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Covid-19 Determining Financial Leverage with Special Reference to Selected Drug Industries in India

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ABSTRACT
The aim of this study is to analyze the changes in the capital structure of the selected pharmaceutical industries in India during the COVID-19 period and to see the pandemic was an important aspect in determining the capital structure during the phase. The research work is looks at selected industries in groups based on their leverage compared to the other industry to see the differences in leverage change between them. The research study used a sample size of 10 firms from leading pharmaceutical industries in India for the years 2019-2021. The analysis of results stating that the capital structure determinants of selected pharmaceutical industries are statistically significant. This research work contributes to the literature by extending empirical evidence on the impact of COVID-19 pandemic on industries' capital structure during the study.

Keywords: Capital Structure, Pharmaceutical Industry, COVID-19, Pandemic, Leverage

I. INTRODUCTION

Financial planning of any business enterprise involves reduction in the overall cost of capital besides benefiting the owners to create more wealth and hasten the growth of the economy. This goal can be achieved only if good capital structure practices are implemented. The major role played by the financial manager is to consider the concept of capital structure and the types of securities issued by the selected pharmaceutical industries. Due to COVID-19, the role of financial manager is become crucial in aligning not only capital structure but also wealth maximization. The data thus collected were arranged in simple tabular form and analyzed with the help of appropriate statistical tools and ratio analysis. The major variables chosen for analysis were long term debt, short-term debt, total debt, capital intensity, firm's asset structure, age of the firm, size of the firm, growth of the firm, firm's risk, operating cost ratio, operating profit ratio, and expenses ratio.

II. REVIEW OF LITERATURE

Enrico Colombatto and ArieMelnik (2009), in their study "The Experience of Entrepreneurs and the Capital Structure of New Firms", used a simple model to analyze the funding stage of new firms. Their study obtained three main results. First, it confirmed the results of earlier research that found that the size of the firm had a positive effect on measures of capital structure. However, firms' age does not have any significant effect on capital structure (during the first few years of operations). Second, earlier experience of entrepreneurs in full-time employment (before founding a new firm) has a positive impact on the debt to asset ratio of newly founded firms. Third, firms with subsidized government debt are able to increase the share of debt in total liabilities even if the contribution of it to the overall liability structure is minimal.

AminuKadoKurfi (2009), in her study "Corporate Capital Structure and Lease Financing Practices of Selected Manufacturing Firms in Nigeria", examined lease financing practices and corporate capital structure of selected Nigerian manufacturing firms. The study revealed that the leasing was a veritable alternative for capital assets acquisitions and that lease constitute about 50% of their total fixed assets because most of the lease contracts are structured with provision for ultimate purchase by the lessee (the firm) after the primary lease term to finance capital assets acquisition.

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The study recommends that, appropriate legislations should be promulgated to boost leasing business in the country.

FarisNasif and Al-Shubiri (2010), in their study "Capital Structure and Value Firm: An Empirical Analysis of Abnormal Returns", investigated whether capital structure is value relevant for the equity investor. The study discussed main goal was to explore the effect of capital structure on cumulative abnormal returns. The study also examined the a firm's cumulative average abnormal returns by measuring leverage at the firm level and at the average level for the firm's industry. The study also examined other factors, such as size, price earnings, market to book and betas.

Husni Ali Khrawish and Ali Husni Ali Khraiwesh (2010), in their study "The Determinants of the Capital Structure: Evidence from Jordanian Industrial Companies", examined the capital structure of listed industrial companies on Amman Stock Exchange (ASE) over the period (2001- 2005). The findings of this study contributed towards a better understanding of financing behavior in Jordanian industrial companies. The results of this study showed that a significant positive relationship between long-term debts/total debts and size, tangibility, and long-term debt and there was a negative relationship between long-term debts/total debts and short-term debt of the firm. Also, the results showed that total assets, tangibility, long-term debt, had a positive correlation with long-term debts/total debts. While, short-term debt had a negative correlation with long-term debts/total debts.

Ashok Kumar Panigrahi (2010), in his study "Capital Structure of Indian Corporate: Changing Trends", identified that since the liberalization of Indian economy, there has been an upsurge in research on company finance, particularly aimed at understanding how companies finance their activities and why they finance their activities in these specific ways. The study attempted to compare and contrast the capital structure of Indian corporate before and after liberalization. Going beyond this, they examined the impact of liberalization and changes if any noticed due to liberalization, on the capital structure of Indian companies. Effort was also made to analyzed the capital structure decisions of Indian companies in the recent past.

Ashok Kumar Panigrahi (2011), in his study "Location as a Determinant of Capital Structure: A Study of Indian Private Sector Firms", analyzed capital structure of a firm was determined by various internal and external factors. They proposed to analyze the capital structure of 300 Indian private sector companies, comprising of 20 different sectors for the period 1999-2000 to 2007-2008, duly grouping them on the basis of their regions in which they are located. The researcher tried to find out the ways in which different companies at different times and in different institutional environments have financed their operations and to identify possible implications of these financing patterns. The central issue they addressed was to examine the location variable that influence the capital structure decisions of Indian companies and check whether the region to which the company belongs has a bearing on its capital structure or not.

Chandra Sekhar Mishra (2011) in his study "Determinants of Capital Structure: A Study of Manufacturing Sector PSUs in India", seeks to identified the determinants of Indian central PSUs' capital structure. The results suggest that the capital structure (Total Borrowing to Total Assets) of the profit making PSUs was affected by Asset Structure (Net Fixed Assets to Total Assets, NFATA), Profitability (Return on Assets, ROA) and Tax. Unlike suggestion of pecking order hypothesis, growth (defined as growth in total assets) is positively related to leverage. As predicted by theory, NFATA is positively related and ROA is negatively related to leverage. In contradiction to theory, tax and leverage are negatively related. Firms with less effective tax rate have gone for more debt. None of the other variables like non-debt tax shield (NDTS), Volatility, Size was found to be significant.

NurulSyuhadaBaharuddin et al., (2011), in their study "Determinants of Capital Structure for Listed Construction Companies in Malaysia", have determined the impact of financial factors on the failure of firms, such as bad financial management and lack of capital which are the main determinants of failure. The results of the study suggested that the construction companies depend heavily on debt financing compared to equity financing for expansion and growth. The findings also indicate that profit was reduced when the companies was using more debt.

BasakTuran Icke (2011), in his study "How Firm Specific Factors Affect Capital Structure: An Emerging Market Practice – Istanbul Stock Exchange (ISE)", examined the firm-specific factors which are influential on capital structure decisions of 212 industrial firms listed in Istanbul Stock Exchange over period 2004 and 2009 with Panel Data Analysis. The results showed that firm size, liquidity, profitability and sales growth affect the leverage ratios of industrials firms significantly. The results consistent with most of the capital structure literature and especially support Pecking Order Theory.

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Ahmed Imran Hunjra et al., (2011), in their study "Patterns of Capital Structure and Dividend Policy in Pakistani Corporate Sector and their Impact on Organization Performance", analyzed the determined of patterns of capital structure decisions and dividend policy as well as their level of application in Pakistani corporate sector and also checked the impact of capital structure and dividend policy on organization performance. The study concluded that capital structure decisions were being properly practiced while dividend policy was a major concern in most of the organizations. The study also concluded that there was a significant and positive relationship between capital structure decision, dividend policy and organization performance.

Puwanenthiren Pratheepkanth (2011), in his st udy "Capital Structure and Financial Performance: Evidence From Selected Business Companies in Colombo Stock Exchange Sri Lanka", evidenced that the capital structure was most significant discipline of company's operations. The results showed the relationship between the capital structure and financial performance is negative association at -0.114. Co-efficient of determination is 0.013. F and t values are 0.366, -0.605 respectively. It is reflect the insignificant level of the Business Companies in Sri Lanka. Hence, the business companies mostly depend on the debt capital. Therefore, they have to pay interest expenses much.

Amsaveni and Gomathi (2012), in their study "Determinants of Capital Structure: A Study of the Pharmaceutical Industry in India", aimed to analyze the determinants of capital structure in the Indian pharmaceutical industry, with a sample size of 42 companies, which were listed in the BSE for a period from 2000- 2010. The finding of the study suggested that profitability, uniqueness, business risk and liquidity are negatively related to the leverage, while tangibility, growth, size, non-debt tax shields exhibit positive relationship with leverage. Hence, the result of the study was partially supportive of the pecking order and trade-off theory.

BalasundaramNimalathasan and ValeriuBrabete (2011), in their study "Capital Structure Patters: A Study of Companies Listed on the Colombo Stock Exchange in Sri Lanka", assumed that sound or appropriate capital structure of a firm was significant, because of the interrelationships among capital structure and various other financial decisions variables. The study aimed to investigate the capital structure patterns of the selected companies listed with the Colombo Stock Exchange in Sri Lanka and to test the extent of variations among industries as also among individual firms/companies within the same industry. The results inferred that the capital structures among sampled industries investigated were significantly different except beverage, food and tobacco industry.

Nico Dewaelheyns and Cynthia Van Hulle (2012), in their study "Capital Structure Adjustments in Private Business Group Companies", assumed that companies' trade-off the advantages of a leverage adjustment and its costs. In general, private companies were assumed to face relatively large adjustment costs, and should have lower financing flexibility. However, they argued that an important class of private companies' business group affiliates might face relatively low adjustment costs because of their access to both internal and external capital markets and the beneficial reputation effects of belonging to a group. The empirical results showed significant differences in the composition of the capital structure and the leverage adjustment process between affiliates of private Belgian business groups and comparable standalone companies.

III. RESEARCH PROBLEM

From various literatures studied above, it is inferred that the most critical and high risk was found when the leverage shows exactly high. Present study makes an attempt to identify the impact of COVID-19 in determining the capital structure pertaining to the selected pharmaceutical industries in India. A restructuring of capital is an important phenomena and it will be suggested for all poor profit generating industries and loss making Industries.

IV. OBJECTIVES OF THE STUDY

To study the capital structure of selected pharmaceutical industry.

To analyze the debt-equity structure of selected pharmaceutical industry.

To identify the factors determining the capital structure of selected industry.

To know the impact of COVID-19 in determining the capital structure.

V. RESEARCH METHODOLOGY

This study aims to examine the impact in determination of capital structure of Pharmaceutical Industries listed on the Stock Exchanges of India (BSE and NSE) during the COVID-19 pandemic period. The different factors that affect the level of capital gearing would be studied. The research study would provide a

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clear understanding of the impact of firm specific characteristics on the mode of financing of industries.

5.1 Data Sources

This study analyzes the financial pattern of Indian Pharmaceutical. This comprises for the period of 2009-2010 to 2019-2020. Secondary data which is of time series type was taken to support data analysis.

5.2 Selection of Sample

The study relies on selection of secondary data related to capital structure of select Pharmaceutical from the sources of Income Statement, Profit and Loss account and Balance sheet. The parameters taken for selection of sample industries under the study are:

Company having continuous financial data for the last 10 years commencing from 2009-2010 to 2019-2020. Company which are listed in BSE or NSE.

VI. TOOLS USED IN THE STUDY

In this study employs different analytical tools used namely, financial ratios and statistical tools. To calculate the growth of the Pharmaceutical industry, the compound annual growth rate. To find out the capital structure position debt-equity and leverage of select Pharmaceutical Industry were analyzed. Summary statistical co-efficient of variation, Co-Variance Matrix, Descriptive Statistical Analysis, correlation and structural equation model are also used appropriately to compare the profitability and the leverage position of the Pharmaceutical Industry.

6.1 Measurement of Variables

The dependent variable LDR = Long-term debt / (Total equity + Total debt). The independent variables include Short term debt ratio (SDR), Age of the firm (AGE), Size of the firm (SIZE), Asset structure (ASST), Growth (GROW), Profitability (PROF) and Firm risk (RISK).

These are defined as:

AGE =Number of years in business
SIZE = Log of total assets
ASST = the ratio of fixed assets to total assets
PROF = the ratio of profit before tax to total assets
GROW = Growth in sales
RISK = the standard deviation of the difference between the firm's profitability in time t and the mean profitability.

These definitions follow those of previous studies (Cassar and Holmes, 2003; Esperanc et al., 2003; Hall et al., 2004; Sogorb-Mira, 2005). All the variables used in this study are based on book value in line with the argument by Myers (1984) that book values are proxies for the value of assets in place.

Table 1 analysis shows that the capital structure of pharmaceutical Industries highlights its long-term debt ratio gained from .60 to .82 with an average of .7105. The standard deviation of the company was .07734 and the variance showed .006. Further, it is noted that the skewness showed negatively. The short-term debt ratio of pharmaceutical industries ranged from 1.55 to 3.72 with an average of 2.3091. The standard deviation of pharmaceutical industries was with .72095 and the variance showed .520. Further, it is noted that the skewness highlighted positively. Age of the firm of pharmaceutical industries ranged from 32.40 to 41.40 with an average of 36.9000. The standard deviation of the company was 3.02765 and the variance showed 9.167. Further, it is noted that the skewness highlighted positively. Size of pharmaceutical industries ranged from 2.35 to 2.97 with an average of 2.6765. The standard deviation of the company witnessed with .20481 and the variance showed .042. Further, it is noted that the skewness showed negatively. Asset structure ranged from .45 to .58 with an average of .5113. The standard deviation of the company was .03708 and the variance showed .001. Further, it is noted that the skewness highlighted positively. Profitability earned by pharmaceutical industries was its minimum .18 and its maximum .22 with an average of .2046. The standard deviation of the company witnessed with .01631 and the variance showed .000. Further, it is noted that the skewness showed negatively. Firm growth performed with its minimum 19.92 and its maximum 99.13 with an average of 52.3488. The standard deviation of the company was 28.05358 and the variance showed 787.003. Further, it is noted that the skewness highlighted positively. Firm's risk of pharmaceutical industries ranges between 185.54 and 828.94 with an average of 428.6583. The standard deviation of the company witnessed with 238.27330 and the variance showed 56774.166. Further, it is noted that the skewness highlighted positively.

Table 2states that the correlations of capital structure of Pharmaceutical. It is obvious from the table that there is significant positive correlation between X1(SDR) and X6 and X7 at 1% level and there is a close relationship between X1 and X2 and X3 at 5% level. There exists a significant and close relationship between X2(AGE) and X3, X6 and X7 at 1% level. A close observation of the table reveals that X3(SIZE) and X6 and X7 at 1% level. It has been found that there is close association between X6 (GROW) and X7 at 1% level.

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Table 3 denotes the Co-variance matrix of Pharmaceutical Industries with the interpretation of below variables.

LDR = Long Term Debt Ratio (LDR)
GROW = Growth of the Firm
SDR = Short-term Debt Ratio (SDR) RISK = Firm's Risk
TD = Total Debt OCR = Operating Cost Ratio
CAPINT = Capital Intensity OPR = Operating Profit Ratio
ASST = Firm's Asset Structure EXPR = Expenses Ratio
AGE = Age of the Firm
DPR = Dividend Payout Ratio
SIZE = Size of the Firm NPNW = Net Profit to Net worth Ratio

VII. STRUCTURAL EQUATION MODELLING (SEM)

The SEM report findings is in three different ways. Understanding the way statistical significance is reported requires understanding the terminology of the model itself. Within the graphical display of the model, there are boxes and arrows. Boxes represent observed data and the arrows represent assumed causation. Within the model, a variable that receives a one-way directional influence from some other variable in the system is termed "endogenous", or is dependent.

In this case, long-term debt ratio, short-term debt ratio and total debt were studied by measuring manifest variable towards the leverage (latent variable). Similarly, the capital structure determinants was studied by selecting the independent variables such as capital intensity, firm's asset structure, age of the firm, size of the firm, growth of the firm and risk taken by the firm. On the other hand, the profitability of the firm were ascertained based on its operating cost ratio, operating profit ratio, expenses ratio, dividend payout ratio and net profit to net worth ratio. When interpreting SEM the values attached to one way arrows (or directional effect) are regression co-efficient, whereas two-way arrows (Non Directional relationship) are correlation co-efficient; Regression co-efficient and correlation comprise the "parameters" of the model. The regression co-efficient and correlation measures the strength of the relationship between the variable. The regression co-efficient of 0.70 or higher indicates a very strong relationship, 0.50 – 0.69 indicates a substantial relationship. 0.30-0.49 indicates a moderate relationship; 0.10-0.29 indicates a low relationship; 0.01- 0.09 indicates a negligible relationship and the value of 0 indicate no relationship.

Besides regression coefficients and correlations, SEM also test the overall fit of the model. The narrative analyses use three measures of model fit to determine the overall quality of fit of the model. Another way of thinking about model fit is to view this as the test of model significance, thus, when the values of significance are met for the tests all relationships within the model are significant, and it is then their relative strengths which decides if there is a relationship or not.

Besides testing for model fit, SEM also provide a measure of multicollinearity. In some cases, the model fits the data well, even though none of the independent variables has a statistically significant impact on the dependent variables. How is this possible? When two independent variables are highly correlated, they both convey essentially the same information. In this case, neither may contribute significantly to the model after the other one is included. However, together they contribute a lot. If both variables were removed from the model, the fit would be much worse. Hence, the overall model fits the data well, but neither independent variable makes a significant contribution when it is added to the model. When this happens, the independent variables are collinear and the results show multicollinearity. With SEM, a correlation of .80 between variables is indicative of multicollinearity.

If the goal is simply to predict that the independent variables will influence the dependent variables, then multicollinearity is not a problem. The predictions will still be accurate. If the goal is to understand how the various independent variables affect the dependent variables, then multicollinearity is a big problem.

The primary problem is that the individual strength values can be misleading (a strength value can be low, even though the variable is important). The best solution is to understand the cause of multicollinearity and remove it. Multicollinearity occurs because two (or more) variables are related they measure essentially the same thing. If one of the variables does not seem logically essential to the model, removing it may reduce or eliminate multicollinearity. It is also possible to find a way to combine the variables.

The SEM process centers around two steps: validating the measurement model and fitting the structural model. The former is accomplished primarily through confirmatory factor analysis, while the latter is accomplished primarily through path analysis with latent variables. One starts by specifying a model based

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on theory. Each variable in the model is conceptualized as a latent one, measured by multiple indicators. Several indicators are developed for each model, with a view to winding up with at least three per latent variable after confirmatory factor analysis. Based on a large (n>100) representative sample, factor analysis (common factor analysis or principal axis factoring, not principle components analysis) is used to establish that indicators seem to measure the corresponding latent variables, represented by the factors. The study proceeds only when the measurement model has been validated. Two or more alternative models (one of which may be the null model) are then compared in terms of "model fit," which measures the extent to which the co-variances predicted by the model correspond to the observed co-variances in the data. "Modification indexes" and other coefficients may be used by the study is to alter one or more models to improve fit.

The SEM is a very general statistical modeling technique, which is widely used in the behavioral sciences. It can be viewed as a combination of factor analysis and regression or path analysis. The interest in SEM is often on theoretical constructs, which are represented by the latent factors. The relationships between the theoretical constructs are represented by regression or path coefficients between the factors. The SEM implies a structure for the covariance between the observed variables, which provides the alternative covariance structure modeling. However, the model can be extended to include means of observed variables or factors in the model, which makes covariance structure modeling a less accurate name. The SEM provides a convenient framework for statistical analysis that includes several traditional multivariate procedures, for example factor analysis, regression analysis, discriminate analysis, and canonical correlation, as special cases. The SEM models are often visualized by a graphical path diagram. The statistical model is usually represented in a set of matrix equations.

The SEM has its roots in path analysis, which was invented by the geneticist Sewall Wright (Wright, 1921). It is still customary to start a SEM analysis by drawing a path diagram. A path diagram consists of boxes and circles, which are connected by arrows. In Wright's notation, observed (or measured) variables are represented by a rectangle box, and latent (or unmeasured) factors by a circle or ellipse or square box. Single headed arrows or 'paths' are used to define causal relationships in the model, with the variable at the tail of the arrow causing the variable at the point. Double-headed arrows indicate co-variances or correlations, without a causal interpretation. Statistically, the single headed arrows or paths represent regression coefficients, and double-headed arrows co-variances. Extensions of this notation have been developed to represent variances and means (Mc Ardle, 1996).

7.1 Research Model and Hypothesis Formulation

The research hypotheses have been defined based on the constructs outlined above and using previous research on assessing financial health of select telecom companies. The following figure is a graphic presentation of the developed hypothetical model. On the basis of above presented model, the following hypotheses are proposed.

7.2 Hypothesis of the Study

There is positive impact of selected independent variables towards return on investment.

7.3 Hypothesis Supporting Research Model

Figure 1 and Table 4 depicts pharmaceutical industry – path diagram (estimates), Figure 2 and Table 5 denotes the Pharmaceutical Industry – Path Diagram (standardized solution) and Figure 3 and Table 6 shows Pharmaceutical Industries – Path Diagram (t- Value) respectively.

7.4 Testing of Hypotheses

Table 7 represents the results of the testing of the hypotheses of Pharmaceutical companies.

VIII. DISCUSSION AND CONCLUSION

From the path diagram, measured variables with latent variable of successful operation of determining capital structure is having positive relationship and also significant at 1% and 5% level except short-term debt ratio, total debt, asset and net profit to net worth ratio. The analysis of the model, from the viewpoint of the antecedent of capital structure of the Pharmaceutical companies during the COVID-19 pandemic period, it is suggested that all the measured variables except short-term debt ratio, total debt, asset and net profit to net worth ratio are significantly influence on capital structure of selected Pharmaceutical Industries during the study.

The required data collected from secondary sources of information and with appropriate statement tools like range minimum and maximum, mean, standard deviation, variance and skewness were employed. Apart from this analysis, LISREL software was used and a model was developed with the help of structural equation model along with path diagram. In this chapter the key findings are recapitulated and based on this findings a few suggestions have been recommended.

The present research work is a rewarding exercise to the researcher will be delighted if the suggestions are incorporated to earn good return on equity. The restructuring of capital, where the companies are suffering with sickness like this COVID-19 will enhance a good and viable financial performance. For academics, trainers and consultants, the present research will help them to look on it with a new insight and analyse the same with various dimensions in Pharmaceutical industries. To access equity capital and to work at structuring deals that minimizes perception of threats to control. The findings of the study certainly provide a framework for understanding the capital structure during the pandemic period and financing of SMEs, and have significant theoretical and practical implications.

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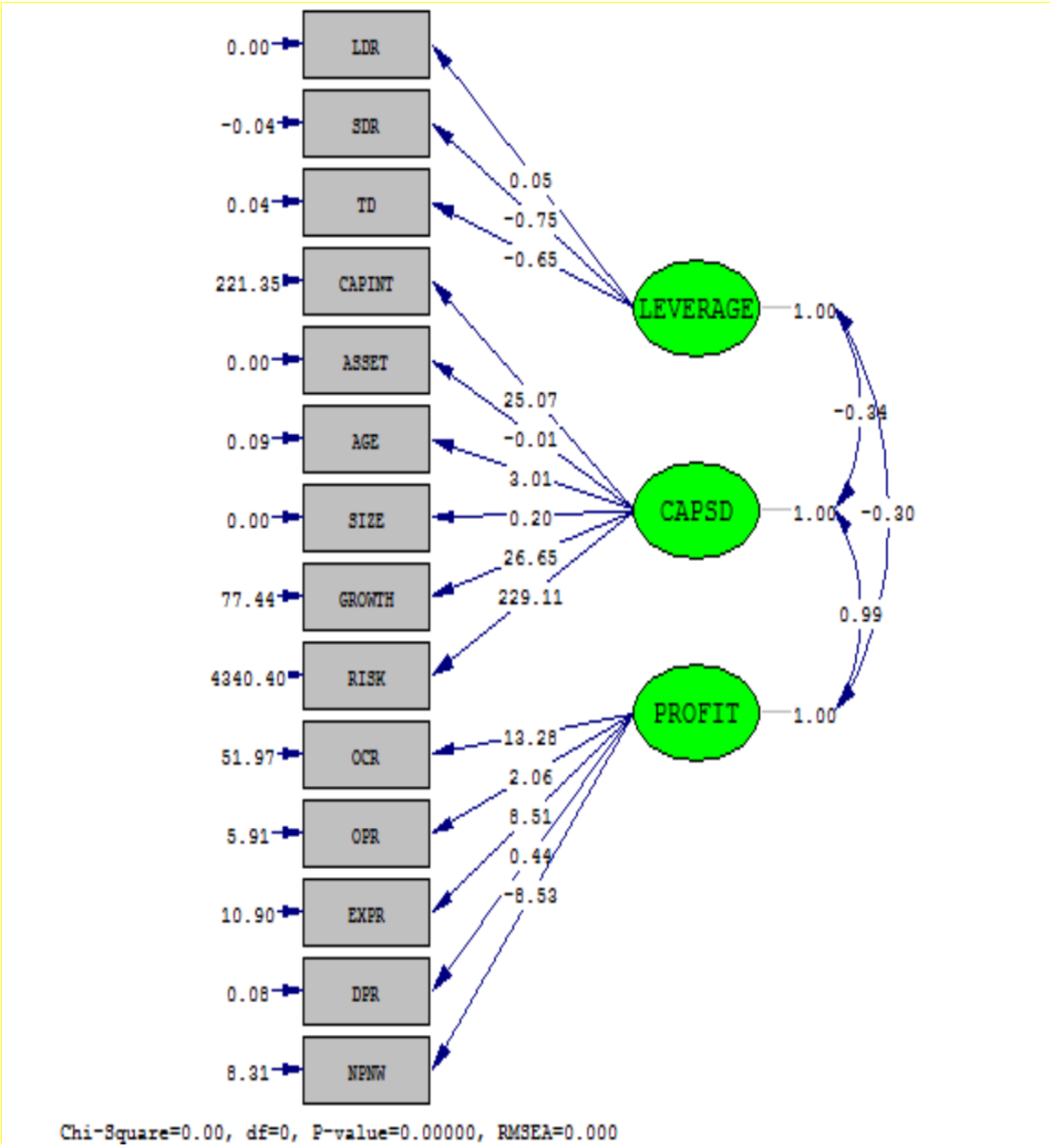

Figure 1 pharmaceutical industry – path diagram (estimates)

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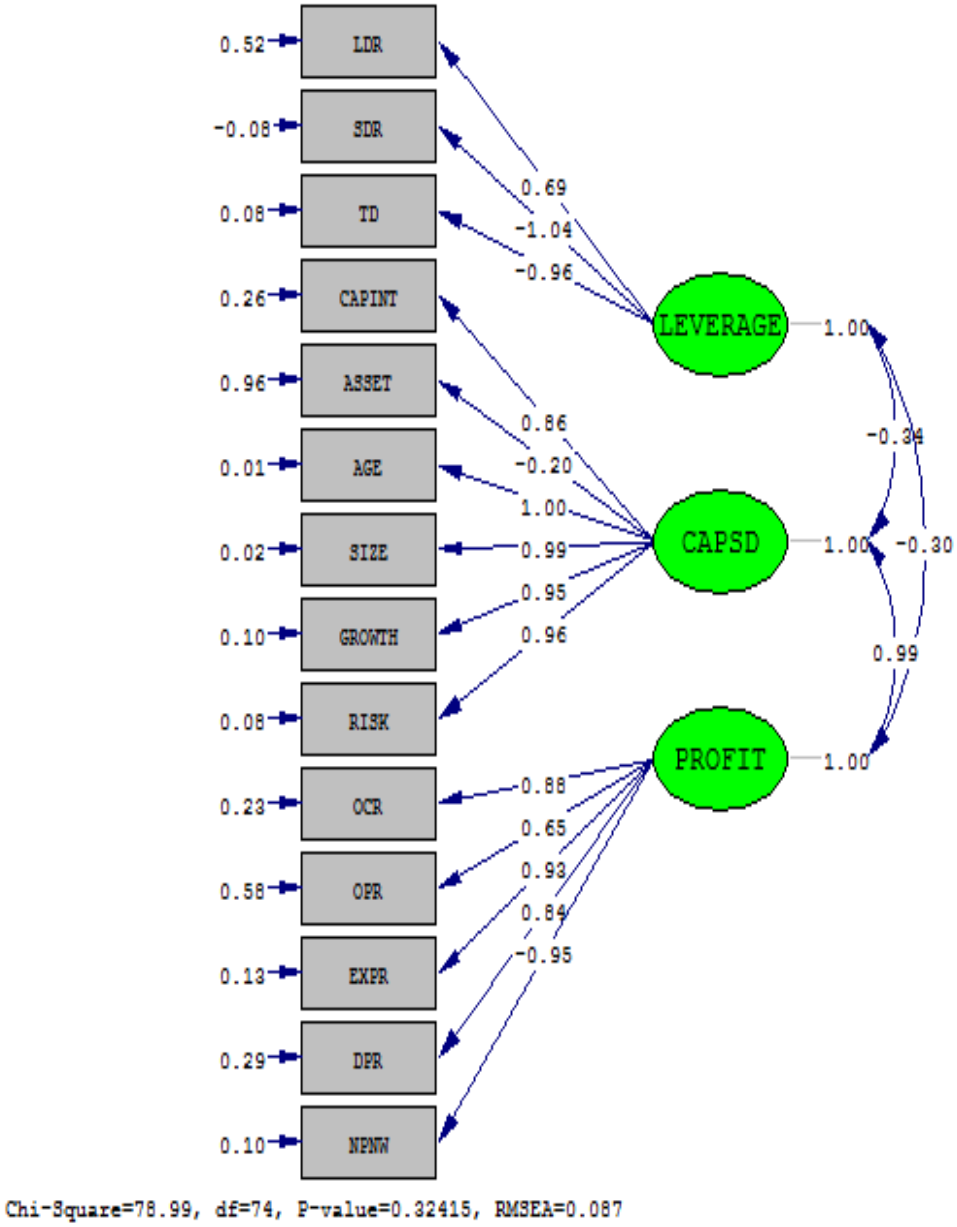

Figure 2 Pharmaceutical Industry – Path Diagram (Standardised Solution)

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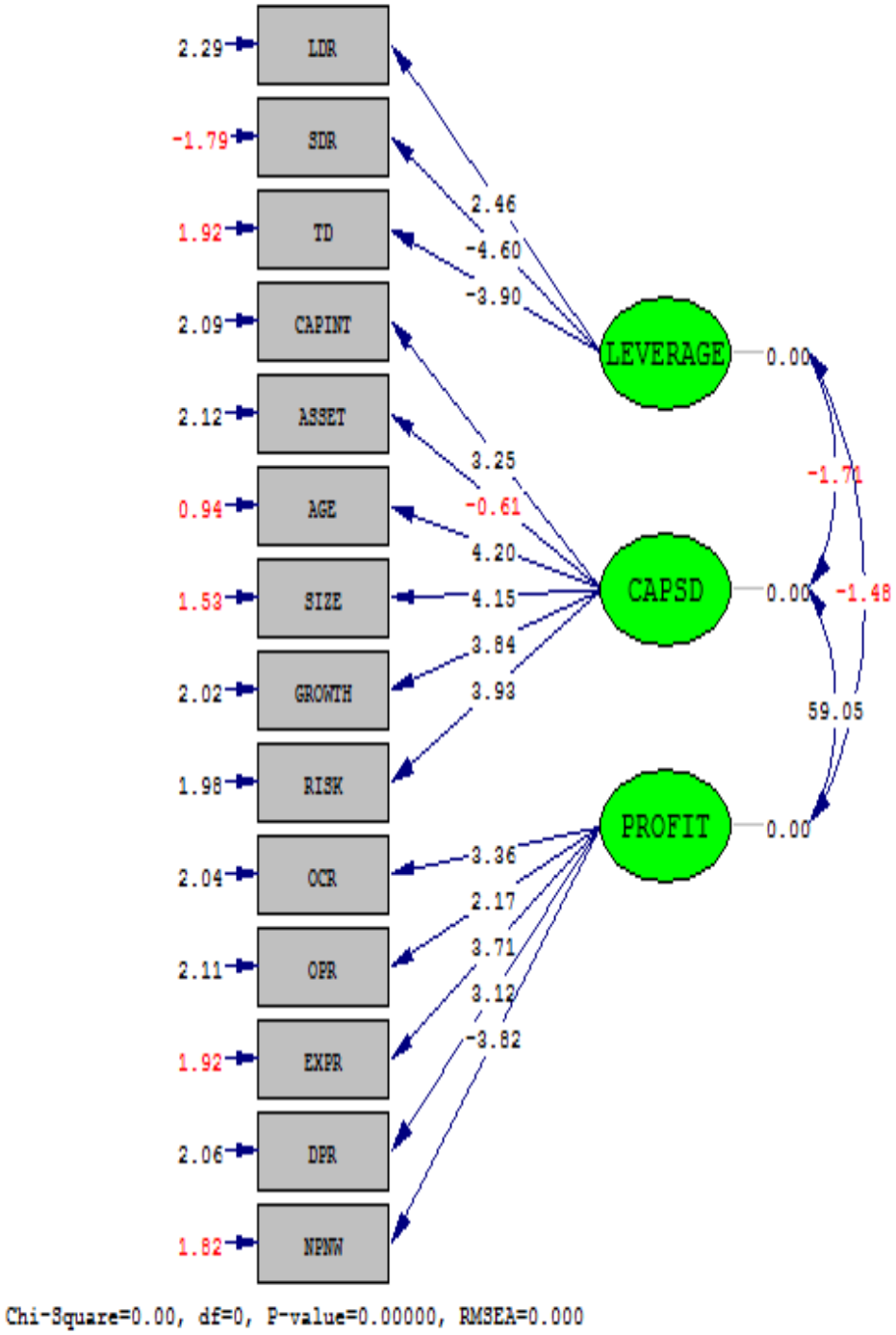

Figure 3 Pharmaceutical Industries – Path Diagram (t - Value)

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Table 1

Descriptive Statistical Analysis - Pharmaceutical Industries

Ratios	Range	Minimum	Maximum	Mean	SD	Variance	Skewness	Kurtosis
LDR	.22	.60	.82	.7105	.07734	.006	-.015	-.387
SDR	2.18	1.55	3.72	2.3091	.72095	.520	1.263	.679
AGE	9.00	32.40	41.40	36.9000	3.02765	9.167	.000	-.200
SIZE	.62	2.35	2.97	2.6765	.20481	.042	-.057	-.894
ASST	.13	.45	.58	.5113	.03708	.001	.009	.170
PROF	.05	.18	.22	.2046	.01631	.000	-.702	.857
GROW	79.22	19.92	99.13	52.3488	28.05358	787.003	.598	.893
RISK	643.41	185.54	828.94	428.6583	238.27330	56774.166	.489	1.266

Source: Computed from Annual Reports of the Companies

Table 2

Pharmaceutical Industries – Inter Correlation Co-Efficient Matrix

	LDR (Y1)	SDR(X1)	AGE(X2)	SIZE(X3)	ASST(X4)	PROF(X5)	GROW(X6)	RISK(X7)
LDR (Y1)	1							
SDR (X1)	-.578	1						
AGE (X2)	-.112	.679(*)	1					
SIZE (X3)	-.101	.692(*)	.986(**)	1				
ASST (X4)	-.306	.280	-.230	-.122	1			
PROF (X5)	-.333	.275	-.086	-.057	.441	1		
GROW(X6)	-.268	.833(**)	.939(**)	.939(**)	-.092	.155	1	
RISK(X7)	-.277	.807(**)	.960(**)	.937(**)	-.171	.087	.978(**)	1

Source: Computed from Annual Reports of the Companies

* Correlation is significant at the 0.05 level (2-tailed).

** Correlation is significant at the 0.01 level (2-tailed).

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Table 3
Co-Variance Matrix – Pharmaceutical Industry (Industry Average)

	LDR	SDR	TD	CAPINT	ASST	AGE	SIZE	GROW	RISK	OCR	OPR	EXPR	DPR	NPNW
LDR	0.005349													
SDR	-0.02965	0.466829												
TD	-0.02438	0.438589	0.415549111											
CAPINT	0.153503	11.80582	0.999060660	763.9402										
ASST	-0.00077	0.006323	0.005563131	-0.2578	0.001261									
AGE	-0.0285	1.3315	0.307505	67.4075	-0.02555	8.25								
SIZE	-0.00189	0.092596	0.090999	4.624072	-0.00095	0.55	0.037784							

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GROW	-0.56633	15.16152	614.6359	642.1463	-0.10819	71.81713	4.869284	708.2517						
RISK	-4.94056	124.6003	120.066	5292.341	-1.56861	623.1174	41.27166	5885.923	51096.85					
OCR	0.1615	-0.7775	-0.62452	35.2915	-0.0895	-7.35	-0.3955	-49.068	-591.997	141.25				
OPR	0.05476	2.401333	2.456023	205.424	-0.13933	19.4355	1.335232	181.1963	1583.981	30.67955	125.447			
EXPR	-0.01746	0.719984	0.707684	23.98234	-0.00701	3.021	0.196886	24.85561	241.9142	-2.639	1.119588	3.216024		
DPR	0.01403	-0.19708	-0.18376	-1.78168	-0.00679	-0.1235	-0.00911	-3.91583	-35.345	1.288523	-0.92223	-0.26752	0.230501	
NPNW	-0.12122	2.711229	5.592	127.4515	-0.02431	16.4385	1.128686	156.8195	1305.576	-18.0225	1.622	1.299534	-0.63374	49.68251

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4	0	5
7	6	1
9		5

Source: Compiled from Annual Reports of the Companies

Table 4

Industry – Path Diagram (Estimates)
Manifest Variables and Latent Variables

MANIFEST VARIABLES	LATENT VARIABLES
LDR = Long Term Debt Ratio SDR = Short-term Debt Ratio TD = Total Debt	LEVERAGE = Firm's Leverage
CAPINT = Capital Intensity ASST = Firm's Asset Structure AGE = Age of the Firm SIZE = Size of the Firm GROWTH = Growth of the Firm RISK = Firm's Risk	CAPSD = Capital Structure Determinants
OCR = Operating Cost Ratio OPR = Operating Profit Ratio EXPR = Expenses Ratio Dividend Payout Ratio NPNW = Net Profit to Net worth Ratio	PROFIT = Profitability of the Firm

Table 5
Pharmaceutical Industry – Path Diagram
(Standardised Solution)

Manifest Variables and Latent Variables

MANIFEST VARIABLES	LATENT VARIABLES
LDR = Long Term Debt Ratio SDR = Short-term Debt Ratio TD = Total Debt	LEVERAGE = Firm's Leverage
CAPINT = Capital Intensity ASST = Firm's Asset Structure AGE = Age of the Firm SIZE = Size of the Firm GROWTH = Growth of the Firm RISK = Firm's Risk	CAPSD = Capital Structure Determinants
OCR = Operating Cost Ratio OPR = Operating Profit Ratio EXPR = Expenses Ratio Dividend Payout Ratio NPNW = Net Profit to Net worth Ratio	PROFIT = Profitability of the Firm

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Table 6

Pharmaceutical Industries – Path Diagram (t- Value)
Manifest Variables and Latent Variables

MANIFEST VARIABLES	LATENT VARIABLES
LDR = Long Term Debt Ratio SDR = Short-term Debt Ratio TD = Total Debt	LEVERAGE = Firm's Leverage
CAPINT = Capital Intensity ASST = Firm's Asset Structure AGE = Age of the Firm SIZE = Size of the Firm GROWTH = Growth of the Firm RISK = Firm's Risk	CAPSD = Capital Structure Determinants
OCR = Operating Cost Ratio OPR = Operating Profit Ratio EXPR = Expenses Ratio Dividend Payout Ratio NPNW = Net Profit to Net worth Ratio	PROFIT = Profitability of the Firm

Table 7

Testing of Hypotheses

Hypotheses	Hypothetical Relationship	Result
H1: There is a positive impact of LDR on leverage of the company	Positive	Confirmed
H2: There is a positive impact of SDR on leverage of the company	Negative	Not confirmed
H3: There is a positive impact of TD on leverage of the company	Negative	Not confirmed
H4: There is a positive impact of CAPTINTS on capital structure determinants of the company	Positive	Confirmed
H5: There is a positive impact of ASSET on capital structure determinants of the company	Negative	Not confirmed
H6: There is a positive impact of AGE on capital structure determinants of the company	Positive	Confirmed
H7: There is a positive impact of SIZE on capital structure determinants of the company	Positive	Confirmed
H8: There is a positive impact of GROWTH on capital structure determinants of the company	Positive	Confirmed
H9: There is a positive impact of RISK on capital structure determinants of the company	Positive	Confirmed
H10: There is a negative impact of OCR on profitability of the company	Positive	Confirmed
H11: There is a positive impact of OPR on Profitability of the company	Positive	Confirmed

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H12: There is a positive impact of EXPENSES on profitability of the company	Positive	Confirmed
H13: There is a positive impact of DIVIDEND on profitability of the company	Positive	Confirmed
H14: There is a positive impact of NPNW on profitability of the company	Negative	Not Confirmed