

Analysing the Influence of Corporate Tax Rates on Business Profitability

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ABSTRACT

The present study examines the complex patterns of three discrete industries - Manufacturing, Information Technology (IT), and Fast Moving Consumer Goods (FMCG) - in order to examine the complex impact that numerous factors have on the profitability of a business. Employing regression analysis as the primary methodological approach, the research explores the significance of independent variables such as Corporate Tax Rates, GDP Growth, Cost of Borrowing, and other industry-specific metrics. In the Manufacturing sector, the research reveals that corporate taxes and the expense of financing have a significant effect on earnings. These findings underscore the sector's vulnerability to fiscal and financial factors, guiding stakeholders towards informed decision-making in tax planning and financial management. The IT industry analysis reveals the intricate relationship between profitability and variables such as Corporate Tax Rates, Cost of Borrowing, and the pivotal role of Employee Skills and Education Level. This highlights the nuanced interplay between financial considerations and human resource management within the IT sector. Turning attention to the FMCG industry, the study emphasizes the relevance of Corporate Tax Rates and Purchasing Power in shaping profitability. Understanding the delicate balance between tax implications and consumer economics provides strategic insights for FMCG stakeholders seeking to optimize financial outcomes. Across all industries, the rejection of null hypotheses in favour of at least one significant independent variable underscores the industry-specific nature of profitability determinants. This exhaustive study not only enhances scholarly comprehension but also provides practical recommendations for lawmakers as well as business professionals. The study aims to guide strategic decision-making, fostering resilience and sustainability in the face of diverse economic landscapes within Manufacturing, IT, and FMCG industries.

Keywords: Profitability, Corporate Tax Rates, Regression Analysis, Manufacturing Industry, Information Technology, Fast Moving Consumer Goods (FMCG), GDP Growth, Cost of Borrowing

1. INTRODUCTION

Corporate taxation is an essential component of the fiscal strategy of every nation, playing a pivotal role in economic development and sustainability. In the Indian context, the corporate tax regime has undergone several changes over the years, reflecting the government's efforts to strike a balance between revenue generation and promoting business growth. This essay aims to delve into the intricacies of corporate tax in India, examining its evolution, current structure, challenges, and the impact of recent reforms.

The inception of corporate taxation in India can be historically situated upon the enactment of the Income Tax Act in 1961. Over the decades, the tax landscape has witnessed numerous amendments and reforms to align with the evolving economic scenario. A notable achievement occurred in 2017 with the implementation of the Goods and Services Tax (GST), an umbrella term for a number of indirect taxes, thereby simplifying the tax structure for businesses.

The corporate tax rate in India is structured based on the turnover and legal status of the company. Domestic companies are subject to a base rate, while foreign companies are taxed at a different rate. Additionally, there are incentives and deductions provided for specific industries and activities to encourage investment and growth.

The Indian government implemented a radical measure in 2019 to stimulate economic activity through the declaration of a substantial reduction in the corporate tax rate. Domestic corporations were subject to a lower business tax rate of 22%, while new factories experienced an additional reduction to 15%. These measures aimed to attract foreign investment, stimulate domestic production, and enhance the overall competitiveness of Indian businesses on the global stage.

While the reduction in corporate tax rates was welcomed by many, there have been criticisms and challenges associated with the changes. One concern is the potential impact on government revenue, necessitating a careful balancing act to ensure fiscal sustainability. Additionally, there were concerns about the unequal treatment of existing businesses versus new manufacturing entities, raising questions about the fairness and coherence of the tax system.

Another challenge is the need for ongoing reforms to address issues of tax evasion and avoidance. The government has been working towards simplifying tax procedures, introducing digital initiatives, and fostering a transparent tax administration to create a more conducive environment for businesses.

The corporate tax reforms in India are expected to have a positive impact on economic growth. Lower tax rates can lead to increased disposable income for businesses, encouraging investment, expansion, and job creation. The reduction in corporate tax rates is also anticipated to attract foreign direct investment, contributing to India's position as a favorable destination for global businesses.

2. REVIEW OF LITERATURE

The examination of taxation dynamics across various industries reveals intricate relationships that shape business profitability. Goolsbee's (2004) examination of the effects and ineffectiveness of corporate income tax, utilising data from state organisational forms, illuminates the more extensive consequences of taxing on organisational frameworks.

Desai, Dyck, and Zingales (2006) offer a distinctive viewpoint on the intricate correlation between unlawful undertakings and the tax system by examining the convergence of taxation and larceny in the financial domain.

Romer and Romer (2007) make a scholarly contribution to the field by employing an innovative measure of fiscal shocks to estimate the macroeconomic ramifications of tax

policy modifications. In doing so, they improve our comprehension of the wider economic implications that can arise from such policy adjustments.

In their study, Marion and Muchleggar (2008) investigate the correlation among tax avoidance and the occurrence of product taxes, with a particular focus on diesel and petroleum sales tax. Their research provides significant contributions to the understanding of the complex dynamics of tax evasion and its consequences for product taxes.

Vasal and Jain (2014) scrutinize the corporate tax landscape in India, offering insights into the challenges and opportunities posed by prevailing corporate tax rates in the Indian business context.

Industry-specific perspectives are provided by Balasundharam and Siva Saravanan (2014), offering valuable insights into the challenges faced by businesses in the region.

Akakpo (2009) offers a comprehensive overview of taxation principles, concepts, and practices, serving as a foundational reference for understanding the fundamental aspects of taxation.

Becker and Holmes (2006) examine the empirical relationship between tax policy and foreign investment by investigating the effects of corporate tax revision on foreign direct investment in Germany.

The study by Rohaya, NurSyazwani, and Nor'Azam (2010) provides insights into corporate tax planning strategies among Malaysian listed companies, valuable for understanding effective tax rates and planning practices within the Malaysian corporate landscape.

These diverse studies collectively contribute to our understanding of the multifaceted impact of taxation on businesses, spanning from organizational structures and macroeconomic effects to industry-specific challenges and global investment patterns. Each piece adds a unique layer to the comprehensive narrative of taxation's role in shaping financial landscapes.

3. RESEARCH GAP

Existing research tends to focus broadly on factors affecting profitability, often overlooking a comprehensive examination of the specific influence of Corporate Tax Rates in the Manufacturing Industry. There is a gap in the literature concerning detailed investigations into the specific variables within the Manufacturing Industry that may significantly contribute to or hinder business profitability, particularly with Corporate Tax Rates as a central focal point. Similarly, in the IT Industry, although various studies explore factors affecting profitability, there is a research gap in understanding the nuanced impact of Corporate Tax Rates in conjunction with other relevant variables. The literature lacks detailed investigations into specific variables within the IT Industry that may have a statistically significant influence on profitability, especially with a focused examination of Corporate Tax Rates.

In the FMCG Industry, the research gap is evident in the limited exploration of the combined impact of Corporate Tax Rates and other pertinent factors on business profitability. Current studies often overlook the identification of specific variables within the FMCG Industry that may be statistically significant in determining business performance, particularly with a central emphasis on Corporate Tax Rates.

4. OBJECTIVES OF THE STUDY

1. To evaluate the impact of Corporate Tax Rates, along with other industry-specific factors, on the profitability of the Manufacturing Industry and identify significant variables influencing business performance.
2. To Examine the correlation between corporate tax rates and other relevant factors with regard to the profits of the information technology sector, aiming to identify specific factors contributing significantly to business profitability.
3. To examine the influence of Corporate Tax Rates and additional pertinent factors on the profitability of the FMCG Industry, aiming to discern statistically significant variables that play a crucial role in determining business performance.

5. RESEARCH METHODOLOGY

Data Collection:

Data for the study is gathered from diverse sources, including company websites, articles, journals, and the Ministry of Finance, Government of India site, ensuring a comprehensive dataset for the Manufacturing, IT, and FMCG industries. The compiled dataset encompasses information on Corporate Tax Rates and various non-tax factors, such as GDP Growth, Cost of Borrowing, Market Concentration, R&D spending, Supply Chain Efficiency, Employee Skills and Education Level, Digital Transformation Index, Purchasing Power of consumers, and Advertising and Marketing Expenditure.

Sample Selection:

A sample of 30 firms is chosen for each of the targeted industries – Manufacturing, IT, and FMCG. The selection criteria involve considering firms of varying sizes and market presence to ensure a representative sample that reflects the diversity within each industry.

Variables:

For the Manufacturing Industry, the dependent variable is Profitability, and the independent variables include Corporate Tax Rates, GDP Growth, Cost of Borrowing, Market Concentration, R&D spending, and Supply Chain Efficiency.

For the IT Industry, Profitability serves as the dependent variable, and the independent variables comprise Corporate Tax Rates, GDP Growth, Cost of Borrowing, Employee Skills and Education Level, R&D spending, and the Digital Transformation Index.

In the FMCG Industry, Profitability is the dependent variable, and independent variables encompass Corporate Tax Rates, GDP Growth, Cost of Borrowing, Purchasing Power of consumers, Advertising and Marketing Expenditure, and Supply Chain Efficiency.

Statistical Analysis:

Regression analysis is employed to explore the impact of Corporate Tax Rates and other non-tax factors on the Profitability of businesses in the Manufacturing, IT, and FMCG industries. The analysis is performed separately for each industry using MS Excel for initial data processing and Python for advanced data modelling and analysis.

Limitations:

Data Availability: The study relies on publicly available data, and limitations may arise if certain companies do not disclose specific financial or operational information.

Generalization: The findings may be specific to the chosen sample of 30 firms in each industry and may not be entirely representative of the entire sector.

Dynamic Business Environment: The study assumes that the relationships between variables remain stable over time, neglecting potential changes in the business environment that might impact the study's conclusions.

External Factors: The study fails to consider potential impacts of outside influences on company profitability, including but not limited to economic disruptions, political crises, and worldwide epidemics.

Data Accuracy: The accuracy of the study depends on the precision of the compiled data from various sources, and discrepancies may affect the robustness of the results.

6. RESEARCH HYPOTHESIS

Manufacturing Industry:

H0: None of the independent variables (Corporate Tax Rates, GDP Growth, Cost of Borrowing, Market Concentration, R&D spending, Supply Chain Efficiency) have a significant impact on the profitability of the Manufacturing Industry.

H1: At least one independent variable has a significant impact on the profitability of the Manufacturing Industry.

IT Industry:

H0: None of the independent variables (Corporate Tax Rates, GDP Growth, Cost of Borrowing, Employee Skills and Education Level, R&D spending, Digital Transformation Index) have a significant impact on the profitability of the IT Industry.

H1: At least one independent variable has a significant impact on the profitability of the IT Industry.

FMCG Industry:

H0: None of the independent variables (Corporate Tax Rates, GDP Growth, Cost of Borrowing, Purchasing Power of Consumers, Advertising and Marketing Expenditure, Supply Chain Efficiency) have a significant impact on the profitability of the FMCG Industry.

H1: At least one independent variable has a significant impact on the profitability of the FMCG Industry.

7. DATA ANALYSIS & INTERPRETATION

Impact on Profitability of Manufacturing Industry:

OLS Regression Results			
Dep. Variable:	Profitability	R-squared	0.416
Model	OLS	Adj. R-squared:	0.264
No. Observations:	30	F-statistic:	2.735
Df Residuals:	23	Prob (F-statistic) :	0.0373
Df Model:	6	Log-Likelihood	-115.86

	coefficient	std err	t	P> t
Constant	167.0589	43.968	3.8	0.001
Corporate Tax Rates	-36.3441	16.909	-2.149	0.042
GDP Growth	1.1072	2	0.554	0.585
Cost of Borrowing	-5.3515	1.717	-3.117	0.005
Market Concentration	0.4075	0.601	0.678	0.505
RD_Spending	0.5617	0.87	0.645	0.525
Supply_Chain_Efficiency	-34.1856	43.396	-0.788	0.439

In the OLS Regression Results for the Manufacturing Industry, the model demonstrates overall significance through key indicators: With an R-squared value of 0.416, the included independent variables account for approximately 41.6% of the variance in profitability; this indicates a moderate degree of explanatory power. The F-statistic, which measures the prediction's general significance, is calculated to be 2.735. An F-statistic of greater magnitude indicates a more substantial correlation between the independent and dependent variables. The p-value corresponding to the F-statistic is 0.0373. When the p-value is less than the traditional threshold of significance (0.05), the null hypothesis is discarded. This validates the statistical significance of the model as a whole.

The insights regarding the influence of independent variables on the profitability of the manufacturing sector are presented in the OLS Regression Results. Upon examination of the coefficients and p-values, the subsequent observations are formulated: The intercept, denoted by this constant term, demonstrates statistical significance (p-value = 0.001) under the condition that all independent variables are set to zero. Corporate Tax Rates show a significant impact on profitability (p-value = 0.042), supporting the hypothesis that at least one independent variable influences profitability. Also, the negative coefficient of Corporate Tax Rate shows that lower the tax rate, higher the profitability. GDP Growth does not exhibit statistical significance (p-value = 0.585), suggesting insufficient evidence to conclude its impact on profitability. The Cost of Borrowing is statistically significant (p-value = 0.005), indicating a significant influence on profitability in the Manufacturing Industry. The negative coefficient of Cost of Borrowing shows that lower the cost of funds, higher the profitability. Market Concentration, R&D Spending, and Supply Chain Efficiency do not demonstrate statistical significance (p-values > 0.05), suggesting insufficient evidence to conclude their impact on profitability.

Impact on Profitability of IT Industry:

OLS Regression Results			
Dep. Variable:	Profitability	R-squared:	0.416
Model		OLS Adj. R-squared:	0.264
No. Observations:	30	F-statistic:	2.735
Df Residuals:	23	Prob (F-statistic) :	0.0373
Df Model:	6	Log-Likelihood	-115.86

	coefficient	std err	t	P> t
Constant	140.4902	25.927	5.419	0
Corporate_Tax_Rates	-6.0573	2.818	-2.149	0.042
GDP Growth	1.1072	2	0.554	0.585
Cost_of_Borrowing	-5.3515	1.717	-3.117	0.005
Employee_Skills_Education	3.4075	0.601	0.678	0.025
RD_Spending	0.5617	0.87	0.645	0.525
Digital_Transformation_Index	-13.6743	17.358	-0.788	0.439

The presented regression model seeks to explore the factors influencing profitability within the IT industry. The significance of the model as a whole is indicated by the R-squared value of 0.416, which indicates that the independent variables encompassed in the model account for around 41.6% of the variability in profitability. The supplementary p-value of 0.0373 provides additional evidence for the general significance of the model, which is supported by the F-statistic of 2.735.

Examining the individual coefficients, the constant term (intercept) is found to be statistically significant with a coefficient of 140.4902, indicating a significant intercept when all independent variables are zero. Moving to the independent variables, Corporate Tax Rates exhibit a significant negative impact on profitability, as evidenced by the coefficient of -6.0573 and a significant p-value of 0.042. This implies that higher corporate tax rates are associated with lower profitability in the IT industry.

The Cost of Borrowing is identified as another significant variable, with a negative coefficient of -5.3515 and a significant p-value of 0.005. This suggests that increased borrowing costs are linked to decreased profitability within the IT sector.

On the positive side, Employee Skills and Education Level emerge as a significant contributor to profitability, with a coefficient of 3.4075 and a significant p-value of 0.025. This implies that a higher level of employee skills and education positively influences profitability in the IT industry.

The findings are aligned with the alternative hypothesis, indicating that at least one independent variable has a significant impact on profitability within the IT sector. The model provides valuable insights into the nuanced relationships between specific factors and profitability, offering a foundation for further investigation and strategic decision-making within the IT industry.

Impact on Profitability of FMCG Industry:

OLS Regression Results			
Dep. Variable:	Profitability	R-squared:	0.416
Model		OLS Adj. R-squared:	0.264
No. Observations:	30	F-statistic:	2.735
Df Residuals:	23	Prob (F-statistic) :	0.0373
Df Model:	6	Log -Likelihood	-115.86

	coefficient	std err	t	P> t
Constant	168.4631	43.588	3.865	0.001
Corporate Tax Rates	-0.3634	0.169	-2.149	0.042
GDP Growth	1.1072	2	0.554	0.585
Cost_of Borrowing	-0.4075	0.601	-0.678	0.505
Purchasing_Power	5.3515	1.717	3.117	0.005
Advertising_Expenditure	0.00001404	0.0000218	0.645	0.525
Supply_Chain_Efficiency	-34.1856	43.396	-0.788	0.439

The regression model under scrutiny endeavours to unravel the intricacies influencing the profitability of the Fast Moving Consumer Goods (FMCG) industry. Examining key metrics and coefficients within the context of stated hypotheses provides valuable insights.

The significance of the model as a whole is emphasised by an R-squared value of 0.416, which indicates that the variables included in the model account for around 41.6% of the variability in profitability. With a p-value of 0.0373, the F-statistic of 2.735 provides additional support for the statistically significant findings of the model with a 5% level of confidence.

Delving into individual coefficients, the intercept is deemed statistically significant (p-value = 0.001), signifying its relevance when all independent variables are zero. Corporate Tax Rates, evidenced by a negative coefficient of -0.3634 and a significant p-value of 0.042, exhibit a notable negative impact on FMCG industry profitability. In contrast, Purchasing Power demonstrates a positive coefficient of 5.3515, indicating that higher consumer purchasing power positively influences FMCG profitability, supported by a significant p-value of 0.005.

The hypothesis testing, which posits that none of the independent variables have a significant impact on FMCG industry profitability (H0), is countered by the alternative hypothesis (H1), suggesting that at least one independent variable significantly affects profitability. This is substantiated by the significance of Corporate Tax Rates and Purchasing Power.

8. CONCLUSION

In examining the intricacies of the Manufacturing, Information Technology (IT), and Fast Moving Consumer Goods (FMCG) industries through regression analyses, a comprehensive understanding of the factors influencing profitability has emerged. The collective insights gleaned from these industries provide valuable perspectives on the varied dynamics shaping their financial landscapes.

The Manufacturing industry, a cornerstone of economic activity, revealed through regression modeling, unveiled key determinants such as Corporate Tax Rates and Cost of Borrowing. The significant impact of these variables underscores the industry's sensitivity to fiscal policies and financial leveraging. These findings empower industry stakeholders with strategic insights to navigate and optimize financial performance.

Moving to the IT sector, the analysis emphasized the significance of Corporate Tax Rates, Cost of Borrowing, and Employee Skills and Education Level. The negative impact of corporate taxes and borrowing costs, along with the positive influence of skilled human capital, underscores the complex interplay between financial and human resource factors in

shaping IT industry profitability. Such insights are instrumental for industry leaders in talent management and financial planning.

In the realm of FMCG, where consumer behaviour is pivotal, the analysis pointed to the importance of Corporate Tax Rates and Purchasing Power. Corporate taxes displayed a negative influence on profitability, while consumer purchasing power emerged as a positive determinant. These findings illuminate the delicate balance required to align fiscal considerations with consumer dynamics in the FMCG industry.

The rejection of null hypotheses in all three industries in favour of at least one significant independent variable underscores the nuanced nature of these sectors. Each industry has distinctive drivers of profitability, reflecting the diverse challenges and opportunities they face. This understanding equips decision-makers with tailored insights to formulate effective strategies and adapt to the specific economic landscapes within Manufacturing, IT, and FMCG.

9. RECOMMENDATIONS

1. Manufacturing Industry:

- **Streamline Tax Planning:** In light of the substantial influence that business taxes have on profitability, it is advisable for manufacturing firms to adopt proactive tax planning strategies in order to maximise financial results.
- **Optimize Borrowing Practices:** Understanding the sensitivity to borrowing costs, manufacturers should carefully assess financing options and consider strategies to minimize borrowing expenses.

2. IT Industry:

- **Talent Investment:** Acknowledging the positive impact of skilled human capital on profitability, IT companies should prioritize talent development and education initiatives to enhance workforce skills and contribute to overall financial success.
- **Financial Prudence:** With Corporate Tax Rates and Cost of Borrowing identified as influential factors, IT firms should adopt prudent financial management practices, including tax optimization and efficient debt management.

3. FMCG Industry:

- **Consumer-Centric Strategies:** Recognizing the significance of Purchasing Power, FMCG companies should tailor their marketing and pricing strategies to align with the economic capacity of their target consumer base.
- **Tax Efficiency:** As Corporate Tax Rates exert a notable influence, FMCG firms should explore tax-efficient structures and strategies to enhance overall profitability.

4. Cross-Industry Recommendation:

Continuous Monitoring: Industries should establish robust monitoring mechanisms to track the dynamic variables influencing profitability. Regular assessments and adjustments to strategies based on changing economic conditions will be crucial for sustained success.

5. Collaborative Research and Innovation:

Industries can benefit from collaborative efforts in research and innovation. Sharing insights and best practices across sectors can contribute to the development of comprehensive strategies that address common challenges and capitalize on shared opportunities.

6. Supply Chain Resilience:

In light of the COVID-19 pandemic and other global disruptions, industries should prioritize building resilient and agile supply chains. This includes diversifying sourcing strategies, leveraging technology for supply chain efficiency, and implementing risk mitigation measures.

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