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Financial Performance of Paper and Paper Product Companies in India in Post-Liberalization Period: An Exploratory Study

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Abstract:

This paper analyses the financial performance of Indian paper and paper product companies using data from CMIE over the period, 2000-01 to 2008-09.The analysis has been conducted from seven key financial dimensions, namely, financial profitability, capital structure, operational efficiency, fixed asset age, current asset efficiency and liquidity position. .The financial performance analysis identifies financial strength and weakness of the firms within paper industry. The study suggests that liquidity position and profitability of the industry as a whole are sound and strong ensuring good liquidity management and better profitability to both investors as well as entrepreneurs. The study reveals that high and gradually increasing current asset turnover has been a contributing factor responsible for ensuring current asset efficiency which means that resources like current assets of the firms of the industry are getting utilized more efficiently. But, dividend payment being lower, the companies need to improve the quantum of dividend payment in order to satisfy the investors without affecting the future expansion and modernization programmes of the sector. Moreover, companies should make a concerted effort in maximizing assets and minimizing liabilities so that overall financial position could be improved.

Key words: Paper, industry, financial performance, multiple regression, India.

1. Introduction:

As a part and parcel of self-appraisal, each and every industry is constantly engaged in search of tools for assessing its own current performance. This performance can be judged suitably by comparing it with the various targets, past achievements and operative capacity and productivity growth. Business decision-making and policy formulation mostly depend on productive, financial and economic indicators. Profitability, liquidity, capital structure analysis etc. have been recognized as the main indicators of financial performance of an industry. On the other hand, economic performance can be studied in terms of productivity, efficiency, technology and technical progress etc. Just as there is no single criterion for judging performance, performance in turn, in whatever manner it is measured, can be influenced by a number of factors. The financial performance analysis identifies financial strength and weakness of the firms within paper industry by establishing relationship between items of Balance Sheet and profit&loss account. Thus, the present paper is of crucial importance to measure the firm's liquidity, profitability, capital structure, and other indicators that the industry has been running in a rational and normal way ensuring enough returns to the shareholders to maintain at least its market value.

The Government of India has completely delicensed the paper industry with effect from July 1997. The Indian Paper industry is a priority sector for foreign collaboration and foreign equity participation up to 100 percent which receives automatic approval by Reserve Bank of India. Several fiscal incentives have also been provided to the paper industry, particularly to those mills which are based on non-conventional raw material. The paper industry is the second industry liberalized in India after the cement industry. Much before initiation of liberalization process since July, 1991, the paper industry was partially de-licensed in 1984-'85, especially the agro-based paper mills segment. Deli censing was extended to other segments of the industry in1991. Thus the industry has witnessed far-reaching policy changes starting from a controlled policy regime to a liberalized one. These changes have affected various fields of operations and given a more flexible approach to decision-making.

1.1 Brief profile of Indian paper and pulp industry:

The paper industry in India is highly energy intensive. It is ranked sixth largest energy consumer in the country. The average energy cost for Indian paper mills is about 15–20 percent of total production cost, as against 10 percent in USA, Sweden, Finland, and other major paper producing countries. The Indian paper industry

accounts for about 1.6 percent of the world's production of paper and paperboard, and is expected to grow with an annual rate of 6-7 percent in near future. This sector provides employment to about 3.5million people directly and indirectly. The paper consumption in India is about 7 kg per capita as against the world average of 50 kg per capita (Central Pulp and Paper Research Institute, 2007). The total output of Indian paper industry is about 7.4 MT, with a turnover of about Rs 160 billion. It contributes about Rs 25 billion to the state and central exchequers by way of various duties and taxes. It is a capital-intensive, energy-intensive and pollution emitting industry. The Indian pulp and paper industry recorded a steady average annual growth rate of 5.47 percent over the past couple of years. Broadly, there are two types of paper products: paper and paper boards, and newsprint. Paper and paperboard can further be subdivided into industrial grade (wrapping and packaging, specialty, kraft etc.) and cultural (writing and printing) paper. Based on the installed capacity , the Indian mills are categorized into two types: (1) large mills(capacity > 100 tonnes per day) and (2) small mills(capacity < 100 tonnes per day).The number of large paper mills is less as compared to the small mills that account for 50 percent of the production capacity. The production of paper and paperboards increased from 5.56 million tonnes in 2003-'04 to 5.79 million tonnes in 2004-'05. The supply and demand projection up to 2015-'16 are 10million tonnes and 13 million tonnes respectively, leading to a shortfall of 3 million tonnes. The growth rate of writing and printing varieties is expected to be 4-6percent per annum, while that of industrial paper is estimated to be 12 percent. The higher growth rate of industrial paper is due to the substitution of conventional packaging of products by paper and paper board. Imports of paper and paper products were growing over the years. However, it has increased during 2001-'02 after a fall in 2000-'01. About 1,40,000 tonnes of paper was exported in 2000-'01 mainly to the neighbouring countries.

In this backdrop, this study attempts to measure the financial performance of Indian paper and paper product companies in the light of several financial indices and ratios.

2. Statement of the problem:

Analysis of financial performance is immensely significant to all stakeholders of a company, especially to its common equity investors. Although a company's performance can be evaluated from multiple dimensions, this study is confined to only financial aspects. Therefore, it examines how a set of predictor variables that reflect operating characteristics of companies and strategic decision of firms' manager affects multiple measures of firms' financial performance. Through a vigilant analysis of its financial performance, firms within industry can identify opportunities to improve performance of each individual unit. Therefore, ability of a single unit within the industry to analyze its financial position is essential for improving its competitive edge in market arena.

2.1. Objective of the study:

The present study is designed to carry out the two broad objectives:

To evaluate the financial performance of paper and paper product companies in India during 2000-01 to 2008-09.

To summarize the findings and offer a conclusion.

More specifically, this paper seeks to highlight the following issues:

To assess the liquidity and profitability trend the of the firms with the Indian paper and paper product industry

To analyze the formation of capital structure

To determine the operational and current asset efficiency of financial operation

To determine the factors influencing profitability, capital structure and operational efficiency.

The paper is organized as follows: Section 3 provides data base and methodology, section 4 estimates and interprets financial performance of the paper industry. Major findings of the analysis are presented in section 5 and section 6 depicts the limitation of the study. At last, section 7 presents conclusion.

3. Methodology:

3.1. Collection of data:

The present study is based on secondary data collected from *CMIE* prowess database. The information provided by *CMIE database* broadly contains key items from profit and loss account and Balance Sheet. Moreover, additional secondary data were collected from the Annual reports, website like www.sebi.gov.in, www.indiainfoline.com and www.rbi.org.in. Bombay Stock Exchange (BSE) official dictionary and Capitaline database were used to crosscheck and also fill minor gap in the dataset.

3.2. Period of the study:

The study is mainly intended to examine the financial performance of the Indian paper and paper product

industry. The study is carried out for the period, 2000-01 to2008-09.The significance of this period needs hardly to be emphasized as Indian economy had to go through a phase of increasing competition, deregulation and restructuring.

3.3. Selection of sample:

All 133 companies comprising paper industry have been selected for our study. The firms within the said industry have been selected on the criteria that they were either listed in BSE or NSE at least during our study period having a market capitalization of Rs.1 crore or more.

3.4. Tools and techniques used:

To examine financial performance in the light of liquidity, solvency, profitability etc., various tools like ratio analysis, arithmetic mean, coefficient of variation, multiple regression, 't' test have been extensively used .

Statistical analysis:

We tested the hypotheses by using linear multiple regression technique that models firm performance as a function of profit appropriation, operating efficiency, fixed assets age, current assets efficiency, liquidity position. We examine the composite impact of financial indicators on profitability, capital structure and operating efficiency. Accordingly, multiple regression technique has been applied to study the joint influence of selected ratios indicating companies' financial performance on profitability, capital structure, operating efficiency etc. SPSS version 10.0 software package was used for all the above purposes.

In order to understand the financial health, financial analysis of organization has relied on financial accounting information and the use of financial ratios. Financial ratios provide a better performance of organizations as they are based on relative performance and adjust for the differences in size of organization. Using time series data, we can compare these financial ratios across time and observe changes. Using financial and accounting information provided in the profit and loss account and Balance Sheet, one can compute a large number of financial ratios. Often the problem one may face, is which financial ratio to use, as each one may reflect the same or different financial performance dimensions. Accounting and financial analysis literature is replete with suggestion to use the information contained in a large number of financial ratios, to derive empirically smaller number of dimensions necessary to evaluate the performance of an organizations.

Seven financial dimensions which emerged consistently for the nine year period are as follows:

1. Financial Profitability: This factor is composed of four ratios which are return on net worth, return on capital employed, return on equity and return on total assets. This ratio suggests whether a particular firm is profitable or not. All these ratios together indicate how the sector is meeting the expectation of its shareholders.

2. Financial structure: This factor is composed of different ratios namely, debt-equity ratio, total debt to capital employed and total debt to net fixed assets. All these ratios show the importance of debt in the capital structure of paper sector which in turn indicates whether firms within paper sector use debt in their capital structure.

3. Operating efficiency: This factor is composed of three ratios namely, capital employed turnover, net fixed assets turnover and total assets turnover. Higher efficiency implies higher financial performance as return on capital employed is product of PBIT margin and efficiency (PBIT/Revenue X Revenue /capital employed).

4. Profit Appropriation: After fixed interest payments are met, profit is available for distribution. In this factor, two ratios, namely, dividend payout and dividend rate tells us how profit is distributed by sectors after meeting all obligations.

5. Fixed assets age: This factor is composed of two ratios namely accumulated depreciation to gross fixed assets and gross fixed assets to net fixed assets. With the advent of new technologies, paper sector has become more capital intensive. The age of this machines and capacity utilization will determine the revenue generating ability of the sector.

6. Current assets efficiency: This is measured by computing two ratios. Current assets turnover and net current assets turn over. Use of current assets becomes very important since how the sector manages resources for its day to day operations, depend on current assets.

7. Liquidity position:

Liquidity is the ability of a company to meet its short term obligations. One can understand the liquidity position by analyzing the financial statements of a company. We measure liquidity by two ratios namely, current ratio and liquid ratio where financial items like current assets and current liabilities are required.

[Insert Table-1 here]

4. Analysis of financial performance:

This section analyses the various financial performance indicators in terms of financial ratios under the banner of profitability, capital structure, operating efficiency, liquidity, profit appropriation, current asset efficiency, fixed asset age etc.

[Insert Table-2 here]

4.1. Financial profitability:

In order to remain sustainable, the profit that organization generates is the key determinant of financial performance. A manufacturing sector earns profits either for its survival or for its diversification and expansion. Moreover, profitability measure of an organization is an important factor to attract private capital and it acts as a useful measure to test the overall efficiency of a manufacturing concern. The profit to the management is the test of efficiency and a measurement of control to the owner, the measure of worth of their investment to the creditors, margin of safety to employees as a source of benefits, to government a measure of tax paying capacity and the basis of legislative action to demand better quality and price cut and to an enterprise less cumbersome source of finance. Therefore, to measure overall efficiency by profitability indicators, we use return on net worth, return on capital employed and return on total assets.

4.1.1.Return on equity(ROE):

This measure the returns the shareholders get on the capital invested in the industry. More precisely, ROE reveals how much profit a company earned in comparison to the total amount of shareholders' equity found on the Balance Sheet. The return on equity figure takes into account the retained earnings from previous years and tells investors how effectively their capital is being reinvested. Thus, it serves as a far better gauge of management's adeptness than the annual earnings per share. From the shareholders point of view, return on equity is a crucial indicator of profitability and determines whether the shareholders will be able to attract risk capital. Our analysis depicts a steady growth of ROE from 2.48% in 2000-01 to 13.51% in 2008-09. Therefore, the company under the paper industry that has high return on equity is more likely to be one that is capable of generating cash internally. But, high coefficient of variation of return on equity (132.55%) is an indicative of the fact that companies within the industry fail to optimally manage the wealth of the companies with greater consistency.

4.1.2. Return on capital employed (ROCE):

This measure gives us the return on capital employed and is computed by dividing the PBIT by the capital employed. Return on capital employed (ROCE) is a ratio that indicates the efficiency and profitability of a company's capital investment. In other words, the ROCE ratio is an indicator of how well a company is utilizing capital to generate revenue.ROCE should normally be higher than the rate that the companies borrow at, otherwise any increase in borrowings will reduce shareholders' earnings. High ROCE (20% or more) is a validation of a company's competitive advantage. It indicates that the company has something special to offer - products or services that command a high return. It usually follows that margins are above average. The trend of both capital employed and margins is, therefore, of considerable importance. From the table-2, it has been found that excepting a few years, ROCE gradually increases from 8.12% in 2000-01 to 11.62% in 2008-09.Therefore, paper companies with low returns are always suspect because they are in danger of becoming loss-making if trading conditions further deteriorate. The coefficient of variations of ROCE is 28.41% which shows less consistency over our study period. This indicates that funds accumulated are not managed efficiently.

4.1.3.Return on total asset(ROTA):

It is a ratio that measures a company's earnings before interest and taxes (EBIT) against its total net assets which is an indicator of how profitable a company is relative to its total assets. The ratio is considered an indicator of how effectively a company is using its assets to generate earnings before contractual obligations must be paid.
The assets of the company are comprised of both debt and equity. Both of these types of financing are used to fund the operations of the company. The ROTA figure gives investors an idea of how well the company is converting the money it has to invest into net income. The higher the ROA number, the better, because the company is earning more money on less investment. An investible asset with negative or lower return is most likely to be discontinued by the investors. The above table shows that average return on total asset is 6.74 which vary from 3.67 to 9.09%. Coefficient of variation (30.02%) displays moderate variability of change over our study period.

4.2. Financial structure:

The way in which a company's assets are financed, such as short term borrowings, long term debt and owners' equity are called financial structure. The financial structure outlines the way the company has decided to finance its financial requirements. There are two prime sources to finance the companies- debt or borrowings, equity or owners' fund. The debt creates interest liability and if the companies are not in a position to generate adequate surplus, it may face difficulty in meeting these obligations. Moreover, financial structure design has greater implications for overall financial health of the organization since it ascertains the long term solvency of the enterprise. We use the following ratios to discuss the financial structure of the companies, namely- debt-equity ratio, total debt to capital employed and total debt to net fixed assets.

4.2.1.Debt–equity ratio(DE):

The debt equity ratio is a measure of a company's financial leverage calculated by dividing its total liabilities by stockholders' equity. It indicates what proportion of equity and debt the company is using to finance its assets and it is a financial ratio indicating the relative proportion of shareholders' equity and debt used to finance a company's assets. A high debt/equity ratio generally means that a company has been aggressive in financing its growth with debt. This can result in volatile earnings as a result of the additional interest expense. A low debt/equity ratio usually means that a company has been friendly in financing its growth with debt and more aggressive in financing its growth with equity. The study shows that average debt-equity ratio is 1.46 which goes to around 1.53 in 2000-01 but again drops to 1.41 in 2008-09.This result indicates that companies within the industry has been aggressive in financing its growth with debt. Coefficient of variation of debt-equity ratio is 7.68% which shows more consistency during the study period. Lower variability in the debt-equity ratio indicates proper or efficient management of debt-equity.

4.2.2.Total debt to capital employed (TDCE):

This ratio measures the percent of total capital employed that has been financed by debt. Debt to capital employed ratio measures is used in the analysis of financial statements to show the amount of protection available to creditors. The ratio equals total liabilities divided by total stockholders' equity; also called debt to net worth ratio. A high ratio usually indicates that the business has a lot of risk because it must meet principal and interest on its obligations. Potential creditors are reluctant to give financing to a company with a high debt position. However, the magnitude of debt depends on the type of business. Usually, book value is used to measure a firm's debt and equity securities in calculating the ratio. Market value may be a more realistic measure, however, because it takes into account current market conditions. In the study , average debt to capital employed ratio 0.39 which rises from 0.42 in 2000-01 to 0.49 in 2008-09.Coefficient of variation of this ratio over the study period is 15.35% which shows lesser variability signifying proper and efficient management of financial risk.

4.2.3.Total debt to net fixed assets (TDNFA):

Total debt to net fixed assets ratio provides the percentage of net fixed assets that were financed by creditors, liabilities, debt. Debt- net fixed asset ratio is the proportion of total liabilities to total assets. It indicates what proportion of the company's assets is being financed through debt. A lower ratio means a majority of fixed assets are financed through equity i.e., its assets are financed more through equity rather than debt and higher ratio means they are financed more by debt. Furthermore it can be interpreted a high ratio as a "highly debt leveraged firm". A higher percentage indicates more leverage and more risk. Companies with high ratios are placing themselves at risk, especially in an increasing interest rate market. Creditors are bound to get worried if the company is exposed to a large amount of debt and may demand that the company pay some of it back. Average of this ratio over the study period is 0.51 which ranges from 0.51 in 2000-01 to 0.62 in 2008-09. It indicates that more than half of the fixed assets are financed by debt and other half is financed through equity. Coefficient of variation shows consistency i.e lesser variability over our study period.

4.3. Operational efficiency:

Operational efficiency deals with minimization of waste and maximization of resource capabilities, in order to deliver quality products and services to customers. Operational efficiency is concerned with identifying wasteful processes and resources that drain the organization's profits. Operational efficiency is also concerned with designing new work processes that improve quality and productivity. Improving operational efficiency has a direct impact on the company's profit margins. However lowering costs is a viable option because internal wastage contributes to increased cost. This parameter can be estimated in view of three ratios namely, capital employed turnover, net fixed assets turnover and total assets turnover.

4.3.1.Capital employed turnover (CETO):

The capital employed turnover gives us a good idea of how the profit the business is earning relates to the capital the shareholders have invested in the business. The prime objective of making investments in any business is to obtain satisfactory return on capital invested. Hence, the return on capital employed is used as a measure of success of a business in realizing this objective. Return on capital employed establishes the relationship between the profit and the capital employed. It indicates the percentage of return on capital employed in the business and it can be used to show the overall profitability and efficiency of the business. Return on capital employed ratio is considered to be the best measure of profitability in order to assess the overall performance of the business. It indicates how well the management has used the investment made by owners and creditors into the business. It is commonly used as a basis for various managerial decisions. As the primary objective of business is to earn profit, higher the return on capital employed, the more efficient the firm is in using its funds. The ratio can be found for a number of years so as to find a trend as to whether the profitability of the company is improving or otherwise. The analysis exemplifies that average capital employed turnover is very higher (0.97) with greater consistency which is revealed through lesser coefficient of variation (5.55%).

4.3.2. Net fixed assets turnover (NFATO):

Total revenue to net fixed asset measures a company's earnings in relation to all of the fixed resources it had at its disposal. The lower the total earning per rupee of assets, the more asset intensive a business is. The higher the total revenue per rupee of assets, the fewer assets intensive a business is. All things being equal, the more assets intensive a business is, the more money must be reinvested into it to continue generating earnings. The average net fixed asset turnover ratio is1.30 which has increased form 1.13 in 2000-01 to 1.43 in 2008-09 which depicts that efficiency of the firms within paper industry has increased. The result also exemplifies that coefficient of variation (9.07%) of the said ratio presents consistency.

4.3.3.Total assets turnover (TATO):

This ratio is computed by dividing the total revenue to total assets. The analytical result shows that this ratio has increased from 0.684 in 2000-01 to 0.824 in 2008-09 signifying enhancement of operational efficiency. Coefficient of variation of the ratio is 7.55% which shows more consistency. Lesser variability in total asset turnover indicates proper and efficient management of asset.

4. 4.Profit Appropriation:

Two financial ratios, namely dividend pay-out and dividend rate indicates the measure of profit appropriation parameter.

4.4.1.Dividend pay-out ratio(DIVPAYOUT):

The dividend payout ratio is the percentage of a company's net earnings that the company pays to investors as a dividend. Dividend payout is defined as total dividends paid as percent of profit after tax. If investors like immediate income, a higher ratio is preferable; growth investors prefer companies with lower ratios, including those that pay no dividend at all. Dividends are taxed as ordinary income, whereas long-term capital gains are taxed at a lower rate than ordinary income. Thus, there is a tax advantage to long-term growth in terms of stock price. High-growth companies tend to have lower ratios, preferring to invest their earnings in additional growth. As a company matures and its earnings plateau, it is more likely to declare a dividend or increase the payout ratio. If the dividend payout ratio is increasing, this implies that the company is maturing and planning on limited expansion. The analysis exemplifies that dividend pay-out ration abnormally declined from 3.96 in 2000-01 to 0.96 in 2008-09. High coefficient of variation (266%) signifies abrupt variability over our study period.

4.4.2. Dividend Rate:

The dividend rate is another measure of dividend decision of the Indian paper industry. It is calculated by dividing dividend paid by paid up value of share capital. Dividend paid is moderate over our study period which gradually increased from 22% in 2000-01 to 28% in 2008-09.

4.5. Fixed assets age:

Paper industry requires huge amount investment in machinery and equipment, the age and use of which will advocate revenue generating ability of the industry. This reflects the capital expenditure requirement of the industry in future.

4.5.1. Accumulated depreciation to gross fixed assets (ACDGFA):

This ratio measures the age of fixed assets. The average of this ratio over our study period is 3.7% which ranges from 3.5% in 2000-01 to 3.7% in 2008-09.It reflects that asset structure of the paper industry in India is not too

old which further ensures that firms within the industry have enough strength to access over modern technologies and equipments.

4.5.2.Gross fixed assets to net fixed assets (GFANFA):

The difference between gross fixed asset to net fixed asset is accumulated depreciation which also reflects the asset age. This ratio has improved from 1.47 in 2000-01 to 1.67 in 2008-09.

4.6. Current assets efficiency:

Efficiency ratios are those which enable the management of the company to see whether the resources of the company are getting used efficiently or not. Therefore, use of current asset would be an important determinant of paper industry's performance. Two important ratio-current asset turnover and net current asset turnover are used to measure current asset efficiency.

4.6.1.Current assets turnover (CATO):

Current asset turnover is a ratio that indicates how efficiently a firm is using its current assets to generate revenue and it shows the productivity of company's current asset. It is defined as total revenue divided by total current assets. The average current asset turnover is 1.81 which has increased from 1.83 in 2000-01 to1.86 in 2008-09.This is an indication of the fact that the current assets are being used efficiently over the study period.

4.6.2.Net current asset turnover (NCATO):

This ratio slightly declined from 2.63 in 2000-01 to 2.61 in 2008-09 . But coefficient of variation (5.01%) of the net turnover ratio shows consistency over our study period indicating efficiency in current asset utilization.

4.7. Liquidity position:

Liquidity position is the difference between the sum of liquid assets and incoming cash flows on one side and the outgoing cash flows resulting from commitments on the other side measured over a definite period. Liquidity is the ability to meet short term obligation. The ability of an organization to meet its obligation is measured by current ratio and liquidity ratio.

4.7.1. Current Ratio (CR):

This ratio is an indication of a company's ability to meet short-term debt obligations; the higher the ratio, the more liquid the company is. Current ratio is equal to current assets divided by current liabilities. If the current assets of a company are more than current liabilities, then that company is generally considered to have good short-term financial strength. If current liabilities exceed current assets, then the company may have problems in meeting its short-term obligations. The result shows that average current ratio is 2.01 which vary from 1.49 in 2000-01 to 2.48 in 20008-09 which indicate that the industry has been able to meet their matured current obligations under the study period .Therefore, overall ratio suggests good liquidity position of the industry which is increasing over time.

4.7.2.Liquid Ratio (LR)

It is the ratio of liquid assets to current liabilities. Liquid ratio is more rigorous test of liquidity than the current ratio because it eliminates inventories and prepaid expenses as a part of current assets. Usually a high liquid ratio an indication that the firm is liquid and has the ability to meet its current or liquid liabilities in time and on the other hand a low liquidity ratio represents that the firm's liquidity position is not good. The analysis represents that the firms within industry have been able to meet their matured current obligations consistently under the study period.

4.7.8. Financial performance through regression analysis:

In this section, an attempt has been made to examine composite impact of financial performance indicators on profitability, capital structure and operational efficiency. Consequently, multiple regression technique has been applied to study the joint influence of the selected ratios on profitability, capital structure and operational efficiency and regression coefficients have been tested with the help of 't' values. Here 4 regression equations have been tested taking ROCE,ROTA ,DE and CETO as dependent variables with their respective categorization in performance evaluation.

[Insert Table-3 here]

Table 3 reports the result of the regression with components of profitability i.e return on capital employed as dependent variable. The result shows that total debt to net fixed asset (TDNFA), dividend pay out(DIVPAYOUT), gross fixed asset to net fixed asset(GFANFA), current asset turnover ratio(CATO) as explanatory variables , have highly significant positive relation with return on capital employed. As an

explanatory variable, fixed asset age, represented by accumulated depreciation to gross fixed assets (ACDGFA), has a highly significant negative relation with return on capital employed. This means that older firms due to their depreciated asset size appear to be having lower profit margin in comparison to newer ones. On the other hand, newer firms are enjoying higher profit margin in comparison to older one which is an outcome of employing a different strategy by these young firms.Net current asset turnover (NCATO) representing current asset efficiency and liquid ratio (LR) have significant negative relation with return on capital employed.

[Insert Table-4 here]

Table 4 shows that total debt to net fixed asset (TDNFA) has significant positive relation with return on total asset (ROTA) which signifies that for 1 percent increase in ROTA, TDNFA increases by 20.44 percent. Similarly, dividend pay out ratio(DIVPAYOUT), dividend rate(DIVRATE), gross fixed asset to net fixed asset(GFANFA), current asset turnover (CATO) have positive relation with return on total asset(ROTA) which indicates that an increase in these performance indicators would have led to an increase in return on total asset(ROTA) which led to an increased accounting profitability. On the other hand, net current asset turnover (NCATO) and liquid ratio (LR) have negative effect on profitability.

[Insert Table-5 here]

Table 5 presents the results of multiple regression with debt-equity ratio as dependent variable where it shows that dividend pay out ratio (DIVPAYOUT), dividend rate (DIVRATE) and current asset turnover (CATO) have significant negative impact on debt equity ratio of the industry. It indicates that an increase in debt equity ratio initiates debt burden in the capital structure leading to an increase in firm's financial and bankruptcy risk and interest liability. It will lead to the decline in dividend payout, dividend rate and current asset turnover. But, accumulated depreciation to gross fixed assets (ACDGFA), gross fixed asset to net fixed asset (GFANFA), net current asset turnover (NCATO) and liquid ratio (LR) have significant positive impact on leverage or debt equity ratio.

[Insert Table-6 here]

In table 6, regression result shows that total debt to net fixed asset (TDNFA), net current asset turnover (NCATO) and liquid ratio(LR) has significant negative effect on capital employed turnover. But, dividend payout, dividend rate etc have significant positive effect on capital employed turnover ratio. It means that with the increase in capital employed turnover, rate of dividend as well as dividend payment also increase which is a good sign to the investors.

5. Findings of the study:

A few points emerged from the study:

• It has been found that percentage of debt in capital structure is not very high indicating low burden of interest which makes the firms within industry less risky.

• As a measure of profitability, return on equity(ROE), return on capital employed(ROCE) and return on total assets(ROTA) are gradually increasing over our study period which is a good indication to the investors as well as entrepreneurs.

• Total debt to net fixed asset (TDNFA) and total debt to capital employed (TDCE) are very low over the entire study period which indicates that majority of assets are financed through equity rather than debt.

• The analysis of liquidity position clearly indicates that liquid ratio and current ratio are in conformity with ideal liquid ratio of 1:1 and ideal current ratio of 2:1 respectively. This is an indication that firms within the paper and paper product industry have sufficient liquid or current asset to meet liquid or current liability which is a sign of sound liquidity position of the industry.

• Regarding appropriation of profit, it has been observed that although dividend rate is moderately high, dividend payment is proportionately low signifying that management perhaps sets an enormous portion of profit aside for future growth or investment.

• The study suggests that management of the industry has been able to achieve operational efficiency with minimization of waste and maximization of resource capabilities because three indicators of judging operational efficiency namely, capital employed turnover, net fixed asset turnover and total asset turnover are moderately high and showing gradual upward trend over the years.

• The study reveals that high and gradually increasing current asset turnover has been a contributing factor responsible for ensuring current asset efficiency which means that resources like current assets of the firms of the industry are getting utilized more efficiently.

• Fixed asset age is a parameter in evaluating financial performance which hints possible upcoming modern technology adoption .The trend in accumulated depreciation to gross fixed asset ratio, an indicator of fixed asset age, shows that asset structure of the paper industry in India is not too old which further ensures that firms within the industry have enough strength to access over modern technologies and equipments.

6. Limitation of the study:

The study is confined to only a single manufacturing industry-namely, paper and paper product companies for a period of 9 years only -which is based on published secondary data taken from Centre for Monitoring Indian Economy (CMIE) in the absence of more reliable database. Moreover, the study has not used any control groups for comparison (i.e. industry average or firms with similar characteristics).Statistical data over a longer period of time is considered adequate to arrive at unbiased result which is lacking in this study. Further research in this area will be a fruitful extension of the present study by estimating and comparing with industry average and the difference ,if any, could be explores further to derive further insight.

7. Conclusion:

In this paper, we have analyzed the financial performance of Indian paper and paper product companies using data from *CMIE.*The study suggests that liquidity position of the industry as a whole is sound and strong ensuring good liquidity management. But, dividend payment being lower, the companies need to improve the quantum of dividend payment in order to satisfy the investors without affecting the future expansion and modernization programmes of the sector. Moreover, companies should make a concerted effort in maximizing assets and minimizing liabilities so that overall financial position could be improved. To improve financial position and stability of the industry, equity oriented dependability has to be curtailed and proper mixture of stake between owners and outsiders has to be made so that significant pressure on future cash flow can be avoided.

In conclusion, this is an exploratory study that provides interesting insight into the various facets of financial performance of paper and paper product companies in India which would add to the growing body of knowledge on industry's performance.

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Table:1: Statement of Financial ratios in descriptive form

ROCE	Return on capital employed defined by PBIT to capital employed
ROE	Return on equity defined by profit after tax (PAT) divided by net worth
ROTA	Return on total asset defined by PBIT to total assets
DE	Debt to Equity ratio

TDCE	Total debt to capital employed
TDNFA	Total debt to net fixed assets
CETO	Capital employed turnover defined as total revenue divided by capital employed
NFATO	Net fixed assets turnover defined as total revenue divided by net fixed assets
TATO	Total assets turnover defined as total revenue divided by total assets
DIVPAYOUT	Dividend payout defined as total dividends paid as percent of profit after tax
DIVRATE	Dividend rate defined as total dividends as percent of paid up share capital
ACDGFA	Accumulated depreciation to gross fixed assets
GFANFA	Gross fixed assets to net fixed assets
CATO	Current assets turnover defined as total revenue divided by total current assets
NCATO	Net current assets turnover defined as total revenue divided by net current assets
CR	Current ratio defined as current assets to current liabilities
LR	Liquid ratio defined as liquid assets to current liabilities

Table: 2: Analysis of financial performance of paper and paper product companies:

Financial Profitability											
Year	2000-01	2001-02	2002-03	2003-04	2004-05	2005-06	2006-07	2007-08	2008-09	mean	CV(%)
ROE	2.43	-2.20	-6.57	1.56	4.36	11.84	12.20	12.93	13.51	5.56	132.55
ROCE	8.12	5.96	4.91	6.96	7.59	10.27	10.80	11.14	11.62	8.60	28.41
ROTA	6.08	4.66	3.67	5.38	6.00	8.14	8.70	8.94	9.09	6.74	30.02
Financial Structure											
DE	1.53	1.52	1.60	1.52	1.46	1.34	1.24	1.52	1.41	1.46	7.68
TDCE	0.42	0.37	0.30	0.33	0.35	0.38	0.40	0.45	0.49	0.39	15.35
TDNFA	0.51	0.48	0.39	0.43	0.47	0.52	0.56	0.59	0.62	0.51	14.66
Operating Efficiency											
CETO	0.91	0.88	0.92	1.02	1.026	1.027	0.97	0.96	0.97	0.97	5.55
NFATO	1.13	1.15	1.18	1.30	1.40	1.41	1.37	1.34	1.43	1.30	9.07
TATO	0.684	0.691	0.692	0.768	0.811	0.814	0.784	0.794	0.824	0.76	7.55
Profit Appropriation											
DIVPAYOUT	3.96	-4.61	-1.99	8.54	2.81	0.96	0.85	0.91	0.96	1.38	266.96
DIVRATE	0.22	0.20	0.19	0.25	0.25	0.26	0.31	0.30	0.28	0.25	16.71
Fixed assets age											
ACDGFA	0.035	0.037	0.039	0.039	0.034	0.037	0.037	0.036	0.038	0.037	4.58
GFANFA	1.477	1.478	1.572	1.638	1.655	1.664	1.615	1.654	1.672	1.60	4.81
Current assets efficiency											
CATO	1.83	1.84	1.71	1.84	1.88	1.81	1.70	1.79	1.86	1.81	3.50
NCATO	2.63	2.60	2.35	2.60	2.67	2.50	2.31	2.58	2.61	2.54	5.01
Liquidity position											
CR	1.49	1.73	1.61	1.83	2.05	2.16	2.36	2.42	2.48	2.01	18.21
LR	1.09	1.06	1.04	1.13	1.09	0.98	1.07	1.04	1.11	1.07	4.18

Source: Own estimate from CMIE database.

Table: 3: Linear multiple regression coefficients with dependent variable as Return on capital employed (ROCE)

Explanatory variables	Coefficients	t values
(Constant)	2.320	5.800
TDNFA	30.128	254.849
DIVPAYOUT	0.201	69.062
ACDGFA	-56.212	-10.284
GFANFA	4.186	31.387
CATO	7.124	15.997
NCATO	-6.406	-27.196
LR	-9.872	-44.045
Adjusted R^2	0.97	

Dependent Variable: ROCE

Table: 4: Linear multiple regression coefficients with dependent variable as Return on total assets (ROTA)

Explanatory variables	Coefficients	t values
(Constant)	-0.920	-0.532
TDNFA	20.440	17.523
DIVPAYOUT	0.116	7.286
DIVRATE	10.785	4.026
GFANFA	2.033	2.398
CATO	6.626	3.050
NCATO	-4.395	-4.149
LR	-9.044	-8.896
Adjusted R^2	0.98	

a Dependent Variable: ROTA

Table:5: Linear multiple regression coefficients with dependent variable as Debt-equity ratio(DE)

Explanatory variables	Coefficients	t values
(Constant)	1.703	34.779
DIVPAYOUT	-4.201E-03	-12.716
DIVRATE	-2.639	-74.436
ACDGFA	14.127	19.792
GFANFA	0.793	37.778
CATO	-4.392	-79.271
NCATO	2.393	84.692
LR	0.460	16.472
Adjusted R^2	0.95	

a Dependent Variable: DE

Table: 6: Linear multiple regression coefficients with dependent variable as capital employed turnover (CETO)

Explanatory variables	Coefficients	t values
(Constant)	0.114	0.506
TDNFA	-0.356	-2.348
DIVPAYOUT	5.189E-03	2.508
DIVRATE	0.746	2.143
GFANTA	0.252	2.286
CATO	0.863	3.058
NCATO	-0.314	-2.280
LR	-0.310	-2.343
Adjusted R^2	0.94	

a Dependent Variable:CETO