

# Drivers for Wealth Creation in Firms: An Empirical Evidence from Gulf Cooperation Council Markets

Rajesh Kumar<sup>1</sup>

<sup>1</sup>Institute of Management Technology, Dubai, UAE

Correspondence: Rajesh Kumar, Institute of Management Technology, Dubai Academic City, PO Box 345006, UAE. Tel: 971-44-227-244 ext. 132. E-mail: rajesh155\_bk@yahoo.com

Received: October 20, 2014

Accepted: November 12, 2014

Online Published: December 25, 2014

doi:10.5539/ijef.v7n1p177

URL: <http://dx.doi.org/10.5539/ijef.v7n1p177>

## Abstract

The study examines whether the book value maximizers are the greatest wealth creators in stock market both in the context of sectors and companies in the Gulf Cooperation Council Markets. The study also analyzes the financial value drivers for wealth creation of companies in the Gulf Cooperation Council Markets. The survey part of the study is based on approximately 650 companies listed in six Gulf Cooperation Council Markets of Saudi Arabia, UAE, Bahrain, Oman, Kuwait and Bahrain. On the basis of five yearly average market capitalization, the biggest wealth creators are banking, petrochemical and energy industries and industrial sectors. Banking sector is the biggest sector in terms of market capitalization, assets, cash flow and net profit.

The empirical analysis reveals that market valuations are higher for firms which invest more in capital expenditure. Results show that sales growth is a significant value driver. Firms with higher earnings relative to price generate more value. Higher earnings signify more value creation. Small stocks tend to have higher earnings on book equity than big stocks do.

**Keywords:** wealth creation, value drivers, market capitalization, earnings to price ratio, Beta

## 1. Introduction

Value creation for a firm is a function of identifying and managing value drivers which have the greatest impact on value creation. A focused approach would enable management to transform the goals of value creation into specific actions. Value drivers can be classified as growth drivers, efficiency drivers and financial drivers. Value driver analysis is an important tool in strategic planning analysis. Organizations which create long term value in terms of shareholder wealth are expected to create value for all stakeholders. From the perspective of economist's value viewpoint, value is created when revenues exceed all costs. Value is created when management generates revenues over and above the economic costs incurred to generate revenues. The costs come from sources like employee wages and benefits, material, supplies, economic depreciation of physical assets, taxes and opportunity cost of capital. Shareholders expect management to generate value over and above the costs of resources consumed which includes the cost of using capital. Shareholders require an adequate level of return for the risk they take in. Stock prices reflect investors' expectations about future cash flows. Wealth for shareholders will be created only if firms undertake investment decisions which have a positive net present value. Value creation is used in the perspective of value derived from accounting based information. Wealth creation is based on stock market information.

Shareholders' wealth maximization is theoretically logical and operationally feasible normative goal for guiding the financial decision making. From the shareholders' point of view, the wealth created by a company through its actions is reflected in the market value of the company's shares.

Profitability and growth are basically considered as the major determinants of firm value. Corporate strategies can be assessed on the basis of their expected effect on profitability, growth and firm value. The value based planning models suggests that management of a firm aims to create shareholder wealth by maximizing market value of the equity thereby creating excess value over the book value of the firm. A firm's management must focus on strategies that creates excess value attributed to market value (MV) compared to the book value (BV) of equity. A firm's management creates value for shareholders if  $MV > BV$ , destroys value if  $MV < BV$  and maintains value if  $MV = BV$ . Many researchers have focused on establishing the linkage between the strategic position of a

company and its financial performance.

Identifying and selecting strategies that create value for shareholders is a major challenge facing management in the modern era. The identification of financial factors which have the highest impact on value creation in a business can facilitate establishment of criteria for appropriate strategy selection in that direction. The ability of a firm to create value by distributing cash flows to its stakeholders depend on its ability for cash generation from its operating activities and access of additional funds through external financing. The two basic sources of external financing are debt and equity financing. A company's ability to borrow today is based on projections of its future cash flow generation.

The shareholder returns basically depends on prices, costs, investments, volume of products sold and riskiness of firms in an industry. The variables representing these factors can be considered as determinants of shareholder value. Working capital and fixed capital investment are the two components of investment value drivers. Management's investment choices and financial policy are also value drivers in the context of riskiness of cash flows for the company. Scale economies for firms in purchasing, manufacturing, distribution and research can generate value drivers in operating margin, working capital investment and fixed capital investment. The link between value chains and value drivers as reflected by sales growth rate, operating profit margin, income tax rate, working capital investment, fixed capital investment and cost of capital are basic building blocks of shareholder value creation.

Total risk is the combination of business risk and financial risk. Business risk is the uncertainty inherent in the business operations. Financial risk arises for shareholders on account of the increased leverage due to additional debt in the capital structure. The financial leverage increases would lead to increased variability of cash flows since fixed interest payment is bound to increase. Hence shareholders expect higher returns for highly leveraged firms. Strategies which increase business risk can increase systematic risk which is measured by beta coefficient. Investors expect higher rate of return as the systematic risk of the firm increases.

Earnings is considered an important variable which affects the market value of equity shares. The investment decisions aimed at expansion of scale of operations ultimately is focused on earnings generation. Hence earnings enhancement could affect market value of a company. Many studies have considered measures of market value of equity in excess of book value like Tobin q, market to book value, price to earnings ratio or price to sales ratio as the variable representing value created in a firm. Studies have also highlighted the positive contribution of research and development (R&D) investments to economic growth, productivity and profitability.

The study examines whether the book value maximizers are the greatest wealth creators in stock market both in the context of sectors and companies in the Gulf Cooperation Council Markets (GCC) market. The study also analyzes the financial value drivers for wealth creation of companies in the GCC market.

This empirical paper aims to examine the drivers of value creation for GCC listed firms. The study based on a sample of 50 wealth creators in terms of five yearly average market capitalization examines the determinants of value creation in firms. The study focusses on analyzing the main financial factors which have an impact on stock returns.

## 2. Literature Review

The study by Sam Ben et al. (2002) uses random probit model estimation procedure to estimate the determinants of value creation among companies listed in Tunisia stock exchange. The study finds that probability of creating future value is significantly correlated with profitability. The study also finds that value creation is affected by industry patterns, size and nature of property. The linkage between strategic position of a company and its financial performance have been advocated by studies of De Bodinat (1978), Pene (1983), Degos et al. (1988) etc. The study by Rappaport (1987) suggests the determinants of value creation as growth rate, operating profit margin, income tax rate, working capital investment, fixed capital investment, cost of capital and value growth duration. Caby et al. (1996) based on a sample of French companies find that the determinants of value creation are variables based on profitability, activity, financial policy, investment policy and dividend policy. The study by Varaiya (1987) highlights the significance of Return on Equity (ROE) as a signal of profitable investment. The results of this study indicate that profitability and growth do influence shareholder value and the market to book value of equity ratio, Tobin's q ratio are theoretically and empirically equivalent measures of value creation. The studies by Ross (1977); Bhattacharya (1979), Hakansson (1982), Miller et al. (1985) suggests that dividend payment signals the market about the higher cash flow generation potential of firms. The choice of debt level is a signal of firm quality (Leland 1977; Ross 1977; Myers 1977). Rappaport (1986) suggests that profitability is an important determinant of value creation. Profitability improvement can result from economies of scale, cost reducing linkages with suppliers and channels.

Banz (1981) advocates size effects (measured by market capitalization) as a significant determinant of average returns provided by market beta. This study finds that average returns on small size (low market capitalization) stocks are too high given their beta estimates and average returns on large size (high market capitalization) stocks are low. Bhandari (1988) documents positive relationship between leverage and average returns. Studies by Stattman (1980) and Rosenberg et al. (1985) finds that average returns on stocks are positively related to the ratio of firm's book value of equity to market value of equity. The study by Chan et al. (1991) finds that the ratio of book value to market value of equity is a significant determinant in explaining the cross section of average returns on Japanese stocks. Chen et al. (1991) postulate that the earning prospects of firms are associated with a risk factor in returns. Firms with low stock prices and high ratio of book to market equity which are characterized having poor prospects by market are considered risky and have higher expected stock returns than firms with strong prospects.

Basu (1983) suggests that the earning-price ratios (E/P) is a variable that explain the cross section of average returns on US stocks which includes size and market beta variables. The studies by Black et al. (1972) and Fama et al. (1976) find positive relation between average stock returns and beta. The study by Fama and French (1992) suggests that size (measured by market value of equity) and book to market equity are important determinants which reflect powerful characterization of the cross section of average stock returns during the period 1963–1990. The main results of the Fama and French (1992) study indicates that for the 1963–1990 period, size and book to market equity capture the cross sectional variation in average stock returns associated with size, E/P, book to market equity and leverage. It can be stated that if the stocks are priced rationally, systematic differences in average returns can be attributed to differences in risk. In the perspective of rational pricing, the variables size measured by the total market capitalization (price multiplied by number of shares) and BE/ME can be considered as proxy variables to sensitivity to common risk factors in returns.

Fama and French (1995) study the behavior of stock prices in relation to size and book to market equity (BE/ME), which reflects the behavior of earnings. Specifically the study explores whether the behavior of stock prices in relation to size and book to market equity is consistent with the behavior of earnings. In the context of rational pricing, the study indicates that high BE/ME signals persistent poor earnings and low BE/ME signals strong earnings. A low stock price relative to book value (high BE/ME) signals sustained lower earnings on book equity. In summary low BE/ME (high stock price relative to book value) is typical of firms with high average returns on capital (growth stocks), whereas high BE/ME is typical of firms that are relatively distressed. Fama and French (1995) also suggest that size is related to profitability. Controlling for BE/ME, small stocks tend to have lower earnings on book equity than do big stocks. Penmann (1991) suggests that low book to market equity firms remain more profitable than high BE/ME firms.

Firms with higher required equity returns will have higher book to market ratios. This prediction is consistent with the positive relation between average stock return and BE/ME observed by Fama and French (1992, 1995). Fama and French (1995) predicts that high BE/ME should be associated with a persistently low ratio of earnings to book equity, while low BE/ME should be persistently associated with strong earnings to book value of equity. In other words low BE/ME stocks are on average more profitable than high BE/ME stocks.

Debt equity ratio (DER) is used as a variable to explain the expected common stock returns. An increase in debt equity ratio of a firm increases the risk of its common equity. Cross sectionally the common equity of a firm with higher debt equity ratio always have higher risk since the firm level risk may vary, DER is expected to be positively correlated to the risks of common equity across firms (Bhandari, 1988). Beta is based on a market proxy and calculated for a period.

The financial leverage hypothesis suggests that increase in debt is a signal to the market that the firm's prospects have improved. The dividend payout hypothesis suggests that value creation is a function of the dividend payout of companies. Higher the dividend payout more is the value creation for the company. Ross (1977) suggests that companies that increase dividend payout signal to the market that it has the potential to generate future cash flows to meet future dividends. The value of a company is expected to increase on account of dividend payment as it signals to the market that the firm is expected to have higher cash flows. The profitability hypothesis suggests that higher the profits generated by firms, greater would be the value creation.

The study by Gamba and Triantis (2008) develop a model that endogenizes dynamic financing, investment and cash retention/payout policies in order to analyze the financial flexibility on firm value. The study demonstrate that value of financing flexibility depends on the costs of external financing, the level of corporate and personal tax, the firm's growth potential.

Michael et al. (2001) suggests integration of entrepreneurial and strategic thinking for value creation in

entrepreneurial firms. The paper by Amhud (2002) shows that over time, expected market illiquidity positively affects ex ante stock excess return, suggesting that expected stock excess return partly represents an illiquidity premium. Severine et al. (2004) examines the determinants of stock returns in a small open economy using an APT framework and finds that statistical factors yield a better representation of the determinants of stock returns than macroeconomic variables. Boyer et al. (2007) find that the return of Canadian energy stock is positively associated with the Canadian stock market return, with appreciations of crude oil and natural gas prices, with growth in internal cash flows and proven reserves, and negatively with interest rates. The study by Fang et al. (2009) find that stocks with no media coverage earn higher returns than stocks with high media coverage even after controlling for well-known risk factors.

### 3. Data and Methodology

The survey study is based on approximately 650 companies listed in six GCC stock markets in Saudi Arabia, UAE, Bahrain, Oman, Kuwait and Bahrain. The source of database is the stock market website for stock market data and the financial reports of individual companies. The period of study was 2009–2013. The basis for sector wise and company wise analysis was five yearly averages. The yearly annual data for five years was used for the analysis. The study was based on approximately 650 companies. The number of companies varied in different years on account of non-availability of data. The source of data was the stock market exchanges in the respective gulf countries. Data was collected from Saudi stock exchange, Dubai Financial Market, Abu Dhabi stock exchange, Bahrain stock exchange and Muscat securities. For the empirical modelling part, eight companies were selected with highest average market capitalization from Saudi Tadawul, and seven companies each from other six stock markets –Dubai Financial Markets, Abu Dhabi Securities Exchange, Muscat Securities Market, Qatar Exchange and Kuwait Stock Exchange The list of companies are provided in the appendix.

Table 1. Trends in market capitalization

Year	Total Market Capitalization in \$ billions	Number of Companies
2009	690.87	627
2010	790.23	642
2011	713.12	650
2012	752.60	644
2013	964.55	654

This table shows the total value of market capitalization of companies listed in various stock exchanges in the gulf countries. The year 2013 accounted for maximum market capitalization. The market value of companies increased by approximately 40 per cent during the period 2009–2013.

The total market capitalization analyzed for approximately more than 650 companies are accounted for sectors like banking, Investment and financial services, Insurance, Real estate and construction, transport, industrial, telecommunication and Information technology, consumer services, petrochemical and energy industries. The total market capitalization of the whole industry sector rose by approximately 40 per cent in 2013 compared to the period 2009. During the four year period, the average growth rate of market capitalization was approximately 10 per cent. In 2011, the market capitalization decreased by 9.7 percent compared to year 2010. During the 2009–2013 period the number of listed companies increased by approximately 4 per cent.

Table 2. Top sectors in terms of market capitalization, assets, cash flow and profits–Five year average values in billion dollars (2009–2013)

Sector	No of firms	Market Capitalization	Assets	Cash flow	Profits
<b>Banking</b>	94	263.16	814.50	348.40	11.210
<b>Petrochemical &amp; Energy Industries</b>	25	147.31	152.50	40.800	1.710
<b>Industrial</b>	145	94.280	36.700	0.4000	-0.3500
<b>Telecommunication &amp; IT</b>	19	84.140	76.900	17.400	4.900
<b>Real Estate &amp; Construction</b>	68	55.090	29.400	1.100	0.0900
<b>Investment &amp; Financial Services</b>	90	53.270	2.200	0.1000	0.0400
<b>Insurance</b>	120	34.630	18.200	0.7000	0.4200
<b>Consumer Services</b>	82	33.860	13.200	1.100	0.5200
<b>Transport</b>	11	16.540	4.500	20.100	0.1700
<b>Total</b>	<b>654</b>	<b>782.27</b>	<b>1148.1</b>	<b>430.10</b>	<b>18.700</b>

This table highlights the five yearly average values of variables like market capitalization, assets, cash flows and profits during the period 2009–2013. The banking sector with 94 companies was the largest wealth creating sector in terms of market capitalization, assets, cash flow and profits. During the five year period of study, banking sector had an average market capitalization and assets of \$263.16 and 814.5 billion respectively. The next highest value creating sector in terms of market capitalization, assets and cash flow was the petrochemical and energy sector. Telecommunications and Information Technology sector was the biggest profit maximizing sector with five year average value of \$4.90 billion dollars.

On the basis of five yearly average market capitalization, the biggest wealth creators in GCC market sectors are banking, petrochemical and energy industries, industrial, Telecommunication and IT, Real estate& construction, investment and financial services. Banking sector represented by 94 companies had an average market capitalization of \$263.16 billion during the period 2009–2013. It was followed by Petrochemical sector with average market capitalization of \$ 147.31 billion represented by 25 companies. Industrial sector was the third largest sector in terms of average market capitalization with value \$94.28 billion accounted by 145 companies. These three sectors accounted for approximately 64.5 per cent of the total average market capitalization. Banking, Investment and financial services, insurance together constituted approximately 45 per cent of the total average market capitalization.

Banking, Petroleum and Energy, Telecommunications and Industrial were the biggest asset maximizers during the five year period of study. The banking sector alone contributed approximately 71 per cent of the total assets of all sectors during the period 2009–2013. The top four sectors constituted 94 per cent of the total asset sizes.

In terms of average cash flows, banking, petroleum and energy, transport and telecommunication sectors were the maximum cash flow maximizers among all sectors in GCC. Banking sector alone accounted for approximately 81 per cent of the total average cash flows of all the sectors. The top three sectors accounted for 95 per cent of the total average cash flows of all sectors.

Banking, telecommunication and energy sectors were the maximum profit maximizing sectors during the period 2009–2013. These three sectors constituted approximately 95 per cent of the total average profits generated by the entire sectors.

Table 3. Ranking of sectors

Rank	Market Capitalization	Assets	Cash Flow	Net Profit
1	Banking	Banking	Banking	Banking
2	Petrochemical & Energy Industries	Petroleum and Energy	Petroleum and Energy	Telecommunication & Information Technology
3	Industrial	Telecommunications & Information Technology	Transport	Petroleum and Energy
4	Insurance	Industrial	Telecommunication	Services
5	Investment and Financial Services	Real Estate	Services	Insurance
6	Real Estate & Construction	Insurance	Real Estate	Transport
7	Telecommunications & Information Technology	Services	Insurance	Real Estate
8	Consumer Services	Transport	Industrial	Investment & Financial Services
9	Transport	Investment and Financial Services	Insurance and Financial services	Industrial

This table gives the matrix of ranking for valuation for different sectors in the gulf market. Banking sector emerged as the most valuable sector in terms of market capitalization. Petroleum and Energy sector was the second largest sector in terms of market capitalization, assets and cash flow. Telecommunications and Information Technology was the second largest profit maximizing sector.

Banking sector is the biggest sector in terms of market capitalization, assets, cash flow and net profit. Petroleum and Energy sector is the second largest sector in terms of market capitalization, assets and cash flows while third in terms of net profit. Industrial sector emerged as the third highest market capitalization sector. Telecommunications and Information Technology sector is the second highest profit maximizing sector and third largest asset maximizer sector in GCC market.

The following tables highlight the company wise analysis across sectors with respect to assets, cash flows and Return on Investment.

Table 4. Asset maximizers (values in billions of dollars)

SL	Company	Sector	Average value \$ billion
1	NBK Kuwait	Bank	140.22
2	SABIC-Saudi Arabia	Petroleum	85.600
3	QNBK, Qatar	Bank	83.190
4	Emirates NBD	Bank	81.890
5	NBAD Abu Dhabi	Bank	70.280
6	RJHI Saudi Arabia	Bank	56.250
7	SECO, Saudi	Energy and Utility	53.970
8	SAMBA, Saudi	Bank	51.000
9	RIBL, Saudi	Bank	49.400
10	ADCB, Abu Dhabi	Bank	41.000

This table show the list of largest asset maximizers in the GCC region. Eighty percent of the top ten companies with largest asset values belonged to the banking sector. The average values were calculated during the period 2009–2013. NBK Kuwait and SABIC–Saudi Arabia were the top companies with the largest asset values.

National Bank of Kuwait and SABIC were the biggest companies in terms of average asset size. The average assets of these top ten companies constituted 62 per cent of the total average asset size of all the sectors in GCC. Eighty percent of the top ten companies in terms of asset values belonged to the banking sector. Four of the eight ten top banks in terms of asset size were from Saudi Arabia. In terms of value the eight banks in the banking sector constituted approximately 90 per cent of the value of the top ten asset maximizers.

Table 5. Top cash flow maximizing companies

SL	Company	Sector	Average value in \$ billions 2009–2013
1	AUB Bahrain	Bank	330.80
2	SABIC-Saudi	Petro	35.650
3	Agly	Transport	20.120
4	STC-Saudi	Telecommunications	5.010
5	Etisalat –Abu Dhabi	Telecommunications	4.430
6	QTEL Abu Dhabi	Telecommunications	3.660
7	QTEL Qatar	Telecommunications	3.650
8	SECO Saudi	Energy & Telecommunications	2.990
9	Petrorabigh Saudi	Petroleum	2.160
10	IQCD	Industrial	2.060

This table shows the top ten companies in terms of cash flows. The values were the average values for the period 2009–2013. AUB Bahrain, SABIC and Agly were the three cash flow maximizers during the period 2009–2013. AUB Bahrain was the largest company in terms of cash flow. Five of the top ten companies in terms of cash flow belonged to the telecommunication sector.

AUB Bahrain, SABIC and Agly were the three cash flow maximizers during the period 2009–2013. Of the top ten cash flow maximizers, five belonged to the telecommunication sector. The telecommunication firms accounted for average cash flow of value \$19.74 billion during the period 2009–2013. The top ten companies had an average cash flow of \$410.53 billion.

Table 6. Net profit maximizers

SL	Companies	Value in \$ billions
1	NBK – Kuwait	2.110
2	Etisalat – Abu Dhabi	1.980
3	SABIC – Saudi	1.560
4	QTEL– Qatar	1.140
5	NBAD– Abu Dhabi	1.060
6	FGB – Abu Dhabi	1.000
7	ZAIN – Kuwait	0.9800
8	CBK – Kuwait	0.9300
9	RIBL – Saudi	0.8800
10	QTEL – Abu Dhabi	0.7700

The table above gives the values of top profit maximizing companies in the GCC region. The values are the average figures during the period 2009–2013. NBK Kuwait from the banking sector and Etisalat the top telecommunication company from UAE were the top profit maximizers during the five year period of study.

National Bank of Kuwait with average net profit of \$2.11 billion is the biggest net profit maximizer among all companies in GCC. It was followed by Etisalat and SABIC. The average net profit of these top 10 companies represented approximately 3 per cent of the total average net profit made by all the sectors in GCC.

Table 7. Companies with highest return on assets

SL	Company	Sector	Average ROA in %
1	OTEL Muscat	Service & Insurance	16.380
2	NMTC Kuwait	Industrial	12.320
3	RCCI-Muscat	Industrial	11.470
4	BATELCO, Bahrain	Service	11.400
5	OCOI, Muscat	Industrial	11.050
6	QTEL Qatar	Telecommunication	9.900
7	DU-Dubai	Telecommunication	9.780
8	Etisalat – Abu Dhabi	Telecommunication	9.720
9	QTEL Abu Dhabi	Telecommunication	8.890
10	Zain Kuwait	Telecommunication	7.930

This table analyzes the operating performance of the top ten companies in GCC in terms of profitability ratio of return on assets. OTEL Muscat had the highest average return on assets (ROA) of 16.38 per cent. Five of the top ten most profitable companies belonged to the telecommunication sector.

OTEL Muscat is the most profitable company as reflected by five year average in GCC. NMTC Kuwait and RCCI Muscat had an average ROA of 12.32 per cent and 11.47 per cent during the five year period 2009–2013. Of the top ten return maximizers, five belonged to telecommunication sector and three in industrial sector. OTEL Muscat and NMTC Kuwait have an average ROA of 16.38 % and 12.32 % respectively during the five year period of study.

### 3.1 Sample Selection and Methodology for Empirical Model Analysis

For the empirical modelling part, eight companies were selected from Saudi Tadawul, and seven companies each from other six stock markets –Dubai Financial Markets, Abu Dhabi Securities Exchange, Muscat Securities Market, Qatar Exchange and Kuwait Stock Exchange. These companies had the highest average market capitalization. The average market capitalization was based on five years during the period 2009–2013. The list of companies are provided in the appendix. The value of average market capitalization was calculated in US dollars. All financial variables in terms of value were converted to US dollars based on the exchange rate of US dollar vis a vis GCC currencies.

1USD=3.67AED; 3.75 Saudi Riyal; 3.64 Qatari riyal; 0.28 Kuwaiti Dinar; 0.38 Bahraini dinar; 0.38 Omani rial.

Regression analysis was used to study the determinants of value creation. In the first model dependent variable for value is the ratio of market value of equity to book value of equity (ME/BE) in the year t (2012).For the

second model, the cross section of monthly returns on stocks is regressed on variables hypothesized to explain expected returns. The average accounting data for the year's t-1 to t-3 is matched with the average monthly returns for July of year t to June of year t+1. The values for variables of size, dividend payout, profitability are average values for period t-1 to t-3 (2009–2011). The dummy variables represents the various industry sectors. The financial data was collected from the balance sheets of the firms. The stock market data was collected from the seven stock exchange websites. For the third model the ratio of earnings in year t to book value of equity in year t-1 was used as the dependent variable

Table 8. Sample segregation

Sector	Number of Companies
Banking	22
Industrial	6
Telecommunication & IT	5
Investment and Financials	5
Petrochemical and energy utilities	3
Real Estate and Construction	3
Consumer services	3
Insurance	2
Transport	1
Total	50

The above table gives the segregation of firms according to sectors for the empirical study. Banking sector constituted the maximum of firms in the sample. The industrial, telecommunication and Investment sector had 16 firms in the sample. The total firms in the sample were 50.

In the first model analysis the variable of market value of equity to book value of equity at time t ( $ME_t/BE_t$ ) (year 2012) is regressed on variables of dividend payout, size represented by total assets and sales, market value of equity, profitability measures, capital investments measures and working capital investment measures and growth variables of sales, earnings and earning price ratio. E/P is the earnings relative to price (market value of equity). In the first model Debt equity ratio (DER) is used as a measure of leverage. The dummy variables represent the various industry sectors. Variable definition are given in the appendix. The dependent variable values are for the period t (year 2012). The independent variables are average values for the period t-1 to t-3. (Year 2009–2011).

$$\frac{ME_t}{BE_t} = \alpha + \beta_1 DPO + \beta_2 \ln TA + \beta_3 \ln SA + \beta_4 ROE + \beta_5 ROA + \frac{\beta_6 CAPEX}{TA} + \frac{\beta_7 WC}{TA} + \beta_8 SG + \beta_9 EG + \frac{\beta_{10} E}{P} + \beta_{11} D1 + \beta_{12} D2 + \beta_{13} D3 + \beta_{14} D4 + \beta_{15} D5 + \beta_{16} D6 + \beta_{17} D7 + \beta_{18} D8 + \beta_{19} D9 \quad (1)$$

In the second regression model, the average monthly market returns of sample stocks for July of year t to June of year t+1 are regressed on measures of risk, ratio of book to market equity, leverage measure, dividend yield and earnings price ratio. In the second model the leverage variable used is the ratio of total debt to book value of equity. In this model, beta value is calculated for the period t-1. (2011). Size measured by market value of equity and the ratio of book value of equity to market value of equity is for period t-1. The values for variables DER, DIV YIELD and E/P are average values for period t-1 to t-3.

$$AVGR = \alpha + \beta_{10} \ln \left( \frac{BE}{ME} \right) + \beta_3 DER + \beta_4 DIV YIELD + \frac{\beta_5 E}{P} + \beta_6 D1 + \beta_7 D2 + \beta_8 D3 + \beta_9 D4 + \beta_{10} D5 + \beta_{11} D6 + \beta_{12} D7 + \beta_{13} D8 + \beta_{14} D9 \quad (2)$$

In the third regression model the ratio of earnings in year t to the book value of equity in year t-1 is regressed on measures of risk, the ratio of BE/ME and natural log of market value of equity in the year t-1. Beta is for period t-1.

$$\frac{E_t}{BE_t} - 1 = \beta_{10} + \frac{\beta_{11} BE}{ME} + \ln (ME) \quad (3)$$

BE/ME and  $\ln (ME)$  is for t-1 period.



#### 4. Results

The results for the empirical model analysis are discussed in the following pages.

Table 8. Descriptive statistics (values in millions of dollars)

Variables	Average	Standard Deviation	Maximum	Minimum
Total Assets	23,656.39	28,599.43	140,216.56	463.45
Revenues	3,200.91	6,472.93	42,266.60	31.680
Cash Flow	8,703.81	46,824.72	330,799.50	-68.470
Net Profit	416.06	521.15	2,111.88	-413.85

The table above gives the descriptive statistics of the sample firms involved in the empirical study. The descriptive statistics of variables like total assets, revenues, cash flows and net profit are given in the table. The average, mean, standard deviation, the maximum value and minimum value of the sample statistics are given. The descriptive statistics are for 50 sample companies based on five yearly average values.

The average total assets and revenues of the sample firms amounted to \$23.65 billion and \$3.2 billion respectively. The standard deviations for the total assets and revenues were 28.59 and 6.47 respectively. Hence the variability in asset size and revenues were higher in the sample firms. The analysis for the maximum and minimum value for assets and revenues suggests huge difference in values. The sample firms had an average cash flow and net profit of \$8.7 billion and \$0.416 billion respectively. The standard deviation for cash flow and net profit were \$46.82 billion and \$0.521 billion respectively.

Table 9. Cross sectional variable statistics

Variables	Average	Standard deviation	Maximum	Minimum
MV / BV	1.050	0.5000	2.360	0.1500
Log (Sales)	6.900	1.740	10.580	0.0000
Earnings Growth	1.800	9.530	66.700	-4.680
Log (Total Assets)	9.090	1.910	12.020	0.0000
Dividend Payout	0.380	0.3500	1.700	0.0000
Leverage	3.610	3.120	12.910	0.0000
ROE	1.600	8.600	46.800	-8.300
ROA	-0.2700	2.140	0.1700	-15.160
CAPEX/TA	0.0040	0.0600	0.2600	0.0000
WC/TA	-0.2800	0.6800	1.060	-4.300
Sales Growth	0.1200	0.2800	1.230	-0.2300
E/P	0.9800	1.6700	6.120	-1.320
Return	-0.0009	0.0322	0.1200	-0.1100
Beta	0.9400	0.6100	2.640	0.0000
ln (ME)	9.300	1.571	11.740	4.300
ln BV/MV	0.0800	0.5600	1.860	-0.8500
Dividend Yield	0.0900	0.4000	2.750	0.0000

This table show the descriptive statistics for the variables used in the study. The descriptive statistics are for averages, standard deviation, maximum and minimum values for the sample firms. The variables indicate growth, earnings, leverage, profitability and risk measures. The variable definitions are given in the appendix. Size is measured by book value of total assets and market value of equity. Risk is measured by beta.

The correlation analysis for the various variables for model were conducted to check multi collinearity. In the first model I the measures of size total assets and total sales were correlated with coefficient of 0.748. In model II, the size variable measured by natural log of market value of equity (ln ME) and natural log of ratio of book value to market value (ln BE/ME) are negatively correlated with value of -0.829. lnME is also negatively correlated with dividend yield with value of -0.656. Dividend yield was also positively correlated to ln BE/ME with a coefficient of 0.771. In Model III, the variable of size measured by ln ME and ratio of book value of equity to market value of equity is negatively correlated with value of -0.664.

Table 10. Model I results

Model	A			B			C		
	Beta	T	Sig	Beta	T	Sig	Beta	t	Sig
ROA	-0.25	-1.76	0.08	-0.28	-2.07	0.04	-0.27	-2.02	0.051*
CAPEX/TA	0.46	2.23	0.03	0.46	2.28	0.029	0.459	2.26	0.030*
WC/TA	-0.3100	-1.800	0.07	-0.28	-1.78	0.0850	-0.29	-1.86	0.074*
SG	0.42	2.78	0.009	0.43	2.88	0.007	0.43	2.96	0.006**
E/P				0.25	1.74	0.091	0.25	1.78	0.084*
D5	-0.38	-1.87	0.07	-0.39	-2.02	0.05	-0.39	-2.05	0.048*
D7	-0.28	-1.89	0.068	-2.98	-2.12	0.04	-0.298	-2.204	0.035*
D9	0.31	2.02	0.052	0.27	2.04	0.050	0.278	2.19	0.036*
	R <sup>2</sup> =0.625			R <sup>2</sup> =0.622			R <sup>2</sup> =0.624		
	Adj R <sup>2</sup> =0.388			Adj R <sup>2</sup> =0.403			Adj R <sup>2</sup> =0.405		
	F=2.636			F=2.839			F=2.856		

This table shows the results of regression analysis of Model I. In the first model analysis the variable of market value of equity to book value of equity at time t ( $ME_t/BEt$ ) (year 2012) is regressed on variables of dividend payout, size represented by total assets and sales, market value of equity, profitability measures, capital investments measures and working capital investment measures and growth variables of sales, earnings and earning price ratio. E/P is the earnings relative to price (market value of equity). In the first model Debt equity ratio (DER) is used as a measure of leverage. The dummy variables represent the various industry sectors. Variable definition are given in the appendix. \*, \*\* show statistical significance at 5% and 10% level of significance.

In model A all variables were included in the analysis. In model B the variable of total assets (lnTA) was excluded. In model C, variable of total sales (ln SA) was excluded. The variables included are the only significant variables.

Model I analysis reveal that return on assets is negatively related to the dependent variable ME/BE at 5% and 10 % level of significance. The negative relationship indicates that market valuations of firms are not based on the book value returns with respect to total assets. The variable of CAPEX/TA (average capital expenditure scaled by total assets for three year period) has significant positive relationship with the valuation ratio of market value of equity to book value of equity at 5% and 10% level of significance. Higher the capital expenditure of firm, higher would be the valuation of the firm. Market Valuations are higher for firms which invest more in capital expenditure. Firms which invest more in capital expenditures are expected to have positive NPV projects and market valuations are higher for such firms. Hence it can be stated that capital expenditure decisions reflect positive signals to market about the investment opportunities available for firms thereby facilitating growth and increasing the value for the firms. The variable of working capital to total assets is significantly negatively correlated to dependent value variable. The study finds that higher investment in working capital is perceived as value decreasing activity for firms. One interpretation for the result could be that lack of scale economies fails to generate value drivers in working capital. Higher investments in working capital relative to total assets make markets skeptical about the working capital efficiency of firms thereby lowering the value of the firm. Results show that sales growth is a significant value driver. The variable of sales growth is significantly positively correlated with ratio of market to book value of equity at all levels of significance. Hence it can be stated that higher the sales growth of the firm, higher would be the market value creation for the firms. Firms with high growth rate in sales revenues add more value to the firm in terms of market valuation. The ratio of earnings to price is also positively related to value of a firm at 10 per cent level of significance. Firms with higher earnings relative to price generate more value. Higher the earnings generated by the firm, greater would be the value creation. Higher earnings signify more value creation. The regression results show that firms in the real estate sector and insurance are value minimizers while firms in transport sector are value maximizers. Step wise regression also resulted in the same significant explanatory variables.

In model II, the average monthly returns of each stock was regressed upon on beta, ratio of book to market equity, leverage measure, dividend yield and earnings price ratio. The overall regression results don't show any statistically significant results for the explanatory variables. The average market returns is positively related to beta. Higher the risk measure, higher would be the returns expected. But the results are statistically insignificant. Lesser the size of the firm, more would be the average returns from the stock. Again the results are not

statistically significant. The dummy variable of D4 and D6 were significantly positively related to average market returns. The results show that if the firm belongs to Telecommunication and Information Technology sector and Investment and Finance sector, greater would be the value creation. Results suggest firms in Telecommunication and IT sector tend to create more value. Model II Results are given in Appendix. Backward regression also resulted in similar results.

In Model III, the variable of ratio of earnings in the year t to the book value of equity in year t-1 is regressed upon the variables of risk (beta), ratio of book value of equity to market value of equity (BE/ME) and size measured by market value of equity (ln ME). The independent variables are for period t-1. In the overall regression model (A) where all variables were included, the results are not statistically significant. In the next model (B) the variable ME/BE was excluded. In the third model (C) ln ME was eliminated.

Table 11. Model III results

	A			B			C		
	Beta	t	Sig	Beta	t	Sig	Beta	t	Sig
MBETA	0.11	0.75	0.45	0.092	0.630	0.532	0.084	0.574	0.569
BE/ME	0.17	0.91	0.36				0.309	2.103	0.041*
lnME	-0.2	-1.2	0.24	-0.32	-2.23	0.030*			
	R <sup>2</sup> = 0.112			R <sup>2</sup> = 0.096			R <sup>2</sup> = 0.086		
	Adj R <sup>2</sup> = 0.055			Adj R <sup>2</sup> = 0.058			Adj R <sup>2</sup> = 0.047		
	F = 1.94			F = 2.506			F = 2.215		

This table shows results of the Model III. In Model III, the variable of ratio of earnings in the year t to the book value of equity in year t-1 is regressed upon the variables of risk (beta), ratio of book value of equity to market value of equity (BE/ME) and size measured by market value of equity (ln ME). The independent variables are for period t-1. In the overall regression model (A) where all variables were included, the results are not statistically significant. In the next model (B) the variable ME/BE was excluded. In the third model (C) ln ME was eliminated.\* shows statistical significance at 5 % level of significance.

The regression result suggests that smaller firms in terms of market capitalization tend to create more earnings relative to book value of equity. In other words small stocks tend to have higher earnings on book equity than big stocks do. Higher the ratio of book equity to market equity, higher would be the earnings. The model indicates that high BE/ME signals lower earnings for the firm.

## 5. Concluding Comments

The study examines whether the book value maximizers are the greatest wealth creators in stock market both in the context of sectors and companies in the Gulf Cooperation Council Markets (GCC) market. The study also analyzes the financial value drivers for wealth creation of companies in the GCC market.

The survey study was based on approximately 650 companies listed in six GCC stock markets in Saudi Arabia, UAE, Bahrain, Oman, Kuwait and Bahrain. The source of database is the stock market website for stock market data and the financial reports of individual companies. The period of study was 2009–2013. Regression analysis was used to analyze the determinants of value creation. The sample size of 50 was selected based on the criteria of highest average market capitalization. In the first model dependent variable for value is the ratio of market value of equity to book value of equity (ME/BE) in the year t (2012). For the second model, the cross section of monthly returns on stocks is regressed on variables hypothesized to explain expected returns. In the third regression model the ratio of earnings in year t to the book value of equity in year t-1 is regressed on measures of risk, the ratio of BE/ME and natural log of market value of equity in the year t-1.

The three sectors of banking, petrochemicals and energy, industrial accounted for approximately 64.5 per cent of the total average market capitalization of all sectors. Banking, Petroleum and Energy, Telecommunications and Industrial were the biggest asset maximizers during the five year period of study. Banking, telecommunication and energy sectors were the maximum profit maximizing sectors during the period 2009–2013. These three sectors constituted approximately 95 per cent of the total average profits generated by the entire sectors. Banking sector is the biggest sector in terms of market capitalization, assets, cash flow and net profit. Petroleum and Energy sector is the second largest sector in terms of market capitalization, assets and cash flows while third in terms of net profit. National Bank of Kuwait and SABIC were the biggest companies in terms of average asset size. National Bank of Kuwait with average net profit of \$2.11 billion is the biggest net profit maximizer among

all companies in GCC. OTEL Muscat is the most profitable company as reflected by five year average in GCC

The regression analysis reveals that higher the capital expenditure of firm, higher would be the valuation of the firm. The variable of sales growth is significantly positively correlated with ratio of market to book value of equity at all levels of significance. Higher the earnings generated by the firm, greater would be the value creation. Results suggest firms in Telecommunication and IT sector and Investment and financial sector tends to create more value. Higher the ratio of book equity to market equity, higher would be the earnings.

Future research could be directed towards understanding the non-financial drivers of value creation. The scope of future research could be extended to measure the value of intangibles and explain its role as determinants in the value creating process.

## References

- Amihud, Y. (2002). Illiquidity and stock returns: cross-section and time-series effects. *Journal of Financial Markets*, 5(1), 31–56. [http://dx.doi.org/10.1016/S1386-4181\(01\)00024-6](http://dx.doi.org/10.1016/S1386-4181(01)00024-6)
- Banz, R. W. (1981). The relationship between return and market value of common stocks. *Journal of Financial Economics*, 9, 3–18. [http://dx.doi.org/10.1016/0304-405X\(81\)90018-0](http://dx.doi.org/10.1016/0304-405X(81)90018-0)
- Basu, S. (1983). The relationship between earnings yield, market value, and return for NYSE common stocks: Further evidence. *Journal of Financial Economics*, 12, 129–156. [http://dx.doi.org/10.1016/0304-405X\(83\)90031-4](http://dx.doi.org/10.1016/0304-405X(83)90031-4)
- Bhandari, & Laxmi, C. (1988). Debt/Equity ratio and expected common stock returns: Empirical evidence. *Journal of Finance*, 43, 507–528. <http://dx.doi.org/10.1111/j.1540-6261.1988.tb03952.x>
- Bhattacharya, S. (1979). Imperfect information, dividend policy and “the bird in the hand” fallacy. *Bell Journal of Economics*, 10, 259–270. <http://dx.doi.org/10.2307/3003330>
- Black, F. (1972). Capital market equilibrium with restricted borrowing. *Journal of Business*, 45, 444–455. <http://dx.doi.org/10.1086/295472>
- Boyer, M., & Didier, F. (2007). Common and fundamental factors in stock returns of Canadian oil and gas companies. *Energy Economics*, 29(3), 428–453. <http://dx.doi.org/10.1016/j.eneco.2005.12.003>
- Caby, J., Clerc, G., & Koch, J. (1996). Strategic et finance: le processus de creation de vaieur. *Revue Franpalse de Geslion*, 108, 49–56.
- Chan, L. K., Yasushi, H., & Josef, L. (1991). Fundamentals and stock returns in Japan. *Journal of Finance*, 46, 1739–1789. <http://dx.doi.org/10.1111/j.1540-6261.1991.tb04642.x>
- DeBodinat, H. (1978). Strategie et polique financiere. *La Revue Banque*, 374, 750–756. Retrieved from [http://www.groupeiscaema/pdf/Listes des thèses et des mémoires/Les publications de l'ISCAE/REVUE GESTION ET SOCIETE/Revue G&S de n°1 au n°16/REVUE N°16.1990.pdf](http://www.groupeiscaema/pdf/Listes%20des%20theses%20et%20des%20memoires/Les%20publications%20de%20l'ISCAE/REVUE%20GESTION%20ET%20SOCIETE/Revue%20G&S%20de%20n%201%20au%20n%2016/REVUE%20N%2016.1990.pdf)
- Degos, J. (1988). Evaluation des socieies el de lews litres. *Vuibert*. Retrieved from <http://197.14.51.10:81/.../Petit%20br%C3%A9viaire%20des%20id%C3%A9es%20re%C3%A7ues%20en%20>
- Fama, E. F. (1976). *Foundations of Finance*. New York: Basic Books.
- Fama, E., & French, K. (1995). Size and Book to Market factors in earnings and returns. *The Journal of Finance*, 50, 131–155. <http://dx.doi.org/10.1111/j.1540-6261.1995.tb05169.x>
- Fama, E., & French, R. (1992). The cross section of expected stock returns. *The Journal of Finance*, 47(2), 427–465. <http://dx.doi.org/10.1111/j.1540-6261.1992.tb04398.x>
- Fruhan. (1984). How fast should your company grow? *Harvard Business Review*, 62, 84–93. Retrieved from <http://web.a.ebscohost.com/ehost/detail/detail?vid=17&sid=eaba2666-a83c-432a-925f-32c391b146b7%40sessionmgr4005&hid=4101&bdata=JnNpdGU9ZWhvc3QtG1ZlZQ%3d%3d>
- Gamba, A., & Triantis, A. (2008). The Value of financial flexibility. *Journal of Finance*, 63(5), 2263–2296. <http://dx.doi.org/10.1111/j.1540-6261.2008.01397.x>
- Hakansson, N. (1982). To pay or not to pay dividends? *Journal of Finance*, 37, 415–428. <http://dx.doi.org/10.2307/2327345>
- Jacqueline, L., Garner, N., & Richard, O. (2002). Determinants of corporate growth opportunities of emerging firms. *Journal of Economics and Business*, 54, 73–93. [http://dx.doi.org/10.1016/S0148-6195\(01\)00056-X](http://dx.doi.org/10.1016/S0148-6195(01)00056-X)

- James, M. (1973). Risk, return and equilibrium: Empirical tests. *Journal of Political Economy*, 81, 607–636. <http://dx.doi.org/10.1086/260061>
- Leland, H., & Pyle, D. (1977). Informational asymmetries, financial structure, and financial intermediation. *Journal of Finance*, 32, 371–388. <http://dx.doi.org/10.2307/2326770>
- Lily, F., & Joel, P. (2009). Media coverage and cross section of stock returns. *Journal of Finance*, 64(5), 2023–2052. <http://dx.doi.org/10.1111/j.1540-6261.2009.01493.x>
- Michael, H., Duane, I., Michael, C., & Donald, S. (2001). Entrepreneurial strategies for wealth creation. *Strategic Management Journal*, 22, 479–491. <http://dx.doi.org/10.1002/smj.196>
- Miller, M., & Modigliani, F. (1961). Dividend policy, growth and the valuation of shares. *Journal of Business*, 34, 1031–1051. <http://dx.doi.org/10.1086/294442>
- Miller, M., & Rock, R. (1985). Dividend policy under asymmetric information. *Journal of Finance*, 40, 1031–1051. <http://dx.doi.org/10.1111/j.1540-6261.1985.tb02362.x>
- Miller, M., & Scholes, M. (1978). Dividend and taxes. *Journal of Political Economy*, 90, 1118–1141. <http://dx.doi.org/10.1086/261114>
- Myers, S. C. (1977). Determinants of corporate borrowing. *Journal of Financial Economics*, 5, 147–176. [http://dx.doi.org/10.1016/0304-405X\(77\)90015-0](http://dx.doi.org/10.1016/0304-405X(77)90015-0)
- Pene, D. (1983). Modeles d'evaluation des entreprises et modeles strategiques. *Analyse Financiere*, 54, 55–62.
- Penman, S. H. (1991). An evaluation of accounting rate of return. *Journal of Accounting, Auditing and Finance*, 6, 233–255. Retrieved from <http://web.a.ebscohost.com/ehost/detail/detail?vid=86&sid=eaba2666-a83c-432a-925f-32c391b146b7%40sessionmgr4005&hid=4101&bdata=JnNpdGU9ZWZWhvc3QtbG12ZQ%3d%3d#db=bth&AN=7256368>
- Rappaport, A. (1986). Linking competitive strategy and shareholder value analysis. *The Journal of Business Strategy*, 3, 58–67. Retrieved from <http://web.a.ebscohost.com/ehost/detail/detail?vid=56&sid=eaba2666-a83c-432a-925f-32c391b146b7%40sessionmgr4005&hid=4101&bdata=JnNpdGU9ZWZWhvc3QtbG12ZQ%3d%3d#db=bth&AN=5691789>
- Rappaport, A. (1987). Corporate performance standards and shareholder value. *The Journal of Business Strategy*, 4, 28–38. Retrieved from <http://web.a.ebscohost.com/ehost/detail/detail?vid=58&sid=eaba2666-a83c-432a-925f-32c391b146b7%40sessionmgr4005&hid=4101&bdata=JnNpdGU9ZWZWhvc3QtbG12ZQ%3d%3d#db=bth&AN=5689609>
- Rosenberg, B., Kenneth, R., & Ronald, L. (1985). Persuasive evidence of market inefficiency. *Journal of Portfolio Management*, 11, 9–17. <http://dx.doi.org/10.3905/jpm.1985.409007>
- Ross, S. (1977). The determination of financial structure: the incentive signaling approach. *Bell Journal of Economics*, 8, 23–40. <http://dx.doi.org/10.2307/3003485>
- Rozeff, F. M. (1982). Growth, beta and agency costs as determinants of dividend payout ratios. *Journal of Financial Research*, 5, 249–259. <http://dx.doi.org/10.1111/j.1475-6803.1982.tb00299.x>
- Samy, N., & Mohamed, G. (2002). The relationship between dividend policy, financial structure, profitability and firm value. *Applied Financial Economics*, 12, 843–849. <http://dx.doi.org/10.1080/09603100110049457>
- Severine, C., Martin, H., & Dusan, I. (2004). The determinants of stock returns in a small open economy. *International Review of Economics and Finance*, 13(2), 167–185. <http://dx.doi.org/10.1016/j.iref.2003.07.001>
- Stattman, D. (1980). Book values and stock returns. *The Chicago MBA: A Journal of Selected Papers*, 4, 25–45.
- Varaiya, N. (1987). The relationship between growth, profitability and firm value. *Strategic Management Journal*, 8, 487–497. <http://dx.doi.org/10.1002/smj.4250080507>

**Appendix A****Model II Results**

Variables	Standardized Coefficients B	T	Sig
BETA	0.22	1.10	0.277
lnME	-0.075	-0.24	0.80
lnBE/ME	-0.08	-0.25	0.803
LEV	-0.05	-0.232	0.818
DIV YIELD	0.14	0.598	0.554
E/P	0.117	0.698	0.490
D2	0.031	0.192	0.849
D3	0.126	0.575	0.569
D4	0.280	1.5	0.133
D5	0.226	1.35	0.186
D6	0.447	2.42	0.021*
D7	0.030	0.165	0.870
D8	0.114	0.640	0.526
D9	0.102	0.639	0.527

**Appendix B**

Variables	Definitions
$MV_t / BV_t$	Market Value of Firm / Book Value of Firm in year t
Ln (Sales)	Natural Log of Revenue in t-1 to t-3
Dividend Payout (DPO)	Total Dividends / Total Earnings in t-1 to t-3
Ln TA	Natural log of Total Assets in t-1 to t-3
Leverage	Total debt / Total Equity in t-1 to t-3
LN ME	Natural log of Market Equity in t-1
Return on Equity (ROE)	Net Income / Total Equity in t-1 to t-3
Return on Assets (ROA)	Net Income / Total Assets in t-1 to t-3
CAPEX / TA	Capital expenditure / Total Assets in t-1 to t-3
WC / TA	Working capital / Total Assets in t-1 to t-3
SG	Sales Growth rate in t-1 to t-3
EG	Earnings Growth rate in t-1 to t-3
Earnings / Price (E/P)	Total Earnings / Market Capitalization in t-1 to t-3. Market Capitalization is price multiplied by number of shares.
AVGR	Average monthly returns in June of year t to July of year t+1.
Beta	Measures the systematic risk of the stock Beta is found out by regressing stock returns for a stock on market index of respective stock markets based on one year of data. Beta is calculated for one year period t-1.
ln (BE/ME)	Natural log of Book value of Equity / Natural log of Market value of Equity in t-1
Div Yield	Dividend per Share / Market Price per Share in t-1 to t-3.
$E_t / BE_{t-1}$	Total Earnings in t / Book value of Equity in t-1
BE/ME	Book value of Equity / Market value of Equity in t-1
D1	Banking
D2	Petrochemical & Energy utilities
D3	Industrial
D4	Telecommunications & IT
D5	Real Estate & Construction
D6	Investment & Financial
D7	Insurance
D8	Consumer Services
D9	Transport

## Appendix C

### Highlights of Companies for Empirical Study

SL	Company	Sector	Listed Stock Market
1	Emirates telecommunications Corporation	Telecommunications & IT	Abu Dhabi Securities Market
2	National Bank of Abu Dhabi	Banking	Abu Dhabi Securities Market
3	First Gulf Bank	Banking	Abu Dhabi Securities Market
4	Ooredoo Qatar Telecom	Telecommunications & IT	Abu Dhabi Securities Market
5	Aldar Properties	Real Estate & Construction	Abu Dhabi Securities Market
6	Arkan Building Materials	Industrial	Abu Dhabi Securities Market
7	Abu Dhabi Commercial Bank	Banking	Abu Dhabi Securities Market
8	Emaar Properties	Real Estate & Construction	Dubai Financial Market
9	National Industries Group Holding	Industrial	Dubai Financial Market
10	Agility - The Public Warehousing Company	Transport	Dubai Financial Market
11	Emirates NBD	Banking	Dubai Financial Market
12	Dubai Financial Market Corporation	Investment & Financial	Dubai Financial Market
13	Mashreq Bank	Banking	Dubai Financial Market
14	Emirates Integrated Telecommunications Co	Telecommunications & IT	Dubai Financial Market
15	Ahli United Bank	Banking	Bahrain Bourse
16	Arab Banking Corporation	Investment & Financial	Bahrain Bourse
17	Al Baraka Islamic Bank	Insurance	Bahrain Bourse
18	InvestCorp	Investment & Financial	Bahrain Bourse
19	Gulf Finance House	Investment & Financial	Bahrain Bourse
20	Bahrain Telecommunications	Consumer Services	Bahrain Bourse
21	Ithmaar Bank	Investment & Financial	Bahrain Bourse
22	Saudi Basic Industries Corporation	Petrochemical & Energy Utilities	Tadawul Exchange
23	Al Rajhi Bank	Banking	Tadawul Exchange
24	Saudi Telecom Company	Telecommunications & IT	Tadawul Exchange
25	Saudi Electricity Company	Petrochemical & Energy Utilities	Tadawul Exchange
26	Samba Financial Group	Banking	Tadawul Exchange
27	Riyadh Bank	Banking	Tadawul Exchange
28	Saudi British Bank	Banking	Tadawul Exchange
29	Petro Rabigh	Petrochemical & Energy Utilities	Tadawul Exchange
30	Qatar National Bank	Banking	Qatar Exchange
31	Industries Qatar	Industrial	Qatar Exchange
32	Ezdan Holding Group	Consumer Services	Qatar Exchange
33	Qatar Telecom	Telecommunications & IT	Qatar Exchange
34	Qatar Islamic Bank	Banking	Qatar Exchange
35	Commercial Bank of Qatar	Banking	Qatar Exchange
36	Amal Holding Company	Consumer Services	Qatar Exchange
37	Mobile Telecommunications Company	Industrial	Kuwait Stock Exchange
38	National Bank of Kuwait	Banking	Kuwait Stock Exchange
39	Kuwait Financial House	Banking	Kuwait Stock Exchange
40	Commercial Bank of Kuwait	Banking	Kuwait Stock Exchange
41	National Mobile Telecommunications	Industrial	Kuwait Stock Exchange
42	Gulf Bank of Kuwait	Banking	Kuwait Stock Exchange
43	Boubyan Bank	Banking	Kuwait Stock Exchange
44	Oman Telecommunications Company	Insurance	Muscat Securities Market
45	Bank Muscat	Banking	Muscat Securities Market
46	Bank Dhofar	Banking	Muscat Securities Market
47	National Bank of Oman	Banking	Muscat Securities Market
48	Raysut Cement Company	Industrial	Muscat Securities Market
49	HSBC Bank Oman	Banking	Muscat Securities Market
50	Oman Cement	Industrial	Muscat Securities Market

### Copyrights

Copyright for this article is retained by the author(s), with first publication rights granted to the journal.

This is an open-access article distributed under the terms and conditions of the Creative Commons Attribution license (<http://creativecommons.org/licenses/by/3.0/>).