Financial Restructuring and its Impact on Shareholders' Wealth in Selected Companies in India

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Abstract

Purpose : The purpose of the study was to analyze the effect of financial restructuring on shareholders' wealth of manufacturing companies. This study investigated if there was a significant difference in shareholders' wealth of the firms after the restructuring.

Methodology : This study included a sample of 146 firms of different manufacturing sectors and related sub-sectors in India that had undergone financial restructuring. This study involved a two-stage methodology. In the first part, paired sample *t*-test was used to investigate the significant difference in financial ratios in pre and post-restructuring periods. In the second part of the methodology, the focus was given to checking the impact of restructuring on the shareholders' wealth of the companies in the post-restructuring period using various techniques like factor analysis, correlation matrix, and multiple regression analysis.

Findings : The results showed a significant difference in four financial parameters in the pre-and post-restructuring periods. Moreover, it was also found that restructuring considerably impacted the shareholders' wealth of firms in all factors except growth.

Practical Implications : These results are recommended to financial institutions, banks, and executives. This study may also be used for understanding the reasons behind restructuring and to evaluate whether restructuring created value for shareholders or not. This study could be used to analyze the shift in the structure after restructuring.

Originality/Value : The study found that restructuring improved the shareholders' wealth of the firms in the short-term and long-term.

Keywords : **restructuring, shareholders' wealth, liquidity, financial restructuring, profitability**

JEL Classification Codes : C12, C31, G21, G34

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Indian companies have restructured aggressively in the domestic as well as global markets. Financial literature indicates that restructuring choices can result from one or more motives. Company restructuring entails financial restructuring, organizational restructuring, generation restructuring, human resources restructuring, and organizational restructuring in addition to merger, de-merger, acquisition, take over, aggregate, etc. Financial restructuring is a slim phrase, and as far, it has been described in different ways as discussed below.

Financial restructuring is a procedure geared to avoid the liquidation of the organization. It entails settlement employing third events to meet creditors' claims beneath sure phrases and situations. It might be achieved by means of closing a settlement with all creditors of the enterprise underneath which creditors could be paid on precise terms than those, to begin with, familiar by using the employer. At the same time, credit scores and loans

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have been prolonged. This kind of economic restructuring allows the corporation to keep its operations, decrease creditors' losses, and get more time to compensate for debt. A firm may additionally consolidate its debts, notably, trade the dimensions and coverage of its processes, and take other actions to lessen the stress of continuous operations. Many companies reorganize both as a part of an insolvency or as an exertion to evade it. If the organization is restructuring as a part of company distress, its miles are in receivership (Desai & Joshi, 2015).

Financial restructuring is significant for improvising the shareholders' wealth of the companies, which includes the improvement in the capacity of the company to pay creditors, increasing profitability, and improving operational efficacy. According to Osoro (2014), the restructuring activity primarily emphasizes financial restructuring, which is focused on redesigning the capital structure and improving operational performance, eventually leading to shareholder wealth improvement.

Much research has evidenced that the acquiring companies have shown substantial enhancements in profitability, liquidity, and overall performance after restructuring. They determined that restructuring directed to synergetic benefits and improved results in longer periods (Healy et al., 1992). A study attempting to identify whether post-restructuring synergy leads to enhanced shareholders' wealth was carried out by Sharma and Ho (2002). Since the literature on restructuring shows that restructuring leads to gains, the assumption is that the shareholders' wealth in the post-restructuring period is higher than that of the pre-restructuring period.

The companies resort to the financial restructuring process as a turnaround strategy to survive the insolvency or get better long-term results after being revived. Still, the question typically comes whether all the firms that have undergone the financial restructuring will be able to do that or not? As seen in many instances, certain companies have exhibited the negative impact of financial restructuring on operational performance and shareholders' wealth. This study tries to address this problem by analyzing the impact of financial restructuring on shareholders' wealth. This study attempts to respond to significant issues : (a) Does financial restructuring impact shareholders' wealth? and (b) Does financial restructuring influence the factors affecting shareholders' wealth? Most previous studies studied the short-term impact of financial restructuring on shareholders' wealth and used similar methods. This study aims to fill the research gap in the literature in three ways: study the long-term impact, add a few more variables that can impact shareholders' wealth, and determine which factors affecting shareholders' wealth are also affected by financial restructuring.

Literature Review

Srinivas (2010) conducted a study of banks' mergers by comparing the performance before and after the merger process and concluded that the majority of the banks from the sample had enhanced their profitability and reduced their operative expenses, and most of the banks showed better financial performance after restructuring. Azhagaiah and Kumar (2011) studied the impact of restructuring in the short term. They considered comparing the firms' results for 3 years in the pre-restructuring and 3 years in the post-restructuring periods. They took a sample of 52 firms between 2004 and 2010, out of which 12 firms were found to substantially impact operating performance in the short range in the post-restructuring period. They concluded that the firms achieved significant progress in liquidity, profitability, better operating performance, and reduced financial and operational risk after the restructuring. Indhumathi et al. (2011) conducted a study that endeavored to compare the performance of pre- and post-restructuring with the use of accounting ratios, and two samples paired *t*-tests during the duration of 3 years pre- and post-restructuring. They took a sample of 13 companies that underwent restructuring from 2002 – 2005. The study analyzed the performance of sample firms with respect to various parameters.

Kiliç (2011) examined the financial performance of 10 Turkish banks adopting DEA and found that profitability was positively affected after restructuring. Likewise, Dobre et al. (2012) assessed the financial performance of the selected companies from Romania and found that the restructuring showed better profitability

and financial performance. Finally, Francoeur et al. (2012) used Canadian firms' 1990 – 2003 data and found that the profitability ratios increased significantly after the restructuring. Sufian et al. (2012) examined the financial performance of banks from Malaysia from 1996 – 2009. The study found no significant difference in financial performance after the restructuring.

Verma et al. (2013) studied the effects of M&As on Indian banks' performance and corporate values by analyzing pre and post-merger performance. They studied 22 merged Indian banks and analyzed the performance using EVA. They concluded that the value addition of Indian banks had more to do with operating efficiency. Raghuvanshi and Raghuvanshi (2014) studied various determinants of shareholders' gains in acquisitions. They concluded that the target companies experienced significantly higher returns than the acquiring companies during the period of the announcement and in the runup-window. Jucunda and Sophia (2014) analyzed the value creation of acquirers in India on an acquisition announcement and the sensitivity of the stock markets during an acquisition announcement.

Ahmed and Ahmed (2014) took a sample of Pakistani manufacturing companies to analyze the operating performance and found that operating performance had improved due to restructuring. Das (2014) used paired *t*-test to study the financial performance of regional rural banks before and after restructuring and concluded the positive impact of restructuring on profitability and performance. Patel and Patel (2015) examined the effect of restructuring on banks from India for a period from 2005 – 2012 and found that restructuring resulted in better performance to some degree.

Joash and Njangiru (2015) concluded that the restructuring gave positive results post-restructuring, and the ROI and EPS improved drastically. Rani et al. (2015) used a two-sample test to analyze the corporate performance of a sample of 305 companies from India in the pre and post-restructuring period. They concluded that operating results had enhanced and ROE, ROCE, and NPM improved after restructuring.

Rashid and Naeem (2017) analyzed the performance of 25 Pakistani firms due to restructuring. They concluded that restructuring had no significant impact on the performance after restructuring. Vulanovic (2017) concluded that restructuring negatively impacted the performance of industrial firms and found that the merger negatively impacted the financial performance of industrial firms. Igbinosa et al. (2017), Shijaku (2017), and Singh and Bansal (2017) identified accounting ratios as a vital instrument for measuring financial performance. Prakash (2017) studied the impact of M&A activities on the shareholders' wealth by adopting the market-adjusted model for the period of 2000 – 2010 and concluded that restructuring was found to reduce the resulting company's shareholders' wealth.

Joshi and Desai (2019) found that there was a substantial change in various financial variables before and after restructuring for the energy sector companies in India. They concluded that restructuring substantially impacted the operational results of companies for all the variables except asset turnover.

Data Sources

A sample of 146 companies was selected from various sectors involved in manufacturing. The sample included companies that had adopted the financial restructuring subsequent to registering them with BIFR or CDR or had been revived or declared sick by BIFR. The data were obtained from the financial statements of the selected companies, which were extracted from ACE equity/CMIE Prowess database. The sample for the study also involved the companies that had not registered them with BIFR or CDR. Still, they had undergone the process of financial restructuring by some other modes, that is, either by buy-back of shares, or the process of disinvestment or re-schedulement of loan, or restructuring of loan, or converting the loan into equity capital or preference capital, or capital restructuring, etc.

The abovementioned parameters were compared for a period of 4 years before sickness, as well as the year of

sickness, clubbed under the heading "pre-restructuring period" and 4 years after the restructuring clubbed under the heading "post-restructuring period." In the case of absolute numbers, it had been averaged out for the pre-structuring and post-restructuring periods, and a comparison was made. In the case of ratios, an increasing /decreasing trend has been observed.

The sample includes the companies involved in the manufacturing sector in various businesses. The sample consists of PSUs, public limited companies, and private companies. These companies include those in the business of manufacturing textiles, plastic, paper, cement, packaging material, pharmaceuticals and chemicals, electricity generation, switch gear manufacturers, transformers, cooking coal companies, etc.

These companies were selected based on their data availability for at least 2 years before and after restructuring. A sample of 146 companies was selected from the initial selection, which was identified for about 203 companies. Out of these 146 companies, 61 companies are public limited companies, and 85 are private companies. Of 146 companies, 110 are large-scale companies, and 36 are medium-scale companies. Of a total of 110 companies, 124 companies were BIFR registered/declared sick/revived/abated/wound up, and 22 companies were restructured under the CDR scheme.

The time frame selected for the study was from 1998–99 to 2014–15, that is, the time period in which BIFR or corporate debt restructuring cell resolved the cases on the companies selected in the sample. Thus, the sample included those companies that had successfully emerged from industrial sickness from 1998–99 to 2014–15.

For the purpose of this study, in order to measure the performance, the year in which the firm was registered/declared sick/abated/wound up is classified as the base year and taken as year 0, and the years prior to the base year together with the base year are clubbed as pre-restructuring period (4 years + year 0). The years after restructuring (4 years) are clubbed as the post-restructuring period. For the purpose of this study, the period covered for analysis is mainly from 1995–96 to 2017–18.

Methodology and Hypotheses

The study is separated in two major portions. The first portion of the study focuses on preliminary analysis using accounting/financial measures such as profitability, liquidity, leverage, growth efficiency, etc., to investigate the financial performance of the firms in the pre and post-restructuring period. In addition, to evaluate the firms' financial performance, the paired *t*-test is used extensively.

The first part of the methodology focuses on comparing different accounting ratios of the sample companies for the years before restructuring, the year of restructuring, and the years after restructuring. These ratios include 17 other parameters, which are discussed below with a statement of hypotheses.

The empirical study provides different methods to link the financial/operational performance of the companies with the financial restructuring. The analysis is based on various indicators which measure the performance of the companies based on empirical studies. Various financial indicators were collected and compared to link the corporate performance of companies with the financial restructuring.

The data for about 9 years consisting of 4 years prior to sickness, year of sickness, and 4 years after sickness were taken into account. The data are statistically significant at 0.01 level ($p < 0.01$), 0.05 level ($p < 0.05$), and 0.10 level ($p < 0.10$).

Hypotheses for Preliminary Analysis

I developed 17 hypotheses to check the significant difference in financial parameters before and after financial restructuring. The hypotheses statements were developed for each financial parameter. The hypotheses statements are explained below.

- H_0^1: There is no significant difference in a company's gross sales after financial restructuring.
- H_0^2: There is no significant difference in a company's profitability (net profit) after financial restructuring.
- H_0^3: There is no significant difference in the company's gross fixed assets after financial restructuring.
- H_0^4: There is no significant difference in the company's current ratio after financial restructuring.
- H_0^5: There is no significant difference in net profit to total assets after financial restructuring.
- H_0^6: There is no significant difference in the acid test ratio after financial restructuring.
- H_0^7: There is no significant difference in the payment of taxes to the government's exchequer after financial restructuring.
- H_0^8: There is no significant difference in net profit to fixed assets ratio after financial restructuring.
- H_0^9: There is no significant difference in current assets to net working capital ratio after financial restructuring.
- H_0^{10}: There is no significant difference in debtors' turnover ratio after financial restructuring.
- H_0^{11}: There is no significant difference in fixed assets turnover ratio after financial restructuring.
- H_0^{12}: There is no significant difference in the total assets turnover ratio after financial restructuring.
- H_0^{13}: There is no significant difference in interest coverage ratio after financial restructuring.
- H_0^{14}: There is no significant difference in net sales to net working capital ratio after financial restructuring.
- H_0^{15}: There is no significant difference in inventory turnover ratio after financial restructuring.
- H_0^{16}: There is no significant difference in total operating expenses to net sales ratio after financial restructuring.
- H_0^{17}: There is no significant difference in operating profit to employees' compensation after financial restructuring.

Hypotheses Development for Core Analysis

The second part of the analysis includes the core analysis of shareholders' wealth of the firms in the pre and post-restructuring period. Tools like factor analysis, correlation matrix, and multiple regression analysis were adopted to evaluate the shareholders' wealth. In addition, this part of the analysis includes the impact of various factors like earnings, liquidity, financial risk, cost utilization, turnover, growth, and operating leverage with MVA.

The study has further attempted to investigate and test if there is any significant change in the results achieved by the acquiring manufacturing firms due to restructuring. Based on the objectives, the following hypotheses were developed:

- H_0^{18}: There is no significant impact of profitability on shareholders' wealth after restructuring.
- H_0^{19}: There is no significant impact of liquidity on shareholders' wealth after restructuring.
- H_0^{20}: There is no significant impact of financial leverage (financial risk) on shareholders' wealth after restructuring.
- H_0^{21}: There is no significant impact of cost utilization on shareholders' wealth after restructuring.
- H_0^{22}: There is no significant impact of turnover on shareholders' wealth after restructuring.
- H_0^{23}: There is no significant impact of growth on shareholders' wealth after restructuring.

- **H_0^{24} :** There is no significant impact of operating leverage on shareholders' wealth after restructuring.
- **H_0^{25} :** There is no significant impact of operating efficiency on shareholders' wealth after restructuring.

Analysis and Results

Results of Paired t-test

The analysis results in Table 1 show that the *p*-value of the paired *t*-test is 0.095 for a significant difference in gross sales. Therefore, the inference can be drawn that the H_0^1 is not rejected at a 5% significance level. Therefore, there is no significant difference in the gross sales within 4 years after the financial restructuring of the selected companies. The null hypothesis is not rejected at a significance level of 0.05. At the 0.10 significance level, the null hypothesis is rejected. Here, the inference can be drawn that there is a significant difference in gross sales within 4 years after the financial restructuring of selected companies as the *p*-value is $0.095 < 0.10$.

The analysis shows the *p*-value of the paired *t*-test (0.042) for a significant difference in gross fixed assets. Therefore, the inference can be drawn that the null hypothesis (H_0^3) is rejected. There is a significant difference in the gross fixed assets within 4 years after the financial restructuring of the selected companies. Therefore, the null hypothesis is rejected at a significance level of 0.05 and 0.10.

The analysis also shows that the *p*-value of the paired *t*-test is 0.036 and 0.038 for a significant difference in the current assets/net working capital and inventory turnover ratio, respectively. The inference can be drawn that the null hypotheses (H_0^9) and (H_0^{15}) are rejected. There is a significant difference in the current assets/net working

Table 1. ***Paired t-test Results of Financial Restructuring and Its Impact on Corporate Performance***

Sr. No.	Variable	Mean	Std. Dev.	Std. Error	*t* - statistic	*d. f.*	*p* - value
1	Gross Sales	–1351.71	5839.875	890.573	–1.697	145	**0.095***
2	Net Profit	–855.39	5543.148	189.181	–0.943	145	0.462
3	Gross Fixed Assets	–8745.5	6819.14	955.856	–3.012	145	**0.042****
4	Current Ratio	0.45983	8.15234	1.89542	0.378	145	0.752
5	Net Profit/Total Assets	–0.045	0.72005	0.10521	–0.289	145	0.806
6	Quick Ratio	0.33	7.55845	1.24872	0.276	145	0.839
7	Payment of Taxes to Government	–537.186	603.745	91.246	–1.576	145	0.196
8	Net Profit/ Gross Fixed Assets	4.02471	23.91783	4.0418	1.594	145	0.303
9	Current Assets/Net Working Capital	2.0759	6.34816	0.91284	2.473	145	**0.036****
10	Debtors Turnover Ratio	81.573	568.923	73.186	1.102	145	0.327
11	Fixed Assets Turnover Ratio	3.79425	29.5077	3.95771	1.073	145	0.201
12	Total Assets Turnover Ratio	–0.05732	0.5345	0.09463	–0.722	145	0.462
13	Interest Coverage Ratio	76.00645	289.9105	53.4450	1.495	145	0.273
14	Net Sales to Net Working Capital	2.81965	13.0549	2.03149	1.401	145	0.259
15	Inventory Turnover Ratio	–9.86635	27.63723	4.75087	–2.134	145	**0.038****
16	Total Operating Expenses/Net Sales	23.2704	98.72849	18.27543	1.418	145	0.165
17	Operating Profit/Compensation to Employees	–13.583	67.591	9.8361	–1.423	145	0.164

Note. ** Significant at 5% level, * Significant at 10% level.

capital and inventory turnover ratio within 4 years after the financial restructuring of the selected companies. The null hypothesis is rejected at a significance level of 0.05 and 0.10.

Except for these four variables, all other variables have no significant difference before and after financial restructuring. Therefore, in the case of the remaining 14 parameters (i.e., H_0^2, H_0^4, H_0^5, H_0^6, H_0^7, H_0^8, H_0^{10}, H_0^{11}, H_0^{12}, H_0^{13}, H_0^{14}, H_0^{16}, and H_0^{17}), the null hypotheses cannot be rejected at 1%, 5%, and 10% significance levels.

Factor Analysis

The variables selected for factor analysis are extracted through PCA (principal component analysis) and rotated using the Kaiser normalization method through varimax. Out of this analysis, eight factors identified and found to be interlinked are shown in Table 2.

Table 2. ***Factor Analysis***

Factor	Eigen Value	Variables	Components							
			1	2	3	4	5	6	7	8
Earnings	5.427	CP	**0.798**	0.07	–0.03	–0.02	0.33	0.18	–0.12	–0.14
		EBIT/Sales	**0.909**	0.07	0.06	0.18	0.04	–0.02	0.06	0.07
		OP	**0.891**	–0.08	–0.19	0.23	–0.03	0.05	0.02	0.08
		GP	**0.921**	–0.02	0.02	0.09	0.03	0.05	0.02	0.02
		NP	**0.769**	0.12	0.15	–0.11	0.27	0.11	–0.05	0.06
		Return/Long Term Funds	**0.681**	–0.1	0.27	–0.23	0.21	0.03	0.02	0.04
Liquidity	3.126	CR	0.08	**0.662**	0.41	–0.04	–0.19	0.14	–0.18	0.09
		QR	0.04	**0.841**	0.03	–0.12	–0.14	0.15	–0.05	–0.11
		WC/TA	–0.06	**0.733**	0.11	–0.14	0.12	–0.31	0.19	0.21
		WC/Sales	0.03	**0.813**	–0.21	0.09	0.12	–0.13	0.14	–0.09
Financial Risk	2.791	Total Debt/Total Assets	0.03	0.05	**–0.822**	–0.03	–0.09	–0.18	0.03	0.33
		Proprietary Ratio	0.19	0.11	**0.849**	0.06	0.19	0.11	–0.07	0.05
Cost Utilization	2.094	Power& Fuel/Sales	0.03	–0.25	–0.45	**0.632**	0.14	0.15	–0.06	0.07
		Employee Compensation/Sales	–0.36	–0.07	0.26	**0.583**	–0.33	–0.27	0.14	–0.17
		Selling & Administrative Exps./Sales	0.12	0.21	0.18	**0.735**	0.15	0.14	–0.09	0.07
		RM/Sales	–0.33	0.24	0.14	**–0.663**	–0.12	–0.11	–10.11	0.27
Turnover	1.819	Sales Turnover	0.13	–0.09	0.18	0.06	**0.912**	–0.01	0.05	–0.03
		Inventory Turnover	0.09	–0.02	0.06	0.11	**0.896**	0.14	0.04	–0.08
Growth	1.673	Growth in Operating Profit	–0.03	–0.08	0.02	–0.14	0.05	**0.875**	–0.04	–0.07
		Growth in Fixed Assets	–0.15	0.14	–0.32	0.09	–0.05	**0.721**	0.18	–0.09
		Growth on EBIT	0.41	0.09	0.28	0.11	–0.07	**0.513**	0.06	0.23
Operating Leverage	1.573	TL/NW	0.18	0.05	–0.36	–0.15	–0.07	0.03	**0.705**	–0.03
		NA/NW	–0.12	–0.03	0.06	–0.05	0.11	–0.11	**0.826**	–0.04
Operating Efficiency	1.726	PBT/NW	0.19	–0.02	0.02	0.11	0.06	–0.03	0.04	**0.861**
		PBT/TA	0.27	–0.06	0.21	0.09	0.07	0.02	0.01	**0.872**

The study's findings are consistent with the results of Shil (2009) and Azhagaigh and Kumar (2011) that the shareholders' wealth is measured through MVA. The selected explanatory variables to measure the MVA are earnings, liquidity, financial risk, cost utilization, turnover, growth, operating leverage, and operating efficiency.

Correlation Analysis : Pre-restructuring and Post-restructuring Shareholders' Wealth

Correlation analysis is adopted to analyze the correlation of each variable with all other variables on a one-to-one basis. The results are shown in the correlation matrix with the correlation coefficients and *p*-value between the selected explanatory factors. For example, the correlation matrix of factors of shareholders' wealth for the pre-restructuring period is discussed in Table 3, which shows that the explanatory factors such as earnings (H_0^{18}) and operating leverage (H_0^{24}) have a positive relationship with MVA (0.272 and 0.098) at the 1% significance level. In contrast, the other factors do not have a significant relationship with MVA.

The correlation matrix of factors of shareholders' wealth for the post-restructuring period (Table 4) shows that the results differ from the pre-restructuring period. The results show that the explanatory factors such as earnings (H_0^{18}) and financial risk (H_0^{20}) have a positive relationship with MVA (0.192 and 0.172) at the 5% level, while other factors like liquidity (H_0^{19}), cost utilization (H_0^{21}), and operating leverage (H_0^{24}) have a significant negative relationship with MVA (–0.181; –0.162; and –0.181) at the 5% level. It is found that operating efficiency (H_0^{25}), turnover (H_0^{22}), and growth (H_0^{23}) do not have a significant relationship with MVA.

Table 3. ***Correlation Matrix : Pre - Restructuring***

	MVA	Earnings	Liquidity	Financial Risk	Cost Utilization	Operating Efficiency	Turnover	Growth	Operating Leverage
MVA	1								
Earnings	**0.272****	1							
	(0.000)								
Liquidity	–0.153	–0.063	1						
	(0.074)	(0.510)							
Financial Risk	0.154	–0.018	0.087	1					
	(0.075)	(0.859)	(0.247)						
Cost Utilization	–0.077	–0.243	–0.018	–0.105	1				
	(0.336)	(0.001)	(0.912)	(0.218)					
Operating Efficiency	–0.054	0.033	–0.099	–0.033	0.051	1			
	(0.483)	(0.735)	(0.189)	(0.723)	(0.563)				
Turnover	–0.006	0.029	0.019	–0.123	–0.111	0.027	1		
	(0.972)	(0.742)	(0.855)	(0.119)	(0.157)	(0.828)			
Growth	0.098	–0.062	–0.087	–0.045	0.144	0.074	–0.097	1	
	(0.181)	(0.441)	(0.243)	(0.581)	(0.053)	(0.331)	(0.189)		
Operating Leverage	**–0.191****	–0.135	0.063	–0.041	–0.014	0.128	0.093	0.010	1
	(0.009)	(0.072)	(0.421)	(0.627)	(0.892)	(0.095)	(0.203)	(0.931)	

Note. Figures in parentheses denote the *p* - value. ** Significant at 1% level, * Significant at 5% level.

Table 4. ***Correlation Matrix : Post - Restructuring***

	MVA	Earnings	Liquidity	Financial Risk	Cost Utilization	Operating Efficiency	Turnover	Growth	Operating Leverage
MVA	1								
Earnings	**0.192***	1							
	(0.014)								
Liquidity	**–0.181***	0.045	1						
	(0.018)	(0.575)							
Financial Risk	**0.172***	0.005	–0.072	1					
	(0.023)	(0.945)	(0.359)						
Cost Utilization	**–0.162***	**0.261****	0.018	0.093	1				
	(0.029)	(0.001)	(0.815)	(0.191)					
Operating Efficiency	–0.136	–0.018	0.066	0.028	–0.048	1			
	(0.059)	(0.815)	(0.330)	(0.715)	(0.525)				
Turnover	0.136	–0.023	–0.015	0.048	0.091	–0.005	1		
	(0.059)	(0.729)	(0.841)	(0.525)	(0.213)	(0.968)			
Growth	–0.093	–0.012	0.015	–0.036	–0.011	–0.012	–0.111	1	
	(0.191)	(0.877)	(0.841)	(0.608)	(0.896)	(0.877)	(0.149)		
Operating Leverage	**–0.181***	0.136	–0.051	0.033	0.014	–0.129	–0.069	–0.009	1
	(0.018)	(0.059)	(0.451)	(0.618)	(0.846)	(0.086)	(0.378)	(0.914)	

Note. Figures in parentheses denote the *p* - value. ** Significant at 1% level, * Significant at 5% level.

Regression Analysis : Pre-restructuring and Post - restructuring Shareholders' Wealth

This study uses the regression equation to estimate the determinants of shareholders' wealth based on explanatory or independent variables. Market value added (MVA) is the dependent variable, expressed in percentage terms. The MVA measures a firm's profitability by measuring how much profit the firm generates with the funds invested by the equity shareholders. A higher MVA percentage shows the management's efficiency in utilizing the shareholders' funds and generates better shareholder returns.

The selected independent variables in this model include earnings, liquidity, financial risk, cost utilization, turnover, growth, operating leverage, and operating efficiency. As a result, the regression equation can be expressed as below :

$$MVA = \alpha + \beta_1 Earnings + \beta_2 Liquidity + \beta_3 Financial\ Risk + \beta_4 Cost + \beta_5 Turnover + \beta_6 Growth + \beta_7 Operating\ Leverage + \beta_8 Operating\ Efficiency + \varepsilon \quad (1)$$

The output of regression analysis (Table 5) shows that in the pre-restructuring performance, the explanatory factors like earnings (H_0^{18}) and financial risk (H_0^{20}) have a highly positive β coefficient with MVA significant at 1% and 5% levels, respectively. The β coefficient for earnings is 5.135 (0.001), and for financial risk, the value is 2.795 (0.041). Conversely, operating leverage (H_0^{24}) has a negative β coefficient of –2.549 (0.046). The remaining factors, that is, liquidity, cost utilization (H_0^{21}), turnover (H_0^{22}), and operating efficiency(H_0^{25}), do not have any significant impact on shareholders' wealth. For the pre-restructuring period, the R^2 value is 0.351, and the adjusted

Table 5. ***Regression Analysis: Pre - Restructuring and Post - Restructuring***

Sr. No.	Variables	Pre-restructuring			Post-restructuring		
		β	***t* - statistic**	***p* - value**	β	***t* - statistic**	***p* - value**
1	Market Value Added (Constant)	18.003 (∝)	11.01	**0.0000****	21.006 (∝)	14.051	**0.0000****
2	Earnings	5.135	4.981	**0.001****	6.137	5.618	**0.0000****
3	Liquidity	–2.579	–1.863	0.089	–3.337	–2.624	**0.010****
4	Financial Risk	2.795	2.206	**0.041***	3.758	2.903	**0.005****
5	Cost Utilization	–0.349	–0.201	0.874	–6.257	–4.091	**0.0000****
6	Turnover	0.872	0.514	0.432	3.048	2.168	**0.049***
7	Growth	3.947	1.852	0.098	–1.573	–1.187	0.279
8	Operating Leverage	–2.549	–2.014	**0.046***	–5.237	–3.149	**0.001****
9	Operating Efficiency	–1.158	–0.816	0.447	–3.341	–2.522	**0.015***
R^2				**0.351**			**0.453**
Adjusted R^2				**0.325**			**0.381**

Note. ** Significant at 1% level, * Significant at 5% level.

R^2 is 0.325. These results reveal that these factors impact the shareholders' wealth of restructuring firms in the pre-restructuring period.

The post-restructuring regression analysis for shareholders' wealth (Table 5) indicates that all the factors except growth are significant at 1% and 5% levels. The first factor, earnings (H_0^{18}), has a highly significant positive β coefficient with MVA ((6.137) (0.0000)). Therefore, the hypothesis (H_0^{18}) is rejected, which can be inferred that the restructuring (resulting/acquiring) companies are capable of earning higher profits by maximizing the usage of their resources in the post-restructuring period. The subsequent factor liquidity (H_0^{19}) has a negative β coefficient of (–3.337) (0.010), which is highly significant. Here, (H_0^{19}) is rejected, which reveals that the restructuring firms have the capability to pay their debts as they are due in the post-restructuring period. The third factor, financial risk (H_0^{20}), also has a significant positive β coefficient with MVA (3.758) (0.005). Here, the third hypothesis (H_0^{20}) for this section is rejected, and it can be inferred that the restructuring companies can repay their external liabilities in the post-restructuring period. The fourth factor, cost utilization (H_0^{21}), is highly significant with a negative β coefficient with MVA (–6.257) (0.0000). Here the null hypothesis (H_0^{21}) is rejected, and it can be inferred that the restructuring firms are improving their cost utilization and reducing their costs in the post-restructuring period. The subsequent factor turnover (H_0^{22}) is also significant, having a positive β coefficient with MVA (3.048) (0.049). For the following two factors: operating leverage (H_0^{24}) and operating efficiency (H_0^{25}), the β coefficient is highly significant but has a negative sign.

Pre-Restructuring Model

$$MVA = 18.003^{**} + 5.135^{**}\ Earnings - 2.579\ Liquidity + 2.795^{*}\ Financial\ Risk - 0.349\ Cost + 0.870\ Turnover + 3.947\ Growth - 2.549^{*}\ Operating\ Leverage - 1.158\ Operating\ Efficiency + \varepsilon \quad (2)$$

Post-Restructuring Model

$$MVA = 21.006^{**} + 6.137^{**}\ Earnings - 3.337^{**}\ Liquidity + 3.758^{**}\ Financial\ Risk - 6.257^{**}\ Cost - 3.048^{*}\ Turnover - 1.573\ Growth - 5.237^{**}\ Operating\ Leverage - 3.341\ Operating\ Efficiency + \varepsilon \quad (3)$$

**Significant at 1% level, *Significant at 5% level

Therefore, the null hypotheses are rejected, and it can be concluded that the restructuring firms can grow highly after restructuring and increase their shareholders' wealth. The hypothesis for operating leverage is also rejected, which shows that the restructuring firms can reduce their operating leverage in the post-restructuring period, and their total liabilities to net worth ratio is also reduced. Only one factor, that is, growth, does not have a significant β coefficient with MVA. Hence, the null hypothesis for growth is not rejected, and it can be inferred that the restructuring firms do not have an impact on their growth in the post-restructuring period.

For the post-restructuring period, the R^2 is 0.453, and the adjusted R^2 is 0.381. These results reveal that all these factors, except one, significantly impact the shareholders' wealth of restructuring firms in the post-restructuring period. All variables, except growth, are statistically significant. The results also support previous studies like Vanitha and Selvam (2007) and Azhagaiah and Kumar (2011) that the restructuring process significantly affects the shareholders' wealth of the manufacturing firms in the manufacturing sector in India after restructuring.

Managerial and Theoretical Implications

This study has the following implications. The firms can explore an opportunity to restructure with other firms to survive in the future. Further, this study evaluates its objectives for economic growth through restructuring and drives positive business and logical decisions on restructuring activities. The liquidity factor has a significant negative beta coefficient with MVA, which implies that the restructuring firms can pay their debts as and when they are due after restructuring. Still, the unfavorable position of liquidity will reduce the profitability as well as have a negative impact. Hence, the restructuring firms should concentrate significantly more on reducing their debt to increase the operating efficiency of the equity holders.

The turnover factor did not show any significant impact on MVA. However, it is a well-established fact that sales have a direct relationship with the performance of the firms, that is, higher sales mean more production, which is undoubtedly the result of the best possible utilization of assets which include fixed assets like machinery, plant & equipment, inventory, and active participation of personnel. Therefore, the acquiring manufacturing firms should also use their physical sources to the maximum extent. This study may help policymakers of the organizations and the board to improve the shareholders' wealth of restructuring firms in the post-restructuring period.

Conclusion

The study has analyzed the financial performance of restructuring firms by testing the significant difference in various accounting and financial ratios using paired *t*-tests. It is found that, out of 17 parameters used in the study, three parameters, that is, gross fixed assets, current assets/net working capital, and interest coverage ratio, are found to be statistically significant at a 5% level. Therefore, it can be concluded that there is a significant difference in these three variables in the post-restructuring period.

Another part of the study focuses on shareholders' wealth of restructuring firms in the manufacturing sector in India using different explanatory variables and adopting correlation coefficient and regression analysis. We can

conclude that the restructuring firm can improve its shareholders' wealth post-restructuring in terms of earnings, liquidity, financial risk, cost utilization, turnover, and operating leverage. Growth is the only factor that is not found to have any significance on the firms' post-restructuring. It can also be concluded that the firms performed better in the post-restructuring period than in the pre-restructuring period.

In some cases, the restructuring firms did not show any significant results in the post-restructuring period. Though there were minor better results, but the results were not significant. This indicates that the firms must consider other actions to improve their shareholders' wealth in the post-restructuring period. The restructuring firms should focus on using their resources efficiently to increase their sales, as indicated by turnover, as a factor. On the other hand, these firms should also use their resources better to maximize their profit, as indicated by the growth factor. This factor has inferred that restructuring firms can increase their growth rate in the post-restructuring period but cannot maximize their profits.

Limitations of the Study and Scope for Further Research

The study is mainly based on secondary data and is restricted to restructuring firms in the manufacturing sector and sub-sectors in India. The study has ignored the impact of possible differences in the accounting methods adopted by different companies in the sample. The present study also does not use any control groups, such as industry factors or peer companies' variables, as done in previous studies. A sample for a longer span was considered adequate to arrive at unbiased results. The differences in methodology could have affected the results shown in the study. The study consists of the impact of restructuring on shareholders' wealth of manufacturing sector firms in India, leaving scope for further studies with similar objectives concerning other sectors like banking and financial services and non-financial services firms too. The present study has used MVA only as a measure to study the shareholders' wealth. Hence, further studies may be conducted using other dependent variables like return on assets or profit margin to measure the shareholders' wealth of the firms in the post-restructuring period.

This paper has shown the impact of restructuring on the overall financial performance of the restructuring firms in the post-restructuring period. The paired *t*-test for the entire sample has shown only three variables to be statistically significant. However, the same test can be used on an individual firm for each parameter, and better results can be achieved. This can also be used to infer which parameters are statistically significant for each restructuring firm in the post-restructuring period.

This study consists of restructuring firms from the manufacturing sector in India only. A similar kind of study can be done using data from other service industries. A similar sort of study can also be done using service sector firms where the parameters impacting shareholders' wealth will be different. Further scope of the study includes the involvement of stock price movement in the pre-restructuring and post-restructuring periods to check the impact of restructuring. Further studies may also be conducted using data from other countries or, to be more representative, cross-border restructuring.

Author's Contribution

Dr. Nisarg A. Joshi conceived the idea and developed the quantitative methodology to undertake the empirical study. He mined empirical literature and the concepts relevant to the study. The numerical computations were done by Nisarg using E-views 10.0 Enterprise Edition. Nisarg wrote the manuscript by putting the ideas on paper.

Conflict of Interest

The author certifies that he has no affiliations with or involvement in any organization or entity with any financial interest or non-financial interest in the subject matter or materials discussed in this manuscript.

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List of Abbreviations

CP :	Cash profit ratio
GP :	Gross profit ratio
NP :	Net profit ratio
OP :	Operating profit ratio
CR :	Current ratio
QR :	Quick ratio
WC/TA :	Working capital/total assets
TL/NW :	Total liabilities/net worth ratio
NA/NW :	Net assets/net worth ratio
ROI :	Return on investment
ROCE :	Return on capital employed
NPM :	Net profit margin
MVA :	Market value added

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