FINANCIAL GOALS CHOICES AND PERFORMANCE OF FIRMS IN MALAYSIA

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Abstract

The objectives of the study are (a) to ascertain the financial goals pursued by companies in Malaysia and (b) to find out the relationship between firms' financial performance and stated financial goals. Data on the financial goals are collected from 41 KLSE listed firms through a questionnaire. An analysis of the relationship between the financial goals pursued by these firms and their actual performance is conducted using dummy variables for financial goals.

The results of the questionnaire analysis are: (a) Firms in Malaysia follow multiple financial goals. (b) A very few firms consider maximization of market value per share as their primary goal in the financial decision-making. (c) From the overall rank ordering of the financial goals, the following four goals could be isolated as more important in practice: (i) maximization of operating profit before interest and taxes (PBIT); (ii) maximizing the rate of return on equity (ROE); (iii) maximizing the growth rate in earnings per share (EPS); and (iv) ensuring that funds are available.

The cross section study of the selected sample companies reveals that the pursuit of the goal of maximizing PBIT is positively related to the accounting-based financial performance. However, pursuing the goal of maximizing ROE has no relationship with the actual performance measured by ROE, and it has a negative relationship with the financial performance measure of ROA. The financial goals pursued by firms in Malaysia have no relation with market-to-book value as a measure of performance.

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INTRODUCTION

Financial goals are the subset of the firm's corporate goals system, and relate to its financial condition, performance and the management of corporate funds (Donaldson, 1984). Financial goals provide direction and context to a firm to operate efficiently. The financial goal of profit maximization has been the basis of the theoretical and empirical economics for a long period. With the development of financial economics as a separate body of knowledge, the focus shifted to the goal of shareholders' (owners') wealth maximization (SWM). It is now considered as the key financial goal that governs or ought to govern the financial decision-making.

Most firms in reality may pursue a goal other than SWM, and even, multiple financial goals. The postulation that firms do or should follow the single objective of SWM, rather than multiple financial goals, has been questioned in the literature. Even though some managers may strive for SWM goal, others may be guided by strategic and operational goals (Cyert and March, 1963; Donaldson, 1967; Grossman and Stiglitz, 1977; Williamson, 1964).

RESEARCH BACKGROUND AND OBJECTIVES

There is a growing body of literature in the fields of accounting, finance and management that explores the financial goal systems and management practices. In the West, over the past three decades or so, a number of studies have focused on the financial goals pursued by firms. Mao (1969) provided evidence in favour of multiple goals being considered in capital budgeting decisions by the US firms. In a personal interview with eight medium and large companies, he found that managers did not explicitly consider maximization of value as a financial goal of their firms.

Stonehill *et. al*. (1975) found that different national preferences existed for corporate financial goals in financial decision making in France, Japan, the Netherlands, Norway, and the United States. The study indicated that finance executives showed a clear preference for

the financial goal of maximizing growth in corporate earnings, either in total (France, Japan, and the Netherlands, Norway), or per share (United States). The US managers supported a financial goal of maximizing market value of shares plus dividends. The results also suggested that firms in the five countries pursued multiple financial goals.

In a survey of Fortune 500 companies, Petty, Scott and Bird (1975) discovered that managers preferred several other goals to be more important than the maximization of the share prices. The study identified maximizing the percent return on total asset investment, achieving a desired growth rate in earning per share, and maximizing aggregate dollar earnings as the three most important goals. Share price maximization followed these three goals in order of importance.

Donaldson (1984), in a study of a few large U.S. matured industrial firms, found out that firms applied multiple financial goals in the process of decision-making. Further, firms strived to maximize corporate wealth. According to Donaldson, corporate wealth is not the same thing as the shareholders' wealth, rather it is the wealth 'over which management has effective control and which is an assured source of funds, at least, within the limits of meaningful strategic planning rather than maximizing shareholder wealth'.

Results for the largest UK companies (Pike and Dobbin, 1986) showed that the maximization of share price had low priority in term of importance. Maximization of return on assets (58.4 percent) and maximization of EPS (43.8 percent) were the two most preferred financial goals of the UK managers.

A study by Pandey and Bhat (1990) for the Indian companies revealed that Indian managers followed multiple financial goals. It is also indicated that these financial goals interacted with each other, and pursuing them simultaneously explained a significant impact on the financial performance across the sample companies.

The previous research has shown that companies in developed and developing countries follow multiple financial goals, and that the shareholders wealth maximization goal is not a common financial goal. The present study attempts to document the practices of the Malaysian listed companies vis-à-vis financial goals pursued by them. Specifically, the study

aims, first, to identify financial goal(s), which the Malaysian managers consider important, both in absolute and relative terms, in financial decision-making, and, second, to examine whether the financial goals considered important are related to the actual financial performance of the companies.

DATA AND METHODOLOGY

This study followed an approach similar to the study of Pandey and Bhat (1990). A questionnaire method was used to ascertain the financial goals pursued by Malaysian companies. Questionnaires were sent to 192 companies - 100 companies that form the KLSE Composite Index and 92 other companies. The criteria for selecting companies were that they should be listed on the Kuala Lumpur Stock Exchange (KLSE) and should have financial data for a long period of time. In all, 41 usable questionnaires were returned that made up for a response rate of about 21 percent. The previous research studies have used smaller sample sizes than this study. The respondent companies belong to diverse industries. The industry-wise classification of the respondent companies is as follows: industrial products: 10 (24.5%), consumer products: 8 (19.5%), trading and services: 7 (17.1%), plantation: 5 (12.2%), properties: 4 (9.8%), finance: 3 (7.3%), hotel: 2 (4.9%), construction: 1 (2.4%), and technology: 1 (2.4%).

The questionnaire contained 15 financial goals that were selected from goals identified in prior research (Pandey and Bhat, 1990; Ferri and Jones, 1979; Stonehill et. al., 1975). Goals were listed randomly so as to minimize any influence on the respondent's choice. Each respondent company was asked to check (yes or no) from the list of the financial goals that it considered in making financial decisions. If the company pursued multiple goals, it was asked to rank the goals in term of their importance to the company. Following Stonehill *et.al*. (1975), each goal checked and ranked by the respondent company was assigned points as follows: 5 points if ranked as first or second; 4 points if ranked 3 or 4; 3 points if ranked 5 or 6; 2 points if ranked 7 or 8; 1 point if ranked 9 or above, and zero point for non-response.

The methodology and results of the relationship between the stated financial goals and the actual performance of the respondent firms are discussed in a later section.

RESULTS OF FINANCIAL GOALS SURVEY

The financial goals as reported by the respondent companies in the questionnaires are grouped into four categories as follows (Pandey and Bhat, 1990): (a) *maximizing the level of* (i) book value of ordinary share, (ii) market value of ordinary share, (iii) cash flow per ordinary share, (iv) operating profit before interest and tax, and (v) economic value added (EVA); (b) *maximizing the ratio of* (i) return in equity, (ii) shareholders' market rate of return, (iii) price-earnings ratio, (iv) return on investment, (iv) net profit margin, and (v) market share; (c) *maximizing the growth in* (i) earning per share, (ii) sales and (iii) total assets; (c) *ensuring that funds are available* and (d) others.

We found that in practice the respondent Malaysian firms followed multiple financial goals. About one-fourth of the firms stated that they pursued two to four goals; approximately half five to nine goals and one-fourth ten or more goals. The cumulative percentage of firms using at least two or more financial goals was 100 percent.

What is the level of importance accorded by the respondent firms to the selected financial goals? Table 1 gives the overall ranking, the mean scores and standard deviations of the financial goals. Table 1 shows that of 41 respondent firms, there were 14 firms (34 percent) that accorded top importance (first and second ranks) to the goal of maximizing the level of operating profit before interest and tax (PBIT), and 12 firms (29 percent) considered maximization of return on equity as a top priority (first and second ranks) in decision-making. It is interesting to note that of these 26 companies, none had both goals as their highest preference (first and second). These two goals belonged, respectively, to the first (level maximization) and the second (ratio maximization) categories. In the third category of goals (growth maximization), there were ten firms (25 percent) that provided high priority in decision-making to the goal of maximization of earnings per share. Six firms (16 percent) granted high importance to the fourth category goal of ensuring that funds are available. Only four firms (10 percent) conferred high importance to the goal of maximizing the firm's share value in the financial decision-making. It is notable that fourteen firms pointed out that they considered the maximization of economic value added (EVA) at different levels of importance in their decision-making. Six firms ranked it at first or second place. It is

significant to notice that a very low priority was given by the respondent firms to the goals of maximizing the growth in total assets and price-earnings ratio.

The examination of the mean scores (Table 1) shows that the goal of maximization of PBIT has the highest mean value (3.00). However, in the second category of goals, the goal of maximization of ROI, ranked as high importance goal only by six firms, has higher mean value (2.61) than the goal of maximizing ROE (2.46). ROI is ranked as a secondary (medium level of importance) goal by a large number of firms; fifteen firms ranked it at third or fourth place. The goals of maximization of EPS and ensuring that funds are available, respectively, have next highest mean scores (2.36 and 2.07).

RELATIONSHIP BETWEEN FINANCIAL PERFORMANCE AND STATED FINANCIAL GOALS

Does the choice of financial goals influence the financial performance of firms? We have carried out a regression analysis in this section to focus on this question. As stated earlier, most of the survey companies (26 of 41) reported, *inter alia,* their primary financial goal either as the maximization of operating profit before interest and taxes or the maximization of return on equity. None of them stated both these goals *together* as their top financial goals (first or second rank). This implies that the survey companies either followed the goal of PBIT maximization as a primary goal with other goals, or ROE maximization with other goals. Thus, we test the following hypothesis:

> *Firms that pursue the goal of maximizing operating profits before interest and taxes (PBIT), or return on equity (ROE) show better financial performance.*

Dependable variables: Our dependent variable is the firm's financial performance. We use three measures of financial performance: (1) before tax return on assets (ROA), viz., profit before interest and taxes divided by total assets; (2) return on equity (ROE), viz., net profit after tax divided by shareholders' funds and (3) market-to-book value, viz., market value of the firm's share divided by its tangible book value. The first two performance measures are accounting-based and the third measure, which is a rough proxy for Tobin's Q, appraises the market-based performance and is an indicator of wealth maximization. The

performance measure of before-tax ROA is not influenced by the differences in debt policies and effective tax rates of firms. ROE is the ultimate accounting-based performance measure as it indicates the return of owners (shareholders) of the firm. Further, to remove the possibility of influences arising from the occurrences of extra-ordinary events, both PBIT and PAT are calculated before any adjustment for extra ordinary items. The financial performance measures have been estimated over a time period of five years and a simple 5-year average has been used to smooth the short run fluctuations, to keep unusual circumstances away from dominating the variables and to reflect on the long-term profitability of firms.

Independent variables: Our independent variables are the financial goals stated to be pursued by firms. As per the survey results reported earlier, we could divide the respondent companies into three broad categories. The first category is of the firms that consider the goal of maximizing PBIT as their primary goal; second category considers maximizing ROE as the primary goal; and the third category considers all other goals as their primary goals. These three alternative financial goal systems can be expressed by two dummy variables. D1 and D2 representing dummies, respectively, for the financial goals of maximizing PBIT and ROE. A value of '1' is assigned if a firm considers the financial goal in its decision-making; otherwise, it is assigned a value of '0'. It may be noted that the completed questionnaires provided information on financial goals of a 'yes' or 'no' type. For this reason, the goals selected as independent variables make them readily usable as dummy variables.

Control variables: The performance of firms may be influenced by their characteristics (Arlow and Ackelsberg, 1991; Branch, 1973; Foo and Chan, 1994; Gupta, 1967; Horowitz, Loughran and Savin, 2000; Pandey and Bhat, 1990; Ranganathan, 1995; Thomsen and Pedersen, 2000). The most important characteristics include size, risk, growth and ownership. In order to control for the influence of these firm characteristics on the financial performance, we have introduced them as control variables in the regression model. These variables are defined as follows:

Size (S) is measured as natural log of sales. It is hypothesized that size would be an important source of influence on the type of goal structure a firm may pursue and on company's financial performance.

Risk (R) is measured by the coefficient of variation of sales over the last five years. It is used as a proxy for business risk (variability). Higher sales variability could lead to poor financial performance.

Growth (G) is measured as compound growth in sales over the last five years. A semi-log model, $Y_t = Y_0 (1 + g)^t$, is used to calculate growth. It is expected that high growth firms should have higher performance. If growth rates are assumed to be industry-specific, our growth variable could be interpreted as a proxy for industrial differences.

Ownership has two proxies – percentage of foreign shareholding (FS) and percentage of directors' direct shareholding (DS). Performance should be higher for the firms that have high foreign and inside (directors') shareholdings.

The dependent variables, ROA, ROE and MB and independent variable, size (S) are simple averages of five-year data points. For FS and DS we use the current year data. Our sample consists 38 non-finance Malaysian firms that had returned usable financial goal questionnaires. We excluded three finance firms from analysis as their financial data format differed from remaining non-finance firms.

Our regression models are as follows:

Model 1:

$$ROA_{i,t} = a_0 + a_1 D1_{i,t} + a_2 D2_{i,t} + a_3 S_{i,t} + a_4 R_{i,t} + a_5 G_{i,t} + a_6 FS_{i,t} + a_7 DS_{i,t} + e_{i,t}$$

Model 2:

$$ROE_{i,t} = a_0 + a_1 D1_{i,t} + a_2 D2_{i,t} + a_3 S_{i,t} + a_4 R_{i,t} + a_5 G_{i,t} + a_6 FS_{i,t} + a_7 DS_{i,t} + e_{i,t}$$

Model 3:

$$MB_{i,t} = a_0 + a_1 D1_{i,t} + a_2 D2_{i,t} + a_3 S_{i,t} + a_4 R_{i,t} + a_5 G_{i,t} + a_6 FS_{i,t} + a_7 DS_{i,t} + e_{i,t}$$

All variables are as defined earlier and $e_{i,t}$ is error term.

RESULTS

We first regress the independent dummy variables with the each dependent performance variables and use the following estimation equations:

$$ROA_{i,t} = a_0 + a_1 D1_{i,t} + a_2 D2_{i,t} + e_{i,t}$$

$$ROE_{i,t} = a_0 + a_1 D1_{i,t} + a_2 D2_{i,t} + e_{i,t}$$

$$MB_{i,t} = a_0 + a_1 D1_{i,t} + a_2 D2_{i,t} + e_{i,t}$$

Note that the intercept term, a_0 represents the expected value of the performance measures when firms follow 'other financial goals' (viz., other than maximizing PBIT or ROE). The coefficient, a_1, of the first dummy variable (D1) signifies the difference in the performance if firms pursue 'other financial goals' rather than 'PBIT maximization goal'. The coefficient, a_2, of the second dummy variable (D2) implies the difference in performance if firms pursue 'ROE maximizing goal'. The inference drawn on the basis of t-values may get distorted if the heteroscedasticity is present. This occurs when the variance of the error is larger for higher values of the independent variables than it is for smaller values (Greene, 1999). To overcome this problem, we have used White's heteroscedastic-consistent variance matrix in estimating the standard error of the parameters in our estimation of all equations.

Table 2 shows results for the regression of financial goals with performance measures. When we regress dummy variables with the performance variable of ROA, the coefficients of dummy variables, D1 and D2, are significant respectively at 15 percent and 10 percent. The sign of coefficients for D1 and D2, respectively, are positive and negative. It is indicated that the average performance of firms (ROA) increases when they pursue of financial goal of maximizing PBIT, but it declines if they follow the goal of maximizing return on equity.

Next we regress dummy variables with the performance variable of ROE. The coefficient of dummy variable D1 is positively significant at 10 percent while the coefficient of dummy variable D2 is insignificant. Thus, it is shown that pursuing the goal of maximizing PBIT leads to a better performance also in terms of ROE. The regression

between the dummy variables and MB (market-to-book value) as the performance variable shows that pursuing the goal of maximizing PBIT or ROE has no effect on this performance measure.

As stated earlier, the firm characteristics may have influence on performance. Does the financial goals differential remain significant if proxy variables for the firm characteristics are introduced in the regression estimations? When we estimate the regression equations with independent variables of firm characteristics, two variables - growth (G) and directors' shareholding (DS) - performed very poorly. These two variables cause adjusted R-squared to decline. This could be on account of the problem of collinearity. As the correlation matrix in Table 3 shows, both growth and directors' shareholding are correlated with each other as well as with risk. We drop growth and directors' shareholding variables from our estimations, and estimate the following revised equations:

$$ROA_{i,t} = a_0 + a_1 D1_{i,t} + a_2 D2_{i,t} + a_3 S_{i,t} + a_4 R_{i,t} + a_5 FS_{i,t} + e_{i,t}$$

$$ROE_{i,t} = a_0 + a_1 D1_{i,t} + a_2 D2_{i,t} + a_3 S_{i,t} + a_4 R_{i,t} + a_5 FS_{i,t} + e_{i,t}$$

$$MB_{i,t} = a_0 + a_1 D1_{i,t} + a_2 D2_{i,t} + a_3 S_{i,t} + a_4 R_{i,t} + a_5 FS_{i,t} + e_{i,t}$$

The results of estimation of regression equations are given in Tables 4. Looking at the t-values, we find that goal of maximizing PBIT is positively related to both ROE and ROA and the relationship is significant at (less than) 10 percent. There is an insignificant relationship between goal of maximizing PBIT and MB as a financial performance indicator. Pursuing the goal of maximizing ROE has no relationship with both the performance measures in terms of ROE and MB. However, it is negatively related to ROA and the relationship is significant at 10% level. Thus, the results point out that financial performance as measured by ROA or ROE is influenced by the firm's goal structure. Pursuing the goal of maximizing PBIT leads to better ROI and ROE performance. However, following the goal of maximizing ROE in financial decision-making could cause overall performance measured by ROA to fall. Further, it is an important finding that pursuing the goal of maximization of PBIT or ROE has no effect on MB, a wealth maximizing financial performance indicator.

The firm characteristics as control variables improve the estimation. The interesting feature of the results is that when financial goal dummy variables are regressed independently (without other explanatory variables) to the financial performance measures, the adjusted R-squared drops significantly. Of the three independent variables, only foreign shareholding is a significant determinant of performance measures, ROA and ROE at 10 percent and MB at 15 percent. As explained earlier, two independent variables, growth and direct shareholding of directors make no contribution; rather they result in weaker overall estimation of equations. Also, regressing each goal independently reduces the explanatory power of the equations significantly.

CONCLUSIONS

The results of the study show that managers in Malaysia follow multiple financial goals. The four relatively important goals pursued by them include maximizing operating profits before interest and taxes, maximizing return on equity, maximizing growth rate in EPS, and ensuring that funds are available. The goals of maximizing PBIT and ROE are two top ranked goals. Those firms that pursue the goal of maximizing PBIT also perform better in terms of their accounting returns (ROA and ROE). Firms that consider the goal of maximizing ROE in decision-making have better overall firm profitability, viz., ROA. Yet another notable finding of the study is that managers in Malaysia do not aim at maximizing the shareholders' wealth (market value of shares) while making financial decisions. It is found that pursuing stated financial goals of maximizing PBIT and ROE does not lead firms to wealth creation or maximization. Our results show that irrespective of the goals pursued, the market-to-value ratio remains unaffected.

A comparison of the financial goals systems practiced in different countries reveals that most countries, except the United States, consider the goal of ensuring funds availability as an important goal. Maximization of profit before interest and tax gets the highest attention in Malaysia and India and considerable importance in France and Norway. Maximization of return on equity is another important goal that is generally preferred by managers in all countries and is rated very high in Malaysia. Managers in the United States only support the financial goal of maximizing market value of ordinary share.

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Table 1
Financial Goals: Level of Importance,
Means, Standard Deviation

		Number of Firms & Percentage							
	Goal	**Low**	**Slight**	**Moderate**	**Fair**	**High**	**No Response**	**Mean**	**Stdev.**
	Assigned Points	**1**	**2**	**3**	**4**	**5**	**0**		
A.	**Maximizing the level of:**								
	1. Book value of ordinary share	5	1	3	1	6	25	1.22	1.85
		12.2	2.4	7.3	2.4	14.6	61.0		
	2. Market value of ordinary share	2	5	4	3	4	23	1.37	1.78
		4.9	12.2	9.8	7.3	9.8	56.1		
	3. Cash flow per ordinary share	2	2	2	3	2	30	0.83	1.54
		4.9	4.9	4.9	7.3	4.9	73.2		
	4. Op. profit before interest & tax	1	1	6	8	**14**	11	3.00	2.02
		2.4	2.4	14.6	19.5	34.2	26.8		
	5. EVA	6	0	2	1	5	27	1.00	1.74
		14.6	0.0	4.9	2.4	12.2	65.9		
B.	**Maximizing the ratio of:**								
	1. Return on equity	2	1	3	7	**12**	16	2.46	2.19
		4.9	2.4	7.3	17.1	29.3	39.0		
	2. Shareholders' market rate of return	4	1	2	5	6	23	1.51	1.99
		9.8	2.4	4.9	12.2	14.6	56.1		
	3. Price-earnings ratio	4	3	3	0	0	31	0.46	0.91
		9.8	7.3	7.3	0.0	0.0	75.6		
	4. Return on investment (no.)	3	1	4	15	6	12	2.61	1.94
		7.3	2.4	9.8	36.6	14.6	29.3		
	5. Net profit margin	3	4	3	5	3	23	1.34	1.76
		7.3	9.8	7.3	12.2	7.3	56.1		
	6. Market share	7	1	6	6	4	17	1.73	1.83
		17.1	2.4	14.6	14.6	9.8	41.5		
C.	**Maximizing the growth in:**								
	1. Earning per share	3	3	2	8	**10**	15	2.37	2.10
		7.3	7.3	4.9	19.5	24.4	36.6		
	2. Sales	6	3	2	5	4	21	1.41	1.81
		14.6	7.3	4.9	12.2	9.8	51.2		
	3. Total assets	6	0	1	0	0	34	0.22	0.56
		14.6	0.0	2.4	0.0	0.0	82.9		
D.	**Ensuring that funds are available**	4	4	9	4	**6**	14	2.07	1.84
		9.8	9.8	22.0	9.8	14.6	34.2		
E.	**Others**	1	0	0	1	1	38	0.24	0.98
		2.4	0.0	0.0	2.4	2.4	92.7		

Table 2
Regressions of Performance and Financial Goals

(White Heteroscedasticity-Consistent Stand. Errors & Covariance)				
Variable	***Coefficients***	***Std. Error***	***t-Statistic***	***Prob.***
Dependent Variable: ROA				
C	0.1092	0.0122	8.97	0.000
D2	0.0649	0.0401	1.62	0.115
D3	-0.0489	0.0260	-1.88	0.068
R-squared	0.1569	F-statistic		3.257
Adjusted R-squared	0.1087	Prob. (F-statistic)		0.050
S.E. of regression	0.0848	Durbin-Watson stat		1.631
Dependent Variable: ROE				
C	0.0823	0.0320	2.57	0.0145
D2	0.1668	0.0979	1.70	0.0973
D3	-0.0569	0.0637	-0.89	0.3776
R-squared	0.1340	F-statistic		2.708
Adjusted R-squared	0.0845	Prob. (F-statistic)		0.081
S.E. of regression	0.2104	Durbin-Watson stat		1.351
Dependent Variable: MB				
C	2.8282	0.3245	8.72	0.000
D2	1.8710	1.6581	1.13	0.267
D3	-1.3459	1.0784	-1.25	0.220
R-squared	0.0900	F-statistic		1.732
Adjusted R-squared	0.0380	Prob. (F-statistic)		0.192
S.E. of regression	3.3066	Durbin-Watson stat		1.107

Table 3
Correlation Matrix

	DS	**FS**	**GROWTH**	**RISK**	**SIZE**
DS	1.000	-0.024	0.402	0.391	-0.090
FS	-0.024	1.000	0.055	-0.073	0.045
GROWTH	***0.402***	0.055	1.000	0.330	0.059
RISK	***0.391***	-0.073	**0.330**	1.000	0.128
SIZE	-0.089	0.045	0.059	0.128	1.000

Table 4
Regressions of Performance and Financial Goals
And Firm Characteristics

(White Heteroscedasticity-Consistent Stand. Errors & Covariance)				
Variable	***Coefficient***	***Std. Error***	***t-Statistic***	***Prob.***
Dependent Variable: ROA				
C	-0.2147	0.2721	-0.79	0.436
D1	0.0646	0.0335	1.93	0.063
D2	-0.0581	0.0313	-1.85	0.073
SIZE	0.0252	0.0215	1.17	0.250
RISK	-0.1270	0.0861	-1.48	0.150
FS	0.1156	0.0655	1.76	0.087
R-squared	0.383	F-statistic		3.975
Adjusted R-squared	0.287	Prob. (F-statistic)		0.006
S.E. of regression	0.076	Durbin-Watson stat		1.787
Dependent Variable: ROE				
C	-0.9922	0.7337	-1.35	0.185
D1	0.1500	0.0819	1.83	0.076
D2	-0.0568	0.0822	-0.69	0.494
SIZE	0.0791	0.0566	1.40	0.172
RISK	-0.2107	0.2022	-1.04	0.305
FS	0.3321	0.1699	1.95	0.059
R-squared	0.372972	F-statistic		3.807
Adjusted R-squared	0.274999	Prob. (F-statistic)		0.008
S.E. of regression	0.187207	Durbin-Watson stat		1.674
Dependent Variable: MB				
C	-12.1567	11.9677	-1.02	0.317
D1	1.9222	1.4952	1.29	0.208
D2	-1.8320	1.3448	-1.36	0.183
SIZE	1.1760	0.9516	1.24	0.226
RISK	-4.8480	3.1635	-1.53	0.135
FS	3.7667	2.4972	1.51	0.141
R-squared	0.317	F-statistic		2.965
Adjusted R-squared	0.210	Prob. (F-statistic)		0.026
S.E. of regression	2.997	Durbin-Watson stat		1.040

GOAL CONSIDERED IN FINANCIAL DECISIONS

	Stated Financial Goals	No. of Firms	No. of Firms % of Total Sample	Goal as % of Total Goals Checked
A.	**Maximizing the level of:**			
	1. Book value of ordinary share	15	39.47	5.42
	2. Market value of ordinary share	17	44.74	6.14
	3. Cash flow per ordinary share	11	28.95	3.97
	4. Operating profit before interest and tax	26	68.42	9.39
	5. EVA	14	36.84	5.05
B.	**Maximizing the ratio of:**			
	1. Return on equity	23	60.53	8.30
	2. Shareholders' market rate	17	44.74	6.14
	of return			
	3. Price-earnings ratio	9	23.68	3.25
	4. Return on investment	27	71.05	9.75
	5. Net profit margin	18	47.37	6.50
	6. Market share	22	57.89	7.94
C.	**Maximizing the growth in:**			
	1. Earning per share	24	63.16	8.66
	2. Sales	19	50.00	6.86
	3. Total assets	7	18.42	2.53
D.	**Ensuring that funds are available**	25	65.79	9.03
E.	**Others**	3	7.89	1.08
	Total	277		

IMPORTANCE OF FINANCIAL GOALS

AVERAGE SCORES OF FINANCIAL GOALS

Financial Goal	No. of Firms Ranking Goal as of High Level of Significance	Mean Score	Standard Deviation
Maximizing the level of:			
1. Book value of ordinary share	5	1.80	1.37
2. Market value of ordinary share	4	1.42	1.82
3. Cash flow per ordinary share	2	0.89	1.59
4. Operating profit before interest & tax	12	2.76	2.08
5. EVA	5	1.08	1.78
Maximizing the ratio of:			
1. Return on equity	11	2.42	2.18
2. Shareholders' market rate of return	6	1.55	2.02
3. Price-earnings ratio	0	0.45	0.91
4. Return on investment	6	2.63	1.95
5. Net profit margin	3	1.45	1.79
6. Market share	4	1.74	1.85
Maximizing the growth in:			
1. Earning per share	8	2.29	2.06
2. Sales	3	1.39	1.76
3. Total assets	0	0.24	0.58
Ensuring that funds are available	6	2.13	1.87
Others	1	0.26	1.02

OVERALL RANK OREDER OF FINANCIAL GOALS

Financial Goals		Rank															
		1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**	**15**	**16**
A.	**Maximizing the level of:**																
	1. Book value of ordinary share	2	3	1	-	1	2	1	-	1	-	-	2	2	-	-	-
	2. Markey value of ordinary share	2	2	-	3	1	3	2	2	-	-	1	-	1	-	-	-
	3. Cash flow per ordinary share	1	1	1	2	2	-	1	1	1	1	-	-	-	-	-	-
	4. Operating profit before interest & tax	8	4	3	3	4	2	1	-	-	-	-	1	-	-	-	-
	5. EVA	5	-	1	-	1	1	-	-	2	1	-	-	-	1	2	-
B.	**Maximizing the ratio of:**																
	1. Return on equity	6	5	5	1	1	2	-	1	1	1	-	-	-	-	-	-
	2. Shareholders' market rate	1	5	2	3	-	1	1	-	-	2	1	1	-	-	-	-
	of return																
	3. Price-earnings ratio	-	-	-	-	2	1	-	2	1	-	1	-	1	1	-	-
	4. Return on investment	2	4	10	4	1	2	1	-	2	-	-	-	-	1	-	-
	5. Net profit margin	1	2	3	2	1	2	2	2	-	1	2	-	-	-	-	-
	6. Market share	2	2	1	4	4	2	-	1	3	-	-	-	-	2	1	-
C.	**Maximizing the growth in:**																
	1. Earning per share	5	3	3	5	1	1	2	1	1	1	1	-	-	-	-	-
	2. Sales	1	2	2	3	2	-	1	2	-	2	-	3	1	-	-	-
	3. Total assets	-	-	-	-	1	-	-	-	1	-	-	-	1	1	3	-
D.	**Ensuring that funds are available**	2	4	3	1	6	2	3	1	-	1	2	-	-	-	-	-
E.	**Others**	-	1	1	-	-	-	-	-	-	-	-	-	-	-	-	1

INTERNATIONAL COMPARISON OF SCORES IN FINANCIAL GOALS

	France	Japan	Netherlands	Norway	USA	India	Malaysia
Financial Goal	8	20	13	26	20	57	38
Maximize market value plus dividend and minimize variance							
Mean	3.88	0.10	0.00	2.12	2.40	1.00	1.55
Standard Deviation	0.93	0.44	0.00	1.85	2.08	1.56	2.02
Guarantee funds are available							
Mean	4.25	1.90	2.62	3.58	1.95	3.05	2.13
Standard Deviation	0.97	2.21	2.24	1.80	1.86	1.56	1.87
Maximize book value of firm							
Mean	0.38	1.10	0.92	1.88	1.65	1.39	1.80
Standard Deviation	0.99	1.76	1.54	1.65	1.96	1.63	1.37
Maximize market value of share							
Mean	2.63	0.10	1.62	0.00	2.50	0.56	1.42
Standard Deviation	1.73	0.44	2.06	0.00	2.36	1.33	1.82
Maximize liquidation value							
Mean	0.38	0.00	0.23	0.19	0.35	-	-
Standard Deviation	0.99	0.00	0.42	0.96	1.11	-	-
Maximize growth in EPS							
Mean	4.63	2.95	3.92	1.81	4.39	1.67	2.29
Standard Deviation	0.70	2.06	1.77	1.52	1.24	1.79	2.06
Maximize price-earnings ratio							
Mean	3.13	0.00	1.92	1.42	2.00	0.65	0.45
Standard Deviation	0.93	0.00	2.06	1.52	1.76	1.36	0.91
Maximize PBIT							
Mean	3.25	0.95	1.46	3.42	1.85	3.30	2.76
Standard Deviation	-	1.53	1.99	2.02	1.85	1.92	2.08
Maximize return on equity							
Mean	2.25	1.90	2.69	3.73	2.60	1.98	2.42
Standard Deviation	0.66	1.87	2.23	1.74	1.85	1.90	2.18
Maximize return on sales							
Mean	3.63	2.10	1.69	2.77	2.20	2.28	1.45
Standard Deviation	1.58	1.89	2.01	1.83	2.04	1.89	1.79
Maximize cash flow per ordinary share							
Mean	2.63	0.55	2.00	1.85	1.45	0.36	0.89
Standard Deviation	1.11	1.02	2.08	1.81	1.43	0.87	1.59
Others							
Mean	0.38	1.00	1.00	0.54	1.15	0.35	0.26
Standard Deviation	0.99	1.90	1.88	1.39	2.03	1.22	1.02

Note: This table is adapted from Pandey and Bhat (1989)

Grossman, S. J. and Stiglitz, J.E. (1977). "On Value Maximization and Alternative Objectives of the Firm." *The Journal of Finance*, Vol. XXXII, No. 2.

Abstract

The objectives of the study are (a) to document the financial goals pursued by companies in Malaysia and (b) to find out the relationship between a firm's financial performance and its stated financial goals. Data on the financial goals are collected from 38 KLSE listed firms through a questionnaire. An analysis of the relationship between the financial goals pursued by them and their actual performance was conducted using dummy variables for the financial goals.

The results of the questionnaire analysis are:

1. Firms in Malaysia follow multiple financial goals.

2. Out of the total respondent companies, only percent *inter alia* consider maximization of market value per share in the financial decision-making.
3. From the overall rank ordering of the financial goals the following four goals could be isolated as more prevalent in practice:
   Maximization of operating profit before interest and taxes;
   Maximizing the rate of return on equity;
   Maximizing the growth rate in EPS; and
   Ensuring that funds are available.

An international comparison of financial goals reveals that `guarantee funds are available' and `maximization of profit before interest and taxes' are considered of high importance in
France, Norway and India. Unlike in France, Netherlands and USA, Indian managers do not deem `growth in earnings per share' of much importance. Further, Indian managers' views on financial goals are significantly correlated with that of France, Japan and Norway.

The cross section study of 38 companies reveals that the maximizing PBIT is positively related to the financial performance measure of ROE and ROI. The goal of maximizing ROE has no relationship with the actual performance measured by ROE, and it has a negative relationship with the financial performance measure of ROI. The financial goals pursued by firms in Malaysia have no relation with market-to-book value.

January 1989.FINANCIAL GOALS AND COMPANY PERFORMANCE
A STUDY OF COMPANIES IN INDIA
I INTRODUCTION
The process of financial management involves the direction of a corporation towards its financial
goal(s) within the constraints imposed by other corporate aims. The profit maximization as a financial goal dominated the economics literature for a long period. The goal was however challenged, which led to a shift to the maximization of shareholders' wealth, reflecting a greater
concern for the long-term benefits of financial policies to the firm's owners. The text books suggest
the shareholders' wealth maximization (SWM) as the key financial goal that should discipline short-
and long-range financial planning and decision making. SWM as a normative goal is central to the
modern finance theory.
In recent years, the subject of corporate financial goals has attracted much attention as the importance of an organization's interactions with its uncertain environment and concern for the
welfare of individuals and groups of which it is composed have been generally recognized. In an
uncertain environment and multiple constituencies of the firm, the process of setting the financial
goals from managerial perspective is unlikely to be directed exclusively towards SWM. For example, Crew(1975) points out the following in this regard:
....the objective traditionally assumed to be pursued by industrial organizations was

the maximization of profits. However, recent thinking has emphasized the fact that the benefit created by a firm accrue to not only to shareholders but also to employees, the government, the community, suppliers, customers. This has led to the amendments in traditional theory. Modern financial theory has substituted maximization of wealth or value added as the firm's objective and recent research by behavioral scientists, system analysts, economists and accountants has undermined the theory that firms presume a single financial objecctive.

Further, it is unlikely that managers in practice set the financial goals in precisely defined terms in a dynamically changing environment. It is a common knowledge that in companies shareholders contribute the equity capital and therefore are its legal owners. One may thus be tempted to argue that the firms financial goals should be set keeping in mind only the shareholders' interest. Even if this were true, the lack of knowledge about shareholders and their preferences is one of the problems in setting the financial goals. There is no systematic study which attempts to highlight the._ concerns of the shareholders. One preliminary attempt in this direction is by Fisons Limitd (UK).

The two surveys conducted by the company revealed that its shareholders were primarily concerned about the dividends and growth, Fisons' reputation, and its means of achieving the results. Further, the results suggested that improved shareholders' relations had beneficial effects on the company's share price. The Fisons study also attempted to reconcile its shareholders' goals with the company goals. Growth in earnings per share was agreed by both the Fisons management and institutional shareholders as being primary. The other goal for judging Fisons' performance was stated to be the return on capital employed (ROCE), followed by the goals of share price appreciation and increase in dividends.

Other surveys conducted in the USA and the UK are replete with the observation about the companies following multiple financial goals, and the shareholders wealth maximization goal not being the dominant one. The present study presents Indian experiences about the financial goals pursued by companies. The specific objectives of the study are: First, to identify financial goal(s) which the Indian managers consider important, both in absolute and relative terms, in financial decision making. Second, to examine whether the financial goals considered important in practice are related to the actual financial performance of the companies.

II FINANCIAL GOALS STRUCTURE IN PRACTICE

METHODOLOGY AND SAMPLE

A questionnaire, containing a list of fourteen goals, was sent to all companies listed in the Investors' Guide of the Economic Times. The questionnaire was designed: (i) to test the existence of multiple financial goals, and (ii) to find out the relative significance of the financial goals pursued by companies in India (for questionnaire, see Appendix 1).

The questionnaire was addressed to the chief executive of each company. The respondent was asked first to check from the list of fourteen financial goals the ones that his/her company pursue in making the financial decisions, and then to rank those goals in terms of their relative importance.

Sixty one questionnaires were received back, of which fifty seven were found useable for analysis.

The industry-wise classification of the responding companies is provided in Table 1. The sample._ contains good mix of companies belonging to different industry groups. The respondent companies also belong to various size categories as shown in Table 2. Sales is used as a proxy for the size of the firm. The sample includes a smallest company with a sales of Rs. 40 millions and a largest company with a sales of Rs.7080 millions. This pattern of response indicates the importance of financial goals in financial decision making situations across small as well as large companies.

Further, Table 3 classifies respondent companies according to market capitalizations (that is, the market value per share multiplied by the companies number of shares). We find that companies are reasonably distributed to various capitalization ranges. Looking at the industry and size profiles of respondent companies, it may be stated that they fairly represent the experiences of the varied companies in the corporate sector.

RESULTS

MULTIPLICITY OF GOALS

For the purpose of analysis, we have classified the goals as given in the questionnaire into the following five groups:

A. Maximizing the levels of :

1. Book value of net worth (NW)
2. Market value per share (MV)
3. Cash flow per share (CF)
4. Operating profit before interest and tax (PBIT)

B. Maximizing the ratio of :

1. Price-earnings (P/E)
2. Market rate of return (ROR)
3. Return on investment (ROI)
4. Net profit to net worth (NP/NW)
5. Net profit margin (NP/SA)
6. Market share (MS)

C. Maximizing the growth in :
1. Earnings per share (EPS)
2. Total assets (TA)
3. Sales (SA).¢
D. Ensuring that funds are available
E. Others

The results presented in Table 4 specifically bring out that no company in practice follows a single financial goal. The cumulative percentage of companies using two or more financial goals is 100 percent; about two-thirds of companies pursue five to nine financial goals and about one-fourth ten or more goals. Table 5 presents the information about the number and percentage of companies considering a specific financial goal in their decision-making. Column 3 of the table thus shows that about more than 80 percent companies consider each of the following four goals: (a) return on investment, (b) ensuring that funds are available, (c) maximizing the growth rate in sales, and (d) maximizing profit before interest and taxes. Out of total respondent companies, only 19.3 per cent of the companies inter-alia consider maximization of market value per share in their financial decision-making. The table suggests that this goal is least considered in financial decisions. The maximization of operating profit before interest and taxes gets highest consideration in the first group. Maximizing the return on investment seems to influence the financial decisions in great deal. The three goals, viz. maximization of net profit to net worth, net profit margin and market share seem to be equally popular in second group of goals. In third group of goals, maximizing the growth in sales is followed by most of the Indian companies. About 87.7 per cent of companies ensure that funds are available at the time of making any financial decision. Similar conclusions are derived from the column four of the table where percentage of a specific goal to the total goals considered by the sample companies is given.

RANKING OF GOALS

It is clear from the preceding analysis that managers follow multiple financial goals in practice. Do they show preferences for those goals? Tables 6 and 7, which summarize the results of overall rank ordering of financial goals, provide answer to this question. In first group of goals, the most preferred goal is the maximization of operating profit before interest and taxes; as many as 24 companies (42 percent) have ranked it in first and second place. It is significant to notice that only

one company has given first rank to the goal of maximization of market value of shares. This finding is quite contrary to the normative goal on which the modern finance theory is founded. All.¡
other goals also get low preferences in this group. In second group, the maximization of return on
investment goal gets the highest priority. Other goals in this group have low priorities; only three
companies have given first rank to the goal of maximization of market rate of return and no company has given first rank to the price-earnings multiple. The maximization of the growth in
sales is preferred by a large number of companies in different degrees in third group of goals. Similarly in fourth group, a significant number of companies consider funds availability as important financial goal.
Table 8 contains mean scores and standard deviations of financial goals. Based on this information
and preceding analysis, the following four financial goals, one from each group, may be isolated as
the most prevalent in practice:
(1) Maximization of operating profit before interest and taxes
(2) Maximizing the rate of return on investment
(3) Maximizing the growth rate in sales
(4) Ensuring that funds are available
In case of the goal of maximizing the growth rate in sales, it may be noticed that, on an average,
larger number of managers consider it more often in their decision making than the goals of maximizing EPS or total assets; however, there exists significant variations in their preferences for
this goal (notice that this goal has higher mean score but also higher standard deviation).
We would like to reemphasis that our results reveal that the goals which depend on the market-determined
variables such as maximization of market value per share, price-earnings multiple and market rate of return get the low priority in the financial decisions of the Indian companies. In fact,
companies in practice seem to define financial goals in terms of variables on which they have control. For example, one of the sample companies summarizes its multiple financial goals and
their interaction in the following words:

> The growth coupled with healthy return on investment has been main financial goal with more emphasis on asset management. The debt-equity ratio, current asset ratio, stock turnover and working capital control are of special importance to the company..ˆ

Yet another company has clearly brought out the dynamic process of determining financial goals as
given below:

> In a country such as ours, which is subject to government regulations, the financial goals tend to be a lot more "flexible" than a country with free economy. The financial goals are seen in such a manner which ensures (a) the optimum intrinsic value of assets; (b) optimum post-tax returns on investments subject to proper adjustments for timing of inflows and outflows; (c) optimum balance between

profitability, liquidity and security. The investment in welfare (e.g., employees' housing) and social responsibility (e.g., pollution control) are more prompted by our desire to be good corporate citizens and our genuine concern for the employees and the society. In such areas, non-financial goals are important.

A few sample companies also stated pursuing the financial goals not included in the questionnaire.

They referred to the financial goals such as maximization of the product-wise sales margin, minimizing of overhead costs, emphasis on average collection period, maximization of value added, payback period etc. One company observed that it puts emphasis on maintaining the debt-equity ratio within the range of 45 per cent.

INTERNATIONAL COMPARISON

Over the past two decades, a number of studies on the financial goals systems and management practices have been conducted in the USA and other countries. In personal interviews of eight medium and large US firms conducted during 1969, Mao found that managers in general do not explicitly state that the goal of the firm is to maximize the market value of its common equity. This observation has been substantiated by Petty, Scott and Bird (1975) in a survey of Fortune 500 companies in 1975. Their study showed that managements consider several other goals to be more important than the maximization of share prices. The respondents in their study identified the following three goals as being most important to their firms:

1. To maximize the per cent return on total asset investment.
2. To achieve a desired growth rate in earnings per share
3. To maximize aggregate dollar earnings.

Share price maximization followed these three goals in order of importance. Operationally, the finance function in large enterprises appear to be multi directed. Pike in his survey, reported in Pike and Dobbins (1986), asked finance directors in the largest UK companies to rank specified goals in.ÿ order of importance. The following results were obtained:

The Importance of Financial Goals in Largest UK Companies

Financial Goal	Very Important(%)
1. Maximization of return on assets	58.4
2. Maximization earnings or EPS	43.8
3. Target share of market	18.3
4. Maximization share price	17.9
5. Target EPS growth rate	12.3

Source: Pike and Dobbins (1986),pp. 5

The maximization of share price was found to be the poor fourth listed financial goal in terms of

importance attached by the finance directors in the UK. The maximization of shareholders wealth,
then, is not so much a reflection of how investment and financing decisions are made, but rather a
normative goal for how companies should operate.
In Pike's study the maximization of the rate of return on investment seems to be the most prominent
among the financial goals. Solomon (1966) explains the practical importance of this goal in the
following words:

> The rate of return on investment is a key concept which is widely used for a number of significant business and financial purposes. It is of central importance for the evaluation of an individual investment project, the financial evaluation of a company's performance, the evaluation of managerial efficiency for a division, or a product line, and finally, as a guide for establishing ceiling prices in the regulated industries.

In 1973, Osteryoung (1973) also provided evidence in favour of multiple goals being considered by
500 Fortune companies in their capital budgeting decisions.
In an international survey, Stonehill, et.al. (1975) examined the practices of financial goals in five
countries viz. France, Japan, Netherlands, Norway and United States. The respondents in these
countries were asked to check from a list of ten goals those which they considered in financial
decision-making. Each respondent was also asked to rank the goals. The following procedure was
adopted in assigning the score to each goal:.½

Ranks Assigned	Score
1 to 2	5
3 or 4	4
5 or 6	3
7 or 8	2
9 or 10	1
Blank	0

In order to make our study comparable with that of Stonehill et.al. (1975) we have also adopted the
similar methodology of assigning the scores to each financial goal. Since in our case the list of
goals were more than ten, (viz. fourteen) the rank 9 or above were assigned score of 1, wherever
applicable. Table 9 presents the comparison of average scores obtained in our study with that of
other five countries.
Maximization of growth in EPS appears to be the most important goal in France, Japan,

Netherlands, and USA. Other studies also substantiate this goal to be of high importance in case of
USA. The Indian managers do not see this goal to be of great importance. "Guarantee funds are
available" is considered an important financial goal by managers of all referred countries. In fact,
excepting the managers of the US companies, it has been ranked quite high by managers of other
countries. "Maximization of return on equity" is yet another financial goal which is generally
preferred by managers of all countries. Maximization of PBIT gets quite high scores in France,
Norway and India. In India, this goal is considered as the most important.
In order to see which two countries' managers are close to each other with regard to their views on
financial goals, we obtained rank correlations between countries' average scores. Rank correlation
matrix is presented in Table 10. It is indicated that Indian managers' views on financial goals are
significantly correlated with that of France, Japan and Norway. We also find a significant
correlation between views of France's and USA's managers..__
III ASSOCIATION OF FINANCIAL GOALS WITH FINANCIAL PERFORMANCE
Are the financial goals pursued by a company related to its financial performance? We have carried
out an analysis in the present section to focus on this question. In this regard the following
hypothesis has been tested:
Firms which maximize operating profits before interest and taxes (PBIT), or
maximize return on investment (ROI), or maximize growth in sales (GSALES), or
ensure that funds are available (FUND) or pursue all four goals would show better
financial performance.
REGRESSION MODEL
The following regression model using financial goals as dummy variables has been estimated in
testing this hypothesis:
ROCE = ß + ß PBIT + ß ROI + ß GSALES + ß FUND
+ ß SIZE + ß RISK + ß CI + ²
where ROCE is return on capital employed measuring financial performance; PBIT, ROI,
GSALES, FUND are dummy variables assuming value of '1' if firm considers that as financial goal
in their decision making; SIZE, RISK, and CI represent the firm characteristics viz., size of the
firm, its riskiness, and capital intensity; ² is the effect of all unspecified variables, the disturbance
term, that are assumed to be randomly distributed with a zero mean and constant variance.
The proposed hypothesis has included the four goals because they have been found relatively more
important in our survey discussed in the preceding section. It may be noted that the completed
questionnaire provided information on financial goals of a 'yes' or 'no' type. For the goals selected

as independent variables the type of response obtained from the respondents makes them readily
usable as dummy variables.
The dependent variable, return on capital employed (ROCE), has been used as a measure of financial performance. This is calculated by dividing the profit before interest and taxes(PBIT) by
the capital employed(CE). For the reasons of differences in the application of accounting policy.__
and procedures for depreciation, an alternative measure of financial performance measured by profit
before depreciation, interest, and taxes to capital employed (PBDIT/CE) has also been used. The
interest component has been kept away from the financial performance measurement for the reasons of differences in debt policies. Further, to remove the possibility of influence arising out of
occurrence of unusual events, the PBIT or PBDIT is before any adjustment for non operating surplus and deficits. Furthermore, the financial performance measure has been measured over a
time period of five years and a simple average of PBIT and CE has been used in computations so as
to minimize the short run fluctuations and keep unusual circumstances away from dominating the
variable.
In theoretical finance literature, the maximization of the firm's market value of equity share is considered as a valid criterion for measuring the financial performance. However, the present study
for the following reasons uses the financial statement based variables to measure the financial performance:
(a) as revealed in our survey, the corporate financial managers give least
importance to the financial goals based on value of shares;
(b) shareholders know little about the financial goals pursued by the
company;
(c) the market presumably will value the share on the basis of investors'
satisfaction, in the light of their expectations, with the financial
results in terms of profits earned by the company;
(d) financial results are more likely to be affected by the actual goals
structure pursued by the company.
We have also included the most important company characteristics viz., size, risk, and capital intensity as control variables in the regression model. They are defined as follows:
SIZE is the average of five years net sales. It is hypothesized that size would be an important source of influence on the type of goal structure the company may pursue and on company's financial performance..__
RISK is measured by the standard deviation of net sales over the last five years. Financial theory is
replete with the assumption of premium for the amount of risk. It would be thus anticipated that
companies with higher risk characteristics would exhibit higher financial performance. Several
empirical studies show positive relationship between risk and return.

CI, capital intensity, is measured by average of yearly depreciation to average gross fixed assets.

The capital intensity factor may be a variable in determining the performance. As this variable is more or less industry specific, the objective of including this in the model is to account for differences arising out of industry characteristics.

All the financial items used in computing the dependent and independent variables in regression equation are simple averages of five-year data points. The initial sample consisted of 57 companies which had sent usable questionnaires. However, complete data for all the five years was available only for 42 companies (for the list of companies see Appendix II). The data were collected from the Bombay Stock Exchange Official Directory.

RESULTS

The specified regression equation estimated in two forms explained a good amount of variation in financial performance measure. The unbiased multiple coefficient of determination was 0.2414 in first case and in alternative formulation the coefficient was 0.2329. The estimation of the regression equation in its various forms is given in Tables 11 and 12. The partial correlation coefficients between the financial performance and the various independent variables is produced below:

Partial Correlation Coefficients

Financial Performance Measure	
Independent Variable	ROCE AROCE
SIZE	-0.408 -0.432
RISK	0.401 0.429
CI	-0.164 -0.146
Financial Goals	
PBIT	0.202 0.165
ROI	0.146 0.108
GSALES	-0.501 -0.480
FUND	0.409 0.423

Examination of the regression results and partial correlation coefficients provide some interesting results. "Growth in sales" and "ensuring that funds are available" came out two dominant financial goals significantly related with the financial performance. Partial correlation coefficients measure the effect of various independent variables on financial performance which is not accounted for by

the other variables in the model. In terms of relative importance GSALES and FUND variables
account for 25 and 17 percent of variation in performance measure respectively. The contribution
of other financial goals is not that significant.
The regression results as reported in Tables 11 and 12 also reveal the same story. Using the dummy
variable approach the coefficients of each variable measure the differential impact between the
companies considering the goal and the category of those not considering it. As a result, t-value
tests the null hypothesis that companies considering the particular goal and those not considering it
have identical impacts on the financial performance. The specification of the model estimated
assumes that it is intercept that changes for each group but not the slope coefficient. Looking at the
t-values one finds that goals GSALES and FUND are significant at 5 percent level where as the two
other financial goals are not significant. However, the inference drawn on the basis of t-values may
get distorted if the heteroscedasticity is present. This occurs when the variance of the error is larger
for higher values of the independent variable than it is for smaller values. To overcome this
problem, alternatively, heteroscedastic-consistent variance matrix as suggested by White (1980) has
been used in estimating the standard error of the parameters. These value are given beneath the t-value
estimated without using this method in Tables 12 and 13. The results are not significantly
different. Chow and Goldfeld-Quandt tests (see Pindyck and Rubinfeld 1981) statistics also did not
suggest significant heteroscedasticity.
The financial goal of maximizing the growth in sales has sign which is opposite of those expected.
This may be perhaps because companies which maximize the growth in sales get lower margins
and hence the goal is pursued at the cost of lower financial performance. Whereas the goal which
ensures that funds are available is considered to be most critical in influencing the financial
performance. In no case the signs of other financial goals not found significant have opposite signs.
They are positively related with the financial performance but not in a significant way.
The results point out that financial performance is related with the firm's goal structure, and._
particularly the "maximization of growth in sales" and "ensuring that funds are available" have been
found significant. Further, the firm characteristics also account for the variation in performance
measures. The risk of a company as measured by the standard deviation of sales is significant in the

regression equation. The relationship between financial performance and risk is negative implying
that riskier firms have higher returns. Specifying the regression in alternative form did not change
the results.

One very interesting feature of the results is that the moment goals are regressed independently in
the equation the t-values turns out to be not significant. This again reveals that multiplicity of goals
is important and perhaps the goals to some extent are complementary. Regressing each goal
independently also reduces the explanatory power of the equations significantly.

IV MANAGERIAL IMPLICATIONS

The results of the study show that managers in practice follow multiple financial goals. The four
relatively important goals pursued by the companies in India include ensuring that funds are
available, maximizing growth rate in sales, maximizing operating profits before interest and taxes,
and maximizing rate of return on investment. It is also shown that these financial goals interact
with each other and pursuing them simultaneously explains significant amount of variation in the
financial performance across the sample companies. It is pertinent to know that companies strive to
maximize growth rate in sales in spite of the fact that it is negatively related to financial
performance. Thus it may be stated that managers in practice prefer to achieve higher sales growth
even at the cost of poor profitability. Yet another notable finding of the study is that managers in
practice do not aim at the maximization of the market value of their companies' shares while
making financial decisions.

Why maximizing the value of market value of share is not considered in practice? Is this on
account of a divergence between the business reality and the assumptions on which the modern
finance theory is founded? What are the practical necessities of managers which drive them to
pursue the financial goals such as the ones revealed by the present study and other studies?

The finance theory implies that owners have the primary interest in the firm, and therefore the sole
financial goal of the firm should be the maximization of their wealth. It is implied that market._¢
value of the firm's shares is the measure of the owners' wealth. The shareholders' wealth
maximization goal is derived on the assumption of efficient capital market. The empirical studies
do not universally and unequivocally support the efficient capital market hypothesis, particularly in
the developing economies. The financial economists do recognize the capital market imperfections.
However, those imperfections are considered within a theoretical system in which the capital
markets are otherwise considered efficient. To quote Bradford and Shapiro (1983):

.....The SWM goal was useful and probably necessary in the early stages of the development of corporate finance theory (just as the assumption of no friction may be useful as a first step in the study of physical systems).

As regards the product markets, it is well known from the empirical economics literature that they are not perfect. Thus in reality managements consider markets - product and capital - as imperfect and changing. Therefore they develop strategies to manage their firms in uncertain and imperfect market conditions and environment.

Even if it is assumed that the capital markets are efficient, it does not necessarily follow that shareholders are the only interest group whose goals should be pursued by the firm. There are many other influential constituencies such as lenders, employees, customers, suppliers, competitors, government, and society. Managements in practice are under an obligation therefore to develop financial goals which protect and integrate the interests of various constituencies. Suppliers, competitors, and customers together determine the product market domain of the firm which broadly defines the economic environment within which the firm has to operate. Managements must ensure the survival of the firm in the product market environment which may be continually threatened by existing or potential competition. By ensuring that funds are available management shall be able to maintain and enhance its company's competitive position. Funds mean purchasing power and include cash, credit, and other potential funds. Thus funds provide competitive vitality and strength to the firm. A large amount of funds at the disposal of management would diminish the chances of failure and provide a lot of innovative flexibility to the management, other things being equal.

Managements generally have direct influence over the flow of funds. On the contrary the shareholders' wealth as reflected by the market value of shares is uncontrollable and unpredictable by management. As explained by Donaldson (1984):._¡

Stock market values are prospective, uncertain and determined in great part by parties external to the business organization itself. Market values remain intangible until and unless the shareholders decide to exercise their claim on the company by selling their stock. In this sense their wealth becomes real only when it has been separated from the company; it is wealth the management must do without.

Focussing on the funds availability, management can achieve a number of advantages which satisfy the various constituencies of the firm. It helps the firm to expand and grow which is essential to maintain market position and serve the customers with the quality products, attract and retain excellent managerial force and help management to maintain independence and self-sufficiency.

Growth in sales should in turn result into sufficient generation of funds i.e. it should be self-sustainable
to a large extent. In practice, as revealed by the present and earlier studies, managers
also concentrate on maximizing profits before interest and taxes through cost and asset
management. Thus sales growth and return on investment are the financial goals which provide
operational guidance to the managers. Does this imply that the market value of the firm's shares is
of no use or consequence in financial decision making? Undoubtedly, capital market is a dominant
constituency of the firm. Therefore the shareholders' and lenders' interests have to be focused on,
particularly when the firm depends in a significant manner on the capital market for obtaining funds
for its growth. The managers in practice ensure this by focussing on the maximization of growth
and profitability on the one hand, and by minimizing cost of external funds on the other. If the
firms' long-term profitability is higher than the cost of funds, the market value of the shares should
increase. However, the manager may not consider the impact of share value each time he makes a
decision; if he improves the quality of the product-market decisions by properly controlling the
flow of funds, the long term market value of the firm's share should impound this information.._^

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TABLE 1
INDUSTRY-WISE CLASSIFICATION OF
RESPONDENT COMPANIES

Industry	No. of companies	%
1. Cement	4	7.0
2. Textiles	4	7.0
3. Paper, Pulp and Hardboard	3	5.3
4. Electric Equipment and Cables	5	8.8
5. Aluminum Metals, Alloys, Metal Products and Structural	6	10.5
6. General Engineering	11	19.3
7. Chemicals, Dyes, Pharmaceuticals, Refineries and Plastics	15	26.3
8. Sugar and Breweries	2	3.5
9. Miscellaneous	7	12.3
	57	100.0

TABLE 2
SIZE-WISE CLASSIFICATION OF
RESPONDENT COMPANIES

Number of Companies Sales (Rs. millions)	Number of Companies as % of Total
Above 2000	7	12.3
1000 - 2000	14	24.6
500 - 1000	9	15.8
100 - 500	8	14.0
Below 100	19	33.3
	57	100.0

TABLE 3
FREQUENCY DISTRIBUTION OF RESPONDENT COMPANIES
ON THE BASIS OF THEIR MARKET CAPITALIZATION RANK

Market Capitalization (Rs. in Millions)	Number of Companies	%

---
0 - 100 3 5.3
100 - 1000 15 26.3
1000 - 2500 15 26.3
2500 - 5000 9 15.8
5000 and above 15 26.3
--- ---
57 100.0

Note : Market Capitalization is based on the average market price per share in December 1985. See Piparaiya(1986).

TABLE 4
MULTIPLE GOALS IN FINANCIAL DECISIONS

Number of Number of companies
Goal(s) companies as % of total

Single Goal 0 zero
2 - 4 Goals 8 14.0
5 - 9 Goals 36 63.2
10 and above 13 22.8
--- ---
57 100.0

TABLE 5
GOAL CONSIDERED IN FINANCIAL DECISIONS

Num- Number of com- Specific goal
ber of panies as % of as % of total
Financial com- total sample number of
Goals panies companies goals checked

A. Maximizing the levels of:
* Book value of net
worth 29 50.9 6.4
* Market value per
share 11 19.3 2.4
* Cash flow per share 13 22.8 2.9
* Operating profit
before interest and
taxes 45 78.9 10.0
B. Maximizing the ratio of:
* Price-earnings
multiple 14 24.6 3.1
* Market rate of
return 18 31.6 4.0
* Return on Invest-
ment 53 93.0 11.8

* Net profit to net
worth 35 61.4 7.8
* Net profit margin 37 64.9 8.2
* Market share 36 63.3 8.0
C. Maximizing the Growth in:
* Earnings per share 31 54.4 6.9
* Total assets 28 49.1 6.2
* Sales 45 78.9 10.0
D. Ensuring that the funds
are available 50 87.7 11.1
E. Other 5 8.8 1.2
---- -----
Total 450 100.0

TABLE 6
OVERALL RANK ORDER OF FINANCIAL GOALS

Rank	Maximizing the levels of NW	Maximizing the Fund Maximizing the ratios of MV	CF	PBIT	P/E	ROR	ROI	NP/NW	NP/SA	Growth in avail- ability MS	EPS	TA	SA
1	4	1	-	10	-	3	18	5	2	1	-	-	9	4
-	1	-	14	2	1	12	3	5	4	4	3	3	5
1	1	-	5	3	1	8	3	8	5	5	1	6	9
4	2	2	2	3	-	3	1	6	4	3	5	6	9	10
5	4	1	-	7	-	1	3	1	5	4	3	6	10	6
6	4	-	1	3	2	2	4	5	4	8	2	4	2	4
7	4	-	-	3	-	3	4	4	4	5	4	1	4	5
8	5	2	-	-	2	2	1	3	3	4	4	1	1	4
9	2	2	3	-	3	1	-	2	-	1	3	4	-	1
0 & above	3	1	7	-	2	1	2	3	1	1	1	2	1	2

TABLE 7
IMPORTANCE OF FINANCIAL GOALS

Goals	Level of Importance Low	Slight	Moderate	Fair	High	No Response
A	1	5	9	8	3	4	28
	(8.8)	(15.8)	(14.0)	(5.3)	(7.0)	(49.1)	
	2	3	2	1	3	2	46
	(5.3)	(3.5)	(1.8)	(5.3)	(8.5)	(80.7)	
	3	10	0	1	2	0	44
	(17.5)	(0.0)	(1.8)	(3.5)	(0.0)	(77.2)	
	4	0	3	10	8	24	12
	(0.0)	(5.3)	(17.5)	(14.0)	(42.1)	(21.1)	
B	1	5	2	2	3	2	43

(8.8) (3.5) (3.5) (5.3) (3.5) (75.4)
2 2 5 3 4 4 39
(3.5) (8.8) (5.3) (7.0) (7.0) (68.4)
3 2 5 7 9 30 4
(3.5) (8.8) (12.3) (13.8) (52.6) (7.0)
4 5 7 6 9 8 22
(8.8) (12.3) (10.5) (15.8) (14.0) (38.6)
5 1 7 9 12 8 20
(1.8) (12.3) (15.8) (21.1) (14.0) (35.1)
6 2 9 12 8 5 21
(3.5) (15.8) (21.1) (14.0) (8.8) (36.8)
C 1 4 8 5 10 4 26
(7.0) (14.0) (8.8) (17.5) (7.0) (45.6)
2 6 2 10 7 3 29
(10.5) (3.5) (17.5) (12.3) (5.3) (50.9)
3 1 5 12 15 12 12
(1.8) (8.8) (21.1) (26.3) (21.1) (21.1)
D 1 3 9 10 19 9 7
(5.3) (15.8) (17.5) (33.3) (15.8) (12.3)

---

* Figures in the parentheses indicate the percentages.
**The level of importance for each financial goal has been obtained on the basis of ranks provided by the respondent companies. Companies ranking any goal at first two places has been put in high category rank, 3-4 in fair category, rank 5-6 in moderate category, rank 7-8 in slight and finally all other ranks in none category..__

TABLE 8
AVERAGE SCORES OF FINANCIAL GOALS

Goal Mean Score Standard Deviation

A. Maximizing the levels of:
* Book value of net worth 1.39 1.63
* Market value per share 0.56 1.33
* Cash flow per share 0.36 0.87
* Operating profit before
interest and tax 3.30 1.92
B. Maximizing the ratio of:
* Price-earnings multiple 0.65 1.36
* Market rate of return 1.00 1.56
* Return on investment 3.84 1.55
* Net profit to net worth 1.98 1.90
* Net profit margin 2.28 1.89
* Market share 1.98 1.75
C. Maximizing the growth in:
* Earnings per share 1.67 1.79
* Total assets 1.46 1.73
* Sales 2.14 2.68

D. Ensuring that the funds are available 3.02 1.56
E. Others 0.35 1.22

TABLE 9
INTERNATIONAL COMPARISON OF SCORES
IN FINANCIAL GOALS

	France	Japan	Nether-lands	Norway	USA	India
Financial Goal	8	20	13	26	20	57*
* (Max.market value plus div. and minimize variance)						
Mean	3.88	.10	0.00	2.12	2.40	1.00
Standard Deviation	.93	.44	0.00	1.85	2.08	1.56
* (Guarantee funds are available)						
Mean	4.25	1.90	2.62	3.58	1.95	3.05
Standard Deviation	.97	2.21	2.24	1.80	1.86	1.56
* (Max. book value of firm)						
Mean	.38	1.10	.92	1.88	1.65	1.39
Standard Deviation	.99	1.76	1.54	1.65	1.96	1.63
* (Max.market value of share)						
Mean	2.63	.10	1.62	0.00	2.50	0.56
Standard Deviation	1.73	.44	2.06	0.00	2.36	1.33
* (Max. liquidation value)						
Mean	.38	0.00	.23	.19	.35	-
Standard Deviation	.99	0.00	.42	.96	1.11	-
* (Max.growth in EPS)						
Mean	4.63	2.95	3.92	1.81	4.39	1.67
Standard Deviation	.70	2.06	1.77	1.52	1.24	1.79
* (Max.price/earnings ratio)						
Mean	3.13	0.00	1.92	1.42	2.00	0.65
Standard Deviation	.93	0.00	2.06	1.52	1.76	1.36
* (Max. PBIT)						
Mean	3.25	.95	1.46	3.42	1.85	3.30
Standard Deviation	-	1.53	1.99	2.02	1.85	1.92
* (Max.ROE)						
Mean	2.25	1.90	2.69	3.73	2.60	1.98
Standard Deviation	.66	1.87	2.23	1.74	1.85	1.90
* (Max.return on sales)						
Mean	3.63	2.10	1.69	2.77	2.20	2.28
Standard Deviation	1.58	1.89	2.01	1.83	2.04	1.89
* (Max.cash flow per share of common stock)						
Mean	2.63	.55	2.00	1.85	1.45	0.36
Standard Deviation	1.11	1.02	2.08	1.81	1.43	0.87
* (Others)						
Mean	.38	1.00	1.00	.54	1.15	0.35
Standard Deviation	.99	1.90	1.88	1.39	2.03	1.22

Note : Figures below each country indicate the sample size .
Source: Financial Management, Autumn, 1975, pp.34-35, except for results for India.._¢

TABLE 10
RANK CORRELATION MATRIX OF THE AVERAGE
SCORES OF FINANCIAL GOALS

France Japan Netherlands Norway USA India

France 1.00 0.38 0.43 0.38 0.59 0.60
(1.30) (1.51) (1.30) (2.31) (2.37)
Japan 1.00 0.56 0.53 0.37 0.64
(2.14) (1.98) (1.26) (2.63)
Netherlands 1.00 0.31 0.51 0.39
(1.03) (1.88) (1.34)
Norway 1.00 0.25 0.83
(0.82) (4.71)
USA 1.00 0.45
(1.59)
India 1.00

Note: Figures in parentheses indicate the t-values.

TABLE 11
SIMPLE CORRELATION COEFFICIENT MATRIX
FOR BOTH DEPENDENT VARIABLES

VARIABLES SIZE RISK CI PBIT ROI GSALES FUND ROCE AROCE

SIZE 1.000
RISK .413 1.000
CI .093 .117 1.000

PBIT -.145 -.027 -.084 1.000
ROI .129 .030 -.285 .307 1.000
GSALES -.221 -.152 .074 .452 .106 1.000
FUND -.102 -.229 -.379 .224 .343 .270 1.000

ROCE -.039 .048 -.385 .180 .173 -.250 .220 1.000
AROCE -.045 .056 -.324 .161 .129 -.236 .217 .982 1.000

TABLE 12
SUMMARY OF REGRESSION RESULTS OF MODEL USING
RETURN ON CAPITAL EMPLOYED AS DEPENDENT VARIABLE

FINANCIAL GOALS

Constant Size Risk CI PBIT ROI GSALES Fund R 2 F-value
---
1 0.212 -0.001 0.003 -0.345 0.061 0.036 -0.151 0.120 0.241 2.86
(4.49) (-2.61) (2.55) (-0.97) (1.20) (0.86) (-3.38) (2.61)
(4.66) (-3.05) (2.71) (-0.98) (0.99) (1.12) (-2.41) (2.89)
0.180 -0.000 0.001 0.257 0.314 0.000 0.72
(4.18) (-0.94) (1.01) (0.69) (0.65)
0.164 -0.001 0.002 0.246 0.059 0.012 1.
(3.74) (-1.15) (1.51) (0.68) (1.39)
4 0.244 -0.001 0.002 0.159 -0.074 0.041 1.44

(4.82) (-1.59) (1.50) (0.44) (-1.77)
5 0.147 -0.001 0.002 0.143 0.085 0.047 1.50
(3.24) (-1.71) (1.83) (0.39) (1.84)
6 0.187 -0.001 0.003 0.048 0.036 -0.133 0.107 0.243 3.19
(4.73) (-2.46) (2.42) (0.98) (0.88) (-3.27) (2.44)
7 0.199 -0.001 0.003 -0.115 0.128 0.230 4.06
(5.15) (-2.82) (2.80) (2.99) (3.05)

Note: The figures in parenthesis represent the t-values. The third row of figures given in parenthesis in model #1 are t-value estimates obtained by using heteroscedastic consistent covariance matrix estimation to correct t-values for an unknown form of heteroscedasticity..

TABLE 13
SUMMARY OF REGRESSION RESULTS OF THE ADJUSTED RETURN ON CAPITAL EMPLOYED MODEL

FINANCIAL GOALS

Constant Size Risk CI PBIT ROI GSALES Fund R^2 F-Value
---
1 0.292 -0.001 0.004 -0.335 0.054 0.029 -0.156 0.136 0.233 2.78
(5.62) (-2.79) (2.77) (-0.86) (0.98) (0.63) (-3.19) (2.72)
(5.82) (-3.35) (3.20) (-0.76) (0.48) (0.84) (-2.36) (2.89)
0.261 -0.001 0.002 0.306 0.024 0.000 0.83
(5.59) (-1.20) (1.26) (0.76) (0.45)
0.246 -0.001 0.002 0.289 0.053 0.014 1.14
(5.14) (-1.65) (1.66) (0.74) (1.15)
4 0.326 -0.001 0.002 0.189 -0.078 0.054 1.58
(5.95) (-1.79) (1.72) (0.48) (-1.72)
5 0.221 -0.001 0.003 0.161 0.094 0.070 1.77
(4.51) (-1.96) (2.08) (0.41) (1.91)
6 0.267 -0.001 0.004 0.042 0.030 -0.139 0.124 0.239 3.14
(6.18) (-2.68) (2.67) (0.78) (0.65) (-3.12) (2.59)
7 0.277 -0.001 0.004 -0.124 0.142 0.248 4.37
(6.65) (-3.08) (3.07) (-2.99) (3.14)
---
ote:AROCE alternatively measures the financial performance by dividing profit before interest and depreciation (PBDIT) by capital employed. The figures in parenthesis represent the t-values. The third row of figures given in parenthesis in model #1 are t-value estimates obtained by using heteroscedastic consistent covariance matrix estimation to correct t-values for an unknown form of heteroscedasticity..

Appendix I
Title : FINANCIAL GOALS OF INDIAN COMPANIES
Name of the Company :
The following statements are alternative ways of describing the financial goals of a company. You may kindly check from the

list of the goals that your company considers when making financial decisions. If your company pursues any other goal(s), please describe under 0.

The financial goal(s) of our company is(are) to:

A. Maximize the book value of net worth.
B. Maximize the market value of common shares.
C. Ensure that funds are always available when needed.
D. Maximize cash flow per share.
E. Maximize net operating profits before interest and taxes.
F. Maximize the shareholders' rate of return as measured by dividends plus change in the market price of the common share over a specific time horizon and subject to some maximum allowable risk.
G. Maximize return on equity as measured by net profit after taxes divided by book net worth.
H. Maximize price-earnings ratio.
I. Maximize the return on investment.
J. Maximize net margin, viz. net profit after taxes divided by net sales.
K. Maximize growth in earnings per share.
L. Maximize growth in sales.
M. Maximize growth in total assets.
N. Maximize market share of products.
O. Other (please describe).

Please rank the goals as checked above in terms of their importance to your company with the highest rank being number 1 and onwards:

Rank:

A B C D E
F G H I J
K L M N O._½

Appendix II

LIST OF SAMPLE COMPANIES

---

1. Andhra Sugars
2. Ashok Leyland
3. Associated Cement
4. Atic Industries*
5. Atul Products
6. Auto Corp. Goa*
7. Bajaj Tempo
8. Banswara Textile*
9. BASF
10. BATA India
11. Best & Cromp.
12. Bharat Steel Tube*
13. Cable Corporation*
14. Cellulose Products
15. Colour Chem

16. Crompton Greaves
17. EID Parry
18. Elecon
19. Gabriel India
20. Gujarat Narmada*
21. Hico Products
22. Hind Ciba
23. Hindustan Lever
24. Hyderabad Industries
25. Indian Aluminum
26. India Cement
27. Indian Explosive
28. J.K. Industries*
29. Kanoria Chemicals*
30. Kelvinator
31. Kinetic Engg.
32. Kirlosker Pune
33. Laxmi Machines*
34. M.P. United*
35. Madras Cement
36. Manglam Cement
37. Manglore Chemicals
38. Molins India
39. Mukand Iron
40. Naga Finance*
41. National Engg. Industries
42. National Insulated Cable*
43. Orient Paper
44. Otis Elevetors
45. Ponds
46. Premir Auto
47. RG Ispat
48. Richardson
49. Rollatainers
50. SS Duncan*
51. Saraswati Industrial Synd.*
52. Searle India
53. Shri Ambica
54. Shriram Fibre
55. Siemens
56. Standard Mills*
57. Straw Products

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* Companies not included in regression analysis for lack of complete data..__