

A Comparative Study of Production and Service Sector in India**Dr. Puttanna. K**

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ABSTRACT

This recent spurt in growth is propelled by radical reforms such as the removal of restrictions on foreign investment and industrial de-licensing. Increasingly the success of manufacturing industries is dependent on innovations, research and development. It is critical not only to remain competitive but also, significant advantages can be gained by developing and commercializing new technologies. Until the early nineties, corporate financial management in India was a relatively drab and placid activity. There were not many important financial decisions to be made for the simple reason that firms were given very little freedom in the choice of key financial policies. Bank credit was provided in the form of an overdraft (or cash credit as it was called) on which interest was calculated on daily balances. However, the rapid growth of the services sector much before the manufacturing industry attaining maturity is not a healthy sign. This paper intends to analyse the contribution made by these two sectors for the economic development.

Key words: *Production, Financial, Investment, Development, Regression analysis*

Introduction:

The Indian economy is firmly on the path of steady growth. Even during the last decade when other countries were in the grip of a massive slowdown, India continued to enjoy a comfortable economic position. This recent spurt in growth is propelled by radical reforms such as the removal of restrictions on foreign investment and industrial de-licensing. Increasingly the success of manufacturing industries is dependent on innovations, research and development. It is critical not only to remain competitive but also, significant advantages can be gained by developing and commercializing new technologies. The structural transformation of the Indian economy over the last three decades has been spectacular growth of the services sector, which now accounts for about 50 per cent of the GDP. However, the rapid growth of the services sector much before the manufacturing industry attaining maturity is not a healthy sign. A knowledge -based economy cannot be sustained in the long run unless it is adequately supported by a growing manufacturing economy.

Until the early nineties, corporate financial management in India was a relatively drab and placid activity. There were not many important financial decisions to be made for the simple reason that firms were given very little freedom in the choice of key financial policies. Bank credit was provided in the form of an overdraft (or cash credit as it was called) on which interest was calculated on daily balances. This meant that even an overnight cash surplus could be parked in the overdraft account where it could earn (or rather save) interest at the firm's borrowing rate. Effectively, firms could push their cash management problems to their banks. Volatility was not something that most finance managers worried about or needed to. The exchange rate of the rupee changed predictably and almost imperceptibly. Administered interest rates were changed infrequently and the changes too were usually quite small. More worrisome were the regulatory changes that could alter the quantum of credit or the purposes for which credit could be given. In that era, financial genius consisted largely of finding one's way through the regulatory. The last couple of years have seen significant developments in the financial sector that have raised competition across-the-board.

Objective of the Study:

This paper compares the financial and non financial sectors to understand the contribution to the development of our economy.

Methodology of the Study:

Regression analysis has been used for the study. It is a statistical measure that attempts to determine the strength of the relationship between one dependent variable (usually denoted by Y) and a series of other changing variables (known as independent variables). Linear regression uses one independent variable to explain and/or predict the outcome of Y, while multiple regressions use two or more independent variables to predict the outcome. The general form of each type of regression is:

Linear Regression: $Y = a + bX + u$

Multiple Regression: $Y = a + b_1X_1 + b_2X_2 + b_3X_3 + \dots + b_tX_t + u$

Where:

Y= the variable that we are trying to predict

X= the variable that we are using to predict Y

a= the intercept

b= the slope

u= the regression residual.

In multiple regressions the separate variables are differentiated by using subscripted numbers. Regression takes a group of random variables, thought to be predicting Y, and tries to find a mathematical relationship between them. This relationship is typically in the form of a straight line (linear regression) that best approximates all the individual data points. Regression is often used to determine how many specific factors such as the price of a commodity, interest rates, particular industries or sectors influence the price movement of an asset.

Production (Non-Financial) Companies

Sl.No	Company	Adjusted R Square	Observations
1	Tata Steel Ltd.	0.923316167	22
2	Birla Corporation Ltd.	0.561068362	23
3	Mahindra & Mahindra Ltd.	0.838606659	23
4	Asian Paints Ltd.	0.373682482	23
5	Bata India Ltd.	0.724328571	22

Service (Financial) Companies

Sl.No.	Company	Adjusted R Square	Observations
1	Bank of Baroda	0.99361819	21
2	Syndicate Bank	0.971392225	19
3	State Bank Of India	0.948573968	23
4	Bank of India	0.954034708	21
5	I C I C I Bank Ltd.	0.978790394	17

Adjusted R square reveals that percentage variation in dependent variable that is caused by independent variable.

Above table shows that the number of observation taken for analysis of Tata Steel Ltd is 22. 92% variation in the Market value of the firm is caused by independent variables taken for final analysis. Remaining 8 percentage will be explained by the other independent variables that are not taken for final analysis of this project. The number of observation taken for analysis of Asian Paints Ltd. is 23. Positively 37 percentage variation in the Market value of the firm is caused by independent variables taken for final analysis. Remaining 63 percentage will be explained by the other independent variables that are not taken for final analysis of this project.

Above table shows that the number of observation taken for analysis of Bank of Baroda is 21. 99.36% variation in the Market value of the firm is caused by independent variables taken for final analysis. Remaining 0.64 percentage will be explained by the other independent variables that are not taken for final analysis of this project. Whereas, the number of observation taken for analysis of State Bank of India is 23. Positively 94.85 percentage variation in the Market value of the firm is caused by independent variables taken for final analysis. Remaining 5.15 percentage will be explained by the other independent variables that are not taken for final analysis of this project. Higher the value of coefficient of more is the contribution of independent variable to the dependent variable whereas lower the value of coefficient less is the contribution of independent variable to dependent variable.

If an independent variable has p value less than 5 percentage then that variable contributes significantly to variation in dependent variable. If $P > 0.05$, the coefficient of that variable is not significant. Therefore that variable does not contribute significantly to the variation in dependent variable. Positive coefficient of independent variable indicates the direct relationship between independent and dependent variable. Negative coefficient denotes that there exists an inverse relationship between dependent and independent variable.

Table 1.1: Variation in market value

Sl.	Non-	Intercept	Current	Ratio	Operating	Profit	Return	on
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No.	Financial Company			(LIQ)		Ratio		Investment (Total) Ratio	
		Coefficients	P-value	Coefficients	P-value	Coefficients	P-value	Coefficients	P-value
1	Tata Steel Ltd.	-126081	0.25	-20505.6	0.62	3968.28	0.17	-12288.4	0.28
2	Birla Corporation Ltd.	73768.9	0.18	-2456.03	0.26	-278.865	0.52	-290.874	0.13
3	Mahindra & Mahindra Ltd.	-107779	0.352	-8067.31	0.37	2049.19	0.08	-628.329	0.63
4	Asian Paints Ltd.	7979.88	0.488	-1585.77	0.05	54.46	0.70	114.5397	0.13
5	Bata India Ltd.	3533.6	0.031	-248.14	0.44	-12.91	0.53	-31.3098	0.21

Sl. No.	Financial Company	Intercept		Current Ratio (LIQ)		Operating Profit Ratio		Return on Investment (Total) Ratio	
		Coefficients	P-value	Coefficients	P-value	Coefficients	P-value	Coefficients	P-value
1	Bank of Baroda	3.496E+13	0.57	8.51E+12	0.01	-1.783E+12	0.06	-2.575E+10	0.82
2	Bank of India	-1.72E+14	0.30	2.51E+13	0.01	4.3995E+11	0.8	-2.731E+11	0.41
3	Syndicate Bank	-9.1E+13	0.08	8.2E+12	0.01	8.9834E+11	0.08	-7.547E+10	0.66
4	ICICI Bank Ltd.	-4.38E+14	0.16	-1.09E+13	0.26	2.2119E+12	0.39	-1.159E+11	0.94
5	State Bank of India	-1.16E+15	0.01	2.08E+14	7E-05	1.1097E+13	0.02	8.0215E+12	0.11

When current ratio is considered as independent variable in the above table, its contribution to Market value of firm is more for Bank of Baroda. The contribution of this independent variable to dependent variable is less for ICICI Bank Ltd. When current ratio is considered as independent variable in above non-financial table, its contribution to Market value of firm is all selected companies are negative value.

The p value for all non financial company is greater than 0.05. That means the variable is not significant. Therefore current ratio does not contribute significantly to the variation in market value of firm. P value of current ratio is less than 0.05 for Bank of Baroda, Bank of India, and Syndicate Bank. So current ratio contributes significantly to variation in market value of firm. For other banks, the p value is greater than 0.05 that means the variable is not

significant. Therefore current ratio does not contribute significantly to the variation in market value of firm.

Higher the value of co-efficient of independent variable more is the contribution of independent variable to the dependent variable. And Lower the value of co-efficient of independent variable less is the contribution of independent variable to the dependent variable. When operating profit ratio is considered as independent variable in non financial sector, its contribution to market value of firm is more for Tata Steel Ltd. The contribution of this independent variable to dependent variable is less for Birla Corporation Ltd. Whereas, when operating profit ratio is considered as independent variable in financial sector, its contribution to market value of firm is more for Syndicate Bank. The contribution of this independent variable to dependent variable is less for Bank of Baroda.

The p value for all non financial company is greater than 0.05 that means the variable is not significant. Therefore operating profit ratio does not contribute significantly to the variation in market value of firm.

The p value for Bank of Baroda and State Bank of India are equal and less than 0.05. Therefore operating profit ratio contributes significantly to the variation in market value of firm. The p value for all other banks are greater than 0.05. Therefore independent variable does not contribute significantly to the variation in dependent variable.

Operating profit ratio has positive coefficient for all non financial companies except Bata India Ltd., Birla Corporation Ltd. and in banks except Bank of Baroda. This indicates the direct relationship between operating profit ratio and market value of firm whereas negative coefficient for other companies and banks shows the inverse relationship between dependent and independent variable.

Negative Return on investment for Tata Steel Ltd. Birla Corporation Ltd. Mahindra & Mahindra Ltd, Bata India Ltd. indicates inverse relationship between dependent and independent variables. Rest of the company indicates direct relationship. Whereas, negative

Return on Investment for Bank of Baroda, Bank of India, Syndicate Bank and ICICI Bank Ltd. indicates inverse relationship between dependent and independent variables.

The p value for all the companies and banks is greater than 0.05 that means the variable is not significant. Therefore Return on Investment ratio does not contribute significantly to the variation in Market value of firm. Mahindra & Mahindra Ltd. has more value compare to other companies and ICICI Bank Ltd in banking sector. So the contribution of independent variable is more whereas Birla Corporation Ltd. and State Bank of India has less value.

Sl. No.	Non-Financial Company	Intercept		Return On Total Assets		EBDIT to Total Interest (DSC)		Inventory Turnover Ratio	
		Coefficients	P-value	Coefficients	P-value	Coefficients	P-value	Coefficients	P-value
1	Tata Steel Ltd.	-1E+05	0.66	46251	0.05	-10268	0.07	10627.6	0.71
2	Birla Corporation Ltd.	73769	0.15	979.403	0.04	33.6033	0.75	-3593.48	0.48
3	Mahindra & Mahindra Ltd.	-1E+05	0.35	1394.8	0.36	-144.6	0.28	13943.3	0.28
4	Asian Paints Ltd.	7979.9	0.49	81.8401	0.60	-0.6359	0.71	1278.72	0.47
5	Bata India Ltd.	3533.6	0.03	22.1398	0.81	-8.4631	0.67	-669.481	0.22
Sl. No.	Financial Company	Intercept		Return On Total Assets		EBDIT to Total Interest (DSC)		Inventory Turnover Ratio	
		Coefficients	P-value	Coefficients	P-value	Coefficients	P-value	Coefficients	P-value
1	Bank of Baroda	3.5E+13	0.57	-2E+13	0.05	-3E+11	0.96	-4.4E+10	0.07
2	Bank of India	-2E+14	0.30	-2E+12	0.81	-4E+12	0.84	7.7E+10	0.03
3	Syndicate Bank	-9E+13	0.08	1E+13	0.22	-2E+13	0.02	-9.1E+08	0.66
4	ICICI Bank Ltd.	-4E+14	0.16	-1E+14	0.09	3.3E+13	0.32	2.9E+09	0.01

5	State Bank of India	-1E+15	0.01	-9E+13	0.08	-5E+13	0.50	8.9E+11	0.32
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When is Return on Total Asset considered as independent variable, its contribution to dependent variable is more for Tata Steel Ltd., The contribution of independent variable to dependent variable is less for Bata India Ltd. whereas in financial sector, Return on total asset considered as independent variable, its contribution to dependent variable is more for Syndicate Bank. The contribution of independent variable to dependent variable is negative for all other banks.

The p values for all the non financial companies are greater than 0.05 except Birla Corporation Ltd. that means the variable is not significant. Therefore Return on Total Assets ratio does not contribute significantly to the variation in market value of firm. Whereas the p values for all the financial sector are greater than 0.05 that means the variable is not significant.

Return on total assets has positive coefficient for all non financial companies which are considered for analysis denotes that there exists a direct relationship between dependent and independent variable. Whereas Return on total assets has negative coefficient for all financial sectors. This denotes there is an inverse relationship between dependent and independent variable. The coefficient of EBDIT to total interest is low for all non financial companies except Birla Corporation Ltd. Therefore EBDIT to total interest contributes more to dependent variable of this company. Tata Steel Ltd. has low coefficient value compare to other companies. So EBDIT to total interest contributes less to dependent variable of this company. Whereas in banks the coefficient of EBDIT to total interest is low for all financial companies except ICICI Bank Ltd. Therefore EBDIT to total interest contributes more to dependent variable of this company. State Bank of India has low coefficient value compare to other companies.

The p value for all non financial companies greater than 0.05. So the independent variable does not contribute significantly to the variation in market value of firm and the p value all

banks are greater than 0.05 expect Syndicate Bank. The p value for Syndicate Bank is less than 0.05 that means the variable is significant. Therefore it contributes significantly to the variation in dependent variable.

When Inventory Turnover Ratio is considered as independent variable, Mahindra & Mahindra Ltd. has high coefficient value .So its contribution to market value of firm is more for this company compared to other companies which are considered for analysis. The contribution of Inventory Turnover Ratio to dependent variable is less for Birla Corporation Ltd. When compared to banking, the Inventory Turnover Ratio is considered as independent variable, State Bank of India has high coefficient value and the dependent variable is less for Syndicate Bank.

The P value of Inventory Turnover ratio is greater than 5percentage. So the independent variable does not contribute significantly to the variation in interest expenses to interest income. Whereas the p value of Inventory Turnover Ratio is less than 0.05percentage in Bank of India and ICICI Bank Ltd. Therefore the contribution of Inventory Turnover Ratio is more to market value of firm for these banks. Inventory turnover ratio has positive coefficient for all companies except Bata India Ltd and Birla Corporation Ltd. This denotes there is a direct relationship between dependent and independent variable and compared to financial sector except Bank of Baroda and Syndicate Bank others are positive coefficient. It denotes there is a direct relationship between dependent and independent variable.

Sl. No.	Non-Financial Company	Intercept		Total Debt Equity Ratio		EBIT to Total Assets (PROF)		Proportion of Equity to Total Cap employed	
		Coefficients	P-value	Coefficients	P-value	Coefficients	P-value	Coefficients	P-value
1	Tata Steel Ltd.	-1E+05	0.66	44116	0.59	2834365	0.35	220515	0.60
2	Birla Corporation Ltd.	73769	0.14	-3703.9	0.05	68696.6	0.08	-40409	0.03
3	Mahindra & Mahindra Ltd.	-1E+05	0.35	-3996.3	0.10	13963.5	0.95	-74137	0.01

4	Asian Paints Ltd.	7979.9	0.48	-2365.4	0.07	-33365	0.13	-10678	0.05
5	Bata India Ltd.	3533.6	0.03	20.602	0.84	1834.09	0.71	-1231.1	0.28

Sl. No.	Financial Company	Intercept		Total Debt Equity Ratio		EBIT to Total Assets (PROF)		Proportion of Equity to Total Cap employed	
		Coefficients	P-value	Coefficients	P-value	Coefficients	P-value	Coefficients	P-value
1	Bank of Baroda	3E+13	0.57	5E+12	0.44	4E+14	0.12	9E+13	0.01
2	Bank of India	-2E+14	0.30	-3E+12	0.59	7E+14	0.29	5E+12	0.41
3	Syndicate Bank	-9E+13	0.08	1E+13	0.05	3E+14	0.25	3E+12	0.92
4	ICICI Bank Ltd.	-4E+14	0.16	8E+12	0.34	2E+15	0.06	5E+14	0.08
5	State Bank of India	-1E+15	0.01	7E+11	0.96	3E+15	0.25	-3E+14	0.13

The coefficient of Total Debt Equity Ratio is high for Tata Steel Ltd compare to other non financial companies. So for this company contribution of Total Debt Equity Ratio to market value of firm is more. The coefficient of Total Debt Equity Ratio is positive except Bank of India for all selected banks. In that ICICI Bank Ltd. has high value compare to other banks. So for this bank contribution of Total Debt Equity Ratio to market value of firm is more. The P values of Total Debt Equity Ratio greater than 0.05 in both non financial and financial sector. So the independent variable does not contribute significantly to the variation in market value of firm.

When EBDIT to Total Assets is considered as independent variable, its contribution to market value of firm is more for Tata Steel Ltd. The contribution of this independent variable to dependent variable is less for Asian Paints Ltd. whereas the EBDIT to Total Assets is considered as independent variable in financial sector; its contribution to market value of firm is more for Bank of India and the contribution of this independent variable to dependent variable is less for ICICI Bank Ltd.

P value of EBDIT to Total Assets ratio is greater than 0.05 for all the selected non financial company that means the variable is not significant. Therefore EBDIT to Total Assets ratio does not contribute significantly to the variation in market value of firm. This compared to financial sector the p value of EBDIT to total assets ratio is greater than 0.05percentage that is the variable is not significant.

EBDIT to Total Assets ratio has positive coefficient except for Asian Paints Ltd. This indicates that there is a direct relationship between independent variable and market value of firm. Whereas negative coefficient of EBDIT to Total Assets ratio for all banks which are considered for analysis denotes that there is a direct relationship between dependent and independent variable.

When Proportion of Equity to Total Cap employed is considered as independent variable, its contribution to market value of firm is more for Tata Steel Ltd. The contribution of this independent variable to dependent variable is less for Mahindra & Mahindra Ltd. whereas we compared to financial sector the Proportion of Equity to Total Cap employed is considered as independent variable, its contribution to market value of firm is more for Bank of Baroda. The contribution of this independent variable to dependent variable is less for State Bank of India.

P value of Proportion of Equity to Total Cap employed is less and equal than 0.05 for Mahindra & Mahindra Ltd, Birla Corporation Ltd and Asian Paints Ltd. So proportion of Equity to Total Cap employed contributes significantly to variation in market value of firm. For other companies the p value is greater than 0.05 that means the variable is not significant. Therefore WACC does not contribute significantly to the variation in market value of firm. Whereas in banking the p value of proportion of Equity to Total Cap employed greater than 0.05 except Bank of Baroda and other banks the p value greater than 0.05 that means the variable is not significant.

Proportion of Equity to Total Capital employed has negative coefficient for Birla Corporation Ltd, Mahindra & Mahindra Ltd, Bata India Ltd and Asian Paints Ltd and in financial sector State Bank of India. This indicates that there is an inverse relationship between independent variable and market value of firm where as positive coefficient of Proportion of Equity to Total Cap employed for other banks which are considered for analysis denotes that there exists a direct relationship between dependent and independent variable.

SL. NO	Non-Financial Company	Intercept		Tobin's q		Free cash flow		WACC(without pref cap corrected)	
		Coefficients	P-value	Coefficients	P-value	Coefficients	P-value	Coefficients	P-value
1	Tata Steel Ltd.	-126081	0.66	0.0121	0.82	-5E+06	0.01	-592.66	0.44
2	Birla Corporation Ltd.	73768.9	0.14	-1E-04	0.92	-129951	0.01	-25.505	0.50
3	Mahindra & Mahindra Ltd.	-107779	0.35	0.013	0.06	-115974	0.33	-191.66	0.16
4	Asian Paints Ltd.	7979.88	0.48	0.0002	0.31	11315	0.45	-37.462	0.16
5	Bata India Ltd.	3533.6	0.03	-9E-06	0.91	3143.7	0.60	1.18807	0.69

SL. NO	Financial Company	Intercept		Tobin's q		Free cash flow		WACC(without pref cap corrected)	
		Coefficients	P-value	Coefficients	P-value	Coefficients	P-value	Coefficients	P-value
1	Bank Of Baroda	3E+13	0.57	1.5E+08	0.001	4E+08	0.001	9E+10	0.29
2	Bank Of India	-2E+14	0.30	3E+08	0.06	-6E+08	0.22	-2E+11	0.48
3	Syndicate Bank	-9E+13	0.08	-3E+08	0.01	8E+08	0.01	1E+11	0.50
4	I C I C I Bank Ltd.	-4E+14	0.16	2.4E+08	0.005	-6E+08	0.10	-1E+12	0.16
5	State Bank Of India	-1E+15	0.01	4.7E+07	0.33	-2E+07	0.91	-2E+12	0.04

When Tobin's q is considered as independent variable, its contribution to market value of firm is more for Mahindra & Mahindra Ltd. The contribution of this independent variable to dependent variable is less for Bata India Ltd. Whereas Tobin's q is considered as independent variable in financial sector, its contribution to market value of firm is more for State Bank of India and the contribution of this independent variable to dependent variable is less for Syndicate Bank.

P value of Tobin's q ratio is greater than 0.05 for all non-financial companies. Therefore Tobin's q ratio does not contribute significantly to the variation in market value of firm. P value of Tobin's q ratio is less than 0.05 for all banks except Bank of India and State Bank of India. So total Tobin's q contributes significantly to variations in market value of firm.

Tobin's q of all companies has positive coefficient except for Bata India Ltd and Birla Corporation Ltd in non-financial sector. This denotes there is a direct relationship between dependent and independent variable. Whereas all banks has positive coefficient except for Syndicate Bank. This denotes there is a direct relationship between dependent and independent variable.

The coefficient of free cash flow is high value for Asian Paints Ltd compare to other selected non-financial companies. The contribution of this independent variable to dependent variable is less for Birla Corporation Ltd. In financial sector the coefficient of free cash flow is high value for Syndicate Bank and low for I C I C I Bank Ltd and Bank Of India.

The P value of all free cash flow is greater than 5percentage except for Tata Steel Ltd and Birla Corporation Ltd. So the independent variable does not contribute significantly to the variation in market value of firm. Therefore the contribution of free cash flow is more market value of firm to for Tata Steel Ltd and Birla Corporation Ltd. Whereas the P value of all free cash flow is less than 5percentage for Bank of Baroda and Syndicate Bank. So free cash flow contributes significantly to variations in market value of firm.

Free cash flow has negative coefficient for Tata Steel Ltd, Birla Corporation Ltd and Mahindra & Mahindra Ltd. This indicates that there is an inverse relationship between independent variable and market value of firm. Whereas negative coefficient for banks are

Bank Of India, I C I C I Bank Ltd and State Bank of India and other positive coefficient for Bank of Baroda and Syndicate Bank are denotes there is a direct relationship between dependent and independent variable.

The coefficient of WACC is high for Bata India Ltd compare to other non-financial companies. So for this company contribution of WACC to market value of firm is more. The coefficient of WACC is low except for Bank of Baroda and Syndicate Bank all selected banks.

P value of WACC is greater than 0.05 for all non-financial company. Therefore WACC does not contribute significantly to the variation in market value of firm. Whereas in financial sector the WACC is greater than 0.05 for all financial sector except State Bank of India.

WACC has negative coefficient for all non-financial companies except Bata India Ltd. This indicates that there is an inverse relationship between independent variable and dependent variable. Whereas positive coefficient for Bank Of Baroda and Syndicate Bank which are considered for analysis denotes that there direct relationship between dependent and independent variable.

Conclusion:

The study shows that the production sector has contributed lesser than the financial sector for the development in terms of financial contribution. The success of manufacturing industries is dependent on innovations, research and development. However the two sectors are at par with their contributions in terms of total capital employed.

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