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Valuation of AkerBP ASA

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ABSTRACT

This master thesis conducts a valuation of Aker BP in order to determine the company's fair value. First, the industry of oil and gas is explained, and the history and current state of Aker BP is established. Then strategic analyses of the macroeconomic and microeconomic environment were conducted. A macroeconomic analysis was conducted through looking at economical variables, political impacts and environmental factors. For analysing the microeconomic impacts a SWOT-analysis were used. Since a merger created Aker BP, an analysis of the synergy effect between the merged companies was also a part of the research in this thesis.

An analysis of the financial statements was performed to contribute to establish a forecast of Aker BP's future expected state. Moreover, the forecast was used to create a forecasted future cash flow, which was then discounted in order to value the company by a fundamental valuation. The discount rate was estimated by calculating a weighted average cost of capital. Based on the fundamental analysis the estimated price per share was 14.59 USD compared to the market share price from Oslo Stock Exchange of 27.08 USD at 28th of March.

After the fundamental analysis a sensitivity analysis were conducted to test the affect of changes in revenues, capital expenditure and weighted average cost of capital. The analysis showed that the share price was highly affected by changes in capital expenditure and weighted average cost of capital, and less affected by changes in revenues.

As a last part of the thesis a relative valuation by the use of comparable multiples were conducted. First, a set of comparable companies was selected. The multiples used in the analysis were P-multiples such as price-earnings-ratio and price-to-book ratio, and enterprise value multiples such as EV/EBIT, EV/EBITDA and EV/Revenue. By comparing the calculated multiples Aker BP was shown to have higher multiples than the average of the industry. The results could be interpreted to support the findings through the fundamental valuation.

Based on the valuation conducted in this master thesis an investor was not recommended to buy the stock of Aker BP since the estimated fair value of were lower compared to the price in the market.

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PREFACE

This thesis was written as an ending of the master program in business and administration. The major of my masters is Applied Finance, and this thesis is a summary of different courses I have undertaken during my masters degree. It was a course in Investments that triggered my interest for selecting valuation for my master thesis. A valuation of AkerBP was selected due to the interest of a newly merged company and an interest around value creation in the oil and gas industry.

I would like to thank my supervisor, Mads Rømer Holm, for giving advice on structure and contents of the thesis. I also got important and valuable insights into value creating factors of oil companies by my father, Jan Inge Pedersen, who I would like to give my appreciation to. At last, I would like to direct my gratitude towards my family and friends who has showed their support and given me the extra motivation during the process of writing this thesis.

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CHAPTER 1 – INTRODUCTION

The business of oil and gas production has been a strong business in the market for decades. However, the business has at several occasions experienced market dynamics throughout the years. In 2015 the oil business experienced a drawback in the market due to a major decrease in the global oil price (Fredriksen & Johansen, 2015). The oil price decreased because of a higher supply compared to demand in the market. In Norway, a lot of people lost their jobs as a consequence of the poor development in the oil business (Tjersland, 2015). Moreover, the decrease of the oil business also caused the oil companies to reposition themselves in the market. Now, a few years later, the oil business is slowly gaining back its strong position in the market.

One of the companies that changed its position in the oil market was Det Norske Oljeselskap. In 2016 they merged with BP Norge, and together they established Aker BP ASA. Since the time of the merge the oil price started to slowly increase and the oil market is starting to renew itself. By the merge the companies were able to strengthen their market position as one unit, and create one of the largest independent exploration and production companies in Europe (Aker BP, 2018).

The main purpose of this thesis will be to establish Aker BP's position in the market in order to perform a valuation of the company. Aker BP will be analysed based on their macroeconomic and microeconomic forces as well as a synergy analysis of the merged companies. Combined with an analysis of the financial statements, the analysed elements will create a fundament for performing a valuation. The research question for this thesis is thereby constructed as follows:

What is the fair value of Aker BP?

In order to answer the research question Aker BP will be analysed based on its macroeconomic and microeconomic forces as well as a synergy analysis of the merged companies. This will be combined with an analysis of the financial statements, and then the analysed elements will create a fundament for performing a valuation of Aker BP. The valuation should give a fundament for evaluating the fair value of Aker BP.

1.1 Thesis structure

The thesis will start of by giving a presentation of the oil and gas industry. Such presentation should give a prior knowledge about the oil and gas industry. In order to learn more about Aker BP a presentation of their history and company goals and values will be presented. Moving on to the analytical part a strategic analysis of the macroeconomic and microeconomic environments will be conducted. Moreover, a synergy analysis of the merged companies that established Aker BP will be presented.

Then an analysis of the financial statements will be conducted. The analysis of financial statements will consist of a profitability analysis, growth analysis and liquidity risk analysis. By combining the strategic analysis and the analysis of the financial statements a forecast of future free cash flow will be conducted. This information should give fundamental for performing a valuation of Aker BP. The valuation will be based on fundamental valuation. Furthermore, the reliability of the valuation will then be established through a sensitivity analysis. An additional valuation by using a relative valuation method will be included to test compare the result of the fundamental valuation. At last, the analytical findings of the thesis and the results of the valuation will be summed up in the conclusion.

CHAPTER 2 – THE OIL AND GAS INDUSTRY

This chapter will give a brief presentation of the oil and gas industry in order to deduct where the value of the industry is created. The chapter will also present the oil history of the Norwegian continental shelf.

2.1 Organisation of industry

Oil and gas has become one of the main raw materials used for different purposes globally and in different segments of the market force worldwide. The oil and gas industry is considered to be one of the industries that create the most value in the world (Carlyle, 2013). According to Carlyle (2013) the oil and gas industry generated billions of dollars each year. The main parts of the industry consist of finding and distributing oil and gas to different parts of the world.

The oil and gas industry can be divided into three main areas; upstream, midstream and downstream (Inkpen & Hoffett, 2011, p.20). Upstream consists of searching for natural gasses underground or underwater, exploring crude oil fields, drilling of exploration wells and recovering oil and gas (Inkpen & Hoffett, 2011, p.21).

The down- and midstream are generally classified with the same activities. Basically, in this segment of the value chain the raw materials are filtered. According to Inkpen & Hoffett (2011) this is where the crude oil is refined and the natural gas is purified. Furthermore, the last part is distributing the product to the consumers.

Even though the oil and gas industry has experienced some drawbacks during the past decade it is still a very successful industry. The industry is still generating a lot of money and has a central position in the world economy.

2.2 Oil and gas industry in Norway

The Norwegian oil and gas history started of in 1969 when the oil field Ekofisk was discovered (Elvsborg, 2009). Not only was this an important finding for Norway, it was also one of the biggest oil filed discoveries in the world at that time.

During the 1970's the search for oil on the south part of the Norwegian continental shelf expanded. The search was concentrated to the south part of the shelf because this was where they most likely would be able to find oil and gas. The searches lead to findings of the fields Statfjord, Gullfaks, Troll, Oseberg in addition to Ekofisk (Regjeringen.no, 2016).

Furthermore, these fields was huge parts of the development of the petroleum industry in Norway(Regjeringen.no, 2016).

In the beginning the search for oil and gas on the Norwegian coast was lead by foreign companies. However, when the search areas on the Norwegian coast expanded during the late 1970's in the northern pars the development of Norwegian oil companies started. Companies that was developed during this time was Norsk Hydro, Saga petroleum and Statoil later on (Regjeringen.no, 2016).

During the mid 1980's the Norwegian petroleum industry was re-organised where the influence form the Norwegian government was divided in two. Now the government was participating in one part trough the companies and through the economical participation of the petroleum industry as the other part. This lead to the Norwegian government owning several part of the oil production like for instance part of the oil fields, facilities on shore and pipelines (Regjeringen.no, 2016).

In the beginning of the 2000's a lot of the government owned facilities were sold to major oil and gas companies operating on the Norwegian continental shelf, which lead to participation from many different oil companies. Today around 50 national and international active companies are competing on the Norwegian continental shelf (Regjeringen.no, 2016).

CHAPTER 3 - AKERBP

In this chapter AkerBP will be presented with the main parts of their history, the company's vision and where the company is at today. Furthermore, historical share prices will be illustrated to vision AkerBP's previous position going on valuing their business today.

3.1 Background and history

AkerBP is an independent exploration and production company working exclusively on the Norwegian continental shelf. The company was officially established in 2016 through a merger between BP Norge and Det Norske Oljeselskap, and today they are considered one of Europe's largest E&P companies measured by production (Aker BP, 2018a).

The history of Aker BP consist of a number of initial purchase orders for public trading, acquisitions, mergers and focus on growth (Aker BP, 2018a). As a primary part of Aker BP's history Det Norske Oljeselskap (DNO) was established in 1971, and was the first national oil company in Norway (Aker BP, 2018a). Independent of Det Norske Oljeselskap, Petra was established by the international PGS Petroleum Geo-Services to create a wholly owned E&P company in 2001. Petra was in 2007 merged with Det Norske Oljeselskap to establish DNO International.

In order to increase the growth of DNO International they merged with Aker ASA in 2009 (Aker BP, 2018a). Aker ASA established a new company; Aker Exploration that was officially merged with Det Norske Oljeselskap. Even though Aker ASA was the biggest shareholder after the merge the company kept its name Det Norske Oljeselskap.

In 2014 Det Norske Oljeselskap conducted an acquisition of Marathin Oil Norge in order to increase their growth further (Aker BP, 2018a). In order to maintain their growth towards becoming one of Europe's biggest independent production and exploration companies Det Norske Oljeselskap merged with BP Norge in 2016 (Aker BP, 2018a). As a further growth decision Aker BP made an acquisition of Hess Norge in 2017 (Nilsen & Hopland, 2017).

Aker BP's history clearly shows company dynamics in terms of always trying to achieve growth and trying to become a significant company in the oil and gas industry.

3.2 The merger between BP Norge and Det Norske Oljeselskap

Aker BP was established through a merger between BP PLC's Norwegian branch BP Norge AS and Det Norske Oljeselskap who was mainly owned by Aker ASA as explained in part 3.1. A merger can be defined as combining two or more companies into one (source, Strategy book). BP Norge and Det Norske Oljeselskap merged through a share repurchase transaction where Aker ASA owns 40%, BP PLC 30% and Det Norske Oljeselskap 30% (Aker BP, 2016).

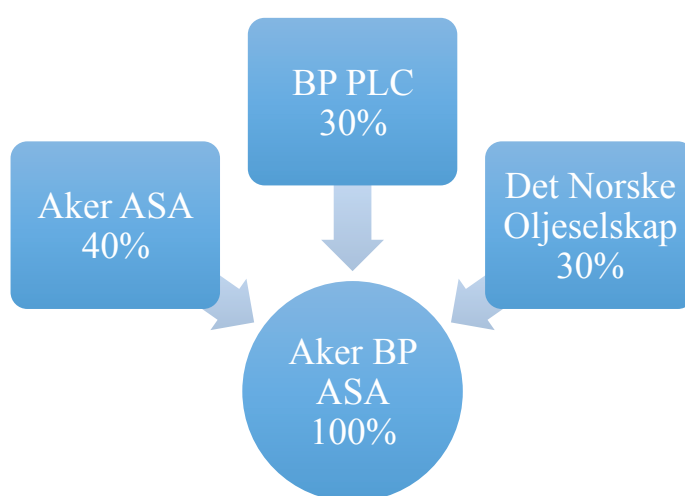


Figure 1 – Main shareholders of Aker BP ASA (Aker BP, 2016; own creation)

The main goal of the merger was to create a leading independent exploration and production company. Furthermore, as a result of the merger the companies want to strengthen their combined operations and thereby become more cost efficient (Lorentzen, M., 2018). The merger would also lead to a higher growth potential and enable Aker BP to initiate dividend payment (Becker, et.al., 2016).

3.3 Company objective and value

Aker BP is currently an exploration and production company. This means that they have concentrated their business in the upstream area of the oil and gas industry. At the time being Aker BP is operating on the five fields; Alvheim, Iva Aasen, Skarv, Ula and Valhall (Aker BP annual report, 2017). In addition to these field Aker BP are also partnering on the fields Atla,

Enoch and Gina Krog. Their operating fields are also considered their assets. Moreover, this means that their assets are highly important for their company value. Currently, Aker BP is participating in a development project, Johan Sverdrup, which is considered a great discovery of an oil reservoir on the Norwegian Continental Shelf (Ekeseth, 2014).

The vision of Aker BP is to become the leading exploration and production company offshore (Aker BP, 2018b). One of their core values is safety, which is to be maintained through being enquiring, responsible, predictable, committed, and respectful (Aker BP, 2018b).

3.4 Historical development of share price

Even though Aker BP was not officially established before September 2016, the company was noted first time in the stock market at Oslo Stock Exchange the 23rd of December 2009 as Det Norske Oljeselskap (Aker BP, 2018a). Ever since Aker BP was established as a merged company their share price has continued to increase. The monthly development of their share price from October 2016 is presented in figure 2 below.

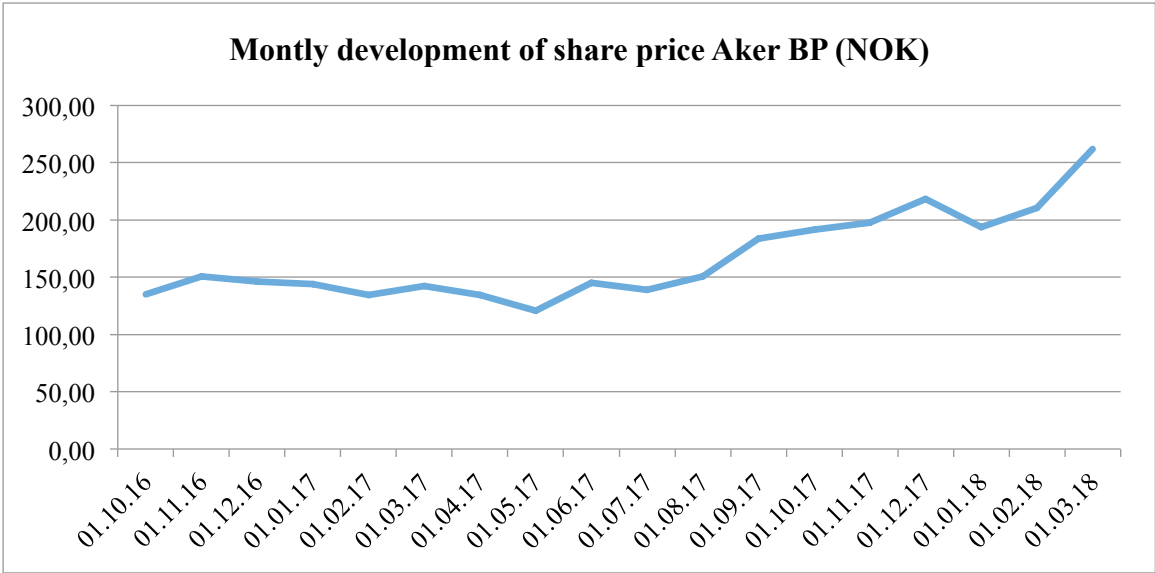


Figure 2 – Monthly development of share price Aker BP (Yahoo finance, 2018; own creation)

Figure 2 exhibits a small fluctuation in the share price from October 2016 to March 2018. However, it still shows a growth of share price. This growth could imply a market reaction to Aker BP showing improving business results (Lorentzen, 2018).

3.5 Current market position

After the merger that established Aker BP the company has shown a strong market position by becoming a leading independent exploration and production company in Europe.

Moreover, the ability of paying dividends to shareholder is another factor that has highly strengthened Aker BP's position in the market. In addition to paying dividends, Aker BP has also reported a potential growth of dividend payments of 100 million dollars every year until 2021 (Nilsen, A., 2018). Considering these estimated outlooks Aker BP could show a solid market position towards its competitors in the market.

CHAPTER 4 – STRATEGIC ANALYSIS

Aker BP has concentrated their operation on the Norwegian continental shelf. This makes it natural to focus on this area when doing a macroeconomic analysis. This analysis will primarily discuss the economic variables, political impacts and the environmental factors of crude oil production in Norway. Furthermore, in this chapter a SWOT-analysis will be conducted in order to establish Aker BP's intrinsic strategic position.

4.1 Macroeconomic Analysis of Aker BP

In order to establish a strategic analysis of Aker BP the macroeconomic impacts on the company needs to be considered. This section will thereby discuss different macroeconomic impacts on Aker BP as a company operating on the Norwegian continental shelf.

4.1.1 Economic variables

Petroleum is a natural product that can be discovered in different parts of the world. Some countries are considered to be more significant distributors of oil production than others. Since the oil production market is global, the oil price is also dependent on the global production of oil. Some of the leading countries in distributing oil production are the USA, Saudi Arabia and Russia (Hovland, 2017). For instance, oil production in the USA has shown to have great impacts on the global oil price (Hartwig, K., 2017). For a country like Norway this means that it is difficult to impact the global oil price alone. According to BP (2017) the oil production in Norway only covers 2% of the total production in the world. This could imply that Norway is dependent on the market movements and strategy of the largest distributors of oil due to their significant impact on the global oil price. Moreover, this is a factor that could highly impact the profitable outcomes of producing oil on the Norwegian Continental Shelf. So, the global oil price can be highly influenced by the global demand and supply of oil and oil equivalents.

4.1.1.1 Global supply

The global supply of oil and oil equivalents might affect the oil price. The reason could be that the oil price is highly affected by the large oil producers in the world are because of their potential to produce. As shown in 2015 a high amount of global oil production lead to a decrease in the oil price (Farstad, 2017). This lead to many oil-producing facilities, especially

in Norway, had to close down its operations and reduce the amount of production (Fredriksen & Johansen, 2015).

4.1.1.2 Global demand

It is not only the supply of oil that will affect the global oil price. The global oil price is also affected by the global demand of crude oil (BBC, 2018). The global consumption of crude oil are showing to still increase. The global oil demand is estimated to grow by approximately 100 000 barrels per day in 2018 (Calcuttawala, 2018). This shows that the global demand of will probably meet the global supply of oil and oil equivalents. With a even level of demand and supply one could expect the oil price to reach a level that is reasonable for oil companies to continue their growth.

4.1.1.3 Oil inventories (assets)

Producing oil has shown to be a profitable business activity mainly because the global demand is so severe and the demand is increasing. Another macroeconomic aspect that could affect the value of a oil company is its assets. The assets of an oil producing company would be the oil inventories, or the potential contents of the oil wells.

The potential contents of an oil well could impact the potential value of a company. On the other hand, there is another factor about retrieving the oil that might affect the potential value in an oil well. This factor is the potential recovery of oil from the well. For instance, the recovery of oil might just be 25% of the total contents of the well. This means that the potential value of the contents of the oil well might be reduced by 75% due to the recovery. Research conducted by the Norwegian Oil Directory has shown that more than 50% of the proved oil resources are being left behind when a drilling activity has ended (Norwegian Oil Directorate, 2011).

4.1.2 Political impacts

On a global level, the oil and gas industry are impacted by political decisions and changes. For instance, climate policies including setting low climate targets are pushing the industry towards finding alternative options for burning oil (Barysch, 2016). The set climate target cannot be reached if the oil and gas industry continues to burn the oil and gas that are still underground.

Another political impact the oil and gas industry is subject to could be political stability in a country. For instance, Norway has a well-established political system, which contributes to develop oil production on the Norwegian continental shelf. The political system is able to support the oil industry through political decisions.

On the other hand, oil production conducted on the Norwegian continental shelf is highly tax restricted by the Norwegian government. Oil companies operating in Norway are not only obligated to pay corporate tax, they are also charged with a specialised tax (Norsk petroleum, 2018). Norsk Petroleum (2018) informs that the tax rates for oil companies in Norway is divided in two; corporate tax of 23% and special tax of 55%. This means that the total rate of corporate tax for oil companies in Norway is 78%. A tax rate of 78% could have a significant impact the net profits of a company.

4.1.3 Environmental factors

The production of oil and gas has shown to have different impacts on the environment (Jære, 2016). Some have argued that building and developing oilrigs have severely impacted the marine life (Miljødirektoratet, 2016).

Drilling for oil has different risk factors attached to it when it comes to impacting the marine life. There is a risk of oil leakage, which could cause severe damage both to the drilling itself but also to the marine life around the drilling activity. One example of an incident like this was the severe oil spill in the Gulf of Mexico in 2010 (Raunek, 2017). The oil spill did not just affect the marine life it also affected people living in the area and other animals and vegetation in the area (Raunek, 2017).

An incident related to oil drilling is not the only environmental impact oil producing companies are facing. Developing an oil producing field requires building of the actual rig, drilling into underwater fundamentals, and creating solutions for transporting the oil or equivalents to shore (Miljødirektoratet, 2016).

Moreover, when pipes are drilled down to the seabed there is another emission damaging the marine life. The emission of fundamentals that belong far below the seabed is affecting the marine life when they reach above the seabed due to drilling. This could then create an environment that is unnatural for the marine life and possibly become a severe factor of

reducing the quality of the marine life. Research has shown that marine life is highly affected by oil production (Langangen et.al., 2017, p. 109)

Furthermore, some oil producing companies are creating pipelines going from the rig to shore in order to transport the oil and gas. The creation of these pipelines could also contribute to harm the seabed and negatively affect the marine life (Hammer, 2011).

Many of the aspects of oil production are clearly impacting the environment. These are factors that could potentially harm the oil producing industry going into the future. Furthermore, it could affect the global demand of oil and gas to decrease and further affect the oil price, and alternative sources of energy may arise. However, today there are no signs that oil production will stop in the near future (Christensen, 2018).

4.2 Synergy

Synergy can be defined as “working together” and the ability for two or more companies to work better together as a joint business unit than as two separate companies (Campbell & Goold, 1998). For Aker BP the synergy affect has shown to be significant due to their ability become one of the largest independent exploration and production companies in Europe. The following part will discuss how Det Norske Oljeselskap and BP Norge have created synergy effect though their merger by discussing their ability to leverage resources, align positions and integrate value chain activities.

4.2.1 Leveraging resources

De Wit & Mayer (2014) argue that two businesses could be related if their resources can be shared among them in a productive way. Types of resources in a business can be both intangible and tangible. One example of a tangible resource could be money, and an example of an intangible resource could be money. Both Det Norske Oljeselskap and Aker BP operated in the same field of business; they produced oil. This gives a reason to believe that they were able to align their intangible resources like, for instance, knowledge. Furthermore, the merged companies ability to start dividend payouts could imply that the companies were able to relate their tangible resources in terms of money. According to Hamel and Prahalad (1993) the leveraging of resources can, for instance, be achieved by actually reallocating

resources from one company to the other. This is something that is reasonable to be believed happened between the merged companies due to their statement when the merge was publicly announced. They announced that some of the tangible resources from BP Norge were transferred to Det Norske Oljeselskap in order to delete some of their debt (Aker BP, 2016).

4.2.2 Aligning positions

If the two merged companies can align their positions in the market they can achieve synergy effect (De Wit & Mayer, 2014, p. 240). Also, improving their bargaining power against the buyer is one way of aligning their positions. If an organisation has complementary products with a similar organisation they might be able to stand together in order to improve their bargaining position towards their buyers. Det Norske Oljeselskap and BP Norge did have complementary products considering that they both produced oil and oil equivalents. This is a factor that could contribute to align their positions in the market and achieve synergy effect.

Moreover, not only would the sellers benefit from this, but the buyer may benefit as well (De Wit & Mayer, 2014). Research has also shown that weaker companies may benefit from companies with strong bargaining power in the terms of supply chain management (Crook & Combs, 2007). Det Norske Oljeselskap and BP Norge might not be categorised as weak companies. However, together they were able to achieve dividend payouts, which contributed to strengthen their power in the market.

Furthermore, this leads on to the second benefit of aligning positions, which is improvement of competitive positions (De Wit & Meyer, 2014). Coordinating different business units within an organisation may prevent the units from turning against each other. For Det Norske Oljeselskap and BP Norge this clearly was the case because the merger made them create an aligned business instead of competing against each other on the Norwegian continental shelf. Jayachandran et al. (1999) discovered that by having business units cooperate might protect them from being attacked by other forces. Together the business units could also be able to create entry barriers for other similar businesses coming into the market (Jayachandran et al., 1999). The establishment of Aker BP could be discussed to have made it more difficult for competitors to move into production on the Norwegian continental shelf. Especially since Aker BP is not the only major actor operating in that area.

4.2.3 Integrate value chain activities

Integrating value chain activities is also considered to be a source of synergy (De Wit & Meyer, 2014, p.240). Assuming that the two companies are better off and more efficient together in terms of their value chain, this could imply that there could be synergy effect between them. For Aker BP as a joint business unit this means that they could be able to combine their value-adding activities in, for instance, production. This would create a synergy effect especially considering that they are already operating in the same industry.

Vertical integration can also be considered to be a positive condition of a synergy effect. According to Mahoney (1992) a company may strive to use upward or downward integrated activities where conditions like operational coordination, avoidance of transaction costs, increased bargaining cost and power, learning curve advantages and implementing system-wide changes are considered to be important. The merger between Det Norske Oljeselskap and BP Norge was a merger conducted in the same country. As mentioned, they also had aligned business activities before merging. This gives a reason to believe that operational integration and implementing system changes might have contributed to strengthen the synergy effect. Research have shown that a reduced use of vertical integration may have a negative impact on a company's productivity of labour (Broedner et.al., 2009). This means that vertical integration might be important for a synergy effect towards cost efficiency and positive labour productivity.

4.3 Microeconomic Analysis of Aker BP

A microeconomic analysis of a company is important in order to understand their ability of growth, opportunities and risks (Petersen, et.al., 2017, p.269). In this section a microeconomic analysis of Aker BP is conducted through a SWOT-analysis.

4.3.1 Strengths

One of the advantages of propositions that Aker BP has is that they are one of the biggest independent oil companies in Europe when measuring production (Aker BP, 2018). There is reason to believe that this was an advantage that the company gained after the merger, and this could be considered significant company strength. Through the merger Aker BP has strengthen their capabilities by being able to expand their production on the Norwegian continental shelf.

Moreover, Aker BP has also strengthened their competitive advantage towards other exploration and production companies by developing their production potential. The merger also opened up the opportunity for paying regular dividends, which can also be considered a financial strengthening of the company. As mentioned in part 3.2 paying dividends can imply that they are expecting a steady growth of profits and liquidity reserves.

Another strength of Aker BP is that they are focusing their business on lowering production costs. Not only are they focused on exploration, but also on decreasing production costs on existing and producing fields. This may contribute to gain higher net profits produced due to lower costs.

Furthermore, during 2017 Aker BP entered into several long-term agreements with suppliers (AkerBP, 2017). This will help strengthen the company by relying on stable agreements with stable costs. Strategically this can be considered as strength due to the ability to build strong alignments with suppliers.

4.3.2 Weaknesses

Aker BP consists of a merger between two major oil-producing companies. Even though a merger can contribute to make production more efficient and enhance their position in the market the company may also experience drawbacks over time. Mergers can, for instance, lead to cultural differences from the merged companies and/or loss of key personnel (De Wit & Meyer, 2014). Even though the company reports to have had a smooth transition throughout 2017, they could possibly face cultural differences in the future that could negatively affect the company.

Even though Aker BP mainly consists of the merged companies Det Norske AS and BP Norge AS, Aker is the main investor in the company. This meaning that Aker, as a shareholder, has a great say in decisions made within the company. Furthermore, Aker is a huge concern with many different daughter companies. When the board is making decisions for Aker BP it might seem likely that they will act in interest of other companies that is a part of Aker in order to strengthen the whole organisation. With regards to some decisions Aker BP, as an independent company, would possibly be better of making unbiased decisions with regards to Aker.

Another aspect of Aker BP that could be considered a weakness is their choice of only operating on the Norwegian continental shelf. As mentioned in part 4.1.2 Norway are operating with high tax regimes on oil production in order for the reserves recovered from the Norwegian continental shelf to contribute to welfare. Moreover, working in only one geographical area will eventually reduce the growth ability. At one point the on going projects will end, and the ability to discover and develop new projects may decrease or be completely absent. This might happen sooner rather than later since Aker BP is not the only operator working on the Norwegian continental shelf. However, the prospects of producing oil on the Norwegian continental shelf are predicted to last for years to come (Hovland, 2018).

4.3.3 Opportunities

Aker BP has shown to be a company that can potentially continue with a steady growth in the future. In 2017 they submitted plans for development of three new fields; Valhall Flanke West, Ærfugl and Skogul (Aker BP, 2017). This can be view as an opportunity for Aker BP in terms of further growth and expansion of their existing operations.

Another opportunity that took place for Aker BP in 2017 was the acquisition of Hess Norge AS(Aker BP, 2017). With this acquisition Aker BP gained complete ownership of Valhall and Hod fields. Through this acquisition Aker BP went from owning around 30% of the filds to owning 100%. The investment was taken further into a divstment where 10% of the field were sold to Pandion Energy AS (Aker BP, 2017). From the opportunity point of view, this could bring in more investment capital, which can contribute to further development of the company.

Additionally, during 2017 they invested in a technological development to effectively increase recovery (Aker BP, 2017). This is considered an opportunity to increase recovery, which then could lead to increased profits on existing fields.

4.3.4 Threats

One of the major threats of Aker BP would be a global decrease in the price of oil and oil equivalentents. This would cause profits from petroleum to decrease, and make a sustainable company growth difficult to maintain. The global oil price might be threatened by a higher

supply that is caused by oil production in low cost countries. For Aker BP who is only operating on the Norwegian continental shelf there will be a limit to how much they are able to reduce the production costs. This means that oil production placed in low cost countries, causing the global oil price to decrease, can be considered a significant threat for companies like Aker BP.

Another possible threat for a company like Aker BP could be the increased awareness of pollution from oil production and consumption of oil. Technological developments excluding products requiring oil or oil equivalents have significantly increased during the past decade (Solem, 2017). Examples of such technological developments are electrical cars. A decreasing interest of products requiring oil or oil equivalents could cause the demand for oil production to decrease. However, the global consumption of oil has shown to still be increasing (Calcuttawala, 2018).

The main findings trough the SWOT-analysis is summed up in figure 3.

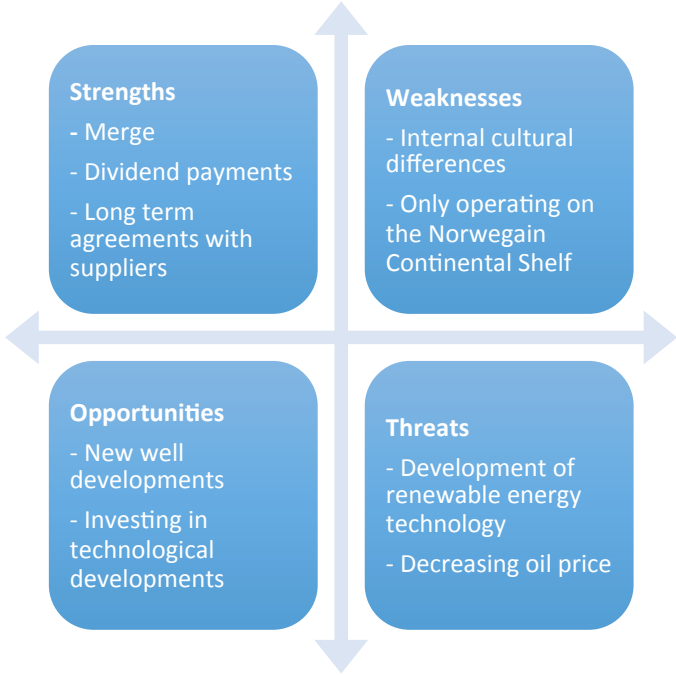


Figure 3 – SWOT- analysis of Aker BP (Petersen, Plenborg & Kinserdal, 2017; own creation)

CHAPTER 5 – ANALYSIS OF FINANCIAL STATEMENTS

In this chapter the historical income statement and balance sheet of Aker BP will be presented and commented. Later on a reformulation will be conducted in order to perform further analysis and establish fundamental numbers to be used later in the valuation. Reformulations of statements are important to be able to divide between different sources of value added to the company (Penman, 2013, p.292). The main purpose of reformulation is to find the operational and financial factors in the income statement and balance sheet.

Further on the values found through the analytical statements will be used to perform an analysis of the profitability. Then a growth analysis will be conducted, and an analysis of the liquidity risk will be examined. The key findings from all of the analysis combined will be used further on in when trying to establish a fair value of Aker BP. The following calculations in this chapter are only based on the financial results presented from the last two years after Aker BP was established as a merged company.

5.1 Reformulated income statement

As stated earlier, Aker BP is a newly merged company, which means that the accounting history is short. So, presented below are the income statements after the company was officially merged and the annual reports were presented for Aker BP as a combined company. The reason why I have chosen not to use income statements further back in time is because the individual statements before the company was merged do not serve any purpose for the valuation for the merged company going forward.

As mentioned in the introduction to this chapter; the main purpose of reformulating the income statement is to divide between the financial and operating assets of the company. This is especially important for valuation in order to determine where the company develop their value creating (Petersen, et.al., 2017, p.111).

Operating profits are considered the main performance measure of a company because this shows the company's profits from its business regardless of how it has been financed (Petersen, et.al., 2017, p. 112). Earnings before interest and tax (EBIT) are explained as measuring the operating profits before tax and was calculated in part 5.1. Even though EBIT is showing the operating profits a reformulation of the income statement in order to find the

net operating profits after tax (NOPAT). The complete reformulated income statement can be found in Appendix A.

The table below shows the key findings from the reformulated income statement. This includes the net revenue, EBITDA, EBIT, NOPAT, net financial expenses, profit after tax and total comprehensive income:

<i>(in 1000 USD)</i>	2016	2017
Net revenue	1 364 129	2 562 933
EBITDA	967 865	1 786 246
EBIT	387 463	1 007 227
NOPAT	131 981	470 887
Profit after tax	34 971	274 787
Total comprehensive income	34 912	299 953

Table 1 – Findings from reformulated income statement (own creation)

Net revenue consists primarily of revenue from petroleum. The other parts of the total revenues are income is realised and unrealised gains and losses on income of liquids and gas.

Earnings before interest and tax, depreciation and amortisation (EBITDA) were calculated by subtracting all expenses from total revenues. The expenses consist of costs related to exploration and production. In both 2016 and 2017 Aker BP had higher expenses related to production than to exploration. This could imply that they have been more focused on producing oil equivalents in existing wells than exploring for new potential fields.

Earnings before interest and tax (EBIT) show the earnings before tax deductions. It was calculated by subtracting depreciation and amortisation from EBITDA in order to find the earnings before tax costs. Depreciation and impairments are values calculated after the acquisition of BP Norge AS in 2016 and the acquisition of Hess Norge AS in 2017. From the acquisitions assets under development, production facilities including wells and office machinery were included (Aker BP, 2017).

Net operating profits after tax (NOPAT) was calculated simply by deducting tax costs from the EBIT. As mentioned in part 4.1.2 the tax costs for oil companies in Norway are very high due to a special tax cost of 55% in addition to the corporate tax of 23%. The high tax costs are visible with the difference in the amounts for EBIT and NOPAT.

Profit after tax shows the profit after financial expenses has been subtracted. The income statement shows that Aker BP has a negative amount of financial income due to higher expenses. The financial expenses consist mainly of interest expenses, realised loss on derivatives, loan costs and accretion expenses.

Total comprehensive income illustrates the profits when other comprehensive income is accounted for. Other comprehensive income consists of gains or losses on pension plan, and currency translation adjustment.

5.2 Reformulated balance sheet

The balance sheet is showing the assets and liabilities of the company. It is also showing the company's equity. Since the merged company Aker BP has not existed for a very long period the historical balance sheet presented below contains the results from 2016-2017, which is the period after Aker BP was established.

The main purpose of reformulating the balance sheet is to identify the operating and financial assets and liabilities (Penman, 2013, p.293). A balance sheet divides between assets and liabilities where assets are based on liquidity and liabilities are based on maturity. This means that reformulating the balance sheet will make it possible to establish the company's liquidity aligned with their long and short-term debt. The complete reformulated balance sheet can be found in Appendix B.

The table below represents the key findings from the reformulated balance sheet:

<i>(in 1000 USD)</i>	2016	2017
Total non-current assets	8 076 905	9 473 926
Total current assets	1 063 004	2 296 980
Total operating liabilities	4 224 734	5 619 599
Invested capital (net operating assets)	4 915 175	6 151 307
Total equity	2 449 207	2 998 596
Interest bearing liabilities	2 581 254	3 410 365
Interest bearing assets	115 286	247 653
Net-interest bearing liabilities	2465968	3162712

Table 2 – Results from reformulated balance sheet (own creation)

Non-current assets were found by adding all the non-current assets in the balance sheet together. In Aker BP's balance sheet they consist of intangible assets, property, plant and equipment, long-term receivables and other non-current assets.

Current assets were found in the same way as non-current assets, simply by adding all the current assets together. The current assets consist mainly of inventories, accounts receivable and tax receivables.

Operating liabilities were found by adding the operating liabilities, which for Aker BP consists of long- and short-term abandonment provisions, deferred taxes, trade creditors and tax payables.

Invested capital can be defined as the total amount invested in a company's operational assets that requires a return to, for instance, shareholders (Petersen, et.al., 2017, p.114). Adding current and non-current assets, and then subtracting the operating liabilities calculated the invested capital.

Total equity was retrieved directly from the balance sheet. In Aker BP's balance sheet the total equity consists of share capital and share premium in addition to other equity.

Interest bearing liabilities was found by adding the liabilities that bears interest together. This includes, for instance, bonds, derivatives and interest bearing debt.

Interest bearing assets mainly consists of cash and cash equivalents in the reformulated income statement of Aker BP. For 2017 it also consists of short- and long-term derivatives, which could imply that derivatives was created for hedging purposes. The annual report of Aker BP (2017) explains that commodity derivatives are mainly used to hedge the risk of a reduction in the oil price.

Net interest bearing liabilities was calculated by subtracting interest bearing assets from interest bearing liabilities. The amount was later used to find the balance between assets and liabilities and equity and interest-bearing assets and liabilities.

5.3 Profitability analysis

In this part the profitability of Aker BP will be analysed in order to determine where the profits comes from. The main purpose of analysing the profitability is to establish the value drivers behind a company's profitability (Penman, 2013, p. 365).

The profitability analysis to be conducted in this chapter is based on the Du Pont model to show the link between different ratios of profitability.

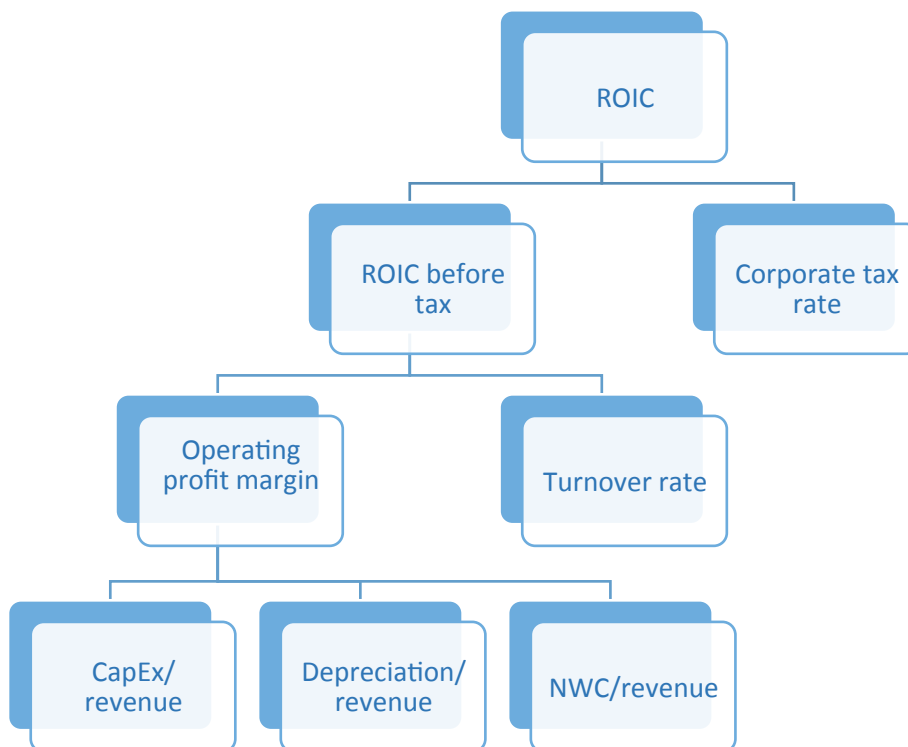


Figure 4 – Du Pont model (Own creation and Petersen, et.al., 2017)

5.3.1 Return on invested capital (ROIC)

Return on invested capital can be found by dividing net operating profits after tax by the invested capital. This amount is then timed out by 100 to find the percentage rate. ROIC is calculated by equation 1:

$$ROIC = \frac{NOPAT}{Invested\ capital} * 100$$

Equation 1 - ROIC (Petersen, et.al., 2017)

<i>(in 1000 USD)</i>	NOPAT	Invested capital	ROIC
2016	131 981	4 915 175	2.68%
2017	470 887	6 161 308	7.64%

Table 3 - Return on invested capital (Petersen, et.al., 2017; own creation)

The calculations show an increase of ROIC from 2.68% in 2016 to 7.64% in 2017. This means that in 2017 Aker BP was able to create a return of 7.64% on every dollar invested on operations. By itself the return on invested equity seems to be at a significant level where Aker BP shows that they are able to create value on the invested equity.

5.3.1.1 ROIC before tax

Return on invested capital can be calculated by dividing EBIT on invested capital. For Aker BP who has their complete operation on the Norwegian continental shelf it would be interesting to calculate the pre-tax ROIC due to the high taxation of oil and gas production in Norway. The equation can be presented as follows:

$$ROIC = \frac{EBIT}{Invested\ capital} * 100$$

Equation 2 - Pre-tax ROIC (Petersen, et.al., 2017)

<i>(in 1000 USD)</i>	EBIT	Invested capital	ROIC before tax
2016	387463	4915175	7.9%
2017	1007227	6161308	16.3%

Table 4 – ROIC before tax (Own creation)

The calculation of both the ROIC before and after tax illustrates that corporate tax have a significant impact for Aker BP. This also might imply the high corporate tax rate of oil producing companies in Norway.

5.3.4 Operating profit margin

In order to find out if an increased expense and revenue relation or an improved utilisation of the capital drives the ROIC, the ROIC needs to be decomposed into operating profit margin and turnover rate:

$$ROIC = Operating\ profit\ margin * Turnover\ rate\ of\ invested\ capital$$

Equation 3 – ROIC: profit margin and turnover rate (Petersen, et.al., 2017)

The operating profit margin (OM) can be found as a subject before and after tax deduction. In order to find the OM before tax one uses the EBIT:

$$OM_{\text{Before tax}} = \frac{EBIT}{Revenues} * 100$$

Equation 4 – OM before tax (Petersen, et.al., 2017)

The OM shows the relation between revenue and expenses and, furthermore, it expresses the operating profit as a percentage of revenues (Petersen, et.al., 2017, p.155).

Moreover, to find the OM after tax one uses the NOPAT as follows:

$$OM_{\text{After tax}} = \frac{NOPAT}{Revenues} * 100$$

Equation 5 – OM after tax (Petersen, et.al.,2017)

Table 5 is showing the calculated OM before and after tax for 2016 and 2017 where the above equations have been used:

	OM before tax	OM after tax
2016	28.4%	9.7%
2017	39.3%	18.4%

Table 5 – Operating profit margin (Petersen, et.al., 2017; own creation)

5.3.5 Turnover rate

The turnover rate of invested capital can be defined as follows:

$$\text{Turnover rate} = \frac{Revenue}{Invested\ capital}$$

Equation 6 – Turnover rate (Petersen, et.al., 2017)

In general, the turnover rate of invested capital illustrates the company’s efficiency on the capital invested (Petersen, et.al.,2017, p. 156). This means, for instance, that the turnover rate shows how much revenue the company creates on every dollar invested.

Table 6 is showing the turnover rate of invested capital for Aker BP in the period 2016-2017:

	2016	2017
Turnover rate	0.28	0.42

Table 6 – Turnover rate (Own creation)

The turnover rate of 0.28 from 2016 indicates that invested capital is tied up for approximately 3.5 years (360/0.28), while the turnover rate from 2017 indicates that the invested capital is tied up for approximately 2.3 years (360/0.42).

5.3.6 Capital expenditure on revenue

Capital expenditure (CAPEX) is defined as the funds a company decides to use for maintaining, for instance, property, equipment etc. (Berk & DeMarzo, 2014, p. 32). Moreover, this financial expense is also used expand or maintain operational developments. By finding the ratio for capital expenditure on revenue it is possible to find at what rate of revenues is used on capital expenditure. The rate compares Aker BP’s capital expenditures on their total income. The rate can be found by dividing CAPEX on revenue. In table 7 the rate for Aker BP in the period 2016-2017 can be found:

(in 1000 USD)	2016	2017
Capital expenditure	935 755	977 462
Total revenues	1 364 129	2 562 933
CapEx/ total revenues	68.5%	38%

Table 7 – CapEx/total revenues (Petersen, et.al., 2017; own creation)

Capital expenditure is retrieved from the cash flow statements of Aker BP for 2016-2017. The results show that the company was heavily invested in 2016 due to the high ratio of 68.5%. In 2017 the ratio shows that Aker BP was lighter invested with the lower ratio of 38%. This result can be considered as both negative and positive all dependent on how fast or steady Aker BP is able to create these investments into income. The decrease in the capital

expenditure on revenues ratio can imply that Aker BP is able to create the investments into income.

5.3.7 Net working capital on revenue

Net working capital (NWC) represents the cash that is needed for maintaining or realise future operations (Berk & DeMarzo, 2014, p. 26). It can be calculated by subtracting current liabilities from current assets. By dividing net working capital on revenues it is possible to find out the percentage of net working capital on revenue. This will deduct whether the working capital requires a lot of current assets to generate revenue. A high rate would imply a significant need of current assets to generate revenue. A low rate would imply the opposite.

Table 8 is showing the net working capital of Aker BP in the period 2016-2017. It also shows the net working capital on revenue rate:

<i>(in 1000 USD)</i>	2016	2017
Current assets	1 178 290	2 532 069
Current liabilities	884 739	2 888 476
Net working capital	293 551	-356 407
Total revenues	1 364 129	2 562 933
NWC/total revenues	21.5%	-13.9%

Table 8 – NWC/total revenues (own creation)

The results in the table above show a decrease in rate of net working capital on revenues from 2016 to 2017. The interpretation of these results would be that Aker BP did not require a significant amount of current assets in order to generate revenue in 2017.

5.3.8 Depreciation on revenue

Depreciation in accounting relations a method of allocating the cost of a tangible asset over a period of expected lifetime for that asset (Berk & DeMarzo, 2014, p. 25). Depreciation is considered an expense for a company due to the lowering of value of an asset as time goes by. Dividing depreciation on revenue will deduct a company’s non-cash expenses in relation to their income. Table 9 shows depreciation on revenue for Aker BP in the period 2016-2017:

<i>(in 1000 USD)</i>	2016	2017
Depreciation	509 027	726 670
Revenue	1 364 129	2 562 933
Depreciation/revenue	37.3%	28.4%

Table 9 – Depreciation on revenue (own creation)

The result in table 9 shows a slight decrease in depreciation on revenue from 2016 to 2017. As table 9 illustrates this is caused by a significant increase in total revenues and not a decrease in depreciation. In terms of the numbers the depreciation could seem to have remained the same, and the changes in the rate is caused by increase in total revenues.

5.4 Analysis of growth

In this part of the thesis an analysis of Aker BP's historical growth will be presented. As mentioned, Aker BP has not existed as a merged company for more than a couple of years. This means that the ability to establish their historical growth will be restricted. However, the analysis performed in this part will have an important role when conducting analysis of future growth later in this thesis.

Growth of a company can be measured through different parameters drawn from the reformulated income statement, balance sheet and cash flow statement (Penman, 2013, p.393). In the context of Aker BP it would be interesting to look at the growth in revenue, operating profits (EBIT), net earnings and invested capital from 2016 to 2017.

5.4.1 Growth in return on equity

Return on equity (ROE) is defined as measuring profitability when considering the effect on financial leverage (Petersen, et.al., 2017, p.168). ROE can be calculated with the following equation:

$$\text{Return on equity} = \frac{\text{Net profit after tax}}{\text{Book value of equity}} * 100$$

Equation 7 – Return on equity (Petersen, et.al., 2017)

Growth in return on equity is considered to be one of the main growth rates investors consider when considering a firms growth in profits (Petersen, et.al., 2017, p.169). The calculated ROE for AkerBP is presented in the table 10 along with the growth from 2016-2017:

<i>(in 1000 USD)</i>	2016	2017	Growth rate
Profit after tax	34 971	274 787	
Book value of equity	2 449 207	2 998 596	
ROE	1.43%	9.16%	85.7%

Table 10 – Return on equity (Petersen, et.al., 2017; own creation)

The results in the table show a growth in ROE of 85.7% from 2016 to 2017. For investment purposes this is showing a strong result for Aker BP. Even though the growth rate is high, the rates for return on equity are moving towards a normal rate. Since the growth rate in ROE is showing to be high from 2016 to 2017 it is more likely to even out during the next years. One explanation of the high growth rate on ROE could be the increased revenue that positively affects profit after tax.

5.4.2 Other types of growth

Growth can be measured from different parts of the income statement and the balance sheet.

Table 11 presents an overview of the different elements that is analysed for growth of Aker BP:

<i>(in 1000 USD)</i>	2016	2017	Growth rate
Revenue	1 364 129	2 562 933	63%
EBIT	387 463	1 007 227	95%
NOPAT	131 981	470 887	127%
Invested capital	4 915 175	6 161 308	22.5%
Equity	2 449 207	2 998 596	20.2%

Table 11 – Different growth parameters (Petersen, et.al., 2017; own creation)

On average, all of the measured elements in table 11 are showing growth for Aker BP. For the three former parameters a growth have might been triggered by the increase in revenue. Aker BP has also increased their invested capital from 2016 to 2017. Moreover, the company has slightly increased their equity that could be caused by an increase in share price and/or the recognised increase in revenue.

5.4.3 Sustainable growth rate

In general, a company has to secure financing for growth plans in order to maintain growth (Petersen, et.al., 2017, p.186). This is because a limitation in financing will also limit the growth possibilities, for instance, due to lack of investment on profitable projects. Growth has a strong connection to the firm's return on equity (ROE). This meaning that the ROE needs to be sufficient in order for the company to require financing for the project. Without a sufficient ROE the company will not reach a sufficient growth due to not being able to finance new projects that can generate more profits. The relationship between growth and ROE is illustrated by the equation:

$$Growth = ROE * (1 - PO)$$

Equation 8 – Sustainable growth rate (Petersen, et.al., 2017)

PO is the payout ratio to shareholders, which is the dividend as a percentage of the net profit.

When the merge of Aker BP was publicly presented they argued that the merge would make it possible to pay dividends to shareholders. This statement was reflected in the income statement where dividend payout is included. With this information it is possible to estimate the sustainable growth rate for Aker BP in 2017. The growth rate will create a benchmark for estimating future growth in the process of fundamental valuation of Aker BP. Table 12 shows the sustainable growth rate for Aker BP for 2017:

	2017
ROE	9.16%
PO	90.97%
Sustainable growth rate	0.827%

Table 12 – Sustainable growth rate (Petersen, et.al., 2017; own creation)

Aker BP paid 250 million in dividends in 2017. This amount was divided by the profits after tax of 274 787 000 to find the PO ratio. The result of the sustainable growth rate can be interpreted as a minor yet steady growth for Aker BP.

5.5 Analysis of liquidity risk

Even though Aker BP has not existed as a merged company for a very long time when this thesis is written it is not possible to analyse a long history of the company's liquidity.

However, analysing the company's liquidity from the past two years might give an idea of the

company’s current risk of liquidity. The following part will establish the long- and short-term liquidity risk of Aker BP based on their current financial statements.

5.5.1 Long-term liquidity risk

Two well-known and well-used ratios for evaluating long-term liquidity risk are the equity ratio and financial leverage (Petersen, et.al., 2017, p.216). These two ratios are able to establish how well a company is able to serve their long-term debt. Moreover, the equity ratio is able to predict if the company is facing bankruptcy some time in the future. It is decided to calculate these ratios in this thesis to try to predict the future of Aker BP in terms of liquidity risk based on the recent years numbers.

The equity ratio and the financial leverage can be found by the equations as follows:

$$Equity\ ratio = \frac{Equity}{Total\ assets}$$

Equation 9 – Equity ratio (Petersen, et.al., 2017)

$$Financial\ leverage = \frac{Total\ liabilities}{Equity}$$

Equation 10 – Financial leverage (Petersen, et.al., 2017)

Both the equity ratio and the financial leverage are argued to provide the same information about a company’s long-term liquidity risk. When the ratios are calculated it is possible to use both book values and market values of assets and liabilities. Petersen, et.al.(2017) recommends using the market values of assets and liabilities since they provide a more accurate value on a company’s assets and liabilities.

In the table 13 the ratios are calculated with both book value and market value in order to provide a comparison of the ratios using the different values.

<i>(in 1000 USD)</i>	2016	2017
Equity (book value)	2449207	2998596
Equity (market value)	6827686	10219922
Total liabilities	6805998	9029964
Financial leverage (book value)	2.78	3.01

Financial leverage (market value)	0.10	0.88
Total assets	9255196	12018650
Equity ratio (book value)	0.26	0.25
Equity ratio (market value)	0.74	0.85

Table 13 – Financial leverage and equity ratio (Petersen, et.al., 2017; own creation)

The results of financial leverage and equity ratio of both book value and market value in Table 13 seem to be low. This is because all the values are below 1, and can be interpreted as illustrating relatively low long-term liquidity risk. Even though the financial leverage of market value has significantly increased from 2016 to 2017, the value by itself is still low. This means that it does not illustrate any major changes to long-term liquidity risk for Aker BP.

5.5.2 Short-term liquidity risk

Another part of a firm's liquidity risk is the evaluation of the company's ability to meet short-term obligations. This means the company's ability to pay off short-term debt, and also known as an evaluation of short-term liquidity risk. In difference to long-term liquidity risk, facing short-term liquidity risk are often easier to handle because the risk is often attached to, for instance, funding of a project before the returns have taken place (Petersen, et.al., 2017, p.231).

It might be argued that cash flow from operations and current net interest-bearing liabilities are highly related to short-term liquidity risk. This relationship is shown through the following equation:

$$\begin{aligned} & \text{Cash flow from operations to short – term financial debt ratio} \\ & = \frac{\text{Cash flow from operations}}{\text{Current net interest – bearing liabilities}} \end{aligned}$$

Equation 11 – Cash flow from operations to short-term financial debt ratio (Petersen, et.al., 2017)

The main purpose behind this ratio is to figure out how well a company is able to cover short-term debt with its current cash flow. This ratio calculated for Aker BP is illustrated in the table 14:

<i>(in 1000 USD)</i>	2016	2017
Cash flow from operations	895652	2155491
Current net interest-bearing liabilities	2465968	3162712
Cash flow from operations to short-term financial debt ratio	0.36	0.68

Table 14 – Cash flow from operations to short-term financial debt ratio (Petersen, et.al., 2017; own creation)

The results illustrated in Table 14 shows that Aker BP has a decreasing short-term liquidity risk from 2016 to 2017. It is difficult to draw any other trends from this calculation since Aker BP only has financial statements for the past two years. However, if they continue the trend of 2016-2017 with regards to short-term liquidity risk they will be able to keep the risk at a low level.

CHAPTER 6 – FORECASTING

This chapter will combine the strategic analysis from chapter 4 and the financial statement analysis from chapter 5 in order to create a forecast for Aker BP. A forecast focuses on establishing pro forma information about a company's financial state. This means that going forward the historical information will be used in order to estimate future economical performance of Aker BP.

6.1 Strategic and financial value drivers

This part of the thesis will try to establish the strategic value drivers discussed in chapter 4, and the financial value drivers analysed in chapter 5. Together they should create a fundamental for forecasting future performance and value of Aker BP.

6.1.1 Strategic value drivers

Strategic value drivers can be defined as the operational or strategic actions performed by the company in order to enhance value (Petersen, et.al., 2017, p.268). In chapter 4 the strategic analysis of both macroeconomic and microeconomic analysis were conducted. The strategic value drivers to be discussed in this part of the thesis are drawn from the analysis in chapter 4.

The first strategic value driver for Aker BP would be the ability to increase use of new technology and create cost efficient methods. For future performance this will potentially contribute to increase profitability by reducing costs. On a general basis, reduction of production costs can be considered a strategy that can drive value.

Another strategic value driver for Aker BP might be the choice to develop new projects. Even though development of new projects might decrease free cash flow for a period of time and thereby reduce profitability due to investment costs, it can potentially generate value over time. With a sustainable economy Aker BP is symbolising great economical strength by presenting new and potential future project that they plan to enter into.

Entering into different frameworks with different suppliers in order to have predictable costs can be considered a third value driver. This is because creating sustainable alignments with

suppliers may secure operations and potentially lower costs. Moreover, this could make operations more predictable where the costs would not become a surprise.

A fourth strategic value driver might be their investment in technology to increase recovery. An increase in recovery could imply an increase in petroleum revenues and the ability to better exploit the already existing production wells. As mentioned in part 4.1.1.3 the Norwegian Petroleum Association has discovered through research that the average recovery rate is 50%. This means that 50% of the well potential is left behind after ended recovery. Investments to increase recovery can thereby be considered a strategic driver of value.

The fifth strategic value driver for Aker BP would be their statement of continuing exploration on the Norwegian continental shelf. By this action they symbolise that they are continuing to find growth factors for their company by exploring for new potential project.

The last strategic value driver at this point in time might be the merge that resulted in Aker BP. The merger contributed to secure future growth of the company and value creation. Furthermore, the merger did make it possible for Aker BP to aim for becoming a leading independent exploration and production company. Moreover, the acquisition of Hess Norge AS in 2017 contributed to a complete ownership of two oil fields; Valhall and Hod. This would directly increase revenues due to higher potential income from both oil fields.

6.1.2 Financial value drivers

According to Petersen, et.al. (2017) a financial value driver can be defines as a financial ratio, which is measuring a company's financial performance that is highly related to creation of value. In chapter 5 different value drives were analysed from the reformulated income statement and reformulated balance sheet. Being able to perform a valuation it is important to select the key financial value drivers of Aker BP (Petersen, et.al., 2017, p.266).

Based on the strategic value drivers the key financial value drives selected for further estimation in this thesis is revenue growth, profitability, capital expenditures, investment in working capital and depreciation. Moreover, these financial value drivers will be used to estimate the future free cash flow to the firm.

Growth in revenue and profitability are considered important for Aker BP with regards of their investment focus of increasing recovery and reducing costs. For future estimation one would expect these values to grow at a steady state in order for the company to continue creating profits.

As described in the strategic value drivers Aker BP is focused on maintaining production at existing oil fields as well as exploration of new oil fields. Future development will rely on the capital expenditure. Future estimation of this value driver will conduct how the expenses used on maintenance will affect their value. Along with the net working capital it is possible to estimate what could be expected costs for maintenance of existing rigs etc. The value will then be divided by revenue to figure out at what percentage of revenue that needs to be used for maintenance in the future.

The last key financial value driver is depreciation. For Aker BP depreciation is mainly for reserves of oil equivalents. This can be a significant value driver because a high depreciation rate may affect the total value of the company. Depreciation should be calculated as a rate of revenue in order to find out how significant it actually affects revenue.

6.2 Forecast based on strategic and financial statement analysis

Forecasting in this thesis means estimating future performance of Aker BP. The following part will estimate different ratios that will be used to forecast a future cash flow. Since Aker BP was established as a merged company during 2016 the following forecast are based partly on their performance from 2016 to 2017. The forecasted ratios will also be highly affected by the strategic value drivers in order to establish the most reasonable estimation of future cash flow. Forecasted ratios below will be presented through graphs and the complete estimation can be found in Appendix C.

6.2.1 Revenue growth

Aker BP is a newly merged company. As analysed in chapter 5 they had a significant revenue growth from 2016 to 2017. This could be due to their acquisition of Hess Norge AS that gave them 100% ownership of Valhall and Hod. However, even though Aker BP has had a significant revenue growth during the past two years one would not expect the high revenue

growth to continue into eternity. The forecast of revenue growth is presented in the graph below:

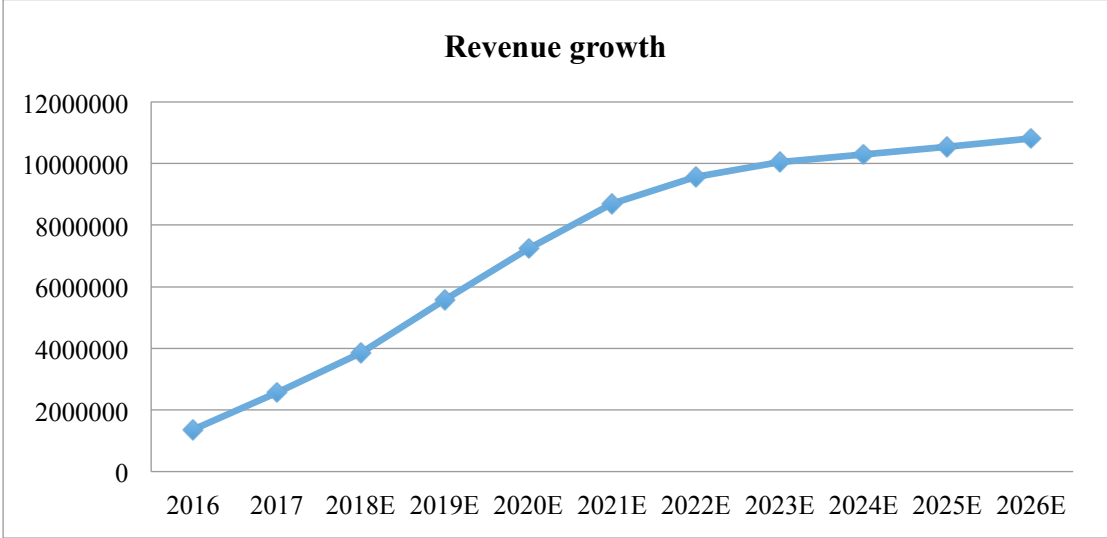


Figure 5 – Forecasted revenue growth (own creation)

Figure 5 illustrated that the revenue growth will eventually to even out. This is because growth cannot be expected to be higher than the average growth of the economy. A higher growth would indicate a break of the economy that is not considered possible. On the other hand, the oil price development presented in chapter 4 has shown to increase during the past few years. Taking this into account when estimating the forecast of revenue growth the decrease is not to great since one would expect the oil price to continue its small and steady increase for the years to come (Wasberg, 2017).

6.2.2 Profitability

The forecast of profitability is highly dependent on revenue and costs. Since Aker BP have already plans of three new project one could expect these to have high costs in their starting face. However, these costs would be expected as investments and thereby most likely be depreciated in the financial statements. By this action profitability could be expected to increase due to an expectation of lowering costs. In addition to the steady increase in revenue growth the profitability would also be expected to increase mainly due to expected higher income than costs. The estimated forecast of profitability is presented below:

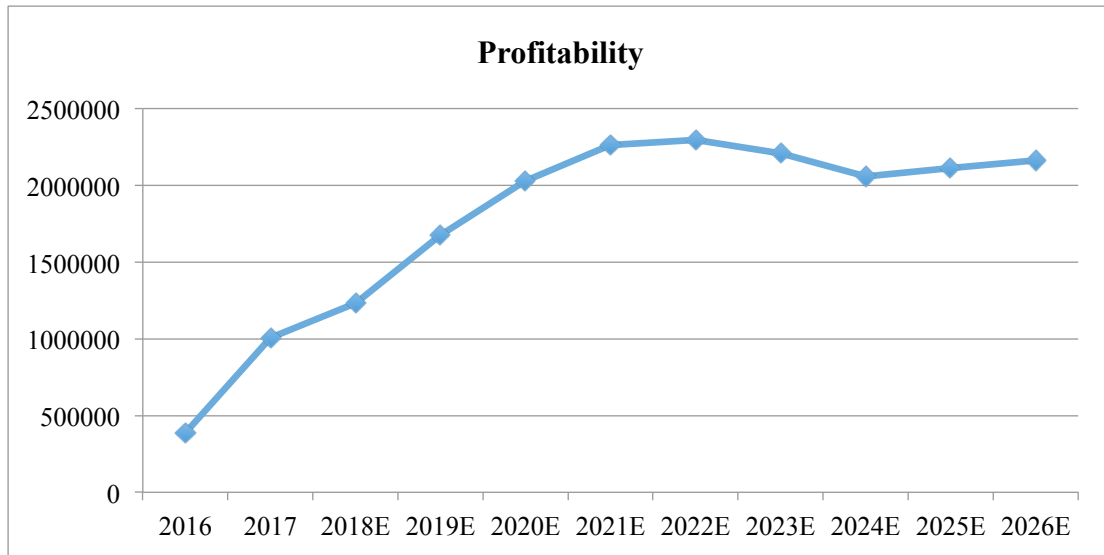


Figure 6 – Forecasted profitability (EBIT) (own creation)

Even though the profitability is expected to increase in the years to come it is not expected to only increase. As the graph illustrates the profitability might fluctuate more as a result of investment of new projects. This forecast of profitability might be considered reasonable because of the future investment plans of Aker BP.

6.2.3 Depreciation

From the short historical perspective of Aker BP the depreciation has shown to be increasing yet stable. Depreciation is forecasted to increase from 2018 to 2022 due to the expected increased production. This is illustrated by figure 7:

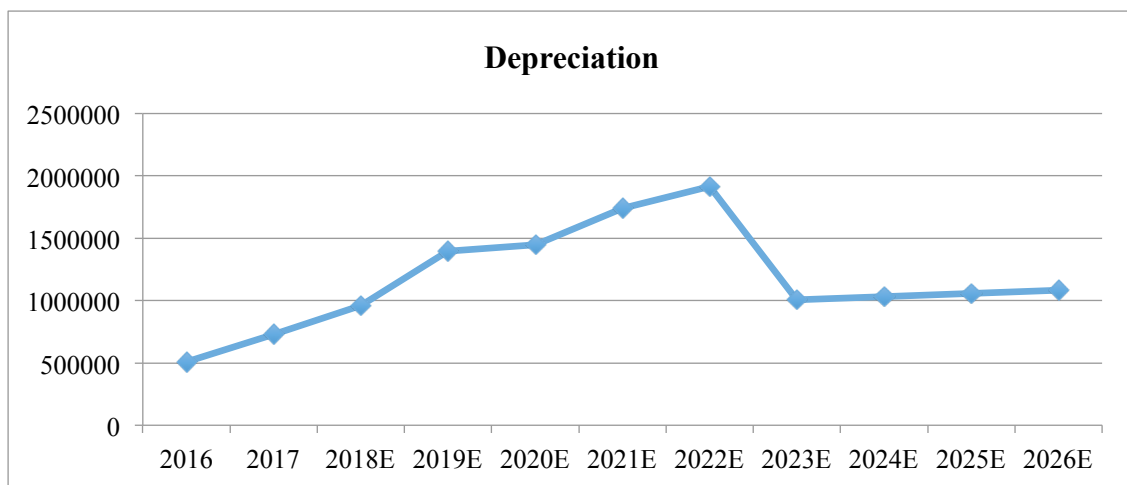


Figure 7 – Forecasted depreciation (own creation)

Depreciation is expected to even out after 2023. The reason why the depreciation might even out is because revenue is expected to slowly increase. Even though the depreciation might increase also the impact on increased revenue will make less changes. Another reason is that Aker BP has shown to have a relatively stable depreciation during their first two years as a merged company.

6.2.4 Capital expenditures

With regards to capital expenditures the analysis in part 5.3.6 it showed to have a small increase from 2016 to 2017. This might be considered an expected change since capital expenditure shows the capital used, for instance, for maintenance of property. Due to the planned project development of Aker BP the capital expenditure is expected to increase from 2018, and then decrease from 2021. The capital expenditure is then expected to even out from 2023 onwards. The expected changes are illustrated in Figure 8.

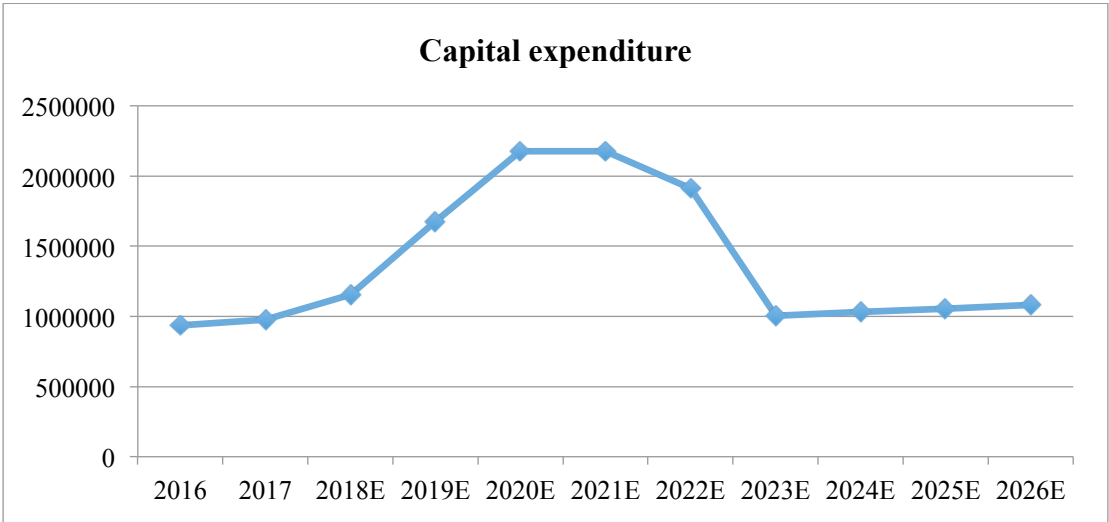


Figure 8 – Forecasted capital expenditure (own creation)

Even though capital expenditure is expected to increase due to expectance of starting new projects and also maintaining current projects, the rate on revenue is not expected to increase due to expected revenue growth.

6.2.5 Investment in working capital

Along with the capital expenditure, investment in working capital can be expected to increase. This can be expected because Aker BP has already submitted a plan for starting three new projects. As the working capital illustrated how much the company will use on future projects an increase can be expected due to the potential start of three new projects. One also needs to

consider the possibility of exploring further potential projects in the years to come. The estimated graph below illustrates some of these factors:

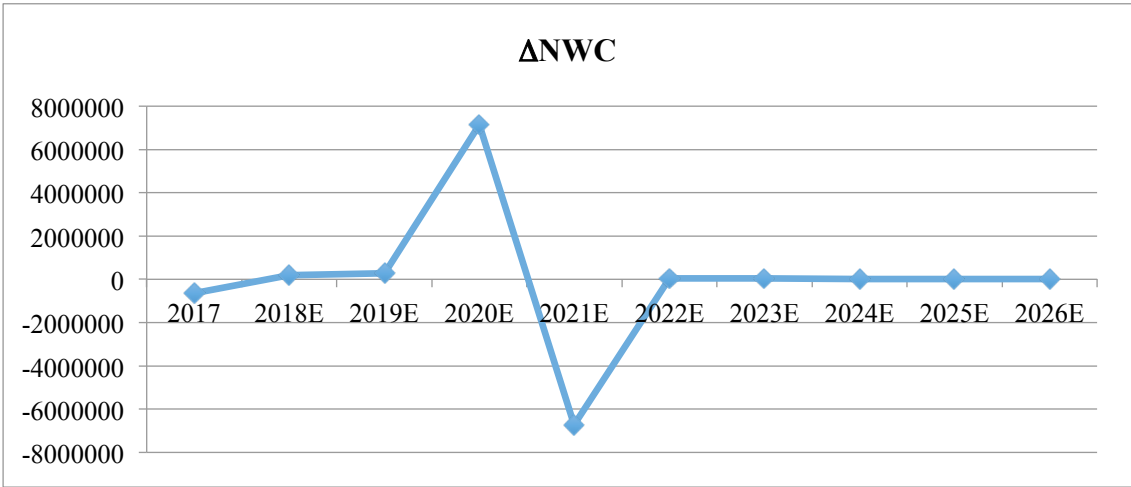


Figure 9 – Forecasted delta net working capital (own creation)

In addition to the capital expenditure on expenditure investment in working capital on revenue is expected to fluctuate from 2019 to 2022 and then even out. The fluctuation can be explained by the development project planned by Aker BP. The reason for the working capital on revenue to eventually even out is because the major investments will be depreciated in the financial statements.

6.3 Forecasted free cash flow to the firm

The forecasted free cash flow is based on the forecast presented in part 6.2. The values are assembled in Table 15. This represents a forecasted free cash flow to firm for Aker BP.

Forecasted free cash flow to firm for Aker BP:

(in 1000 USD)	2017	2018E	2019E	2020E	2021E	2022E	2023E	2024E	2025E	2026E
EBIT	1007227	1230208	1672314	2029074	2260968	2295752	2209662	2059003	2110478	2163240
Tax	66 %	78 %	78 %	78 %	78 %	78 %	78 %	78 %	78 %	78 %
NOPAT	342457	270646	367909	446396	497413	505066	486126	452981	464305	475913
Dep	726670	961100	1393595	1449339	1739206	1913127	1004392	1029501	1055239	1081620
CapEx	977462	1153320	1672314	2174008	2174008	1913127	1004392	1029501	1055239	1081620
dNWC	-649958	202631	265264	7135205	-6724931	52176	28697	15066	15443	15829
FCFF	741623	-124205	-176073	-7413478	6787543	452889	457429	437915	448863	460084

Table 15 – Forecasted free cash flow (Berk & DeMarzo, 2014; own creation)

In the forecasted free cash flow represented by Table 15 a tax rate of 78% was used. The reason for using the high tax rate was because this is the standard set in Norway for oil producing companies as previously discussed in part 4.1.2. The negative cash flow estimated for 2018-2020 is due to the start of new projects and expenses related to exploration. From 2021 it is estimated that Aker BP will have a positive free cash flow due to the returns on the new projects. On the basis of the estimated free cash flow the future of Aker BP looks positive and growing.

CHAPTER 7 – FUNDAMENTAL ANALYSIS

In this chapter a fundamental analysis of Aker BP will be performed. Primarily the theory behind fundamental analysis will be discussed. Then the cost of capital to be used in the valuation will be estimated. Furthermore, the findings from the valuation will be presented along with the forecasted free cash flow from the previous chapter.

7.1 Present value approach

One of the most frequently applied valuation methods is fundamental valuation or present value. The methods allows you to discount future cash flow or future incomes (Petersen et.al., 2017, p.300). There are different present values one can discount, however the most common once are shown to be dividends, excess returns and free cash flows (Petersen, et.al., 2017; Berk & DeMarzo, 2014; Bodie, et.al., 2014). A valuation method like the present value approach might be highly accurate for assets with a fixed stream of income, for instance bonds held to maturity. On the other hand, for assets with variable or unknown future stream of income the quality of the outcome can vary. The quality of the asset valuation will depend on the estimated discount factors and the estimated future stream of income (Petersen, et.al., 2017, p.300). The estimated variables will also require high quality of judgement that may include an evaluation of asset risk and strategic impacts of the firm and its industry (Petersen et.al., 2017, p. 300).

7.1.1 The discounted cash flow approach

As previously mentioned a common present value approach is the discounted free cash flow approach, and it is also considered the most popular of the present value approaches. There are two methods that can specify the discounted cash flow approach. The process behind discounted free cash flow is to forecast the free cash flow of a company, and then discount the forecasted free cash flow to find its present value (Berk & DeMarzo 2014, p.285). This determines the total value of the company, which can be divided on the number of outstanding shares in order to compare the estimated price per share to the market price per share. This will give an opportunity to determine if the company is over- or undervalued by the market. One of the main differences between the discounted cash flow model and other valuation models is the discount rate. The discount rate used in the DCF model is the weighted average cost of capital (WACC). The WACC is the average cost of capital that the

company must pay to its investors, which could be both equity and debt holders (Berk & DeMarzo, 2014, p. 285).

7.2 Cost of Capital

Cost of capital can be defined as the required return needed for budgeting capital (Penman, 2010, p.445). It mainly consists of cost of equity and cost of debt. This is because a firm's project is financed either by equity, debt or a mix of both. The components in cost of capital are built up by WACC, which is a weighted average of all capital sources (Penman, 2010, p. 447). WACC can be used in different contexts such as evaluating a company for financing or when establishing a company value. In this part WACC will be used to figure out if the calculated ROIC is at a sustainable level the ratio should be compared to the weighted average cost of capital (WACC). Cost of capital, and WACC, will also be used later in this thesis.

The WACC equation can be presented as follows:

$$WACC = \frac{NIBL}{NIBL + MVE} * r_d * (1 - t) + \frac{Equity}{NIBL + MVE} * r_e$$

Equation 12 – WACC (Petersen, et.al., 2017)

Where,

NIBL = market value of net interesting bearing liabilities

MVE = market value of equity

r_d = return on debt

r_e = return on equity

t = tax rate

Return on equity (r_e) and return on debt (r_d) will be calculated in the following parts. And the market value of equity and net interest bearing liabilities will be defined through the calculation of capital structure.

7.2.1 Return on equity

First, a return on equity needs to be calculated for use in the WACC equation. Return on equity can be calculated by using the capital asset pricing model (CAPM). The main point by

using the CAPM-model is that the investors will only pay for the risk that cannot be diversified, which means the systematic risk that is noted as beta (β).

$$r_e = r_f + \beta_L * (r_m - r_f)$$

Equation 13 – Return on equity (Petersen, et.al., 2017)

Where,

r_e = Return on equity

r_f = Risk-free interest rate

β_L = Levered beta

$(r_m - r_f)$ = Market risk premium

7.2.2 Risk free rate

The risk free rate is defined as the rate you can earn by placing your money in a risk-free asset (Bodie, et.al., 2014, p.129). An example of a risk free asset could be simply placing your money in on a bank account. Risk free rate used for further calculations of return on equity and return on debt was found through survey made by PWC in 2017 where the risk free rate was at 3% (PWC, 2017).

7.2.3 Beta estimation

From Equation 13 an estimation of beta needs to be in place to calculate the required rate of return. Beta measures the systematic risk of the return on a security compared to the market (Berk & DeMarzo, 2014, p.407). One way of estimating the beta of a security is to use the regression method. This method include using historical returns of the company and a market portfolio from the past two to five years, and then perform a regression analysis (Berk & DeMarzo, 2014, p.407). Since Aker BP has not existed as a merged company for more than 1,5 years, using the regression method would not give an accurate result.

So, an alternative method of estimating the beta is used. The beta of equity for Aker BP can be estimated by the following equation:

$$\beta_L = \beta_U + \frac{D}{E}(\beta_U - \beta_D)$$

Equation 14 – Levered beta (Berk & DeMarzo, 2014)

Where,

β_L = Beta of equity

β_U = Unlevered beta

β_D = Beta of debt

$\frac{D}{E}$ = Market value of debt

Domodaran (2016) have compared 133 oil and gas companies working with exploration and production and estimated an unlevered beta of 0.85. This unlevered beta will be used when calculating the beta of equity for Aker BP. A credit rating performed by S&P gave Aker BP a rating of BB+ with a stable outlook in 2017(Aker BP, 2018c). This credit rating is used when determining the debt beta of Aker BP. From a study made by Schaefer, et.al.(2009) the average debt beta from credit ratings of BB is 0.17. When estimating the levered beta for Aker BP from the equation presented above a debt beta of 0.17 will be used. This is because it is not safe to assume a debt beta of zero due to the credit rating of Aker BP from 2017.

Now all the components of Equation 14 is collected, and the estimated beta is:

$$\beta = 0.85 + 0.33*(0.85-0.17) = \mathbf{1.07}$$

7.2.4 Market risk premium

PWC (2017) reported that the market risk premium in Norway was 5.0% in 2017. Since Aker BP is a Norwegian company traded on Oslo Stock Exchange and operates only on the Norwegian continental shelf, it would seem reasonable to use the market risk premium for Norway when calculating the return on equity.

Combining all the components of the previous parts it is possible to calculate the return on equity by using Equation 13:

$$0.03 + 1.07*(0.05) = \mathbf{0.083}$$

7.2.5 Return on debt

Return on debt is how much investors can expect to get in return when investing in company's debt (Petersen, et.al., 2017, p. 363). It is calculated by dividing interest expenses by the net interest bearing liabilities:

$$r_d = (r_f + r_s) * (1 - t)$$

Equation 15 – Return on debt (Petersen, et.al., 2017)

Where,

r_d = Return on NIBL

r_f = Risk-free interest rate

r_s = Credit spread (risk premium on NIBL)

t = Corporate tax rate

The risk premium on Aker BP's NIBL was calculated to 3.5%. In their annual report of 2017 they reported a average return on NIBL of 6.5%. The average return on NIBL was deducted from a risk-free interest rate of 3% (PwC, 2017). The tax rate used is the average tax rate of an oil and gas company in Norway, which is 23% of corporate tax and 55% of specialised tax

By combining the components of Equation 15 the return on debt is calculated as follows:

$$(0.03 + 0.035)*(1-0.78) = \mathbf{0.0143}$$

7.2.6 Capital structure

The capital structure is the proportions of equity and debt that a company uses for funding and securing growth (Berk & DeMarzo, 2014, p. 479). Capital structure as the part used to calculate the WACC, as presented by Equation 12 Petersen et.al. (2017) argue that capital structure must be based on market values since the market values mirrors the true return of equity and debt. The market value of equity is calculated as follows:

$$\text{Market value of equity} = \text{share price} * \text{number of shares outstanding}$$

Equation 16 – Market value of equity (Petersen, et.al., 2017)

The market value of debt is found by adding the long- and short-term interest bearing debt. For my calculation of WACC it is the market value of equity and the market value of debt that will be used. The table below shows the capital structure of Aker BP based on the market value of equity and debt.

Market value of equity	(27.08 USD*360110000) = 9751778800	9751778800/14546554800 = 33%
Market value of debt	288476000 + 1906300000 = 4794776000	4794776000/14546554800 = 67%
Total market value	14546554800	100%

Table 16 – Capital structure ratios (Aker BP, 2017; own creation)

The ratios found in Table 16 will be used to estimate the WACC.

7.2.7 WACC

In table 17 the rates estimated in the previous parts are collected, and Equation 11 is used to calculate the WACC for Aker BP.

NIBL (market value of debt)	4794776000
Equity (market value of equity)	11649558500
r_d	0.0143
r_e	0.083
Corporate tax	0.78
WACC	0.056

Table 17 – WACC for Aker BP (own creation)

7.3 Discounted cash flow valuation of Aker BP

The discounted cash flow valuation was performed on the forecasted free cash flow from part 6.3. Then the WACC was added as the discount rate in order to find the present value of the forecasted free cash flow. Then the terminal value was then calculated from the present value by the following equation:

$$Terminal\ value = \frac{FCF_n * (1 + g)}{WACC - g}$$

Equation 17 – Terminal value (Berk & DeMarzo, 2014)

The long-run growth rate used in the calculation of terminal value is the growth rate of GDP of 2% (World Bank, 2018). This is because a long-term growth rate of a company will move towards the growth rate of GDP (Berk & DeMarzo, 2014, p.285). Furthermore, the present value of the FCFF was calculated along with the present value of terminal value. Adding

together the present value of FCFF and the present value of terminal value calculated the enterprise value. By deducting the net interest bearing debt the equity value was found. Dividing the equity value by the number of shares outstanding resulted in the estimated value per share for Aker BP. The results from all the calculations can be found in Table 18.

(in 1000 USD)	2017	2018E	2019E	2020E	2021E	2022E	2023E	2024E	2025E	2026E
EBIT	1007227	1230208	1672314	2029074	2260968	2295752	2209662	2059003	2110478	2163240
Tax	66 %	78 %	78 %	78 %	78 %	78 %	78 %	78 %	78 %	78 %
NOPAT	342457	270646	367909	446396	497413	505066	486126	452981	464305	475913
Dep	726670	961100	1393595	1449339	1739206	1913127	1004392	1029501	1055239	1081620
CapEx	977462	1153320	1672314	2174008	2174008	1913127	1004392	1029501	1055239	1081620
dNWC	-649958	202631	265264	7135205	-6724931	52176	28697	15066	15443	15829
FCFF	741623	-124205	-176073	-7413478	6787543	452889	457429	437915	448863	460084
Discount rate		1.06	1.12	1.178	1.244	1.313	1.387	1.46	1.55	1.63
Present value		-117619	-157913	-6293275	5456223	344927	329797	299122	290338	281742
Terminal value	13035719									
PV of FCFF	433343									
PV TV	7982882									
Enterprise value	8416225									
NIBD	3162712									
Equity value	5253513									
Shares outstanding	360113	Million								
Value per share	14.59	USD								

Table 18 – DCF valuation of AkerBP (Berk & DeMarzo, 2014; own creation)

The results from Table 18 exhibit that the estimated value per share based on the forecasted future cash flow is 14.59 USD. The noted share price on the 28.03.18 was 27.08 USD. The results from the valuation by the discounted cash flow could imply that the market overvalues Aker BP ASA.

CHAPTER 8 – SENSITIVITY ANALYSIS

In this chapter a sensitivity analysis will be conducted to determine some of the critical areas of the estimated NPV in chapter 7. The sensitivity analysis is divided into three parts where three different elements of the estimated NPV are tested. The first analysis is testing percentage change of revenue, the second analysis tests the percentage change of capital expenditure, and the third analysis tests changes in WACC. All of the changes are tested by their effect on share price.

8.1 Sensitivity Analysis

A sensitivity analysis can be defined as a method of breaking down the assumption components of an NPV calculation and showing how the NPV changes with a change in the components (Berk & DeMarzo, 2014, p. 253). The analysis makes it possible to explore different effects and blunders of the estimated NPV. Moreover, a sensitivity analysis can help in identifying the most critical aspects of projects or companies and thereby improve management of, for instance, a project or company (Berk & DeMarzo, 2014, p.254).

As discussed through the strategic analysis in chapter 4 and the financial statement analysis in chapter 5, critical aspects of Aker BP might be the fluctuation in the global oil price and the costs of oil production. Through the following parts of this chapter a sensitivity analysis for revenue changes, capital expenditure changes and WACC will be conducted to determine their effect on the share price. All calculations of the sensitivity analysis can be found in Appendix D.

8.2 Changes in revenue

Revenues are, as discussed, the income of a company that might be generated through, for instance, sales. For Aker BP revenues means the income generated through sales of oil equivalents. The level of revenue might highly be determined by the ability to produce oil equivalents, and the global price of oil equivalents. Based on this information a sensitivity analysis for changes in revenues was performed in order to determine how the changes might affect the estimated share price.

The analysis was performed by changing the estimated revenues from a decrease to -20% to an increase of estimated revenue to 20%. The changes in estimated revenues were then

implemented into the FCF model to estimate a per share price based on the changes. The graph below illustrates the effect on per share price when changes in revenues are implemented. Exact numbers from the graph and estimated revenue changes can be found in Appendix D.

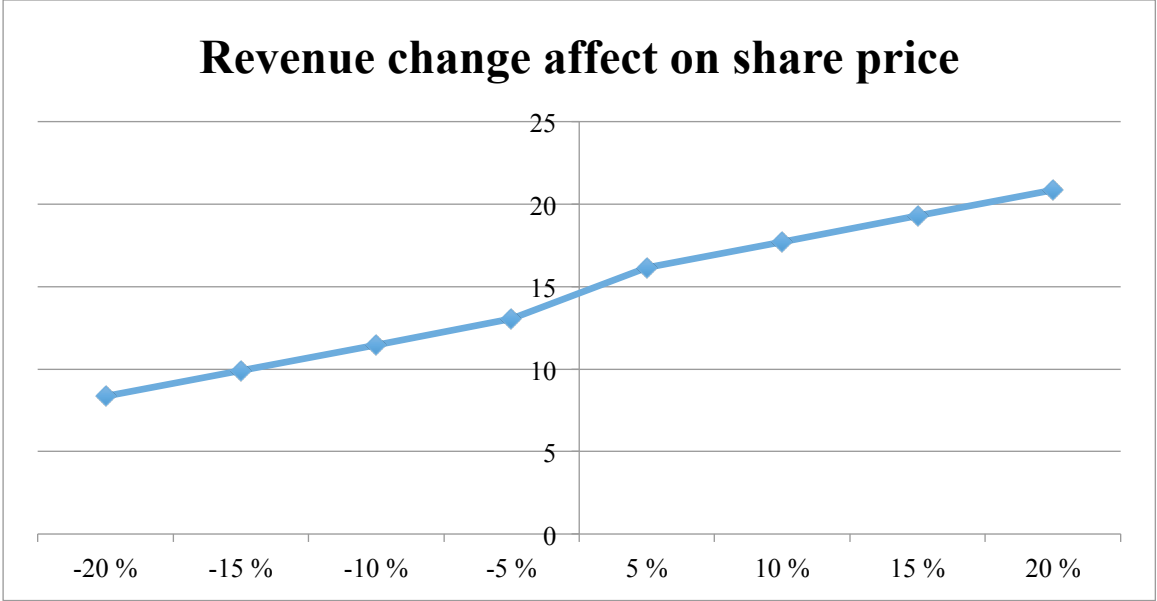


Figure 10 – Revenue change affect on share price (own creation)

Figure 10 exhibits that a decrease of estimated future revenues by 20% will cause a decrease in per share price from 14.59 USD to 8.34 USD. This implies a per share price change of 42.8%. A decrease in per share price by 42.8% with a 20% decrease in forecasted future revenues can be considered a significant risk element for the value of Aker BP.

Moreover, even a smaller decrease of the future forecasted revenues by 10% can reduce the per share price to 11.46 USD, which implies a decrease of 21.5%. This illustrates that the price per share will nearly increase by the double percentage of the decrease in forecasted revenues. On the other hand, increasing the estimated future revenues by 20% will result in a price per share increase of 42.8% to 20.84 USD. With regards to the fluctuations in the oil price this can be considered a critical element of the NPV of Aker BP because small changes in the revenues can result in significant changes of the price per share.

8.3 Changes in cost

For Aker BP as a merged company they have not only increased their ability to produce oil equivalents and become a significant competitor in the market, they have also increased their assets and their need of capital expenditure. Due to Aker BP’s industry the capital expenditure

can become considerable when trying to maintain their assets. Thereby a sensitivity analysis has been conducted to test the capital expenditures affect on the share price. As with the prior analysis, the percentage change of the capital expenditure has been estimated and implemented into the FCFE to evaluate the impact on the estimated share price. The graph below illustrates the affects on positive and negative changes of the estimated capital expenditure.

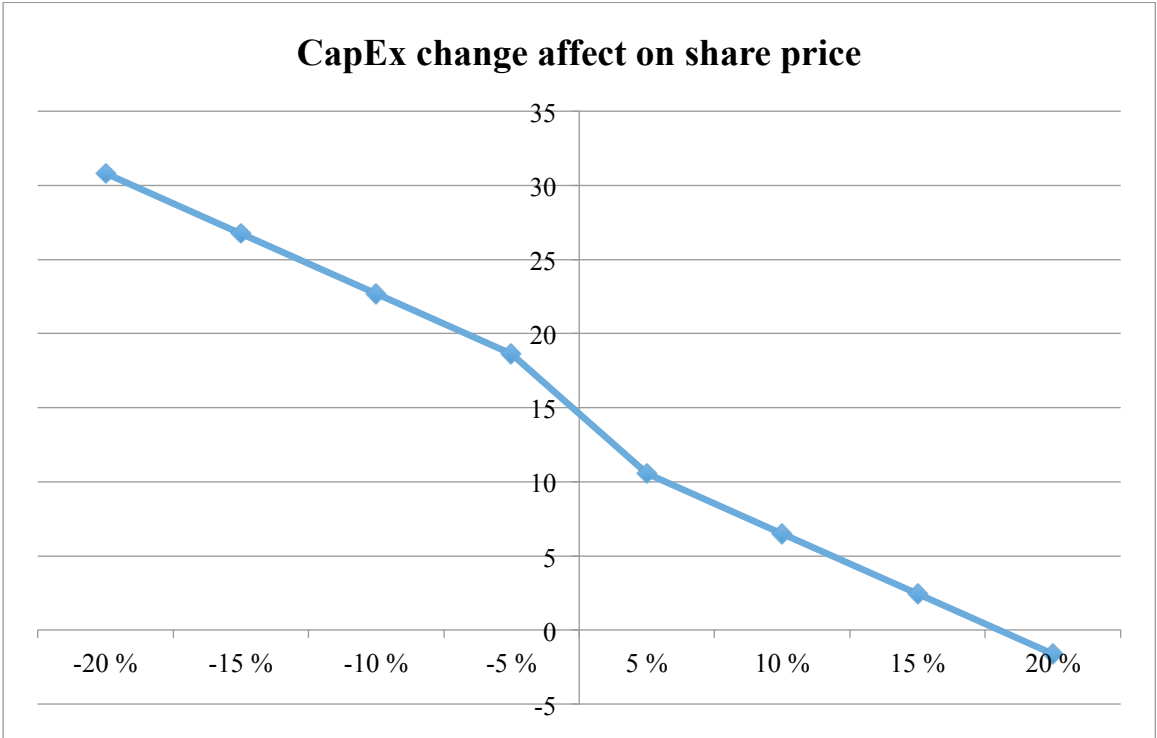


Figure 11 – CapEx change affect on share price (own creation)

Figure 11 exhibits that a small decrease in the estimated future capital expenditure have considerable impact on the share price. A decrease of 20% on the forecasted future capital expenditure might nearly double the price per share to. In comparison, an increase of the capital expenditure by 20% results in a price per share below zero.

Comparing the sensitivity analysis of capital expenditure to revenues I would conclude that based on the estimated NPV, Aker BP is more sensitive to changes in capital expenditure than changes in revenue.

8.4 Changes in WACC

WACC is used as the discount rate for the forecasted future cash flow and the present value of terminal value. This sensitivity analysis was conducted to observe how changes of WACC affect the share price.

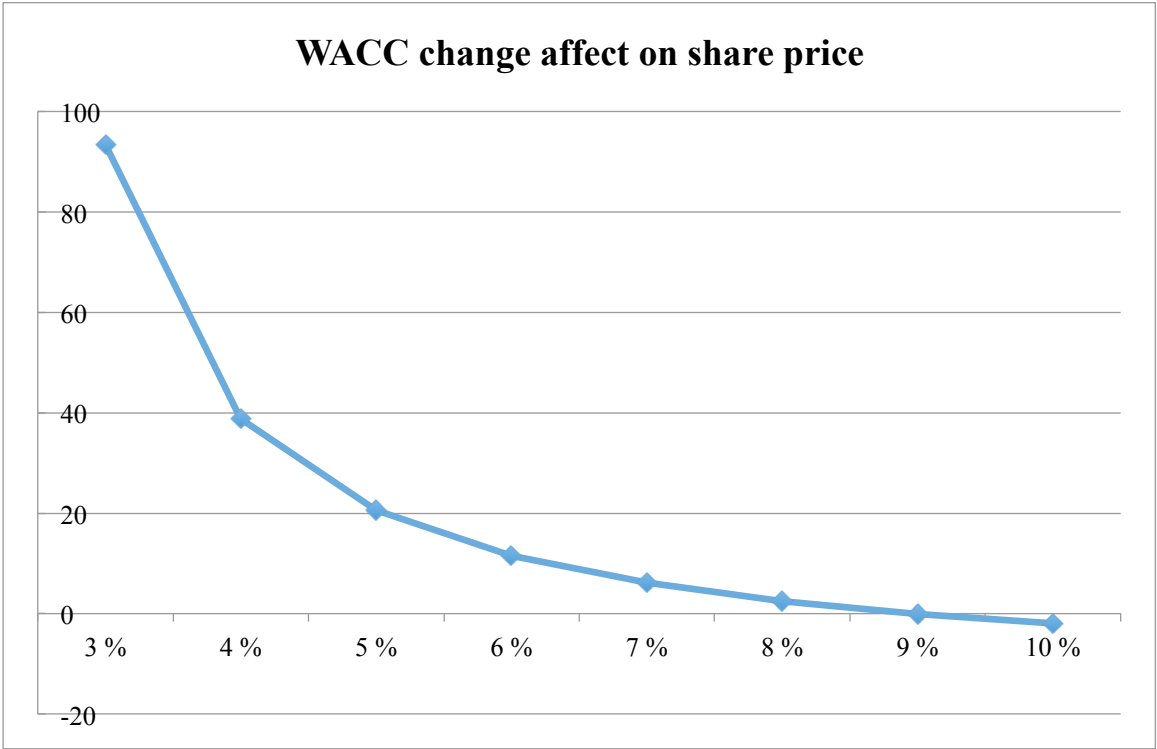


Figure 12 – WACC change affect on share price (own creation)

Figure 12 illustrates that minor changes in WACC as a discount rate has a significant affect on the share price. For instance, if the discount rate were reduced to 3% the share price would increase to almost 100 USD. This could be due to the use of a continuing growth rate of 2% as discussed in part 7.2.8. However, a decrease of WACC to 4% shows a price per share of 38.79 USD, which can be considered a significant affect on price per share with only a decrease of WACC by 1.6%. Since WACC is used as a discount rate one would expect that lower percentages of WACC to have a positive affect on estimated price per share. On the other hand, Figure 12 also shows that a decrease of WACC has a lower affect on estimated price per share. This could imply that the estimated FCFF are more sensitive to a decrease of WACC then to an increase. However, an increase of WACC of more than 4% from the estimated 5.6% would result in a negative price per share.

CHAPTER 9 – RELATIVE VALUATION

In this chapter a relative valuation by comparing multiples will be conducted. First the theory behind relative valuation will be presented. Then comparable companies will be explained and selected. The calculated multiple ratios will be presented and compared. At the end of the chapter a discussion on the reliability of relative valuation is conducted.

9.1 Relative valuation approaches

Relative valuation are stated to have a lower level of complexity and the approach is often more popular among practitioners (Petersen, et.al., 2017, p.317). On the other hand, multiples can be practical when comparing values with other companies where the same multiples are applied. This can inform the analyst on how, for instance, the company is performing in terms of value compared to similar companies.

Valuation by multiples can be interpreted by different methods. Petersen, et.al.(2017) explains that one method of using the multiples can be to compare them with peer companies by finding the industry average by using calculations of mean or median, and then compare the industry average to the multiples of the company in question. This is the method that will be used later in this chapter when performing the relative valuation of Aker BP.

The following figure shows the commonly used relative valuation multiples according to Petersen, et.al. (2017). The valuation multiples presented in Figure 13 will be used in the following parts of this thesis when performing a relative valuation of Aker BP.

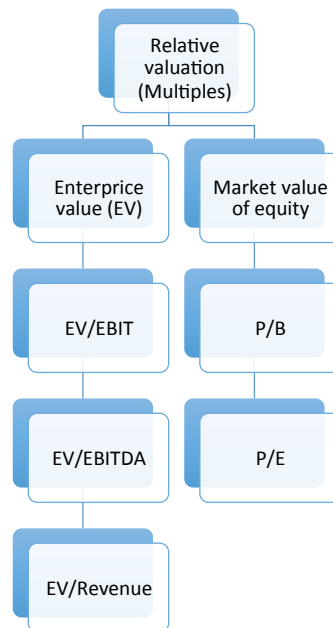


Figure 13 – Relative valuation approaches (Petersen, Plenborg & Kinserdal, 2017; own creation)

Figure 13 illustrates a mixed use of price ratios and enterprise value ratios. The main purpose of using different multiples is to have a wider range of multiples to compare to. This might give a broader view of the valuation of Aker BP using the comparable multiples.

9.2 Comparable companies

When selecting comparable companies I first focused on exploration and production oil companies in Europe. Then the focus was turned to listed exploration and production companies. When trying to find comparable firms I looked at their earnings, net interest bearing debt, price of shares and number of shares outstanding. After looking into many different potential comparable companies I selected the following companies to compare:

- Equinor ASA
- DNO ASA
- Centrica PLC
- Total SA

The main argument for selecting these companies is that they all operate as exploration and production companies. Another argument was that they all have partial or significant operations on the Norwegian Continental shelf. Since Aker BP is only operating on the

Norwegian Continental Shelf it was important to select comparable companies operating in the same area.

Another significant factor to evaluate when selecting companies might be their capital structure and their economic appearance (Petersen et.al., 2017, p.318). Below is a summation of different economic values of the comparable companies.

(in 1000 USD)	Equinor ASA	%	DNO ASA	%	Centrica PLC	%	Total S.A.	%	Aker BP ASA	%
Book value of equity	39861000	62%	875900	59.9%	2699000	33.2%	111556000	68%	2988596	38.4%
Book value of debt	24183000	38%	718200	45.1%	5433000	66.8%	52436000	32%	4794776	61.6%
Market value	64044000	100%	1594100	100%	8132000	100%	163992000	100%	7783372	100%
Outstanding shares	333.0 million		1083.81 million		561.0 million		266.0 million		360.11 million	
Price per share (28.03.18)	23.07 USD		1.6 USD		186.7 USD		55.54 USD		27.1 USD	
Market value of equity	7682310		1734096		104738700		14773640		9758981	

Table 19 – Comparable companies capital structure (Yahoo finance, 2018; own creation)

Table 19 shows the capital structure of the comparable companies, and it shows that the capital structure is relatable between the companies. The market share prices of the companies are variable. However, they can be relatable with regards to the market value of equity. With everything taken into account the companies seem reasonable for comparing purposes when considering both the capital structure and the other relatable factors.

9.3 Price multiple ratios

Price multiple ratios can be defined as ratios that uses the market share price of a company (Investopedia, 2018). As explained through Figure 13 the price-to-earning (P/E) and price-to-book (P/B) ratios are some of the most frequently used ratios in relative valuation.

The p-multiple ratios used in this analysis were calculated as follows:

P/E – ratio: market value per share/ earnings per share

P/B – ratio: Price per share/ book value per share

	P/E	P/B
<i>Equinor ASA</i>	16.74	1.92
<i>DNO ASA</i>	4.02	2.28
<i>Centrica PLC</i>	24.37	3.02
<i>Total SA</i>	19.21	1.36
Industry average (mean)	16.09	2.15
Industry average (median)	17.98	2.10
Aker BP	34.80	4.27

Table 20 – P-multiples (Bloomberg, 2018; own creation)

Table 20 exhibit the calculated P/E and P/B ratios where a industry average is estimated and compared to ratios of Aker BP. The results show that Aker BP is slightly above the estimated industry average calculated by mean. Moreover, Aker BP's multiples are also significantly above the industry average calculated by median. This could imply that Aker BP might be overvalued in the market, which could support the findings from the valuation using the discounted cash flow approach. However, this conclusion would only be reliable if assuming that the comparable companies are the optimal selection.

9.4 Enterprise value ratios

The enterprise value can be considered the value of a company's investments and assets (Penman, 2013). Calculating the enterprise value and then calculating the EBIT and EBITDA estimated the ratios. Revenues were retrieved from the financial statements of the companies. The numbers used in calculating the EV ratios can be found in Appendix E. The EV-multiple ratios were calculated as follows:

- EV/EBIT-ratio: Enterprise value/ earnings before interest and tax
- EV/EBITDA-ratio: Enterprise value/ earnings before interest, tax, depreciation and amortisation
- EV/Revenue-ratio: Enterprise value/ revenues

	EV/EBIT	EV/EBITDA	EV/Revenue
<i>Equinor ASA</i>	9.54	5.28	1.88
<i>DNO ASA</i>	32.04	22.68	47.93
<i>Centrica PLC</i>	11.37	7.03	0.48
<i>Total SA</i>	17.23	6.75	1.24
Industry average (mean)	17.54	10.44	12.88
Industry average (median)	14.3	6.89	1.56
Aker BP	15.36	8.66	6.00

Table 21 – EV-multiples (Yahoo finance, 2018; own creation)

Table 21 shows that the EV-ratios of Aker BP are just below the industry average ratios calculated by mean. On the other hand, one of the comparable companies has deviating EV-multiples compared to the other comparable companies. When industry average is calculated by median the results seem to be more reliable since the deviating company is not have a significant affect on the average. Comparing the industry average calculated by the median, Aker BP's multiples are significantly higher. This might also support the results of the fundamental valuation in chapter 7.

9.5 Limitations of the relative valuation

Even though relative valuation might give supportive findings of other valuation methods, or put other valuation methods to question, relative valuation has its limitations. For instance, valuation by multiples can be inaccurate due to the underlying factors of the ratios used in the valuation (Liu, J., et.al., 2002). Another limitation is that multiples used in relative valuation are based on market price. Penman (2013) explains that the analysis is not secured in any fundamental analysis that indicated the value exclusively from the market price.

CHAPTER 10 – CONCLUSION

To sum up, Aker BP has started of as a strong merged company. Aker BP operates in an industry that is highly affected by global movements such as politics and technological development. The industry is also highly affected by global movements of supply and demand of oil or oil equivalents, which affects the global oil price. Aker BP as a company has shown to have synergy effect with regards to aligning positions, leveraging resources and integrating value chain activities. They retrieve business strength from the merge that gave Aker BP the ability to pay dividends. Moreover, they are shown great strength when focusing on reducing production cost and entering into long term agreements with suppliers. The opportunities have also increased as Aker BP have developed plans for project developments, and by investing in technological development. However, one of their weaknesses is that they have chosen to operate only on the Norwegian continental shelf. Their business could also be negatively affected by the increased development of renewable energy.

On the other hand, through the analysis of Aker BP's financial statements they are showing to develop their business in a positive direction by increasing profits and growth. Liquidity analysis showed that Aker BP was not currently a subject to liquidity risk. Combining the strategic analysis and the financial statements analysis a forecast was conducted and illustrated a positive development of Aker BP. By Discounting their forecasted future cash flow the results showed a price per share of 14.59 USD. Compared to the market share price of 28.03.18, which was 27.08 USD, Aker BP seems to be overvalued by the market. The estimated price per share was tested against affects on changes in revenues, capital expenditure and WACC. The results showed that the price per share was highly sensitive of changes in capital and WACC, and less sensitive to changes in revenues. At last, the per share price found by the DCF model the valuation was compared to a relative valuation where multiples were calculated. The multiples were calculated from a set of comparable companies and then compared to the multiples of Aker BP. The findings showed to support the findings of the fundamental valuation.

Based on the analysis and valuations conducted in this thesis Aker BP's fair value is lower than the value determined by the market. Moreover, an investor would not be recommended to by the stock of Aker BP since the estimated fair value is lower compared to the price in the market.

10.1 Limitations of the research

One of the main limitations for this research is that Aker BP has not existed as a company for a long period of time. Aker BP do not have a wide range of historical data to analyse in order to determine movements into the future. However, this is a limitation that is highly accounted for when the valuation was completed.

Another limitation could be attached to the use of valuation methods. It would have been possible to value the company by using other types of valuation methods that could have given a different result. On the other hand, the valuation methods used in this master thesis are considered reasonable for the valuation of Aker BP.

A third limitation of this research is the information available to perform the valuation. The available information is restricted to the information published through their annual reports. This could result in limitations of the research with regards to the available information.

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Appendix A: Reformulated income statement

Reformulated income statement		
(in 1000 USD)	2016	2017
Petroleum revenue	1260803	2575654
Other income	103326	-12721
Net revenue	1364129	2562933
Exploration expenses	147453	225702
Production costs	226818	523379
Other operating expenses	21993	27606
EBITDA	967865	1786246
Depreciation	509027	726670
Impairments	71375	52349
EBIT	387463	1007227
Corporation tax	255482	536340
Effective tax rate (%)	88 %	66 %
NOPAT	131981	470887
Interest income	5795	7716
Other financial income	42871	75507
Interes expenses	82161	103627
Other financial expenses	63515	175696
Net financial expenses	-97010	-196100
Profit after tax	34971	274787
Gain/ loss pension plan	-	-1
Currency translation adjustment	-59	25167
Total of other comperehensive income	-59	25166
Total comprehensive income	34912	299953

Appendix B: Reformulated balance sheet

Reformulated balance sheet		
(in 1000 USD)		
	2016	2017
Non-current assets		
Intangible assets	3 575 044	3 842 582
Property, plant and equipment	4 441 796	5 582 493
Long-term receivables	47 171	40 453
Other non-current assets	12 894	8 398
Total non-current assets	8 076 905	9 473 926
Current assets		
Inventories	69 434	75 704
Accounts receivable	170 000	99 752
Tax receivables	400 638	1 586 006
Other short-term receivables	422 932	535 518
Total current assets	1 063 004	2 296 980
Operating liabilities		
Deferred taxes	1 045 542	1 307 148
Long-term abandonment provision	2 080 940	2 775 622
Provisions for other liabilities	218 562	152 418
Short-term abandonment provisions	75 981	268 262
Trade creditors	88 156	32 847
Tax payable	92 661	351 156
Accrued public charges and indirect taxes	39 048	27 949
Other liabilities	583 844	704 197
Total operating liabilities	4 224 734	5 619 599
Invested capital (net operating assets)	4 915 175	6 151 307
Total equity	2 449 207	2 998 596
Net interest-bearing liabilities		
Long-term bonds	510 337	622 039
Long-term derivatives	35 659	13 705
Other interest-bearing debt	2 030 209	1 270 556

Short-term derivatives	5 049	7 691
Short-term interest-bearing debt	-	1 496 374
Interest bearing liabilities	2 581 254	3 410 365
Long-term derivatives	-	12 564
Short-term derivatives	-	2 585
Cash and cash equivalents	115 286	232 504
Interest bearing assets	115 286	247 653
Net-interest bearing liabilities	2 465 968	3 162 712
Invested capital	4 915 175	6 161 308

Appendix C: Forecasted elements for free cash flow

Revenue growth:

(in 1000 USD)	2016	2017	2018E	2019E	2020E	2021E	2022E	2023E	2024E	2025E	2026E
Revenues	1364129	2562933	3844400	5574379	7246693	8696032	9565635	10043917	10295014	10552390	10816200
Growth		87,9 %	50,0 %	45,0 %	30,0 %	20,0 %	10,0 %	5,0 %	2,5 %	2,5 %	2,5 %

Profitability:

(in 1000 USD)	2016	2017	2018E	2019E	2020E	2021E	2022E	2023E	2024E	2025E	2026E
Revenues	1364129	2562933	3844400	5574379	7246693	8696032	9565635	10043917	10295014	10552390	10816200
EBIT	387463	1007227	1230208	1672314	2029074	2260968	2295752	2209662	2059003	2110478	2163240
EBIT margin	28,4 %	39,3 %	32,0 %	30,0 %	28,0 %	26,0 %	24,0 %	22,0 %	20,0 %	20,0 %	20,0 %

Depreciation:

(in 1000 USD)	2016	2017	2018E	2019E	2020E	2021E	2022E	2023E	2024E	2025E	2026E
Depreciation	509027	726670	961100	1393595	1449339	1739206	1913127	1004392	1029501	1055239	1081620
Revenues	1364129	2562933	3844400	5574379	7246693	8696032	9565635	10043917	10295014	10552390	10816200
Dep/Rev	37,3 %	28,4 %	25,0 %	25,0 %	20,0 %	20,0 %	20,0 %	10,0 %	10,0 %	10,0 %	10,0 %

Capital Expenditure:

(in 1000 USD)	2016	2017	2018E	2019E	2020E	2021E	2022E	2023E	2024E	2025E	2026E
CapEx	935755	977462	1153320	1672314	2174008	2174008	1913127	1004392	1029501	1055239	1081620
Revenues	1364129	2562933	3844400	5574379	7246693	8696032	9565635	10043917	10295014	10552390	10816200
CapEx/Rev	68,6 %	38,1 %	30,0 %	30,0 %	30,0 %	25,0 %	20,0 %	10,0 %	10,0 %	10,0 %	10,0 %

Investments in working capital:

(in 1000 USD)	2016	2017	2018E	2019E	2020E	2021E	2022E	2023E	2024E	2025E	2026E
NWC	293551	-356407	-153776	111488	7246693	521762	573938	602635	617701	633143	648972
Revenues	1364129	2562933	3844400	5574379	7246693	8696032	9565635	10043917	10295014	10552390	10816200
NWC/Rev	21,5 %	-13,9 %	-4,0 %	2,0 %	4,0 %	6,0 %	6,0 %	6,0 %	6,0 %	6,0 %	6,0 %
dNWC		-649958	202631	265264	7135205	-6724931	52176	28697	15066	15443	15829

Appendix D: Sensitivity analysis

Calculation of revenue from -20% to 20% change:

<i>(in 1000 USD)</i>	2018	2019	2020	2021	2022	2023	2024	2025	2026
-20 %	3075520	4459503	5797354	6956825	7652508	8035133	8236012	8441912	8652960
-15 %	3267740	4738222	6159689	7391627	8130790	8537329	8750762	8969531	9193770
-10 %	3459960	5016941	6522024	7826429	8609071	9039525	9265513	9497151	9734580
-5 %	3652180	5295660	6884358	8261230	9087353	9541721	9780264	10024770	10275390
0 %	3844400	5574379	7246693	8696032	9565635	10043917	10295014	10552390	10816200
5 %	4036619	5853098	7609028	9130833	10043917	10546112	10809765	11080009	11357010
10 %	4228839	6131817	7971362	9565635	10522198	11048308	11324516	11607629	11897820
15 %	4421059	6410536	8333697	10000436	11000480	11550504	11839267	12135248	12438630
20 %	4613279	6689255	8696032	10435238	11478762	12052700	12354017	12662868	12979440

Results of effect on share price when change in revenue:

Revenue change	-20 %	-15 %	-10 %	-5 %	0 %	5 %	10 %	15 %	20 %
Share price (USD)	8,34	9,9	11,46	13,03	14,59	16,15	17,72	19,28	20,84

Calculation of capital expenditure from -20% to 20% change:

<i>(in 1000 USD)</i>	2018E	2019E	2020E	2021E	2022E	2023E	2024E	2025E	2026E
-20 %	922656	1337851	1739206	1739206	1530502	803513	823601	844191	865296
-15 %	980322	1421467	1847907	1847907	1626158	853733	875076	896953	919377
-10 %	1037988	1505082	1956607	1956607	1721814	903952	926551	949715	973458
-5 %	1095654	1588698	2065308	2065308	1817471	954172	978026	1002477	1027539
0 %	1153320	1672314	2174008	2174008	1913127	1004392	1029501	1055239	1081620
5 %	1210986	1755929	2282708	2282708	2008783	1054611	1080977	1108001	1135701
10 %	1268652	1839545	2391409	2391409	2104440	1104831	1132452	1160763	1189782
15 %	1326318	1923161	2500109	2500109	2200096	1155050	1183927	1213525	1243863
20 %	1383984	2006777	2608810	2608810	2295752	1205270	1235402	1266287	1297944

Results of share price change when change in capital expenditure:

CapEx change	-20 %	-15 %	-10 %	-5 %	0 %	5 %	10 %	15 %	20 %
Share price (USD)	30,8	26,74	22,69	18,64	14,59	10,54	6,49	2,43	-1,62

Results of share price change when change in WACC:

WACC	10 %	9 %	8 %	7 %	6 %	5 %	4 %	3 %
Share price (USD)	-1,94	-0,03	2,53	6,14	11,57	20,63	38,79	93,4

Appendix E: Numbers used in EV-ratio calculations

	Earnings	Book Equity	NIBD	Market Cap	EV	EBIT	EBITDA	Revenues
Equinor ASA	4590000	39861000	24183000	90516000	114699000	12025000	21716000	60972000
DNO ASA	495000	875900	718200	15931000	16649200	519600	734100	347400
Centrica PLC	333000	2699000	5433000	8143000	13576000	1194000	1930000	28023000
AkerBP	274787	2998596	4794776	10681000	15475776	1007227	1786246	2575654
Total SA	8299000	111556000	19251000	165219000	184470000	10709000	27320000	149099000