants are also included when applicable.

SHARE CAPITAL, HOLDINGS, DEALINGS

374m 10p Ords (Maj 3.06%, Dirs 0.61% [d]).

Standard Life	%	3.06	
D C Jones (ce)	k	813	1+
D W Keens (gfd)	k	130	2–
Rt Hon Lord Wolfson* (ch)	k	200	3–
A J Varley	k	75.5	1+
R J Harrison	k	21.0	
S Wolfson	m	1.04	3+
A C Mitchell-Innes*	k	15.0	

The total percentage held by major shareholders and directors is noted after each class of share, unless the holdings are below 0.01%. Directors with large holdings are included under directors, not under major shareholders.

Only major shareholders of the most actively-traded class of share are listed. These are shown in size order and if a major shareholding has increased or decreased within the last nine months this is indicated by a figure (how many months ago) and a plus or minus sign (to show buying or selling).

In the panel, it is only possible to list nine major shareholders including directors. Usually, this will result in a maximum of five directors and four major shareholders.

The size of shareholdings are shown as follows:

1% or more	%	(percentage of shares in issue)
1,000,000 or more	m	(millions of shares)
1,000 or more	k	(thousands of shares)
under 1,000	n	(number of shares)

Directors' shareholdings in the first class of share will be listed in this order: executive chairman, managing director or chief executive, finance director, non-executive chairman, executive directors (in annual report order) and non-executive directors (also in annual report order). Dealings are indicated with a figure and a plus or minus sign in exactly the same way as for major shareholdings. Non-beneficial directors' holdings under 3% are ignored but family holdings are aggregated with the beneficial holdings. Very large non-beneficial holdings are shown under major shareholdings in the name of the actual beneficial shareholder.

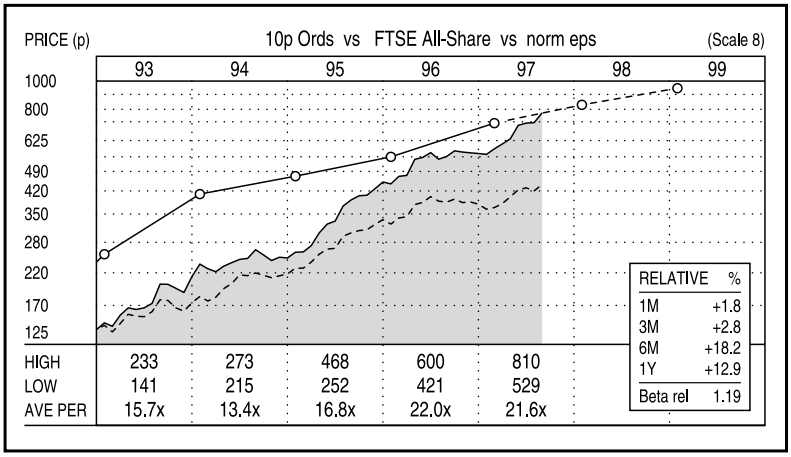
Share Capital, Holdings, Dealings

When any director has dealt during the preceding six months, the notation [d] will appear after the particular class of share.

An August 1993 study by Smith New Court demonstrated that by following directors' dealings, an investor can out-perform the market.

The Graph and Relative Strength

The top left hand side of the entry shows the graph of a company's share price over the last five years.



SHARE PRICE GRAPH

Share Price Graph

The share price graph presents the following information:-

1. Year-by-year EPS, adjusted to a normalised basis when historic (a solid line joining the very small circles on the financial year-end dates) and based on brokers' forecasts for the future (a broken line between the very small circles).

2. The average monthly share price shown by the solid line forming the boundary of the shaded area, which therefore highlights the share price movement.

3. The relative strength of the shares against the market, as measured by the FTSE All-Share Index, shown by the dotted line. The angle of inclination of the relative strength trend line shows if the company's share price has been moving up or down in relation to the market. The company's share price may have been increasing or decreasing, but the relative strength trend line tells you if the share price has performed better or worse than the market as a whole.

4. The highs and lows of the share price (adjusted as with all other statistics for rights and scrip issues etc.) over the last five years.

5. The average PER each year, based on month-end PERs calculated on the latest annual normalised EPS.

6. The relative strength (plus or minus) of the shares against the FTSE All-Share Index over the last month, three months, six months and one year. The dotted line shows the relative strength over the whole period covered by the graph.

Share Price Graph

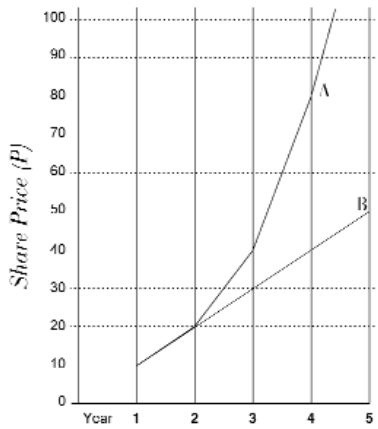
7. The Beta factor which indicates how rapidly and consistently a company's shares move up and down with the market. The market's Beta coefficient is one; shares with a Beta larger than one are more volatile than the market and shares with a Beta of under one are less risky.

A logarithmic scale has been employed for two reasons. Firstly, it measures vertical movement on a proportional basis; this ensures that a given percentage movement will always be represented by the same distance on the vertical scale. If, for instance, the share price had doubled from 40p to 80p, the vertical movement would be exactly the same if the price doubled again to 160p.

Secondly, a logarithmic scale enables a direct comparison to be made between the graphs of different companies featured in *REFS* irrespective of share prices, provided that their vertical scales are on the same height ratio (the highest price divided by the lowest price on the scale). Logarithmic graphs on the same scale can be overlaid, but this kind of comparison cannot be made with graphs on a linear scale.

The graphs show how two companies would appear on a linear scale and a logarithmic scale. The assumptions are that the share price of company A was increasing by the same percentage each year, whereas company B's share price was increasing by the same amount of pence per share each year. As you can see, a logarithmic scale gives a far better visual impression of the year-by-year rate of growth and shows clearly if it is slowing down or accelerating.

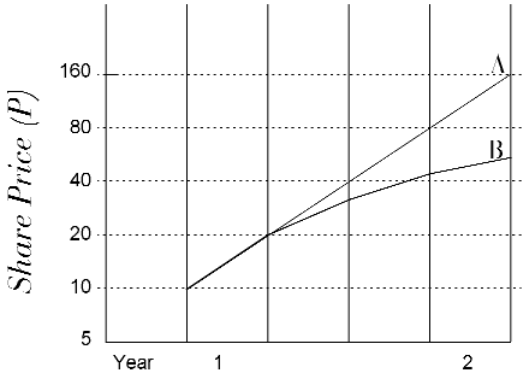
Linear Scale



Company A: Share price increasing at the same rate each year produces a hyperbola

Company B: Share price increasing by the same amount each year produces a straight line

Logarithmic Scale



Company A: Share price increasing at the same rate each year produces a straight line

Company B: Share price increasing by the same amount each year produces a shallow curve,
showing that the rate of growth is slowing down

There is no doubt that EPS and the price of a growth share are umbilically linked over the long term. The 15-year graph of Marks and Spencer illustrates this well.

Share Price Graph

Source: Marks & Spencer / Hemmington Scott

The trend of EPS is therefore of major interest in identifying a growth share. The normal *REFS* requirement for a growth share is four years of consecutive EPS growth, either over the last four years, if there is no forecast, or a combination of past growth (usually two years) and future forecast growth (usually the current year and the one ahead). The trend of the EPS line on the *REFS* graph is of crucial importance as the first visual indication of whether or not a share can be classified as a growth share.

The trend of the average PER is also of vital importance as it indicates if there is scope for a further status change. Usually, as a company becomes increasingly acknowledged as a growth share, its PER rises in step with the company's improving status. If, for example, a PER had risen from say, 7 to 30, there would almost certainly be little remaining scope for a further status change. The PEG in the panel of key statistics will help to indicate if the share is over-priced or if the growth rate justifies the present price.

RELATIVE STRENGTH

Relative Strength

The small panel headed RELATIVE % gives details of the relative strength of a share against the FTSE All-Share Index. High one-year relative strength is a very important criterion for selecting growth shares. It shows that the market is already beginning to appreciate the share's virtues. If one is investing hoping for an upward status change in the PER, high relative strength indicates that the wait should not be overlong.

High one-and three-month relative strength is also reassuring. Conversely, if it is poor, it might indicate that a few people out there know something is going wrong. However, great growth shares often pause for breath, although prolonged lack of relative strength can be an indication of something more serious.

O'Shaughnessy, in his book *What Works On Wall Street*, found that during the period 1954-1994, high one-year relative strength was the most important single criterion with an annual return of 18.14% compound compared with the market average of 12.45%. Conversely, low one-year relative strength showed the poorest return of all, only 1.78%.

Historic and Forecast Performance

year ended 31 Jan		1993	1994	1995	1996	1997	**1998E**	**1999E**
turnover	£m	485	544	653	774	947		
depreciation	£m	17.3	17.7	17.4	14.1	17.0		
int paid (net)	£m	–5.50	–6.70	–8.50	–12.8	–13.2		
FRS3 pretax	£m	38.9	73.5	107	142	159		
norm pretax	£m	43.9	76.5	104	127	160	**188**	**220**
turnover ps	£	1.31	1.47	1.75	2.07	2.53		
op margin	%	7.61	12.3	14.0	14.7	15.3		
ROCE	%	22.8	30.0	34.1	34.3	37.2		
ROE	%	19.8	26.6	25.9	24.8	27.8		
FRS3 eps	p	9.90	17.3	21.8	28.2	31.5		
norm eps	p	11.3	18.1	20.9	24.3	31.7	**36.6**	**41.8**
norm eps growth	%	+266	+60.8	+15.2	+16.5	+30.5	**+15.6**	**+14.0**
tax rate	%	5	12	24	25	26	**27**	**28**
norm per	x					24.4	**21.1**	**18.5**
peg	f					0.80	**1.36**	**1.32**
cash flow ps	p	30.5	32.6	30.7	24.1	22.4		
capex ps	p	–8.16	4.53	6.66	9.16	9.43		
dividend ps	p	2.50	5.50	9.00	11.8	15.0	**17.8**	**20.6**
dps growth	%	+233	+120	+63.6	+30.6	+27.7	**+18.9**	**+15.5**
dividend yield	%					2.43	**2.89**	**3.33**
dividend cover	x	4.50	3.29	2.32	2.07	2.11	**2.05**	**2.03**
shrholders funds	£m	199	243	292	359	421		
net borrowings	£m	–11.6	–87.8	–120	–170	–164		
net curr assets	£m	116	159	167	233	269		
ntav ps	p	53.4	65.2	77.6	95.9	112		

Below the KEY STATISTICS and SHARE CAPITAL, HOLDINGS, DEALINGS there is a five-year summary of historic financial statistics, together with two-year forecasts derived from the brokers' consensus forecast when available. These statistics, set out year by year, enable analysts to form a view of their future reliability and whether or not there is a significant trend.

The statistics need reviewing one by one:-

Turnover

Turnover is defined as invoiced sales for each period net of value added tax. Growing sales are a key feature of successful growth companies, so the trend of turnover is of crucial importance. As many companies also grow by acquisition, the turnover statistics should always be considered in relation to turnover per share, which is shown five lines below.

Depreciation

Depreciation is the amount charged against the company's profit for each period to provide for the deterioration in value of its tangible fixed assets, in accordance with generally accepted accounting principles.

Depreciation is shown separately because it is of interest to many analysts in its own right and it is also a constituent of EBITDA (earnings before interest, tax, depreciation and amortisation). EBITDA can be calculated for each year by adding together depreciation, interest paid (net) and normalised pre-tax profit shown in the second, third and fifth lines. It is argued that similar companies can be better compared with each other on an international basis by using EBITDA, as this avoids the problem of differing tax rates and differing methods of depreciation. However, EBITDA does not do away with the problem of businesses having differing levels of borrowings, which do, of course, need to be borne in mind.

Interest paid (net)

Interest paid (net) is the net cost of borrowings for each period. It is made up of financial charges and interest payable on loans, overdrafts and finance leases, net of any interest capitalised, less interest receivable. Interest paid is also a constituent of EBITDA.

FRS3 pre-tax

FRS3 Pre-tax profit is taken directly from the results as reported by the company under Financial Reporting Standard 3. FRS3 results reflect all items of profit or loss, including those which might be regarded as non-trading or exceptional in nature, and which might be considered to distort any view of underlying or maintainable performance. The normalised pre-tax profit is far more pertinent and interesting to growth investors and is the better figure to use for calculating EBITDA.

Norm pre-tax

Normalised pre-tax profit is calculated by taking reported results for each period as a starting point, and then excluding any items which are exceptional, abnormal, or non-recurring in nature, and any non-trading profits and losses. The resultant figures are particularly useful for year by year comparisons and for showing the trend.

Turnover ps

Turnover per share shows total turnover or operating revenues for each period divided by the weighted average number of ordinary shares in issue during that period. With acquisitive companies, the resultant figures are far more pertinent than turnover and show the trend much more clearly.

Op margin

Operating margin is the percentage that the trading profit bears to sales or total trading revenues for each period.

For growth stock investors, a trend of increasing margins is very bullish indeed. Conversely, a trend of deteriorating margins is a cause for alarm. The ideal combination is fast rising turnover coupled with rising margins.

ROCE

ROCE measures the percentage return achieved on invested and borrowed capital (i.e. capital employed).

A high ROCE (over 20% or more) validates a company's competitive advantage. The trend of ROCE should be watched carefully as a marked deterioration might suggest that a company is losing its competitive advantage. Conversely, improving ROCE usually indicates that a company is becoming more efficient.

ROE

ROE measures the return achieved on invested equity capital. A high ROE, if sustained, usually results in high EPS growth, whereas a low ROE of say under 15% usually results in poor EPS growth.

When comparing the ROE of two similar businesses, the level of their gearing needs to be borne in mind. Businesses that enjoy a high rate of return on money invested can increase their ROE substantially by using borrowings financed at a relatively low rate of interest. ROE enthusiasts might perhaps argue that the management of successful companies that borrow in this way is more effective (from a shareholder's point of view) than that of companies with a high rate of return and no borrowings. As a measure of management efficiency, I prefer ROCE to ROE because it shows the rate of return on all the funds in the business, whether they are invested capital or borrowings.

FRS3 eps

FRS3 EPS are taken directly from the results as reported by the company under Financial Reporting Standard 3. FRS3 EPS reflect all items of profit or loss including those which might be regarded as non-trading or exceptional in nature and which might be considered to distort any view of underlying or maintainable performance.

FRS3 EPS are of primary interest to see how they compare with normalised EPS. Frequent major discrepancies can give rise to worries that creative accounting might have been at work.

Norm eps

Normalised EPS are calculated by taking reported results as a starting point and then excluding any items which are exceptional, abnormal or non-recurring in nature together with any non-trading profits and losses.

Analysts of growth stocks place most reliance upon normalised EPS and the trend of them is the main point of interest. Where there are brokers' forecasts, the normalised EPS figures are inserted for the two years ahead, so it is possible by studying the normalised EPS line of figures to see the trend of historic and future normalised EPS over a seven-year period.

Norm eps growth

Normalised EPS Growth shows for each period how much EPS have grown (or in the case of forecasts are expected to grow) when measured against the previous period. A minus sign indicates negative growth. The trend of EPS growth is of crucial importance to growth stock investors.

Tax rate

Tax rate shows the effective overall rate of taxation provided against reported FRS3 pre-tax profit. It takes account of UK corporation tax, deferred tax, overseas taxation, double taxation relief and any unrelieved ACT write-offs. Prior year tax adjustments are included within the total tax charge when calculating the overall tax rate.

The normal rate of corporation tax for UK companies is 31%. If the taxation charge is substantially less, this is probably because the company is using tax losses brought forward. In this event, the normalised EPS figures should be treated with caution as once the tax losses are absorbed the tax charge will revert to the full and normal percentage, thereby reducing normalised EPS.

If the tax charge is substantially higher than normal it often means that a significant part of the company's profits stems from overseas countries with high taxation.

Norm per

Normalised price earnings ratio expresses the current share price as a multiple of the historic normalised EPS for the last financial year and as a multiple of the forecast EPS for the following two periods.

Peg

Price earnings growth factor (PEG) measures the relative cost of earnings growth at the current share price. It is therefore only relevant to those shares which can truly be categorised as growth companies.

The PEG factor is simply the prospective price earnings ratio (the normalised PER) divided by the prospective earnings growth rate (normalised EPS growth).

Forecasts are given to show the outlook for the PEG in the two years ahead. If the growth rate is expected to fall substantially, the PEG will, of course, rise as a direct result. A current PEG

Peg

may appear attractive today, but is often much less appealing when examined in relation to future growth rates and these always need to be taken into account.

Provisional peg

Provisional PEG is calculated when the stringent criteria for awarding a PEG are forecast to be satisfied by the next set of preliminary results. This presumption rests entirely upon the next results matching the brokers' current expectations. The idea behind showing a provisional PEG is to anticipate a PEG being awarded and thereby to steal a march on the market.

Cash flow ps

Cash flow per share is the volume of cash (expressed on a per share basis) generated by the trading operations of a business, out of which dividends, capital expenditure and repayment of loans must be funded.

Cash flow is one of the most important features in the historic performance figures. I like to compare it year by year with the normalised EPS figures to make sure that the cash flow per share exceeds EPS. A one year lapse can be understandable, if, for example, a company is stocking up for expansion, but a persistent shortfall is extremely worrying and would put me off buying the shares.

Capex ps

Capex per share is the amount of cash required to fund essential capital expenditure. Expressed in per share terms it should be compared with cash flow per share, which ideally should exceed it by a substantial margin.

REFS has decided to exclude property purchases from capex per share as they are usually discretionary and could be leased or rented. The intention behind this decision is to ensure that the *REFS* capex figure reflects as nearly as possible the expenditure essential to maintain operating assets.

It is good to see growth companies investing in capex to promote genuine future expansion. The year by year figures should, however, be studied in detail to ensure that capex does not exceed cash flow on a regular basis. The surplus of cash flow over capex represents 'owner's earnings' made famous by Warren Buffett. Like him, you want them to be substantial.

Dividend ps

Dividend per share is the total of net declared dividends per share payable to registered ordinary shareholders. Each historic period reported is shown together with the brokers' consensusestimate for the two forecast periods.

The detailed year by year figures show the trend of past dividends and therefore give some idea of the reliability of future ones.

DPS growth

Dividend per share (DPS) growth shows for each period how much dividends per share have grown or are expected to grow when measured against the previous period. A minus sign indicates negative growth. The comparisons are made on an annualised basis.

Fast growing dividends per share are a major plus for any stock.

Dividend yield

Dividend yield is the annualised gross dividend per share for the last reported period expressed as a percentage of the latest share price. The current yield may be paltry, but the last two columns based on the brokers' consensus forecasts show the future yields at the latest price.

Dividend cover

Dividend cover is the ratio that expresses a company's ability to pay ordinary dividends to shareholders out of profits earned. It shows how many times the ordinary dividend is covered by the profit available.

The validity of the consensus dividend forecast can be checked, to an extent, by examining the dividend cover projections to ensure that the prospective cover is at a normal level for the company in question.

BALANCE SHEET INFORMATION

The last four lines of the historic figures panel give very brief information about the company's balance sheet.

Shareholders funds

Shareholders funds are the total of ordinary share capital plus reserves plus preference capital.

Net borrowings

Net borrowings are defined as gross borrowings minus cash and near cash assets. A negative value for net borrowings therefore indicates a net cash position.

Net curr assets

Net current assets are defined as current assets minus current liabilities. A negative value for net current assets therefore indicates net current liabilities. Current assets include stocks and work-in-progress, debtors, short-term investments and cash. Current liabilities include short-term borrowings, creditors, dividends and taxation payable and accruals.

Benjamin Graham, the legendary US investment guru, popularised a method of value analysis based upon ignoring the value of any fixed assets and buying shares at two-thirds of their net current asset values. His approach was extremely successful for many years, but nowadays it is very hard to find any UK shares priced at net current asset value and almost impossible to find any priced at a discount. The basic idea behind Graham's method is, however, very sound, so value analysts should draw great comfort from very strong net current asset positions.

Ntav ps

Net tangible asset value per share (ntav ps) is based on the information disclosed in the last reported balance sheet at the end of each period. Net tangible assets, defined as shareholders funds attributable to equity interests minus intangibles, are divided by the number of ordinary shares in issue at the year end. The detailed year by year figures also show the trend.

When there are no intangible assets to be deducted the ntav ps figure is the same as the nav ps shown in the key statistics.

Brokers' Consensus Forecasts

At the bottom of the company entry there is a panel showing individual brokers' forecasts of pre-tax profits, EPS and DPS. These forecasts are used to calculate the consensus values for pre-tax profits, EPS and DPS.

			1998 ESTIMATES			1999 ESTIMATES		
Brokers (5 not shown)	Date	Rec	Pretax £m	Eps p	Dps p	Pretax £m	Eps p	Dps p
Dresdner Kleinwort Benson	16-May-97	HOLD	195 +	36.5 +	18.0	220 +	40.2 +	20.0
MeesPierson	23-Jun-97	TOPS –	185	35.6	17.5			
Charles Stanley & Co	24-Jun-97	BUY	187 +	36.1 +	17.5	218 +	40.3 +	20.5
Nikko Europe	4-Jul-97	BUY	190 +	36.5 +	18.8 –	235	43.9	23.5
Gilbert Eliott	11-Jul-97	HOLD	193	38.1 +	18.0	228	43.8 +	21.0
Greig Middleton	14-Jul-97	BUY	186	36.6 +	18.0	220	42.9 +	21.0
Charterhouse Tilney	15-Jul-97	HOLD	188	34.6 +	18.0	218	39.3 +	20.5
Panmure Gordon	21-Jul-97	HOLD	191 +	37.6 +	17.3 +	218 +	42.1 +	19.5 +
SGST	22-Jul-97	H/B	185 +	33.7	17.5 –			
Credit Lyonnais Laing	23-Jul-97	HOLD		37.1 +	18.0 +		42.1 +	21.0 +
Merrill Lynch	24-Jul-97	ACCU	195	38.2 +	17.3	225	43.2 +	19.5
Peel, Hunt	24-Jul-97	HOLD	190 +	37.4 +	17.5	223 +	43.0 +	20.0
Williams de Broe	29-Jul-97	HOLD –	190	36.3	18.0	220	40.8	21.0
HSBC James Capel	30-Jul-97	BUY	185 +	36.1 +	18.0	214 +	41.2 +	21.0
ABN AMRO Hoare Govett	1-Aug-97	UVAL	187	37.1	18.2	218	42.0	20.4
SBC Warburg	6-Aug-97	BUY	185	36.3 +	17.5	214	41.1 +	20.0
	Consensus		**188**	**36.6**	**17.8**	**220**	**41.8**	**20.6**
	1M change		+0.60	+0.61	+0.04	–0.60	+0.42	+0.03
	3M change		+0.67	+1.16	+0.01	+2.85	+1.73	+0.07

The forecasts are listed in date order. There is only enough room for 16 of them so if there are more the oldest are not shown.

The date shows when each forecast was published or later revised. If the current forecast is an upgrade (or downgrade) of an earlier forecast, a plus (or minus) indicates the part of the forecast that has been changed.

When calculating the consensus, date-weighting is used to give more emphasis to recent forecasts.

Brokers' recommendations are indicated with abbreviations like LTB for long-term buy and TPR for take profits. A full list of these abbreviations is shown on page 35.

There is no consensus for recommendations as they are all made on different dates and at different ruling share prices.

Sometimes brokers' forecasts are excluded from the consensus for reasons like profit warnings (indicated by 'w'), age ('a'), structural changes in progress ('s') and the temporary disqualification of the broker who might be acting for the company on an acquisition or rights issue ('b'). If a results announcement has rendered a forecast obsolete it is flagged 'r'. Other anomalies are flagged 'd' for 'different basis'.

Just below the consensus forecast there are two lines showing the one-month change and the three-month change compared with earlier consensus forecasts.

In essence, REFS' aim is to provide a consensus which is date-weighted after excluding old forecasts and 'outlying forecasts' (ie those with a large deviation from the norm).

A number of points deserve special mention when studying details of brokers' consensus forecasts:-

1. The reliability of the consensus forecast (and therefore of the PEG) is considerably enhanced if there is a large number of brokers (say five or more) covering the company, and a small standard deviation from the average forecast. Watch out for the lemming effect, however. If a prestigious and top-notch broker makes a forecast for a company in an industry in which he is known to specialise, it is very tempting for an analyst working for a lesser firm to take a lead from the much more detailed research.

2. With many smaller companies (especially AIM stocks) there is often only one broker's forecast. Placing undue reliance on this clearly adds to the risk. A very keen eye should be kept on directors' dealings and the relative strength of these shares.

3. The company's own broker or brokers are highlighted in a panel above the Outlook statement. I pay special attention to the company broker's forecasts especially if the brokers in question are prestigious. The company broker should be better informed and is less likely to take the risk of embarrassing the company with over-optimistic forecasts.

4. The recency of brokers' forecasts is obviously of critical importance. I usually compare the last few forecasts with the consensus to see if there is a major discrepancy. Date-weighting will, of course, have taken this into effect in a more calculated way.

5. A keen eye should be kept on the one-month overall change, the three-month overall change and the number of pluses or minuses, as they all indicate if newsflow is becoming more positive, remaining neutral or beginning to turn negative.

6. An important caveat about the EPS figures is that the tax rate sometimes varies substantially. When a company is recovering from a loss-making position, after a year or so any tax losses brought forward are likely to be exhausted. At this point, the company begins to pay a full tax charge again and EPS are reduced accordingly. Even though profits before tax might be increasing by, say, 20% in the year ahead, this could be masked by the increased tax charge. It therefore pays to keep an eye on pre-tax profits figures as well as EPS and to double-check the historic and forecast tax rates, which are shown in the panel of seven-year figures.

There is always the risk that the brokers' consensus forecast will not be met. However, it would be impossible to calculate twelve month rolling ahead figures without a consensus forecast and it is preferable to invest with a little guidance from brokers rather than none at all. Provided a keen eye is always kept on newsflow, relative strength and directors' dealings, the risk of a major upset should be minimised. Bear in mind too that there is another more positive side to the coin – brokers' forecasts are frequently beaten by a wide margin.

BROKER RECOMMENDATIONS

Each broker has an incremental range of recommendations, and the aggregated list, with abbreviations, is reproduced below.

ACCU	accumulate	NEUT	neutral
ACQ	acquire	OPRI	overpriced
ADD	add	OSOL	oversold
AVOI	avoid	OUTP	outperform
AWEV	await events	OVAL	overvalued
AWOF	await offer	OWGT	overweight
BCV	buy convertible	RED	reduce
BINC	buy for income	SBUY	strong buy
BLOW	buy lower down	SELL	sell
BOW	buy on weakness	SHOL	strong hold
BREC	buy for recovery	SOST	sell on strength
BUY	buy	SPB	speculative buy
CAUT	caution	SPEC	speculative
CORE	core sector holding	SPH	speculative hold
DEFH	defensive hold	SSEL	strong sell
DHOL	dull hold	STB	short term buy
FIRM	firm hold	STS	short term sell
FULL	fully valued	SWIT	switch
GBUY	gentle buy	TPR	take profits
H/B	hold/buy	TOPS	top slice
H/S	hold/sell	TRB	trading buy
HIGH	high enough	TRS	trading sell
HINC	hold for income	TRIM	trim
HLTB	hold/long term buy	TUCK	tuck away
HOLD	hold	TUPR	take up rights
HRED	hold/reduce	UNB	unbundle
HSB	hold/speculative buy	UNDP	underperform
HSW	hold/switch	UVAL	undervalued
LTB	long term buy	VRSK	very ricky
LTS	long term sell	WBUY	weak buy
MRB	medium risk buy	WHOL	weak hold
MTB	medium term buy	WSEL	weak sell
NEG	negative	YSUP	yield support

Gearing, Cover and Key Dates

To the bottom right of the company entry there are two small panels. The first is for GEARING, COVER and the second for KEY DATES.

Gearing
Cover

GEARING, COVER

GEARING, COVER (97AR)			
intangibles		Incl	Excl
net gearing	%	–38.9	–38.9
cash	%	39.3	39.3
gross gearing	%	0.38	0.38
under 5 yrs	%	0.38	0.38
under 1 yr	%	0.38	0.38
quick ratio		r	1.57
current ratio		r	2.10
interest cover		x	398

This panel of figures gives an insight into the structure of a company's balance sheet. In particular, the overall level of borrowings (gross gearing), how much is short and long-term, borrowings less cash (net gearing), short-term liquidity and the cash position (if any). Other useful statistics include the extent to which interest payments are covered by profits and dividends by earnings.

The first column of figures, headed Incl, shows the percentage of net gearing, cash, gross gearing and one- and five-year gearing in relation to shareholders' funds (share capital plus reserves, less preference capital redeemable within 12 months). The second column, headed Excl, is a much harsher measure, as all intangibles, such as brand names, copyrights and goodwill, have been excluded from shareholders' funds.

Net gearing is expressed as the percentage of total borrowings (less cash) to shareholders' funds (less intangibles). A minus figure indicates nil net gearing and denotes a net cash position, which is also expressed as a percentage of shareholders' funds less intangibles.

The cash percentage figures also include near cash assets such as treasury bills and certificates of deposit. Marketable securities are not included in near cash. This is a harsh measure which assumes that they may be difficult to realise in an emergency.

There are several reasons why investors should be particularly aware of the perils of high gearing:-

1. Any company with high gearing, which includes bank and other short-term borrowings, is likely to be very sensitive to changes in interest rates.

2. A highly-geared company can be very vulnerable, and can fail completely, during a liquidity crisis, especially if most if its borrowings are short-term. There is no substitute for cash in the bank when a gale is blowing through world financial markets.

Gearing, Cover

3. The results of highly-geared companies tend to exaggerate the underlying trend. All shareholders' funds are invested, and further substantial borrowings result in the company being full committed and therefore subject to prevailing winds. When businesses are recovering, high gearing can be a massive advantage for shareholders, but the reverse is also the case in tougher times.

It is difficult to set a firm guideline for gearing. Much depends on whether a company's borrowings are short or long-term, on the outlook for its industry and the efficiency of its management. Generally speaking, net gearing of over 50% calls for more detailed investigation. This is especially the case if a large proportion of the overall borrowings are short-term.

A company with a high dividend yield, low dividend cover and high gearing is often on the brink of trouble.

Quick Ratio

The quick ratio is an attempt to indicate what would happen if a company suddenly had to pay off all its current liabilities. For this reason, only assets that can be readily turned into cash are included and stock and work-in-progress is excluded.

The basic formula is therefore:

$$\frac{\text{Current assets less stock and work-in-progress}}{\text{Current liabilities}} = \text{quick ratio}$$

Generally speaking, I like to see a quick ratio of over one, but many retailing operations can manage on much less, as they can sell their products several weeks before paying their suppliers.

Current Ratio

This ratio is determined by dividing the current assets of a business by its current liabilities. The resultant ratio shows the number of times current liabilities are covered by current assets. The basic formula is therefore:

$$\frac{\text{Current assets}}{\text{Current liabilities}} = \text{current ratio}$$

A high ratio (2 or more) is usually a sign of financial strength and a low ratio (1.25 or less) can be a sign of financial weakness.

Also, the year by year trend of current ratios can alert investors to fundamental changes in a business's financial structure. Retailing companies usually have small debtors, as most of their sales are paid for in cash; therefore, they usually have lower than average current ratios. In other industries, large current ratios can sometimes result from excessive stocks or poor control of debtors.

Gearing, Cover

Interest Cover

This ratio is calculated by taking a company's normalised historic profits before interest and taxation and dividing them by the annual interest charge. The resultant figure indicates the company's capacity to continue paying interest on its borrowings out of annual profits.

The basic formula is therefore:

$$\frac{\text{Normalised profits before taxation and gross interest}}{\text{Annual gross interest charge}} = \text{interest cover}$$

Low and/or deteriorating interest cover is an obvious danger signal and can sometimes be a precursor to reconstruction, fund-raising or business failure.

KEY DATES

Key Dates

KEY DATES appear to the bottom right of the entry in a small panel like this one:-

KEY DATES	
next AR year end	31-Jan-98
int xd (3.75p)	27-Nov-95
fin xd (8.00p)	28-May-96
int results	18-Sep-96
int xd (5.00p)	25-Nov-96
year end	1-Feb-97
prelim results	26-Mar-97
annual report	23-Apr-97
agm	16-May-97
fin xd (10.0p)	27-May-97

Key dates are particularly important for fast-growing smaller companies, which usually have their moment in the sun around the time of their preliminary and interim results. The AGM date is also of vital importance as the chairman frequently uses the meeting to make a statement about future prospects.

A company growing at say 30% per annum on an historic PER of 20 (a PEG of 0.66) would attract immediate investment interest when it announced another year of 30% growth, coupled with an optimistic forecast. The historic PER would then cease to be of real interest and attention would focus on the prospective PER for the year ahead. If the consensus forecast was for another 30% growth in earnings, the prospective PER would fall to about 13 (provided the share price remained constant). For a company growing at 30% per annum, this would clearly be a bargain and the shares would almost certainly rise sharply.

Of course, the shares were cheap a month before the results. However, the announcement turned fancy into fact and the focus of interest switched immediately to the following year.

This principle applies to all companies, but is exaggerated with fast growing smaller companies.

Most of the research material and press comment on them is relatively sparse except when they are announcing their results and having their moment in the sun.

The ex-dividend dates are of particular interest to income funds and income-conscious investors.