Check for updates

RESEARCH ARTICLE

REVISED Does the merger improve the operating performance of the company? Evidence from the beverage industry in India [version 2; peer review: 1 approved, 2 approved with reservations]

Pravin Narayan Mahamuni [1], Shilpa Parkhi [2], Raju Ganesh Sunder [3], Kiran Karande [4], Samuel Gameli Gadzo [5], Premendra Kumar Singh [6]

[1]Symbiosis School for Online and Digital Learning, Symbiosis International (Deemed University), Pune, Maharashtra, 412115, India
[2]Symbiosis Institute of Business Management, Symbiosis International (Deemed University), Pune, Maharashtra, 412115, India
[3]Center for Distance and Online Education, Datta Meghe Institute of Higher Education and Research, wardha, maharashtra, 442004, India
[4]Symbiosis School of Banking and Finance, Symbiosis International (Deemed University), Pune, Maharashtra, 412115, India
[5]University of Education Winneba, Winneba, Central, Ghana
[6]School of Online Education, Bharati Vidyapeeth (Deemed to be University), Pune, Maharashtra, 411030, India

v2 **First published:** 11 Sep 2023, **12**:1130
https://doi.org/10.12688/f1000research.139508.1
Latest published: 06 Dec 2023, **12**:1130
https://doi.org/10.12688/f1000research.139508.2

Abstract

Background

There is fierce market competition both locally and globally. Every organisation seeks to maintain itself and, more crucially, to develop quickly through inorganic means. The expansion of a company through mergers and acquisitions is an inorganic process. Organic growth takes a very long period and is time-bound, but inorganic growth through mergers may be achieved quickly. This research aimed to determine whether the operating results of Indian beverage firms have improved after the merger or not.

Methods

In order to assess merger-related advantages to the acquiring firms, this study used the operating performance technique, which contrasts the pre-merger and post-merger performance of corporations using accounting data. Secondary data were used to carry out this study. The operating performance was assessed on six operating parameters (ratios) i.e. Operating Profit Margin, Gross and Net Profit

Open Peer Review

Approval Status ✔ ? ?

	1	2	3
version 2 (revision) 06 Dec 2023	✔ view		? view
version 1 11 Sep 2023	? view	? view	? view

1. **Priyanka Tandon**, Regenesys Business School, Sandton, South Africa

2. **Anurag Bhadur Singh**, XIM University, Bhubaneswar, India

3. **H M Belal**, Liverpool John Moores University, Liverpool, UK

Any reports and responses or comments on the article can be found at the end of the article.

Margin, Debt-Equity, Return on Net Worth and Capital Employed. The comparison was done for three years pre and post-merger period of these operating ratios.

Results

The findings demonstrate that mergers do not seek to increase owner wealth. This finding shows that rather than just becoming larger and achieving covert goals, managers should pay more attention to post-merger integration challenges in order to produce merger-induced synergies.

Conclusion

This study shows that the M&As have not had a good effect on a company's operating performance, especially for the chosen beverage companies in India. Since financial measures cannot fully account for the influence of mergers on business performance, future research may create other metrics for merger-related gains. Research that provides profound insights into the causes and trends of post-merger business performance through the different types of mergers and industries would also be beneficial.

Keywords
Merger, Acquisition, Financial Performance, Operating Performance, Beverage Industry

This article is included in the Datta Meghe Institute of Higher Education and Research collection.

Corresponding author: Raju Ganesh Sunder (srajuganesh@dmiher.edu.in)

Author roles: Mahamuni PN: Conceptualization, Methodology, Writing – Original Draft Preparation; **Parkhi S**: Data Curation, Formal Analysis, Writing – Original Draft Preparation; **Sunder RG**: Conceptualization, Writing – Review & Editing; **Karande K**: Data Curation, Formal Analysis, Investigation, Methodology, Writing – Original Draft Preparation, Writing – Review & Editing; **Gadzo SG**: Methodology, Writing – Original Draft Preparation; **Singh PK**: Methodology, Project Administration, Writing – Review & Editing

Competing interests: No competing interests were disclosed.

Grant information: The author(s) declared that no grants were involved in supporting this work.

How to cite this article: Mahamuni PN, Parkhi S, Sunder RG *et al.* **Does the merger improve the operating performance of the company? Evidence from the beverage industry in India [version 2; peer review: 1 approved, 2 approved with reservations]** F1000Research 2023, **12**:1130 https://doi.org/10.12688/f1000research.139508.2

First published: 11 Sep 2023, **12**:1130 https://doi.org/10.12688/f1000research.139508.1

REVISED **Amendments from Version 1**

Outline the changes made from version 1 to version 2:

1. Introduction: Outline is mentioned in this section.
2. Literature Review: Summary is added in the last part of this section.
3. Research Question: Added after the Literature review.
4. Research Objectives: Objective is separated for comparison and measure purpose.
5. Data Source: Information of CMIE in added and also added the citation for paired sample 't' test.
6. Data analysis and tools used: Added the justification of paired sample 't' test.
7. Result and Discussion: Added Standard Deviation in 6 tables. Also added few more citation with information of their result.
8. Conclusion: Added and cited few more study who has concluded the same results.
9. Limitations: updated the limitation of the study.
10. Contributions: Added the contribution of the study after the Limitations.
11. Scope for further study: Added the scope for further study after the Contribution.

Any further responses from the reviewers can be found at the end of the article

Introduction

Mergers and acquisitions (M&As) in India peaked its activity levels in 2021. Many first-time buyers and an increase in industry disruptors, or insurgents, that too across multiple sectors and business activities, is what led M&As to reach such high levels (Dezan Shira & Associates, 2022). This illustrates how the global economy is undergoing strong upheaval. In reality, this serves as a response to the changes brought about by rapid technological advancements, lower communication and transportation costs that led to the emergence of a global market, elevated competition, the emanation of new industries, a supportive financial and economic environment, and the liberalisation of the majority of economies, which too serve as motivators for mergers (Tambi, 2005). Now a day, corporations across the globe are frequently using M&As as a business restructuring tactic. There are many studies investigating the merger phenomena, in line with the growing M&A trends (Boateng *et al.*, 2011).

The fact that it is challenging to determine how a merger impacts the financial results of a company is a significant obstacle in completing this assignment. An alteration in profitability might have a number of causes. Mergers may produce an all-around effective reaction to a supply or demand shock in the market. They may also provide a chance to obtain cutting-edge technology or to realise economies of scale.

Even if they are significant, mergers' impacts are still up for debate. The "market for corporate control," which sees M&As as ways to transfer underperforming assets to companies that can use them more effectively and therefore realise the value gain, is referred to by proponents. Sceptics point out that while many mergers can be benign or advantageous, others may be driven by market dominance, arrogance, or unintentional errors, all of which have a negative impact on society. Each viewpoint is supported by evidence. The efficient-merger hypothesis appears to be supported by the regular discovery of shareholder advantages from mergers, at least in the short term, in stock market event studies. On the other hand, studies of the actual operational consequences more frequently seem to reveal that merger advantages are the exception as opposed to the rule. This paper is organised as follows. The paper begins with an Introduction, followed by a comprehensive Literature Review. Next, we outline our methodology including data followed by Results and Discussion. The last section Concludes the work.

Overview of India's Food & Beverages (F&B) industries

Globally, Indian economy is lauded as one of the quickest in terms of growth parameters. India survived the aftermath of sub-prime crisis in 2008. With a growing young and educated middle classes, which is the Indian economy's development engine, India is predicted to surpass industrialised nations like Germany and Japan and achieve third position in the world economic rankings by the year 2030. The Indian economy underwent a dramatic structural revolution during the previous ten years as it switched from being driven by agriculture to being driven by services. Agriculture still employs 60% of the people and generates 14% of the country's GDP. Despite the fact that the agricultural industry has advanced significantly, there are still many areas that may be improved and, if done so, would promote growth in both agribusiness and its connected industries. In order to satisfy India's predicted significant rise in consumption over the next 10 years, agriculture and consequently the food and beverage industry would be better equipped if these challenges were addressed. With its growing economy, India's total yearly household consumption is anticipated to quadruple, which will take India to the fifth rank by 2030 amongst the countries with the largest goods market. F&B occupy the largest space in the basket of goods consumed. This can be considered a significant accomplishment of the F&B sector in India (Grant Thornton, 2014).

Significance

Businesses are increasingly employing M&A (mergers and acquisitions) strategies for their regional and worldwide development in order to expand their company scope or seize new possibilities (Ferreira *et al.*, 2016). Given the context, this research effort has been made to investigate, observe, and evaluate the operational results of the Indian beverages sector with regard to United Spirits Limited and United Breweries Limited, which have participated in M&A activities following the post liberalization, privatization, globalisation (LPG) era in India, and to ascertain whether M&As significantly affected the financial operating performance of merging entities. The purpose of this study is to investigate M&A in the beverage sector in India to analyze whether there were differences in outcomes for various companies operating within the same sector.

Literature review

Our study assesses the consequences of mergers on competition. Various studies have found varying effects from mergers in various industries, which is not surprising. A variety of research has been conducted about the association between M&As and business performances (Bi Z., 2016). Using several types of financial (such as profits and stock prices) and non-financial (such as the reputations of the firms) indicators and of course, the time periods (such as initial market reaction to the M&As, pre and post-measurement, etc.). According to these studies, M&A deals often benefit the target's shareholders more than the acquirer's shareholders. In reality, the performance of the buying firm generated a variety of outcomes (Schweiger and Very, 2003).

The 50 biggest mergers in the US between 1979 and 1984 were quantified and their cash flow performance was assessed by Healy, Palepu, and Ruback in 1992. They found that, compared to their respective industries, *the operating performance of merging companies substantially enhanced in post-merger period* (Healy *et al.*, 1992).

In 1983, Katsuhiko Ikeda *et al.* examined the financial results of forty-three (43) combining enterprises from the manufacturing sector in Japan. In more than half of the cases, they noticed an increased Return on Equity (RoE), whereas only approximately half the cases saw an improvement in the rate of return on total assets. However, "*both profit rates improved in more than half of the cases in the five-year test, indicating that improvements in firm performance after mergers began in line with internal adjustments made by the merging firms. This suggests that there was a necessary gestation period during which merging firms learned how to manage their new businesses"* (Ikeda and Doi, 1983).

The impact of M&As on the financial health of 40 United Kingdom corporations were researched by Jallow, Masazing, and Basit (2017) between the years of 2006 and 2010. According to the analysis, M&As had "*a large influence on ROA, ROE, and EPS but a negligible impact on NPM"*. The study concluded that a lack of managerial effectiveness, an inefficient utilisation of shareholders' funds, and escalated financial costs are responsible for companies' insignificant decreases in Return on Assets (RoAs) and RoEs after the mergers took place (Jallow *et al.*, 2017).

Between 1995 and 2000, Beena (2000) used a set of financial ratios 4 and a t-test to compare the performances of a sample of 115 acquirers, from Indian industrial sector, before and after the merger. "*The investigation was unable to identify any proof that the financial ratios for the acquiring corporations had improved in the post-merger era compared to the pre-merger period"* (Beena, 2000).

The financial holding companies' post-merger banks generated merger synergies. The top 10 banks in financial holding companies and top 10 banks in non-financial holding companies revealed that 3 out of the top 10 financial holding company banks were founded in the banking industry and are connected to financial holding companies that place a strong emphasis on banking. This finding indicates that financial holding companies perform better overall, post-merger, if banking is their primary operating entity (Liu, 2010).

The study examines a few financial parameters (ratios) before and after a merger of Indian F&B industry acquiring firms to determine the effects of M&As on their operating financial results. The outcome refers to a minor, but not statistically significant, *improvement in profitability ratios in the food industry.* While the return on invested capital and net worth have decreased. In the post-merger period, both the food and beverage industries have seen a negligible hike in leverage. Post-merger, the combined *performance of the food and beverage companies improved significantly,* but statistical analysis cannot determine whether the mean of the two variables differed significantly (Mahamuni and Jumle, 2012).

Mahamuni and Jumle, in 2018, carried out a study of manufacturing machinery and metal products firms to verify if M&A activity helps the firms in improving their performances after the merger in terms of parameters like improvements in liquidity position, better solvency scenarios, expansion of their businesses, overall improvement in profitability. The result revealed that manufacturing companies which merged "*did not achieve liquidity, solvency, profitability after* *merger"*. Also, it is seen that *after the merger, the operating results of the combined manufacturing firms has not improved.* But the merged companies, post-merger, expanded their business activities (Mahamuni and Jumle, 2018).

According to research carried out by Pramod Mantravadi and A Vidyadhar Reddy (2008), mergers appear to have experienced "*a marginally positive impact on the profitability of businesses in the banking and finance sector, while they had a marginally negative impact on operating performance (in terms of profitability and returns on investment) for businesses in the pharmaceutical, textile, and electrical equipment sectors"*. In terms of profitability margins, ROI, and asset values, the Chemicals and Agri-products industries had experienced a significant decrease due to mergers (Mantravadi and Reddy, 2008).

The study by Ahmad Ismail, Ian Davidson, and Regina Frank (2009), is focused on European banks. It examined *operating performance following the merger event*, and found that the industry-adjusted average cash flow return was not substantially changed after the merger but remained positive. Additionally, it was observed, low profitability, conservative credit policies, and robust cost-efficiency status in pre-merger period, which provided the source for increasing these returns post-merger are the major predictors of industry-adjusted cash flow returns (Ismail *et al.*, 2009).

Mahesh Kumar Tambi (2005) took forty companies' database from *CMIE's PROWESS and applied a paired t-test* for mean differences for 4 parameters viz. total performance improvement, economies of scale, operating synergy and financial synergy. He investigated the impact of mergers on Indian enterprises. *The investigation indicates that Indian companies are comparable to those in various places of the globe and that mergers did not significantly increase performance* (Tambi, 2005).

Using measures 5 of profitability, growth, leverage, and liquidity, Pawaskar V. (2001) focused on the before and after the merger operating performance of 36 acquiring firms between 1992–1995 and revealed that these *firms surpassed the profitability average for the sector.* Regression analysis, though, discovered that *growth in the profitability did not shown growth following the merger period when compared to the acquiring firms' top rivals* (Pawaskar, 2001).

Sinha, Kaushik and Timcy (2010) conducted the study to measure Post Merger and Acquisition Performance. Through this research, they investigated selected organizations from Financial Sector in India. With an aim to understand how M&As sway the financial performance of the select Indian 'Financial Institutions'. The researchers discovered that M&As incidents in India showed "*a significant correlation between financial performance and the M&A deal"*, in the long-run, along with the fact that the acquiring firms could generate value (Sinha *et al.*, 2010).

According to a 2009 study by Murugesan, Manivannan, Gunasekaran, and Bennet titled "Impact of Mergers on the Corporate Performance of Acquirer and Target Companies in India," *the acquirer businesses' shareholders improved their liquidity performance following the merger event* (Selvam *et al.*, 2009).

Marina Martynova, Sjoerd Oosting and Luc Renneboog (2006) looked at the long-term profitability of business takeovers in Europe and observed that *"both acquiring and target companies significantly outperformed the median peers in their industry prior to the takeovers, but the profitability of the combined firm decreased significantly following the takeover"* (Marina *et al.*, 2006).

From 1993 to 2010, Sinha and Gupta (2011) examined the effects of M&As on the Indian financial sector. 80 companies that went through M&A over the past 18 years were examined in the study. The reveals that M&As had '*a favorable impact on profitability'* represented by the net profit and the ratio of profit before interest, tax, depreciation and amortization (PBITDA), '*a negative effect on liquidity'*, also decreased total and systematic risk (Sinha and Gupta, 2011).

Abdullah Mamun, George Tannous, Sicong Zhang (2021) studied how bank mergers (regulatory mergers) performed (operating) post-merger during and after the 2008-2009 financial crisis. Up to two years after the acquisition, regulated mergers are *seen to significantly increase profitability and cost effectiveness.* In comparison with rivals who were not involved in the merger, these improvements are significantly higher. However, the operating result of non-regulatory mergers following the merger does not differ substantially from that of their non-merger peers (Mamun *et al.*, 2021).

The impact of mergers when businesses compete on pricing and cost-cutting efforts was examined by Motta and Tarantino (2021). They discover that following the merger, overall investments and consumer surpluses are lower when efficiency benefits are missing. Only when efficiency improvements are substantial enough are the impacts of a merger competitively advantageous. The effect of horizontal mergers that lead to monopolies on businesses' incentives to engage in demand-enhancing innovation is examined to discover that a merger's overall effect on innovation might be either favourable or unfavourable (Motta and Tarantino, 2021).

Numerous research papers have been examined, and it has been determined that the impacts on financial results are inconsistent, mixed, and different depending on the industry. The fact that the researchers' methodologies varied made it difficult to summarise their findings, as in some of their results, they used a variety of variables, parameters, and financial information. Financial performance metrics were employed in several studies. The majority of studies that employed financial performance measures found no appreciable differences (on either side) between the financial performance prior to and following the M&A.

These preceding works of research might be used to draw the conclusion that mergers generally do not appear to enhance the post-merger efficiency of acquirers. Gains are either negligible or non-existent by various measurements. Event studies and accounting both fail to provide any proof of value generation. This study's goal is to investigate these theories in the context of India. There are few studies on the performance following a merger of Indian corporations and consequently a large knowledge gap in this field. The operating efficiency technique is utilised in this study to determine how a merger will affect the efficiency of acquiring organisations.

To sum up the review of literature, many contributions have offered different perspectives of merger in different industries worldwide and explained the valuation techniques followed by merging firms, and shareholder's wealth effect due to merger. From the review of many excellent research papers analysing the pre and post-merger performance of merged companies, it is inferred that majority of the studies strongly support the concept of enhanced post-merger performance due to merger and it is beneficial to the acquirer companies. Also not a single study was found on beverage industry in India. Therefore, researcher decided to examining the pre & post-merger operating performance of selected Indian beverage firms. Also this review of literature helped the researcher to set objectives & hypothesis for this study.

Research question
Did the merged firms improved their operating performance in post-merger period as compared to pre-merger period?

Research objectives
Based on the literature review, the researcher frames the objective and the hypothesis to carry-out the study as below;

Objective:

- To measure the merger's impact on the operating performance.
- To compare the merger's impact on the operating performance.

Hypothesis: Merged firms have improved their operating performances.

Methods
According to several merger studies, evaluating and comparing the merged firms to a similar industry group that is based on the performance before and after the merger is an effective way to find operating performance improvements (Behr & Heid, 2011; Fee & Thomas, 2004; Ghosh, 2001; Powell & Stark, 2005). The operating performance is assessed on six operating parameter (ratios) i.e. Operating Profit Margin, Gross and Net Profit Margin, Debt-Equity, Return on Net Worth and Capital Employed. The required financial data are extracted through the Centre for Monitoring Indian Economy (CMIE) Prowess Database. The comparison of three years pre and post-merger period of these operating ratios (Aggarwal and Garg, 2022).

Research design
The researcher used an analytical and quantitative research design to measure and compare the operating result before and after the merger period.

Data source
All data used in this paper can be found at the Centre for Monitoring Indian Economy (CMIE) Prowess Database (Version Prowess IQ v3.0). Centre for Monitoring Indian Economy, is a leading business information company and established in 1976, primarily as an independent think tank. CMIE has built India's largest database on the financial performance of individual companies; it conducts the largest survey to estimate household incomes, pattern of spending and savings; it runs a unique monitoring of new investment projects on hand and it has created the largest integrated database of the Indian economy. The relevant data of three years period pre-merger and post-merger, considering the merger year as the baseline year i.e. 0 (zero) were used (Abdullah Mamun, George Tannous, Sicong Zhang, 2021; Mahamuni and Jumle, 2012, 2018). The financial data were extracted from 2004 to 2011 for the investigation purpose.

Research papers, reports of research organization and books used for the study are mentioned in references with URLs.

Sampling method

The researcher followed the non-probability convenient sampling method to select firms from the Indian beverage industries. United Spirits Limited (USL) and United Breweries Limited (UBL) were selected for the study for the reason that they are two of the most renowned and prestigious companies in India's beverage industry.

Data analysis and tools used

For all the sample firms that underwent mergers, operating performance ratios both before and after the merger were estimated, and averages (mean) were computed and compared in order to assess the merger's impact and using a "paired two sample t-test" with a confidence level of 0.05, it was determined whether there had been any statistically significant change in operating performance as a result of mergers. Mean, paired 't'-test, and Ratio Analysis, are a few of the methods applied for analyzing and assessing the data that was collected (Beena, 2000; Mahamuni and Jumle, 2012, 2018). SPSS (Statistical Package for the Social Sciences), also known as IBM SPSS Statistics. IBM SPSS Statistics Base 29.0 was used for data processing and paired 't' test analysis. Paired sample 't' test is all about to investigate the significance of difference between two population means i.e. pre & post period ratios mean, and no assumption is made about the population variance. In simple word, this test evaluates, analyzes, and investigates if there is any significant change in financial performance parameters which are mentioned in the testing of hypothesis for the sample companies.

Results and discussions

Study of historical cases of Mergers and Acquisitions have established the changes in financial performance of the restructured firms. However, the previous studies and the current paper confirm that the firm's performance in terms of profitability, liquidity, and solvency does not show any significant improvement in the short run in the post-merger period. The present study of post-merger activity's long-term effects may add interesting results which can yield a future research dimension.

Operating profit margin

Table 1 shows that the Operating Profit Margin (the mean) of both beverage companies is much lower after the merger than it was before the merger. However, in the instance of United Breweries Limited, the operating profit margin post-merger is statistically worse (-14.88 in the pre period and -24.55 in the post period, t-value = 4.964, 'p' = 0.05). This means both companies are unable to control their costs, and as a result, operational profit after the merger is lower. After covering all operational expenses, operating profit will typically decline throughout the post-merger period.

Gross profit margin

Gross Profit Margin from Table 2 indicates that United Breweries Limited's mean (pre-merger: 8.38; post-merger: 6.48) is down, while United Spirits Limited's mean (pre-merger: 1.61; post-merger: 0.69) is up, indicating that both companies can recover their costs from sales (COGS). However, since the 'p' value is more than 0.05, changes in the gross profit margins of the two companies are statistically insignificant.

Net profit margin

In Table 3, the Net Profit Margin of acquired businesses during the pre-merger and post-merger periods is shown. The average Net Profit Margin ratio for United Breweries Limited (1.55 in the pre and 2.93 in the post-period) is

Table 1. Operating Profit Margin.

Company		UBL	USL
Pre-merger	**-3**	-16.47	-31.26
	-2	-14.86	-38.51
	-1	-13.32	-30.27
Post-merger	**1**	-23.36	-39.53
	2	-23.55	-39.51
	3	-26.74	-44.75
MEAN	**Pre**	-14.88	-33.35
	Post	-24.55	-41.26
SD		3.37278	6.74694

Table 2. **Gross Profit Margin.**

Company		UBL	USL
Pre-merger	**-3**	6.74	3.45
	-2	9.13	4.62
	-1	9.28	14.61
Post-merger	**1**	6.69	8.43
	2	6.23	8.85
	3	6.53	7.75
MEAN	**Pre**	8.38	7.56
	Post	6.48	8.34
SD		1.6039	6.92993

Table 3. **Net Profit Margin.**

Company		UBL	USL
Pre-merger	**-3**	0.48	1.45
	-2	2.08	1.15
	-1	2.1	9.83
Post-merger	**1**	3.11	3.94
	2	2.49	4.04
	3	3.2	2.97
MEAN	**Pre**	1.55	4.14
	Post	2.93	3.65
SD		1.113618	5.51732

improving, indicating that the company is better at converting sales to actual profit, but at the required probability level, the gain is not statistically significant. The Net Profit Margin (the mean) of United Spirits Limited, on the other hand, has dropped in after the merger; at the required probability level, the decline is not significant, indicating that the net profit margin has reduced, rather than increased, post-merger. It indicates that not all of the activities are carried out efficiently.

Return on net worth

Table 4 provides the sample merged firms' average Return on Net worth over the pre and post-merger periods. It should be noticed that the variation in average returns on net worth for both of the chosen merged corporations, i.e. United

Table 4. **Return on Net Worth.**

Company		UBL	USL
Pre-merger	**-3**	7.92	9.55
	-2	37.49	7.15
	-1	13	44.45
Post-merger	**1**	18.51	11.66
	2	10.42	9.56
	3	11.1	7.8
MEAN	**Pre**	19.47	20.38
	Post	13.34	9.67
SD		19.18248	22.4652

Table 5. Return on Capital Employed.

Company		UBL	USL
Pre-merger	**-3**	0.88	3.67
	-2	2.9	2.55
	-1	3	18.86
Post-merger	**1**	5.73	7.24
	2	4.39	5.64
	3	5.5	4.53
MEAN	**Pre**	2.26	8.36
	Post	5.21	5.80
SD		1.72396	10.19883

Breweries Limited (pre-merger =19.47 and post-merger = 13.34), and United Breweries Limited (pre-merger = 20.38 and post-merger = 9.67), is lower after following merger as compared to before the merger event Therefore, it may be concluded that although net value has increased substantially as a result of M&As, the merged companies were incapable of delivering the necessary returns on their net worth post-merger.

Return on capital employed

The average value of return on capital employed by United Spirits Limited has gone down from 8.36 (before merger) to 5.80 (after merger), based on the analysis of Table 5 of both the Sample Merged Firms during the before and after Merger Periods. Nevertheless, in the case of United Breweries Limited, return on capital employed has improved from 2.26 (before merger) to 5.21 (after merger). It suggests this company, following the merger, proved efficient in utilising its funds. Additionally, it indicates that management exhibited efficiency in employing investments and the creditors. Furthermore, the derived 't' values for the above two firms, at the required degree of probability, are not statistically significant, nor is an increase or decrease in the ratio.

Debt equity ratio

The findings from the analysis of Table 6 of the sample merged firms' debt-equity ratios for the pre- and post-merger periods show that United Breweries Limited's debt-equity ratio was substantially reduced from 1.61 (before merger) to 0.69 (after merger), t-value = 3.267 and $p > 0.05$). It clarifies that a large portion of assets after the merger are financed by debt rather than equity. It indicates that these companies are embarking on more debt as a result of merger activity.

Hypotheses testing

The hypothesis that the Operating performance of the merged firms has improved has been rejected after examining the results mentioned above. As Table 7 clearly indicates, the sample companies' operating performance has declined as a result of the merger activity they undertook. It reveals a negative impact on the sample companies' overall profitability over the post-merger period.

Table 6. Debt to Equity Ratio.

Company		UBL	USL
Pre-merger	**-3**	10.98	2
	-2	12.87	1.73
	-1	1.92	1.11
Post-merger	**1**	2.15	0.63
	2	1.03	0.73
	3	1.01	0.71
MEAN	**Pre**	8.59	1.61
	Post	1.40	0.69
SD		5.64582	0.48952

Table 7. Overview of the Performance Parameters.

Performance Parameters	UBL	USL
Operating Profit Margin	↓	↓
Gross Profit Margin	↓	↑
Net Profit Margin	↑	↓
Return on Net Worth	↓	↓
Return on Capital Employed	↑	↓
Debt – Equity Ratio	↓	↓

The representative sample firms from the beverage industry's post-merger operating performance is declining (Ismail *et al.*, 2009; Mahamuni and Jumle, 2018). Profitability ratios are declining along with general falloffs in returns on net worth and capital invested (Pawaskar, 2001). The earnings ratios for United Breweries Limited have somewhat improved, albeit not statistically significantly. For United Spirits Limited, the return on net worth and investment made has declined. A negligible increase can be observed in leverages of both of the firms that belong to the Indian beverage sector that were picked during the period following the merger. It suggest that there is slight increase in the performance but it is not statistically significant (Mahamuni and Jumle, 2012). On the reverse hand, this ratio of debt to equity has decreased dramatically since the merger compared to prior. It suggests that debt rather than equity is used to fund a large part of assets in the post-merger era. It demonstrates that these businesses are increasing their debt loads as a result of merger activity. Overall, it can be said that there was a negative on operating performance by the merger activity done by these two representative sample businesses in India's beverage industry. Also in the study of Mahamuni and Julme (2018) with reference to the food and beverage industries in India, it was found that merged firms did not achieve liquidity, solvency, profitability in the post-merger period. On the contrary, there are few studies showing that there is a slight improvement in the financial performance of the merged firm after the merger (Healy *et al.*, 1992; Marina *et al.*, 2006; Selvam *et al.*, 2009).

One may draw the conclusion that the three financial variables included in this study do not statistically significantly vary the operating results after merging. The null hypothesis is true because all estimated t-values are lower than (or more on the negative side of) the table value. This outcome indicates that merger activities do not affect the acquired businesses' operational performance.

Another reason why profitability did not increase after a merger is because acquisition of a company could have led to "managerial control loss problems." One may argue that the acquirers encounter unforeseen difficulties while handling and integrating their purchases. The acquiring leadership loses control and is unable to manage the merged firm effectively as it grows more complex. After a merger, profitability levels fall as a result of this loss of control.

Conclusion

This research work was conducted to better understand the impact of M&As activity on operating financial results. This study shows that the M&As have not had a good effect on a company's operating performance, especially for the chosen beverage companies in India. Despite the limited favourable effects, they are statistically negligible.

Although there are many motivations for a firm to participate in merger activity, our aim in this search was to understand one crucial feature of M&A activity. It might be difficult to interpret the conclusion or get insights from the quantitative information when these motives or reasons are qualitative. Additionally, it has been noted from several studies that merger and acquisition efforts for numerous organisations in their post-merger phase did not result in beneficial short-term effects (Beena, 2000; Mantravadi and Reddy, 2008; Tambi, 2005; Pawaskar, 2001; Mahamuni and Jumle 2018; Marina *et al.* 2006). However, if the companies do not conduct thorough research before deciding on M&As, it will not meet their expectations or the objectives for the activity.

By calculating it and comparing it to the average for an industry or sector, subsequent studies in this area may expand on the present study. Any variations, if any, may then be further investigated to get a better understanding. The results of research demonstrating inferior performance in the post-merger era might be compared and connected to post-merger return to investors of acquiring corporations who are part of mergers taking place in India.

Previous studies have shown that there was no significant improvement in business performance (Tambi, 2005; Pawaskar, 2001). It was discovered that merger-induced changes in a company's industry-adjusted profitability, asset efficiency, and solvency status were statistically negligible. This finding suggests that mergers do not increase the acquirers' operating performance (Mantravadi and Reddy, 2008; Mahamuni and Jumle, 2018). These empirical findings allow us to draw the conclusion that merger decisions are not made with the intention of maximising shareholder value through increased profitability. The pursuit of larger scale, market consolidation, and empire building may have served as inspirations for merger choices.

There may occasionally be unstated goals, such as the post-merger asset stripping of the target firm that provides the promoters with a significant cash premium over and above the net worth.

In order to accomplish the true goals of the merger, management must continue to concentrate on the company's operations, especially the post-merger integration phase.

Industry mergers and acquisitions do not appear to be slowing down. Why do businesses choose mergers and acquisitions (M&A) when, on average, data shows that doing so would hurt them more than help the target? It appears to point to some issues with the conceptual framework, the technique, or the accuracy of the data. This topic may be explored in more detail.

Financial metrics may not fully reflect the impact of mergers on business performance or reveal the driving forces behind M&A decisions. Therefore, in future research, the post-merger performance gains might be examined in terms of some additional criteria including social value provided, improvements in gains to other stakeholders of the firms engaging in M&A, and advantages at the industry and economy level at both the national and worldwide levels.

Limitations of the study

Due to several limitations, the research only offers a few explanations for why there was no merger-induced increase in corporate performance. Furthermore, the article does not examine the results to see if any trends in post-merger performance across merger types and industries exist. Also, this study based on measuring the impact of the merger in short-run, hence the 3 years pre and post-merger period were considered. Future research might address concerns in these areas.

Contribution

This study has built knowledge repository for academicians, researchers, financial analyst who are interested to get insight on performance of companies after the merger & acquisitions. This study could be helpful to those researchers who intend to understand & get insight of the impact of merger & acquisitions on financial performance of the companies short-run i.e. 3 years after the merger & doing further research.

Scope for further research

- In this area could be an extension of the present study, by estimating and comparing with industry/sector averages, and the differences, if any, could be explored further to derive further insights.

- Researchers could also analyze impact of mergers and acquisitions on financial performance and correlate to shareholders' wealth of acquirer and acquiring firms.

- The time frame for the study is pre 3 years' pre-merger & post 3 years' post-merger. The study can be extended by considering at least 5 years' pre-merger & 5 years' post-merger for getting the insight from long term point of view.

Data availability

Underlying data

Data used in this study are from the CMIE (*Centre for Monitoring Indian Economy* Pvt. Ltd. India). The datasets of the Indian Companies are available from the Centre for Monitoring Indian Economy (CMIE) Prowess Database (Version Prowess IQ v3.0). https://prowessiq.cmie.com/. Anybody who wishes to use the data can register and use the data for academic purposes.

All data were collated through annual reports of Companies. A guide for how to apply for dataset access is available at: https://register.cmie.com//kommon/bin/sr.php?kall=wcontactus&tab=2060&rrurl=prowessiq.cmie.com.

The data we extracted for the study are as follows:

	Pre-merger Period			Post-merger Period		
	-3	-2	-1	1	2	3
United Breweries Ltd.	March -2004	March -2005	March -2006	March -2008	March -2009	March -2010
United Spirits Ltd.	March -2005	March -2006	March -2007	March -2009	March -2010	March -2011

References

Aggarwal P, Garg S: **Impact of mergers and acquisitions on accounting-based performance of acquiring firms in India.** *Glob. Bus. Rev.* 2022; **23**(1): 218–236.
Publisher Full Text

Beena PL: ***An analysis of mergers in the private corporate sector in India. Centre for Development Studies.*** **Trivandrum, Working Paper.** 2000; **301**: 3–56.

Behr A, Heid F: **The success of bank mergers revisited. An assessment based on a matching strategy.** *J. Empir. Financ.* 2011; **18**(1): 117–135.
Publisher Full Text

Bi Z: **Comparative analysis of pre and post-merger financial performance with reference to it sector in India.** *Clear International Journal of Research in Commerce & Management.* 2016; **7**(11): 61–69.

Boateng A, Naraidoo R, Uddin M: **An analysis of the inward cross-border mergers and acquisitions in the UK: A macroeconomic perspective.** *J. Int. Financ. Manag. Acc.* 2011; **22**(2): 91–113.
Publisher Full Text

Shira DAssociates: **Merger and Acquisitions activity in India in 2021.** 2022.

Fee CE, Thomas S: **Sources of gains in horizontal mergers: evidence from customer, supplier, and rival firms.** *J. Financ. Econ.* 2004; **74**(3): 423–460.
Publisher Full Text

Ferreira MP, dos Reis NR, Pinto CF: **Three decades of strategic management research on M&As: Citations, co-citations, and topics.** *Global Economics and Management Review.* 2016; **21**(1-2): 13–24.
Publisher Full Text

Ghosh A: **Does operating performance really improve following corporate acquisitions?** *J. Corp. Finan.* 2001; **7**(2): 151–178.
Publisher Full Text

Grant Thornton (India), Indian Food & Beverage Sector - The new wave: 2014.
Reference Source

Healy PM, Palepu KG, Ruback RS: **Does corporate performance improve after mergers?** *J. Financ. Econ.* 1992; **31**(2): 135–175.
Publisher Full Text

Ikeda K, Doi N: **The performances of merging firms in Japanese manufacturing industry: 1964-75.** *J. Ind. Econ.* 1983; **31**(3): 257–266.
Publisher Full Text

Ismail A, Davidson I, Frank R: **Operating performance of European bank mergers.** *Serv. Ind. J.* 2009; **29**(3): 345–366.
Publisher Full Text

Jallow MS, Masazing M, Basit A: **The effects of mergers & acquisitions on financial performance: Case study of UK companies.** *International Journal of Accounting & Business Management.* 2017; **5**(1): 74–92.

Liu TK: **An empirical study of firms' merger motivations and synergy from Taiwanese banking industry.** *Int. Res. J. Financ. Econ.* 2010; **38**(2010): 1450–2887.

Mahamuni PN, Jumle AG: **Measuring post-merger operating performance of acquiring firms of food and beverages industries in India.** *International Journal of Retailing & Rural Business Perspectives.* 2012; **1**(2): 181.

Mahamuni PU, Jumle AG: **Post-Merger Financial Performance of Indian Manufacturing Companies with Reference to Metals & Metal Products and Machinery Companies.** *International Journal of Multidisciplinary Studies.* 2018; **5**(1): 27.
Publisher Full Text

Mamun A, Tannous G, Zhang S: **Do regulatory bank mergers improve operating performance?** *Int. Rev. Econ. Financ.* 2021; **73**: 152–174.
Publisher Full Text

Mantravadi DP, Reddy AV: **Post-merger performance of acquiring firms from different industries in India.** *Int. Res. J. Financ. Econ.* 2008; **22**.

Marina M, Oosting S, Renneboog L: **The Long-term Operating Performance of European Acquisitions' (No. 137). Working Paper.** 2006; pp. 1–40

Motta M, Tarantino E: **The effect of horizontal mergers, when firms compete in prices and investments.** *Int. J. Ind. Organ.* 2021; **78**: 102774.
Publisher Full Text

Pawaskar V: **Effect of mergers on corporate performance in India.** *Vikalpa.* 2001; **26**(1): 19–32.
Publisher Full Text

Powell RG, Stark AW: **Does operating performance increase post-takeover for UK takeovers? A comparison of performance measures and benchmarks.** *J. Corp. Finan.* 2005; **11**(1-2): 293–317.
Publisher Full Text

Schweiger DM, Very P: **Creating value through merger and acquisition integration.** *Advances in Mergers and Acquisitions (Advances in Mergers and Acquisitions, Vol. 2).* Bingley: Emerald Group Publishing Limited; 2003; pp. 1–26.

Selvam M, Babu M, Indhumathi G, *et al.*: **Impact of mergers on the corporate performance of acquirer and target companies in India.** *Journal of Modern Accounting and Auditing.* 2009; **5**(11): 55.

Sinha N, Kaushik KP, Chaudhary T: **Measuring post-merger and acquisition performance: An investigation of select financial sector organizations in India.** *Int. J. Econ. Financ.* 2010; **2**(4): 190–200.
Publisher Full Text

Sinha P, Gupta S: **Mergers and Acquisitions: A pre-post analysis for the Indian financial services sector.** 2011.

Tambi MK: **Impact of Mergers and Amalgamation on the performance of Indian Companies.** *Econ WPA Finance.* 2005; 0506007.

Open Peer Review

Current Peer Review Status: ✓ ? ?

Version 2

Reviewer Report 02 February 2024

https://doi.org/10.5256/f1000research.159026.r228233

Priyanka Tandon
Regenesys Business School, Sandton, South Africa

No further comments

Competing Interests: No competing interests were disclosed.

Reviewer Expertise: Finance

I confirm that I have read this submission and believe that I have an appropriate level of expertise to confirm that it is of an acceptable scientific standard.

Reviewer Report 02 February 2024

https://doi.org/10.5256/f1000research.159026.r228232

H M Belal
School of Business & Management, Liverpool Business School, Liverpool John Moores University, Liverpool, England, UK

Dear Authors,
Thank you for your dedicated effort in revising the manuscript. While I appreciate your work, there is still some room for improvement. Please check the review comments provided.

1. How (in what aspect) did the author design the Hypothesis? I am not sure. Please discuss the formulation of the hypothesis. I think there is a challenge for readers to establish a connection between the research question, research objectives, and the articulated hypothesis. So, please write a different chapter for 'Hypothesis Development and Theory Underpinning'.

2. Please add a Discussion chapter. It is needed.

Competing Interests: No competing interests were disclosed.

Reviewer Expertise: Operations Management

I confirm that I have read this submission and believe that I have an appropriate level of expertise to confirm that it is of an acceptable scientific standard, however I have significant reservations, as outlined above.

Version 1

Reviewer Report 06 November 2023

https://doi.org/10.5256/f1000research.152785.r208030

?

H M Belal
School of Business & Management, Liverpool Business School, Liverpool John Moores University, Liverpool, England, UK

The application of a Merger and Acquisition (M&A) strategy serves as a substantial and consequential method for maintaining business resilience in highly competitive market environments. Nonetheless, the challenge of assessing a company's performance through the lens of M&A strategies is a complex and multifaceted task. This research endeavor has been undertaken to substantiate the rationale behind the utilization of M&A strategies in the Indian beverage industry. Nevertheless, it is important to acknowledge the forthcoming constructive observations and recommendations designed to elevate the overall quality of the research paper.

Introduction:

1. The rationale behind the research issues is presently insufficiently established. To enhance this aspect, it is recommended to augment the reference base with a more extensive array of scholarly sources. Simultaneously, it is advisable to place increased emphasis on both elaborating upon these concerns and providing a comprehensive contextual backdrop for the study.

2. I did not find any research objectives in the Introduction part. Please develop the Research

objectives based on the Research problem and Research questions.

3. So, the introduction section requires a redesign, and there is a need for improvement in the academic writing style.

Literature Review:

1. In the literature review, the authors are encouraged to construct compelling discussions on the research objectives, drawing upon the insights of esteemed scholars. It is vital to ensure this practice is consistently followed.

2. There are lack of using range of relevant literature. Critical evaluation of key concepts and theories is also required.

3. Research Objectives should be included in the Introduction part and the Research questions.

Research Methodology:

1. The research design lacks adequate information, and it is essential that a more comprehensive explanation is provided.

2. The description of the sampling method is deficient in detail, necessitating a thorough exposition of the rationale for opting to utilize CMIE. Clarification in this regard is indispensable.

Discussion:

1. Kindly proceed with the formulation of the Discussion section, utilising the results and findings as the basis.

2. In Discussion, authors need to justify the research results through scholars' references.

Is the work clearly and accurately presented and does it cite the current literature?

Partly

Is the study design appropriate and is the work technically sound?

Partly

Are sufficient details of methods and analysis provided to allow replication by others?

Partly

If applicable, is the statistical analysis and its interpretation appropriate?

Yes

Are all the source data underlying the results available to ensure full reproducibility?

No source data required

Are the conclusions drawn adequately supported by the results?

Partly

Competing Interests: No competing interests were disclosed.

Reviewer Expertise: Operations Management

I confirm that I have read this submission and believe that I have an appropriate level of expertise to confirm that it is of an acceptable scientific standard, however I have significant reservations, as outlined above.

Author Response 16 Nov 2023

Raju Ganesh Sunder

I did not find any research objectives in the Introduction part. Please develop the Research objectives based on the Research problem and Research questions. – Purpose is mentioned in the
Significance in the sub-section of the Introduction.
In the literature review, the authors are encouraged to construct compelling discussions on the
research objectives, drawing upon the insights of esteemed scholars. It is vital to ensure this practice
is consistently followed – Discussion and summary of the literature review is mentioned in the last 3
paragraphs of the Literature.
Research Objectives should be included in the Introduction part and the Research questions. –
Mentioned after the Literature Review
A thorough exposition of the rationale for opting to utilize CMIE – Updated in data source
In Discussion, authors need to justify the research results through scholars' references - Added in
Results and Discussion section

Competing Interests: NIL

Reviewer Report 13 October 2023

https://doi.org/10.5256/f1000research.152785.r208032

?

Anurag Bhadur Singh
School of Commerce, XIM University, Bhubaneswar, India

Followings are the observation, authors may incorporate to improve the quality of papers:

Research objectives: Objectives can be separated for comparison and measure purpose.

Hypothesis: can also develop separate as objectives describes.

Research Methodology:
1. More details may be given in this section such as no. of firms, no of years of study i.e. from 2005-2015.

2. Should justify why only two firms has selected for the study, justify the same with citations.

Data Analysis:
1. Authors should justify, why only paired two sample t-test opted for analysis purpose, with some citations.

2. Table 1, 2, 3, 4, 5, should contains S.D., N, also because to apply t test we need all these information.

3. A separate table can be develop for t test containing degree of freedom and t stat. value. why it test only at 5% level of significance only with some citations.

4. Debt equity table not required in the study because of role are different of this ratio.

5. Trend analysis can also be useful for measure purpose, authors may use this in this section.

6. From page no. 11 seems that authors has selected only three years for comparison of performance of the firms which seems unjustified, must be cite some study who did the same.

7. My suggestions that authors may use at least five years each pre and post M&A data to set the comparison in performance, because in short periods of time comparison can not be done specially M&A has taken place or corporate restructuring has done by the entity.

Conclusion:
1. Authors should cite some study who has concluded the same results. or may justify why this study results are different from them.

If all above suggestions will incorporate in the study, i am sure the quality of paper will improve.

With Best wishes.

Is the work clearly and accurately presented and does it cite the current literature?
Yes

Is the study design appropriate and is the work technically sound?
Partly

Are sufficient details of methods and analysis provided to allow replication by others?
Partly

If applicable, is the statistical analysis and its interpretation appropriate?
Partly

Are all the source data underlying the results available to ensure full reproducibility?
No

Are the conclusions drawn adequately supported by the results?
Partly

Competing Interests: No competing interests were disclosed.

Reviewer Expertise: Corporate Finance, Accounting, Economic developments

I confirm that I have read this submission and believe that I have an appropriate level of expertise to confirm that it is of an acceptable scientific standard, however I have significant reservations, as outlined above.

Author Response 16 Nov 2023

Raju Ganesh Sunder

Objectives can be separated for comparison and measure purpose - Thank you for this point, now it
is done
More details may be given in this section such as no. of firms, no of years of study i.e. from 2005-
2015 - Thank you for suggestions, we have added in data section
Should justify why only two firms has selected for the study, justify the same with citations - Thank
you for the point mentioned, we have added in Sampling section
Authors should justify, why only paired two sample t-test opted for analysis purpose, with some
citations - Thank you now we have added in Data Analysis section
Table 1, 2, 3, 4, 5, should contains S.D., N, also because to apply t test we need all these information
- Thank you we have added SD in the respective table
From page no. 11 seems that authors has selected only three years for comparison of performance
of the firms which seems unjustified, must be cite some study who did the same - Thank you, we
have added in Limitations section
My suggestions that authors may use at least five years each pre and post M&A data to set the
comparison in performance, because in short periods of time comparison cannot be done specially
M&A has taken place or corporate restructuring has done by the entity - Thank you we have added
in Limitations section
Authors should cite some study who has concluded the same results. or may justify why this study
results are different from them - Thank you we have added in Results and Discussion

section

Competing Interests: NIL

Reviewer Report 04 October 2023

https://doi.org/10.5256/f1000research.152785.r208033

?

Priyanka Tandon
Regenesys Business School, Sandton, South Africa

Brief description of an article

This study employed the operating performance technique, which compares the pre-merger and post-merger performance of organizations using accounting data, to determine the benefits of mergers to the acquiring company. Using secondary data six operating metrics (ratios), namely Operating Profit Margin, Gross and Net Profit Margin, Debt-Equity, Return on Net Worth, and Capital Employed, were used to evaluate the operating performance. These operating ratios were compared for three years before and after the merger.

Relevance of an article

Major concerns

1. In section-1, author(s) failed to address the research objectives and questions pertaining to the research study. The research objectives which is actually mentioned after LR should be the sub-part of section-1.

2. Ideally, the introduction section must clarify the gaps, the objectives, the guiding research questions, and the philosophical stance. In the current form, the introduction section fails to meet any one of these criteria. Moreover, the authors' research questions do not conform to the study.

3. Author(s) must discuss at least three contributions of study (theoretical and practical) which must be convincing towards the novelty of the study.

4. Author(s) must mention the structure/organization of study.

5. The literature review is quite descriptive. It lacks critical debates that help shape the theoretical debates which are essential for scientific arguments. I am sorry but the literature review is prepared like a thesis chapter. Moreover, research gaps, research questions, and the research objectives should be presented in the introduction section.

6. Discussion should be separate section after results and must specifically discuss the results (linkage to similar and contrary studies) and also implications of study in detail.

Minor concerns

I found typos and inconsistencies in citations which should be carefully sorted out.

Overall, the manuscript is good and it can be indexed after incorporating the above suggestions.

Is the work clearly and accurately presented and does it cite the current literature?
Yes

Is the study design appropriate and is the work technically sound?
Yes

Are sufficient details of methods and analysis provided to allow replication by others?
Yes

If applicable, is the statistical analysis and its interpretation appropriate?
Yes

Are all the source data underlying the results available to ensure full reproducibility?
Yes

Are the conclusions drawn adequately supported by the results?
Yes

Competing Interests: No competing interests were disclosed.

Reviewer Expertise: Finance

I confirm that I have read this submission and believe that I have an appropriate level of expertise to confirm that it is of an acceptable scientific standard, however I have significant reservations, as outlined above.

Author Response 16 Nov 2023

Raju Ganesh Sunder

In section-1, author(s) failed to address the research objectives and questions pertaining to the
research study - Thank you for the point, we have added in Significance section of Introduction
Ideally, the introduction section must clarify the gaps, the objectives, the guiding research questions,
and the philosophical stance - Thank you for the suggestion we have added in Research Question

section
Author(s) must discuss at least three contributions of study (theoretical and practical) - Thank you
for the point we have added in contribution section after the limitation of the study
Author(s) must mention the structure/organization of study - Thank you now, added at end of
Introduction section
The literature review is quite descriptive. Moreover, research gaps, research questions, and the
research objectives should be presented in the introduction section - We thank you for the suggestion, both Literature Review and Introduction section revised and updated
Discussion should be separate section after results and must specifically discuss the results and also
implications of study in detail - This is done
I found typos and inconsistencies in citations - Thank you for this now it is corrected

Competing Interests: Nil