

The impact of oil price changes: Evidence from the Malaysian and Indonesian economies[#]

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Abstract- Oil is of great importance for the Malaysian and Indonesian economies. It is extremely difficult to view these two countries' economic development without their oil resources and the revenue from oil. The oil industry also has made substantial contributions to the infrastructure development of these countries. In December 2005, Asia's oil-guzzling economies were bracing for the worst as the price of crude oil threatened to hit US\$70 a barrel, stoking fears of slower economic growth, soaring inflation, and rising interest rates. Even Malaysia as a net oil exporter believed it should take appropriate action to ensure that an increase in the price of oil would have a positive impact on its economy. Also, Indonesia has recently become a net oil importer as a result of dwindling production and rising consumption. If these countries do not address this situation, they will reach the point where their oil bill will threaten the foreign exchange reserves. This study will examine the consequences of a hike in the oil price to the Malaysian and Indonesian economy by analyzing the microeconomic impact as well as the impact to the overall economic system. The study will also look into related factors such as the causes of price increases and the actions taken by the government to overcome this problem. Finally, the study will bring forward the market outlook for the oil industry and propose several solutions that can help government fix this problem. The main objective of this study is to ensure that an increase in the oil price in this region will not harm the citizens of these countries or the Muslim community. On the other hand, as net natural resources (oil and gas) exporters, the countries should benefit from the situation and manage to enhance the distribution of Muslim wealth.

Keywords- Oil price, Malaysian economy, Indonesian economy, Price changes

JEL classification- E32, O13

1. INTRODUCTION

According to the Bloomberg dictionary, crude oil is unrefined petroleum and a naturally occurring liquid. This commodity is traded in barrels as a standard measurement in international trade. One barrel equals 42 American gallons of oil at 60 degrees Fahrenheit. An American Heritage Dictionary defines oil as any of numerous mineral, vegetable, and synthetic substances and animal and vegetable fats that are generally slippery, combustible, viscous, liquid, or liquefiable at room temperatures, soluble in various organic solvents such as ether but not in water, and used in a great variety of products, especially lubricants and fuels. [3] Oil is extremely important to the Muslim economy. Indeed, it is difficult to view some Muslim economic development, such as in Malaysia and Indonesia, without oil resources and the revenue from oil. The oil industry has made substantial contributions to the infrastructure development in these countries. The oil corporations in these countries have developed the once remote regions in the east and west via new town

development, improved port facilities, and new and better transportation construction.

2. HISTORY OF THE OIL INDUSTRY

2.1 Malaysia

Oil was first discovered in Malaysia in a small town called Baram near Miri in the East Malaysian state of Sarawak in July 1882. However, commercial exploitation of this energy resource did not occur until 1909 when the Anglo-Saxon Petroleum Company (Sarawak Shell today) was given authority to exploit the petroleum resources throughout the state. Prior to the 1950s, most of the oil exploration was done inshore, until preliminary evidence of oil deposits was found in the offshore areas of Peninsular Malaysia. During the late 1960s and early 1970s, oil exploration was performed by multinational oil companies (MNOCs) such as Shell, Esso, Elf Aquitaine, and Oceanic and Sabah Telseki Oil Company in East Malaysia.

Historically, it was the 1969 race riots that led to introduction of the New Economic Policy (NEP) that

initiated the development of many new industries, including the crude petroleum industry, in Malaysia. In mid-1974, the government enacted the Petroleum Development Act with the major theme being the establishment of a government corporation that owned and administered all petroleum resources in this country. That national petroleum corporation is known as PETRONAS. PETRONAS later expanded to include its upstream and downstream businesses. With that, the government reduced its overdependence on MNOCs for production technology and know-how. One of the initial steps PETRONAS took at that time was to abolish the “unfavorable” concession system. August 17, 1974, marked the transition from the concession system (under which petroleum operations in Malaysia were handled by multinational oil companies) to the current system of production-sharing contracts. Under the new system, the foreign oil companies are awarded offshore blocks to prospect for petroleum. Any oil or gas extracted, after deducting 10% and 20% for royalty and cost recovery, respectively, for the contractors will be shared between PETRONAS and the contractors in the ratio of 70:30. According to Vassilou [51], oil was produced at low levels in Malaysia before 1970. In that year, production was still only about 18,000 barrels per day (bpd). That figure increased more than 40-fold to a high of 0.755 MMbpd in 2004. Oil was first discovered in the territory that is now Malaysia at the end of the 19th century. In 1910, Royal Dutch Shell first drilled for oil in Sarawak, in the northern part of the island of Borneo. Sarawak was then a British colony. On December 22 of that year, the company struck oil on top of Canada Hill in Miri, Sarawak, with well Miri 1. Shell built the first refinery in what is now Malaysia in 1914; also, in Miri, Sarawak and Sabah (also in northern Borneo) joined the Federation of Malaya to form Malaysia in 1963. Shell was still the only company operating in the country at the time. It began producing from the country’s first offshore field, off Borneo, in 1968.

The Malaysian federal government wanted to encourage exploration in other areas of the country. Thus, it licensed exploration off the coast of the state of Trengganu on the Malay Peninsula. Standard Oil Company of New Jersey (soon to be Exxon), Conoco, and Mobil were all involved, although by 1974 only Exxon remained. Exxon discovered natural gas first and then oil, and Trengganu grew to become a larger producer than Sarawak and Sabah. In August 1974, the Malaysian government established PETRONAS as its national oil company, modeled on Indonesia’s Pertamina. PETRONAS replaced the concessions held by Royal Dutch Shell in Borneo and Exxon on the Malay Peninsula with new production-sharing agreements that came into effect in 1976. The contracts provided for 70% of net income after federal and state royalties to accrue to the government. The government later offered better terms to companies, for example, to Elf Aquitaine (later Total) in 1982. In 1976, Malaysia became a net oil exporter, although at too low a level to join the Organization of the Petroleum Exporting

Countries (OPEC). PETRONAS began refining and distributing in 1983.

Based on macro analysis, Malaysia has experienced steady growth in the production of crude oil (Figure 1). Beginning from 4,000 barrels per day in 1968, more than 900,000 barrels per day of crude oil were produced in 2004. The initial drastic increase in production occurred in 1973 with formation of oil cartels, OPEC in the oil industry followed by PETRONAS in 1974.

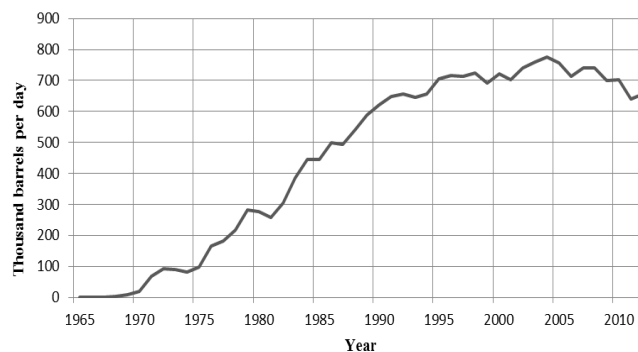


Figure 1. Malaysia yearly crude oil production chart.
(Source: U.S Energy Information Administration [50].)

Petroleum exports accounted for only 4% of the total exports in 1973, which increased to 7.9% in 1975. In ringgit terms, crude petroleum earned an export value of RM727 million in 1975. By 1980, with an export value of RM6.70 billion, it had become the country’s chief foreign exchange earner, surpassing Malaysia’s earlier export earners like rubber, palm oil, and tin. In 1982, Malaysia’s major export markets were Singapore, Japan, Thailand, and the United States, which accounted for 46.08%, 27.86%, 10.99%, and 3.74%, respectively, of total crude oil exports. By 1986, crude petroleum products were largely serving the Japanese market, which accounted for 35.54% of the total crude oil exports overtaking Singapore, Thailand, and the United States. Japan remains one of the major oil-importing countries in the world.

2.2 Indonesia

In December 1871, Jan Reerink a young Dutchman, drilled and risked his private capital in Cibodas, which marked the beginning of oil and gas exploration and drilling in Indonesia. The concession was granted to him in August 1873. Since his strategy was not successful and the enterprise was deemed not commercial, Jan lost his capital and quit the industry. Another explorer followed, Aeilko Jan Zijlker, who in 1880 visited a plantation in Sumatra. He obtained an oil concession from the local sultan of Langkat, and oil exploration soon began with sponsorship of the Dutch government in the Telaga Said area of the Northern Sumatra. In 1884, Telaga Tunggal-1 in Northeast Sumatra was successfully drilled. In September 1890, the Royal Dutch (Company for Exploitation of Oil Resources in the Netherlands Indies) received a concession for the area instead of Aeilko Jan Zijlker. The first attempt at petroleum exploitation in Indonesia was made by Jan

Reerink, a general store owner who decided to try his hand at this new venture. In 1871, he began drilling at Tjibodas (Jibodas), located at the foot of the volcano Tjarema (Jarema), south of Cheribon (Ceribon) in West Java. Although he found some high-quality oil on two occasions, the yield was too small to be commercially viable, and after five years he gave up his search for lack of capital. In 1880, A. J. Zijlker, the Dutch manager of the East Sumatra Tobacco Company, discovered by chance the existence of oil pools in the vicinity of his plantations. He was able to secure a concession to the oil-bearing land (officially named Telaga Said) from the sultan of Langkat and in 1884 began drilling at Telaga Tiga, the most accessible of the oil pools in the concession. The first well yielded promising results but the second well drilled at Telaga Tunggal in 1885 was an immediate success, producing oil in commercial quantities at a depth of only 121m.

In 1890, Zijlker made over his petroleum concession to a newly formed company Koninklijke Nederlandsche Maatschappij tot Exploitatie van Petroleumbronnen in Nederlandsch Indie (Royal Dutch Company for the Working of Petroleum Wells in the Netherland Indies), which later changed its name to the Royal Dutch Petroleum Company [38]. Even though Indonesia had proclaimed its independence on August 17, 1945, and the Dutch government had recognized the sovereignty of the Republic of Indonesia, foreign oil companies' petroleum activities were still based on the Indische Mijnwet (the valid mining law for the Dutch Indies) when they returned to Indonesia in 1949 to resume their operations. In 1951, an Indonesian lawyer and former governor of Sumatra, Teuku H. Moehammad Hasan, filed a motion to replace the Indische Mijnwet with a National Mining Law and urged the government to postpone the issuance of new concession and exploration rights. His effort was continued by the first Minister of Basic Industry and Mining, Chairul Saleh, when he finalized the National Mining Law. In 1960, the government regulation on oil and gas mining was accepted by President Soekarno and completely replaced the Indische Mijnwet. As a follow-up to this regulation, the government formed three state oil companies: PN PERTAMIN (Indonesian State Oil Mining Company), PN PERMINA (National State Oil Mining Company), and PN PERMIGAN (State Oil Mining Company). In 1963, the government succeeded in persuading the existing three foreign oil companies, (i.e., Shell, Caltex, and Stanvac) to cooperate in the form of work contracts with the three state oil companies.

In 1966, PN PERMIGAS was dissolved, and its assets were handed over to PERTAMIN and PERMINA. In 1968, these two companies merged to become PN PERTAMINA (National State Oil and Gas Mining Company), which, in 1971, became PERTAMINA (State Oil and Gas Mining Company) with the task to carry out the exploration and production of petroleum resources throughout Indonesia. According to IBP [22], the post-independence government increased its control over the oil sector during the 1950s and 1960s by increasing operations

of several government-owned oil companies and by stiffening the terms of contracts with foreign oil firms. In 1968, the government companies –PERTAMIN, PERMINA, and PERMIGAN – were consolidated into a single operation, the National Oil and Natural Gas Mining Company (PERTAMINA). At this time, a new form of contract – the production-sharing contract – was introduced. The production-sharing contract split total oil production between the contractor and the government, represented by PERTAMINA, and allowed the government to assume ownership of structures and equipment used for exploration and production within Indonesia. Indonesia's contract terms were considered among the toughest in the world, with the government in most cases receiving 85% of oil produced once the foreign company recovered costs.

PERTAMINA was legally transformed to PT PERTAMINA (PERSERO) on September 17, 2003, with the enactment of Government Regulation No. 31/2003. PERTAMINA is now under the coordinator of the State Minister of State-Owned Enterprises. Like other contractors, as a business player PERTAMINA also holds a cooperation contract with the oil and gas regulatory body. Due to its transformation to a limited liability company, PERTAMINA has become a pure business entity which is more profit oriented. Indonesia joined OPEC in 1962 and in 2004 Indonesian Minister of Energy and Mineral Resources Purnomo Yusgiantoro held the rotating OPEC presidency. PERTAMINA is a state-owned oil and gas company (national oil company) established on December 10, 1957, under the name PT PERMINA. In 1961, the company changed its name to PN PERMINA and after the merger with PN PERTAMIN in 1968 it became PN PERTAMINA. With enactment of Law 8 of 1971, the company became PERTAMINA. This name persisted until after PERTAMINA changed its legal status to PT PERTAMINA (PERSERO) on October 9, 2003.

PERTAMINA's scope of business incorporates the upstream and downstream sectors. The upstream sector covers oil, gas, and geothermal energy exploration and production both domestically and overseas. The foregoing is pursued through own operations and partnerships in the form of joint operations with JOBs (joint operating bodies), TACs (technical assistance contracts) and JOCs (joint operating contracts), whereas the downstream sector includes processing, marketing, trading, and shipping. Commodities produced range from fuel (BBM) and non-fuel (non-BBM), LPG (liquefied petroleum gas), LNG (liquefied natural gas), and petrochemicals to lube base oil. With enactment of the Law of the Republic of Indonesia No. 22 on November 23, 2001, relating to oil and gas, Law No. 8 of 1971 which related to the State Oil and Gas Mining Company was declared void. In accordance with the provisions of Law No. 22 of 2001, PERTAMINA was transformed into a public liability company designated PT. PERTAMINA (PERSERO) under Government Regulation No. 31 of 2003. All existing PERTAMINA provisions including its structural organization, employment

guidelines, and procedures as well as other matters associated with its duties and responsibilities, unless such matters are in contravention of the said government regulation, continue in force until the company provides otherwise [45].

In June 2005, Indonesia received a 233,000 barrel per day (b/d) quota increase to 1.451 million b/d, although actual output is closer to 1 million b/d (Table 1). The Ministry of Energy and Mineral Resources has stated that Indonesia intends to remain an OPEC member despite its falling net oil export volumes. As Indonesia finds it increasingly difficult to maintain a net exporter status, industry observers will likely continue to question whether the country should keep its OPEC membership.

Figure 2 shows that Asian countries are the largest markets for Indonesian crude oil exports. In 2004, Japan accounted for 25% of the total export, followed by South Korea (20%), China (12%), Australia (9.7%), and the United States (5.7%).

Table 1. OPEC member quotas.

Members	Apr-04	Jul-04	Aug-04	Nov-04	Mar-05	Jul-05
Algeria	0.750	0.814	0.830	0.862	0.878	0.894
Indonesia	1.218	1.322	1.347	1.399	1.425	1.451
Iran	3.450	3.744	3.817	3.964	4.037	4.110
Iraq	-	-	-	-	-	-
Kuwait	1.886	2.046	2.087	2.167	2.207	2.247
Libya	1.258	1.365	1.392	1.446	1.473	1.500
Nigeria	1.936	2.101	2.142	2.224	2.265	2.306
Qatar	0.609	0.661	0.674	0.700	0.713	0.726
S. Arabia	7.638	8.228	8.450	8.775	8.937	9.099
UAE	2.051	2.225	2.269	2.356	2.400	2.444
Venezuela	2.704	2.934	2.992	3.107	3.165	3.223
Total	23.500	25.440	26.000	27.000	27.500	28.000

Source: OPEC [23].

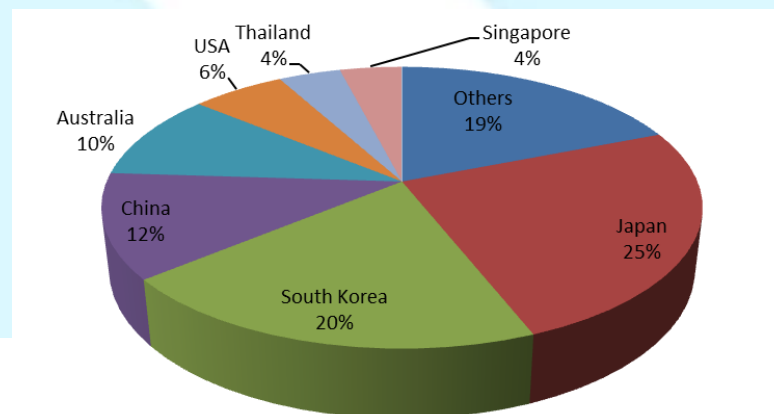


Figure 2. Indonesia 2004 crude export destinations. Source: Indonesia Mining, Oil & Gas Industry Export-Import and Business Opportunities Handbook Volume 1 Strategic and Practical Information 2013 [23].

Together, China and India accounted for 40% of the growth in oil demand. Despite the robust demand, the supply was uncertain. The refiners faced severe capacity constraints and, thus, struggled to increase operating inventory levels. Most countries lifted their oil inventories due to the tight and volatile supply. Moreover, there was a lack of investment in appropriate refining capacity due to a mismatch in type of refining capacity and resources available. To accommodate the demand, world oil supply increased as well, up by 1.7 mb/d to 84.1 mb/d in the first six months of 2005 (

Table 2 and Figure 3). However, OPEC's spare capacity dropped to 2.2 mb/d. Also, some countries were prone to supply disruptions, such as Iraq, Nigeria, and Venezuela. Excluding the supplies from these countries, world spare capacity was at 1.4 mb/d. Events such as hurricanes along the US Gulf Coast, anxiety over Iran's resumption of nuclear activities, and terrorist attacks in Saudi Arabia pushed the price throughout the year. The high price of oil was expected to be sustained through 2006. Constraints began to be felt along the supply chain. Fundamental tightness in the current crude oil supply-demand balance, risk and threat of supply disruption, robust demand, and weather accident-related supply cuts contributed to the increase.

Table 2. World crude oil supply and consumption from 2004 to 2013.

Year	Supply		Consumption	
	Thousand Barrels per Day	Change (%)	Thousand Barrels per Day	Change (%)
2004	83,402.10		83,176.98	
2005	85,101.20	2.04	84,668.04	1.79
2006	85,153.00	0.06	85,586.39	1.08
2007	85,167.50	0.02	86,700.09	1.30
2008	86,569.90	1.65	86,027.86	-0.78
2009	85,738.80	-0.96	84,953.36	-1.25
2010	88,158.40	2.82	87,839.10	3.40
2011	88,538.20	0.43	88,657.70	0.93
2012	90,484.90	2.20	89,668.91	1.14
2013	90,922.50	0.48	90,354.27	0.76

Source: IndexMundi, U.S Energy Information Administration [50].

4. CONSEQUENCES OF THE OIL PRICE INCREASE TO THE ECONOMY

4.1 Malaysia

Malaysian economists projected that the growth for 2005 would be 5% to 6% as compared to 2004's 7.1%. The first quarter of 2005 recorded 5.7% growth but the figure was expected to drop to 5.1% toward the end of the year. The

drop was actually very minimal due to the offsetting effect of the increased growth in the oil production sector, the reduced growth of the non-oil sector, and demand from partner countries. The hike in oil price directly affected the production of oil in Malaysia. The first six month of 2005 show that production of crude oil and concentrates dropped by 7.2% and the volume of exports declined as well (Table 3 and Figure 4). The drop in oil production was mainly due to the lack of major new oil discoveries in the last years. According to then-Deputy Prime Minister Najib Razak, if Malaysia did not find new oil reserves after 2005, then by 2009, Malaysia would become a net importer. On the other hand, the production of natural gas expanded to 16%, thus contributing to overall positive growth of 0.9%. In short, growth in crude oil dropped but was offset by growth in natural gas production.

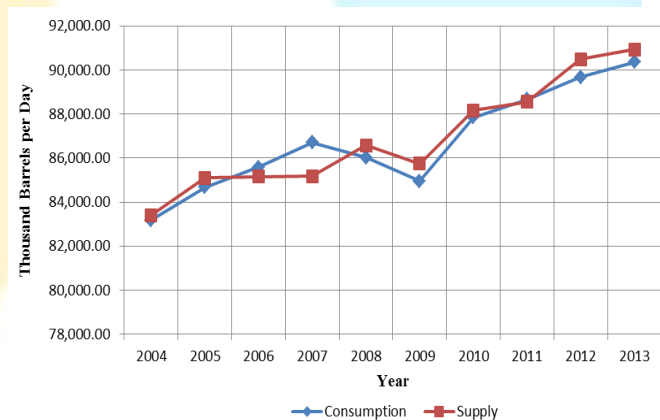


Figure 3. World crude oil consumption and supply by year chart Source: IndexMundi, U.S Energy Information Administration [50].

Therefore, the increased oil price did not have a significant impact on the growth of oil production as the production of crude oil in Malaysia decreased. The offset thus provided a marginal growth of 0.1 to 0.2 percentage points. The high oil-consuming sectors were badly affected by the higher oil price (Table 4, Figure 5 and Figure 6). Examples include the transportation and industries sectors. The total energy consumption of both sectors amounted to 40% where industries are dependent on fuel oil and transportation needs diesel. Therefore, an increase in the fuel price would significantly increase their cost of operation and squeeze the profit margin. An obvious example is the impact on the airline sector. Both Malaysia and low-cost carrier Air Asia responded to rising fuel costs by imposing surcharges for the first time. Players in the freight industry also bore the brunt of higher oil prices as their business volume declined. The Airfreight Forwarders Association of Malaysia said cargo shipped by air to and from Malaysia dropped because high jet fuel prices forced companies to use cheaper sea routes. The bottom of all the adverse effects on the non-oil production was a drop in real growth by 2.25 to 2.5 percentage points.

Table 3 Malaysia crude oil yearly production and export volume from 2004 to 2013.

Year	Production		Export	
	Thousand Barrels per Day	Change (%)	Thousand Barrels per Day	Change (%)
2004	763.48		420.22	
2005	726.44	-4.85	369.87	-11.98
2006	691.81	-4.77	352.76	-4.62
2007	668.27	-3.40	327.78	-7.08
2008	686.24	2.69	289.88	-11.56
2009	658.70	-4.01	254.46	-12.22
2010	638.26	-3.10	244.98	-3.73
2011	569.93	-10.71	-	-

2012	585.56	2.74	-	-
2013	570.26	-2.61	-	-

Source: IndexMundi, U.S Energy Information Administration [49].

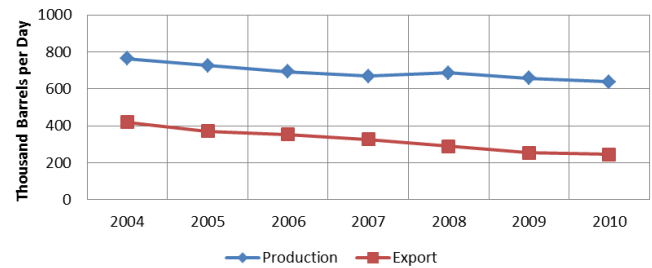


Figure 4. Malaysia crude oil production and export by year. Source: IndexMundi, U.S Energy Information Administration [50]

Table 4 Final energy consumption by sector in Malaysia from 2004 to 2012.

Final Energy Consumptions by Sector (in ktoe)

Year	Industry	Transport	Residential and Commercial	Non-Energy Use	Agriculture	Total
2004	14,913	15,385	4,754	2,183	87	37,322
2005	15,492	15,384	5,134	2,173	101	38,284
2006	15,248	14,825	5,429	2,809	253	38,564
2007	16,454	15,717	6,196	2,958	281	41,606
2008	16,205	16,395	6,205	2,876	287	41,968
2009	14,312	16,119	6,336	3,868	211	40,846
2010	12,928	16,828	6,951	3,696	1,074	41,477
2011	12,100	17,070	6,993	6,377	916	43,456
2012	13,919	17,180	7,064	7,494	1,052	46,709

Source: Malaysia Energy Statistic Handbook 2014 [32]

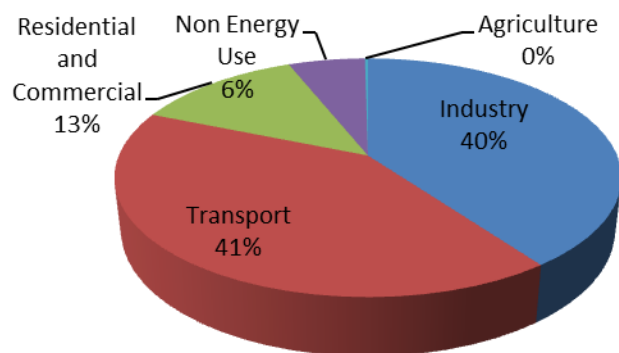


Figure 5 2004: Final energy consumption by sector in Malaysia. (Source: Malaysia Energy Statistic Handbook 2014 [32].

A significant part of Malaysia's real gross domestic product (GDP) is the export of goods and provision of services to partner countries. Apart from manufacturing, the tourism sector is also significant to the country's growth (Figure 7). Statistically, most tourists are from Singapore, accounting for 60%, followed by Thailand and Indonesia.

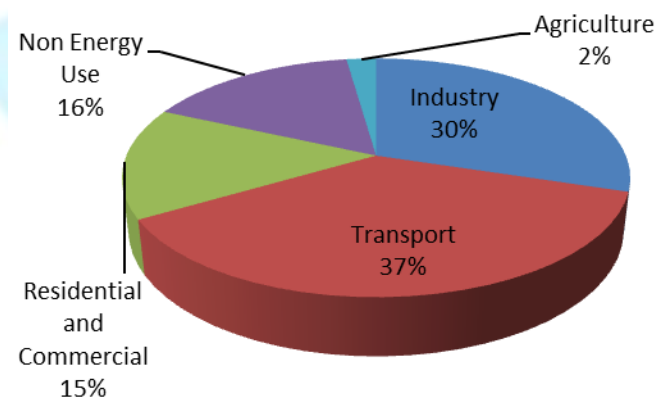


Figure 6 2012: Final energy consumptions by sector in Malaysia. Source: Malaysia Energy Statistic Handbook 2014 [32].

Thus, any distress in those countries' economies will be of major concern to Malaysia as such distress restrains the growth and demand for Malaysian goods and services. In fact, the average growth rate of Malaysia's seven important export countries declined to 3.7% in 2005 as compared to 5.2% in 2004, a drop of 30%. The arrival of

tourists from these countries also dropped. Overall, the demand for Malaysian products and services was down for the year and contributed approximately 9 percentage points to the overall growth as compared to 2004 when it contributed 17.6 percentage points. Hence, the net impact of the Malaysian real growth is negative, between -0.6 and -0.7 percentage points.

Figure 7 Malaysia: Direct contribution of travel and tourism to GDP.



Source: Economic Impact 2014 Malaysia – Travel and Tourism [34].

Furthermore, the oil price hike put pressure on the price of goods and services. The recorded consumer price inflation (Table 5 and Figure 8) was at 3.4% by the end of 2005, 1.3% higher than in 2004. This was accelerated collectively by the threefold increase in the retail oil price and the rise in transportation cost, such as taxi fares and freight fees, in such a way that it increased the ceiling price of control items such as chilies, flour, and coconut. The rise in oil prices also reduced industry output through higher costs of production. This supply side impact exerted inflationary pressure on the economy. As mentioned earlier, industries that consume a great deal of energy and chemical products are directly affected by escalating oil prices. Airlines take the most direct and largest hit because they cannot fully hedge the fuel cost. Malaysian Airlines had already recorded losses.

Table 5 Malaysia inflation rate (consumer price).

Year	Inflation Rate (Consumer Price) (%)
2004	1.3
2005	3.0
2006	3.8
2007	2.0
2008	5.4
2009	0.6
2010	1.7
2011	3.2

2012	1.7
2013	3.1
2014	2.1

Source: Department of Statistics Malaysia, FocusEconomics Website [18] and IndexMundi, CIA World Factbook 2014 [15].

However, the effect could have been more upsetting if the government had not postponed further changes in the oil price and electricity tariff to 2006. Thus, the monthly inflation rates for the last four months of 2005 declined gradually and were expected to continue to decline although 2005 recorded a figure that was double the 2004 figure (2005: 3%, 2004: 1.4%). In March 2006, inflation rose to 4.8% but moderated to 3.9% in May 2006, partly because of the February 2006 increase in retail fuel prices. The impact of an oil price rise can be amplified by a price-wage spiral effect. As the price level for most goods and services move higher, the work force will demand higher salaries to compensate for reduced purchasing power. This will increase the cost of production, which will then be transferred to consumers via, again, a higher price. This situation can result in hyper-inflation. In 2004, the Malaysian government spent RM4.8 billion on fuel subsidies (Table 6).

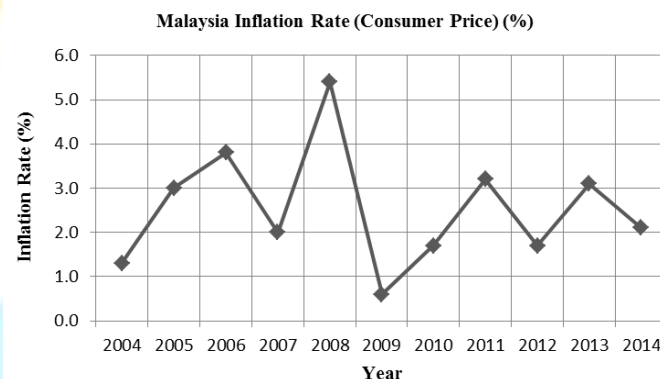


Figure 8 Malaysia inflation rate (consumer price). Source: Department of Statistics Malaysia, FocusEconomics Website [13] and IndexMundi, CIA World Factbook 2014 [18].

The amount rose to RM6.6 billion even after the government reduced the subsidy because of an increase in oil consumption. By lifting part of the subsidy, the government actually saved approximately RM1 billion as the projected subsidy for 2005 was RM7.6 billion. This saving could be used for the benefit of citizens, such as building more schools and public infrastructures. The overall picture of subsidy impacts has created market distortion because the fuel price in Malaysia does not reflect the actual cost of oil production. This scenario could jeopardize Malaysia's economy, resulting in excessive fuel consumption and waste due to inefficient use by oil consumers. Furthermore, due to the fuel price scheme, differences have attracted illegal trade such as smuggling. This activity has created an outflow of Malaysian government money worth RM 660 million from

the allocation for subsidy. Through a better system, this loss can be recovered and this big amount of money converted to an opportunity cost for constructing and improving public infrastructure such as hospitals and road surface conditions. Also, the recovered subsidy money from illegal trade can be used to reduce any budget deficit. Malaysia benefits from an oil price increase as it increases the revenue via corporate income taxes payable by oil companies, import duties, and excise duties. The government also collects non-tax revenue in the form of cash payments from petroleum production and dividends from PETRONAS. Furthermore, as a net oil exporter, Malaysia gains more as the big rises in oil prices shifted the income from consumer to producer (and so from net

importing countries to net exporting countries). To summarize the impact of oil prices on Malaysia's economy, it would be beneficial to measure the impact on the individual components of GDP. We would first look into the consumption expenditure (C). The higher goods and services prices lowered consumers' purchasing power, thus reducing national consumption. Because of the partial subsidy lift and increase in tax collection, government revenue increased. However, the impact was minimal due to loss of revenue in terms of tax exemption. Therefore, for the government purchases (G) component, there was not much difference. For the Malaysian government to curb or contain inflation, it needs to reduce its spending activities and encourage the public to increase its saving

Table 6 Fuel subsidy in Malaysia from 1990 to 2010.

Year	Total subsidies (RM million)	Of which: Fuel subsidies (RM million)	Total government expenditure (RM million)	Total government	
				Total subsidies	Fuel subsidies
1990	494	27	35,715	1.4	0.1
1991	965	401	37,861	2.5	1.1
1992	560	15	41,763	1.3	0
1993	589	23	42,341	1.4	0.1
1994	588	55	46,341	1.3	0.1
1995	612	123	50,624	1.2	0.2
1996	850	180	58,493	1.5	0.3
1997	958	228	60,415	1.6	0.4
1998	1,151	500	62,688	1.8	0.8
1999	1,136	458	69,313	1.6	0.7
2000	4,824	3,170	84,488	5.7	3.8
2001	4,552	2,881	98,992	4.6	2.9
2002	3,677	1,651	105,676	3.5	1.6
2003	2,679	1,006	114,577	2.3	0.9
2004	5,796	3,343	120,162	4.8	2.8
2005	13,387	10,984	128,278	10.4	8.6
2006	10,112	7,558	143,501	7	5.3
2007	10,481	7,473	163,649	6.4	4.6
2008	35,166	17,556	196,346	17.9	8.9
2009	20,345	6,190	206,582	9.8	3
2010	23106	9605	204426	11.3	4.7

Source: Ministry of Finance Malaysia (2010/2011) and various issues of Economic Reports, as cited in Hamid, K. A. and Z. A. Rashid (2012) [20].

This can be achieved by imposing a higher interest rate. The main reason for this reduction in spending was that investors avoided investing in the Malaysia market. This scenario could contribute to a decrease in total investment (I) and dampen growth. As a net oil exporter (X), the price increase boosted the export, resulting in a trade balance

surplus as well as a current account surplus. In conclusion, rising oil prices resulted in slow growth for the Malaysian economy. This was basically due to the contribution of two GDP components, C and I, that were declining.

4.2 Indonesia

Sustained high oil prices act as a drag on Indonesian economic growth because Indonesia has become a net oil importer as a result of dwindling production and rising consumption. Estimates of Indonesia's growth rate for 2005 (Table 7 and Figure 9) were marked down. The global bank UBS revised its projection for the second half of the year from 5.2% to 4.7% and forecast a growth rate of just 4.3% for 2006. Other analysts put the growth figure for the year at between 5.5% and 4.8%. Reflecting deteriorating economic conditions, by late August, the Jakarta stock market had dropped 13% from its record high in July. To alleviate economic hardships, the government offered one-time subsidies to qualified citizens. The government intended to reduce subsidies, aiming to reduce the budget deficit to 1% of GDP in 2005, down from around 1.7% percent in 2004.

Table 7 Indonesia GDP growth rate (%).

Year	GDP Growth Rate (%)
2004	5.0
2005	5.7
2006	5.5
2007	6.4
2008	6.0
2009	4.6
2010	6.1
2011	6.5
2012	6.2

Source: IndexMundi, CIA World Factbook [15].

Starting in the 1990s, Indonesia's crude oil production experienced a steady downward trend due to a lack of exploration and investment in this sector. In recent years, the country's oil and gas sector has actually hampered national GDP growth. Oil production targets, set by the government at the start of each year, have not been achieved for a number of years in a row because most oil production stems from mature oil fields. Today, Indonesia's oil refineries have roughly the same combined capacity as a decade ago, indicating limited progress in oil production and resulting in the current need to import oil to meet domestic demand. The decline in Indonesia's oil production in combination with increased domestic demand turned Indonesia into a net oil importer from 2004 onwards, implying that it had to terminate its long-term membership (1962-2008) in OPEC.

Table 8 shows Indonesia's declining oil production in the last decade. The decline is divided in two production numbers, one taken from the multinational oil and gas company BP Global (the numbers constitute crude oil, shale oil, oil sands, and natural gas liquids), and the other number taken from the Indonesian state oil and gas regulator BPMigas (the numbers constitute crude oil and condensate). BPMigas was changed to SKKMigas in 2012

after the Indonesian Constitutional Court disbanded the regulator.

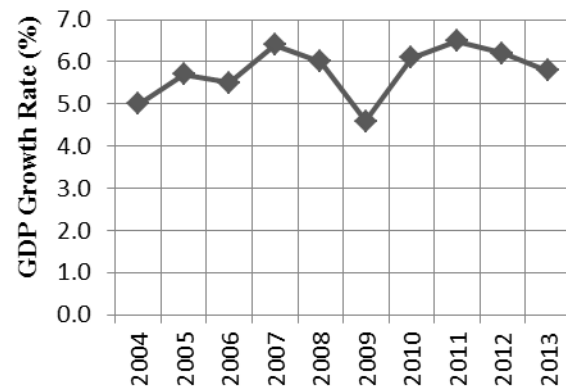


Figure 9 Indonesia GDP growth rate (%). Source: IndexMundi, CIA World Factbook [15].

The lack of exploration and other investment in this sector resulted in the decline in Indonesia's oil production due to weak government management, bureaucracy, an unclear regulatory framework, and legal uncertainty regarding contracts. In contrast, Indonesia's oil consumption showed a steady upward trend. Due to a growing population, an expanding middle class, and a growing economy, demand for fuel has increased continuously (Table 9).

As oil prices have risen, the government has had to budget billions of dollars more to provide subsidies. In March 2005, Indonesia faced major protests after the government cut fuel subsidies by 29%. Then, in August, the rupiah tumbled in the currency market (Figure 11) on concerns that monetary policy was too loose and that continuing oil price increases and tightly capped fuel prices would expand the government's fuel subsidy bill to as much as US\$14 billion or 5% of GDP in 2005. As a net importer, the added cost of buying imported oil also contributed to the fall of the rupiah as state oil companies, including PERTAMINA, had to purchase extra US dollars. Oil imports cost US\$1.6 billion in July 2005, up from US\$1.1 billion in January. The country's central bank, Bank Indonesia, was compelled to intervene to try to prop up the value of the rupiah, which had fallen 10% against the US dollar since the beginning of the year. Between April and mid-August, Bank Indonesia spent US\$5 billion, 15% of its foreign currency reserves. The bank had also hiked up its key interest rate twice in a week by 0.75% and 0.5% to 10% by September 6. The problem was made worse by the lack of investment in the oil industry, which led to falling domestic production even as consumption was rising.

According to Meytha Wendharti [24], Indonesia's merchandise trade deficit hit a high of US\$2.31 billion in July 2013, compared to just US\$877 million in the previous period. The increased trade deficit was attributable to a higher oil and gas import bill – particularly concerning imports of refined oil – during July 2013. Indonesia imported approximately US\$4.14 billion of oil and gas-related merchandise, compared to just

US\$3.53 billion in the previous month. The trade deficit attributable to oil and gas surged to US\$1.85 billion during July 2013 (accounting for approximately 80.32% of the total trade deficit) from US\$730.64 million during the previous month; the deficit was solely due to oil, as

Indonesia remains a net exporter of gas. Higher fuel import bills worsened as a result of prices increasing in response to uncertainties in the energy market, especially in light of possible military action in Syria which would likely disrupt the oil supply chain in the Middle East.

Table 8. Indonesia's oil production.

	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
BP Global	1130	1090	996	972	1003	990	1003	942	918	882
SKKMigas	1096	1062	1006	954	977	949	945	902	860	825

Sources: BP Statistical Review of World Energy 2014 and SKKMigas [24].

Table 9. Indonesia's oil consumption.

	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
BPD	1222	1299	1285	1247	1299	1294	1334	1449	1572	1597	1623

BPD: Barrels per day (in thousands)

Sources: BP Statistical Review of World Energy 2014 [24]

Furthermore, the oil price hike has made inflation in Indonesia rather remarkable. In October 2005, the *Jakarta Post* reported that rice, sugar, and cooking oil prices had begun to rise before the fuel price hikes were announced. In addition, low-income people, who normally use kerosene daily, suffered when the government increased the kerosene price. Inflation was running at an annual rate of 9.1% (Figure 10). In December, due to the substantial drop in the rupiah value, the government was forced to cut its massive fuel subsidies. This led to a more than doubling in the price of consumer fuels, resulting in double-digit inflation. The situation stabilized, but the economy continued to struggle with inflation at 17% in January 2006. Such a fuel price hike policy will indeed increase the burden on the people and may even cause an increase in poverty. Indonesia has experienced a significant slowdown in the growth of exports in sectors where it traditionally has had a comparative advantage, including furniture, palm oil, rubber, textiles, and footwear. In some cases, exports have seen an absolute decline. The average growth rate for non-oil and gas exports has slowed to about 13% in recent years, from 17% before the Asian financial crisis.

Higher inflation and interest rates impeded both private consumption and investment spending as the year progressed. Growth of private consumption slowed by 1 percentage point to 4%, while growth in fixed investment, after showing encouraging signs of recovery, slowed by about 4 percentage points to 9.9%. Year-on-year GDP expansion stepped down from 6.3% in the first quarter to 5.6% in the second and third and to 4.9% in the final quarter. Indeed, the economy contracted by 2.2% in the fourth quarter from the third. An 8% rise in government consumption spending in the later part of the year

contributed to the full-year GDP performance of 5.6%, up 0.7 of a percentage point from 2004.

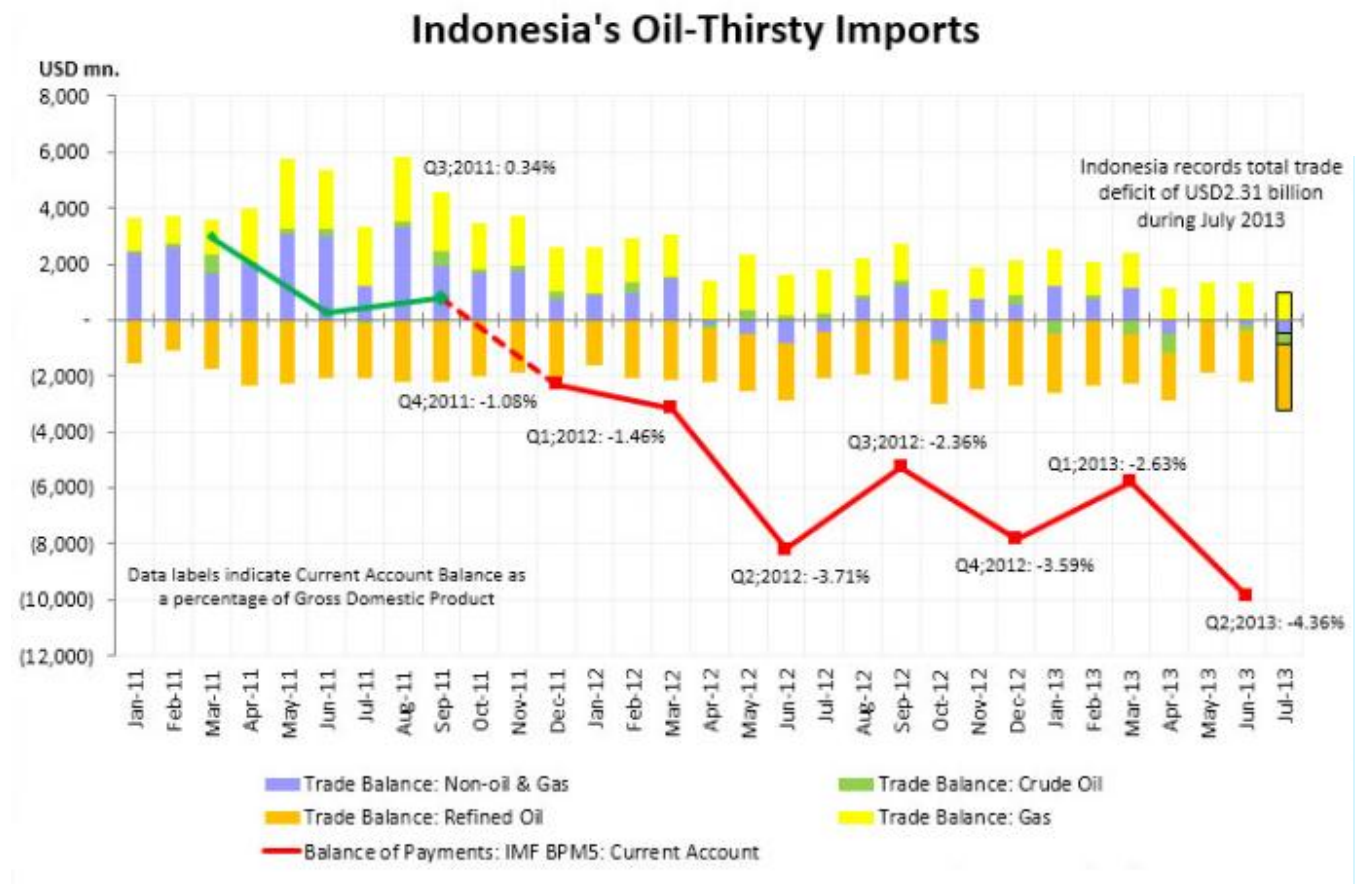
Figure 10. US dollar to Indonesian rupiah (vertical axis shows value of IDR per 1 USD).



Source: Currency Charts IDR/USD [17]

Overall, private consumption and fixed investment contributed about 4.5 percentage points, while net exports continued to be negative. In conclusion, the impacts to the Indonesian economy due to the oil price increase were not so different compared to Malaysia. Both countries experienced slow growth in real GDP. However, Indonesia faced a worse situation than Malaysia since it has become a total net importer of oil. The huge subsidies for oil, depreciation in currency, drop in investment, and increase in total production cost became the major factors in this situation.

Figure 11. Indonesia's oil-thirsty imports.



Source: Indonesia's fuel imports worsen trade deficit by Meytha Wendharti. CEIC Indonesia Data Talk [37].

5. MARKET OUTLOOK AND SUGGESTION

5.1 Malaysia

On the global front, the overall economic outlook is not as encouraging as in 2005. Country-specific domestic factors aside, structural imbalances, adjustments in the world currency markets, heightened inflationary pressure as a result of persistently high oil prices, and a higher global interest rate environment are expected to continue to dampen growth prospects in the world's major economies, hence dampening the economic growth of other developing countries which predominantly depend on exports, and exports to these industrialized nations. As a small net oil exporter, crude oil has a 5% share of exports. Malaysia benefits to a degree from higher world oil prices. However, an extra US\$10 a barrel over all of 2005 pushed up inflation by 1.4 percentage points, hurting domestic demand and leading to a decline in the GDP growth rate of 0.9 percentage points. In the medium term, though, burgeoning regional demand for energy has offered many economic opportunities. Deepwater exploration is accelerating, driven by the expectation that higher prices are likely to be sustained for some time. Various new

exploration agreements have been made public over the last few months. PETRONAS, the national oil company, plans to raise oil production by 20% over the next 10 years, which will require exploitation of many new oil and gas fields. Consequently, energy production is predicted to be a pillar of the Malaysian economy and a focus of new foreign direct investment.

Oil is a global commodity that has enduring economic and geopolitical dimensions. Price volatility obviously is the name of today's oil game and energy security seems to be today's response to mitigate the region's heavy dependence on Middle East oil, coupled with the fact that oil exporters like Malaysia were expected to become net oil importers after 2010. Malaysia under the Association of Southeast Asian Nations (ASEAN) pursued a sustainable energy development agenda under its ASEAN Plan for Action in Energy Cooperation (APAEC) 2004 -2009. On the other hand, Malaysia should look into improving energy technologies with a view to enhancing energy efficiency. For instance, the introduction of cogeneration technology, a method to produce both heat and electricity from a single fuel source, has been successfully applied in Thailand and Indonesia. Cogeneration plants can use almost anything as fuel, including coal, gas, petroleum,

and agricultural by-products, such as rice husks, oil palm, or even animal waste.

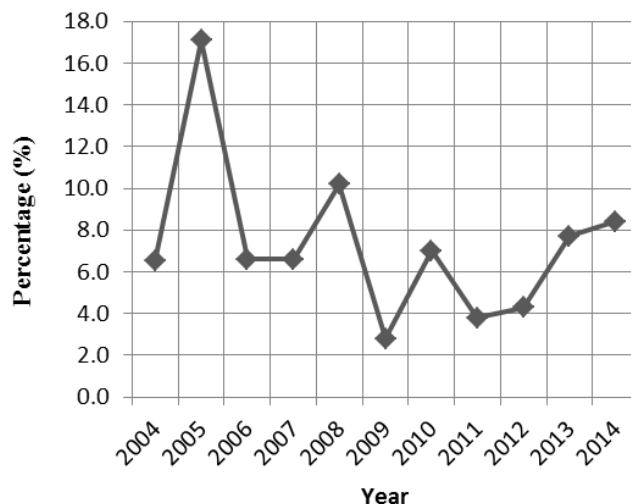
Malaysia's oil and gas reserves in fact were sustained at the 19 to 20 billion barrels of oil equivalent (BOE) level for three years, up from just above the 18 billion barrel level in 2001. The 19.5 billion BOE reserves at January 1, 2005, translated to a reserve life of 34 years for gas and 18 years for oil. In addition, PETRONAS had been actively building oil and gas reserves overseas as well. On January 1, 2005, PETRONAS' oil and gas reserve overseas stood at 5.9 billion BOE, which is equivalent to 30% of the size of its reserves in Malaysia. These overseas oil and gas reserves are largely located in Africa, the Middle East, and Central and Southeast Asia.

Table 10. Indonesia's annual inflation by year (December by December).

Year	Annual Inflation (%)
2004	6.5
2005	17.1
2006	6.6
2007	6.6
2008	10.2
2009	2.8
2010	7.0
2011	3.8
2012	4.3
2013	7.7
2014	8.4

Source: Historic inflation Indonesia - CPI inflation [21].

Figure 12. Indonesia's annual inflation by year (December by December).



Source: Historic inflation Indonesia - CPI inflation [21].

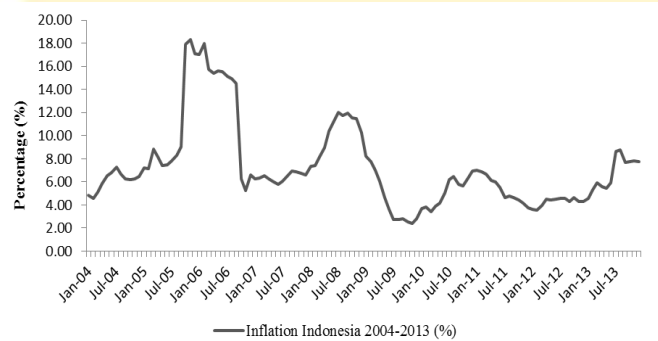
Solutions must focus on the long-term impact. From the tax perspective, the tax imposed under the Petroleum Income Tax Act should be increased to generate the revenue needed. The petroleum tax rate has been in a reducing trend. If oil prices hit US\$100 per barrel, it may be economically viable to go into alternative energy sources. Biomass and oil palm have good potential. Perhaps tax exemption can be given for research expenditure into these areas, as well as in the use of renewable energy. Overall, it would appear that sustaining the economic power of the consumer would have a greater effect than protecting some industrial players from an economic crunch. The objective should be to ensure oil availability in the event of physical disruption in supply needed to build up the strategic reserves of oil. This is the practice in the US and several Asian countries, like China and India. The Strategic Petroleum Reserve is the largest stockpile of government-owned emergency crude oil in the world. It also allows the government to meet part of its International Energy Agency obligation to maintain emergency oil stocks, and it provides a national defense fuel reserve.

5.2 Indonesia

Indonesia's government policy to subsidize domestic fuel prices will put its fiscal position under pressure if the global oil prices continue to soar. Despite major resources of oil, natural gas, and coal, Indonesia is still vulnerable to rising oil prices due to underinvestment in oil production and rapid demand growth. Furthermore, in the event of still higher oil prices, Indonesia's budget deficits may grow larger than expected, risking an end to several years of determined fiscal consolidation. When the government stated that it planned to raise fuel prices again sometime after October 2005, it faced another negative reaction from citizens as well as the country's financial markets due to lack of clear policy measures. Inflation (Figure 13) averaged 7.7% in the first seven months of 2005, well above expectations, due to higher food prices, an increase in fuel prices, and a weakening of the rupiah. Full-year inflation for 2005 was estimated at 7.5%, up from the 5.9% forecast in April by the Asian Development Outlook 2005. The inflation projection for 2006 was also raised, to 7.5% from 5.4%. During 2006, pressure on the rupiah from high world oil prices may have subsided because Indonesia's imports of petroleum products were expected to fall after the government sharply increased fuel prices in October. Moreover, all the currency transactions associated with the government's oil-related exports and imports are now carried out through the central bank. This arrangement will certainly benefit the rupiah as the ups and downs in oil prices will no longer affect the demand for U.S. dollars in the foreign exchange market. Also, the rupiah may also be supported by new currency trading restrictions announced by Bank Indonesia that oblige market players to have an underlying business transaction before carrying out any rupiah transaction.

The new government has set a target of 6% real GDP growth on average per year during the next five years of its term. For this to be realized, Indonesia needs to attract greater foreign and domestic investments to offset the infrastructure shortfalls that have economy-wide implications. Strategically, the government's policy focus on the energy sector will be watched closely for two reasons. First, the government needs to boost oil and gas production by catching up on investments that have steadily declined over the last 10 years. At the same time, the government also needs to address the politically sensitive issue of reducing the burgeoning domestic subsidies on oil. Indonesia still faces a number of economic challenges and much work remains to be done.

Figure 13. Inflation in Indonesia from 2004 to 2013.



Source: Asian Development Outlook Report (2005-2013), Worldwide Inflation Data (2005-2013) [8].

The first priority is how to expedite the broad-based reform of the country's notorious bureaucracy and the crackdown on endemic corruption. In the year ahead, the government and the central bank must also work closely to maintain economic stability and budgetary discipline and, at the same time, keep inflationary expectations low. The government should also adopt a mid- to long-term strategy that allows it to stop borrowing from abroad and form a policy of substituting domestic debt for foreign debt to curtail the exchange rate risk. In addition, to spur further growth, the government has initiated breakthrough policies, emphasizing particularly how to encourage labor-intensive export-oriented manufacturing sectors.

A continued effort to scrap unnecessary taxes, duties, and illegal fees that only hamper export activities and the quick clearance of an investment bill sent out a strong and highly visible signal to investors. Finally, a robust monetary policy to ensure a stable rupiah was in order, given the inflationary pressures expected in the months to come. Nonetheless, many pending issues were still languishing, such as the excessive regulatory burden, investment and labor law amendments, and tax reforms. Even the crucial tax reforms could only be implemented in early 2007 at the earliest due to the predicted debate in the legislature. However, we must realize that policy always makes a difference.

6. ECONOMICS FROM ISLAMIC PERSPECTIVE

From an Islamic economy point of view, man should aware of his commitment to Allah, the focus of all his reverence, gratitude, and action and the only source of value, which we call Tawhid. This means understanding the concept of property in Islam, which is one of the foundations of behavior for both the government and citizens. The starting point is that Islam sets goals for human life. The distribution of wealth in the country must help in achieving social welfare, or *maslahah*. *Maslahah* is divided into three levels, necessities (*Dharuriyat*), complements (*Hajiyat*), and embellishments (*Tahsinayat*), according to the order of priority.

Necessities relate to elements that constitute the basis for life and order. These include all basic needs such as food, clothing, shelter, and transport. In fact, basic needs vary according to place and time. Complements are basically facilities that are meant to ease life and impart convenience, such as investments in credit facilities.

The third level, embellishments, constitutes mostly articles of luxury and beauty (e.g., luxury cars). The country's wealth must fulfill the necessities before it moves to the other levels. Wealth from natural resources such as oil, according to many Muslim scholars, cannot be private. It must be for the benefit of the whole society. This is extremely important to bring forward justice in society. Justice is the main agenda in the Islamic economy. The government must ensure justice for the people of the country. The country must provide its citizens with rights and sufficient food, shelter, clothing, education, medical services, and security of life and property. In the eyes of Islam, leaders are defined as servants of the people who ensure the above facilities and services for citizens.

On the other hand, Islam grants every citizen the right to express his opinion by all peaceful means under his disposal and to stand against oppression. The impact of rising oil prices on the Malaysian and Indonesian economies seems not so different. Indonesia as a net oil importer experienced slightly worse conditions than its neighboring country Malaysia. Nevertheless, both of these Muslim countries must ensure that an increase in the price of oil in this region will not harm the citizens or the Muslim community.

7. CONCLUSION

After the relatively low prices seen in the first half of the 1990s, when the price of crude petroleum rarely exceeded US\$20 per barrel, the price of oil began to rise in 1999 and culminated at US\$70 per barrel in December 2005. This surge in oil prices has worried the governments in many oil-importing countries, which fear the detrimental effects of a substantial and long-lasting rise in energy prices on output growth.

This is a special concern for many developing countries which have become increasingly dependent on oil imports

as industrialization has progressed. Oil price shocks have repeatedly had a negative aggregate impact on global economic activity. The reason for this can mainly be found in the response of economic policy in countries affected by an oil price shock. Inappropriate reactions, particularly from those responsible for wage and monetary policies, can aggravate the situation and lead to losses in economic activity that could otherwise have been avoided. The recent drop in world oil prices by almost 18% to US\$60 a barrel may represent a great chance for the country's economy to recover from any unfavorable conditions that have occurred. Past experience from an increase in oil prices can be a good teacher for running the country's economy.

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[#] Support from the University of Malaya Research Grant (UMRG) at the University of Malaya under the Equitable Society Research Cluster (ESRC) is gratefully acknowledged.