CRUDE OIL PRICE PREDICTION

PROBLEM STATEMENT

Crude oil is one of the most important commodities in the world, accounting for one-third of global energy consumption. It is a prerequisite for most of the products that we use in our day-to-day life, ranging from transportation fuels to plastics. Crude oil price fluctuations have a far-reaching impact on global economies. Oil price forecasting can assist in minimizing the risks associated with volatility in oil prices. Price forecasts are very important to various stakeholders, such as governments, public and private enterprises, policymakers, and investors. According to economic theory, the price of crude oil should be easily predictable from the equilibrium between demand and supply, wherein demand forecasts are usually made from GDP, exchange rates, and domestic prices, and supply is predicted from past production data and reserve data. Predicting demand for oil is usually straightforward unless the supply is heavily affected by political activity such as cartelization by OPEC to regulate prices, technological advances leading to the extraction of higher amounts of oil, and wars and other conflicts which can affect supply unpredictably.

Models incorporating economic parameters such as supply and demand and their determinants are known as structural models. Even though structural models are found to be the most logical way of modeling the prices of industrial products, the price of crude oil is affected by many other factors. One of these factors is that the price of crude oil is determined in the futures market, which enables the purchase of a predefined amount of oil at a particular price in the future. Additionally, only 1% of the crude oil traded in futures contracts results in the actual purchase of a physical commodity, while the main purpose is to make money out of price fluctuations in crude oil. Hence the price of crude oil behaves more like a financial asset and therefore is more representative of the expectations of traders rather than just predictions based on economic theories of supply and demand.

. The uncertainty of economic activity has aggravated the fluctuation of crude oil prices. Factors from the supply side as well as the demand side are the major drivers of crude oil prices, while investors are gradually becoming an important factor in deciding the fate of crude oil prices.