ERASMUS UNIVERSITY ROTTERDAM

Erasmus School of Economics

Bachelor Thesis: Has BHP Billiton overpaid for the acquisition of Petrohawk? Valuation Case

Toghrul Eyvazov

405045

Supervised by Dr. S. Obernberger

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1. Introduction

Mergers and acquisitions have been a topic of specific interest for academic and business world (Angwin, 2015). The vast popularity of M&A transactions and the significance of interest in financial and academic world are attributed to the amount of resources involved in such transactions. During the late 1990s and the beginning of 2000s trillions of USD have been spent on various acquisitions and mergers. For instance, the total value of mergers of Citicorp and Travelers, BankAmerica and National Bank, Banc One and First Chicago, and Northwest and Wells Fargo, exceeded 100 billion USD (Moore & Siems, 1998).

Based on the corporate finance theory of maximizing shareholders' wealth, the primary motives for mergers and acquisitions are creation of additional value for shareholders (Rappaport, 1997). M&A transactions help to achieve this target through various ways. For example, M&A deals can be driven with the primary motive of obtaining economies of scale and/or operational synergy (DeYoung, Evanoff, & Molyneux, 2009). Additionally, M&A deals can be used to increase the present market share or in some cases obtaining monopolistic power. The latter motive, however, is most likely to be challenged by the government (Ross, Westerfield, & Jaffe, 2012).

Despite significant amount of research on the nature and motives of M&A deals, a lot of questions have still not been fully answered. One of the commonly discussed issues in the Mergers and Acquisitions is the proper valuation of target companies. While it is clear, that any valuation technique is dependent on a various set of assumptions, in most cases it seems that valuation of acquisition target is mispriced. There is evidence that most of the corporate mergers during 1990s and in the earlier period failed to add any value to acquiring shareholders in terms of stock value appreciation (Eccles, Lanes, & Wilson, 1999).

Even though the failure of mergers to add any value can be attributed to the acquirer's management, misestimating of economic benefit, the price paid for target company is also significant. "Companies need to understand more rigorously the full economic value of any potential purchase, and they need to be steadfastly unwilling to pay more" (Eccles, Lanes, & Wilson, 1999).

The valuation of a target consists of valuing the intrinsic value of the company on a standalone basis and also considering the potential synergic impact it will have. Synergistic valuation is based on cost savings or improved revenue generation following the target acquisition (Eccles,

Lanes, & Wilson, 1999). Therefore, the price paid for acquisition company should reflect both intrinsic value of target company and synergic value added. Nevertheless, while the synergic value of target is purely judgmental based, the intrinsic value of it may be computed with less degree of uncertainty.

In this paper, I will perform the analysis of proper valuation around specific acquisition of Petrohawk by BHP Billiton in 2011. On July 15, 2011 BHP publicly announced its intention to acquire Petrohawk. In the all cash based acquisition of Petrohawk, BHP Billiton paid 12.1 billion USD in cash (38.75 USD per share) to shareholders of Petrohawk. The price paid by BHP Billiton per share of Petrohawk represented 65 percent premium to the market price of Petrohawk. Following the acquisition of Petrohawk by BHP Billiton in 2011, the share of BHP Billiton dropped by 4 percent, while shares of Petrohawk jumped by 63 percent (Smith & Kebede, 2011). BHP Billiton is a multinational company with its operations primary concerned with mining, metals, and petroleum (Billiton, 2011). Petrohawk, in contrast, is an oil and gas company focusing on exploration, development, and production of oil and natural gas (Bloomberg, Petrohawk Energy: Company Overview, 2017).

As it is seen, the acquisition was performed with the goal of increasing market share and obtaining potential synergies. CEO of BHP Billiton, Michael Yeager, stated "The proposed acquisition of Petrohawk is consistent with our well defined, upstream, Tier 1 strategy and provides us with even greater exposure to the world's largest energy market, while also broadening our geographic and customer spread" (Billiton, 2011).

Several years later, in 2016, Chief Executive Officer of BHP Billiton in a public interview admitted that acquisitions made during 2011 did not represent a good investment after the company had overpaid for those transactions (Chambers, 2016). However, from another perspective the poor performance of acquisitions made by BHP Billiton could be attributed to significant decrease in the price of oil, which negatively impacted the oil industry.

Nevertheless, the admission by CEO of BHP Billiton, shows that proper valuation of target companies is considered to be a major issue in M&A transactions, as well as in corporate finance. 65 percent premium paid for stocks of Petrohawk shows that either intrinsic or synergic value of the company were completely mispriced. It seems that Board of Directors of Petrohawk were aware of this mispricing, since upon announcement of acquisition Board of Directors unanimously advised shareholders to accept the offer (Lack, 2011).

In this paper, using discounted cash flow approach I will estimate the acquisition price of Petrohawk and compare it to price paid by BHP Billiton. Considering this, I formulate my research question as follows:

Has BHP Billiton overpaid for the acquisition of Petrohawk?

The findings of this paper suggested that intrinsic value of Petrohawk Energy Corporation based on the discounted cash flow approach significantly exceeded the price paid by BHP Billiton. Moreover, a calculation of the price based on multiples approach revealed the same picture. Based on analysis of most multipliers the price paid by BHP Billiton was much less than the calculated price. The standalone value of Petrohawk Energy Corporation calculated based on discounted cash flow approach and multipliers approach exceeded the amount paid by BHP Billiton to acquire Petrohawk.

The standalone value of Petrohawk, based on discounted cash flow valuation approach, equals to USD 20.3 billion, which is 8.2 billion more than BHP Billiton has paid for acquisition. Moreover, the standalone value based on multiples approach equals to USD 13.8 billion, which is also more than BHP Billiton has paid for it. It seems that even without considering the synergetic gains, BHP Billiton has underpaid for Petrohawk.

Furthermore, the analysis of post-merger performance of BHP Billiton did not reveal any synergetic gains obtained. Based on the interview of CEO of BHP Billiton (Billiton, 2011), the acquisition of Petrohawk should have resulted in synergetic gains in terms of reduced costs. The analysis of post-merger performance of expenses of BHP Billiton, showed that reduction in expenses was not statistically significant to conclude that intended cost efficiency was achieved.

The rest of the paper is organized as follows. The next section presents the overview of industry and tries to derive growth rates from understanding of industry trends. Valuation section presents the assumptions and approaches used during preparation of pro-forma financial statement with 5-year time horizon. Post-Merger Performance of BHP Billiton section as the name implies analyzes the post-merger performance of BHP Billiton. And the final section concludes the paper, discusses the obtained results, and what improvements can be made.

2. Industry Analysis

Petrohawk Energy Corporation (hereinafter "Petrohawk") is a company registered in Houston, Texas. Previously, the company was named Beta Oil and Gas before the name switch was approved by shareholders on July 15, 2004 (Oil and Gas Finance Journal, Oil Markets: Petrohawk Energy Corporation, 2016). Petrohawk is primarily engaged in exploration, development, and production of natural gas fields in the territory of the United States. Since its foundation in 2003, Petrohawk has been engaged in various mergers and acquisitions. In 2004, Petrohawk acquired Wynn-Crosby for 425 million USD (Hall, 2004). Following the acquisition of Wynn-Crosby, Petrohawk merged with Mission Resources (Bloomberg, 2017). During 2006, Petrohawk further acquired KCS Energy for 80 million common shares and 900 million cash (Bloomberg, 2017). In 2008, Petrohawk finalized the acquisition of Haynesville Shale and began its largest drilling operation with a cost of more than 500 million USD (Oil and Gas Finance Journal, 2017) .

Exploration, production, and development of oil and natural gas represents most of the operating revenue of Petrohawk, while lower amounts are attributed to marketing and midstream revenue resources. The financial results of the company are dependent on various factors. Nevertheless, the factor with the most significant impact are production volume and price of oil and natural gas. Production capacity of oil and gas is dependent on availability of natural reserves. Therefore, to maintain its production volume Petrohawk needs to continue acquisition and/or better utilization of new and old reserves. The price of oil and natural gas is market driven and impacted by various factors such as overall economic activity, weather, market supply and demand, inventory storage levels, etc. As of December 2011, Petrohawk has employed 862 employees.

The operation of Petrohawk Energy falls under SIC code 1311, which stands for Crude Petroleum and Natural Gas. As defined by the United States Department of Labor *"Establishments primarily engaged in operating oil and gas field properties. Such activities may include exploration for crude petroleum and natural gas, drilling, completing, and equipping wells… This industry includes the production of oil through the mining and extraction of oil from oil shale and oil sands and the production of gas and hydrocarbon liquids through gasification, liquid faction, and pyrolysis of coal the mine site"*.

Oil and natural gas industry comprises the very cornerstone of the world energy. Even though the oil and natural gas industry is characterized by continuous demand, mismatch of demand and supply accompanied by other factors negatively impacts the whole industry. Not

surprisingly, the oil and gas industry has experienced several economic crisis during the last couple of decades.

Following the financial crisis of 2008, the oil and gas markets started its recovery in 2010. Demand for oil and natural gas has increased to pre-crisis level. The increased demand for oil in most non-OECD countries was driven by resurgence of the economy and increasing needs for energy.

According to International Energy Agency (2011) "modern financial markets amplify trends rooted in fundamentals and influence short-term prices, even though there is still belief that ultimately market sentiment and expectations feed off both the prompt and anticipated future supply/demand picture". Therefore, the prognoses for oil market is crucially influenced by government actions "to promote energy efficiency and the impact of price signals on behavioral changes at a global level".

According to prognosis by International Energy Agency (2011), the global demand for oil is going to increase from 88.02 million barrel per day in 2010 to 95.25 million barrel per day in 2016. Also it should be noted, that demand for oil and natural gas is strongly correlated with GDP growth. Higher GDP growth results in high demand for oil and gas, since increasing GDP requires significant energy resources. The global GDP forecast is increasing from 4.29 percent in 2011 to 4.63 percent in 2016.

Table 1. Global Balance Summary (Base Case)

Global Balance Summary (Base Case)
(million barrels per day)

|	2010	2011	2012	2013	2014	2015	2016
GDP Growth Assumption (% per year)	4.84	4.29	4.43	4.44	4.53	4.56	4.63
Global Demand	88.02	89.30	90.63	91.92	93.13	94.24	95.26
Non-OPEC Supply	52.71	53.28	54.18	54.22	54.33	55.11	55.36
OPEC NGLs, etc.	5.35	5.88	6.33	6.69	6.97	7.31	7.41
Global Supply excluding OPEC Crude	58.06	59.16	60.51	60.91	61.30	62.41	62.77
OPEC Crude Capacity	35.72	34.29	34.44	35.89	36.93	37.67	37.85
Call on OPEC Crude + Stock Ch.	29.96	30.14	30.12	31.02	31.83	31.82	32.49
Implied OPEC Spare Capacity[1]	5.76	4.15	4.32	4.88	5.10	5.85	5.36
Effective OPEC Spare Capacity[2]	4.76	3.15	3.32	3.88	4.10	4.85	4.36
as percentage of global demand	*5.4%*	*3.5%*	*3.7%*	*4.2%*	*4.4%*	*5.1%*	*4.6%*
Changes since December 2010 MTOGM							
Global Demand	0.58	0.52	0.60	0.74	0.83	0.85	
Non-OPEC Supply	-0.07	-0.13	0.39	0.68	0.72	1.14	
OPEC NGLs, etc.	0.06	0.04	0.07	0.07	0.08	0.25	
Global Supply excluding OPEC Crude	-0.02	-0.09	0.46	0.75	0.80	1.38	
OPEC Crude Capacity	0.22	-0.93	-0.87	0.23	0.27	0.73	
Call on OPEC Crude + Stock Ch.	0.60	0.62	0.14	-0.01	0.03	-0.53	
Effective OPEC Spare Capacity[1]	-0.37	-1.55	-1.01	0.24	0.24	1.26	

1 OPEC Capacity minus 'Call on Opec + Stock Ch.'   2 Historically effective OPEC spare capacity averages 1 mb/d below notional spare capacity.

Nevertheless, according to the forecast provided by International Energy Agency (2011), the mismatch between supply and demand of crude petroleum is most likely to occur from time to time.

Figure 1. Medium-Term Oil Market Balance (Base Case)
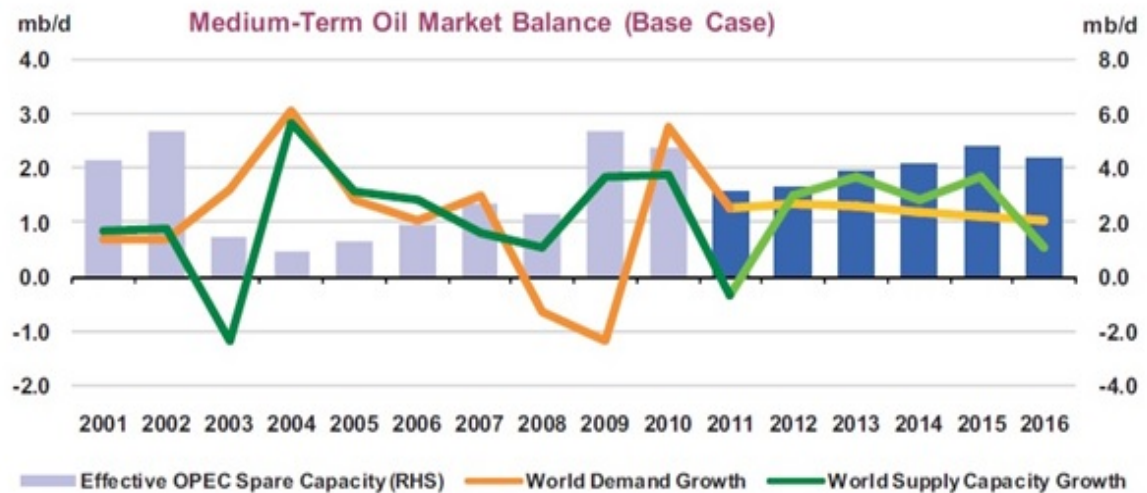
Based on the figure 1, mismatch between supply demand is about to occur during 2013 and 2015. As was mentioned, the mismatch between supply and demand is a significant driver of the oil price. The figure above presents the base case scenario, the gap between supply and demand will be much higher in case of lower GDP growth than expected. As depicted in figure 2, the gap between supply and demand widens as GDP growth declines, which ultimately results in decline in energy resources.

Figure 2. Medium-Term Oil Market Balance (Lower GDP Case)
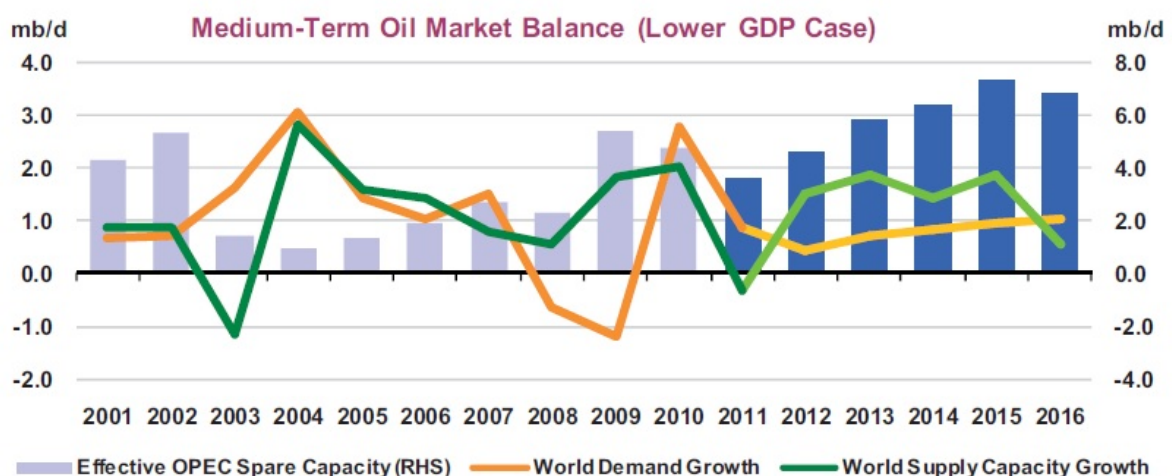
Lower GDP growth results in wider mismatch gap between supply and demand starting from

2012 and continuing until 2015. As shown in the figure 2, in 2016 ultimately the price eliminate the mismatch and demand exceeds the supply level.

Thus, to summarize it all, the oil and natural gas industry has been on growing trend since the third quarter of 2010. Based on the forecast of International Energy Agency (2011) the increase in demand for oil and gas will further continue up to 2016, and the price level of oil will be 15-20 USD per barrel higher than in 2010. Furthermore, even though the price of oil exhibits excessive volatility, overall the price has been on incline.

Nevertheless, it should be mentioned again that forecast of International Energy Agency (2011) is based on the main assumption of normal global GDP growth. As shown by case scenario of lower GDP growth, in case of lower GDP growth the gap between supply and demand widens significantly, which will necessarily negatively impact the price of oil.

Considering this, negative case scenarios will be assessed in sensitivity analysis to analyze the impact of reassessed GDP growth on the valuation of Petrohawk Energy Corporation.

3. Valuation

The purpose of this valuation is to assess the value of Petrohawk Energy Corporation and compare it to the acquisition price paid by BHP Billiton. One of the key assumptions used in this valuation is that assets of the company on a standalone basis do not have greater value than as profit-generating assets.

3.1 Discounted Cash Flow: Theoretical Background

The discounted cash flow valuation approach is based on the idea that value of assets today equals to the present value of all monetary benefits received discounted at some appropriate discount rate (Damodaran, 2006). Discounted Cash Flow is therefore considered as a broader version of Dividend Discount Model. This is based on the idea that in the strictest form that the only cash received by an investor is dividends (Damodaran, 2006).

The crucial difference between two models is the type of cash inflow as well as discount rate. Since the discounted cash flow approach values the whole company, all future cash flows are used in estimation of total value of assets (Damodaran, 2006). In dividend growth model, however, only cash flow received in the form of dividends are appropriate for valuation purposes. Another crucial difference is the use of an appropriate discount rate, which reflects the riskiness of the cash flows (Damodaran, 2006). Discounted cash flow approach values the whole company, therefore the overall riskiness of the assets is best captured by cost of capital of the whole firm. Dividend discount model in the contrast values the equity portion of the company, therefore the cost of equity is the appropriate discount rate (Damodaran, 2006).

Nevertheless, the use of dividend discount model is only limited to constantly dividend paying companies (Damodaran, 2006). Couple variations of discounted cash flow approach exist, beside the dividend discount model. The other two most commonly used valuation approaches are free cash flow to the firm and free cash flow to the equity approaches (Damodaran, Investment Valuation, 2006). Free cash flow to the firm approach is best suitable for valuing the whole firm, while free cash flow to equity only equity portion (Damodaran, 2006).

Discounted cash flow approach has an inherent difficulty related to the estimation of flow pattern related to the future monetary benefits. Three most commonly used approach are stable growth model, two stage growth model, and H-model (Damodaran, 2006).

Stable or steady growth rate assumes that firm will grow at a stable rate. The stable growth rate is based on an economic idea that earnings of the company in the long-term should exhibit steady growth (Damodaran, 2006). If the company's performance exhibits above the average industry growth rate, this growth should be vaporized as more companies enter the industry. (Mankiw, 2014). Even if the firm operates in the steady growth rate environment another issue relates to determination of what growth rate constitutes the stable growth rate (Damodaran, 2006).

According to Damodaran (2006), the stable growth rate should be equal or less than growth rate of the economy in which the entity operates. Nevertheless, Damodaran (2006) further states that analysts may not agree with the above mentioned assumption of stable growth rate for at least the following three reasons.

First, based on the uncertainty in the long-term economic growth estimate as well as inflation rate of the economy, the differences are most likely exist between benchmark growth rate and the actual growth rate. The analysts with different expectation of growth rate of the economy and inflation rate, therefore will have different benchmark amounts for expected stable growth rate (Damodaran, 2006).

Second, even though the growth rate of the company may not exceed the overall growth of the economy, it can be less (Damodaran, 2006). This means while the growth rate may not exceed the overall growth economy, the analysts may still have different expectations of lesser economic growth for the firm.

Finally, if the analyst believes that the firm is more likely to endure higher growth than the overall growth of economy due to above average growth in prior years, this rate can be used (Damodaran, 2006). However, this rate may not be greater than 1-2 percent, since the use of the higher growth rate casts doubt on correctness of use of the stable growth assumption (Damodaran, 2006).

Another significant concern related to the stable growth is whether the stable growth is constant over time. As stated by Damodaran (2006) "the assumption that growth rate…has to be constant over time is a difficult assumption to meet, especially given the volatility of earnings". According to Damodaran (2006), despite volatility, stable growth rate can be used if average of earnings volatility is close to stable growth rate.

Overall, the stable growth rate is suited best for companies growing at a rate lower than a nominal growth of the economy (Damodaran, 2006). As stated by Damodaran (2006), the scenario analysis of the growth rate fluctuations have significant impact on the expected value of the assets. Therefore, steady growth model does not well fit for companies with above average earnings.

Two-stage growth model, in contrast to steady growth model, assumes that in the first stage firm grow rapidly and in the second stage the growth becomes stable (Damodaran, 2006). This model suits best for valuation of companies, which experience rapid growth period. Earnings growth experienced during the period of high growth consequently will decline to the steady growth rate. Issues pertaining to the steady growth rate is also applied to the two-stage growth. The distinguishing difference between the two models is that, two-stage growth model adaptable for firms exhibiting higher growth rate (Damodaran, 2006).

Another model of growth is H-model. Initially, the H-model of growth was developed by Fuller and Hsia (1984). In principle, the H-model is also two-stage growth model, with one significant difference. In contrast to two stage growth model, where in high growth stage the growth rate is stable, in H-model of growth, the growth rate linearly declines (Damodaran, Investment Valuation, 2006). The steady growth rate characteristics is similar to the initially described steady growth stage.

There is also three stage growth model, which combines features of both the two stage model and the H-model (Damodaran, Investment Valuation, 2006). Furthermore, the growth stages can be adapted to various specifics of the company, and the analyst should not restrict its choice to exactly prescribed growth stage models (Damodaran, 2006).

Besides estimating earnings for discounted cash flow approach, it is also crucial to understand relationship between other accounting items. For example, growth rate in Sales should be accompanied by increased investments in fixed capital in order for company to maintain its growth (Koller, Goedhart, & Wessels, 2010).

The relationship between balance sheet items and profit and loss statements items used in building pro forma financial statements are described below. The discussion of appropriate discount rate is performed in Weighted Average Cost of Capital section.

3.2 Revenue and Profit

As was mentioned before the Petrohawk Energy Corporation has three primarily revenue generation streams, with more than 95 percent of revenue concentration on extraction, development, and production of petroleum and natural gas.

During the 10-year period from 2002 to 2011 the entity had 217 fold increase in revenue. Such huge increase in revenue is mainly explained by several mergers and acquisitions during the period from 2004 to 2008. Following the acquisition of Wynn-Crosby in 2004, the revenue has increased by staggering 668% in 2005. Merger with Mission Resources in 2005 resulted in revenue increase of 128% in 2006. In subsequent years, the revenue increase rate has decreased and equaled to negative 2 percent in 2009. Negative growth in revenue in 2009, was associated with financial crisis of 2008, which significantly impacted the oil and gas industry in the United States. Nevertheless, following the recovery period Petrohawk has achieved revenue growth of 49 percent and 31 percent in 2010 and 2011, respectively.

The analysis of revenue growth shows that for the period of 2002-2011, Petrohawk has achieved the arithmetic growth rate of 127 percent. However, if consider the growth rate for the period following the final merger with Mission Resources (e.g. period of 2007-2011), the growth rate equals to 30 percent.

As was mentioned, the revenue growth of Petrohawk is dependent mainly on availability of oil and gas reserves as well as supply and demand curve. Considering the forecast by International Energy Agency and the purchase of Haynesville Shale in 2008, Petrohawk should not experience growth obstacle neither from demand and supply side nor from availability of oil and gas reserves side.

For analysis of revenue growth for Petrohawk for the period of 2011-2016, I use geometric mean of prior period growth rather than arithmetic mean. First of all, the period from 2007 better reflects the growth opportunity of the entity, since the performance of prior years are mixed with mergers and acquisitions. Second, considering the volatile nature of oil and gas industry, the growth rates fluctuates significantly from year to year. Therefore, following the approach suggested by Damodaran (2006), I use geometric mean of revenue growth for the period 2007-2011.

Thus, I obtain geometric mean of 18.90 percent, and I stipulate that Petrohawk will be able to replicate this growth rate for the next five-year period based on the utilization and depletion rate of Haynesville Shale.

For the steady forecast of revenue after 5-year window, I assumed that Petrohawk will continue its growth alongside the industry growth rate. The economic theory suggests that growth above industry average growth rate wipes out as more firm enter the market, therefore in the long-term growth rate should equal to the industry growth rate. Considering the fact that oil and natural gas industry is primarily driven by the world economy growth, the long-term industry growth rate equals to the world economy growth rate plus the industry specific growth rate. According to the World Bank report, the average economic growth for the period 2016-2020 average around 2.7 percent, while oil and gas industry growth rate for the same period will be around 4 percent. Therefore, I assume following the 5-year period, the revenue of Petrohawk Energy Corporation will growth at 6.7 percent permanently.

In forecasting revenue, I ignored the revenue from midstream and marketing streams, since these revenue sources represented very minor category of revenue. Moreover, I analyzed the revenue for the presence of non-recurring and one-off events. The analysis did not reveal any significant non-recurring event that may influence the valuation analysis.

Another component of the profit statement is cost of sales. In general, the cost of sales similar to revenue has fluctuated widely from year to year. As seen by the analysis of the Gross Profit Margin, Gross Profit Margin has declined to 57 percent from 85 percent in 2009 and has increased from 62 percent to 78 percent in 2011.

Nevertheless, the 10-year and 5-year average of gross profit margin has been relatively stable and equaled to 74 and 73 percent, respectively. To match the revenue forecast with cost of sales and gross profit margin forecast I take 5-year average gross profit margin. The main assumption behind fixed gross profit margin is that companies will tend to try to maintain its profit margin. While it is true that increase in revenue is accompanied by proportionate increase in cost of sales, in some cases increase in cost of sales is greater due to loss of economies of scale. Therefore, even though firms will try to increase their revenues but not at sake of loss of economies of scale. Thus firms tend to try to maintain stable gross profit margin.

Other operating expenses of Petrohawk Energy Corporation consists of selling, general, and administrative expenses as well depreciation, depletion, and amortization. The growth rate in selling, general, and administrative expenses has been volatile as well. Analysis shows that

SG&A expenses have increased 268 percent during 2004 and only 1 percent during 2008. To increase the usefulness of the analysis of SG&A expenses, I analyzed the financial statements of Petrohawk for inclusion of non-recurring events in SG&A expenses. No significant non-recurring items were noted.

Due to strong volatility of SG&A expenses, the 10-year and 5-year arithmetic mean equaled to 75 and 34 percent, respectively. Nevertheless, I followed the approach suggested by Damodaran (2006) and used geometric mean. Geometric mean growth for the period from 2007 to 2011 equaled to 18.86 percent. Surprisingly, geometric mean growth of Selling, General, and Administrative Expenses is almost equals to geometric mean of Revenue growth (i.e. 18.86 percent vs 18.90 percent).

The most significant portion of other operating expenses represented by depreciation, depletion, and amortization expenses. As stated in the notes to Financial Statements of Petrohawk *"…recording depreciation, depletion, and amortization is primarily dependent upon our estimate of proved reserves, which is utilized in our unit-of-production method calculation. If the estimate of proved reserves were to be reduced, the rate at which we record depreciation, depletion, and amortization expense would increase, reducing net income. Such a reduction in reserves may result from calculated lower market prices, which may make it non-economic to drill for and produce higher cost reserves…"*. Based on the accounting policy of Petrohawk it is clear that depreciation, depletion, and amortization are significantly impacted by the volume of reserves and price of the oil. The total amount of available reserves are treated as Fixed Assets on the Balance Sheet of Petrohawk. Therefore, the depreciation, depletion, and amortization directly related to Fixed Assets balance, which is in turn related to the revenue figures, since higher revenue will result in acquisition of new shale areas, while low revenue will result in depletion of existing reserves.

Considering the above mentioned, as well as approach by Damodaran (2006) I estimated fixed assets as percentage of revenue. Next based on the amount of fixed asset I estimated average depreciation, depletion, and amortization rate as 17 percent of total fixed asset balance. Consistent with prior Profit Statement Line items I used 5-year period average.

Financial expenses, which represent interest expenses on outstanding debt obligations was forecasted based on calculated effective interest rate. The effective interest rate for both 10-year and 5-year period equaled to 2 percent. Considering the fact that no significant changes is

expected in financing structure of the entity, I assumed that Petrohawk can continue to borrow debt obligations at the current rate.

Taxes play crucial role in the operation of the any entity. In prior years Petrohawk has experienced the financial losses and therefore has received tax loss carryforwards. Nevertheless, the analyses of profitable years shows that Petrohawk falls within effective tax range of 36-41 percent. The average of the last three profitable years show effective tax rate of 38 percent. Based on this, I assume that Petrohawk falls under 38 percent tax bracket and will be taxed at this rate respectively.

And finally, from time to time Petrohawk Corporate has been experiencing extraordinary loss items, which were decreasing profit. The highest extraordinary loss item occurred in 2010. While it is true that extraordinary loss items are non-recurring items and it is impossible to predict them, I assumed that extraordinary loss items will happen and forecasted extraordinary loss items for the period of 2011 – 2016 as an average of extraordinary items for the period 2003 – 2011.

For the detailed picture of financial forecast of profit and loss statement for the period of 2011 – 2016, please refer to the Appendix 1.

3.3 Balance Sheet

For the balance sheet, I analyzed the balance sheet of Petrohawk Energy Corporation for the period of 2003 – 2011 and prepared forecast of balance sheet for the period of 2011 – 2016. The analysis shows that almost each year, except for 2009, Petrohawk has increased its assets.

Figure 3. Petrohawk Assets Growth 2002 - 2011

The graphical representation of assets growth of Petrohawk show significant increase in assets from 2002 to 2011. Petrohawk Energy Corporation through various mergers and acquisitions has achieved astonishing 241-fold increase in assets for the 10-year period.

Fixed assets of the company play very significant role in revenue generation. Fixed Assets of Petrohawk Energy Corporation mainly consist of machinery and equipment for development, production, and exploration of oil and natural gas fields, as well as oil and gas reserves. To determine the level of Fixed Assets in future years, I assumed that the amount of fixed assets is strongly related to the revenue figures (Petitt & Ferris, 2013). This means that increase in revenue should be accompanied by increase in fixed assets. There are two main ideas behind using revenue growth as an indicator of fixed asset growth. First of all, fixed assets of the company are the main revenue generating units. Therefore, increase in revenue should be followed by increase in fixed assets. In other words, in order to maintain sustainable revenue growth the entity needs to constantly invest in fixed assets. Second, reserves of oil and natural gas are accounted as fixed assets on the balance of Petrohawk. Increase in revenue achieved through increased production results in rapid depletion of those reserves. Therefore, the entity needs to acquire new reserve areas abundant with oil and gas. From another perspective, increase of revenue due to higher oil and gas prices will also results in increased in fixed assets, since natural reserves of oil and gas will be revalued at higher price.

The amount of accounts receivable balance should be directly tied to credit policy of the entity. Usually such credit policy is based on the revenue figures. Therefore, to forecast the accounts receivable balances for the period of 2011 – 2016, I obtain average of accounts receivable balance to revenue figures. Accounts receivable balance to revenue figure has been more stable during the period from 2007 to 2011 and fluctuated around 19 percent. I used 19 percent as an appropriate rate, and accounts receivable balance for forecast period will equal to 19 percent of revenue of that period.

Other current assets consist of receivables from derivative contracts, prepaid expenses, and marketable securities. Other current assets balance has varied significantly from year to year based on management short-term strategies. For example, during 2008 the entity has sold all of its marketable securities. Components of other current assets is hard to link to operation performance of the entity. For example, the variance of prepaid assets from year to year is based on the contract negotiation with third party. Moreover, receivable from derivative contracts can also not be linked to revenue figures (Petitt & Ferris, 2013). Considering these

factors, I calculate the other current assets balance as a percentage of total current assets. The 10-year and 5-year average equaled to 46 and 48 percent, respectively.

Cash and cash equivalents is another component of the balance sheet. The difficulty in forecasting the cash and cash equivalent balances arise, since the cash and cash equivalents balance is solely determined by the management of the entity. Therefore, there is no unique approach for estimating cash and cash equivalents balance.

Nevertheless, the analysis of cash balances of Petrohawk Energy Corporation reveals significant pile up of cash during 2011, 2008, 2005, and 2004. Cash as percentage of total assets represents 17 percent, 20 percent, 12 percent, and 16 percent for 2011, 2008, 2005, and 2004 years, respectively.

Such huge pile up of cash is explained by the market activity of the entity. The period from 2004 to 2008 was characterized by rapid growth of Petrohawk through various mergers and acquisitions. Pile up of cash was necessary for cash based acquisitions during 2004 and 2005. During 2008, Petrohawk Energy Corporation finalized the purchase of Haynesville shale reserves. In 2011, however, Petrohawk itself was acquired in all cash-based acquisition by BHP Billiton.

Therefore, to estimate cash and cash equivalents balance I eliminate years where significant pile up of cash existed. Thus, the average ratio of cash balance to current assets equals to 0.53 percent. This shows that on average level, the management of the entity prefers to maintain lower amount of cash.

During the l0-year period from 2003 – 2011, Petrohawk has been increasingly relying on debt financing. The amount of debt used has increased 360-fold since 2003. To assess the long-term path of reliance on long-term debt, I first analyze the relationship between debt and equity financing. Debt to equity ratio varied from year to year. However, before 2009 the entity was mostly relying on equity financing rather than debt financing. In 2010 and 2011, the weight of debt financing in the financial structure of Petrohawk has increased. For those years, debt to equity ratio equals to 1.03 and 1.07, respectively.

Increase of debt financing in the structure of the entity can be explained by the financial crisis of 2008. The financial crisis severely hit the oil and gas industry. Petrohawk Energy Corporation has experienced significant loss in 2009 and 2008. In order to mitigate the impact of loss, it seems the management of the entity has decided to attract debt financing due to

shortage of equity financing. Nevertheless, while in the short-term financial structure of the entity may vary from target financial structure, in the long-term entities stick to the target financial structure. Therefore, I adapt the long-term strategy as five-year average debt-to-equity ratio. In the case of Petrohawk Energy Corporation five year average debt to equity ratio equals to 0.87.

In order to forecast provision estimates, I assess provision amounts against the revenue figures. The assessment shows that on average annual provision amount equals to 2-4 percent of the revenue figure. The 5-year average of the provision to revenue figure equals to 3 percent. I use this three percent to further estimate provision amounts for the period 2011 – 2016.

 Another liability line on financial statements is loan. Loan represents the short-term amounts borrowed for the purpose of the short-term funding. Such loans usually obtained when there is short-term liquidity issues and therefore, the amount of loan is not tied up to operational results and long-term leverage ratio. In order to calculate loan amount, I first calculate average current ratio. I assume that over long-term horizon the entity will tend to maintain its liquidity ratios. I calculate average current ratio as 0.72. Based on this ratio, the entity will obtain necessary amount of loan to maintain its current ratio of 0.72.

I believe that the amount of accounts payable outstanding is tied up to operational expenses as well as cost of sales. Therefore, I estimate the amount of accounts payable as 5-year average of accounts payable to cost of sales and selling, general, and administrative expenses. Thus, accounts payable forecast equals to 15 percent of cost of sales and SG&A expenses.

Another financial statement line is other current liabilities. Other current liabilities represents the short-term portion of the long-term debt. In order to assess what portion of the long-term debt mature within short-term time frame, I divide short-term maturing portion over the whole debt amount. Based on the calculation, 18 percent of the total debt matures in the short-term.

The detailed analysis of balance sheet forecast figures are presented in Appendix 2.

3.4 Weighted Average Cost of Capital

Weighted Average Cost of Capital or WACC is formula for calculation of firm's cost of capital by accounting for cost of equity and cost of debt based on their proportionate weight in the financial structure of the entity. The WACC approach assumes that financing projects of the firm is performed by some portion of debt and equity (Damodaran, 2006). One of the

significant limitation of WACC is the assumption that weight of equity and debt in finance structure of the entity will remain stable.

The most crucial components of the WACC is the cost of equity and cost of debt. Various approaches exist for calculation of cost of equity. The most commonly utilized approach is Capital Asset Pricing Model. Based on CAPM model cost of equity is a function of risk free rate and market risk premium multiplied by beta factor, which shows the riskiness of the security. Mathematically, CAPM formula is expressed as:

$$E(R_i) = R_f + \beta_i(E(R_m) - R_f)$$

Where,

$R_f -$ $risk\ free\ rate$

$\beta_i -$ $riskiness\ of\ the\ asset\ i$

$(E(R_m) -$ $expected\ return\ on\ the\ market\ portfolio$

Beta of the asset i, or its riskiness can be expressed as:

$$\beta_i = \frac{covariance(R_i, R_m)}{variance(R_m)}$$

To obtain the components of the CAPM model I use the following reasoning. First of all to obtain risk free rate, I use return on T-notes as a proxy for the risk free rate. In some cases, it is advised to use Treasury securities with longer maturity, in order to match the longevity of the project with longevity of the Treasury security. In contrast to other Treasury bills, T-notes have longer maturity and therefore incorporate time horizon of the project (Kapil & Kapil, 2015).

Damodaran (2008) states that "we could use a duration matching strategy, where the duration of the default-free security used as the risk free asset is matched up to the duration of the cash flows in the analysis". Therefore, using a duration matching strategy, I took T-notes return for the period of 6 years, with forecast starting in 2011 (acquisition year of Petrohawk). I tried to match risk free rate forecast with cash flow forecast and therefore period T-notes returns from 2011 was obtained.

Another issue in calculation of CAPM is adopting the appropriate proxy for the market return. Considering the fact that Petrohawk Energy Corporation is incorporated in United States and

S&P500 index (Ross, Westerfield, & Jaffe, 2012) is considered market representative I took return over S&P 500. The S&P 500 represents more than 80 percent of the total market capitalization of total equity and exceeds 1.9 trillion USD (Yahoo Finance, 2017). The adjusted monthly return over S&P 500 index equaled to 2.44 percent.

As part of the next procedure, I was calculating beta of the security. Beta of the security reflects the risk inherent in the security (Damodaran, Investment Valuation, 2006). Two types of Beta are commonly advocated to be used: accounting beta and market beta (also knows as CAPM beta) (Burger, 2012). CAPM beta of the security reflects riskiness of the asset and is measured as covariance between Market Return and Stock over Market variance. Accounting beta in contrast is based on accounting data rather than market data (Burger, 2012). The beta measure obtained this way, however, shows the riskiness of the security inclusive cost of debt. For calculation of cost of equity, I am interested in finding beta, which reflects only cost of equity. This approach is also suggested for use by Damodaran (2006). In order to calculate the unlevered beta for reflecting only equity risk I performed the following procedures.

First, I obtained a list of companies from Compustat engaged in Oil and Gas Industry and selected those companies, which have similar size and structure as Petrohawk Energy Corporation. Based on obtained information, I obtained the leverage and raw betas. Based on the structure of the existing leverage, I obtain adjusted beta and after that unlevered beta which shows the true of beta of cost of equity. Based on the obtained industry median I obtained unlevered beta for Petrohawk Energy Corporation.

Table 2. Unlevered Beta

Company	Market Capitalization	Net Debt	Leverage	Raw Betas	Adjusted Levered Beta	Unlevered Beta	Tax Rate
DEVON ENERGY CO	15,294,678,900	409,079,840	0.027	0.94	0.96	0.98	30%
CONCHO RESOURCES	16,418,876,600	3,868,837,000	0.236	0.89	0.93	1.08	30%
APACHE CORP	16,422,537,900	23,058,000,000	1.404	1.32	1.21	2.41	30%
NOBLE ENERGY INC	12,648,809,200	9,179,000,000	0.726	1.23	1.15	1.67	38%
ANADARKO PETROLE	24,008,394,300	32,796,000,000	1.366	1.45	1.30	2.54	30%
PETROHAWK	5,647,897,646	4,992,522,000	0.884	1.29	1.19	1.85	38%

Considering all of these input values, I calculate cost of equity for Petrohawk as 9.412 percent. Cost of debt was much easier to compute than cost of equity. Considering the fact that no significant changes is expected to occur in the financial structure of the entity, I took cost of debt as current cost of debt plus expected inflation rate. According to Damodaran (2006) "cost of debt is estimated based upon a synthetic rating that is determined by the interest coverage ratio at each debt ratio". The idea behind this statement is that, cost of debt is significantly impacted by the leverage structure of the entity. Even though it is expected that leverage structure will change to adapt the optimal leverage structure, that will not have significant impact on the current structure. Therefore, the cost of debt which is mainly dependent on the leverage it is assumed to remain the same. However, according to Fabozzi (2012) the cost of debt in the long-term equals to the current level cost of debt adjusted for expected inflation. Therefore, cost of debt equaled to 5 percent.

Considering the leverage structure of 46 percent Debt and 54 percent Equity, with corporate tax rate of 38 percent, I calculate WACC as 9.73 percent.

Table 3. Targeted Leverage Structure

Forecast Year	2012	2013	2014	2015	2016
Shareholders' funds	6,235,030	7,167,274	8,033,977	9,552,506	11,358,057
As percentage of Total Assets	54%	54%	54%	54%	54%
5,311,322	5,311,322	6,105,456	6,843,758	8,137,320	9,675,382
As percentage of Total Assets	46%	46%	46%	46%	46%

Table 4. WACC Components

Risk Free Rate	1.496%
Cost of Debt	5.00%
Cost of Equity	9.412%
Corporate Tax Rate	38%
Debt to Total Assets	46%
Equity to Total Assets	54%
WACC	9.89%

Based on the computed WACC and forecasted firm fundamentals I compute the free cash flow value of the firm. The following key equations have been used in calculating the cash value of Petrohawk Energy Corporation.

- o FCF = NOPLAT + Depreciation – Increase in Working Capital – Capital Expenditure
- o Terminal/Continuing Value = FCF / (WACC – g)

o NOPLAT = Net operating income – taxes

Thus, the computed value of Petrohawk Energy Corporation equaled 20.3 billion USD, which is 8.2 billion more than BHP Billiton has paid for it. Standalone value of Petrohawk, without considering the synergic gain to be obtained is already more than the price paid by BHP Billiton. The analysis of whether the synergic gains were realized or not was performed in Section 4 "Post-Merger Performance of BHP Billiton". The incorporation of synergic gains could have been performed if more information about expected synergies were available. The analysis of statement of BHP Billiton to shareholders as well as various other reports did not indicate the amount of expected synergies.

3.5 Multiples

In assessing which multiples to use in calculation of Multiples based valuation approach I followed the approach by Damodaran (2006). Based on the approach by Damodaran (2006) the most commonly used multiples are Enterprise Value / EBITDA, Enterprise Value / Sales, and Price to Earnings ratio.

Relative valuation approach have wide popularity among practitioners (Damodaran, 2006). The main reason for strong popularity is simplicity of calculation. In contrast to absolute valuation approach, discounted cash flow, relative valuation approach is easy to calculate and the data is easily obtained via various resources (Damodaran, 2006). As stated by Damodaran (2006) "in fact, relative valuations will generally yield values that are closer to the market price than discounted cash flow valuations".

Based on Enterprise Value / EBITDA ratio industry median equals to 13.57, which is higher than the EV / EBITDA ratio of Petrohawk, which is 7.3. Enterprise value of Petrohawk based on EV/EBITDA multiplier, therefore equals to 19.8 billion USD.

Based on EV / Sales industry median equals to 6.6, which is slightly higher than EV/Sales ratio of Petrohawk Energy Corporation. Based on the industry median EV/Sales ratio, I calculate the enterprise value of Petrohawk as 13 billion USD.

Price to Earnings industry median equals to 16.18. Anadarko Petrole has experienced negative earnings during 2011 and therefore has omitted in calculation of industry median. Based on the Price to Earnings ratio, the Enterprise value of Petrohawk Energy Corporation equals to 7.8 billion USD. Nevertheless, the average value of three used multipliers equals to

13.8 billion USD, which is still more than BHP Billiton has paid for acquisition of Petrohawk.

Multiples are approach even though is very easy to use have potential strong pitfalls. Estimating value based on a group of comparable companies may yield inconsistent estimates and ignore such factors as risk, growth, etc. (Damodaran, 2006). Second, multiples approach bears the market expectations and mood and therefore may results in valuation that is too high or too low based on market sentiment. Finally, the analyst may easily manipulate the multipliers approach and justify almost any price (Damodaran, 2006).

4. Post-merger performance of BHP Billiton

This section analyzes the post-merger performance of BHP Billiton, in terms of whether the acquisition resulted in achieved aims or not. I describe the main motives behind the acquisition of Petrohawk by BHP Billiton, discuss the methodology to be used to assess the post-merger performance, and the results indicating whether post-merger performance yielded the targeted results.

In July 2011, BHP Billiton, an Australia based company, has announced its decision to acquire 100 percent share of Petrohawk energy in all cash-based transaction. For acquisition of Petrohawk Energy BHP Billiton has paid 65 percent premium on the traded stock price. Following the announcement of acquisition, shares of Petrohawk Energy Corporate has jumped by 63 percent, while share of BHP Billiton has dropped by 4 percent (Smith & Kebede, 2011).

BHP Billiton is a multinational company with operations in mining, metals, and petroleum. Even though operation of the entity also includes the petroleum industry, the core operation of the entity are concerned with mining. Upon acquisition of Petrohawk Energy Corporation, BHP Billiton had the motive to obtain synergetic gains from acquisition of Petrohawk and expansion of its operation to the United States. Again as was mentioned by CEO of BHP Billiton, Michael Yeager, "The proposed acquisition of Petrohawk is consistent with our well defined, upstream, Tier 1 strategy and provides us with even greater exposure to the world's largest energy market, while also broadening our geographic and customer spread" (Billiton, 2011).

Nevertheless, in 2016 BHP Billiton has publicly admitted that acquisition of Petrohawk did not represent a good investment and acquisition failed to achieve desired goals. Not surprisingly, in 2016 BHP Billiton has recorded its largest loss in the history of 6.4 billion USD (Chambers, 2016).

Considering the initial motives of BHP Billiton, which are synergetic gains and increased market share, I assess the post-merger performance of BHP Billiton following the acquisition of Petrohawk.

Both BHP Billiton and Petrohawk Energy Corporation are involved in exploration of nature resources. While BHP Billiton is mainly focused on mining and metals, Petrohawk's area of focus is exploration of oil and gas on shale areas. Again as was stated by CEO of BHP Billiton this acquisition would diversify to some extent the operation of BHP Billiton and result in synergetic gains.

Considering the nature of both companies, I expect that synergetic gains from this acquisition is expected to be achieved through reduced operational costs. Therefore, to analyze the impact of mergers and acquisitions on operational efficiency (operational costs) I adapt the approach of Kwan and Wilcox (2002). The post-merger performance of the according to Kwan and Wilcox (2002) is the differential between operational performance of peer group of the similar sized companies. Equation by Kwan and Wilcox takes the following form:

$$\{X_A - X_A^{Peer}\} - \{X_B - X_B^{Peer}\}$$

It is argued from the economic perspective that mergers and acquisition of companies may result in reduced operational costs, due to achieving economies of scale or better allocation of resources between two companies (Kwan & Wilcox, 2002). Considering the nature of operation of both companies, I expect that reduction in costs can be achieved depreciation and amortization as well as selling, general, and administrative expenses. Cost of sales for Petrohawk is mainly related to exploration of oil and gas fields, while for BHP Billiton cost of sales include exploration of mining fields, as well as production of metals. Therefore, I analyze the post-merger performance from the perspective of reduction of SG&A and D&A expenses following the post-merger period.

To analyze the post-merger performance of BHP Billiton I compiled the list of peer group companies, which included: Agnico Eagle Mines Limited, Alamos Gold Inc, Alexco Resources Corp, Rio Tinto Plc, and Southern Copper Corporation. Based on the approach by Kwan and Wilcox (2002), I compared the post-merger and pre-merger performance of BHP Billiton to its Peer Group Companies, which were taken as average. Results are shown below.

Table 5. Post-Merger Performance of BHP Billiton

Variable	Coefficient	Statistical Significance Level	T-statistics
SG&A Expenses to Total Assets	0.044	19.25%	0.87
DD&A Expenses to Total Assets	0.023	11.32%	1.23

Based on the results of the table 5, acquisition of Petrohawk Energy by BHP Billiton did not result in synergetic value added. Even though coefficient are positive indicating possible operational efficiency through reduced operational costs, statistical coefficients indicate that none of the variable are statistically significant.

5. Conclusion

Upon the acquisition of Petrohawk Energy Corporation, BHP Billiton has paid 12.1 billion USD in all cash based transaction. This transaction represented 65 percent premium on currently traded stock prices. The market negatively perceived the transaction and consequently upon announcement of acquisition, the stock price of BHP Billiton has declined by 4 percent, while stock price of Petrohawk Energy Corporation has increased by 63 percent.

Several years later, Executive level of BHP Billiton has admitted that none of the acquisitions during 2011 yielded the expected result. Nevertheless, the poor performance Petrohawk Energy Corporation can be attributed to the significant decrease in the price of oil. The decline in price of oil impacts the economic soundness of oil extraction from reserves. In case the decline is severe and oil extraction becomes inefficient, the oil exploring company records significant amount of impairment on its profit statement, which drags down the whole financial results.

To analyze whether the failed results of acquisition of Petrohawk was tied up to misevaluation by BHP Billiton or sudden decrease in price of oil, I first calculate the acquisition value of Petrohawk Energy Corporation using discounted cash flow approach and multiples approach.

To do so, I estimate build pro-forma financial statements with 5-year forecast horizon and steady growth rate assumption after 5-year horizon. To estimate the revenue growth I analyze the industry trends and factors impacting the growth in oil and gas industry. After preparing forecast for profit statement and balance sheet, I estimate the Weighted Average Cost of Capital.

Based on estimation of Weighted Average Cost of Capital and discounted projected cash flows to present value, I obtain present value of discounted cash flow. Surprisingly, based on pro-forma statement and discounted cash flow, the acquisition price equals to 20.3 billion USD, which is 8.2 billion USD more than, BHP Billiton paid for Petrohawk.

Next I estimate the acquisition price of Petrohawk using the market approach. Based on the most commonly used multiplier ratios (EV/EBITDA, EV/Sales, and P/E) I calculate the EV for Petrohawk. For those ratios I obtain 13.8 billion USD, 19.8 billion USD, and 7.8 billion USD, respectively. The average value of those ratios is 13.8 billion USD which one billion USD more than BHP Billiton paid.

After analyzing the acquisition value of Petrohawk Energy Corporation, I analyze post-merger performance of BHP Billiton. As was said by CEO of BHP Billiton, the acquisition of

Petrohawk should result in synergetic gains. The analysis of post-merger performance of BHP Billiton did not reveal any improvement in operational efficiency of the company.

During the evaluation of acquisition price it was clear that valuation is bound by significant amount of assumptions and there is no unique way of performing valuation analysis. Therefore as stated by Damodaran (2006, p. 2) *"Valuation is neither the science that some of its proponents make it out to be nor the objective search for the true value that idealists would like it to become. The models that we use in valuation may be quantitative, but the inputs leave plenty of room for subjective judgments. Thus, the final value what we obtain from these models is colored by the bias that we bring into the process. In fact, in many valuations, the price gets set first and the valuation follows"*.

I believe the valuation results of acquisition price of Petrohawk Energy Corporation can be improved. The improvement can be achieved by performing analysis on more detailed level. For example, the oil and gas revenue of Petrohawk can be segregated into various shale areas. And the growth rate can be set for each of the shale area separately, since the reserves of each shale differs. Moreover, the depreciation, depletion, and amortization costs can also be computed on disaggregated level.

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Appendix 1.

Annual report/Consolidated	Steady State Forecast	31/12/2016 th USD Forecast	31/12/2015 th USD Forecast	31/12/2014 th USD Forecast	31/12/2013 th USD Forecast	31/12/2012 th USD Forecast
Profit & loss account						
Operating revenue (Turnover)	5,323,431	4,989,158	4,196,048	3,529,017	2,968,021	2,496,205
Sales	5,323,431	4,989,158	4,196,048	3,529,017	2,968,021	2,496,205
Costs of goods sold	1,415,214	1,326,348	1,115,503	938,176	789,037	663,607
Gross profit	3,908,217	3,662,809	3,080,545	2,590,841	2,178,984	1,832,599
Other operating expenses	3,198,265	2,950,028	2,481,182	2,086,850	1,855,693	1,611,482
Selling, General & Administrative Expenses	494,310	415,863	349,865	294,340	247,628	208,329
Depreciation, Depletion, & Amortization	2,703,955	2,534,165	2,131,318	1,792,510	1,608,065	1,403,152
Operating P/L [=EBIT]	709,953	712,781	599,363	503,991	323,292	221,117
Financial revenue	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Financial expenses	238,980	225,804	212,628	199,451	186,275	173,098
Financial P/L	238,980	225,804	212,628	199,451	186,275	173,098
P/L before tax	470,972	486,977	386,735	304,540	137,017	48,019
Taxation	181,131	187,286	148,734	117,123	52,695	18,467
P/L after tax	289,841	299,691	238,001	187,417	84,322	29,551
Extr. and other revenue	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Extr. and other expenses	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Extr. and other P/L	-10,674	-10,674	-10,674	-10,674	-10,674	-10,674
P/L for period [=Net income]	279,167	289,017	227,327	176,743	73,648	18,877

Appendix 2.

Annual report/Consolidated	Steady State	31/12/2016 th USD	31/12/2015 th USD	31/12/2014 th USD	31/12/2013 th USD	31/12/2012 th USD
	Forecast	Forecast	Forecast	Forecast	Forecast	Forecast
Balance sheet						
Assets						
Fixed assets	20,448,565	19,164,541	16,118,019	13,555,793	12,160,934	10,611,293
Intangible fixed assets	3,131,850	2,935,192	2,468,595	2,076,171	1,862,538	1,625,198
Tangible fixed assets	16,105,528	15,094,215	12,694,740	10,676,701	9,578,093	8,357,578
Other fixed assets	1,293,060	1,211,865	1,019,219	857,198	768,994	671,003
Current assets	1,983,543	1,858,991	1,563,473	1,314,933	1,105,903	930,101
Stock	0	0	0	0	0	0
Debtors	1,027,365	962,854	809,792	681,062	572,796	481,741
Other current assets	956,178	896,137	753,681	633,871	533,107	448,361
Cash & cash equivalent	10,572	9,908	8,333	7,008	5,894	4,957
TOTAL ASSETS	22,442,680	21,033,439	17,689,826	14,877,735	13,272,731	11,546,351
Liabilities & Equity						
Shareholders funds	11,051,476	10,307,936	7,892,861	5,937,087	5,127,658	4,145,768
Capital	75	148	200	393	451	861
Other shareholders funds	5,712,954	5,433,787	5,144,770	4,917,443	4,740,700	4,667,052
Non-current liabilities	8,509,724	8,038,265	7,541,287	7,051,322	6,567,253	6,088,145
Long term debt	8,213,645	7,760,778	7,307,912	6,855,045	6,402,178	5,949,311
Other non-current liabilities	148,039	138,743	116,688	98,138	82,538	69,417
Provisions	148,039	138,743	116,688	98,138	82,538	69,417
Current liabilities	2,753,391	2,580,498	2,170,285	1,825,282	1,535,124	1,291,090
Loans	619,471	573,363	306,057	97,487	-61,686	-179,314
Creditors	281,060	256,433	215,685	181,412	152,585	128,339
Other current liabilities	1,852,861	1,750,702	1,648,543	1,546,384	1,444,225	1,342,065
TOTAL SHAREH. FUNDS & LIAB.	22,442,680	21,033,439	17,689,826	14,877,735	13,272,731	11,546,351