

Demand and supply of bhp billiton



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In this report, BHP Billiton has been chosen as a business organisation to study the factors affecting its demand and supply functions, how changes to demand and supply during previous two years have affected BHP Billiton performance, opportunities and risks future changes to demand and supply function might pose to BHP Billiton. BHP Billiton is world's largest diversified natural resources company. BHP Billiton's portfolio consist of discovery, development and conversion of natural resources including iron ore, coal, manganese, copper, aluminium, nickel, diamonds, potash, uranium and petroleum. BHP Billiton has acquired unique position in the resources industry due to their proven strategy.

In this report BHP Billiton's petroleum business has been considered for demand and supply study. BHP Billiton has been expanding its petroleum business in last few years aggressively due to high demand of energy in world market. Figure 1 shows the world energy growth during last century and demand forecast for emerging markets in next two decades.

Figure 1

As part of BHP Billiton, their petroleum business has the strong financial base which enables them to invest and expand through economic cycles and maintain a long term view. They invest in large projects with multiple opportunities over a long duration to maximise its asset value. During last five years in a row, they have invested close to US\$2 billion in development capital.

Factors Affecting BHP Billiton's Petroleum Demand and Supply

In petroleum world market, demand fuelled by millions of individual firms and domestic users, while supply influenced by a few, specifically few nations and the Organization of Petroleum Exporting Countries (OPEC) cartel. This result in an oligopolistic market for petroleum, supply is limited by a cartel to raise prices, and even non-OPEC countries do not always respond in rational way. Fundamental changes took place in last few decades in the world petroleum market, as control of oil resources shifted steadily away from the major oil companies to producing countries (Shojai 1995). However, during current decade new oil discoveries and lack of investment from many host nations provided opportunities to major oil companies to consolidate again their petroleum market share.

The world oil market is the combination of various entities and organizations that produce distribute and sell oil and other petroleum products. The world oil market trades for oil products, any change in the world oil market affects the pricing of oil and other petroleum products. The world oil market can increase or decrease the price of oil and other petroleum products that are sold globally.

There are several factors which affect the demand and supply functions of BHP Billiton's petroleum business are discussed below in detail.

Global Financial State

The world petroleum prices are linked to global supply and demand. The oil prices are determined and linked to oil prices in world market. The oil prices

in world markets have historically been subject to substantial variations. BHP Billiton sells its oil at the prevailing market prices.

Due to recent global financial crises followed by a worldwide recession led oil prices free fall from US\$147/barrel to US\$33/barrel in year 2008. The oil prices recovered in year 2009, however due to financial uncertainty in global economy which relates to global economic growth, particularly in the OECD economies, the demand for oil was low hence prices were sluggish. In the year 2010, when recession called to be over oil prices again started moving upward. The demand for oil is now very much influenced by the demand comes from India and China. The influence of speculators and financial institution such as hedge funds and other financial investment funds also contribute to price volatility.

The current economical difficulties in USA may result in lower oil prices and higher price volatility. The demand and supply volatility in global oil market has greater impact on financial performance of BHP Billiton. The impact of potential longer-term sustained low price of oil and shorter-term price volatility creates greater risk on their financial performance. Their operating results and asset values will be materially and adversely affected by unforeseen declines in the prevailing prices of oil.

The ongoing uncertainty and impact on global economic growth, particularly in the developed economies, may impact future demand and prices for oil. The influence of hedge and other financial investment funds participating in oil markets have increased in recent years, contributing to higher levels of price volatility. The impact of potential longer-term sustained price shifts and

shorter-term price volatility creates the risk that their financial and operating results and asset values will be materially and adversely affected by unforeseen declines in the prevailing prices of oil.

The marketplace forces of supply and demand determine the price of oil. If demand grows or if a disruption in supply occurs, there is upward pressure on prices. By the same token, if demand falls or there is an oversupply of oil in the market, there will be downward pressure on prices.

Currency Exchange Rate Fluctuations

The World's oil trading currency and BHP Billiton's oil business currency is US Dollar. However, BHP Billiton's oil business is influenced by a wide variety of currencies due to the geographical locations of their oil production and supply facilities based in different continents. The currency exchange rate fluctuation can have greater effect on their financial performance. If the dollar becomes stronger, they are benefitted by very strong result however a weak dollar may have negative effect on their results ultimately on affecting demand and supply. In year 2010, dollar exchange rate in declining against most of the world currency. However the weak dollar may result in higher oil prices and greater inflation worldwide which may lower the demand for oil due to its affordability and nations may look for alternative for oil which will have great impact on BHP Billitons financial performance.

BHP Billiton's operating costs are influenced by the currencies of those countries where oil production facilities are located and also by those currencies in which the costs of imported equipment and services are determined. The Australian dollar, UK pound, US dollar etc are the few most

important currencies influencing operating costs of BHP Billiton. They present their financial results also in US dollar and their borrowing and holding cash currency is US dollar. Hence the fluctuations in US dollar will have a significant impact on BHP Billiton's financial performance.

Demand from India and China

Despite the global financial crises begin in year 2007, followed for recession, Indian and Chinese economy shown better resilience, which let oil prices go up in year 2009 upto US\$ 80/barrel. India and China has emerged as a global consumer for oil demand because of their population. The India and China have become a significant source of global demand for oil production. In year 2009, 16% of total global oil demand fuelled from India and China alone. The demand from Western Europe and US (OECD economies) for oil has been driving global oil demand over the past decade. Now the oil demand from Asia particularly India and China are major driving factors for higher oil prices. There continued growth of GDP more than 9% even during the peak of recession brought the oil prices from US\$33/barrel to currently US\$ 83/barrel. The strong economic growth and infrastructure development in India and China in past year has led higher demand for oil. BHP Billiton is a major trading partner with India and China for its other commodities such as iron ore, copper, aluminium etc, which gives them edge over other companies. Their integrated marketing offices incorporate all the functions required to manage product marketing and distribution from the point of production to final customer delivery.

However a slowdown in economical growth of India and China's may result in lower prices and lower demand for oil, therefore reduce BHP Billiton's

revenues. In response to their increased demand for oil, India and China are increasingly seeking strategic self-sufficiency in oil, including investments in existing businesses or new developments in other countries. These investments may adversely impact future oil demand and supply balances and prices which hamper the financial performance of BHP Billiton.

World Political Events Including War

BHP Billiton's oil business is spread across many continents. The oil is predominantly found in regions, where there are greater chances of conflicts. Majority of the oil producing countries are facing severe political and commercial instability. BHP Billiton also operates in emerging markets, which may involve additional risks that could have an adverse impact upon the profitability of their operation.

There are various risk factors are associated with oil supply and demands. These included, escalation in tension between Iran and USA due to Iran's nuclear programme, possible war between Arab Nations and Israel, insurgency in Nigeria, political infighting between Russia and Ukraine, possible terrorist attacks in OECD nations or emerging nations, civil unrest due to high inflation, nationalisation of assets, renegotiation or nullification of existing contracts deals, leases, permits or other agreements, and changes in laws and policy, as well as other unforeseeable risks. In many developing nations and conflict zones, there is a greater risk of corruption due to high profit margin in oil business and involvement of civil servants in this lucrative business. Due to the any of the abovementioned risk related to oil production may greatly influence the BHP Billiton's supply and demand scenario and ultimately affecting their financial performance. Any oil

business like BHP Billiton's oil business is a long-term investment which, require long-term fiscal stability.

Due to recent global financial crises, many governments currently facing extra burden of debt and funding obligations and they may require extra resources of revenue and funds. Hence they may put additional rates of taxation, higher royalties or resource taxes to a level which become unviable for production of oil. If this happen to other companies BHP Billiton may get additional revenue to shortage in supply however if any of the BHP Billiton's operation affected by these kind of hostile situation it may negatively impact the financial results and reduce the anticipated future returns and overall level of prospective investment in those countries.

In BHP Billiton's care, the current Petroleum Resource Rent Tax (PRRT) in Australia will be extended to all Australian oil and gas projects, including the North West Shelf. This legislation is proposed to be introduced into Australian parliament in late 2011, and then for the commencement date of the new tax regime to be 1 July 2012. Any potential increase/decrease in tax changes in the future may impact their financial performance.

Oil business could be severally affected by new government regulation, such as controls on imports, exports and prices. Increasing requirements relating to regulatory, environmental and social approvals can potentially result in significant delays in construction and may adversely impact upon the economics of new oil and gas projects, the expansion of existing operations.

Natural Disaster and Calamities

Most of the oil production facilities are associated with high risk of hazard.

BHP Billiton have its exploration, production, manufacturing, processing and logistical operations in many geographic locations both onshore and offshore. These operational processes may be subject to operational accidents such as port and shipping incidents, fire and explosion, loss of power supply, railroad incidents, loss of well control, environmental pollution and mechanical failures.

Their operations and geographic locations may also be subject to unexpected natural catastrophes such as earthquakes, flood, hurricanes and tsunamis. The impact of these events could lead to disruptions in production and loss of facilities more than offsetting premiums saved and adversely affect their financial results and prospects.

In any market situation, supply and demand imbalances can affect prices in both the short and long term. If the supply is disrupted, as it was after Hurricanes Katrina and Rita in 2005, short term demand for the product may exceed the supply on hand and put upward pressure on prices. Consumers all over the world may observe a rise in oil prices due to shortage in supply. Due to these natural calamities there is imbalance between supply and demand. These natural disasters put upward pressure on prices, as supply gets affected but demand remained high.

Health, Safety, Environmental and Community Legislation

Risk related to oil consumption has initiated various legislations and regulations by different governments and organisations like United Nations

in effort to keep environment clean and reduce the emission of carbon gases greatly influencing the demand for oil.

Various countries have put an extra tariff and tax in effort to reduce the consumption of oil. Due to recent oil leak in Gulf of Mexico from BP's offshore oil platform has initiated a tougher regulation on deep water oil exploration. The permitting requirement for oil infrastructure can also affect its demand.

As BHP Billiton is a major producer of carbon gases due to its oil business. Their oil operations are carried out both onshore and offshore. The oil industry is highly regulated industry by health, safety and environmental laws. As many regulatory standards and safety procedures are constantly developing, BHP Billiton may be exposed to unexpected and increased litigation, compliance costs and unforeseen environmental rehabilitation expenses. Potential health, safety, environmental and community events that may materially impact their operations include aircraft incidents, light vehicle incidents, explosions or oil leaks, incidents involving mobile equipment, escape of polluting substances, community protests or civil unrest.

Longer-term health impacts may arise due to unanticipated workplace exposures by employees or site contractors. These effects may create future financial compensation obligations. These potential compliance costs, litigation expenses, regulatory delays, rehabilitation expenses and operational costs could negatively affect our financial results.

Alternative Energy Source

The increased demand for oil has resulted in increased production of crude. This scenario in recent years has resulted in existing reserves being depleted at an accelerated rate. As BHP Billiton's oil revenues and profits are related to oil production, hence their results and financial conditions are directly related to the success of their exploration and acquisition efforts, and their ability to replace existing reserves.

There are extreme uncertainties inherent in estimating oil and gas reserves, and geological, technical and economic assumptions that are valid at the time of estimation may change significantly when new information becomes available. The impacts of the global financial crisis may impact economic assumptions related to reserve recovery and require reserve restatements. Reserve restatements could negatively affect their results, financial condition and prospects.

Future Outlook

As world economy recovering from recent recession, hence the demand for oil is picking up. More demands for oil is fuelling up from BRICS (Brazil, Russia, India, China and South Africa) countries as well as US. However BHP Billiton has adopted a balanced approach towards global economy in short term.

In year 2010, the emerging economies such as BRICS are showing great potential for expansion. However in these countries inflation became a major issue. As in these countries, economical growth has picked up its full pace,

their respective governments are now concentrating towards inflation control measures.

Chinese government has recently implemented growth calming measures to control the rapid expansion of economy. China has adjusted its fiscal policy towards a more balanced approach; consumption led growth rather than investment dependence growth. These measures may slow down China's growth and ultimately affecting demand for oil.

On the other hand, Indian economy has adopted more balanced approach. There demand led by huge infrastructure development may fuel for higher demand of oil. The

However the uncertainty continues to surround the developed world as governments adjust fiscal policies following a period of significant stimulus and subsequent increase in sovereign debt levels. Significant public spending cuts and higher taxes have been announced in Europe, however are yet to be fully implemented, implying the inevitable negative impact on growth from fiscal consolidation remains ahead. Industrial output, a core measure of economic activity, remains well below previous peaks despite the positive impact attributable to re-stocking that now appears largely complete. In the absence of any additional inventory adjustment, improvement in end demand is essential to drive overall economic growth.

In the short term and long term, BHP Billiton can bank upon its huge reserve of oil and its production capacity which may prove as a key factor in maximising their profit and producing better financial result in its oil business. The quest for oil will be keep rising from developing countries

which will keep oil prices higher. Overall the demand for oil will be higher hence BHP Billiton can expect strong growth for its oil business in long term. As long term prices determined by the marginal cost of supply, BHP Billiton's position at the lower end of the cost curve is expected to underpin strong margins and better financial performance.

Conclusions

Appendix A: Reference List

Fluor Corporation – Annual Report and Financial Statements 2008 & 2009

Foster Wheeler AG – Annual Report and Financial Statements 2008 & 2009

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[www. businessweek. com / companies](http://www.businessweek.com/companies)

[www. ft. com / companies](http://www.ft.com/companies)

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Appendix B: Annual Report (2009) Data

Fluor Corporation: