

# Financial Analysis and Hedging Strategy Analysis of Associated British Foods

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**Abstract.** A multinational food company may have to face various risks from its supply chain or other aspects. Hedging strategies by using financial derivatives such as futures contracts are useful for such companies to reduce their risks. This paper aims to make proposals for Associated British Foods (ABF) to reduce its risks by using the future contracts and options of its raw materials. Based on the analysis of the background and financial situation of ABF, it is suggested that future contracts of wheat and other raw materials and their options can be hedged. Long call, short call, bull spread, and bear spread are analyzed respectively based on the latest market data. The paper only takes one example of CHICAGO SRW WHEAT (ZWU2), but it is suggested that a number of related commodities can be hedged in similar methods.

**Keywords:** financial derivatives, hedging strategies

## 1. Introduction

With the breakout of the Covid-19 pandemic and the Ukraine war, prices in the food industry are fluctuating dramatically. Fluctuations among the commodities and raw materials would cause a great degree of risk for a company since they affect the revenue and costs of the company significantly. Financial derivatives, as one of the most rapidly developing areas of empirical finance, are crucial to risk management for a company [1]. Future contracts and options, as the main derivatives, are useful to hedge the risks during fluctuations. In addition, it is studied that the bigger size of the company is, the more turnover of hedging contracts the company would like to purchase [2]. Since the end of February 2022, Associated British Foods, one of the biggest multinational companies around the world, has seen a huge decrease in its stock price until today. It is assumed that the outbreak of the Ukraine war and the long-lasting Covid issue has affected badly the company as Mbah and Wasum have pointed out that there might be a worldwide food crisis because of the significant status in food exporting of Russia and Ukraine and it is difficult to recover from the damage of the food supply chain from the Covid pandemic [3-5].

In this article, factors of the bad performance of ABF are analyzed from three perspectives including the background information of the company, its business area, and its financial situation. Afterward the risks of the company are analyzed, and they will be reduced by several hedging strategies such as futures contracts and options. Finally, the hedging strategies are suggested in this article and the results will be displayed respectively.

The remainder of the article is structured as follows. In Section 2, the paper shows the company's profile of Associated British Foods. Section 3 is the hedging strategies analysis. In the last, the conclusion is summarized.

## 2. Company profile

### 2.1 Background information

Associated British Foods (AFB) is a huge public limited multinational food processing and retailing company, currently owned by Willington Investments, which has 54.5% of its share value. It was initially founded in 1935 and adapted in 1960 as its current name. It is listed on the London Stock Exchange and is a constituent of the FTSE 100 Index.

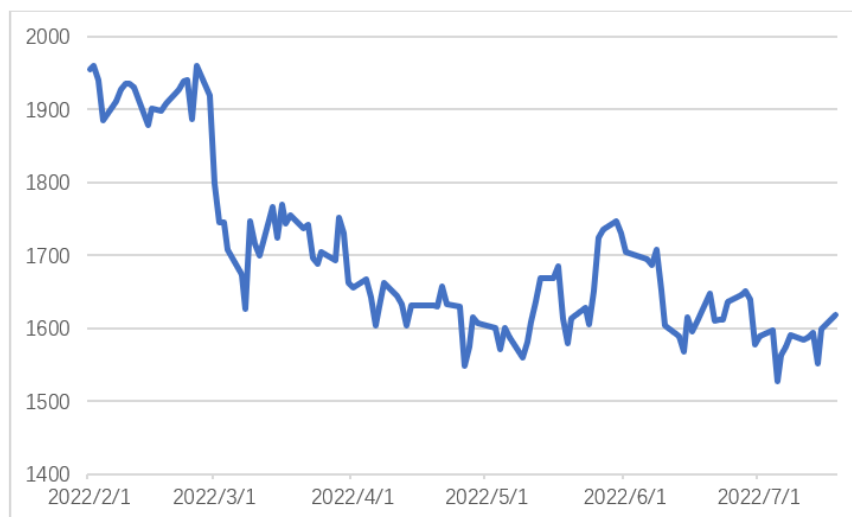
Associated British Foods is headquartered in London. As mentioned in its 2021 annual report, the total asset of ABF has reached 16,895 million pounds. There are 53 countries that ABF is operating in, across 5 continents with 123,000 employees. 9 out of 10 UK households are using its grocery brands and it has the largest animal feed business in the UK.

## 2.2 Business area

Associated British Foods has five divisions, including grocery division, sugar division (AB sugar), agriculture division (AB Agri), ingredients division, and retailing division, with large amounts of revenue 3,593m, 1,650m, 1,537m, 1,508m, and 5,593m respectively in 2020. Each division had an optimistic performance in 2021, nearly every sector has a better adjusted operating profit margin than in 2020. Grocery, as its biggest division, has several brands including Twinings Ovaltine, and Acetum in more than 100 countries. AB sugar and AB Agri are the largest sugar producer and cutting-edge food producers for people and animals, while their ingredient businesses are leaders in yeast and bakery ingredients and supply specialty ingredients to the food, nutrition, and feed industries. Primark, as an international retailer with 398 stores in 14 countries, is the flagship of the retailing sector of AFB, which offers a wide selection of products from essentials to the latest trends. All these successful divisions have bonded AFB and provided it with a mature, wide range, healthy business chain.

## 2.3 financial situation

Although the financial performance in the 2021 annual report of Associated British Foods is inspiring and it is announced, in its interim results announcement ended on 5 March 2022 of the past 24 weeks, that the sales and operating profit of ABF have achieved the situation as pre-covid levels, from the end of February 2022 the stock price of ABF has dramatically decreased until today, from 1959.50 GBP to nearly 1526 GBP.



**Fig1.** stock price changes of ABF from February to July

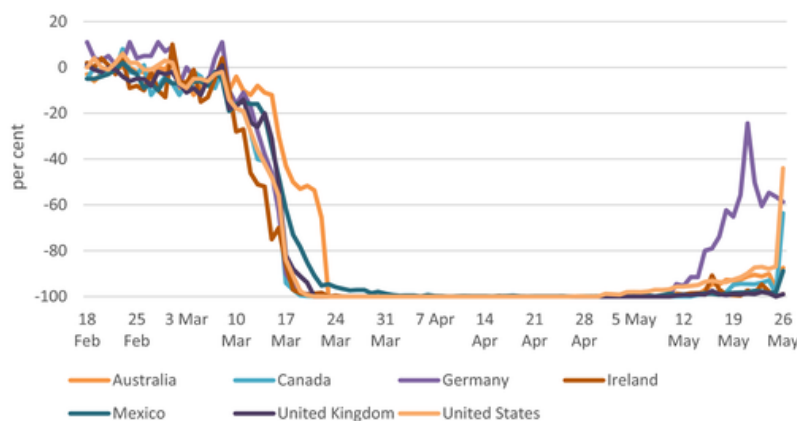
As reported by Simply Wall St (2022), in the past 12 months, the stock price has shrunk by 34% and 11% down in the past quarter. Compared with the loss of the broader market (5.2%), Associated British Foods has a worse performance (32%) even with dividends included. The shareholder returns of ABF are moving downwards, by -5.3% in the past quarter and -27.3% in the past year, as the entire UK food market and UK food industry are also dropping, no matter in the past quarter or in the past 12 months.

**Table 1.** the shareholder returns of ABF, UK food industry and UK food market

	ABF	Industry	Market
7 day	-0.3%	-0.5%	-2.7%
30 day	-6.7%	-2.5%	-7.4%
90 day	-5.3%	-8.0%	-7.8%
1 year	-27.3%	-24.4%	-10.6%
3 year	-33.3%	-19.7%	-8.4%
5 year	-46.0%	-19.5%	-7.7%

Note: Data is from: [https://simplywall.st/stocks/gb/food-beverage-tobacco/lse-abf/associated-british-foods-shares?blueprint=2058959&utm\\_campaign=integrated-pitch&utm\\_medium=finance\\_user&utm\\_source=yahoo#executive-summary](https://simplywall.st/stocks/gb/food-beverage-tobacco/lse-abf/associated-british-foods-shares?blueprint=2058959&utm_campaign=integrated-pitch&utm_medium=finance_user&utm_source=yahoo#executive-summary)

The reasons for the recession in the stock price of ABF and the entire industry are complicated and diversified. The first factor is the COVID-19 pandemic, which affects the cost of transportation of goods and the demand for the products of ABF. It is reported that at the beginning of the pandemic, air freight was significantly damaged by the decrease in traveling passengers. Global air cargo capacity was 26% lower than normal and nearly 80% lower in Europe and Latin America. Container and truck transport are also negatively impacted and have fallen somewhere in-between. The pandemic has influenced consumer demand and led to a dramatic downward shift in sales of food away from home, which are using ingredients from food suppliers such as ABF. In some areas the demand even reached about zero due to the lockdown in the past two years, causing huge damage to the entire food supply market [4].



**Fig 2.** Percentage change in daily restaurant reservations in 2020 compared with pre-covid time [4].

On the other hand, the Ukraine war has caused a drastic shift in the global supply of wheat, corn, sunflower oil, and fertilizer, since exports from Russia and Ukraine account for 28%, 15%, 66%, and 16% of the global exports from 2016 to 2020 and have shown an increasing trend before the war. The shortage in exports has led to a significant rise in the food price index around the world [5]. As a multinational company that has business around the world, ABF has to bear the higher cost of producing food.

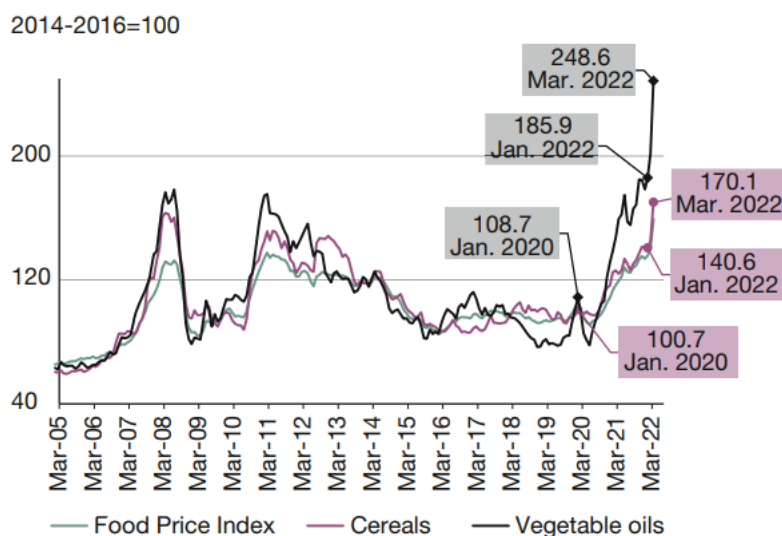


Fig 3. Food and Agriculture Organization price indices from March 2005 to March 2022 [5].

### 3. Hedging strategies analysis

#### 3.1 potential risks of the company

The first risk is commodities price risk, this may come from the Ukraine war, and as exports of wheat, corn, and other raw materials that ABF utilizes to produce its products are decreasing, the prices of such commodities may fluctuate considerably in months [6-8]. Since the prices of the raw materials, such as wheat and corn, have already risen sharply, whether their prices will return to a pre-war situation or keep soaring is still unknown [9].

In addition, foreign currency risk may affect the company's net profit. As a group that conducts businesses worldwide, the transactions that it makes are in all kinds of currencies [10]. Consequently, the group is exposed in the risks of transaction costs due to the movement in exchange rates of different foreign currencies.

#### 3.2 hedging strategies to reduce risks

To start with, commodities price risk can be reduced by trading futures contracts. The simplest way of hedging risk would be long call options and long put options. Taking CHICAGO SRW WHEAT (ZWU2) expiring in December 2022 as an example, there are several option contracts that ABF can utilize.

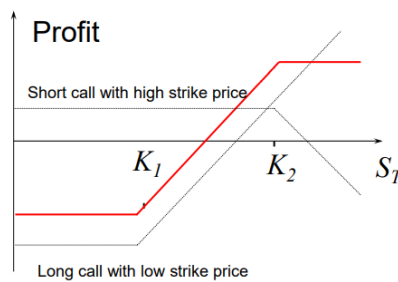
Firstly, if ABF is trading long call options, for example, at a strike price of \$850/ contract, it will have the right to buy 10 contracts. If the prices of wheat are still rising (current price is \$851.6/ contract) and higher than \$850/ contract, the company will exercise it, and the profit it can earn by the option is (future price-\$850-option premium) per contract. But if the prices drop or remain under \$850/ contract, the company will not exercise it, its loss by this option will be the option premium.

Oppositely, if ABF is trading short-call options, for example, at a strike price of \$860/ contract, it will have the right to sell 20 contracts. If the price is lower than \$860/ contract, the counterparty will not exercise the option and the profit for selling the option would be equal to the option premium. While the prices keep rising and higher than \$860/ contract, the loss for selling the option would be (future price-\$860+option premium) per contract.

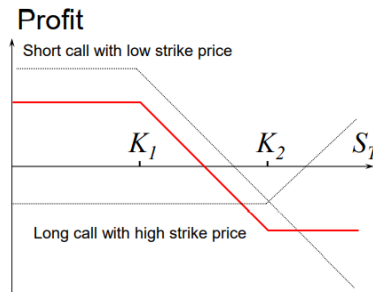
There are both benefits and flaws for each strategy, the profit of the long call option could be unlimited while it is difficult to have a positive profit since the option premium is relatively high. It would be easier for the short-call selling to earn a profit if the price is not increasing significantly, but the seller is bearing a risk of unlimited loss. Similar ideas would apply for long put and short put

options. As a result, the company can combine long call and short call options to create a bull spread or a bear spread to reduce its risk.

A bull spread would be helpful when the prices are expected to rise and even if not, the loss of the company would not be huge. It consists of a long call option with a lower strike price and a short call option with a higher strike price. By using the examples mentioned above, the new model would use a long call option at a strike price of \$850/ contract and a short call option at a strike price of \$860/ contract. It shows that if the future price is under \$850/ contract, the loss of the company would be (long call premium-short call premium)/ contract, which is lower than the loss if simply using a long call or short call. When the future price is between \$850 and \$860/ contract, the profit would be (future price-\$850-long call premium+ short call premium), which is also higher than a single long call or short call, and the profit can be more easily to be positive. Although the profit can not be unlimited positive, the risk of taking a great loss is hedged by this strategy.



**Fig 4.** How a bull spread can hedge the risk,  $K_1=850$ ,  $K_2=860$ .



**Fig 5.** How a bear spread can hedge the risk

Similarly, by using a long call with a higher strike price ( $K_2$ ) and a short call with a lower strike price ( $K_1$ ), the company can create a bear spread. The mechanism of the two spread models is basically the same with the only difference that a bull spread is expecting a higher future price and is hedging the risk of a lower future price while a bear spread is expecting the future prices in an opposite way.

As for ABF, the two spreads can effectively control the risks from the fluctuations of the future prices of its raw materials. The commodity contracts that ABF can make may not only be restricted to wheat, soybeans, rice or oats are also appropriate commodities that the firm can hedge.

To hedge the risk of foreign currencies, the idea would be the same as commodity futures contracts. By using different currency futures contracts and the two spreads mentioned, ABF can also hedge the dramatic changes in exchange rates of different currencies.

#### 4. Conclusion

The global food industry has reached a low ebb as there is a significant reduction in exports of wheat, corn, sunflowers, and fertilizer from Ukraine and Russia while the industry is still recovering from the damage caused by the outbreak of Covid-19. Associated British Foods, a multinational food

company, has suffered from the two disasters and its stock price has decreased by 34% in the last quarter. The shareholder returns have also declined by 5.3% in the last quarter, as the whole industry has been in a similar situation. By analyzing the background information and the financial situation of ABF, this article has found several factors that caused the bad performance of the company and the risks that the company may be facing.

In this article, commodity risk is mainly discussed and the potential solutions are based on this type of risk. Hedging strategies by using financial derivatives such as futures contracts and options are analyzed to reduce the risks of the company where CHICAGO SRW WHEAT (ZWU2) is taken as an example for a more straightforward version of the effect of hedging. The hedging strategies suggested in the article consist of the long call, short call options, and bull spread and bear spread.

Although specific data have been analyzed in this article, it still has some deficiencies. The first flaw is that the detailed performance of ABF is not clear, including the changes in its costs and revenue in the last quarter because the latest report of ABF has not come out. If enough data has been released then it is easier to find the accurate reason for the bad performance thus a better solution for reducing the risks may be come up with. In addition, as the market of futures and options is fluctuating from time to time, the real result of hedging may be different from the assumption in this article. However, the idea and basic directions of the hedging strategies still hold.

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