FSS INTERNATIONAL INVESTMENT ADVISORY

8 SEPTEMBER 2020

THAILAND OIL & GAS

ซบเซาก่อนฟื้นตัว

ราคาน้ำมันชะลอใน 2H20 ก่อนขึ้นใน 2Q21

เราคงสมมติฐานราคาน้ำมันของเราไว้ที่ USD40/bbl ในปี 2020 และ USD50/bbl ในปี 2021-2022 โดยคาดว่าราคา น้ำมันจะอยู่ในช่วง USD45-55/bbl ใน 2H20 ก่อนขึ้นเป็น USD55-60/bbl ภายใน 2Q21 สมมติฐานดังกล่าวตั้งอยู่บน ประมาณการของเราที่คาดว่า (1) ปริมาณน้ำมันคงคลังทั่วโลกจะลดลงก่อนกลับสู่ระดับปกติใน 2Q21; (2) อุปสงค์โตใน อัตราที่สูงกว่าอุปทานอย่างต่อเนื่อง ซึ่งจะทำให้ปริมาณน้ำมันคงคลังลดลงใน 2H20-1Q21; (3) OPEC จะคงระดับการ ลดการผลิตน้ำมันที่ 7.7mbpd อย่างต่อเนื่องใน 2H20; และ (4) ผู้ผลิตน้ำมันในสหรัฐฯ โดยเฉพาะจากหินดินดานจะ ผลิตน้ำมันได้ในระดับต่ำจากปัญหาการล้มละลายมีต่อเนื่องมาตั้งแต่ 2Q20 เราคาดว่าราคาน้ำมันดิบ Brent เฉลี่ยจะอยู่ ที่ USD50 ใน 1Q21 ก่อนขึ้นเป็น USD50-55/bbl ใน 2Q21 และมีแนวโน้มทรงตัวที่ USD50-55/bbl ใน 2H21 ระดับ ราคาดังกล่าวจะถูกผลักดันโดยการฟื้นตัวของความต้องการและการผลิตน้ำมันที่อยู่ในระดับต่ำในสหรัฐฯ ซึ่งเราคาดว่า จะลดลง 0.98mbpd y-y ใน 2020 และ 0.28mbpd ใน 2021

ผลกระทบจาก COVID-19 ก่อให้เกิดความเปลี่ยนแปลงในพฤติกรรมการท่องเที่ยวในสหรัฐฯ

จากข้อมูลของ EIA ค่าสหสัมพันธ์ระหว่างการใช้น้ำมันอากาศยานในสหรัฐฯ กับจำนวนเที่ยวบินที่ออกจากสนามบินใน สหรัฐฯ ระหว่าง 1 ม.ค. ถึง 16 ส.ค. 2020 มีสูงถึง 0.92 พัฒนาการที่เกิดขึ้นเมื่อเร็ว ๆ นี้ส่งสัญญาณถึงการฟื้นตัวของ ความต้องการใช้น้ำมันอากาศยานสำหรับเที่ยวบินโดยสาร หลังจำนวนเที่ยวบินในสหรัฐฯ ได้ฟื้นตัวจาก 5,974 เที่ยวบินต่อวัน เมื่อ 25 เม.ย. 2020 เป็น 15,239 เที่ยวบินต่อวัน เมื่อ 16 ส.ค. 2020 ในทางเดียวกัน ระดับการยกเลิก เที่ยวบินก็กลับเป็นปกติ โดยลดลงจาก 12,320 เที่ยวบินเมื่อ 27 มี.ค. 2020 เหลือเพียง 128 เมื่อ 16 ส.ค. 2020 นอกจากนี้ EIA ยังระบุอีกว่า COVID-19 ได้ก่อให้เกิดความเปลี่ยนแปลง 2 ประการในพฤติกรรมการเดินทาง กล่าวคือ นักท่องเที่ยวเลือกการเดินทางทางอากาศน้อยลงและชอบแหล่งท่องเที่ยวที่มีการควบคุมโรค COVID-19 ที่ดีกว่า เพิ่มขึ้น

กลยุทธ์การผลิตน้ำมันอากาศยานในระดับศูนย์และจัดสรรสัดส่วนน้ำมันดิบยังเป็นกุญแจสำคัญ

นับตั้งแต่ตัน 3Q20 จนถึงปัจจุบัน อัตรากำไรของน้ำมันเบนซิน ดีเซล น้ำมันเตาที่มีกำมะถันสูง (HSFO) และโดยเฉพาะ อย่างยิ่งน้ำมันอากาศยานต่อน้ำมันดิบดูไบลดลง q-q จากความต้องการที่อยู่ในระดับต่ำและอุปทานที่เพิ่มขึ้นหลังโรง กลั่นทั่วโลกกลับมาดำเนินงานตามปกติ ในกลุ่มโรงกลั่นไทยทั้ง 6 ที่เราทำการศึกษา (ไม่รวม TASCO) เรามองว่า SPRC และ ESSO สามารถใช้ประโยชน์จากความสามารถในการทำกำไรได้อย่างมีประสิทธิผลสูงสุดผ่านกลยุทธ์การ กำหนดสัดส่วนการผลิตและจัดสรรสัดส่วนน้ำมันดิบ ทั้ง SPRC และ ESSO สามารถ (1) เปลี่ยนชนิดน้ำมันดิบได้อย่าง รวดเร็วตามการเปลี่ยนแปลงทางเศรษฐกิจ; และ (2) ลดการผลิตน้ำมันอากาศยานให้เป็นศูนย์

SPRC และ ESSO เป็นหุ้นเด่น

ในกลุ่มน้ำมันและก๊าซของไทย เราเลือกหุ้นปลายน้ำมากกว่าต้นน้ำ เนื่องจากแนวโน้ม Market GRM ดีกว่า ซึ่งทำให้เรา คาดว่าหุ้นปลายน้ำจะสามารถฟื้นตัวได้ดีใน 4Q20 ในกลุ่มโรงกลั่นปลายน้ำ เราชอบ SPRC และ ESSO หุ้นทั้งสองมี ปัจจัยหนุนจาก (1) กลยุทธ์ที่เหนือกว่า น้ำมันดิบที่มาจากแหล่งที่ดี และความสามารถในการผลิตให้ได้ผลตอบแทนที่ ต้องการเมื่อเทียบกับ TOP และ BCP; และ (2) กำไรสุทธิของ ESSO มีแนวโน้มโตดีจากธุรกิจสถานีบริการน้ำมัน



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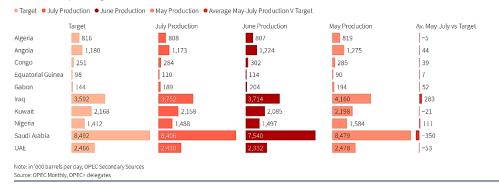
Doldrums before road to recovery

In the past three months, global Brent oil prices have all stagnated in the narrow range of USD5-8/bbl, hovering within USD38-46/bbl since the beginning of Jun-20 when the OPEC+ group – comprising mainly OPEC oil-producing members, Russia, and other non-OPEC producers – announced that it would raise its oil production by 2mbpd. This brought the OPEC+ group's oil production cut target up to 7.7mbpd since Aug-20, from a record 9.7mbpd cut – 10% of global oil supply – between May to Jul-20, to balance the supply with the collapsing demand during the global lockdown caused by COVID-19 in 2Q20.

Exhibit 1: Compliance rates of OPEC production cuts

OPEC production

Iraq and Nigeria have been the main laggards in compliance with OPEC+ cuts in May to July, while additional voluntary cuts have pushed Saudi, UAE, and Kuwaiti compliance higher.



Source: OPEC Monthly

In Jul-20, the OPEC+ coalition's compliance rate for its oil production cuts was at 95%, flat m-m. This was a significant drop from the 107% compliance rate in Jun-20 due to the additional voluntary cut contributions from Saudi Arabia, the UAE, and Kuwait, with a combined 1mbpd in Jun on top of their share of the cuts. Excluding those three voluntary outperformers, the OPEC+ group's compliance was 95% in Jun-20.

Exhibit 2: World liquid fuel production and consumption balance

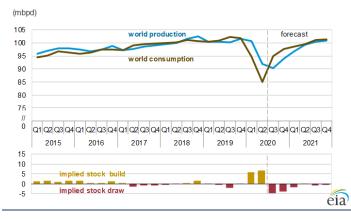
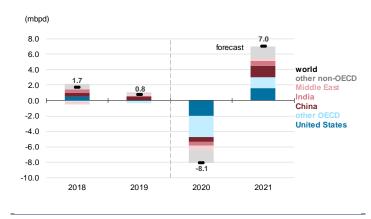


Exhibit 3: Annual change in world liquid fuel consumption



Sources: U.S. EIA, "Short-Term Energy Outlook," August 2020

Sources: U.S. EIA, "Short-Term Energy Outlook," August 2020

According to the US Energy Information Administration (EIA), global oil demand is projected to return to 97% of the pre-pandemic oil demand in 4Q20, a big recovery from the large drop in Apr-May. Hence, OPEC+ recently met two weeks ago to review its members' compliance and left the oil cut target unchanged at 7.7mbpd. The oil production cut in Sept to Dec-20 is projected to deepen to compensate for Iraq, Angola and Kazakhstan's overproduction in May-Aug.

Exhibit 4: Global oil consumption growth projections

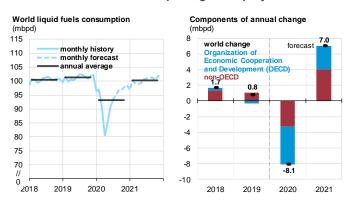
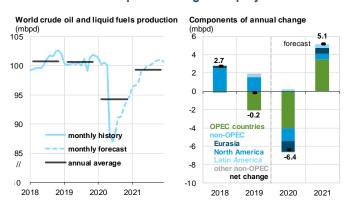


Exhibit 5: Global oil production growth projections



Sources: U.S. EIA, "Short-Term Energy Outlook," August 2020

Sources: U.S. EIA, "Short-Term Energy Outlook," August 2020

However, the EIA projects that the global oil supply is likely to remain lower than the global oil demand by 2mbpd, since OPEC+ aims to cut their oil production by 7.7mbpd to allow the global oil inventory to gradually destock.

Measured in terms of daily oil supply, the Organization for Economic Cooperation and Development (OECD)'s oil inventory, which accounts for 46% of the 2020E global oil demand of 93.1mbpd, has remained high at 75 days – above its 6-year average of 60-65 days – and requires an inventory drawdown in 2H20 to revert to its 6-year mean average by 3Q21, based on the EIA's estimate.

Meanwhile, OPEC's spare oil production capacity remains high in 2020, and is projected to start declining by 2Q21 when the global inventory reverts back to its normal band and the oil demand recovers to its pre-COVID-19 level by 2Q21, according to the EIA.

Exhibit 6: OPEC's surplus crude oil production capacity

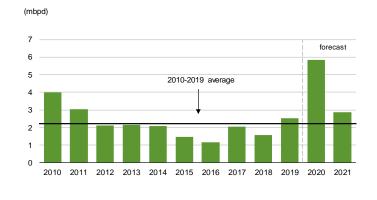
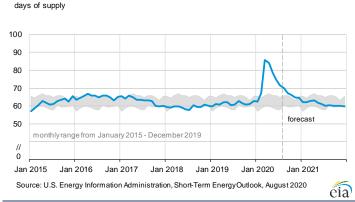


Exhibit 7: OECD commercial inventories of crude oil and other liquids



Sources: U.S. EIA, "Short-Term Energy Outlook," August 2020

Sources: U.S. EIA, "Short-Term Energy Outlook," August 2020

Stagnant oil price in 2H20 within USD45-55/bbl; likely to rebound toward USD50-55/bbl by 2Q21. We maintain our oil price assumptions of USD40/bbl in 2020 and USD50/bbl in 2021-22, premised on the oil price being range bound in 2H20 within USD45-55/bbl for Brent. This is based on our expectations of 1) the global oil inventory entering a destocking period before returning to normality by 2Q21; 2) demand growth continuing to outpace supply growth, thereby allowing inventory destocking to take place in 2H20-1Q21; 3) continued oil production cuts by OPEC+ at 7.7mbpd in 2H20; and 4) the projected low oil production rates by US oil producers, particularly US shale oil producers thanks to a series of ongoing bankruptcies since 2Q20.

Exhibit 8: Brent crude oil futures curve as of 25 Aug-20

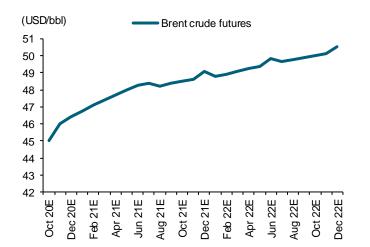
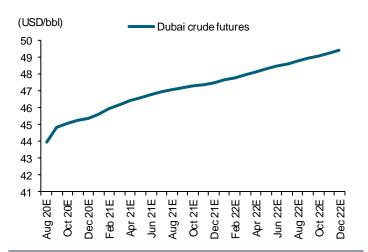


Exhibit 9: Dubai crude oil futures curve as of 25 Aug-20



Price as of 2 Sep 2020 Sources: Bloomberg; FSSIA estimates Price as of 2 Sep 2020 Sources: Bloomberg; FSSIA estimates

Oil price to surpass USD50/bbl by 2Q21. By 2Q21, we project that the Brent oil price will surpass USD50/bbl, driven by the normalized global oil inventory, a more balanced oil demand-supply, and the demand recovery to near pre-COVID-19 levels at 98-100mbpd. However, recent oil futures curves, including Brent, Dubai, and West Texas Intermediate (WTI), have all indicated that global oil prices are projected to recover to only USD46-50/bbl at end-2022, reflecting that the market remains sceptical and relatively bearish on the global oil price outlook.

We, however, think that the global oil price is likely to surpass USD55/bbl by 2Q21, based on our expectations that 1) the demand recovery should sufficiently destock the currently high global oil inventory within the next nine months; and 2) the OPEC+ group's oil production cuts at 7.7mbpd should continue for at least the next nine months, essentially allowing the demand growth recovery to rebalance the global oil market. We project Brent crude oil prices to average at USD50 in 1Q21 before rising to USD50-55/bbl by 2Q21, and likely sustain at USD50-55/bbl in 2H21.

Exhibit 10: WTI crude oil futures curve as of 25 Aug-20

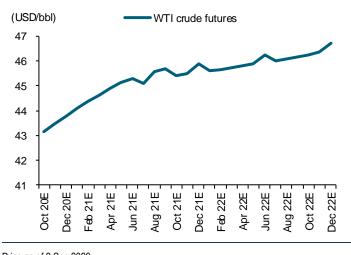
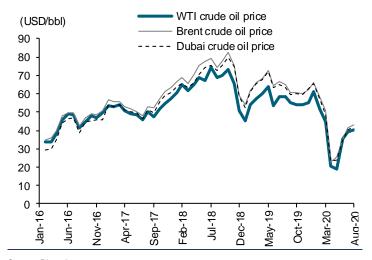


Exhibit 11: Three key benchmark crude oil prices

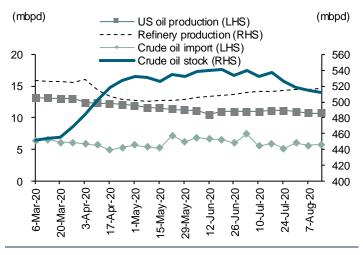


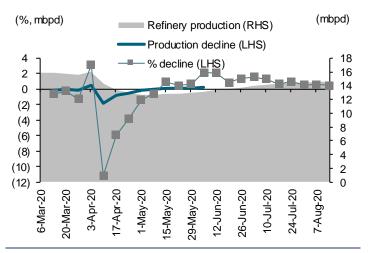
Price as of 2 Sep 2020 Sources: Bloomberg; FSSIA estimates Source: Bloomberg

US oil producers continue to struggle in 2H20. Although the WTI crude oil price has already rebounded to USD40/bbl, up from sub-USD10/bbl in 2Q20, US oil production levels remain low and in a downtrend. In Aug-20, US oil production was only 10.7mbpd, down from 13.2mbpd in Mar-20. Even though oil demand in the US has already bounced back sharply to near pre-COVID-19 levels, US oil production has not caught up with the oil demand, thanks to the high oil inventory. The high inventory has resulted in lower oil production and lower crude oil imports YTD.

Exhibit 12: US oil production declines vs refinery run up

Exhibit 13: US refinery production has stagnated since Jul-20



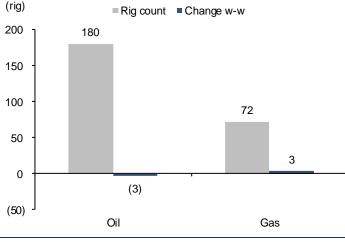


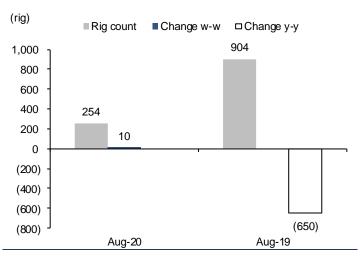
Source: EIA Source: EIA

Rig count remains low. In response to the high oil inventory and lower demand, US oil producers have maintained low oil production levels YTD. The rig count, a proxy for current and future oil and gas production, has dropped sharply by 72% y-y, as of 28 Aug-20, to only 254, and remained unchanged w-w. This indicates that the WTI oil price of USD40/bbl is not sufficient to encourage and incentivize US oil producers to return to their normal oil production levels.

Exhibit 14: US rig count changes for oil and gas (28 Aug-20)

Exhibit 15: US rig count change w-w and y-y



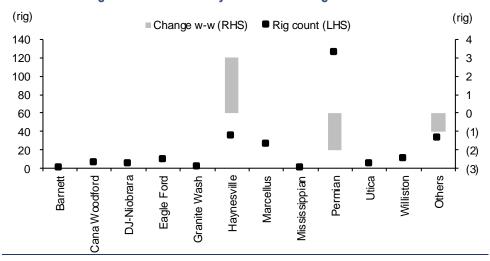


Source: EIA

Source: EIA

US shale oil producers have continued to minimize their oil production levels even after the WTI oil price doubled to remain above USD40/bbl from Jun-20. The rig count in the Permian oil basin, the largest shale oil production area in the US, has remained low at only 125, down sharply by over 50% y-y as of 28 Aug-20, while other shale basins have retained their low rig counts to maintain only minimal oil production levels to generate sufficient cash flows for debt servicing, rather than to earn a profit.

Exhibit 16: US rig count breakdown by area as of 28 Aug-20



Source: EIA

US shale oil production is projected to stay lower than 9mbpd in 2020-21. As a result of the low WTI crude oil price outlook below USD45-50/bbl for 2020-21 – the breakeven level we estimate for most US shale oil producers to cover both financial and operating costs – the EIA estimates that US shale oil production in the lower 48 states will average 8.95mbpd in 2020 and continue to decline to 8.68mbpd in 2021, down from its peak of 9.89mbpd in 2019.

As a result, the EIA projects that US oil production in 2020 will drop by 0.98mbpd y-y to 11.27mbpd, and decline further by 0.12mbpd y-y to 11.14mbpd in 2021, thanks to the high oil inventory and the projected oil demand slowdown caused by the COVID-19 pandemic.

Exhibit 17: U.S. crude oil production and components of annual change

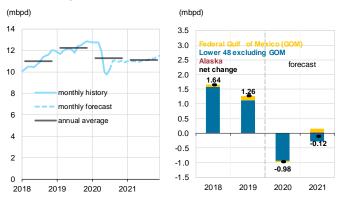
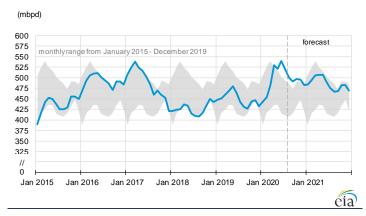


Exhibit 18: U.S. commercial crude oil inventories



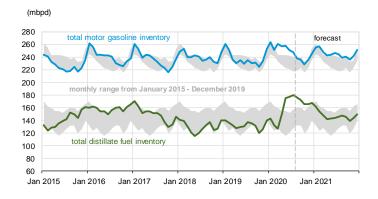
Sources: U.S. EIA, "Short-Term Energy Outlook," August 2020

Sources: U.S. EIA, "Short-Term Energy Outlook," August 2020

Higher crude exports despite lower crude oil production for the US. Despite its lower crude oil production forecast, the EIA also expects that the US will continue to export more crude in 2H20-2021, rising from the 2.44mbpd bottom in Apr-20, when the nation was in full lockdown, and 2.92mbpd in Jul-20 to 5.6mbpd by 3Q21. However, the EIA expects the US to see a relatively flat net crude oil import level, since the US still needs to import heavy crude for its refiners to blend with the much lighter and sweeter shale oil produced domestically.

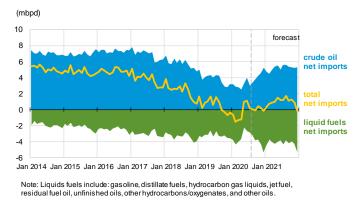
In terms of oil products, the US should continue to a see lower refinery run, and hence weak oil demand in 2H20-2Q21, as the country is required to destock its currently high inventories of diesel and gasoline. As a result, we project that the gasoline and diesel-crude margins are likely to remain weak in 2H20 in the US market.

Exhibit 19: U.S. gasoline and distillate inventories



Sources: U.S. EIA, "Short-Term Energy Outlook," August 2020

Exhibit 20: U.S. net imports of crude oil and liquid fuels

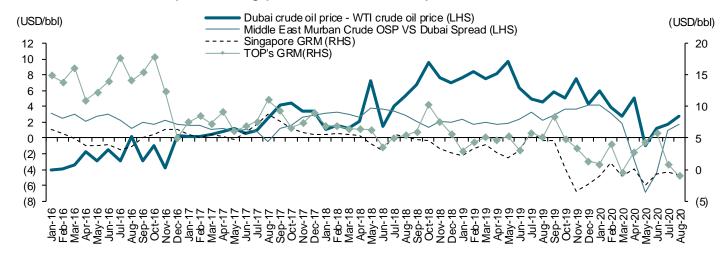


Sources: U.S. EIA, "Short-Term Energy Outlook," August 2020

Refinery industry remains in the doldrums

Gross refining margins (GRM) for all Thai refiners have remained depressed QTD, falling sharply q-q due to the sharp rise in crude premiums and poorer product margins over Dubai crude oil price. While the crude premiums are now expected to flatten m-m in Aug-Sept after Saudi Arabia's move to maintain its official selling prices (OSP) for its crude prices due to poorer-than-expected demand, we think the depressed product margins over crude price will continue to weaken GRMs and the net profits of Thai refiners.

Exhibit 21: Dubai-WTI crude premium, Singapore GRM and TOP's share price



Source: Bloomberg

In 2Q20, market GRMs for TOP, SPRC, and BCP rebounded sharply q-q, while the accounting GRMs for TOP, ESSO, SPRC, and BCP recovered, driven by q-q lower inventory losses and stronger market GRMs. Among the four key Thai refiners – TOP, SPRC, ESSO, and BCP – that generate 50% of their earnings from the refinery business, SPRC posted the strongest market and accounting GRMs in 2Q20, thanks to its superior crude flexibility to timely change its crude mix to cheaper crude from the Middle East.

Exhibit 22: Market GRMs of three key refiners

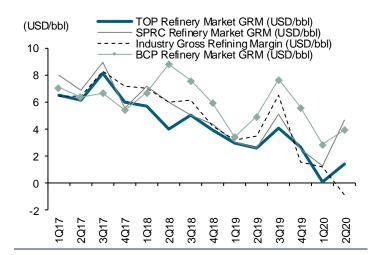
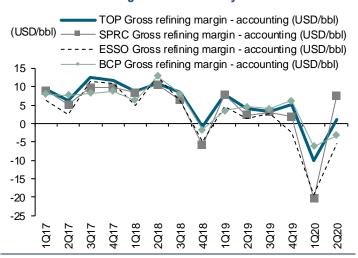


Exhibit 23: Accounting GRMs of four key refiners



Source: Company data Source: Company data

However, QTD in 3Q20, the gasoline, diesel, high sulphur fuel oil (HSFO) and particularly jet over Dubai crude price margins, have all weakened q-q due to poor demand and rising supply as global refiners resume operations. The diesel (gasoil)-Dubai margin has remained under USD7/bbl since May-20 due to the higher supply, as global refiners, including Thai refiners, have shifted their jet production into diesel due to the depressed jet-Dubai margin, which has been hovering near or below zero due to the jet demand collapse caused by global bans on international flights.

Exhibit 24: 92 octane gasoline fob spot price - Dubai crude oil price

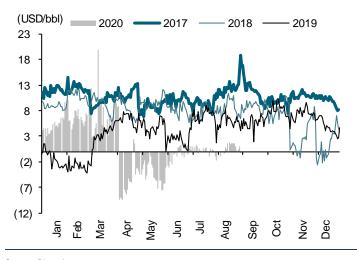
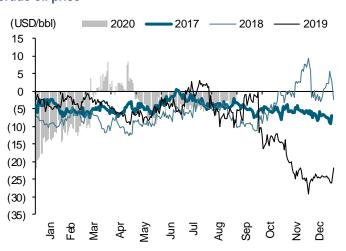


Exhibit 25: High-sulphur fuel oil spot fob Singapore - Dubai crude oil price



Source: Bloomberg Source: Bloomberg

A case study of US refiners cutting their production in response to the depressed jet-crude margin. According to the EIA, US refiners have continued to lower their refinery utilization rates in response to low demand and decreased profitability, as measured by GRM. US refiners have minimized their jet production levels by lowering the crude oil intake levels for their atmospheric distillation units, in response to the depressed jet-crude margin that has remained at or close to zero since May-20.

According to the EIA, the demand for jet fuel in the US is likely to recover faster than in most other major aviation markets, given the increased demand for aviation services and the comparatively low share of travel crossing international borders in the US.

Exhibit 26: Jet kerosene fob spot price - Dubai crude oil price

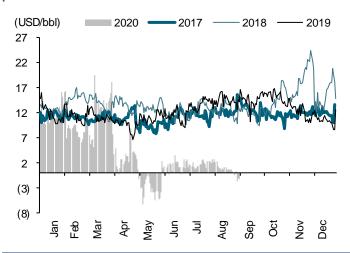
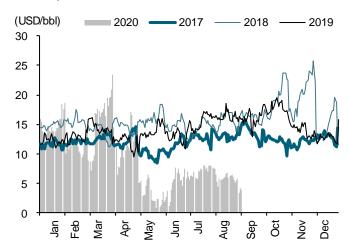


Exhibit 27: Gasoil 0.5% sulphur fob SG spot price - Dubai crude oil price

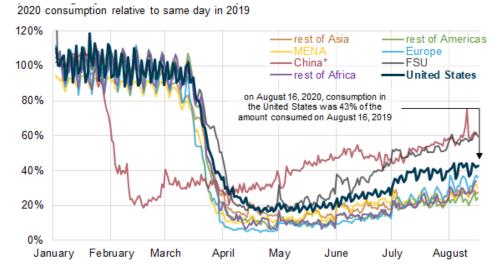


Source: Bloomberg Source: Bloomberg

Based on the estimated distance travelled by the 36.8m global commercial passenger flights between Jan-19 to Aug-20, the EIA estimates that on 16 Aug-20, the daily jet consumed by commercial passenger jets (JCC) was 612,000bpd for the US, accounting for 43% of the consumption a year earlier in 2019 (CYE).

In contrast, the JCC in China, including Macau and Hong Kong, was 60% of CYE and the JCC was 63% CYE of the jet consumption level in the countries of the Former Soviet Union (FSU). JCCs dropped the most in the Americas, excluding the US, to only 24% CYE, followed by 28% CYE in Asia, 30% CYE in the Middle East (ME) and North Africa, and 31% in Africa, excluding North Africa.

Exhibit 28: Commercial passenger flight jet fuel consumption ratio: 2020 to 2019



Source: U.S. Energy Information Administration, using raw flight data from Cirium **Notes**: China* inclusive of Hong Kong and Macau; MENA=Middle East and North Africa; FSU=Former Soviet Union; consumption assigned to the region from which each flight departed.

Source: EIA

Exhibit 29: Jet consumption YTD 2020 as % of consumption one year earlier

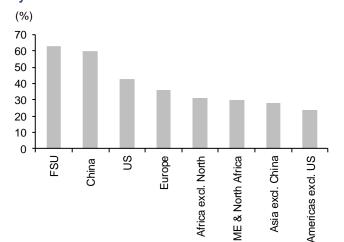
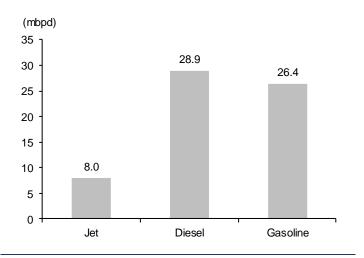


Exhibit 30: Consumption of major oil products in 2019



Source: EIA Source: EIA

Jet demand recovery to pre-COVID-19 level remains remote in 2H20. It is difficult to determine how fast the JCCs for each area could recover post COVID-19, since the exposure to and response of each market and country to COVID-19 has been different. This is particularly true with respect to the timing of the pandemic's arrival, the extent of the government-required restrictions, and the country's ability to effectively contain the disease.

For example, China's relatively successful containment of the disease has resulted in China's much faster jet demand recovery than the US, which saw its JCCs plunging significantly from 73% CYE in Jan-20 down to only 51% CYE in Jul and 43% CYE in Aug-20, thanks to the sharp drop in the number of flights from 24,900 commercial passenger flights in Jan down to 13,700 in Jul-20.

Exhibit 31: US commercial passenger flights (YTD 2020)

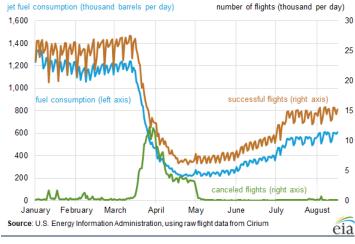
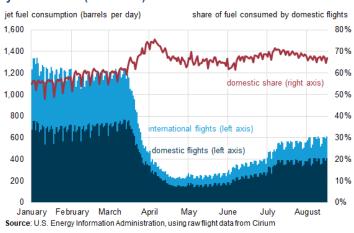


Exhibit 32: US commercial passenger jet fuel consumption by destination (YTD 2020)



Source: EIA Source: EIA

Impact of COVID-19 led to changes in US travel behaviour. According to the EIA, the correlation between US jet consumption and the number of flights departing US airports between 1 Jan to 16 Aug-20, is high at 0.92. Recent developments show signs of a JCC recovery, as the number of flights in the US has recovered from 5,974 flights per day on 25 Apr-20 to 15,239 on 16 Aug-20. Likewise, the pace of flight cancellations has already returned to normal, declining from 12,320 cancellations on 27 Mar-20 to only 128 cancellations on 16 Aug-20.

Two key changes in consumer behaviour. However, COVID-19 has prompted two changes in travel behaviour: a lower preference for air travel and a greater preference for destinations with better COVID-19 containment.

First, US travellers are now flying less, both domestically and internationally. The average distance per flight for domestic flights has declined 6% from an average of 893 miles in Jul-19 down to 843 miles in Jul-20. The distance travelled by international flights dropped 25% from 1,498 miles to 1,127 miles during the same period.

Second, US travellers flying abroad are avoiding areas where COVID-19 has been less successfully contained. In Jul-19, about 38% of the jet consumed by international commercial passenger flights departing the US was from Europe-bound flights, but by Jul-20 that share had fallen to only 21%. At the same time, the share consumed by China-bound flights rose from 18% to 36%, and flights to the rest of Asia rose from 19% to 23%.

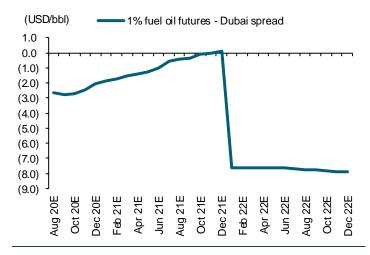
As a result, the JCC for the US aviation market has rebounded much more slowly than the recoveries in the number of flights and cancellations, given that most long-haul international flights are still banned, leaving only domestic short-haul flights. The EIA estimates that US jet consumption by domestic flights fell by 47% between Jan to Jul-20, compared to a decline of 70% for international flights during the same period. As a result, the overall share of jet fuel consumed by domestic flights rose from an average of 56% in Jan-20 to 69% in Jul-20.

Crude mix vs production yield optimization. The refiners capable of quickly changing their crude mix to timely capitalize on lower crude costs were able to see higher market GRMs in 1H20, such as SPRC and ESSO, in our view.

However, starting in 3Q20, OSP hikes to drive up the ME crude import prices for Thai refiners could enlarge the price gap between ME crudes and US and West African crudes. All of those are light, sweet crudes that produce higher yields of diesel and low sulphur fuel oil (LSFO). We think production yield strategies will play a significantly higher role in determining the most profitable market GRMs in the near term.

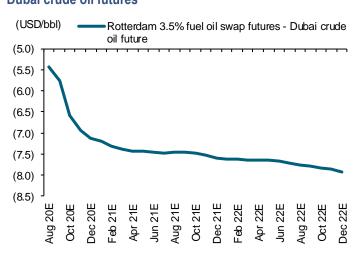
Given the currently low margin of LSFO-Dubai below USD5/bbl, down sharply from its peak of USD26/bbl in Jan, we think the competitiveness of West African crude, which produces the highest LSFO yield, is now much weaker, and most Thai refiners will likely shift to ME crude as their key feedstock in 2H20.

Exhibit 33: 1% fuel oil futures (LSFO) – Dubai forward spread



Price as of 2 Sep 2020 Sources: Bloomberg; FSSIA estimates

Exhibit 34: Rotterdam 3.5% fuel oil swap futures (HSFO) – Dubai crude oil futures



Price as of 2 Sep 2020 Sources: Bloomberg; FSSIA estimates

Among the six Thai refiners under our coverage, excluding TASCO, we think SPRC and ESSO are likely to be the best two refiners at maximizing their refineries' profitability via both crude mix and production yield strategies. Both SPRC and ESSO can 1) quickly switch their crude types in response to economic changes; and 2) minimize their jet fuel production to zero.

Exhibit 35: Production yields of Thailand's refiners as of 2Q20

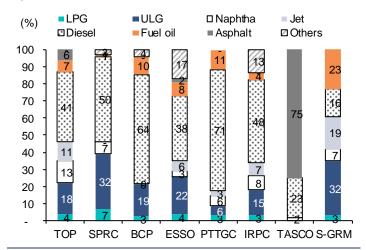
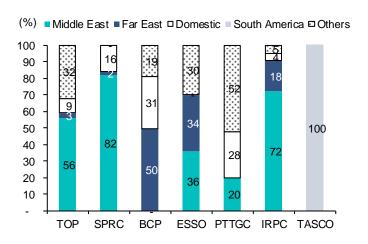


Exhibit 36: Crude mix breakdown of Thailand's refiners as of 2Q20



Source: Company data Source: Company data

While TOP could improve its crude mix in 2H20, TOP will still have to produce jet at an 8-10% yield, down from its 20% average in 2019 and 11% in 2Q20. This is because TOP has a limited capability to upgrade its hydrocracker unit, compared to SPRC's and ESSO's fluid catalytic cracker (FCC) units, which are able to produce zero jet.

While PTTGC could reduce its jet production to zero, we think PTTGC's three refinery units, which consume both crude and condensate as feedstock, have less crude flexibility. This could result in PTTGC consuming more West African crude to produce LSFO, thereby likely eroding PTTGC's GRM in 2H20.

IRPC, despite producing zero jet since Jul-20, is expected to suffer from the hikes in crude price and crude premiums, thanks to its high 8% fuel loss – the highest among the six Thai refiners – and its long, integrated production value chain. We believe that in 2H20, IRPC will suffer the most in terms of higher crude prices and premiums.

Fast oil demand recovery, excluding jet fuel, in Thailand

Thailand's oil consumption recovered to near pre-COVID-19 levels in Jun-20. Given that up to 80-90% of Thai refiners' sales volumes will be for the domestic market – thanks to the USD2/bbl higher GRM for the domestic price than for the export price – we believe the resilient demand recovery in Thailand after the bottom 2Q20 should partly help offset the weak global jet-Dubai margins and higher crude premiums.

Exhibit 37: Gasoline consumption in Thailand

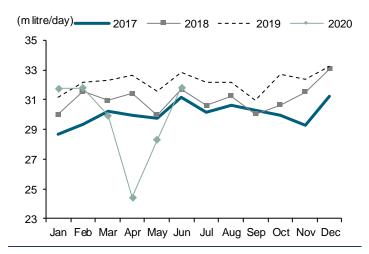
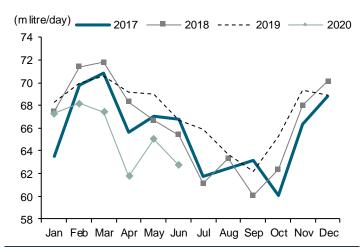


Exhibit 38: Diesel consumption in Thailand



Source: Department of Energy Business (DOEB)

Source: DOEB

In Jun-20, gasoline demand already recovered to its pre-COVID-19 level in 2019, while diesel demand recovered but still remained below its pre-COVID-19 level in 2019, thanks to the more resilient demand for gasoline than diesel for passenger vehicles. However, the demand for jet remained depressed in Jun-20 at only 2.5mlpd, down from 16.2mlpd at the same period last year, given that most long-haul international flights are still banned.

Similarly, LPG demand remained weak, as most passenger vehicles and taxis have shunned LPG for the cheaper gasoline as their fuel.

We believe the demand recoveries for diesel, and particularly gasoline, should help to partly offset the weak margins of jet, HSFO, and LPG over Dubai crude price. However, we maintain our bearish view on the GRM outlook in 3Q20, and expect the GRM recovery to gradually materialize by Oct-20 when we project the seasonal demand growth for diesel to drive up the diesel-Dubai margin. We expect GRMs to recover from the USD1-3/bbl range for Thai refiners in 3Q20 to USD3-4/bbl in 4Q20.

Exhibit 39: Jet consumption in Thailand

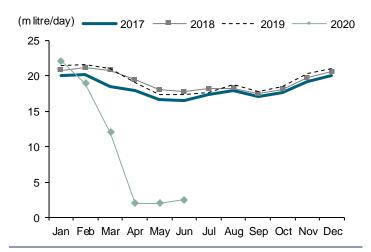
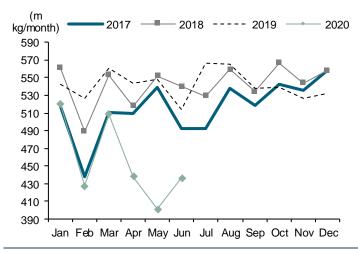


Exhibit 40: LPG consumption in Thailand



Source: DOEB

FINANSIA

Source: DOEB

Valuation

In the Thai oil & gas sector, we prefer downstream over upstream plays, given the better market GRM outlook, which we think could rebound meaningfully in 4Q20. Within the downstream refinery sector, we prefer SPRC and ESSO, as they are backed by 1) their superior strategies and good crude feedstock and production yield capabilities compared to TOP and BCP; and 2) ESSO's solid net profit growth outlook from its oil station unit.

Exhibit 41: Peer comparisons

Company	BBG	Rec	Share	Target	Upside	Market	3Y EPS	PE			E	PB\		EV / EBI	TDA-
	code		Price	price		Сар	CAGR	20E	21E	20E	21E	20E	21E	20E	2
			(Local curr)	(Local curr)	(%)	(USD m)	(%)	(x)	(x)	(%)	(%)	(x)	(x)	(x)	(x
THAILAND															
Ptt Pcl	PTT TB	BUY	36.50	60.00	64	33,386	10.0	8.4	8.4	13.5	12.7	1.1	1.1	4.9	4.7
Ptt Explor & Prod	PTTEP TB	BUY	89.75	101.00	13	11,410	(18.3)	16.2	13.4	6.1	7.2	1.0	1.0	4.8	4.8
Thai Oil Pcl	TOP TB	BUY	40.00	62.00	55	2,613	32.5	12.5	5.9	5.2	10.4	0.6	0.6	7.1	6.2
Star Petroleum Refining	SPRC TB	BUY	6.75	8.00	19	937	(227.0)	17.8	5.1	5.0	16.4	0.9	0.9	6.0	2.
Bangchak Corp Pcl	BCP TB	BUY	17.70	45.00	154	770	(0.6)	3.7	4.2	13.8	11.3	0.5	0.5	4.6	4.
Esso Thailand Pcl	ESSO TB	BUY	6.75	9.90	47	748	(204.3)	(8.3)	6.7	(13.7)	17.1	1.2	1.2	47.1	5.
Ptt Global Chemical	PTTGC TB	BUY	46.25	50.00	8	6,645	17.2	21.7	13.1	3.4	5.8	8.0	8.0	8.0	5.
Irpc Pcl	IRPC TB	BUY	2.30	4.20	83	1,505	(291.3)	6.1	5.5	9.1	9.5	0.5	0.5	5.7	4.
Tipco Asphalt	TASCO TB	BUY	25.25	33.00	31	1,276	3.1	15.4	11.5	19.0	23.4	2.9	2.9	11.8	8
Thailand avg						59,291	(8.1)	11.6	9.7	10.1	11.0	1.0	1.0	6.0	5
PAKISTAN															
Oil & Gas Develop	OGDC PA	NA	113.74	NA	NA	2,937	(16.1)	4.8	5.6	15.1	12.0	0.7	0.6	NA	N
Pakistan Petroleum	PPL PA	NA	101.16	NA	NA	1,665	(18.2)	5.4	6.6	15.5	NA	NA	NA	NA	Ν
Pakistan avg						4,602	(16.8)	5.0	6.0	15.2	7.6	0.4	0.4	-	
HONGKONG															
Cnooc	883 HK	NA	8.42	NA	NA	48,505	(15.5)	16.2	9.5	4.8	7.5	0.7	0.7	3.7	2
China Petro&Chem	386 HK	NA	3.42	NA	NA	66,994	(16.6)	38.2	10.6	2.0	4.6	0.5	0.5	7.0	5
Petrochina	857 HK	NA	2.58	NA	NA	109,042	(32.9)	NA	22.1	(0.5)	1.2	0.3	0.3	6.1	5
China Oilfield Services	2883 HK	NA	5.90	NA	NA	6,819	1.6	9.4	8.9	6.8	7.0	0.6	0.6	7.7	7
Hongkong avg						231,361	(23.5)	14.7	15.7	1.5	3.7	0.5	0.5	5.9	4
NDONESIA															
Medco Energi Inter	MEDC IJ	NA	555.00	NA	NA	670	(332.1)	5.3	1.5	0.2	6.7	0.8	0.8	7.8	6
Energi Mega Persada	ENRG IJ	NA	63.00	NA	NA	44	NA	NA	NA	NA	NA	NA	NA	NA	١
ndonesia avg	LITTO	1471	00.00	147	101	714	NA	5.0	1.4	0.1	6.3	0.8	0.8	7.3	5
INDIA															
Reliance Industries	RIL IN	NA	2,128.20	NA	NA	189,150	(0.6)	30.3	32.4	10.6	8.2	3.1	2.5	18.8	18
Oil & Natural Gas	ONGC IN	NA	80.30	NA	NA	13,525	(32.6)	4.3	11.0	10.1	4.1	0.4	0.5	3.3	4
Oil India	OINL IN	NA	96.75	NA	NA	1,432	(26.7)	3.5	6.6	10.4	5.1	0.3	0.4	3.9	7
ndian Oil	IOCL IN	NA	85.30	NA	NA	10,896	(15.8)	12.0	7.4	5.2	9.8	0.7	0.8	9.6	7
Bharat Petroleum	BPCL IN	NA	413.95	NA	NA	12,196	(8.4)	19.6	13.3	11.4	15.5	2.0	2.0	14.9	11
Hindustan Petroleum	HPCL IN	NA	200.75	NA NA	NA NA	4,143	(12.0)	9.8	6.5	9.7	15.7	1.0	0.9	10.7	7
			97.30				, ,			12.5	9.9			6.2	7
Gail India	GAIL IN	NA		NA	NA	6,017	(10.9)	7.6	8.8			0.9	0.9		
Petronet Lng ndia avg	PLNG IN	NA	240.35	NA	NA	4,878 242,237	6.3 (4.0)	12.0 26.0	13.2 27.5	27.0 10.7	22.4 8.8	3.2 2.7	3.0 2.2	8.4 16.6	16
IADAN															
JAPAN npex Corp	1605 JP	NA	651.50	NA	NA	8,950	(9.1)	NA	12.3	(1.9)	2.7	0.3	0.3	6.4	4
Japan avg	1000 01	1471	001.00	1471	101	8,950	(9.1)	NA	12.3	(1.9)	2.7	0.3	0.3	6.4	4
ΓAIWAN															
Formosa Petrochem	6505 TT	NA	81.10	NA	NA	26,279	1.9	62.8	20.9	4.8	11.0	2.4	2.2	27.8	12
Taiwan avg	000011		00			26,279	1.9	62.8	20.9	4.8	11.0	2.4	2.2	27.8	12
SOUTH KOREA															
S-Oil Corp	010950 KS	NA	57,400.	NA	NA	5,428	111.8	NA	10.2	(10.2)	11.4	1.1	1.0	7,469.1	7
South Korea avg						5,428	111.8	NA	10.2	(10.2)	11.4	1.1	1.0	7,469.1	7
AUSTRALIA															
Woodside Petroleum	WPL AU	NA	19.25	NA	NA	13,409	(5.2)	26.7	17.3	2.8	5.3	1.0	1.1	6.3	5
Santos	STO AU	NA	5.46	NA	NA	8,302	(10.6)	23.4	16.3	3.1	6.8	1.1	1.1	6.7	5
Oil Search	OSH AU	NA	3.22	NA	NA	4,884	(24.1)	94.0	26.7	0.3	2.6	8.0	8.0	11.2	9
Australia avg						26,594	(10.3)	38.0	18.7	2.4	5.3	1.0	1.0	7.3	6
Oil & Gas under coverage						59,291	(8.1)	11.6	9.7	10.1	11.0	1.0	1.0	6.0	5
						605,455	NA	NA	19.9	6.0	6.9	1.5	1.3	85.9	9

Share prices as of 2 Sep 2020 Sources: Bloomberg; FSSIA estimates

Corporate Governance report of Thai listed companies 2019

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NEX	LALIN	LANNA	LDC	LHK	LOXLEY	LRH	LST	M	MACO	MAJOR	MBAX	
NEX	MEGA	METCO	MFC	MK	MODERN	MOONG	MPG	MSC	MTI	NEP	NETBAY	
PB	NEX	NINE		NOK	NTV	NWR	OCC	OGC	ORI	OSP	PATO	
PT		PDG					PPP		PRIN		PSTC	
SAPPE SAWAD SCG SCI SCP SE SFP SIAM SINGER SIRI SKE												
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70-79		80-89			Security Sec				Very Good			
60-69									•			
		60-69							Satisfactory			
Less than 50 No logo given -		50-59				Section Section				•		
		Less th	nan 50		Nandricons				-			

Disclaimer:

The disclosure of the survey results of the Thai Institute of Directors Association ('IOD") regarding corporate governance is made pursuant to the policy of the Office of the Securities and Exchange Commission. The survey of the IOD is based on the information of a company listed on the Stock Exchange of Thailand and the Market for Alternative Investment disclosed to the public and able to be accessed by a general public investor. The result, therefore, is from the perspective of a third party. It is not an evaluation of operation and is not based on inside information.

The survey result is as of the date appearing in the Corporate Governance Report of Thai Listed Companies. As a result, the survey results may be changed after that date.

Source: Thai Institute of Directors Association (IOD); FSSIA's compilation

FSS International Investment Advisory Company Limited does not confirm nor certify the accuracy of such survey results.

* CGR scoring should be considered with news regarding wrong doing of the company or director or executive of the company such unfair practice on securities trading, fraud, and corruption SEC imposed a civil sanction against insider trading of director and executive; ** delisted

Anti-corruption Progress Indicator

CERTIFIED										
ADVANC	AIE	AKP	AMANAH	AP	APCS	AQUA	ARROW	ASK	ASP	AYUD
BAFS	BANPU	BAY	BBL	BCH	BCP	BCPG	BGRIM	BJCHI	BKI	BLA
BROOK	BRR	BSBM	BTS	BWG	CEN	CENTEL	CFRESH	CGH	CHEWA	CIG
CIMBT	CM	COM7	CPALL	CPF	CPI	CPN	CSC	DCC	DEMCO	DIMET
DRT	DTAC	DTC	EASTW	ECL	EGCO	FE	FNS	FSS	GBX	GC
GCAP	GEL	GFPT	GGC	GJS	GOLD	GPSC	GSTEEL	GUNKUL	HANA	HARN
HMPRO	HTC	ICC	IFS	INET	INSURE	INTUCH	IRPC	IVL	K	KASET
KBANK	KBS	KCAR	KCE	KGI	KKP	KSL	KTB	KTC	KWC	L&E
LANNA	LHK	LPN	LRH	М	MAKRO	MALEE	MBAX	MBK	MBKET	MC
MCOT	MFC	MINT	MONO	MOONG	MSC	MTI	NBC	NINE	NKI	NMG
NNCL	NSI	OCC	OCEAN	OGC	PAP	PATO	РВ	PCSGH	PDG	PDI
PDJ	PE	PG	PHOL	PL	PLANB	PLANET	PLAT	PM	PPP	PPS
PREB	PRG	PRINC	PSH	PSTC	PT	PTG	PTT	PTTEP	PTTGC	PYLON
Q-CON	QH	QLT	QTC	RATCH	RML	S & J	SABINA	SAT	SC	SCB
SCC	SCCC	SCG	SCN	SE-ED	SELIC	SENA	SGP	SIRI	SIS	SITHAI
SMIT	SMK	SMPC	SNC	SNP	SORKON	SPACK	SPC	SPI	SPRC	SRICHA
SSF	SSI	SSSC	SST	STA	SUSCO	SVI	SYNTEC	TASCO	TCAP	TFG
TFI	TFMAMA	THANI	THCOM	THIP	THRE	THREL	TIP	TIPCO	TISCO	TKT
TMB	TMD	TMILL	TMT	TNITY	TNL	TNP	TNR	TOG	TOP	TPA
TPCORP	TRU	TRUE	TSC	TSTH	TTCL	TU	TVD	TVI	TWPC	U
UBIS	UEC	UKEM	UOBKH	VGI	VIH	VNT	WACOAL	WHA	WICE	WIIK
DECLARED										
2S	ABICO	AF	Al	AIRA	ALT	AMA	AMARIN	AMATA	ANAN	В
BM	BPP	BUI	CHG	CHO	CHOTI	CHOW	CI	CMC	COL	DDD
DELTA	EFORL	EPCO	ESTAR	ETE	FPI	FTE	ICHI	INOX	IRC	ITEL
JAS	JSP	JTS	KWG	LDC	LIT	META	MFEC	MPG	NEP	NOK
NWR	ORI	PRM	PSL	ROJNA	RWI	SAAM	SAPPE	SCI	SEAOIL	SHANG
SKR	SPALI	STANLY	SYNEX	TAE	TAKUNI	TMC	TOPP	TPP	TRITN	TVO
UV	UWC	WHAUP	XO	YUASA	ZEN					

Level

Certified

This level indicates practical participation with thoroughly examination in relation to the recommended procedures from the audit committee or the SEC's certified auditor, being a certified member of Thailand's Private Sector Collective Action Coalition Against Corruption programme (Thai CAC) or already passed examination to ensure independence from external parties.

Declared This level indicates determination to participate in the Thailand's Private Sector Collective Action Coalition Against Corruption programme (Thai CAC)

The disclosure of the Anti-Corruption Progress Indicators of a listed company on the Stock Exchange of Thailand, which is assessed by Thaipat Institute, is made in order to comply with the policy and sustainable development plan for the listed companies of the Office of the Securities and Exchange Commission. Thaipat Institute made this assessment based on the information received from the listed company, as stipulated in the form for the assessment of Anti-corruption which refers to the Annual Registration Statement (Form 56-1), Annual Report (Form 56-2), or other relevant documents or reports of such listed company. The assessment result is therefore made from the perspective of Thaipat Institute that is a third party. It is not an assessment of operation and is not based on any inside information. Since this assessment is only the assessment result as of the date appearing in the assessment result, it may be changed after that date or when there is any change to the relevant information. Nevertheless, FSS International Investment Advisory Company Limited does not confirm, verify, or certify the accuracy and completeness of the assessment results.

Note: Companies participating in Thailand's Private Sector Collective Action Coalition Against Corruption programme (Thai CAC) under Thai Institute of Directors (as of June 24, 2019) are categorised into: 1) companies that have declared their intention to join CAC, and; 2) companies certified by CAC.

Source: The Securities and Exchange Commission, Thailand; * FSSIA's compilation

GENERAL DISCLAIMER

ANALYST(S) CERTIFICATION

Suwat Sinsadok FSS International Investment Advisory Securities Co., Ltd

The individual(s) identified above certify(ies) that (i) all views expressed in this report accurately reflect the personal view of the analyst(s) with regard to any and all of the subject securities, companies or issuers mentioned in this report; and (ii) no part of the compensation of the analyst(s) was, is, or will be, directly or indirectly, related to the specific recommendations or views expressed herein.

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Company	Ticker	Price	Rating	Valuation & Risks
Bangchak Corp	BCP TB	THB 17.70	BUY	The downside risks to our SoTP-based TP include: 1) lower-than-expected demand for petroleum products; 2) higher crude premiums; and 3) unplanned shutdowns of the company's refinery plants.
Esso Thailand	ESSO TB	THB 6.75	BUY	The downside risks to our SoTP-based TP on ESSO include 1) lower-than-expected demand for petroleum products; 2) higher crude premiums; and 3) unplanned shutdowns of its refinery and petrochemical plants.
PTT	PTT TB	THB 36.50	BUY	Risks to our SoTP-based valuation are the oil price and potential earnings downsides from government intervention.
PTT Explor & Prod	PTTEP TB	THB 89.75	BUY	Risks our EV/EBITDA-based TP are a sharp decline in oil price and potential earnings downsides from government intervention.
Star Petroleum Refining	SPRC TB	THB 6.75	BUY	TP is based on EV/EBITDA. Downside risks are a sharp rise in oil price and weak demand for refined oil products.
Thai Oil	ТОР ТВ	THB 40.00	BUY	Downside risks to our EV/EBITDA-based TP are a sharp rise in oil price and weak demand for refined oil products.
Tipco Asphalt	TASCO TB	THB 25.25	BUY	Downside risks to our EV/EBITDA-based TP are 1) lower demand for asphalt in Thailand due to the government's uncertain road budget; and 2) crude supply disruptions from South America, the major crude source for TASCO (accounts for over 90% of its crude consumption).
PTT Global Chemical	PTTGC TB	THB 46.25	BUY	The key downside risks to our EV/EBITDA-based TP are the weaker-than-expected HDPE price and HDPE-naphtha margin
IRPC PCL	IRPC TB	THB 2.30	BUY	Key risks to our positive view and EV/EBITDA-based target price are weaker-than- expected oil product demand growth and lower-than-expected PP-naphtha and SM- benzene margins.

Source: FSSIA estimates

Additional Disclosures

Target price history, stock price charts, valuation and risk details, and equity rating histories applicable to each company rated in this report is available in our most recently published reports. You can contact the analyst named on the front of this note or your representative at Finansia Syrus Securities Public Company Limited

All share prices are as at market close on 02-Sep-2020 unless otherwise stated.

RECOMMENDATION STRUCTURE

Stock ratings

Stock ratings are based on absolute upside or downside, which we define as (target price* - current price) / current price.

BUY (B). The upside is 10% or more.

HOLD (H). The upside or downside is less than 10%.

REDUCE (R). The downside is 10% or more.

Unless otherwise specified, these recommendations are set with a 12-month horizon. Thus, it is possible that future price volatility may cause a temporary mismatch between upside/downside for a stock based on market price and the formal recommendation.

* In most cases, the target price will equal the analyst's assessment of the current fair value of the stock. However, if the analyst doesn't think the market will reassess the stock over the specified time horizon due to a lack of events or catalysts, then the target price may differ from fair value. In most cases, therefore, our recommendation is an assessment of the mismatch between current market price and our assessment of current fair value.

Industry Recommendations

Overweight. The analyst expects the fundamental conditions of the sector to be positive over the next 12 months.

Neutral. The analyst expects the fundamental conditions of the sector to be maintained over the next 12 months.

Underweight. The analyst expects the fundamental conditions of the sector to be negative over the next 12 months.

Country (Strategy) Recommendations

Overweight (O). Over the next 12 months, the analyst expects the market to score positively on two or more of the criteria used to determine market recommendations: index returns relative to the regional benchmark, index sharpe ratio relative to the regional benchmark and index returns relative to the market cost of equity.

Neutral (N). Over the next 12 months, the analyst expects the market to score positively on one of the criteria used to determine market recommendations: index returns relative to the regional benchmark, index sharpe ratio relative to the regional benchmark and index returns relative to the market cost of equity.

Underweight (U). Over the next 12 months, the analyst does not expect the market to score positively on any of the criteria used to determine market recommendations: index returns relative to the regional benchmark, index sharpe ratio relative to the regional benchmark and index returns relative to the market cost of equity.