Are low oil prices here to stay?

Extract 4: Predicting the oil price is challenging

What we do know is that, despite a recent upturn, the price of oil has slumped almost 50% since last summer following the longest-running decline for 20 years.

And we know why - US shale oil, and to a lesser extent Libyan oil returning to the market, has pushed up supply together with a slowdown in the Chinese and EU economies.

With the booming US shale industry showing little signs of slowing, and growing concerns about the strength of the global economy, there are good reasons to suspect that the current slump in the oil price will continue for some time.

Source: BBC News, 24 February 2015



Figure 2: Latest Price for Crude Oil

Source: Nasdaq.com Jan 14th 2015



Figure 3: The value of oil exports based on different oil prices per barrel for selected countries

Source: Energy Matters, 18 Nov 2015

Extract 5: What are the effects of fracking on the environment?

The oil and gas industry has been expanding consistently for decades due, in part, to the advances in technology in the processes of extracting, transporting and delivering the resource to consumers. One of the most-discussed technological advances is hydraulic fracturing, also known as fracking. This extraction process combines often dangerous chemicals with large amounts of water and sand at high rates of pressure into rock formations to fracture surrounding material for the purpose of extracting oil and gas. Fracking is controversial because of the negative effects like air pollution and water contamination. In addition to air and water pollution, fracking also increases the potential for oil spills, which can harm the soil and surrounding vegetation. Fracking may cause earthquakes due to the high pressure used to extract oil and gas from rock and the storage of excess wastewater on site.

Source : Investopedia, 19 January 2015

Extract 6: Can Indonesia phase out energy subsidies without hurting the poor?

Indonesia enacted a major reform recently. On 1 January, President Joko Widodo followed through with his electoral promise to cut decades-long subsidies for energy products. Many leaders had tried before him, but retreated in the face of fierce resistance from the people. Thanks in part to low oil prices, the newly-elected President got the reform through without much trouble. The true challenge will be how to support poor households when prices start rising again.

Source : OECD Insight 28 April 2015

Extract 7: Little cheer for Singapore's economy despite lower oil prices

Singapore: Lower global oil prices should stimulate global economic growth, according to the International Monetary Fund, which estimates that every US\$10 fall in per-barrel oil price can lift global GDP by 0.2 per cent. In particular, countries which are net importers of oil, such as Singapore, should benefit more from lower global oil prices. For example, electricity bills and petrol costs have fell about 15% and 5.5% respectively. Crude oil prices have slumped by 48% on average from 2014 to last year.

But now that oil has dipped below US\$30 a barrel, and is hovering its lowest price levels in over a decade, initial cheer from energy cost savings appears to be turning into fear over a global economic slowdown. The current slump in oil prices has done little to prop up consumer spending and spur growth, according to CIMB Private Banking economist Song Seng Wun, "because the slump in global trade has overtaken the benefits of cheaper oil", he said. Hit by slowing global demand, Singapore's trade-dependent economy grew 2.1 per cent in 2015, clocking its weakest pace of growth since 2009.

"Last year for example, was one of the worst years for the petrochemical industry, even though the industry had the benefit of lower input prices. Due to low global demand, the firms over-invested and could not run at capacity," said Mr Song. Singapore-based Keppel Corp announced that it had cut around 8,000 jobs as weak energy prices hammered profits at the world's largest oil rig builder. Further, the global economic slump that has resulted from low oil price has also had a chain effect on Singapore's economy. These effects extend beyond just the oil and gas industry.

Overall, some clear winners from lower oil prices could be consumers, and businesses in energy-intensive industries, such as aviation and shipping, which stand to gain from lower utility bills. Meanwhile, the losers include oil-related firms, like rig builders and offshore and marine companies, which have seen orders thin out in line with lower oil exploration activity.

Source: CNA online 22 Jan 2016

Questions:

(a)	(i)	Using Figure 2, describe the trend of oil prices between January 2014 and January 2015?	[2]
		Oil prices are generally falling/decreasing between Jan 2014 and Jan 2015. (1m)	
		Steep fall in oil prices after July 2014 to Jan 2015 (1m)	
	(ii)	With the help of a diagram, explain the demand and supply factors that are responsible for the trend in oil prices identified in (i).	[4]
		<u>Reasons for falling oil prices</u> : Fall in demand due to a slowdown in global economies (extract 1 : "growing concerns about the strength of the global economy") Increase in supply due to increase in oil supplies due to shale gas production & increase in oil production by Libya (extract 1)	
		Explain how the fall in demand and increase in supply cause a sharp fall in price	
		Diagram	
		2 m for identify & explanation, 2 m for diagram and price adjustment	
(b)		Using the evidence from Figure 3, what can you conclude about the price elasticity of demand for oil in Saudi Arabia?	[3]
		Define PED (1m)	
		From figure 2, price of oil in Saudi Arabia fall and total export revenue falls	
		This implies a fall in price exceeds leads to a less than proportionate increase in quantity, hence, demand for oil is price inelastic (2m)	
(c)		With reference to Extract 6, explain how a complete removal of energy subsidies will affect households' expenditure on electricity.	[3]
		Removal of energy subsidies will lead to an increase in cost of production of electricity (decrease SS) which will lead to an increase in the price of electricity. (1m)	
		Household expenditure on electricity is price of electricity multiplied by the volume of electricity consumed. Increase in price of electricity will lead to a less than proportionate fall in volume of electricity consumed since demand for electricity is price inelastic (high degree of necessity) and hence leading to an increase in household expenditure on electricity. (2m)	

(d)	(i)	Explain one possible reason why the price of crude oil has fallen by 48% whereas price of petrol has fallen only by 5.5%.	[2]
		Price of petrol has fallen only marginally because price of petrol includes costs of processing/refining the crude oil, costs of rental and government indirect taxes. So the initial price fall was eroded along the process and resulted in only a smaller price fall for the price of petrol.	
	(ii)	With reference to Extract 7, discuss the impact of changes in oil prices on the economic growth of Singapore.	[8]
		1) Short-Run: Economic Growth	
		(1) Increase in SRAS Singapore is a net oil importer. As a result of the decrease in price of crude oil leading to a fall in the price of petrol & electricity leading to fall in costs of production. This will lead to an increase in SRAS leading to an increase in real NY (diagram).	
		For eg, the aviation, shipping, logistic and transportation industries where petroleum accounts for a large percentage of input costs will benefit from the fall in price.	
		(2) Increase in AD Falling oil prices would result in fall in costs of production leading to an improvement in export competitiveness. This will cause AD to increase leading to an increase in real NY (diagram)	
		Singapore will experience economic growth in the short run.	
		2) Long-Run: Economy may be worse off	
		A number of industries that are part of the oil supply chain could be hurt by weaker oil demand – like marine and offshore engineering. The reason why they are affected is because they supply oil rigs or machinery for the extraction of crude oil. Since oil price decreases due to the global oversupply of oil, there will be less demand for such orders since extraction should be reduced. This will result in a fall in AD and reduce real NY and employment. This fall in real NY will result in fall in purchasing power and hence causing a further fall in consumption and net exports which will lead to a slump in global trade (extract 7)	
		In addition, investors may be pessimistic about future business outlook and cut back on investment. (Diagram)	
		In conclusion, a fall in the oil prices in the short run will promote EG. This will create jobs in certain industries (eg aviation and logistics) which lead to an increase in economic growth. However, in the LR with further fall in oil prices and poor business outlook in the rig builders and offshore marine companies it will slow down economic growth for Singapore. In addition, any further fall in oil prices may cause the investors to lose confidence which will be detrimental to economic growth and employment.	

		1		
	Level	Descriptors	Mark	1
	L2	Well-developed analysis of both the short run	4-6	
		AND long run impacts on the economic growth		
		in Singapore with examples to substantiate		
		which industries would benefit / be worse off.		
	L1	One sided discussion of either short run or long run impacts on Singapore economic growth. OR Weak analysis of both the short and long run impact on economic growth.	1-3	
	E	Substantiated judgement is made on the eventual outcome of the impact on economic growth in Singapore	1-2	
(e)	Fxplain	and evaluate one market-based policy to deal with eco	nomic	[8]
(~)	inefficie	ncy in resource allocation due to fracking.		
	Identify product Explain to achie	and explain source of market failure: negative extension. and evaluate one market-based policy like indirect ave efficiency in resource allocation.	ernality in taxation	
	to acrite			
	•	Define market failure		
		dontify the source of market failure (negative exter	nality in	
	• 1	areduction)	nanty in	
		Droduction)		
	• 1	Define negative externality		
	•	Illustrate with diagram) to show MSC>MPC; fracking	g cause	
	I	pollution and its harmful effects on the health of the	e residents	
	1	near the fracking area (MEC), hence leading to ecor	iomic	
	I	ssue of allocative inefficiency (over-production of (oil).	
	• (Show deadweight loss and allocative inefficiency		
	• 1	Explain how government internalise the external co	sts	
	t	hrough the use of indirect taxation (Assume Taxati	on =	
	ſ	Marginal External costs)		
	l imitati	one of taxation		
		Difficult to estimate the external costs accurately a	nd hence	
	• 1 1 1	ead to underproduction and underestimation may i completely eliminate the deadweight loss to society	tion may not	
	•	t is not feasible and administrative cumbersome to different tax rates as firms may emit different types of negative externality.	impose & amount	
	Conclu	sion :		

Level Descriptors L2 For a well-developed answer on inefficient resource allocation and how indirect taxation (market-based policy) correct the deadweight loss. Limitations of taxation are well explained.			
L2 For a well-developed answer on inefficient resource allocation and how indirect taxation (market-based policy) correct the deadweight loss. Limitations of taxation are well explained.	Level	Descriptors	Marl
	L2	For a well-developed answer on inefficient resource allocation and how indirect taxation (market-based policy) correct the deadweight loss. Limitations of taxation are well explained.	4-6
L1 For an undeveloped explanation of the concepts of resource allocation and market failure and undeveloped analysis of measures used.	L1	For an undeveloped explanation of the concepts of resource allocation and market failure and undeveloped analysis of measures used.	1-3