Select Financial Ratios as a Determinant of Profitability Evidence from Petrochemical Industry in Saudi Arabia

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ABSTRACT

The pedestal of economic growth of the Kingdom of Saudi Arabia cardinally hinges upon the growth and development of the Petrochemical companies. Of late, there is risk of an increase in feedstock cost, which can pressurize margins for Saudi companies. This has encouraged the researchers to analyze the profitability and select financial ratios of petrochemicals industry in Saudi Arabia. The research paper makes an endeavor to determine the profitability of listed Petrochemical companies in Saudi Arabia with five years accounting period from 2008 to 2012. The paper encompasses six variables, namely, Creditors' Velocity (CRSV), Debtors' Turnover Ratio (DTR), Inventory Turnover Ratio (ITR), Long-Term-Debt to Equity Ratio (LTDER), Total Assets Turnover Ratio (TATR) and Net profit Margin (NPM). Profitability as a dependent variable is exhibited by Net profit Margin (NPM) while the select ratios (CRSV), (DTR), (ITR), (LTDER), (TATR) are expressed as independent variables. Based on the findings of the study, it is cogently revealed that there is a significant relationship between the four selected ratios and Net Profit Margin (NPM) of Petrochemical companies in Saudi Arabia.

Keywords: Profitability, Financial Ratios, Petrochemical industry

INTRODUCTION

Profit is indispensable for the existence of business. It is the driving force for the business enterprises. The perpetual existence of the firms depends on the profit earning capacity of the firm, which is considered to be the foremost factor in influencing the reputation of the firm. Profit is an absolute term, whereas, the profitability is a relative concept. Profit refers to the total income earned by the enterprise during the specified period of time, while profitability refers to the operating efficiency of the enterprise Profitability delivers the evidence about the company's ability to spawn earnings. An enhancement in profitability sparks to an increase in stock price, thereby registering capital gains. Financial gurus consider profitability as a measure of efficiency. Profitability reveals the snapshot measure of corporate success and thus serves as a prime metric of economic performance. Profitability ratios manifest an enterprise's ability to spawn earnings relative to sales, assets and equity. These ratios gauge the ability of an enterprise to yield earnings, profits and cash flows relative to some indicator, often the capital invested. Profitability is outcome of a numerous policies and decisions. In sum, the profitability ratios reveal the blended outcome of liquidity, asset management and debt on the efficiency of the organization. Common examples of profitability ratios include

- Return on Sales
- Return on Investment
- Return on Equity
- Return on Capital Employed (ROCE)
- Cash Return on Capital Invested (CROCI)
- Gross Profit Margin
- Net Profit Margin

The above mentioned ratios educate about the company performance at garnering profits relative to a select standard of measurement. Higher values for most of these ratios convey that the company is providing satisfactory balance in generating profits, revenues and cash flows.Net profit ratio gives a good indication of the overall level of profitability of the company. This ratio quantifies how much of each dollar obtained by the company is transformed into profits. The higher the net profit margin is, the more effective the company is at converting revenue into actual profit. Net profit margin provides evidence to the company's policies& decisions, cost framework and production efficiency. Different strategies cause the net profit margin to vary among

different companies. The higher the margin is, the more effective the company is in converting revenue into actual profit.

Review of Related Literature

Umpteen numbers of research papers have widely visited multi-facets of financial management in order to study the landscape of corporate profitability. Research papers have educated that there are multiples of variables, which bring into play varying degree of influence on the profitability of the organization. Therefore it is pertinent for the financial managers to gauge the prime variables exerting substantial influence on the profitability.

Velnampy & Niresh(2012) examine the relationship between capital structure and profitability of ten listed Srilankan banks over the past 8 year period from 2002 to 2009. The study shows that there is a negative association between capital structure and profitability.

Napompech,K. (2012) studies the effects of working capital management on profitability. The results disclosed a negative relationship between the gross operating profits and inventory conversion period and the receivables collection period.

Ajanthan, A. (2013) studies the relationship between dividend payout and firm profitability among listed hotels and restaurant companies in the Colombo Stock Exchange. The paper revealed that dividend payout was a crucial factor affecting firm performance.

Mary *et al.* studies the internal elements that define the profitability of the beer brewery firms in Nigeria. The study revealed that the ratios of inventory to cost of goods sold; account receivables to sales; and sales & general administrative expenses to sales have statistically significant impact on gross profit margin. The paper noticed that the identified independent variables are the internal factors that influence the profitability of beer brewery firms in Nigeria.

Dave (2012) investigated the link between financial management and profitability of the Indian Pharma sector for a period of 10 years. The study covered six variables viz. Long term Debt to Equity Ratio (LTDER), Inventory Ratio (IR), Debtors Ratio (DR), Creditors Velocity (CRSV), Total Assets to Sales Ratio (TASR) and Profit after Tax to Sales Ratio (PATSR). These variables are calculated for 64 public limited pharmaceutical companies. The empirical results showed that TASR and CRVS are the central variables for enhancing the profitability of the enterprise.

Saleem and Rehman (2011) examined the relationship between liquidity and profitability of oil and gas companies of Pakistan. The results reported that there is a substantial impact of only liquid ratio on ROA while there is insignificant effect on ROE and ROI; thus, the study observed that liquidity and profitability are closely related because as one increases the other decreases. Innocent *et al.* (2013) studied the relationship between the financial ratio analysis and profitability of the Nigerian Pharmaceutical industry over the past eleven (11) years period from 2001- 2011. The authors advocates that the financial ratio analyse have enormous potentials to help organizations in enhancing their revenue generation ability as well as minimization of costs. The study covered five (5) variables for the analyses such as: Inventory Turnover Ratio (ITR); Debtors' Turnover Ratio (DTR); Creditors' Velocity (CRSV); Total Assets Turnover Ratio (TATR) and Gross Profit Margin (GPM). Profitability as a dependent variable is expressed by Gross Profit Margin (GPM) while financial ratio analysis represents as ITR, DTR, CRSV and TATR for independent variables. The study reported that there is a negative relationship between all independent variables with profitability in the Nigerian pharmaceutical industry.

Bagchi and Khamrui (2012) studied the association between working capital management and firm profitability to ascertain the variables that affect profitability the most. Working capital management is weighted to be an important area in financial management decision and it has its effect on liquidity and on profitability of the firm. Further, efficient working capital management certainly adds in creating firm value. The study covered a sample of 10 FMCG (Fast Moving Consumer Goods) companies in India from CMIE database covering a period of 10 years from 2000–01 to 2009–10.The study revealed that there is a strong negative relationship between variables of the working capital management and profitability of the firm.

Okwo *et al*(2012) studied the link between firm financial management techniques and profitability in selected Pharmaceutical firms in Nigeria. The researchers covered six variables including Long-Term-Debt to Equity Ratio (LTDER), Inventory Turnover Ratio (ITR), Debtors' Turnover Ratio (DTR), Creditors' Velocity (CRSV), Total Assets Turnover Ratio (TATR) and Net Profit Margin (NPM). Profitability as a dependent variable is represented by Net Profit Margin (NPM) while LTDER, ITR, DTR, CRSV and TATR were the independent variables. The study revealed a positive relationship between LTDER, DTR, TATR and profitability, while ITR and CRSV have negative relationships with profitability.

Quayyum(2012) made an endeavor to study the relationship between working capital management and profitability of manufacturing corporations. The researcher encompasses companies enlisted with the Dhaka Stock Exchange for a time frame from the year 2005 to 2009.The outcome of the paper clearly reports that except food industry, all other covered industries have a significant level of relationship between the profitability indices and various working capital components.

Danuleţiu (2010) studied the efficiency of working capital management of companies from Alba County. The paper investigated the relation between the efficiency of the working capital management and profitability covering a sample of 20 annual financial statements of companies encompassing a time frame from the year 2004 to 2008. The study concluded that there is a weak negative linear correlation between working capital management indicators and profitability rates.

Mohammadzadeh *et al*(2013) studied the relationship between the capital structure and the profitability of pharmaceutical companies in Iran. The study covered top 30 Iranian pharmaceutical companies and the financial data were gathered for the period of 2001 to 2010. In this paper, the net margin profit and debts to asset ratio were expressed as indicators of profitability and capital structure respectively, the sales growth was selected as a control variable. The study revealed that there was significant negative relationship between the profitability and the capital structure.

Capkun(2009) investigated the relationship between inventory performance, both total inventory (INV) and its discrete components (Raw Material (RMI), Work-in-Process (WIP)& Finished Goods (FGI)) and financial performance in manufacturing companies. The study covered over the 26-year period from 1980 to 2005.The paper revealed a significant positive correlation between inventory performance (total as well as the discrete components of inventory) and measures of financial performance (at both the gross and operating levels) for firms in manufacturing industries.

Gill(2011) studied the relationship between capital structure and profitability. The study covered a sample of 272 American firms listed on New York Stock Exchange for a period of 3 years from 2005 to 2007. The research revealed a positive relationship between i) short-term debt to total assets & profitability and ii) total debt to total assets and profitability in the service industry. Likewise, the study found the positive relationship between i) short-term debt to total assets and profitability, ii) long-term debt to total assets and profitability, and iii) total debt to total assets and profitability in the manufacturing industry.

Vishal Gaur (2005) framed an empirical model through financial data for 311 publicly listed retail firms for the years 1987 to 2000 for examining the correlation of inventory turnover with gross margin, capital intensity and sale surprise (the ratio of actual sales to expected sales for the year). The model reported 66.7% of the within-firm variations and 97.2%, of the total variations (across and within firms) in inventory turnover. The study found that time trends in inventory turnover and adjusted inventory turnover have declined in retailing during the 1987 to 2000 period. Abor(2005) examined the relationship between capital structure and profitability of listed firms on the Ghana Stock Exchange (GSE) during a five-year period. The study revealed a significantly positive relation between the ratio of short-term debt to total assets and ROE.

Salawu *et al* (2009) examined the impact of the capital structure on profitability of listed companies in Nigeria. The research covered financial data for 50 non-financial quoted companies. The study revealed that profitability shows a positive correlation with short-term debt and equity and an inverse correlation with long-term debt. Furthermore, the study observed a negative association between the ratio of total debt to total assets and profitability.

Lazaridis(2006) examined the relationship of corporate profitability and working capital management. The study covered 131 companies listed in the Athens Stock Exchange (ASE) for the period of 2001 to 2004. The study reported that there is statistical significance between profitability, measured through gross operating profit and the cash conversion cycle.

Research Gap
Literature review cogently reveals that various studies have been conducted on the determinants of profitability but there is modicum of research papers related to effect of determinants on profitability in Petrochemical sector in Saudi Arabia. In fulfilling this gap, the research paper makes an endeavor to determine the profitability of listed Petrochemical companies in Saudi Arabia with five years accounting period from 2008 to 2012. The pedestal of economic growth of the Kingdom of Saudi Arabia largely hinges upon the growth and development of the Petrochemical companies.

Selection of Petrochemicals Industry
The Saudi economy is led by two key sectors: oil and petrochemicals. The oil and gas sector is the acknowledged as second to none in the economy, accounting for about 56% of GDP (crude oil and gas and refining operations only, with petrochemicals excluded). At present petrochemicals is the single largest sector in the Saudi TASI stock market, accounting for 34% of the total market. From being a net importer in the 1970s, Saudi Arabia has emerged as one of the world's leading petrochemicals exporters, supplying over 100 countries and accounting for around 7 percent of the global supply of basic petrochemical products. It accounts for around 70 percent of the GCC's output. The sector has also been boosted by favorable government initiatives which aim to shift Saudi Arabia from an economy concentrated largely on crude oil exports to an economy with higher value-added, integrated oil and petrochemicals segments.

Table 1
Position of Petrochemicals Industry in Saudi Stock Market

Sector	Trades	% To Market	Rank	Volume	% To Market	Rank	Value Traded	% To Market	Rank
Petrochemical Industries	4,484,652	10.65 %	2/15	11,008,809,002	13.34 %	3/15	311,181,387,179.10	16.13 %	2/15

Source :http://www.tadawul.com.sa/Resources/Reports/Yearly_en.html

There still remains a risk of an increase in feedstock cost for Saudi companies, which can pressurize margins in this environment. This has encouraged the researchers to analyze the profitability and select financial ratios of petrochemicals industry in Saudi Arabia.

Research Methodology
The study uses Pearson correlation to measure the degree of association between selected variables. Further the study encompasses multiple regression analysis techniques to examine the relationship of independent variables with dependent variable, to know the extent of influence the independent variables exercise over the dependent variable. Selection of variables is influenced by the literature review. Secondary source of data is taken for the study. The population of Petrochemical companies in Saudi Arabia stock exchange is fourteen (14). Due to paucity of data, the study encompasses ten (10) Petrochemical companies. Table 2 shows the list of companies (Petrochemical Industries). The data from the audited annual financial reports for the ten listed companies are taken for five years (2008 to 2012) in order to assess the effect of selected financial ratios on Net Profit Margin of Petrochemical companies in Saudi Arabia. Table 3 reveals the variables for the study. All the variables stated below have been used to test the hypotheses of the study. The dependent variable is Net profit (NP).The independent variables are commonly used financial ratios. Dave (2012) Table 4 covers the computation of the selected variables.

Table 2   List of Companies (Petrochemical Industries)

SYMBOL	COMPANY NAME	SHORT NAME	ACRONYM
2330	Advanced Petrochemical Company	ADVANCED	ADVANCED
2170	Alujain Corporation	ALUJAIN	ALCO
2001	Methanol Chemicals Company	CHEMANOL	CHEMANOL
2210	Nama Chemicals Co.	NAMA CHEMICALS	NAMA
2060	National Industrialization Co	TASNEE	NIC
2380	Rabigh Refining and Petrochemical Co	PETRO RABIGH	PETRO RABIGH
2020	Saudi Arabia Fertilizers Co.	SAFCO	SAFCO
2010	Saudi Basic Industries Corp	SABIC	SABIC
2250	Saudi Industrial Investment Group	SIIG	SIIG
2310	Saudi International Petrochemical Co	SIPCHEM	SIPCHEM

Source: http://www.tadawul.com.sa/wps/portal

Table 3   Variables for the study

Dependent Variable	Independent Variables
Financial Performance 1. Net Profit Margin (NPM)	1. Creditors' Velocity (CRSV) 2. Debtors' Turnover ratio (DTR) 3. Inventory Turnover Ratio (ITR) 4. Long-Term-Debt to Equity Ratio (LTDER) 5. Total Assets Turnover Ratio (TATR)

Through their significance, the select dependent variable and the independent variables define the multi facets of efficient financial management and therefore are considered in analyses of the sector.

Net Profit Margin (NPM): The ratio is an effective measure to check the profitability of business.
Creditors' Velocity (CRSV): It indicates the speed with which the payments for credit purchases are made to the creditors.
Debtors 'Turnover Ratio (DTR): It indicates the speed at which debts are being collected.
Inventory Turnover Ratio (ITR): This ratio indicates whether investment in inventory is efficiently used or not.
Long-Term-Debt to Equity Ratio (LTDER): It indicates the soundness of long-term financial policies of the company.
Total Assets Turnover Ratio (TATR): It indicates the efficient utilization of fixed assets.

Table 4   Computation of Selected Variables

Variables	Method of Computation
Net profit Margin (NPM)	Net Profit /Sales
Creditors' Velocity (CRSV)	Cost of Sales /Trade Creditors
Debtors' Turnover Ratio (DTR)	Sales /Trade Debtors
Inventory Turnover Ratio (ITR)	Cost of Sales / Inventory
Long-Term-Debt to Equity Ratio (LTDER)	Long-Term-Debt/Shareholder Funds + Long-Term-Debt
Total Assets Turnover Ratio (TATR)	Sales / Total Assets

The study intends to study the relation in the followings ratios:
- To study the effect of Creditors' Velocity (CRSV) on Net Profit Margin (NPM) of Petrochemical companies in Saudi Arabia.

- To determine the extent to which Debtors' Turnover Ratio (DTR) affects Net Profit Margin (NPM) of Petrochemical companies in Saudi Arabia.
- To ascertain the effect of Inventory Turnover Ratio (ITR) on Net Profit Margin (NPM) of Petrochemical companies in Saudi Arabia.
- To examine the effect of Long-Term Debt to Equity Ratio (LTDER) on Net Profit Margin (NPM) of Petrochemical companies in Saudi Arabia.
- To find out the effect of Total Assets Turnover Ratio (TATR) on Net Profit Margin (NPM) of Petrochemical companies in Saudi Arabia.

Statement of Hypotheses
For better understanding of the effect of the selected ratios on the Net Profit Margin, the following hypotheses are framed.

Hypothesis 1 (H0): There is no significant relationship between Creditors' Velocity (CRSV) and Net Profit Margin (NPM) of Petrochemical companies in Saudi Arabia.

Hypothesis 2 (H0): There is no significant relationship between Debtors' Turnover Ratio (DTR) and Net Profit Margin (NPM) of Petrochemical companies in Saudi Arabia.

Hypothesis 3 (H0): There is no significant relationship between Inventory Turnover Ratio (ITR) and Net Profit Margin (NPM) of Petrochemical companies in Saudi Arabia.

Hypothesis 4 (H0): There is no significant relationship between Long-Term Debt to Equity Ratio (LTDER) and Net Profit Margin (NPM) of Petrochemical companies in Saudi Arabia.

Hypothesis 5 (H0): There is no significant relationship between Total Assets Turnover Ratio (TATR) and Net Profit Margin (NPM) of Petrochemical companies in Saudi Arabia**.**

The study has applied Ordinary Least Squares (OLS) method. For the purpose of analysis, the E Views software is used to examine the financial data.

The basic model estimated is as follows:
(NPM) y = b0 + b1 (CRSV) + b2 (DTR) + b3 (ITR) + b4 (LTDER) + b5 (TATR) + €

In order to specify the analysis model, the study use the following variables as a series of indicators of financial analysis computed mainly, such as Creditors' Velocity (CRSV), Debtors' Turnover Ratio (DTR), Inventory Turnover Ratio (ITR), Long-Term-Debt to Equity Ratio (LTDER), Total Assets Turnover Ratio (TATR). For the evaluation of profitability, Net Profit Margin (NPM) is taken as a dependent variable. (Dave 2012).

Descriptive statistics Table 5 provides information on the descriptive statistics results for all the variables tested for the selected companies over the five year period. The total numbers of the observations are fifty (50). Information about the ranges of the variables is contained in the Minimum and Maximum. Variability can be assessed by examining the values in the Standard Deviation column. The standard deviation measures the amount of variability in the distribution of a variable**.** The Net Profit Margin (NPM) measured by Net Profit /Sales gives negative mean values, that is-0.102661. This indicates that the companies showed poor performance in the analyzed period. The descriptive statistics reveals that under the study period, the selected financial ratios as measured by Creditors' Velocity (CRSV), Debtors' Turnover Ratio (DTR), Inventory Turnover Ratio (ITR), Long-Term-Debt to Equity Ratio (LTDER) and Total Assets Turnover Ratio (TATR) have a positive mean value which ranges from 0.317197 for Creditors' Velocity to 18.28955 in Total Assets Turnover Ratio (TATR). The Inventory Turnover Ratio (ITR) and Total Assets Turnover Ratio (TATR) have the highest standard deviation of 2.898172 and 76.87065 respectively. This indicates that the observations in the data set are widely dispersed from the mean. So the management of Petrochemical industry in Saudi Arabia should monitor their inventory and total assets. Thus, there is greater variation in the data set of Inventory Turnover Ratio (ITR) and Total Assets Turnover Ratio (TATR) because of the size differences of their business in the Petrochemical companies in Saudi Arabia.

Table 5

Descriptive Statistics for all the Variables Tested for Select Companies over the 5 Year period

	Mean	**Maximum**	**Minimum**	**Std. Dev.**	**Observations**
NPM	-0.102661	0.853581	-9.904458	1.467372	50
CRSV	0.317197	1.988103	0.004191	0.365559	50
DTR	0.413073	5.551450	0.066167	1.032977	50
ITR	0.712060	16.74700	0.054254	2.898172	50
LTDER	1.197763	3.803493	0.000000	1.032238	50
TATR	18.28955	491.2089	0.770438	76.87065	50

Source: Data computed on the basis of the company's annual financial statements Researchers' EVIEWS Analysis

Correlation statistics Table 6 indicates the relationship between the various independent variables and the dependent variable used in the study. The correlation matrix below shows that Creditors' Velocity (CRSV), Debtors' Turnover Ratio (DTR), Inventory Turnover Ratio (ITR), Long-Term-Debt to Equity Ratio (LTDER) and Total Assets Turnover Ratio (TATR) have a weak negative relationship with Net Profit Margin (NPM).The strength of their relationship is indeed at -0.69%, --0.80% , -0.89%, -0.48% and -0.95% for Creditors' Velocity (CRSV), Debtors' Turnover Ratio (DTR), Inventory Turnover Ratio (ITR), Long-Term-Debt to Equity Ratio (LTDER) and Total Assets Turnover Ratio (TATR) respectively.

Table 6

Correlations for all the Variables Tested for Select Companies over the 5 Year Period

	NPM	**CRSV**	**DTR**	**ITR**	**LTDER**	**TATR**
NPM	1.000000	-0.698360	-0.805575	-0.896631	-0.487569	-0.952593
CRSV	-0.698360	1.000000	0.755816	0.764045	0.357390	0.782003
DTR	-0.805575	0.755816	1.000000	0.981053	0.485859	0.937891
ITR	-0.896631	0.764045	0.981053	1.000000	0.505686	0.985136
LTDER	-0.487569	0.357390	0.485859	0.505686	1.000000	0.484172
TATR	-0.952593	0.782003	0.937891	0.985136	0.484172	1.000000

Source: Data computed on the basis of the company's annual financial statements

Researchers' EVIEWS Analysis

Regression statistics In Table 7(Model Results), the coefficient column for variable CRSV stands at + 0.561420.This reveals that there is a positive relation between CRSV and Net Profit Margin; it means that an increase in CRSV will also lead to an increase in the Net Profit Margin. At the significance level of 0.0016 < 0.05, it is statistically significant. The weight of evidence, therefore suggests rejecting the null hypothesis and confirming that there is a significant relation between CRSV and Net Profit Margin of Petrochemical companies in Saudi Arabia. As shown in the table, the coefficient column for variable DTR stands at +0.003087 .This reveals a positive relation between DTR and Net Profit Margin, it means that an increase in DTR will also lead to an increase in the Net Profit Margin. At the significance level of 0.9936< 0.05, it is statistically insignificant. The weight of evidence, therefore suggests accepting the null hypothesis. This implies that change in DTR does not have influence on the Net Profit Margin of Petrochemical companies in Saudi Arabia. As shown in the table, the coefficient column for variable ITR stands at 0.773662. This indicates that ITR has positive relationship with Net Profit Margin. It means that an increase in ITR will also lead to an increase in the Net Profit Margin. At the significance level of 0.0083< 0.05, it is statistically significant. The weight of evidence, therefore, suggests that null hypothesis Ho(ITR) be rejected and the alternate hypothesis H1 (ITR) be accepted. This means ITR exert significant influence over Net Profit Margin of Petrochemical companies in Saudi Arabia.

As per the table, the coefficient column for variable LTDER stands at -0.125002. This indicates that LTDER has negative relationship with Net Profit Margin. At the significance level of 0.0015< 0.05, it is statistically significant The weight of evidence, therefore, suggests that null hypothesis H0(LTDER be rejected and the alternate hypothesis H1 (LTDER) be accepted. This means LTDER exert significant influence over Net Profit Margin of Petrochemical companies in Saudi Arabia. As per the table, the coefficient column for variable TATR stands at --0.048233. This indicates that TATR has negative relationship with Net Profit Margin. At the significance level of 0.0000< 0.05, it is statistically significant. The weight of evidence, therefore, suggests that null hypothesis H0(TATR) be rejected and the alternate hypothesis H1 (TATR) be accepted. This means TATR does exert significant influence over Net Profit Margin of Petrochemical companies in Saudi Arabia.

Table 7 Model Results

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.198971	0.078419	2.537297	0.0148
CRSV	0.561420	0.166929	3.363214	0.0016
DTR	0.003087	0.385382	0.008009	0.9936
ITR	0.773662	0.279806	2.764993	0.0083
LTDER	-0.125002	0.036927	-3.385148	0.0015
TATR	-0.048233	0.006060	-7.959467	0.0000
R-squared	0.980332	Mean dependent var		-0.102661
Adjusted R-squared	0.978097	S.D. dependent var		1.467372
S.E. of regression	0.217166	Akaike info criterion		-0.104139
Sum squared resid	2.075095	Schwarz criterion		0.125304
Log likelihood	8.603474	Hannan-Quinn criter.		-0.016766
F-statistic	438.6260	Durbin-Watson stat		0.569550
Prob(F-statistic)	0.000000			

Source: Authors' EVIEWS Analysis

The R^2, the coefficient of multiple determinations indicate the extent to which the independent variables influence the dependent variable. The (model snapshot) demonstrates that coefficient of multiple determinations (R^2) is 0.980332.Thus 98% of the variations in the dependent variable are explained by the independent variables of the model. It also shows that the independent variables are the major determinants factor of net profit margin of the Petrochemical companies in Saudi Arabia. While, the remaining 2.0% could be explained by other macroeconomic factors. F-test provided in Table 7, manifests that F = 416.291 at a significance level of 0.000. This indicates that all standardized regression coefficients will be non-zero.So, the test outputs described below provide considerable reliability to the results and the emerging multiple regression equation is as:

NPM = 0.198971+ 0.561420 (CRSV) + 0.003087 (DTR) + 0.773662 (ITR) – -0.125002 (LTDER) -0.048233 (TATR) + Єi. Thus, in sum, out of the five hypotheses, it is revealed that only Debtors' Turnover Ratio (DTR) has no significant relationship with Net Profit Margin (NPM) of Petrochemical companies in Saudi Arabia.

Table 8
Testing of Hypotheses

No	Hypotheses	Results
Hypothesis 1 (H_0):	There is no significant relationship between Creditors' Velocity (CRSV) and Net Profit Margin (NPM) of Petrochemical companies in Saudi Arabia.	*Rejected*
Hypothesis 2 (H_0):	There is no significant relationship between Debtors' Turnover Ratio (DTR) and Net Profit Margin (NPM) of Petrochemical companies in Saudi Arabia.	*Accepted*
Hypothesis 3 (H_0):	There is no significant relationship between Inventory Turnover Ratio (ITR) and Net Profit Margin (NPM) of Petrochemical companies in Saudi Arabia.	*Rejected*
Hypothesis 4 (H_0):	There is no significant relationship between Long-Term Debt to Equity Ratio (LTDER) and Net Profit Margin (NPM) of Petrochemical companies in Saudi Arabia.	*Rejected*
Hypothesis 5 (H_0):	There is no significant relationship between Total Assets Turnover Ratio (TATR) and Net Profit Margin (NPM) of Petrochemical companies in Saudi Arabia.	*Rejected*

Conclusion

Petrochemical Industry is a major contributor to Saudi Arabia's economy. The Saudi government is actively promoting the sector's diversification and greater downstream expansion for increasing the production of value-added products. This move is expected to enhance the profitability of local producers. The challenge that determines the pace and scale of future development of this industry is the profitability. The industry shall witness the waning margins as Asian demand growth has weakens. Thus, the objective of this paper is to examine the select financial ratios as a determinant of profitability in the Petrochemical Industry in Saudi Arabia, so that the financial managers may gauge the prime variables exerting substantial influence on the profitability. It is revealed that the Total Assets Turnover Ratio (TATR) have the highest standard deviation of 76.87065.The management of the Petroleum sector have to rein in this ratio. The study covered five hypotheses. Out of the five hypotheses, it is revealed that only Debtors' Turnover Ratio (DTR) has no significant relationship with Net Profit Margin (NPM) of Petrochemical companies in Saudi Arabia. This reveals that the Debtors' Turnover Ratio (DTR) is not considered as a significant determinant of the profitability of the enterprise. Based on the findings of the study, it is cogently revealed that there is a significant relationship between the four selected ratios and Net Profit Margin (NPM) of Petrochemical companies in Saudi Arabia.

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