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Margin Compression and Profitability Sustainability: Evidence from EBDITA to Net Profit of Indian Telecom companies

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Abstract

This paper investigates the phenomena of margin compression and the sustainability of profit margins on certain Indian telecommunication firms by exploring the trending patterns of profit margins from earnings before interest, tax, depreciation, and amortisation to net profit over the period 2015–2024. This paper takes into account the top five Indian telecommunication firms and uses only the secondary financial data available in the annual reports. Based on ratio, trend, and comparison analysis, this paper assesses the extent to which the operating profits get compressed over a period of time due to certain overheads like depreciation, interest, and other expenditures. This paper finds that although the operative margins expand heavily within the top Indian firms, there is a large margin compression at lower levels of profits, resulting in net losses accumulating for the majority of the firms researched. However, Bharti Airtel is the financially most resilient company amid the pandemic, indicating improvement in profitability trends, while the rest of the firms are under continuous financial distress.

Keywords: Profitability, Earnings Before Interest Tax Deprecation Amortisation, Earnings Before Interest Tax, Earnings Before Tax, Net Profit Ratio, Sustainability.

Introduction

One of the most important measures of a company's long-term viability, financial stability, and capacity to add value for stakeholders is still profitability. Profitability in capital-intensive sectors like telecommunications is based on how well revenues are turned into profits at different points in the income statement rather than just revenue growth. A methodical analysis of profit margins, starting with Profit before Depreciation, Interest, and Tax (PBDIT) and continuing through Net Profit, can help explain this conversion process. Margin compression, the gradual decrease in margins across different

levels, provides crucial information on capital intensity, financing choices, operational effectiveness, and overall financial sustainability. Because of its large fixed costs and ongoing network construction expenditures, the telecommunications industry is especially susceptible to margin compression.

The telecommunications industry is especially susceptible to shrinking margins because of fixed costs, ongoing investments in network infrastructure, expenses related to spectrum purchases and growing competition. Although telecom firms might show robust operating margins at the PBDIT stage these margins

typically decline sharply at the PBIT, PBT and net profit stages due to substantial depreciation expenses, increasing interest payments and regulatory or tax burdens (Damodaran, 2012). Consequently, companies that seem efficient might still find it challenging to maintain net profitability, prompting doubts about their long-term financial sustainability.

The challenge of margin compression has become more critical amid global economic upheavals, especially due to the COVID-19 pandemic. While the pandemic triggered a boost in data usage and digital connectivity—conditions that appeared advantageous for telecom providers—it simultaneously escalated cost burdens, postponed capital recuperation and heightened financial risks (OECD, 2020). This contradiction necessitates a focus not only on revenue expansion but also on the robustness and durability of profits at various margin tiers. Researchers contend that lasting profitability is attained not only by robust operating results but also by the company's capability to efficiently handle depreciation, financing expenses and the entire cost framework (Penman, 2013).

Analysing profit margins sequentially from EBDIT to net profit provides a comprehensive view of how internal and external factors influence profitability. The EBDIT margin reflects core operational efficiency, while the PBIT margin captures the impact of capital intensity and asset utilisation. The PBT margin highlights the role of financial leverage and interest burden, and the net profit margin ultimately represents the portion of earnings available to shareholders. A widening gap between these margins signals structural weaknesses that may undermine profitability sustainability over time (Brigham & Ehrhardt, 2017).

Literature Review

Analysis based on profit margins has been considered a classic method in the effective measurement of the financial performance of a company, especially in capital-intensive sectors. In the early finance literature, it has been argued that the focus on net profit is not appropriate in measuring profits. Rather, it should focus on a marginal analysis that takes into account the various levels of the income statement (Brigham & Ehrhardt, 2017). This method has found importance in the various sectors that are affected by fixed costs and investments.

In the telco industry, it is mentioned that the paradox of good operating efficiency and low net profitability persists among telco companies. In regard to this issue, several studies have proven that telco companies remain able to sustain relatively stable and even high margins of PBDIT owing to their stable demand for connectivity services and economies of scale and subscriptions (Damodaran, 2012). However, it was also found that this effect of profits shifting to PBIT would result in a decrease in their net margins owing to large depreciation expenses owing to their steady investments in network and technology upgrades.

The conversion of PBIT to PBT margins is observed as another pressure point in the telecom industry. It is revealed that the higher leverage ratio, taken up by many telecom firms to finance capital expenditure in the infrastructure sector, considerably raises the interest costs, thus squeezing the PBT margins (Penman, 2013). The empirical studies analysing the capital structure of the telecom industry indicate that the higher debt ratio is negatively associated with the profitability of the firms, especially the pre-tax and net profits. Hence, the differing financing policies of firms with the same operating margin lead to widely differing outcomes in net profitability.

The net profit margin, which indicates the ultimate profitability for the stockholders, has long been regarded as a benchmark for financial viability. Nonetheless, a deterioration in net margins despite a high operating margin indicates fundamental problems (Brigham & Ehrhardt, 2017). In a telco scenario, regulatory expenses, spectrum charges, taxation policies, and extraordinary items affect the net profitability as well. Thus, any successive decline in profit margins has raised concerns over profit quality and the eventual creation of stockholders' value.

The COVID-19 pandemic has brought a new element into profitability analysis for the telecoms sector. Though there are a number of factors that state a rise in data traffic and demand for digital connectivity because of the pandemic, the expected rise in profitability has not been universal. observed (OECD, 2020). It has been observed that contrary to expectations, PBDIT margins or PBIT margins, PBT margins, or Net Profit margins are more volatile for the companies during the post-pandemic phase, because of increased operational costs, the delay in capital recovery, and increased borrowing requirements, especially at the net profit levels.

Emerging literature on the comparison that has been made both prior to and after the outbreak of the COVID-19 outbreak further establishes that the crisis has magnified existing structural issues rather than having introduced new ones into the system. It has been found that the companies that had a higher capital expenditure requirement and had a leveraged balance sheet were more susceptible to a degradation in profits despite having stable profits due to the outbreak of the COVID-19 crisis (Penman, 2013).

Secondly, a significant body of research has emphasized the earnings quality trend and the widening gaps between Operating Profit and Net Profit. It is postulated that a widening gap

between PBDIT and Net Profit margins is indicative of a deterioration in earnings quality (Damodaran, 2012). In telecommunication companies, this variation has also been explained by large non-cash expenses and financial costs, rather than poor operating efficiency. Hence, analysis based on margins has also gained popularity over solitary ratio analysis for assessment of long-run profitability.

Although there is an increasing amount of literature on the topic of telecom-related profitability, there are some gaps in tracing the behaviour of margins from PBDIT to Net Profit over a longer period of time, especially within a pre- and post-COVID environment. This is because a lot of literature is confined to EBITDA or Net Profit independently, without considering the interim phases through which the degradation of profit takes place.

Thirdly, there is limited evidence that directly links the compression of margins with the sustainability of profitability and earnings quality. Despite various discussions on the volatility of earnings and the related cash flows, the link between the increase in margin disparities and financial sustainability is still inadequately explored. This limits the application of the available literature for the early detection of financial difficulties by investors and policymakers.

In conclusion, the current literature Maria-Gorretti, C. (2020) and others indicates that the problem of margin compression has remained a challenge in the telecom sector. Even if the operational profitability of a firm seems impressive, sustainability becomes a challenge depending on how well the firms are managing depreciation, finance costs, and other regulatory aspects. The methodical calculation of the margins of PBDIT, PBIT, PBT, and Net Profit becomes a key tool for evaluating the actual

viability of telecom firms, especially during instances like the effect of COVID-19 on the economy

In this regard, the current research work entitled "Margin Compression and Profitability Sustainability: Evidence from PBDIT to Net Profit" aims to explore how profitability changes across varying levels of margins for a telecommunication firm. In this research, we will try to offer an in-depth insight into how profit erosion and the reasons for this condition occur, based on an investigation of margin movements instead of absolute margins. Such an analysis is crucial for investors, managers, and policymakers, as it highlights whether firms can sustain profits in the long run despite operational strength.

Ultimately, understanding margin compression is essential for assessing the financial resilience of telecom companies in a rapidly changing economic environment. This study contributes to existing literature by offering a margin-based profitability perspective that links operational performance with financial sustainability, thereby

enabling more informed strategic and financial decision-making.

Objective of the Research

To analyse the profit margin dynamics and sustainability of selected telecommunication companies by examining the transition of profitability from EBDIT to net profit.

Research Methodology

The research draws upon a descriptive and analytical research design for studying profit margin dynamics and the sustainability of profitability in the telecommunication industry. The proposed research uses secondary data taken from the top five telecommunication firms for a period of ten years from 2015 to 2024. The proposed research utilises only profitability ratios: PBDIT, PBIT, PBT, and Net Profit, for analysing margin squeezing on multiple levels of the income statement. Standard ratio analysis and comparison analysis techniques are applied for studying profitability trend analyses over time and across firms.

Data Analysis and Interpretation

No.	Name of Company	2024	2023	2022	2021	2020	2019	2018	2017	2016	2015
1	Bharti Airtel Ltd.	55.14 %	54.80 %	51.68 %	47.21 %	41.19 %	30.07 %	33.61 %	38.34 %	37.28 %	44.37 %
2	Vodafone Idea Ltd.	39.18 %	39.47 %	40.63 %	40.04 %	35.11 %	13.43 %	22.46 %	29.07 %	33.71 %	32.37 %
3	Tata Teleservices Ltd.	45.61 %	45.76 %	44.04 %	49.15 %	42.33 %	57.30 %	10.73 %	25.00 %	25.94 %	22.34 %
4	Mahanagar Telephone Nigam Ltd.	5.95 %	18.57 %	27.65 %	40.26 %	- 50.91 %	- 35.38 %	- 18.52 %	- 14.26 %	- 8.09 %	- 8.94 %
5	Reliance Communications Ltd.	- 18.62 %	- 19.27 %	- 38.26 %	- 24.84 %	- 174.69 %	- 2.17 %	11.83 %	9.81 %	24.37 %	18.43 %

Table 1 depicts a substantial differential in EBITDA performance among selected Indian telecommunication companies during 2015–2024. Bharti Airtel has consistently improved its EBITDA margins, especially since 2019, reflecting improvement in operational efficiency and cost control. Vodafone Idea has posted a moderately improving and then relatively stable EBITDA margin in the recent years, reflecting operational viability despite financial stress. Tata Teleservices has generated fluctuating EBITDA margins, indicating instability in operational performance. On the contrary, MTNL and Reliance Communications have consistently reported either low or negative EBITDA margins, indicative of severe inefficiency in operations and financial distress. The clear division between financially strong private players and the

distressed operator(s) is reflected in the operating profitability of the above-mentioned groups.

Table 2 brings out the deep fall in EBIT margins for most of the telecom firms considered in this paper. It shows that while Bharti Airtel has undergone a distinct turnaround, with steadily improved EBIT margins since 2020, Vodafone Idea has continuously posted negative EBIT margins since 2018. On the other hand, Tata Teleservices appears to be posting robust positive EBIT margins since 2020. However, MTNL and Reliance Communication have continuously posted large negative EBIT margins since the beginning of the period. Based on the EBIT data considered here, it can be observed that there is substantial compression from EBITDA to EBIT, especially in case of financially distressed telecom firms.

Table 2 EBIT Ratio of selected Telecommunication companies in India											
No	Name Of Company	2024	2023	2022	2021	2020	2019	2018	2017	2016	2015
1	Bharti Airtel Ltd.	24.22 %	23.69 %	16.87 %	13.01 %	3.65%	- 0.40 %	9.30 %	18.74 %	21.40 %	30.74 %
2	Vodafone Idea Ltd.	- 12.77 %	- 13.87 %	- 19.16 %	- 14.92 %	- 18.30 %	- 25.65 %	- 7.41 %	7.25 %	16.33 %	16.85 %
3	Tata Teleservices Ltd.	32.99 %	32.45 %	29.39 %	32.98 %	24.23 %	43.40 %	17.64 %	4.23 %	10.48 %	1.22 %
4	Mahanagar Telephone Nigam Ltd.	- 84.06 %	- 64.58 %	- 43.29 %	- 27.20 %	- 114.1 7%	- 84.86 %	- 61.88 %	- 52.16 %	- 44.95 %	- 43.02 %
5	Reliance Communications Ltd.	- 57.24 %	- 54.21 %	- 75.94 %	- 52.17 %	- 197.0 6%	- 22.26 %	- 2.86 %	3.70 %	4.22 %	0.47 %

No	Name Of Company	2024	2023	2022	2021	2020	2019	2018	2017	2016	2015
1	Bharti Airtel Ltd.	7.56 %	1.49 %	- 5.99 %	- 28.70 %	- 93.93 %	- 10.57 %	- 1.26 %	- 13.66 %	17.0 0%	28.20 %
2	Vodafone Idea Ltd.	- 71.86 %	- 69.91 %	- 73.87 %	- 111.1 3%	- 139.29 %	- 47.99 %	- 25.01 %	- 4.02 %	- 11.3 6%	- 13.87 %
3	Tata Teleservices Ltd.	- 103.0 8%	- 103.4 8%	- 111.0 8%	- 191.3 1%	- 344.62 %	- 52.27 %	- 524.0 3%	- 86.58 %	- 12.0 5%	- 21.26 %
4	Mahanagar Telephone Nigam Ltd.	- 453.3 0%	- 337.8 4%	- 243.2 9%	- 188.8 3%	- 240.54 %	- 170.5 5%	- 125.3 6%	- 102.6 4%	- 88.2 1%	- 85.36 %
5	Reliance Communications Ltd.	- 398.9 6%	- 54.21 %	- 75.94 %	- 52.17 %	- 2061.4 9%	- 627.7 7%	- 2.86 %	- 3.70 %	- 16.2 8%	- 12.40 %

The following Tab. 3 reveals the deteriorating state of EBT margins for the majority of the shortlisted telecommunication firms on the intense pressure of interest expenses and financial leverage. However, Bharti Airtel appears to be recovering with time and improving from significantly negative margins in the interval 2020-2022 to a positive EBT margin in 2024. Vodafone Idea consistently posts significantly high negative margins in the whole interval, which reveals intense financial strain and high interest expenses. Tata Teleservices, MTNL, and Reliance Communications post highly volatile and strongly negative EBT margins, which clearly depicts financial losses and unsound financial leverage for these firms. Thus, from the above EBT margin analysis, it can easily be noted that interest expenses cause acceleration of the margin erosion process, especially for financially struggling telecommunication firms.

Table 4 illustrates a significant fall in net profit margins for most of the chosen telecommunication firms under cumulative pressures exerted by the operational costs, Dep., Int., and Taxes. Bharti Airtel portrays a significant sign of revival over the past few years, becoming positive in 2024, after a long period of losses during the COVID era, symbolizing better profitability and sustainable operations. Vodafone Idea portrays continuing extreme negative net profit margins, indicating continuing troubles of a financially illiterate nature. Tata Teleservices and MTNL have shown highly extreme negative margins during the entire period of this analysis, indicating persistently weak sustainability and extreme losses. Reliance Communications portrays extreme volatility with highly extreme negative margins, indicating a breakdown in profitability. Thus, the bottom line on net profit margins further verifies extreme compression from operational profitability in the telecommunication sector of India.

No	Name Of Company	2024	2023	2022	2021	2020	2019	2018	2017	2016	2015
1	Bharti Airtel Ltd.	5.29 %	- 0.10 %	- 5.13%	- 39.17 %	- 66.43 %	- 3.76 %	0.14 %	- 15.93 %	12.9 0%	23.7 8%
2	Vodafone Idea Ltd.	- 73.80 %	- 69.91 %	- 73.87 %	- 111.0 8%	- 163.5 5%	- 38.13 %	- 16.02 %	- 2.35 %	7.39 %	8.98 %
3	Tata Teleservices Ltd.	- 103.0 8%	- 103.4 8%	- 111.0 8%	- 191.3 1%	- 344.6 2%	- 52.27 %	- 524.0 3%	- 86.58 %	- 12.0 5%	- 21.2 6%
4	Mahanagar Telephone Nigam Ltd.	- 453.3 0%	- 337.8 4%	- 243.2 9%	- 188.8 3%	- 240.5 4%	- 170.5 5%	- 125.3 4%	- 102.4 8%	- 62.3 4%	- 85.0 9%
5	Reliance Communications Ltd.	- 2437. 58%	- 3181. 02%	- 1628. 11%	- 1012. 21%	- 5542. 54%	- 206.4 5%	- 442.4 0%	- 50.77 %	- 3.79 %	- 1.42 %

Overall Analysis

Analysis of the ratios of EBITDA, EBIT, EBT, and Net Profit for the four tables suggests that there is strong evidence of ongoing margin squeeze in the Indian telecommunications industry between 2015 and 2024. Beginning with the operations margin stage, it is noticed that EBITDA margins remain relatively strong for the major private line operators, namely Bharti Airtel and to some extent Vodafone Idea; yet there is sharp deterioration between the EBITDA and EBIT stages of analysis, suggesting that depreciation and amortization expenses play a major role in this regard due to intense network capex outlays.

EBIT to EBT: The impact of this transition gets exacerbated for margin degradation, particularly for Vodafone Idea, Tata Teleservices, MTNL, and Reliance Communications, since they incur high interest costs. It can be assumed that financial expenses contribute significantly to this decline in profitability despite improved operating trends. Net profit margins: In this regard, an analysis of net profits reveals that collective pressure from costs keeps nearly every net company in the red, except for Bharti Airtel, since they track a progression of improvement in the COVID era.

The overall assessment of the analysis suggests that there exists an increasing gap between efficiency of operation and net profit-related

viability in the telecom industry. The net profit sustainability indicates an unsuccessful financial operation despite the efficiency of operation being successful enough to exist between the boundaries of potential sustainability and net profit sustainability. The findings also support that financial sustainability of telecom companies depends not only upon the operation of the companies but also upon their financial cost efficiency, and among the selected companies, Bharti Airtel is the financially most sustainable company.

Findings

From the analysis, the EBITDA margins are still quite good for the top private telecoms and for Bharti Airtel. There is a substantial fall in the margin shifting from EBITDA to EBIT in the majority of the firms, thus showing the intense effect of the depreciation and amortization expense owing to the capital-intensive infrastructure. The movement from EBIT to EBT is observed to have had serious margin deterioration, particularly in the case of Vodafone Idea, Tata Teleservices, MTNL, and Reliance Communications, because of high-interest expenses and leverage. Net profit margins are persistently negative for most firms over the period analysed, indicating a cumulative effect of operational, funding, and tax-related pressures. Bharti Airtel is identified as the most financially strong firm, showing signs of recovery and having positive net profit margins during the post-pandemic phase. Despite having public sector/financially distressed companies like MTNL and Reliance Communications, these companies tend to experience persistent losses and highly compressed margins. The post COVID scenario reveals further distance between the strong and weak players and thereby strengthens the consolidation trend in the telecom industry.

Conclusion

The conclusion is that the Indian telecom market has the potential for high operating profits. However, the ability to sustain profitability is impacted significantly due to the capital intensity and associated financials. The decline in margins from EBITDA to Net Profit indicates the challenges associated with the sector. Companies with better cost management and stronger balance sheets are, therefore, more able to resist margin pressure, as Bharti Airtel showed in its post-COVID recovery. By contrast, companies with high leverage and weak financial structures are continuing to report severe profitability erosion. These results point out that for telecom companies, it is important not only to look at revenue growth but to ensure capital discipline and financial restructuring for long-term profitability.

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Declaration of Conflicting Interests

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