

P/E RATIOS: POOR GROWTH GUIDE?

In an article appearing in an earlier issue of this journal, David Sutton examines the reliability of the P/E ratio as a guide to the establishment of which companies qualify as growth companies.¹ Using as a sample seventy-five "leading Australian stocks", the assumption that high P/E ratios indicated growth companies is tested. In conclusion, Sutton states:

According to our tests the P/E ratio proves to be an unreliable indicator of future growth of earnings. The test reveals that there is little systematic relationship between relative P/E ratios in one period and relative growth of earnings per share in subsequent periods.²

These conclusions support those of Murphy and Stevenson who examine the growth aspect of the P/E ratio relative to a group of companies in the United States.³ As indicated by Sutton, the tests conducted by Murphy and Stevenson are more comprehensive and more rigorous. In spite of this, their conclusions are very similar to those of Sutton:

Contrary to current assumptions the P/E ratio, according to our tests, proved an unreliable judge of which companies would record superior growth of earnings per share. Both groups of tests reveal that there is little systematic relationship between relative P/E ratios in one period and relative growth of earnings per share in subsequent periods.⁴

¹ David H. Sutton, "P/E Ratios: Poor Growth Guide", *Australian Security Analysts' Journal* (December, 1967), 2-3.

² *Ibid.*, 3.

³ Joseph E. Murphy and Harold W. Stevenson, "Price/Earnings Ratios and Future Growth of Earnings and Dividends", *Financial Analysts' Journal*, XXIII (November-December, 1967), 111-114.

⁴ *Ibid.*, 113.

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As may be expected, the relationship between P/E ratios and growth companies is very similar in the United States market and the Australian market.

The results of tests relating P/E ratios to growth shares may be very topical. The P/E ratio is certainly a useful ratio for evaluation of investment decisions and, one may imagine, it is viewed with increasing importance on the Australian market. This latter point is also true for the growth share. Interest in companies such as Western Mining and B.H.P. is increased by the investor's expectation of above "normal" growth for these companies. Together these factors suggest a basic purpose underlying the tests conducted by Sutton and by Murphy and Stevenson. If investors could rely on a high P/E ratio as a **single** indicator of a growth company, some of the uncertainty surrounding investment in ordinary shares could be eliminated. In spite of such factors, the use of the P/E ratio as a **single** indicator of a "good" investment may have been doomed to failure as may be the search for any such **single** indicator.

David Sutton does not analyse his results to the extent of suggesting any reasons why the P/E ratio does not indicate future growth. In this article some such reasons will be suggested.

The Search for a Single Indicator

Because of the complexity of the share market, the large number of shares from which an investor may choose an investment and the diversity of forces acting in the economy, it is not to be wondered that inves-

tors have longed for a single indicator of "success". Indeed, the desire for such an indicator is evident in the many methods of charting available. But even technical analysis cannot provide **one** indicator of which share to buy. The various and complex signals arising in the charts and the need to interpret (or is it manufacture?) such signals indicates that charting does not provide a "foolproof" indication of which share to buy and that charting is not for the novice. That charting does not provide this single indicator is evident for the "more intelligent" chartists admit that:

... no rules of procedure can be laid down, the automatic following of which ensures success. Hence the widespread tendency in Wall Street circles toward a composite or eclectic approach, in which a very thorough study of the market's performance is projected against the general economic background, and the whole is subjected to the appraisal of experienced judgement.⁵

In economic terms, the price of a share is determined by the forces of supply and demand. Using the broker as an intermediary, investors wishing to buy a particular share are "matched" with investors wishing to sell the particular share. An awareness that "price is determined by supply and demand" does not allow an investor to make an "intelligent" investment decision or any decision. The investor needs to consider the factors influencing the demand for and supply of particular shares. For what reason is an inves-

⁵ Benjamin Graham, David L. Dodd and Sidney Cottle, *Security Analysis: Principles and Technique* (International Student Edition; 4th ed.; Tokyo: McGraw-Hill Book Company, Inc., Kogakusha Company, Ltd., 1962), p. 716.

tor now prepared to sell his shares or another investor to buy those shares?

If there were one reason, or one predominant reason, underlying the purchase or sale of shares, it would be possible to establish a **single** indicator of a "good" investment. For example, if all investors agreed that a share should be purchased when dividends amounted to 20 cents in the dollar and sold when they fell below 20 cents in the dollar, "dividends approaching 20 cents in the dollar" would constitute an indicator of when to buy a share. But even here some investors may anticipate a company paying 20 cents in the dollar and buy when the dividend was 15 cents. More importantly, who would **sell** when the indicator said **buy**?

An analysis of the factors influencing supply and demand suggests, however, that there is not one predominant influence. Investors will be concerned with such indicators as: "risk, company size, debt/equity ratio, industry, dividend yield, past growth of earnings, past growth of dividends, expected future growth of earnings and anticipated growth of dividends."⁶ The listing of influential factors is not, of course, exhaustive; it could continue, seemingly, ad infinitum. Not all investors will consider all of these factors, some may sell their shares for want of money, some may buy a particular share because they work for the company, but, when all buyers compete with all sellers, all of the factors in **some way** influence price;⁷ the **P/E ratio** included.

⁶ Murphy and Stevenson, *op cit.*, 111.

⁷ Mathematically the relationship between price and the various influential factors may be expressed: Price = $f(a, b, c, \dots, n)$ where a = risk; b = company size; c = debt/equity ratio; etc. Although it may be possible to list each and every factor it would be extremely difficult to determine the precise relationship between the factors.

The P/E Ratio

There can be little doubt that the P/E ratio is one of the factors influencing price; the articles by Sutton and Murphy and Stevenson attest to this. However, the precise effect of the P/E ratio can be assessed only with full knowledge of the origins of the ratio and the factors which affect it.

As the name suggests, the P/E ratio is a measure of the relationship between price and earnings (earnings being expressed as earnings per share). Given the current price and **most recent** earnings per share,⁸ the P/E ratio is easily calculated; however, it is its meaning rather than its calculation that is of interest.

An insight into the meaning is given by Weston who maintains that the P/E ratio "represents the amount of money which the investor is willing to pay for \$1 of current earnings".⁹ Thus, the ratio relates the earnings of the company to the price paid for the share by the investor or to the current market price. It provides a means of comparing alternative share investment opportunities. An investor can relate the earnings and price of one share with those of another. Given that an investor evaluates the shares of two companies equally in terms of the various factors influencing his investment decision, including earnings per share but excluding P/E ratio, the company for which the P/E ratio is lowest would be the investment to be preferred. The investor would pay less for an equal investment opportunity where the ratio of price to earnings was smaller. It is important to recog-

⁸ Calculation of the P/E ratio will be constrained by the reporting of earnings by the company. It may be that the most recent earnings is that reported twelve months ago or the day before.

⁹ J. Fred Weston, *Managerial Finance* (New York: Holt, Rinehart and Winston, Inc., 1963), p. 203.

nise that the two investments must represent **equal investment opportunities**. An investor may be prepared to discount a low P/E ratio where a company's management, compared to the management of the alternative-investment company, is less dynamic. Only if the two companies are equal in every other respect as investment opportunities can the P/E ratio be the deciding influence.¹⁰

It is suggested that the P/E ratio can be used for relative assessment of investments in shares but what of the absolute value of the P/E ratio? Except for some personal or psychic influence, the absolute level of the P/E ratio cannot indicate whether an investment is "good" or "bad". An investor may have an aversion to paying too high a price for a share (indicated by a high P/E ratio) but this can only be a personal influence even if based upon experience in the market. It is unlikely that the classification of a share as "too high" could be defended when the share subsequently rises in price.

Factors Influencing the P/E Ratio

While investors can be influenced by the P/E ratio they can also influence it. Obviously, if the ratio is calculated using a company's most recently reported earnings, an investor cannot influence this element of the ratio. The investor's influence on the ratio is reflected, however, in the price of the share. If the price of the share rises because of buying pressures, the ratio will increase.

For example:

Time t_0 , Company A	Price	\$10
	Earnings/share	\$2
	P/E Ratio	5
Time t_1 , Company A	Price	\$12
	Earnings/share	\$2
	P/E Ratio	6

The increase in the P/E ratio from

¹⁰ It is unlikely that many share investments would be considered "equal in every respect". However, investors may evaluate two different shares equally by a process of compensation; allowing for the industry risk in one and the risk inherent in the capital structure of the other.

5 to 6 has been brought about by the increase in the market price of the share. All those factors which influence investors to buy shares will also influence the level of the P/E ratio. Growth in earnings is one of these factors.

Where investors expect that a company's earnings will grow, it is likely that investors will be prepared to accept a higher P/E ratio. For example:

Time t_0 Company B	Price	\$12
	Earnings/share	\$2
	P/E Ratio	6
Time t_1 Company B	Price	\$12
	Earnings/share	\$3
	P/E Ratio	4

An investor purchasing shares in Company A at t_0 is required to accept a P/E ratio of 6. Although this P/E ratio may be assessed by the investor as high, his expectation of future growth in earnings will suggest that this ratio will subsequently fall to an acceptable level, i.e., 4. The investor rationalizes the present "high" price on the basis of expected increases in earnings. Whilst this analysis uses the absolute level of the P/E ratio and, therefore, requires subjective assessment by the investor, a similar example could be constructed to show an assessment of Company A's shares relative to Company B's shares.

Investors would expect that the earnings of most companies will grow even if only modestly. Thus, companies for which earnings grow spectacularly, or at least more than modestly, are categorized as growth companies and their shares as growth shares.¹¹ Where these growth shares are in demand (i.e., there are more buyers than sellers at the current price), the price of them will tend to rise. As their price increases their P/E ratio increases. This increased P/E ratio is acceptable to some investors because they can rationalize it on the basis of expected growth in earnings (hence the popularity of growth shares such as Western Mining). But this expected increase in earnings caused the price of the shares to increase in the first place!

Consider the case of shares other than growth shares. The market has recently seen a period in which the prices of shares increased across the board. Shares of companies, for which earnings were not necessarily expected to grow other than modestly, were in demand along with the shares of growth companies. As the prices of these shares increased, so did their P/E ratios. But the higher P/E ratios of these shares could not be taken to imply future growth in earnings.¹² The

higher ratios were merely the result of market trends; the prices of some shares may have risen in spite of their companies' performance.

Conclusions

This paper is by no means a study of the P/E ratio in depth, but it is hoped that, at least, the following points have been made:

1. Whilst the P/E ratio is affected by expectations of future growth, it is not necessarily indicative of growth.
2. Whilst the P/E ratio can be used in share investment evaluation, it is not a **single** indicator of success and in no way obviates the need to conduct a fundamental analysis.
3. Rationalization of a high P/E ratio with expectations of future growth in earnings may mean that an investor **pays** for the higher earnings before they materialize and the price may be too high.

The purpose of this paper is not to reject the P/E ratio completely but merely to counsel caution in its use. It is hoped that it is not too late.

ERRATA

The title of Mr. Hedley's article on page 2 of the June, 1969, issue of the Journal should have been shown as "The Valuation of Share Options" and the following typographical errors in the first column of page 8 have been noted:—

1. The inequalities $S \geq E$ and $S \leq E$ are to be reversed in each of the two places in which they appear.
2. Halfway down the column "where the unknown S" is the start of a new sentence and therefore "where" should read "Where".

¹¹ For a definition of growth shares, see Herbert Qualls, Jr., "A Theory of Finance for the Growth Company", *Australian Security Analysts' Journal* (March, 1967).

¹² Inclusion of companies such as these could have affected the results obtained by Sutton.

CONTRIBUTIONS

Members are advised to address all contributions to the Journal to

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