

# **A Brief Look at the Dividend Paid in Petroleum Industry**

Stephanie Lewis and Raj Kohli

## **Abstract**

The value of shareholder wealth in the petroleum industry is not dependent on the relationship between actual dividends or earnings growth. There does not appear to be a positive relationship between stock prices, earnings, and dividend growth for the sample set in this paper used to represent the petroleum producing industry. The companies in this industry appear to have expectable growth strategies and are preparing for long-term profitability.

## **Introduction**

Sustained high-energy prices have allowed most companies in the petroleum industry to maintain relatively high profits for the past two years. Demand for petroleum has increased “2.6% over 2004” (Lee, 1929). Several analysts, including Wall Street and Value Line analysts, claim the industry have reached price peaks, therefore expectations of declines are expected in the near future. This suggests investments in petroleum producing industries should be carefully considered since “energy stocks are trading water” (Lee, 1929).

One point of importance deals with the fact that the petroleum industry “plays a crucial role in our economy...[and] not only do changes in oil prices affect consumers directly,” but affects the economy as a whole (Lee, 1929). For instance, “real gross domestic product [is expected to decrease] by 1%...and 400,000 jobs lost by year end” (Seesel, 2). Any potential uneasiness in the market creates increases in the price of crude oil. The inflationary conditions present in the market created by higher oil prices leaves reason to believe that consumer confidence is dropping. In fact inflation is a definite reality as the Fed continues to raise the federal funds rate and “the consumer confidence levels are lowest since 1992” (Economist, 1). These indicators suggest the economy as a whole may experience a slight downturn.

## *Objective*

The objective of this paper is to determine whether the petroleum industry will be able to maintain profitability and provide shareholder wealth maximization as their assets age and pressures mount to build more refineries and find new property sources. Many factors affect the profitability of companies, but for our purposes we shall assume that “dividends convey information about current and future earnings...[and] evidences indicates a positive relationship between stock price and declaration of dividends” (Deshmukh, 108). This assumption is crucial and evidence supports the positive relationship between stock prices, earnings, and dividends.

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Stephanie Lewis is a student at Indiana University South Bend and Raj K. Kohli is professor of Finance at Indiana University South Bend.

### Hypothesis

The fact that higher retention rates are present in all 15 companies comparably to industry standards suggests companies are withholding profits in order to expand operations. These companies can reduce profitability loss through the retention of earnings. While another view holds that dividends signal optimism for increasing the value of shareholder wealth, thus the result indicates a better overall firm value. Both theories have empirical evidence to support them, but for the petroleum industry this may mean that more funds are needed to grow and therefore these companies will hit capital markets to raise funds. For this industry, paying dividends cause shortages of funds needed to expand. Preparing for sustained profitability by increasing production, increasing inventories, and concentrating more capital in research and development is essential due to higher operating costs, the need for research in new energy areas, and advancing operating technology.

### Data

Annual data on stock prices, earnings, and dividends from 1994 through 2004 were collected for fifteen companies in the Petroleum industry. Every company was selected based on the number of analysts consistently following this particular group of publicly traded companies. The data for the following fifteen companies was collected:

Apache Corporation (2) Anadarko (3) Berry Petroleum (4) Burlington Natural Resources (5) Chesapeake (6) Devon (7) Encore Acquisition (8) EOG (9) Forest Oil Corporation (10) Houston Exploration (11) Noble Energy (12) Pioneer Natural Resources (13) Pogo Producing (14) Swift and (15) XTO

All the companies have strong financial ratios and decent capital structures comparably to industry standards. Earnings have soared over the last ten years and there is an inward trend in stock prices, In addition, the speculative activity present in our markets have helped boost the market values over intrinsic values based on the pricing market for oil and the expectation of future earnings.

### Methodology

Simple linear regression analysis tests were conducted on all fifteen companies and the industry using the following three equations:

$$(1) P_i = a + BE_i + e_i$$

$$(2) P_i = a + BD_i + e_i$$

$$(3) E_i = a + BD_i + e_i$$

*Where:*

Pi is the stock price for the company or industry

Ei is the earnings for the company or industry

Di is the dividends for the company or industry

ei is the error term of the regression

a is the intercept term of the regression

B is the slope of the regression. The significance level of beta will indicate if the two variables for the equation are significantly related. For example, a p-value of less than 0.01 for beta of the equation indicates that earnings at 1 percent significance level affect the stock price.

### **Results**

The results of the regression test are reported in Table I, II, and III. These results indicate that, on average, there is no apparent relationship between stock prices, earnings, and dividends during the analysis period. For example, the results in Table I shows that none of the betas are significant, thus indicating no statistical relationship between stock price and earnings during the sample period. Similarly, beta coefficients in Table III are all significant except for Devon, which is significant at the 10% level.

The results in Table II indicate different results for the companies listed. While the beta coefficients for Burlington and Noble at the one percent level, Berry and Devon are significant at the 5 percent level. One possible reason for this may be due to the fact that over the last two years earnings have soared and dividends did not increase above market expectations. For example, Berry Petroleum average market estimates of dividends were off approximately 7% in 2003 and 13% in 2004. For Burlington, estimates were off approximately 3% in 2003 and 12% in 2004. On average for approximately seven of the ten years in question, these companies paid a flat dividend every quarter regardless of earnings, which historically held an upward trend, until the last couple of years in the analysis. When the companies decided to payout higher dividends this information was not included in the valuation of these stocks.

Table I P<sub>0</sub> to g<sub>1</sub>  
 Regression Results  
 Annual Data 1994 through 2005  
 To find relationship between Stock Price (Y) and Earnings Growth (X)

Dividends Growth Data for Encore Acquisition, Houston Exploration and SWIFT are not Available. Earnings Data for Encore only from 2001

Firm	Alpha	p-value	Beta	p-value	R <sup>2</sup>
Apache	22.11592	0.000389	3.653339	0.399002	0.0801
Pioneer	25.08853	0.001005	-0.4955	0.227283	0.047561
Forest	31.99338	3.11E-05	1.63493	0.633202	0.026389
Pogo	28.19	0.000149	25.52	0.148471	0.0264
Noble	18.029	7.47E-06	0.178618	0.817356	0.0062
Berry	41.867	1.91E-05	0.5674	0.256745	0.1401
Encore	23.5	0.019346	-14.25	0.10153	0.807249
Burlington	22.201	1.48E-05	0.0849	0.430268	0.0704
Anadarko	40.681	3.33E-05	1.2249	0.629193	0.027
XTO	7.2998	0.019397	0.3079	0.83632	0.005
Houston	30.27	0.000333	-0.5144	0.850728	0.0054
Chesapeake	9.3367	0.00276	0.0333	0.854839	0.0039
Devon	20.653	4.88E-05	0.0092	0.776173	0.0094
EOG	17.32	0.000202	-0.0586	0.474051	0.0584
Swift	18.042	0.000258	0.6606	0.686032	0.019
Industry	343.9817	4.33E-05	0.909228	0.292478	0.121965

Table II  $P_0$  to  $g_D$   
 Regression Results  
 Annual Data 1994 through 2005  
 To find relationship between Stock Price (Y) and Dividends Growth (X)

Dividends Growth Data for Encore Acquisition, Houston Exploration and SWIFT are not available. Earnings Data for Encore only from 2001

Firm	Alpha	p-value	Beta	p-value	R <sup>2</sup>
Apache	23.53761	0.001551	40.20104	0.204723	0.0748
Pioneer	NA		NA		NA
Forest	NA		NA		NA
Pogo	35.53799	4.92E-06	-3.12767	0.205553	0.1545
Noble	16.38552	2.88E-07	76.25799	0.000136	0.5522
Berry	37.434	0.000106	246.9144	0.02593	0.18
Encore	NA		NA		NA
Burlington	17.20601	4.14E-05	410.5426	8.99E-06	0.8498
Anadarko	34.57832	0.000628	57.26118	0.220609	0.4927
XTO	7.6241	0.01485	1.7446	0.526103	0.0461
Houston	NA		NA		NA
Chesapeake	9.7354	0.00302	-0.1862	0.684083	0.0193
Devon	19.27371	0.000924	45.34494	0.046242	0.2637
EOG	10.701	2.9E-05	87.294	5.41E-05	0.85
Swift	NA		NA		NA
Industry	333.4269	0.000163	-2.02311	0.801239	0.007415

Table III <del>gr to gp</del>					
Regression Results					
Annual Data 1994 through 2005					
To find relationship between Earnings Growth (Y) and Dividends Growth (X)					
Dividends Growth Data for Encore Acquisition, Houston Exploration and SWIFT are not available. Earnings Data for Encore only from 2001					
	Alpha	p-value	Beta	p-value	R2
Apache	0.113834	0.742049	-0.85828	0.657332	0.00228
Pioneer	NA		NA		NA
Forest	0.161405	0.725216	-0.03865	0.877928	0.002767
Pogo	0.1521	0.095689	0.008734	0.85017	0.0028
Noble	-0.5301	0.581515	10.423	0.598298	0.0321
Berry	-2.7587	0.498877	23.651	0.754153	0.0115
Encore	NA		NA		NA
Burlington	9.5164	0.309861	123.89	0.657632	0.0228
Anadarko	-0.5951	0.548459	5.0371	0.433802	0.0694
XTO	0.0678	0.905326	-0.6911	0.262311	0.1371
Houston	NA		NA		NA
Chesapeake	1.3499	0.775694	-0.1373	0.873868	0.003
Devon	-1.1886	0.964772	-288.55	0.062189	0.3348
EOG	17.237	0.258985	-93.868	0.476453	0.0578
Swift	NA		NA		NA
Industry	-0.79473	0.593362	-2.44255	0.418214	0.074051

\*Significant at 10 percent Level.

<sup>†</sup>Dividends Growth Data for Encore Acquisition, Houston Exploration, Pioneer and Swift is not available. Earnings Data for Encore Acquisition is Available from 2001 through 2004

### Conclusion

The industry historically has been a target for speculation, causing significant price increases in the value of the common stock prices.<sup>1</sup> The long-term outlook appears mixed with operating costs and aging assets representing most in the industry. Overall the companies are preparing for long-term growth. The recent pricing environment has allowed most to decrease debt holding and increase their bottom lines. The short-term concern for this industry and these companies is natural gas and oil prices must remain stable in order to maintain the same levels of profitability exhibited in the past two years.

The volatile pricing environment has helped increase the bottom line of these companies on the whole every year in question. These companies depend on strong oil and natural gas prices to maintain profitability. The industry maintains relatively low payout ratios in order to have sufficient funds to maintain growth strategies. Therefore the assumption concludes that for the petroleum industry dividends and earnings do not provide the evidence needed to support a positive relationship between stock prices, dividends, and earnings for this particular sample group.<sup>2</sup>

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<sup>1</sup> Behavioral finance does play a role in the price hike and declines.

<sup>2</sup> All statements regarding overall performance were taken from analysis of past performance and are included in the bibliography of this paper.

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