Hedging Strategy Analysis for Chevron Corporation

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ABSTRACT

For oil companies, commodity price risk is an issue that cannot be ignored, and it is particularly important to hedge their price risk in the spot market and develop a reasonable strategic plan. This paper takes Chevron Corporation, a US oil giant, as an example, and analyzes how it uses financial derivatives to hedge its financial risk and control its losses in the event of a large loss in the spot market due to a large shock in the economic market. We also analyze the company's internal and external status with the SWOT analysis method and make reasonable suggestions to help the company come up with a targeted corporate strategy.

Keywords: *Hedging, Investment, SWOT model, Chevron.*

1. INTRODUCTION

The price of oil fluctuated against the backdrop of the New Crown epidemic and the price war between Saudi Arabia and Russia. The New Crown epidemic has caused a shock to the national economy since its outbreak in late January, causing a major impact on oil consumption and a sudden drop in oil prices posing a significant financial risk to oil companies. Yue Wang [1] analyzed the impact of the New Crown epidemic on the oil industry and concluded that the impact would pick up quickly as time progressed. Chaoquan Liu [2] and others argue that the oil market is gradually recovering and will enter a tight balance under controlled supply. And along with time, oil prices in 2021 have gone all the way up and the operating results of the five major international oil companies, including ExxonMobil, Shell, BP, Total, and Chevron, have rebounded substantially.

If the low oil price is a major challenge for oil companies, then the development of new energy is another major challenge. As the electrification process continues, the structure of the global energy system will be fundamentally adjusted. Wenxin Li et al. [3]suggest that based on the current social environment, oil companies should adjust their traditional oil and gas business and system energy development according to their business structure, operation level, and external changes in the environment (e.g. changes in consumer market and national policies), and take the social responsibility of global environmental protection and emission reduction.

This paper takes Chevron Corporation as the object of study and provides a hedging solution for it by using financial derivatives to reduce the loss in the spot market caused by oil price fluctuations in response to the current situation of oil price collapse. At the same time, the SWOT analysis is used to study the current situation of Chevron in the context of the current society and to provide more accurate recommendations for the company.

2. FIRM DESCRIPTION

Chevron Corporation is one of the world's largest energy companies, headquartered in San Ramon, California, and has a global presence in the energy business. Its operations encompass all aspects of the natural gas industry, such as exploration, production, refining, marketing, transportation, petrochemicals, and power generation. The company operates through two business segments: upstream, which includes exploration, development, and production of crude oil and natural gas; downstream, which includes the refining of crude oil into commercial products; and the sale of crude oil, and refined petroleum products, and lubricants.

Table 1 provides the financial data of CVX for the last three quarters. From the balance sheet, we can see that the company's debt-to-equity ratio has been at close to 1. The company is in a safer financial position and with its good reputation, it can obtain larger loans from banks, which is more conducive for it to seize speculative opportunities. From the income statement, it can be seen that the company's profit is gradually increasing, after the

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black swan event in the exchange rate market and the impact of the new crown epidemic on the economic market, the company is in a low rebound situation and the company's income status is gradually improving. From the company's cash flow statement, we can see that the company is gradually increasing its efforts to invest and finance, and the utilization rate of existing cash flow is gradually increasing, which is a better trend for the long term, but for the short term situation, we also need to pay attention to the cash flow risk.

Meanwhile, the company's stock price is shown in Figure 1, and through the image, we can see the change in the company's stock price for the last three years. As can be observed from the data we have selected for the stock price from 2019 to 2022, CVX's stock first experienced a trough and then rebounded to reach an all-time high. It is worth noting that the global economic market downturn caused by the new crown outbreak in 2020 is there - a rather bad thing for such industries that are suffering from inflated debt and sharp price fluctuations of commodities. But along with rising oil prices, the company saw a huge reversal, with the company earning huge profits and pushing its share price to exceed the historical share price maximum.

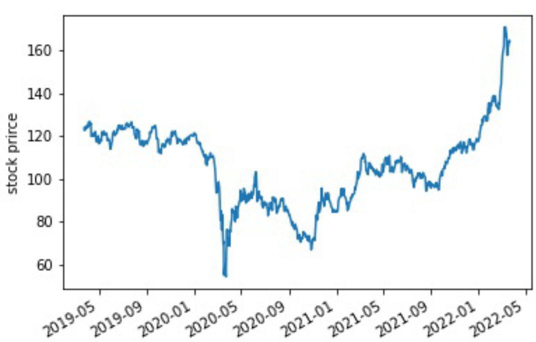

Figure 1 CVX's three-year share price data

3. HEDGING STRATEGY

Hedging is a frequent tool used by some oil companies, which is determined by the nature of the oil industry and the characteristics of the oil market(4). The barrel cost of oil companies is relatively stable, once the price of crude oil suddenly falls, even lower than its barrel cost, it will cause the company's operating performance to decline, cash flow plummets, its capital turnover difficulties, and oil companies are generally highly indebted companies, so it will lead to the financial crisis of oil companies. Oil prices are influenced by a variety of factors and are not unilaterally determined by the state or the company, so oil companies are exposed to significant price risk. Hedging helps oil companies proactively manage prices and reduce price risk beforehand.

For oil companies, hedging generally refers to trading in the derivatives market in the same quantity but in the opposite direction for real commodities such as crude oil, natural gas, and refined oil products, i.e., buying (or selling) real commodities while selling (or buying) a certain quantity of derivatives in the derivatives market, so that when the market price changes later and leads to losses in the spot market, the gains from the reverse trading in the futures market can The gains from the reverse futures trading can compensate for or offset the losses incurred in the spot market. In this way, companies can hedge their price risk and reduce their risk.

3.1. Swap Contracts

A swap contract is one in which the buyer and seller can agree to trade for a certain amount of cash flow at some point in the future. The advantage of a swap contract is that it allows you to lock in future prices in advance and hedge the risk of lower future market prices, although the contract also forgoes the gains that would result from higher future markets. Overall, however, it is a more robust method of hedging risk.

3.2. Buy Put Option

The holder of a put option acquires the right to sell a certain amount of the underlying at the strike price specified in the contract at the time specified in the contract, and the initiative to exercise the option is owned by the holder. Therefore, if the underlying market price falls below the strike price in the future, the holder can take the initiative to exercise the option and sell the underlying at a price higher than the market price to compensate for the loss caused by the spot market of the underlying. The existence of a put option allows the oil company to have an opportunity to underwrite and does not lose more money due to a sharp price drop.

3.3. Two-way Collars

Companies that choose to buy put options for the hedging process will find that if they buy put options on a large amount of the underlying, the option fee is a significant cost. Therefore, the put option can be sold at the notice of buying the put option to reduce the option cost, and even if the option cost is comparable, the futures trading "zero cost" can be achieved, and this kind of portfolio composed of put options and call options become "Two-way Collars "[4]. This method can effectively reduce the high cost of options and help companies lock in the price range of the underlying, but this method exacerbates the losses in the derivatives market caused by future market price increases.

4. SWOT ANALYSIS

For CXV's current situation, This paper chooses the more common SWOT analysis method to analyze CXV.

4.1. Strengths

CVX can easily recruit talented people and has more cash flow to invest in technology research and development as a leading company. Thus, CVX can take advantage of its talent, technology, and financial resources to actively expand its business fields and seize development opportunities globally [5,6]. We will continue to grow and develop. Because CVX has a large market share, its extremely strong bargaining power, by its cost advantage or technological advantage, competes for a share of crude oil in the international market and changes the pattern of supply and demand for oil and gas resources in the world.

Moreover, as a leading company, it has the anti-risk ability that some small and medium-sized enterprises do not have and has more perfect defense measures in the face of situations like exchange rate risk, financial risk, and financial crisis. Moreover, the barriers to entry into the oil industry are extremely high, so it is difficult for new entrants to gain a foothold in the market, so a few large oil companies dominate the entire oil industry.

4.2. Weaknesses

According to Table 1, we can see that CVX has a high level of debt, so we have to suspect that the company may have a financial risk problem. With the low U.S. shale oil prices in the 2020 period, which greatly compressed profits and led to lower profits for Chevron and a gradual decline in its share price, the high debt-to-equity ratio puts CVX in a more serious state.

Moreover, as the extraction and refining technology approaches a bottleneck, it is unlikely that there will be a breakthrough in cost-saving and efficiency in a short period, so the advanced technology owned by the company will be overcome by the latter, resulting in the company's no longer having an advantage in technology, leading to the company's monopoly position being affected [7].

4.3. Opportunities

In early 2021, the U.S. government is gradually moving toward a green energy path, increasing regulation of legacy natural gas drilling, canceling the Keystone XL pipeline, banning drilling on federal lands in Alaska, refusing to extend fossil fuel leases and other pipeline cancellations, resulting in OPEC+ (Organization of Petroleum Exporting Countries) regaining pricing power over crude oil. Green energy policies in the U.S. and Europe have created stronger barriers to the traditional energy sector, making it difficult for new companies to enter, and existing companies are moving toward cleaner energy sources while having a near-monopoly on natural gas extraction, making this an excellent market environment for energy companies like Chevron[8].

Moreover, along with the outbreak of the Russia-Ukraine war, the oil demand has skyrocketed, the price of oil has been further sharply increased, and the U.S. and other governments have imposed sanctions on Russian oil imports, which then means a greater market share for oil companies in the U.S. and the opportunity for further growth for these oil industry companies.

4.4. Threats

Global oil resources are limited, and oil companies are facing the pressure of insufficient original production. And along with the world's increasing promotion of green low-carbon, energy-saving, and emission reduction, the future global energy structure will be further optimized, the proportion of primary energy such as oil will continue to decline, the proportion of natural gas and its renewable energy will increase, and the impact of alternative energy on oil companies needs to be taken seriously.

And no matter for any country, oil resources are strategic resources, so CVX's oil exports will be interfered with by the U.S. government, and when the U.S. government interferes artificially, it will affect the company's business more seriously.

Along with another increase in oil prices, it will greatly promote the development of new energy industries. Governments around the world, especially in North America and Europe, are already regulating and legislating to support the alternative energy industry, and expensive oil prices will promote consumers to choose alternative products and reduce consumption costs [9-10]. And the outbreak of the new crown epidemic has led to travel bans in various parts of the world, leading to a reduction in demand for oil, and a further increase in oil prices, further promoting the development of alternative products.

Table 1. Financial data for CVX Corporation (The unit is a million)

Types	2021/12/31	2021/9/30	2021/6/30
Balance sheet			
Total assets	239535	239948	242806
Total liabilities	100468	104086	109624
Total equity	139067	135862	133182
Income statement			

Total revenue	45861	42552	36117
Gross profit margin	18520	18718	15488
Operating profit	5569	6682	3330
Net income	5055	61111	3082
Statement of cash flow			
Cash from operating activities	29187	19729	11150
Cash from investment activities	-5865	-4476	-3135
Cash from financing activities	-23113	-14823	-5998
Net cash change	58	288	1951

5. DISCUSSION

The impact of COVID-19 on the oil industry is gradually diminishing, and the development of the Russia-Ukraine war has significantly boosted oil prices, which hit a seven-year record high. Several investment banks, including Goldman Sachs and Morgan Stanley, predict oil prices will top $100 a barrel, with some even thinking it could reach $150. Chevron shares also rose as the world's largest energy company, has gone back to buying the enjoy Warren Buffett, said the chevron's stock, this is a good time to chevron company, the company can seize this opportunity, a stable supply of oil resources, development, refining, and other related technologies, and timely response to the new energy policy-relevant strategy.

6. CONCLUSION

This paper, from the present form of social background, studied information about Chevron, a giant company in the oil industry. As a company in the oil industry, the occurrence of some events often has a greater impact. in this paper, we discuss some of the more typical events, such as the impact of the new coronavirus on the world economy, the price war between Russia and Saudi Arabia over oil, etc., which can have some impact on the price of oil and thus on the company's strategy.

How to grasp the entry time and hedge the existing assets is especially important for the development of the company, and the article proposes three ways of hedging for Chevron, which can help it in Based on the SWOT analysis, CVX's internal and external strengths and weaknesses are analyzed, and recommendations are made to develop technology, accelerate the low-carbon energy transition, and make reasonable use of the derivatives market for hedging.

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