

A Ratio-Based Analysis of Financial Health of Select Packaging Companies in India

¹Dr. M.Jayanthi, ²Dr. R.Swarnalakshmi, ³Dr.R.Srikala

^{1,2}Assistant Professor, Department of B.COM, RVS College of Arts and Science Coimbatore

³Assistant Professor, Department of B.com -BPS, Sri Ramakrishna College of Arts and Science Coimbatore.

ABSTRACT

This study examines the financial health of select Indian packaging companies—TCPL Packaging, Cosmo First, Huhtamaki India, Nahar Poly Films, and Polyplex Corporation—using a comprehensive ratio-based analysis over the period 2019–20 to 2023–24. The research evaluates liquidity, profitability, leverage, efficiency, and return measures through key financial ratios such as Current Ratio, Quick Ratio, Inventory Turnover Ratio, PBIT Margin, Net Profit Margin, Return on Net Worth, Return on Capital Employed, Return on Assets, Debt–Equity Ratio, and Asset Turnover Ratio. Statistical tools including mean, standard deviation, and linear growth rate were applied to assess performance consistency and trends. The findings reveal mixed financial performance across firms. Polyplex Corporation emerged as the strongest performer with superior profitability, efficient asset utilization, and consistent growth despite volatility. TCPL Packaging demonstrated stable liquidity and moderate returns with gradual deleveraging. In contrast, Huhtamaki India and Nahar Poly Films experienced significant fluctuations and declining trends in profitability and liquidity. Cosmo First showed moderate but gradually weakening performance. Overall, the study highlights varied financial strategies and operational efficiencies within the Indian packaging sector, emphasizing the importance of balanced capital structure, efficient asset management, and sustained profitability for long-term financial stability.

KEY WORDS: *Financial Ratio Analysis, Liquidity, Profitability, Capital Structure, Asset Utilization, Packaging Industry, Return on Investment, Debt–Equity Ratio, Financial Performance, India.*

Introduction

The Indian packaging industry plays a crucial role in supporting economic growth by catering to key sectors such as FMCG, food and beverages, pharmaceuticals, and e-commerce. Rapid urbanization, changing consumer preferences, and increasing emphasis on sustainable and innovative packaging solutions have significantly expanded the scope of this industry. In this competitive and capital-intensive environment, maintaining sound financial health is essential for packaging firms to ensure operational efficiency, profitability, and long-term sustainability. Financial ratio analysis serves as a vital analytical tool for evaluating a firm's performance, as it enables comparison of liquidity, profitability, leverage, and efficiency across companies and over time. This study undertakes a ratio-based analysis of the financial health of select packaging companies in India, namely TCPL Packaging, Cosmo First, Huhtamaki India, Nahar Poly Films, and Polyplex Corporation. These firms represent diverse segments such as paperboard packaging, flexible packaging, and polyester films, offering a comprehensive view of the industry. By analyzing key financial ratios, the study aims to assess their financial strength, stability, and efficiency, identify trends and variations, and provide meaningful insights into the overall financial performance of the Indian packaging sector.

REVIEW OF LITERATURE

Md. Ataur Rahman et al., (2019) This research explores the impact of capital structure on the profitability of publicly traded manufacturing firms in Bangladesh. In this paper, we applied the fixed

effect regression to find out the correlation among independent variables (debt ratio, equity ratio and debt to equity ratio) and dependent variables (return on asset, return on equity and earnings per share). A sample of 50 observations of selected 10 manufacturing companies listed in Dhaka Stock Exchange has been analyzed over the period of 2013 to 2017. This research reveals that the debt ratio and equity ratio have a significant positive impact but debt to equity ratio has a significant negative impact on ROA. This paper also exposes that, equity ratio has a significant positive impact but debt to equity ratio has a significant negative impact on ROE. Finally, debt and equity ratio has a significant negative impact on EPS. Findings of this research will help the listed manufacturing companies to maintain an optimum capital structure which will lead to the maximization of stockholders wealth.

Narinder Pal Singh and Mahima Bagga (2019) One of the most perplexing issues faced by finance managers is to know about the effect of capital structure on the profitability of firm. Many studies have been carried out to examine the effect of capital structure on the profitability of firms, but most of them belong to other parts of the world, and only few studies have been conducted in India. Thus, the present study has been undertaken to evaluate the effect of capital structure on the profitability of Nifty 50 companies listed on National Stock Exchange of India from 2008 – 2017. The data has been analyzed by using descriptive statistics, correlation and multiple panel data regression models. Four different regression models have been used to study the relationship between capital structure and profitability. In these models, we study the individual effect of total debt and total equity ratios on profitability, that is, ROA and ROE. All four models have been tested with pooled OLS, fixed effects, and random effects. We conclude that there is significant positive impact of capital structure on firm's profitability.

Brajaballav Pal and Priti Damai (2020) in their study, examines that the impact of Capital Structure on Profitability of the selected Automobile companies in India during the period study from 2010 to 2019. Profitability is measured with the Return on Assets and Net Profit Ratio & Capital Structure is measured with the help of four variables: DOL, DFL, D/E and DPR. The study also used two control variables, namely, size of the firm and growth of assets. For the purpose of analysis of the study, we have used descriptive statistics, correlation and regression analysis. The result exhibits that there are significantly positive relationship between ROA & Pay-out ratio and Net Profit Ratio & DOL. But, significantly negative relationship found between ROA& Debt/Equity ratio and Net Profit ratio & Pay-out ratio. The result also reveals that capital structure decisions of the sample companies are independent to the size of the company, growth of the company and financial leverage of the company. Financing decisions of the companies rely more on equity and internal funds to debt sources, since debt funds may lead to financial distressed conditions to the companies.

Ainsley Granville et al., (2021) Liberalisation and globalisation of global economic policies have led to the expansion of investment opportunities and financing options. The capital structure decision is vital for organisations due to its long term impact on profitability. The current research is an attempt to establish a hypothesised relationship of the impact of capital structure on business revenue of companies and the interrelationship between capital structure and profitability. Capital structure is represented by debt/equity ratio while return on investment (ROI), return on capital employed (ROCE) and return on equity (ROE) have been considered to be the determinants of profitability. The study concludes that out of the ten companies considered for the study, J.K Cement, KCP and J.K Lakshmi Cement established a positive impact of capital structure on profitability whereas India Cement, Ultra Tech Cement, Ambuja Cement, ACC Cement, Dalmia Bharat, Birla Corp and Prism Cement have revealed a negative impact of capital structure on profitability.

OBJECTIVES OF THE STUDY

The primary objective of this study is to analyse the financial health of select packaging companies in India by examining their liquidity, profitability, leverage, and efficiency positions using key financial ratios. The study also aims to compare the performance of selected firms and identify variations in their financial strength over the study period.

RESEARCH METHODOLOGY

Sample Design

The study focuses on select packaging companies listed on Indian stock exchanges, representing different segments of the packaging industry. The following companies have been selected for analysis: **TCPL Packaging, Cosmo First, Huhtamaki India, Nahar Poly Films, and Polyplex Corporation.**

TCPL Packaging is a leading paperboard packaging manufacturer serving FMCG, food, and pharmaceutical sectors.

Cosmo First is known for its specialty films and flexible packaging solutions with a strong focus on innovation.

Huhtamaki India operates in flexible and consumer packaging with a strong presence in food packaging.

Nahar Poly Films specializes in polyester films catering to packaging and industrial applications.

Polyplex Corporation is a global player in polyester films, supplying packaging and industrial markets worldwide.

Period of the study

The present study covers a period of five years from 2019–20 to 2023–24.

Source of Data

The study is based entirely on secondary data. Financial data were collected from reliable databases such as **PROWESS** and **CAPITALINE**. In addition, annual reports of the selected companies, published journals, magazines, and relevant websites were consulted to supplement the data.

Data Analysis and Interpretation

Accounting Techniques:

Ratio analysis is used as the primary accounting tool to assess liquidity, profitability, leverage, and efficiency through ratios such as Current Ratio, Quick Ratio, Inventory Turnover Ratio, Profitability Ratios, Debt–Equity Ratio, and Asset Turnover Ratio.

Statistical Techniques:

Statistical tools including mean, standard deviation, and Linear growth rate are applied to evaluate the average performance and consistency of financial ratios.

ANALYSIS AND INTERPRETATION

CURRENT RATIO

Table 1.CURRENT RATIO

YEAR	Cosmo First	Huhtamaki India	Nahar Poly Films	Polyplex Corporation	TCPL Packaging
2019-20	1.06	1.34	5.52	2.87	1.03
2020-21	1.18	1.45	0.99	1.94	1.04
2021-22	1.43	1.34	2.45	3.32	1.04
2022-23	1.06	1.44	2.17	4.6	1.14
2023-24	0.99	2.15	2.3	2.85	1.24
Mean	1.14	1.54	2.69	3.12	1.1

SD	0.17	0.34	1.69	0.97	0.09
Min	0.99	1.34	0.99	1.94	1.03
Max	1.43	2.15	5.52	4.6	1.24
LGR	-2.27	-69.19	-43.62	1.65	2.37

Source: Computed data

Cosmo First has maintained a stable liquidity position with a **mean of 1.14** and a **low standard deviation (SD) of 0.17**, indicating minimal fluctuation; however, its **linear growth rate (LGR) of -2.27%** suggests a gradual decline in liquidity. **Huhtamaki India**, despite having a relatively higher **mean of 1.54**, exhibits high volatility (**SD: 0.34**) and a concerning **LGR of -69.19%**, pointing to a severe deterioration in its liquidity over time. **Nahar Poly Films** displays the most erratic liquidity trend, with a **wide range between 0.99 and 5.52**, a **high SD of 1.69**, and a **steep LGR decline of -43.62%**, indicating severe instability and inconsistent financial management. **Polyplex Corporation** maintains the strongest liquidity position, with a **mean current ratio of 3.12** and a **positive LGR of 1.65%**, suggesting an improving ability to meet short-term obligations, despite moderate fluctuations (**SD: 0.97**). In contrast, **TCPL Packaging** has the most stable liquidity (**SD: 0.09**), maintaining a **mean of 1.10**, with a **gradual LGR increase of 2.37%**, indicating steady improvement in financial flexibility.

Overall, while **Polyplex Corporation** and **TCPL Packaging** exhibit strong and improving liquidity positions, **Huhtamaki India** and **Nahar Poly Films** face significant liquidity risks due to declining trends, with **Cosmo First** showing moderate but declining stability.

QUICK RATIO

YEAR	Cosmo First	Huhtamaki India	Nahar Poly Films	Polyplex Corporation	TCPL Packaging
2019-20	0.77	1.08	4.04	1.92	0.61
2020-21	0.79	1.08	0.75	1.25	0.62
2021-22	0.95	0.92	1.3	2.09	0.63
2022-23	0.71	1.03	1.41	2.34	0.67
2023-24	0.7	1.69	1.39	1.68	0.84
Mean	0.78	1.16	1.78	1.86	0.67
SD	0.10	0.30	1.29	0.42	0.10
Min	0.7	0.92	0.75	1.25	0.61
Max	0.95	1.69	4.04	2.34	0.84
LGR	-2.81	-158.43	-21.66	4.40	-2.75

Source: Computed data

The **Quick Ratio** of packaging companies from **2019-20 to 2023-24** highlights significant liquidity variations among the firms. **Cosmo First** maintains a **moderate liquidity position** with a **mean quick ratio of 0.78**, showing **low volatility (SD: 0.10)** and fluctuating between **0.70 and 0.95**. However, its **LGR of -2.81%** indicates a gradual decline in its ability to cover short-term liabilities without relying on inventory. **Huhtamaki India**, with a **mean of 1.16**, shows **high volatility (SD: 0.30)**, fluctuating between **0.92 and 1.69**. Despite having a relatively strong quick ratio, its **steep LGR decline of -158.43%** suggests a significant liquidity deterioration, likely due to inefficient asset management or increasing short-term obligations. **Nahar Poly Films** has the **most volatile quick ratio (SD: 1.29)** with values ranging from **0.75 to 4.04**, averaging **1.78**, but its **LGR of -21.66%** signals a long-term weakening liquidity position. This extreme fluctuation suggests inconsistent financial stability, with some years having strong liquidity

and others being significantly weak. In contrast, **Polyplex Corporation** has the **strongest liquidity position**, with a **mean of 1.86** and a **stable range between 1.25 and 2.34**. The **positive LGR of 4.40%** indicates improving liquidity efficiency over time, showing that the company is successfully managing its liquid assets. Finally, **TCPL Packaging** has the **weakest liquidity position**, with a **mean quick ratio of 0.67**, **low volatility (SD: 0.10)**, and values ranging from **0.61 to 0.84**. The **LGR of -2.75%** reflects a slight decline, indicating that the company consistently struggles to meet its short-term liabilities without depending on inventory.

Overall, **Polyplex Corporation** leads in short-term liquidity, while **Huhtamaki India** and **Nahar Poly Films** exhibit extreme instability, and **Cosmo First** and **TCPL Packaging** face gradual declines in liquidity strength.

INVENTORY TURNOVER RATIO

YEAR	Cosmo First	Huhtamaki India	Nahar Poly Films	Polyplex Corporation	TCPL Packaging
2019-20	11.91	14.29	14.34	8.88	6.65
2020-21	7.67	7.91	9.52	8.58	6.24
2021-22	5.93	6.69	7.52	6.52	4.12
2022-23	5.27	6.72	9.45	5.79	4.32
2023-24	4.75	6.06	9.75	5.11	4.05
Mean	7.11	8.33	10.12	6.98	5.08
SD	2.90	3.40	2.53	1.68	1.26
Min	4.75	6.06	7.52	5.11	4.05
Max	11.91	14.29	14.34	8.88	6.65
LGR	-23.53	13.75	6.77	5.47	14.15

Source: Computed data

The **Quick Ratio** of packaging companies from **2019-20 to 2023-24** highlights varying liquidity positions. **Cosmo First** had a **mean Quick Ratio of 7.11**, with a **high standard deviation (SD) of 2.90**, indicating significant fluctuations. Its ratio ranged from **4.75 to 11.91**, but the **LGR of -23.53%** suggests a concerning downward trend, reflecting deteriorating short-term liquidity. **Huhtamaki India** had a relatively **higher mean (8.33)** and a **wider range (6.06 to 14.29)**, with an **SD of 3.40**, showing considerable volatility. However, the **LGR of 13.75%** indicates an improving liquidity trend over time. **Nahar Poly Films** had the **highest mean Quick Ratio (10.12)** and a **moderate SD of 2.53**, suggesting less fluctuation than Huhtamaki India. With values ranging from **7.52 to 14.34** and an **LGR of 6.77%**, the company maintained strong liquidity but with signs of slight decline. **Polyplex Corporation** had a **mean of 6.98**, with **lower volatility (SD: 1.68)** and a **stable range (5.11 to 8.88)**, indicating a balanced liquidity position. Its **LGR of 5.47%** suggests a slight improvement in financial stability. **TCPL Packaging**, with the **lowest mean Quick Ratio (5.08)** and the **least volatility (SD: 1.26)**, had the narrowest range (**4.05 to 6.65**), indicating consistent liquidity management. However, the **LGR of 14.15%** signifies the most significant positive growth, suggesting a strengthening liquidity position over time.

Overall, **Nahar Poly Films** and **Huhtamaki India** exhibited the highest liquidity levels, while **Cosmo First's declining trend** raises concerns. **TCPL Packaging** shows the most promising growth despite having the lowest initial liquidity, whereas **Polyplex Corporation** remains stable with slight improvements.

PBIT MARGIN

YEAR	Cosmo First	Huhtamaki India	Nahar Poly Films	Polyplex Corporation	TCPL Packaging
2019-20	10.47	8.56	16.16	24.81	8.95
2020-21	16.57	5.83	22.69	38.62	9.37
2021-22	16.56	0.99	24.39	31.19	9.63
2022-23	11.9	2.95	7.64	19.55	12.89
2023-24	5.36	6.31	0.09	-0.72	13
Mean	12.17	4.93	14.19	22.69	10.77
SD	4.69	2.97	10.27	14.90	2.00
Min	5.36	0.99	0.09	-0.72	8.95
Max	16.57	8.56	24.39	38.62	13
LGR	-12.23	-6.54	-6.36	6.03	-0.99

Source: Computed data

The **PBIT margin** of the packaging companies from 2019-20 to 2023-24 exhibits diverse trends, with varying degrees of profitability and volatility. **Polyplex Corporation** recorded the highest **mean PBIT margin (22.69%)**, but with significant fluctuations (**SD: 14.90%**) and a minimum value of **-0.72%**, indicating operational instability. However, its **LGR of 6.03%** suggests a long-term improvement in profitability. In contrast, **Nahar Poly Films**, despite having a relatively strong **mean PBIT margin of 14.19%**, faced extreme volatility (**SD: 10.27%**) and a sharp decline (**LGR: -6.36%**), suggesting deteriorating operational efficiency. **Cosmo First** had a moderate **mean of 12.17%**, but a steady downward trend (**LGR: -12.23%**) indicates decreasing profitability over time. **Huhtamaki India** had the lowest **mean PBIT margin (4.93%)**, with a relatively high deviation (**SD: 2.97%**) and a declining **LGR of -6.54%**, reflecting consistent underperformance. **TCPL Packaging**, with a **mean of 10.77%** and **low volatility (SD: 2.00%)**, remained relatively stable, though its **LGR of -0.99%** suggests a slight downward trend.

Overall, **Polyplex Corporation** leads in profitability with long-term growth potential, while **Nahar Poly Films**, **Cosmo First**, and **Huhtamaki India** show concerning declines, and **TCPL Packaging** remains stable but with limited growth.

NET PROFIT MARGIN

YEAR	Cosmo First	Huhtamaki India	Nahar Poly Films	Polyplex Corporation	TCPL Packaging
2019-20	5.61	6.54	11.86	18.05	4.1
2020-21	10.34	3.89	16.94	34.9	3.73
2021-22	11.08	-0.86	17.93	27.53	4.57
2022-23	7.79	1.66	4.41	17.87	8.2
2023-24	1.62	16.06	-1.41	-0.64	7.16
Mean	7.29	5.46	9.95	19.54	5.55
SD	3.84	6.53	8.31	13.34	2.00
Min	1.62	-0.86	-1.41	-0.64	3.73
Max	11.08	16.06	17.93	34.9	8.2
LGR	-14.45	-28.80	-9.37	7.54	-1.78

Source: Computed data

The **Net Profit Margin (NPM)** of packaging companies from 2019-20 to 2023-24 reveals significant volatility and declining trends for most firms, except **Polyplex Corporation**. **Cosmo First** maintained an average NPM of **7.29%**, fluctuating between **1.62% and 11.08%**, with a **standard deviation (SD) of 3.84**, indicating moderate variation. However, its **LGR of -14.45%** suggests a declining long-term profitability trend. **Huhtamaki India** had the most volatile performance (**SD: 6.53**), with its margin ranging from **-0.86% to 16.06%**. The **LGR of -28.80%** indicates a severe long-term decline, pointing to profitability challenges. **Nahar Poly Films**, despite a **higher mean of 9.95%**, experienced extreme fluctuations (**SD: 8.31**) with a minimum NPM of **-1.41%** and a maximum of **17.93%**. The **LGR of -9.37%** shows a downward trend, indicating struggles in sustaining profitability. **Polyplex Corporation** stood out as the best performer, maintaining the highest **mean NPM of 19.54%**, with peaks reaching **34.9%** and a relatively high **SD of 13.34**, suggesting strong but volatile profitability. Notably, its **LGR of 7.54%** indicates consistent growth, making it the only company with an improving net profit margin. **TCPL Packaging**, on the other hand, had a **stable performance (Mean: 5.55%, SD: 2.00%)**, with a narrow range of **3.73% to 8.2%**, but its **LGR of -1.78%** suggests a slight long-term decline.

Overall, **Polyplex Corporation** remains the most profitable and growing company, while **Huhtamaki India and Nahar Poly Films** face significant fluctuations and long-term declines. **Cosmo First and TCPL Packaging** show moderate but stable trends, with minor long-term declines in profitability.

RETURN ON NETWORTH

Table 6.RETURN ON NETWORTH					
YEAR	Cosmo First	Huhtamaki India	Nahar Poly Films	Polyplex Corporation	TCPL Packaging
2019-20	15.29	24.38	18.65	37.28	13.56
2020-21	25.83	12.54	18.28	81.43	11.21
2021-22	28.76	-3.16	13.86	67.13	14.31
2022-23	18.62	6.55	6.65	42.42	25.97
2023-24	3.3	35.6	-1.74	-1.35	19.73
Mean	18.36	15.18	11.14	45.38	16.96
SD	10.00	15.16	8.67	31.74	5.93
Min	3.3	-3.16	-1.74	-1.35	11.21
Max	28.76	35.6	18.65	81.43	25.97
LGR	-16.99	-9.03	-2.19	6.38	-0.58

Source: Computed data

The Return on Net Worth (RoNW) of the packaging companies from 2019-20 to 2023-24 shows diverse financial performance, reflecting differences in profitability, growth, and stability among the firms.

Cosmo demonstrates strong profitability with a mean RoNW of 18.36, though a high standard deviation of 15.18 suggests significant year-to-year volatility. Its range between 11.14 and 45.38, coupled with a healthy linear growth rate (LGR) of 16.96, indicates overall improvement despite fluctuations. Huhtamaki India records a moderate mean RoNW of 10 and a high standard deviation of 15.16, revealing inconsistent returns across the years. The minimum of 8.67 and maximum of 31.74, along with an LGR of 5.93, show steady yet modest progress. Nahar Poly presents weak performance, with a mean RoNW of 3.3 and a negative standard deviation (-3.16), reflecting instability and persistent losses. Both its minimum (-1.74) and maximum (-1.35) are negative, although an LGR of 11.21 suggests some gradual recovery efforts. Polyplex Corporation outperforms others with a high mean of 28.76 and a very high standard

deviation of 35.6, implying substantial profit swings. With values ranging from 18.65 to 81.43 and an LGR of 25.97, the company shows robust but volatile growth. In contrast, TCPL Packaging reports a negative mean of -16.99 and standard deviation of -9.03, indicating continuous losses. Its narrow range between -2.19 and 6.38 and a slightly negative LGR of -0.58 highlight stagnant performance and limited recovery.

Overall, the analysis reveals that Cosmo and Polyplex have demonstrated strong yet volatile profitability, Huhtamaki shows moderate and steady growth, while Nahar Poly and TCPL Packaging continue to face financial challenges, with the latter showing persistent negative returns.

RETURN ON CAPITAL EMPLOYED

YEAR	Cosmo First	Huhtamaki India	Nahar Poly Films	Polyplex Corporation	TCPL Packaging
2019-20	17.45	27.41	25.31	44.59	16.62
2020-21	25.88	15.11	21.24	82.42	17.29
2021-22	26.1	2.66	14.73	74.07	17.96
2022-23	16.59	8.72	9	46.05	27.29
2023-24	5.97	11.37	0.09	-1.51	24.06
Mean	18.40	13.05	14.07	49.12	20.64
SD	8.28	9.22	9.99	32.88	4.76
Min	5.97	2.66	0.09	-1.51	16.62
Max	26.1	27.41	25.31	82.42	27.29
LGR	-17.53	-1.38	4.49	4.73	-0.40

Source: Computed data

The analysis of **Return on Capital Employed (ROCE)** for selected packaging companies from 2019–20 to 2023–24 reveals significant variation in profitability and capital efficiency across the sector.

Polyplex Corporation recorded the highest mean ROCE of **49.12%** with a wide fluctuation (SD 32.88), ranging from **-1.51% to 82.42%**, and a modest positive **LGR of 4.73%**, indicating strong but volatile returns on capital employed. **TCPL Packaging** demonstrated consistent performance with a mean ROCE of **20.64%**, the lowest variability (SD 4.76), and values ranging between **16.62% and 27.29%**, though its **LGR of -0.40%** reflects a slight decline in long-term efficiency. **Cosmo First** achieved a moderate mean of **18.40%**, with considerable variability (SD 8.28) and a wide range (**5.97%–26.1%**), but its **negative LGR (-17.53%)** indicates a sharp decline in its capital profitability over the years. **Huhtamaki India** posted a mean ROCE of **13.05%** with high fluctuations (SD 9.22) and values from **2.66% to 27.41%**, coupled with a mild **LGR of -1.38%**, suggesting stagnant performance and potential operational inefficiencies. **Nahar Polyfilms** reflected moderate profitability with a mean ROCE of **14.07%**, substantial variability (SD 9.99), and a wide range (**0.09%–25.31%**), supported by a **positive LGR of 4.49%**, showing gradual improvement in capital efficiency.

Overall, the sector exhibits mixed performance, with Polyplex outperforming peers in returns but with high volatility, while TCPL stands out for stability. In contrast, Cosmo First and Huhtamaki India show declining efficiency, and Nahar Poly demonstrates steady improvement, reflecting differing strategic and operational dynamics among these packaging firms.

RETURN ON ASSETS

Table 8.Return on Assets					
YEAR	Cosmo First	Huhtamaki India	Nahar Poly Films	Polyplex Corporation	TCPL Packaging
2019-20	6.27	11.23	17.3	26.76	4.56
2020-21	10.64	6.06	12.57	54.68	4.02
2021-22	12.3	-1.25	10.15	53.98	4.89
2022-23	7.24	2.83	4.69	37.23	10.12
2023-24	1.14	20.47	-1.31	-1.07	8.3
Mean	7.52	7.87	8.68	34.32	6.38
SD	4.33	8.39	7.20	23.02	2.68
Min	1.14	-1.25	-1.31	-1.07	4.02
Max	12.3	20.47	17.3	54.68	10.12
LGR	-18.17	-22.46	-3.97	5.41	-0.89

Source: Computed data

The Return on Assets (ROA) performance of selected packaging companies from 2019-20 to 2023-24 reveals varying levels of profitability efficiency and stability.

Polyplex Corporation exhibited the strongest asset utilization, with the highest mean ROA of **34.32%**, coupled with a wide fluctuation (SD = 23.02) ranging from **-1.07% to 54.68%**, and a positive linear growth rate (**LGR = 5.41%**), indicating resilience and improving profitability over time. In contrast, **Cosmo First** recorded a moderate mean ROA of **7.52%**, showing considerable variability (SD = 4.33) with values spanning **1.14% to 12.3%**, but its **negative LGR of -18.17%** suggests a downward trend in asset efficiency. **Huhtamaki India** showed similar average returns (**mean = 7.87%**) but much higher volatility (SD = 8.39), ranging from **-1.25% to 20.47%**, reflecting inconsistent performance and a steep decline in profitability (**LGR = -22.46%**). **Nahar Poly Films** posted a slightly higher mean of **8.68%**, with moderate fluctuations (SD = 7.20; min = -1.31%, max = 17.3%), yet a **mildly negative growth rate (-3.97%)**, indicating stable but slightly weakening profitability. **TCPL Packaging** maintained the lowest mean (**6.38%**) and minimal variability (SD = 2.68), suggesting consistent though modest returns, with a marginal decline (**LGR = -0.89%**).

Collectively, the sector reflects moderate average profitability but mixed performance trends—while Polyplex shows strong and improving returns, most others face declining efficiency in asset utilization, possibly due to rising input costs, competitive pressures, or capital expansion outpacing profit growth.

TOTAL DEBT/EQUITY

Table 9.Total Debt/Equity					
YEAR	Cosmo First	Huhtamaki India	Nahar Poly Films	Polyplex Corporation	TCPL Packaging
2019-20	0.8	0.39	0.02	0.21	1.16
2020-21	0.7	0.32	0.2	0.22	0.93
2021-22	0.69	0.42	0.27	0.12	1.18
2022-23	0.73	0.48	0.34	0.04	0.99
2023-24	0.82	0.18	0.26	0.17	0.84
Mean	0.75	0.36	0.22	0.15	1.02

SD	0.06	0.11	0.12	0.07	0.15
Min	0.69	0.18	0.02	0.04	0.84
Max	0.82	0.48	0.34	0.22	1.18
LGR	0.94	-304.28	43.2	-304.81	-13.44

Source: Computed data

The analysis of the **Total Debt-to-Equity ratio** of selected packaging companies from **2019-20 to 2023-24** reflects diverse capital structure strategies and financial leverage patterns across the sector.

TCPL Packaging exhibited the highest leverage, with a mean ratio of **1.02**, indicating significant reliance on debt financing compared to equity, though its **moderate SD of 0.15** and **negative LGR of -13.44** suggest a gradual move toward deleveraging over the period. **Cosmo First** maintained a **moderate debt position** (mean **0.75**) with **low variability (SD 0.06)**, showing stable leverage and a **positive LGR of 0.94**, implying a steady yet controlled increase in debt relative to equity. **Huhtamaki India**, with a **mean of 0.36** and relatively higher **volatility (SD 0.11)**, showed a **sharp negative LGR of -304.28**, signifying a drastic reduction in debt dependence, possibly due to restructuring or stronger equity infusion. **Nahar Poly Films** reported a **low mean ratio of 0.22** with **moderate SD (0.12)** and a **high positive LGR of 43.20**, suggesting a shift toward higher leverage but still maintaining conservative financing. **Polyplex Corporation** had the **lowest mean ratio (0.15)** and a **negative LGR of -304.81**, highlighting its strong equity base and continuous debt reduction trend.

Collectively, the sector shows a **mixed pattern**, with most companies favoring equity-driven stability, while a few like TCPL and Cosmo First continue using moderate leverage to enhance growth potential, indicating cautious yet varied financial strategies within India’s packaging industry.

ASSET TURNOVER RATIO

YEAR	Cosmo First	Huhtamaki India	Nahar Poly Films	Polyplex Corporation	TCPL Packaging
2019-20	111.88	171.65	145.81	148.22	111.34
2020-21	102.83	1.59	1.01	156.67	107.74
2021-22	1.24	1.55	0.77	2.05	1.17
2022-23	1	1.68	0.94	1.94	1.32
2023-24	0.76	1.36	0.91	1.73	1.22
Mean	43.54	35.57	29.89	62.12	44.56
SD	58.34	76.07	64.8	82.51	59.33
Min	0.76	1.36	0.77	1.73	1.17
Max	111.88	171.65	145.81	156.67	111.34
LGR	-74.43	2.4	2.85	1.2	1.61

Source: Computed data

The analysis of the **Asset Turnover ratio** of selected packaging companies from **2019-20 to 2023-24** reflects diverse capital structure strategies and financial leverage patterns across the sector.

TCPL Packaging demonstrated moderate asset utilization with a mean asset turnover of **43.54**, but its very high **SD of 58.34** reflects substantial fluctuations in operational efficiency over the period; the sharply negative **LGR of -74.43** indicates a pronounced long-term decline in its ability to generate sales from assets. **Cosmo First** recorded a lower mean turnover of **35.57** with extremely high volatility (**SD 76.07**), suggesting inconsistent asset usage, though its marginally positive **LGR of 2.40** points to a slight improvement in efficiency over time. **Huhtamaki India**, with the lowest mean ratio of **29.89** and high **SD of 64.80**, shows weak and unstable asset utilization, yet its positive **LGR of 2.85** implies gradual recovery

or better asset deployment in recent years. In contrast, **Nahar Poly Films** achieved the highest mean asset turnover of 62.12, indicating superior asset efficiency, although the large SD of 82.51 signals wide performance swings; its modest positive LGR of 1.20 reflects stable but limited long-term growth. **Polyplex Corporation** maintained a relatively strong mean of 44.56 with high variability (SD 59.33) and a positive LGR of 1.61, suggesting consistent improvement despite fluctuations.

Overall, the asset turnover performance across the packaging sector reveals high volatility for all firms, with only marginal long-term growth for most, highlighting inconsistent asset management practices and varying operational efficiencies.

FINDINGS OF THE STUDY:

LIQUIDITY POSITION:

Polyplex Corporation and **TCPL Packaging** exhibited relatively stable liquidity positions, while **Huhtamaki India** and **Nahar Poly Films** showed high volatility and declining liquidity trends. **Cosmo First** maintained moderate but gradually declining liquidity.

INVENTORY MANAGEMENT:

Nahar Poly Films and Huhtamaki India recorded higher inventory turnover ratios, indicating efficient inventory management, whereas TCPL Packaging showed relatively lower but improving turnover performance.

OPERATING PROFITABILITY (PBIT MARGIN):

Polyplex Corporation achieved the highest operating margins, though with fluctuations, while TCPL Packaging maintained stable margins. Cosmo First, Huhtamaki India, and Nahar Poly Films experienced declining operating profitability over the study period.

NET PROFITABILITY

Polyplex Corporation emerged as the most profitable firm with a positive long-term growth trend, whereas Huhtamaki India and Nahar Poly Films faced significant volatility and declining net profit margins. TCPL Packaging and Cosmo First showed moderate but stable performance.

RETURN ON INVESTMENT MEASURES:

Polyplex Corporation consistently outperformed others in terms of RONW, ROCE, and ROA, indicating superior efficiency in utilizing capital and assets. TCPL Packaging displayed steady but modest returns, while other firms showed inconsistent performance.

CAPITAL STRUCTURE:

TCPL Packaging relied more on debt financing, though with signs of gradual deleveraging. Polyplex Corporation and Huhtamaki India followed equity-oriented financing strategies, reflecting conservative capital structures.

ASSET UTILIZATION

All companies exhibited high volatility in asset turnover ratios, with Polyplex Corporation and TCPL Packaging showing relatively better efficiency, though long-term growth in asset utilization remained limited across the sector.

OVERALL FINDING:

The study reveals mixed financial health among Indian packaging companies, with Polyplex Corporation emerging as the strongest performer, TCPL Packaging showing stability, and the remaining firms facing challenges in liquidity, profitability, and efficiency over the study period.

References:

- Rahman, M. A., Sarker, M. S. I., & Uddin, M. (2019). The impact of capital structure on the profitability of publicly traded manufacturing firms in Bangladesh. *Applied Economics and Finance*, 6(2), 1–5.
- Singh, N. P., & Bagga, M. (2019). *The effect of capital structure on profitability: An empirical panel data study*. Jindal Journal of Business Research, 8(1), 65–77.
- Pal, B., & Damai, P. (2020). *Impact of capital structure on profitability: Evidence from Indian automobile companies*. Journal of Critical Reviews, 7(18), 4361–4369.
- Granville, A., Bernard, A. J., Barreto, B. E., & Silva, N. A. (2021). *Impact of capital structure on profitability: Evidence from selected Indian companies*.