

Turbulence in Global Oil Market and the Consequences

There is uncertainty in the global oil market this year. Demand for oil will tumble as economic activities have been crippled by the coronavirus outbreak and are only projected to recover in the last quarter of 2020. Meanwhile, excess oil supply will continue to pressure crude prices for several years. We project oil prices would stay at very low during mid-2020, with Dubai crude averaging US\$44 a barrel in 2020 and \$53.8 a barrel in 2021.

Both refinery and petrochemical counters should see weaker revenues and margins, especially in the first nine months of this year. But, as oil demand recovers in late-2020 or early-2021, margins should improve for both industries even if revenues remain weak in the next two years.

Oil prices have tumbled to 17-year lows on weaker demand and concerns over rising oil supply

Oil prices have plunged due to both demand and supply factors. WTI price had dropped to \$20 on March 30 from \$65.4 a barrel at the end of 2019. This was triggered by rising concerns over a price war in the global oil market and weaker demand as the the virus outbreak has crippled economic activities.

There are rising concerns global oil market could be flooded by excess oil supply. On March 13, OPEC+ led by Saudi Arabia and Russia shocked the market after failing to agree on a new deal to cut oil production further. Immediately after, Saudi Arabia said it would increase its oil production and cut selling prices by \$6-7 a barrel. Russia responded by preparing to level up their production and claimed they can withstand the low oil prices. This had raised concerns over a price war in the oil market among major oil producers, to grab market share.

Demand for oil has tumbled because of the Covid-19 pandemic. The containment measures worldwide have severely hit the transportation, industrial and petrochemical sectors – the three largest oil consumers. It has almost wiped out oil demand worldwide. Both the IEA and OPEC estimate oil consumption in the first quarter of this year could drop by 2 mbpd instead of the initial forecast of 1.2 mbpd.

Figure 1: Dubai Oil Price

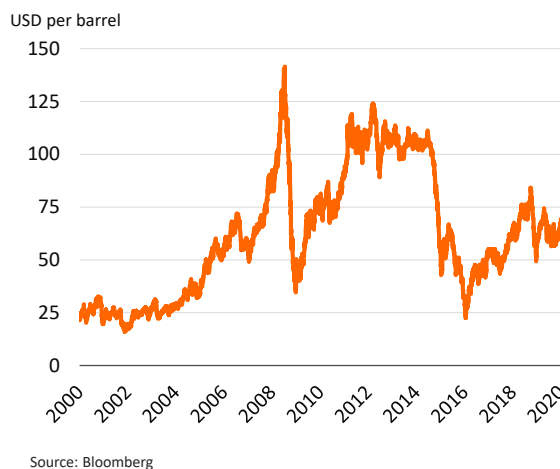
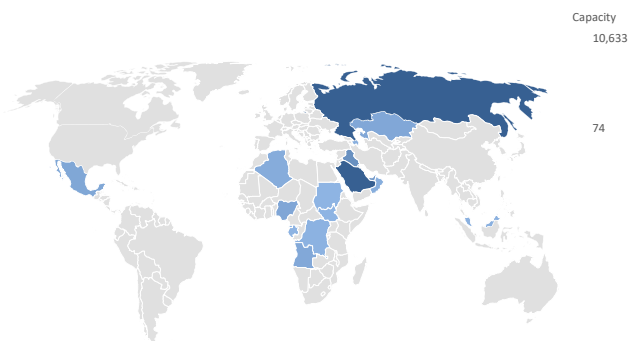


Figure 2: OPEC+ members



	Capacity	Supply cut		Capacity	Supply cut
OPEC	26,314	-1,168	Non-OPEC	16,749	-514
Algeria	1,057	-44	Azerbaijan	725	-27
Angola	1,528	-47	Bahrain	206	-7
Congo	325	-14	Brunei	103	-4
Eq. Guinea	127	-5	Kazakhstan	1,689	-57
Gabon	187	-8	Malaysia	570	-20
Iraq	4,653	-191	Mexico	1,744	-58
Kuwait	2,809	-140	Oman	883	-34
Nigeria	1,827	-74	Russia	10,623	-300
Saudi Arabia	10,633	-489	South Sudan	132	-3
U.A.E.	3,168	-156	Sudan	74	-4

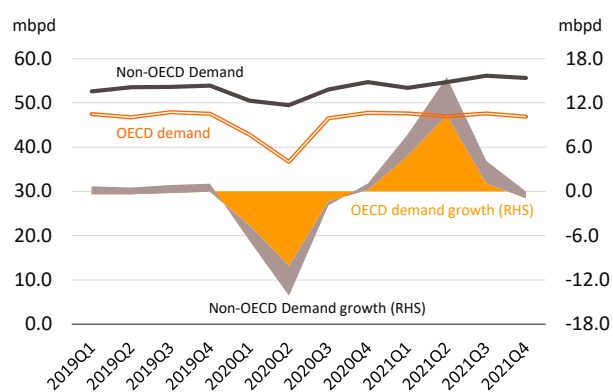
Source: Bloomberg

Looking ahead, the global oil market remains well-balanced but the pandemic has severely hurt oil demand

Global oil demand should remain subdued until third quarter of this year. The coronavirus pandemic has hurt the global economy substantially and the consequences would last into the third quarter of this year. The containment measures has crippled economic activities. In addition, travel bans and lockdowns have reduced oil consumption in the transportation sector to the minimum. Our analysis suggests oil consumption by the air transportation industry could be reduced by 70% during the period the coronavirus cases peak. The impact on overall oil demand would worsen in the second quarter. For full-year 2020, we estimate oil demand would drop by 5.4 mbpd from +0.8 mbpd in 2019. This would be the first time oil demand contracted since the Global Financial Crisis in 2008.

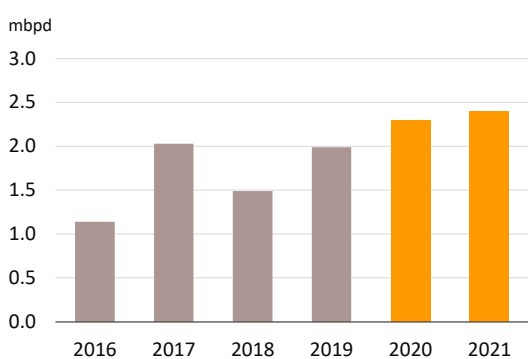
However, oil consumption will return to normal when the outbreak is effectively contained. Even though we expect the number of Covid-19 cases to slow down in the third quarter of 2020, its consequences and oil demand will not fully recover until 2021, when oil demand would jump by 6.8 mbpd. Of this, demand for oil in OECD countries would rise by 3.8 mbpd while demand in emerging markets would rise by 3.0 mbpd. That would take global oil demand back to 102.2 mbpd in 2021.

Figure 3: Global Oil Demand



Source: EIA, forecast by Krungsri Research

Figure 4: Spare Capacity



Source: EIA, forecast by Krungsri Research

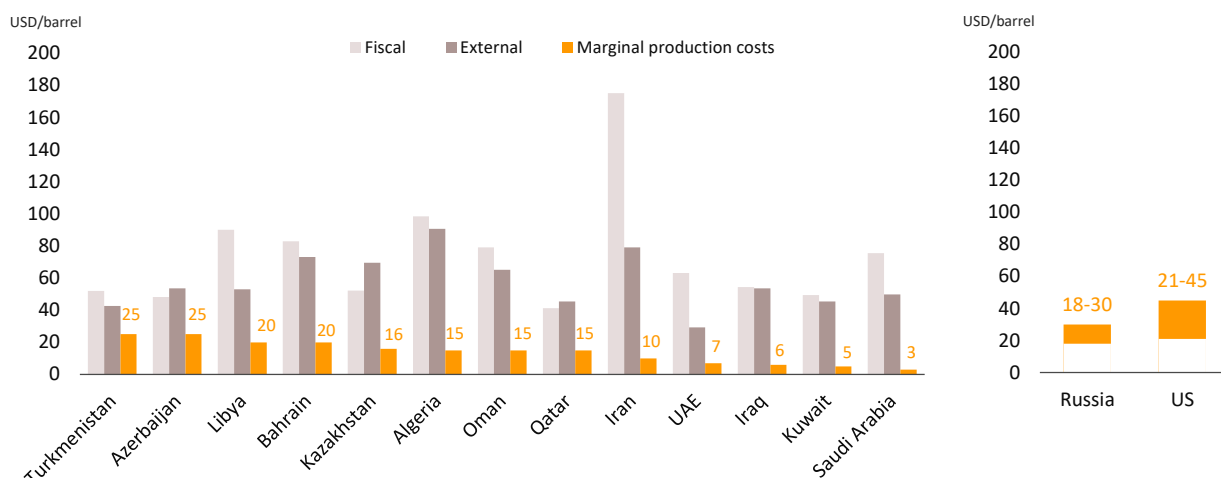
It remains uncertain who will win the price war, but it will create turmoil in global oil market for sometime

Concerns over an oil price war will create volatility in the global oil market up to next year. Saudi Arabia and Russia agreed to cut production since 2016 but have failed to agree on further cuts. This has triggered a price war, where each player have cut selling prices by pumping more oil to grab market share and revenues. Oil prices will continue to drop until one player is forced out of the market. The winner will be decided by oil production cost and the ability to pump more oil.

Saudi Aramco has lowest oil production cost, but Saudi Arabia might not like it. In Saudi Arabia, it can cost as little as \$3 to produce a barrel of oil, much lower than in the US and Russia where the lowest cost is about \$21 and \$18, respectively. This means oil prices could dive below \$20 a barrel. However, the fiscal and external breakeven oil prices for OPEC members suggest several countries require oil prices to stay above \$40-50 a barrel to balance their fiscal and external accounts. If oil prices remain below the fiscal breakeven price for an extended period, those countries would have to cut public spending, which could in turn, threaten political stability in the region.

Saudi Arabia also has largest production capacity. In the latest headlines, Saudi Arabia has threatened to increase their oil production to maintain revenues. Several other producers might follow that move. Saudi Arabia is estimated to have 1.7 mbpd of oil production capacity, while Russia can increase oil production by 0.4-0.5 mbpd immediately. The collective 2.1 mbpd surplus would send oil prices below \$20, especially during times of weak demand.

Figure 5: Oil Production Costs and Breakeven Prices



Source: IMF, Bloomberg, EIA

Oil prices could dive below the unsustainable level of \$20 because demand is projected to drop by more than 10 mbpd in the first half of 2020. However, this price level would not please oil producers, even Saudi Arabia.

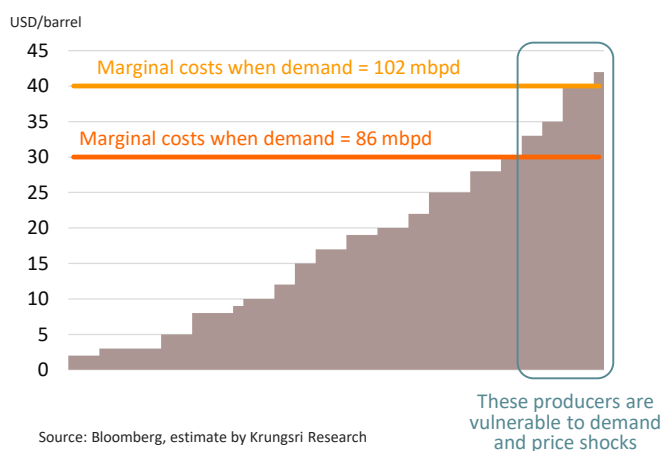
We expect the price war and weak demand to lead crude prices to record lows. This will force high-cost producers such as Venezuela, Canada, and Brazil out of the market. At below \$20, it would be unprofitable for most Canadian and Brazilian producers because transportation cost is already \$15-18 a barrel for these countries. And, even the lowest-cost producer – Saudi Arabia – would encounter a deficit in both fiscal and external balances, which could ruin its stability in the long run.

However, we do not expect the oil majors to flood the global oil market until demand starts to recover. That means oil production would drop in 2020, possibly reach bottom in mid-2020.

For full-year 2020, we project oil supply would drop by 4.1 mbpd vs -0.2 mbpd in 2019. This would be due to the sharp decline in oil demand, supply disruption, and lockdown measures. In the first three quarters of the year, oil supply could drop to an average of only 96.5 mbpd.

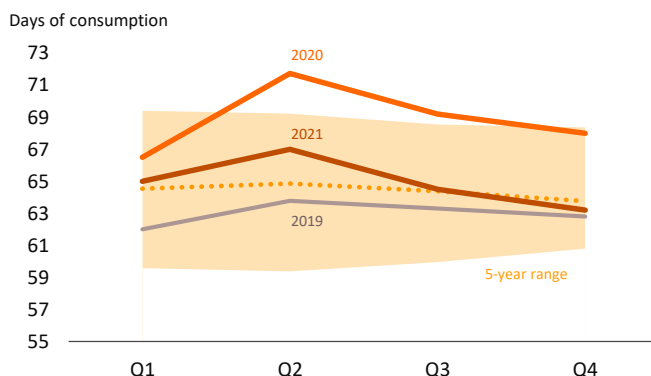
A rebound in oil demand would encourage oil producers to resume production 2021, and that would trigger a new round of real price war. We expect oil demand to return to normal by late-2020 or early-2021, which would encourage higher oil production. But, the huge global oil inventory will continue to weigh on crude prices. We estimate oil supply would increase by 6.2 mbpd to 102.7 mbpd in 2021, with 3.8 mbpd coming from OPEC members.

Figure 6: Oil Cash Costs



Source: Bloomberg, estimate by Krungsri Research

Figure 7: Oil Inventory

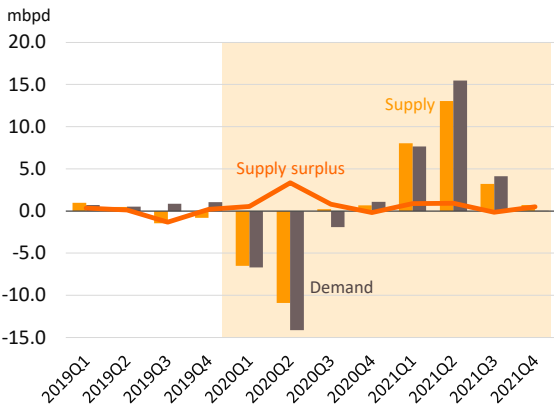


Source: EIA, forecast by Krungsri Research

Weak demand, excess supply, and huge production capacity will pressure crude prices in the next few quarters

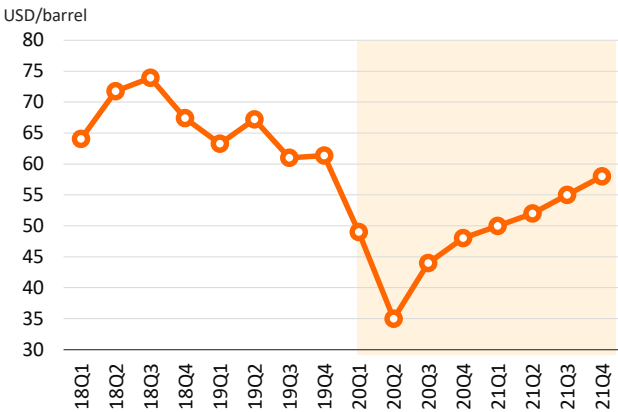
Global oil demand is projected to drop to 95.3 mbpd while oil production is estimated at 96.5 mbpd. This translates into 1.1 mbpd surplus in the global market in 2020, taking global oil inventory to a new high. The surplus could reach 3.4 mbpd in the second quarter. As a result, US inventory - a key benchmark for the global oil market- would rise to nearly 1,400 mbpd, or 71.7 days of oil consumption in the US (the highest level since 2015). However, we expect more balanced demand and supply conditions in the global oil market in 2021 as demand growth returns to normal.

Figure 8: Oil Demand and Supply Growth



Source: EIA, forecast by Krungsri Research

Figure 9: Oil Price Forecast



Source: Bloomberg, forecast by Krungsri Research

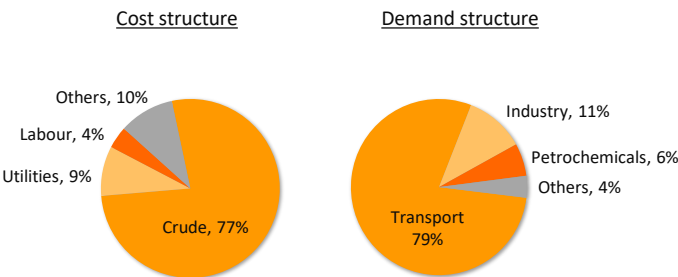
Krungsri Research expects Dubai crude oil price to stay low through to the third quarter of 2020 and recover in the last quarter. Oil price is projected to average \$44 a barrel in 2020. The era of low oil prices would hit oil-related industries including E&P, oil refineries, and petrochemicals, due to weak demand.

Oil-related industries will see mixed impact from low oil prices. All the players will see weaker revenues and stock losses in 2020. The E&P industry would be hit the hardest, following the sharp drop in both demand and margins. Those in further downstream sectors, including refinery and petrochemicals, might fare slightly better.

Refinery players would be hit hard by tumbling demand and record-low GRM. In the next two quarters, the refinery industry would be hit by both weak oil prices and slowing demand. Travel bans and lockdowns have drastically reduced transportation and industrial activities, the two biggest oil consumers which collectively absorbed about 80% of total world oil consumption prior to the pandemic. When demand falls, price of refined products will drop at a faster pace than crude prices. Krungsri Research projects gasoline and diesel prices in Singapore market would average only \$37 and \$40, respectively, in the second quarter of 2020. This could reduce gross refinery margins (GRM) to \$0.9 a barrel.

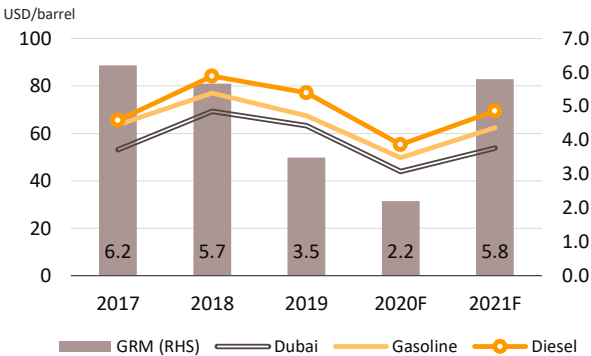
GRM might rebound in late-2020/early-2021 as demand recovers and encourage higher oil production. Demand for oil, is expected to recover from late-2020, if the outbreak is effectively contained by then. But given the large crude supply, prices of refined products will rise faster than crude prices. Hence, we project GRM would start to rise in the fourth quarter of 2020 or early next year. For full-year 2020, GRM is projected to average \$2.2 barrel in the Singapore market vs \$3.5 in 2019.

Figure 10: Cost and Demand Structure in Oil Refinery



Source: Various sources, collect by Krungsri Research

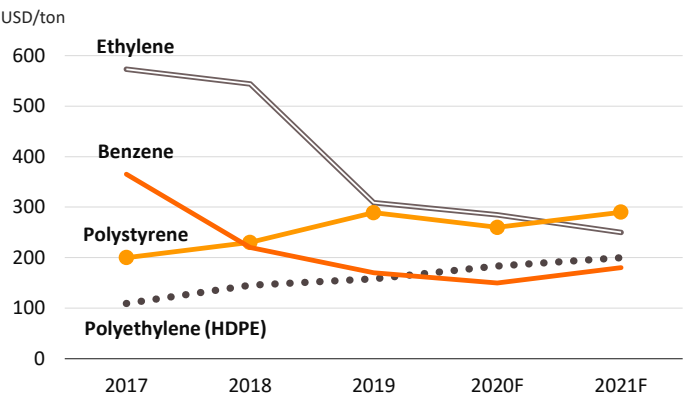
Figure 11: Petroleum Prices and Spreads



Source: Bloomberg, forecast by Krungsri Research

Petrochemicals will also have a tough year. The sharp drop in petrochemical demand following the crippled economic activities will hurt petrochemical spreads, from ethylene to ABS. Although feedstock costs have tumbled, prices of petrochemicals products are expected to drop by a larger magnitude. This means petrochemical spreads – a key profitability measure for petrochemicals – would also decline. Krungsri Research forecasts naphtha prices would drop by 27% in 2020 to \$380 a ton. Ethylene price would fall to \$664.9 a ton, which would reduce ethylene spread to an average of \$284.9 a ton in 2020 from \$308.7 in 2019. However, spreads for most petrochemical products would recover in 2021 as demand for petrochemicals from the industrial sector recovers.

Figure 12: Petrochemical Spreads (including forecasts)



Source: Bloomberg, forecast by Krungsri Research

Table 1: Petroleum Price (including forecasts)

	Singapore market (US dollar/barrel)				Domestic market(THB/barrel)		
	Dubai	Gasoline	Diesel	GRM	Gasoline	Diesel	Consumption
2016	41.2	51.1	51.9	3.4	31.5	23.3	2.5%
2017	53.1	63.7	65.5	6.2	43.3	25.6	2.7%
2018	69.3	77.0	84.2	5.7	36.1	28.3	3.0%
2019	63.2	67.5	77.1	3.5	35.1	26.5	2.0%
2020F	44.0	49.8	55.3	2.2	30.9	21.9	-6.9%
2021F	53.8	62.5	69.5	5.8	33.5	24.7	4.2%

Source: Bloomberg, EPPO, forecast by Krungsri Research

Table 2: Petrochemical Prices and Spreads (including forecasts)

	Naphtha	Price (US dollar/ton)				Spread (US dollar/ton)			
		Ethylene	Benzene	HDPE	PS	Ethylene	Benzene	HDPE	PS
2016	402	1046	676	1144	1198	644	274	98	229
2017	497	1071	862	1180	1375	574	365	109	245
2018	615	1159	835	1305	1514	544	220	145	230
2019	525	834	694	991	1218	309	170	158	289
2020F	380	665	581	848	1077	285	150	183	260
2021F	450	700	650	900	1100	250	180	200	290

Source: Bloomberg, forecast by Krungsri Research

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