AN EMPIRICAL ANALYSIS OF FAIR VALUE OPTION (SFAS 159) IN U.S. OIL AND GAS INDUSTRY

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ABSTRACT

One of the longstanding controversies in the accounting profession is whether to report assets and liabilities at their fair value or historical cost. Reporting at fair value is said to be more relevant while reporting at historical cost is said to be more reliable. Practitioners in accounting are in favor of historical cost. They argue that historical costs are both objective and verifiable. On the other hand, academicians are in favor of fair value. They argue that fair value is relevant for decision making. Even though practitioners agree with academicians on the relevance of fair value, they contend that allowing companies' management to use fair value for valuing their assets and liabilities will open the window of opportunities for manipulation of financial statements. In our study we investigate the association between the extent of fair value disclosure and market risk (Beta) in oil and gas companies. We hypothesize that this association is significant and negative. To the best of our knowledge, this is the first study to examine existing associations between market risk (Beta) and the extent of fair value reporting specifically for U.S. oil and gas companies. Consistent with prior research, we use a panel data multivariate regression model to test our hypothesis. Our results support our hypothesis. Additionally, we find a positive association between market risk and a firm's size, a negative association between market risk and stock price, a negative association between market risk and earnings per share, and a negative association between market risk and a firm's borrowing.

I. INTRODUCTION

This study will investigate the associations between the extent of fair value disclosure and market risk (Beta) of U.S. oil and gas companies since the implementation of the Statement of Financial Accounting Standards (SFAS) 159 in November of 2007.

The purpose of the financial statements is to provide investors with useful and relevant information, and most in the business world are familiar with the long standing controversy in regards to fair value reporting. That is, reporting financial instruments at fair value is said to provide more *relevant* information to investors since, in reality, many asset and debt instruments routinely fluctuate in values. In principle, an investor can make more informed decisions in viewing a balance sheet that expresses the current values for various securities and the like. In contrast, reporting such instruments at their historical cost is said to give investors more *reliable* information. This is a reasonable claim because there can be no dispute over an instrument's historical value. Thus, investors will have a better idea about what they might be getting themselves into because historical costs do not fluctuate. Both fair value accounting (FVA) and historical cost accounting (HCA) advocates have their respective disagreements with one another. For example, FVA proponents believe HCA fails to provide an investor with any information regarding the future values of financial instruments. HCA proponents claim that FVA gives investors unreliable information. Furthermore, HCA proponents state that fair value reporting is too subjective and opens to managerial manipulation, because fair value estimates are often unverifiable. There is also a valid argument stating that since unrealized holding gains and losses are often due to fair value adjustments, such gains and losses are weak indicators of a firm's performance.

In any case, the Financial Accounting Standards Board's (FASB) gradual allegiance to fair value reporting began in 1991, with the implementation of SFAS 107. This statement simply mandated increased disclosure of assets and liabilities if it is practicable to determine the fair values. When the determination of fair value is not practicable, the standard requires the description of information regarding the values of related assets and liabilities reported at other than fair value. Two years later (1993), SFAS 115 was issued. This statement initiated the policy of reporting of debt and equity securities that have readily determinable fair values. The standard requires that the securities that are

planned to be sold in less than 90 days, classified as trading securities, and those that are planned to be sold after 90 days but before maturity, classified as available for sale securities, to be shown at their fair values, with unrealized gains or losses to be included in income statement for trading securities and in other comprehensive income for available for sale securities. Additionally, debt securities that are planned to be held until maturity, classified as held to maturity, to be shown at their amortized cost with no recognition for unrealized gains or losses.

In 1998, SFAS 133 was put forth calling for all derivative instruments to be reported at fair value. Derivatives are instruments such as options and forward contracts that drive their values from the values of other instruments or indexes. Next, SFAS 157 came in 2006. In this statement, FASB defined fair value as “the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date.”

Finally, as mentioned earlier, SFAS 159 was implemented in November of 2007 and in it the FASB stated that fair value reporting was preferred over historical costs reporting. The idea of the fair value option (FVO) was also introduced in this statement. The FVO simply says that an entity may report unrealized holding gains and losses on the income statement instead of in other comprehensive income, in case of available for sale securities. The statement allowed the use of fair value for a number of instruments such as loans receivable and payable, investments in equity securities, rights and obligations under insurance contracts as well as those related to warranty agreements, firm commitments involving financial instruments, written loan agreements, and host financial instruments that are separated from embedded derivative instruments. The fair value option may not be used for instruments such as investments in subsidiaries that are required to be consolidated, interests in variable-interest entities that are required to be consolidated, assets and obligations that are associated with pension and other post retirement benefit plans, financial assets and liabilities recognized under lease agreements, financial instruments that are classified as equity, and

deposit liabilities of financial institutions. Furthermore, the statement requires that the fair value option (FVO) to be used only on an instrument by instrument basis and it provided that the option was irrevocable once elected. Additionally, firms have to disclose their rationale for use of the fair value option. Initially, firms were given the choice to become an “early adopter” of SFAS 159. That is, while the effective date for the new statement would be the firm’s fiscal year beginning after November 15, 2007, under certain conditions a firm could adopt and use the FVO before this date.

Our goal in this study is to research the use of fair value reporting in U.S. oil and gas industry in much the same way as did by Aliabadi, et. al. (2013) for commercial banks and did by Dorestani and Magopet (2013) for companies in insurance industry. Our study is expected to add to ones conducted on the oil and gas industry by Manchiraju et al. (2011), Mohanty and Nandha (2011), Tehrani (2011) and Jin and Jorion (2006). This is an incrementally worthy study because, by extending the work of Henry (2008), Guthrie et al. (2014), and Aliabadi et al. (2013), the accounting world deepens its understanding and knowledge of the consequences of the use of the fair value option. In our research, we expect to find a significant positive association between the extent of fair value option disclosure and market risk of companies in the U.S. oil and gas industry.

II. LITERATURE REVIEW

Prior studies in fair value disclosure can be classified into two main categories. The first set of papers (Jin and Jorion (2006), Manchiraju et al (2011), Mohanty and Nandha (2011), and Tehrani (2011) study oil and gas firms from various perspectives. The second set of research papers (Plesch (2005), Henry (2008), Aliabadi et al. (2013), Dorestani and Magopet (2013), Guthrie et al. (2014), and Aliabadi et al. (2015) explore, exclusively, the fair value option as applied to different companies and scenarios. We will begin with a summary of the first set.

Jin and Jorion (2006) question whether hedging activities affect the market value of U.S. oil and gas companies. The study involves 119 of these companies from 1998 to 2001. The method used simply compares firms that hedge with firms that do not hedge their oil and gas price risk. Their results suggest that hedging reduces a firm's stock price sensitivity to oil and gas prices. However, they show that the market value is not affected. Interestingly, this study contradicts prior studies that found an association between hedging and market value (Jin and Jorion, p. 22).

Manchiraju et al. (2011) explored the sensitivity of CEO cash compensation to fair value gains and losses in derivatives for U.S. oil and gas companies. Over the years of 2007 to 2009, 70 firms were examined. Prior research in this area had investigated relationships between CEO compensation and reported earnings that used historical cost accounting. Manchiraju's study investigates whether or not derivative gains and losses are relevant performance measures with which CEO compensation should be based. It also explores the relationships between corporate governance and how derivatives gains and losses affect CEO's compensation. The question is: Do managers report higher derivatives gains to meet earnings targets? The results of the study showed that CEO's cash compensation *is* sensitive to derivatives gains and losses, but only those gains and losses that are reflected on the income statement. Also, their compensation is three times more sensitive to derivatives gains than losses (Manchiraju et al., p. 22-27). Manchiraju et al. find evidence that strong corporate governance decreases the association between derivatives gains and losses and CEO cash compensation (Manchiraju et al., p.20). That's to say, managers tend to report derivatives gains to achieve earnings targets, especially if corporate governance is weak.

Mohanty and Nandha (2011) question whether oil price shocks in U.S. oil and gas companies affect their respective stock returns. A sample of 40 companies listed on NYSE is studied from July 1992 to December 2008. This study offers information on a rather unexplored topic. It assesses how price risk exposures

vary for these firms across time. The study also examines subsections of the oil and gas company samples, thereby determining if oil price shocks in one subsection can be associated with the stock returns in another subsection. Their results show that, in general, stock returns are significantly and positively associated with oil price movements. However, the association varies across time and industry subsections. Market price, book to market, firm size, and momentum characteristics are found to be significantly associated with stock returns of oil and gas companies. Furthermore, oil and gas exploration, oil equipment, and services have stronger associations than those firms with integrated services and those concentrating on pipelines (Mohanty and Nandha, p. 24).

Tehrani (2011) studies how profits and oil and gas reserves volume are associated with the market value of five major oil companies: Exxon Mobil, Shell, Total, BP, and Chevron. He uses panel data to evaluate the market value and financial performance of these companies and documented a direct association. Specifically, he finds that for every 1 million dollar increase in profits, market value increases by 8.5 million. In addition, market value increases by 14.5 million dollars per 1 million barrels of petroleum increase in reserves' volume (Tehrani, p. 6).

Plesch (2005) investigate the corporate social responsibility in regard to the law of property rights and deregulation and recommend some measures to increase the responsibility of corporate managers toward their investors and other stakeholders (plesch, p. 2).

Henry (2008) identifies 12 firms (11 commercial banks and 1 finance lessor) that early adopted SFAS 159 and later rescinded in the same year (2007) due to noncompliance with the requirements of the statement. The reversals suggest opportunistic use of the "implementation provision" of the newly issued statement. That is, the provision requires those companies electing the fair value option to "report the effect of the first remeasurement to fair value as a

cumulative-effect adjustment to the opening balance of retained earnings" (Henry, p.5). The advantage of this provision is that if a firm has unrealized losses on a security residing in accumulated other comprehensive income, upon electing to report it at fair value; the losses are automatically transferred to beginning retained earnings, thus bypassing the income statement. If the company subsequently sells the security, the firm will *not* report the loss on the income statement and the event will be disclosed in the footnotes. Yet, this is thought to be a technique to de-emphasize the loss, which is contrary to the spirit of the SFAS 159. This is the general idea behind the opportunism. The study is incrementally valuable because it studies the effects of SFAS 159. Henry specifically studies available-for-sale securities at initial adoption. She concludes that opportunistic use of SFAS 159 occurred because the adoption resulted in beneficial earnings for these firms.

Aliabadi et al. (2013) investigate the association between market value (stock price) and fair value disclosures of assets of 199 commercial banks since the implementation of SFAS 159 (2008 to 2010). While this study does not concern opportunistic use of SFAS 159, it builds on the studies of Henry and Guthrie et al. in that it helps to explain their contrasting results. It is an important study because it contributes to our knowledge on the effects of the use of the fair value option. Specifically, they used a standard four-stage stock market valuation model to hypothesize an association between the extent of fair value disclosure and change in stock price. Their conclusion is that no significant associations exist between these two variables, which supports the work of Guthrie and contradicts the work of Henry.

Similarly, Dorestani and Magopet (2013) found that the extent of fair value disclosure had no significant association with market risk for insurance companies from years 2008 to 2011. Additionally, earnings per share and a firm's size were found to be positively associated with market risk. Their sample consisted of 126 insurance companies derived from the Compustat database

with 504 firm year observations. This study extends the work of Aliabadi et al. (2013).

Guthrie et al. (2014) extends the work of Henry (2008) by examining a larger, more varied, sample of firms for the years 2007 and 2008. By using the SEC Edgar public company filing website, she selects 72 firms from the S&P 1500 Index, 21 of which are early adopters of SFAS 159 and 51 of which are regular (non-early) adopters. However, Guthrie, in contrast to Henry, arrives at the conclusion that there is only *minima*l opportunistic use of early adoption. She argues that this is attributed to sample differences (Guthrie et al., p. 29).

Aliabadi et al. (2015) examined the persistence of value relevance of the employee stock option in biotech industry. They conclude that the accounting for employee stock option, as described under SFAS 123, has incremental explanatory power compared to the APB 25 in predicting future abnormal return and market value of the current period (Aliabadi et al., p. 60).

As mentioned earlier, our study will resemble the studies conducted by Aliabadi et al. (2013) and Dorestani and Magopet (2013) except that our studies have focused on companies in oil and gas industry. To the best of our knowledge this is the first study to explore the association between the extent of fair value disclosure and market risk in this industry.

III HYPOTHESIS DEVELOPMENT

The purpose of our study is to provide more information on the effects of fair value reporting. We have extended the studies conducted by Manchiraju et al. (2014), Mohanty and Nandha (2011), Tehrani (2011), and Jin and Jorion (2006) by studying the companies on oil and gas industry. Additionally, we have added to the pool of knowledge on the subject of fair value reporting in line with those of Henry (2008), Guthrie et al. (2014), Aliabadi et al. (2013) and Dorestani and Magopet (2013). Our study, as mentioned earlier, is in line with those of Aliabadi et al and Dorestani and Magopet. That is, we base our hypothesis of the existence of a significant association between fair value disclosure and market

risk on the same four stage stock market valuation model utilized in prior studies. In general, the model shows how increased disclosure affects corporate performance (Figure 1

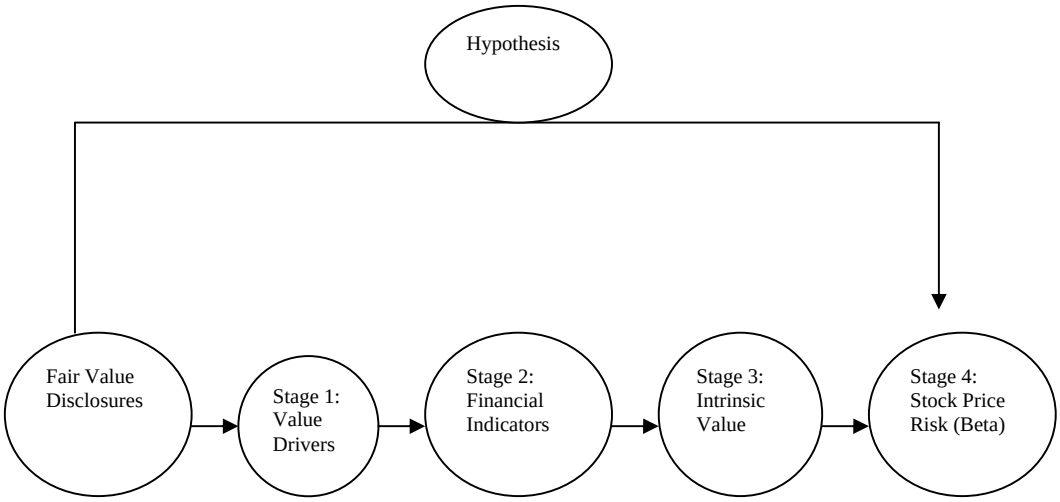

Figure 1
A Four-Stage Model of Corporate Market Valuation

This four stage model is one of the most commonly used frameworks in accounting literature and has been legitimized in prior studies such as those of Copeland et al. (2000), Dowling (2006), and Zhang and Rezaee (2009). An explanation of the four elements (stages) follows:

Stage 1: Corporate Value Drivers

As shown by Black et al (1998) and Dowling (2006), the act of investing creates basic value drivers of a firm. This is because investing serves to generate returns in excess of cost of capital (Return), sparks growth in business (Growth) and strengthens risk management (Risk). Likewise, Kreps and Wilson (1982), Milgrom and Roberts (1982), and Shapiro (1983), show that increased transparency can enhance these value drivers. This is because it increases sales revenue, helps the company expand into new markets and lowers business risk.

Stage 2: Financial Indicators

Consistent with prior research, we will show how fair value disclosure affects the basic value drivers of return, growth and risk. These, in turn, affect future financial indicators (Schultz and de Chernatony 2002).

1. Fair value disclosure and sales revenue: The work of Kreps and Wilson (1982), Milgrom and Roberts (1982), Rose and Thompsen (2004) and Shapiro (1983) show that a comprehensive disclosure of relevant information (fair value disclosure) can result in: (1) a more informed customer prior to product inspection and purchase. Additionally, increase in transparency is taken as a sign of assurance of product quality. (2) more informed customers that will buy more products, especially if quality is perceived. Of course, this increases sales revenue, which allows for increases in price premiums due to the resulting reduction in price elasticity. The work of Sabate and Puente (2003) show that fair value disclosure can create an umbrella brand and this brand enables firms to more easily branch out to new markets with new products and services. Furthermore, all of the above mentioned studies, in general, suggest that increased fair value disclosure can stabilize (reduce volatility) sales revenue. Thus, it is reasonable to claim that fair value disclosure is associated with increases in sales revenue, sales growth, and sales stability. All of these add up to more profits.

2. Fair value disclosure and costs: Milgrom and Roberts (1982) and Sabate and Puente (2003) show that suppliers, distributors, and financial institutions trust a firm that is more transparent in regards to fair value disclosure. Increased trust results in stronger relationships. The benefits to this include: (1) Heightened bargaining power of a firm with suppliers as compared to the firm's competitors who disclose less. (2) Reduction on marketing costs associated with distributors. (3) Access to less expensive capital resources, which is a direct result of being perceived as a less risky customer.

Stage 3: Intrinsic values:

There are a number of factors which comprise of a firm's intrinsic value, yet only tangible factors affecting costs and revenues are likely to be reported on financial

statements. In fact, companies build there stocks and differentiate themselves based on a variety of capital types such as human (employees), organizational (trademarks, databases, intellectual property), customer (brands, customer base) and stakeholder (corporate credibility and reputation). As shown by Barney (2001), stocks of capital can be primary sources of a firm's comparative advantage, which is explained in the resource-based theory of the company.

Stage 4: Stock Price

As put forth by Fama and French (1992, 1995), there are two competing views on how a firm's share price is determined. The first view follows the idea that the stock market is efficient and any new information is instantly reflected in stock price. Thus, the extent of fair value disclosure will affect stock price immediately. This view implies that intangible factors probably play a lessor role in stock price determination. The alternate view claims that the stock market is inefficient. Thus, stock price is determined via financial factors (transaction costs, taxes) as well as non-financial factors (analysts and investors expectations, etc.). In other words, expectations and behavior of investors drive supply and demand, which in turn drives stock price. In this view, the extent of fair value disclosure and transparency affect the intrinsic value of a business by which it affects stock price.

Based on the above information, we make the following hypothesis:

H1: There is a negative association between the extent of fair value disclosure and market risk (Beta) of U.S. oil and gas companies following the implementation of SFAS 159 in November of 2007.

IV. METHOD

To test this hypothesis, I used the following model:

$$BETA_{it} = \beta_0 + \beta_1 \text{SIZE}_{it} + \beta_2 \text{FVD}_{it} + \beta_3 \text{ROE}_{it} + \beta_4 \text{LVRG}_{it} + \beta_5 \text{EPS}_{it} + \beta_6 \text{PRC}_{it} + v_{it}$$

In this model, BETA_{it} (dependent variable) represents the risk of an investment resulting from the exposure to fluctuations in the stock market. If BETA (Compustat Mnemonic = BETA) is less than 1, the security is less volatile than

the market. If BETA is larger than 1, the security is more volatile than the market. $SIZE_{it}$ is the natural log of total assets (Compustat Mnemonic = AT). FVD_{it} is an index used to measure the extent of fair value disclosure of the oil and gas company. This index is calculated by dividing the amount of reported fair value of assets (Compustat Mnemonic = TVFA) by the oil and gas company's total assets (Compustat Mnemonic = AT). ROE_{it} is return on equity (Compustat Mnemonic = ROE). $LVRG_{it}$ is the debt to equity ratio, which is total liabilities (Compustat Mnemonic = LT) divided by total assets (Compustat Mnemonic = AT). EPS_{it} is earnings per share (Compustat Mnemonic = EPS). PRC_{it} is the natural log of closing stock price at the end of the year (Compustat = Price Closing Daily), which represents the *percent of change* in stock price. All variables are indexed for firm i at time t.

A hybrid of this model has been used in studies conducted by Aliabadi et al. (2013) and Dorestani and Magopet (2013).

V. SAMPLE AND DATA COLLECTION

Our original sample was comprised of 479 U.S. oil and gas companies. These firms were extracted from the Compustat/Research Insight database for the years 2008 to 2012. For each dependent and independent variable, we removed outliers inconsistent with the formula: Min < Sample < Max, where Min = Mean – 5x STD and Max = Mean + 5x STD. Also, companies with incomplete observations were removed. The final sample consists of 289 oil and gas firms.

The cleaned up data was run through the Stata software to obtain descriptive statistics, the Pearson correlation matrix, and regression outputs.

VI. RESULTS

Table 1 shows the descriptive statistics. As indicated, the mean for BETA is above 1 (at 1.35) and the sample consists of low, medium, and high risk firms. Additionally, the sample includes oil and gas companies of various sizes. That is, the log of total assets (SIZE) has a range of -.458865 to 12.3308 and a mean of 7.76923, which shows we sampled very small to quite large companies. FVD has

a maximum of .959 indicating that, at most, 96% of total assets are disclosed at fair value. The sample also is made up of companies with various levels of profitability, illustrated by a range of -1125.01 to 579.259. This interpretation applies to earnings per share (EPS) as well. LVRG (debt to assets) shows a maximum of liabilities exceeding assets by approximately 21%. The log of year end stock closing price (PRC) has a range of -2.408 to 5.357, which indicates at most there is a 5.4 % change in price.

Table 1: Descriptive Statistics

Variable	Obs	Mean	1rst Quartile	2nd Quartile	3rd Quartile	STD	Min	Max
BETA	923	1.35	.93	1.32	1.73	.666	-2	5
SIZE	921	7.76923	6.67134	7.936967	9.10829	2.06883	-.458865	12.3308
FVD	921	.06013	.00406	.01461	.05676	.121875	0.000	.959
ROE	927	-6.15052	-5.3545	7.05600	15.2145	81.7637	-1125.01	579.259
LVRG	921	.523946	.428512	.554140	.639220	.187445	0.00000	1.20865
EPS	926	.67	-.29	.88	2.30	7.543	-113	59
PRC	917	2.82300	2.23323	3.09513	3.64126	1.21160	-2.408	5.357

Table 2 shows the Pearson Correlation Matrix. Except for PRC and SIZE, there is no correlation between the independent variables. In any case, our examinations show that there is no sign of multicollinearity for our analysis.

Table 2: Pearson Correlation Matrix

	BETA	SIZE	FVD	ROE	LVRG	EPS	PRC
BETA	1						
SIZE	-.047	1					
FVD	-.064*	-.358***	1				
ROE	-.065**	.182***	-.057*	1			
LVRG	-.026	.186***	-.283***	-.198***	1		
EPS	-.092**	.169***	.003	.241***	-.165***	1	
PRC	-.172***	.659***	-.217***	.269**	.060*	.207***	1

*, **, ***, significant at .10, .05, and .01 level, respectively (two tailed).

Table 3. Regression Results

$$BETA_{it} = \beta_0 + \beta_1 \text{SIZE}_{it} + \beta_2 \text{FVD}_{it} + \beta_3 \text{ROE}_{it} + \beta_4 \text{LVRG}_{it} + \beta_5 \text{EPS}_{it} + \beta_6 \text{PRC}_{it} + v_{it}$$

BETA*	Coef.	Std. Err.	t	P > t
SIZE	**.043*** **	.015	2.853	.004
FVD	**-.541*** **	.196	-2.756	.006
ROE	.000	.000	-.385	.700
LVRG	**-.275** **	.128	-.2,140	.033
EPS	**-.008** **	.003	-2.238	.018
PRC	**-.145*** **	.024	-5.936	.000
_cons	**1.599*** **	.110	14.474	.000
Adj. R-squared: .053* **				

*, **, ***, significant at .10, .05, and .01 level, respectively (two tailed).
*BETA = Dependent Variable

Table 3 illustrates the results of the regression model. The coefficient of SIZE is highly significant and positive, indicating larger companies are riskier. FVD's coefficient of -.541 is highly significant and negative, which suggests that more fair value disclosure is associated with lower risk. This finding support our hypothesis of this study, indicating that more fair value disclosure in oil and gas companies corresponds to lower company's risk. LVRG is also significant and unusual because the result suggests that companies that borrow more are less risky. However, this may be because borrowers must adhere to strict lending policies put forth by creditors and governing bodies such as the SEC and PCAOB. Perhaps the firms that rely on debt are interpreted as being "worthy of credit" since banks obviously trust them enough to lend. To many, this may translate to them being more reliable and less risky. In short, our findings support our hypothesis. Furthermore, the EPS coefficient of -.008 is significant and negative, which logically means that companies that earn more (more profitable companies) are less risky. The coefficient of log of closing price (PRC) is negative and is highly significant indicating that the market reacts positively to companies that are perceived to have less risk.

VII. SUMMARY AND CONCLUSIONS

We have studied the association between the extend of fair value disclosure and a firm's market risk (beta) in companies operating in oil and gas industry. To the best of our knowledge this is the first study to investigate the association for oil and gas companies. As expected, we found a negative association between fair value disclosure and the market risk.

As mentioned earlier, Manchiraju et al. (2011) investigated relationships between CEO cash compensation and fair value gains and losses in derivatives for U.S. oil and gas firms. Manchiraju concludes that that strong corporate governance weakens any links between derivatives gains and losses and CEO cash compensation. Mohanty and Nandha (2011) inquire as to whether oil price shocks in U.S. oil and gas companies could affect their stock returns. Stock returns are found to be positively and significantly associated with oil price movements. However, the association varies across time and the subsections of the industry. Tehrani (2011) study how market responds to oil and gas reserves volume and finds a positive association between these two. Jin and Jorion (2006) examines whether or not hedging activities affect the market value of U.S. oil and gas companies. Their results suggest that hedging reduces a firm's stock price sensitivity to oil and gas prices.

Henry (2008) examines the possibility of a firm's opportunistic use of the early adoption of SFAS 159. She concludes that opportunistic use of SFAS 159 occurred because the adoption resulted in beneficial earnings for these firms. Guthrie et al. (2011) extends the work of Henry by exploring a larger collection of firms for 2007 and 2008. In contrast to Henry, Guthrie et al. finds that there is only minimal opportunistic use of early adoption of SFAS 159. Aliabadi et al. (2013) make inquiries on the association between market value and fair value disclosures of assets of commercial banks since the implementation of SFAS 159 (2008 to 2010). Their conclusion is that no significant associations exist between these two variables, which upholds the conclusions of Guthrie et al. and opposes the finding of Henry. Finally, Dorestani and Magopet (2013) found that

the extent of fair value disclosure had no significant association with market risk for insurance companies from years 2008 to 2011.

Our data is limited to the years 2008 to 2012 of oil and gas companies listed in Compustat. Future studies on fair value disclosure in oil and gas firms are necessary to support or refute our finding.

We conclude that there is a highly significant negative association between the extent of fair value disclosure (FVD) and market risk (BETA). We found a positive association between a firm's size (SIZE) and market risk (BETA), indicating that larger firms are perceived to be riskier than smaller firms. Moreover, we found significant negative associations between stock price (PRC) and market risk (BETA) as well as significant negative associations between market risk (BETA) and earnings per share (EPS) and firm's borrowing (LVRG). Our findings disagree with those of Dorestani and Magopet (2013), whose study most resembles this one but in another industry, indicating that the above mentioned associations may vary from one industry to another. We believe our paper has opened the door for future studies in different industries and longer time period.
We believe our study is the first in this area and our findings contribute to the current pull of knowledge in fair value and voluntary disclosures. Our research findings can provide standards setters and policy makers with supportive evidence that can help them to evaluate the cost/benefit of requiring the disclosure of fair value by companies operating in oil and gas industry, which we believe is an important policy implication of our research.

REFERENCES

Aliabadi, S., Dorestani, A., and R. Afifi. 2013. The Effects of SFAS No. 159, Fair Value Disclosure, On Commercial Banks. *Journal of Academy of Business and Economics.* 13(1): 25-34

Aliabadi, S., Dorestani, A., and D. Parzonko (2015). Persistence of value relevance of the employee stock options: An investor perspective in biotech industry. Accountancy Business and Public Interest. 14: 60-80.

Barney J. 2001. Resource-based theories of competitive advantage: A ten-year retrospective on the resource-based view. *Journal of Management* 27: 643-650

Black, A., Wright, P., and J. E. Bachman. 1998. In search of shareholder value: Managing the drivers of performance. London: Pitman.

Copeland, T., T. Koller, J. Murrin and W. Foote . 2000. Valuation: Measuring and managing the value of companies, 3rd Edition, John Wiley & Sons, New York,

Dorestani, A., and A. Magopet. 2013. An Empirical Analysis of SFAS 159, Fair Value Option, of U.S. Insurance Companies. *Journal of Business Issues*. 1: 37-51

Dowling, G. 2006. How good corporate reputations create corporate value. *Corporate Reputation Review* (9): 134-143.

Fama, E., and K. French. 1992. The cross-section of expected stock returns. *Journal of Finance* (47): 427-465.

Fama, E., and K. French. 1995. Size and Book-to-Market Factors in Earnings and Returns. *The Journal of Finance* (50): 131-155.

Guthrie, K., Irving, J. H., and J. Sokolowsky. 2008. Accounting Choice and the Fair Value Option. *Social Science Research Network*. 17 Feb. 2014: http://www.ssrn.com/en/.

Henry, E. 2008. Early Adoption of SFAS 159: Lessons from games(almost)played. *Social Science Research Network*: http://www.ssrn.com/en/.

Jin, Y., and P. Jorion. 2006. Firm Value and Hedging: Evidence from U.S. Oil and Gas Producers. *Social Science Research Network*. http://www.ssrn.com/en/.

Kreps, D. M., and R. Wilson. 1982. Reputation and imperfect information, *Journal of Economic Theory* (27): 253-279

Manchiraju, H, Hamlen, S., Kross, W., and I. Suk. 2011. Fair Value Gains and Losses in Derivatives and CEO Compensation. *Social Science Research Network*. 17 Feb. 2014: http://www.ssrn.com/en/.

Milgrom, P., and J. Roberts. 1982. Limit pricing and entry under incomplete information: An equilibrium analysis. *Econometrica* (50): 443–59.

Mohanty, S., and M. Nandha. 2011. Oil Risk Exposure: The Case of the U.S. Oil and Gas Sector. *Social Science Research Network*. http://www.ssrn.com/en/.

Plesch, D. (2005). Corporate social responsibility: Questions of equality before the law, property rights and de-regulation. Accountancy Business and Public Interests. 4(2): 1-27.

Rose, C. and S. Thomsen. 2004. The impact of corporate reputation on performance: Some Danish evidence. *European Management Journal* (22): 201-210.

Sabate, J. M. and E. Puente. 2003. Empirical analysis of the relationship between corporate reputation and financial performance: A survey of the literature', *Corporate Reputation Review* (6): 161-177.

Schultz, M. and L. de Chernatony. 2002. The challenge of corporate branding. *Corporate Reputation Review* 5: 105-112

Shapiro, C. 1983. Consumer protection policy in the United States. *Journal of Institutional and Theoretical Economics* (136): 527-862.

Tehrani, F, A. 2011. Evaluation of influential factors on market values of five major international oil companies..., *Social Science Research Network*.: <http://www.ssrn.com/en/.

Zhang, R and Z. Rezaee. 2009.Do credible firms perform better in emerging markets? Evidence from China. Forthcoming. *Journal of Business Ethics* 38.