

Thailand Refinery

Looking beyond subsidy downside to GRM upside

- Within next week, the Thai government is scheduled to finalise the subsidies for the prices of diesel and gasoline requested from six Thai refiners.
- We think the current share prices of Thai refiners are attractive based on the likely lower subsidies than the market previously expected and the strengthening GRM.
- Remain Overweight on Thai refinery sector.

Refiners in PTT group are likely to succumb to the government's subsidy request

Within next week, the Thai government is scheduled to finalise the subsidies for the prices of diesel and gasoline requested from six Thai refiners. These include three refiners in PTT group (TOP, IRPC, PTTGC), one refiner owned by the Ministry of Finance (BCP), and two refiners owned by the US-based companies Chevron (SPRC) and ExxonMobil (ESSO). According to Bangkok Biz News, refiners in PTT group are willing to subsidise prices but at a much lower rate than the THB8/litre (USD40/bbl) previously indicated by the government, in accordance with the group's economic, social and corporate governance.

Downsides for PTT's subsidies are rising

On 21 Jun-22, Thailand's prime minister indicated that, as the head of the cabinet, he had been closely monitoring the oil price subsidy issue and concluded that the government needs support from refiners to alleviate the cost of living for Thai people amid the sharp rise in the global oil price to over USD100/bbl. Thailand is a net importer of crude oil at c0.8mbpd, representing 80% of the country's refinery production, of which 15% is exported to neighbouring countries. As a state-owned enterprise, PTT is already subsidising the natural gas for vehicles (NGV) price for taxi drivers at THB13.62/kg – lower than the retail NGV price of THB15.59/kg for other segments – for an additional three months from 16 Jun to 15 Sep-22, at an estimated cost of THB2.35b, according to Prachachat.

Subsidy downside vs GRM upside

While the final subsidies remain uncertain, we think that at their current share prices, Thai refiners are attractive as 1) the subsidy downside is likely to be lower than the market previously expected as the cabinet has revealed after discussions with refiners that the likely subsidy amount could range between THB0.5b-1.0b a month (total THB3b-6b) for each refiner for three months – lower than the THB8.5b subsidy the government previously indicated; 2) the market GRM has continued to strengthen, surpassing the USD30/bbl mark for the first time in history, mainly driven by the spiking margins of gasoline (>USD40/bbl, 20% average yield for Thai refiners), diesel (>USD50/bbl, 50%), and jet (>USD60/bbl, 10%).

Time to reload ahead of strong 2Q22E net profit growth

We remain OVERWEIGHT on the Thai refinery sector and believe that the subsidy downsides have already been priced in. However, we think the strong 2Q-4Q22E earnings on the back of a higher GRM at over USD15/bbl, backed by a tighter supply and higher demand for gasoline in the summer (May-Aug), diesel in the winter (Sep-Mar), and jet fuel post economic reopening, have not yet been priced in.



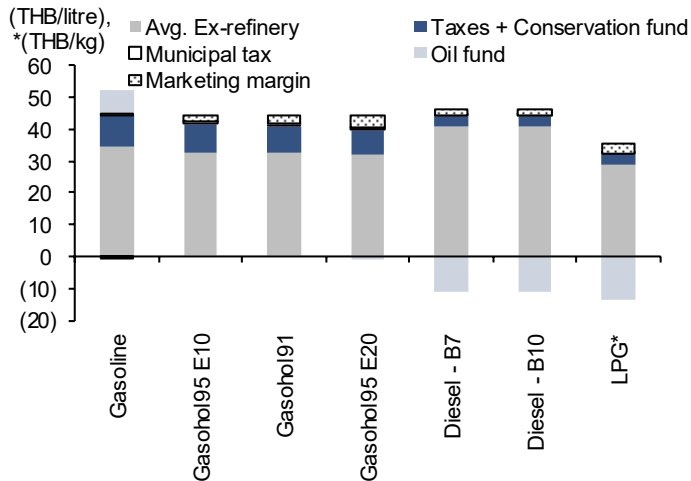
Suwat Sinsadok, CFA, FRM, ERP
 suwat.sin@fssia.com
 +66 2611 3558

Siriluck Pinthusoonthorn
 siriluck.pin@fssia.com
 +66 2611 3562

Subsidy downside vs GRM upside

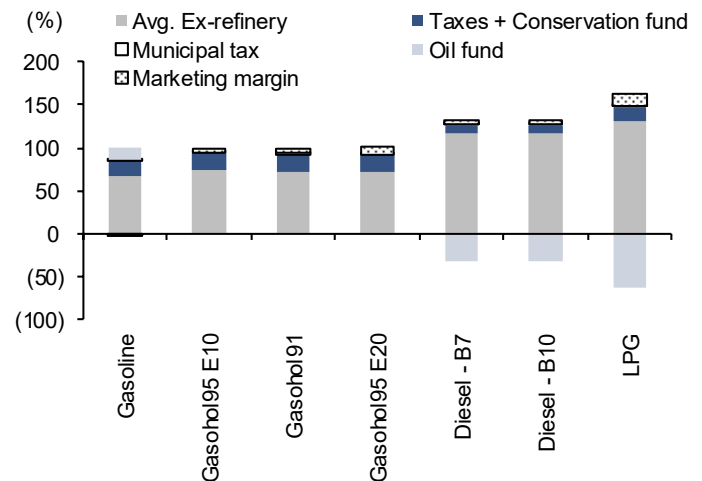
On 21 Jun-22, Thailand's prime minister indicated that, as the head of the cabinet, he had been closely monitoring the oil price subsidy issue and concluded that the government needs support from refiners to alleviate the cost of living for Thai people amid the sharp rise in the global oil price to over USD100/bbl.

Exhibit 1: Price structure of refined products as of 24 Jun-22



Source: Energy Policy and Planning Office (EPPO)

Exhibit 2: Price structure of refined products as of 24 Jun-22 (%)

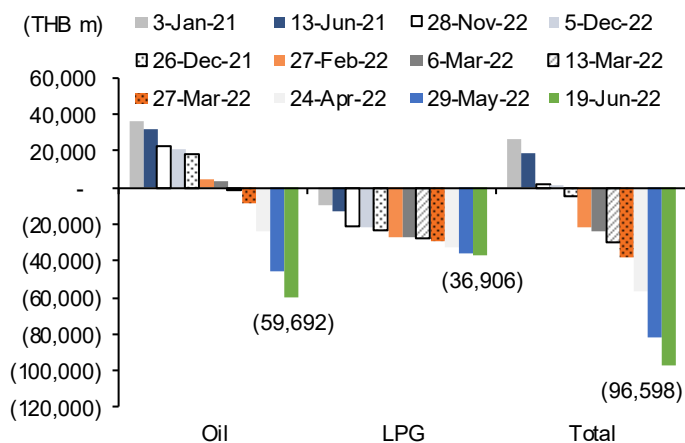


Source: EPPO

Heavy government subsidy of THB11.31/litre (19.6% of total retail price) for diesel. As of 22 Jun-22, the retail price structure of the refined oils at fuel stations comprises mostly the ex-refinery price, which accounts for 70.7% of the biodiesel B7 and B10 prices.

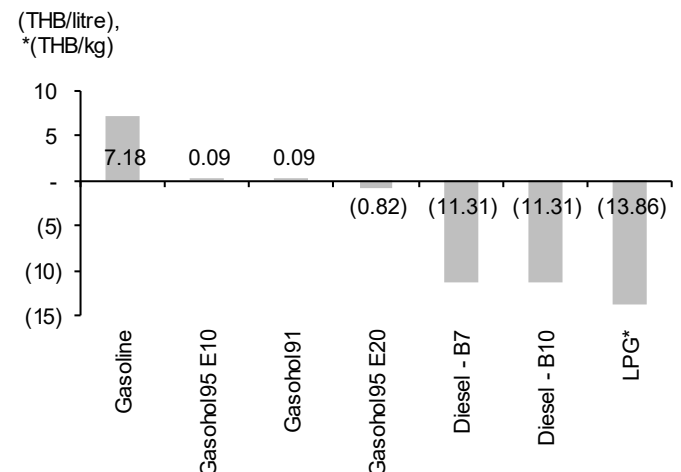
As diesel is Thailand's main fuel for transportation, the Thai government is attempting to cap the retail price of diesel sold to the public at fuel stations, believing it critical to help alleviate the cost of living amid the rising inflation and prices of food and fertilizers globally due to the supply disruptions caused by the Russia-Ukraine war.

Exhibit 3: Oil fund status as of 19 Jun-22



Source: Oil Fuel Fund Office (OFFO)

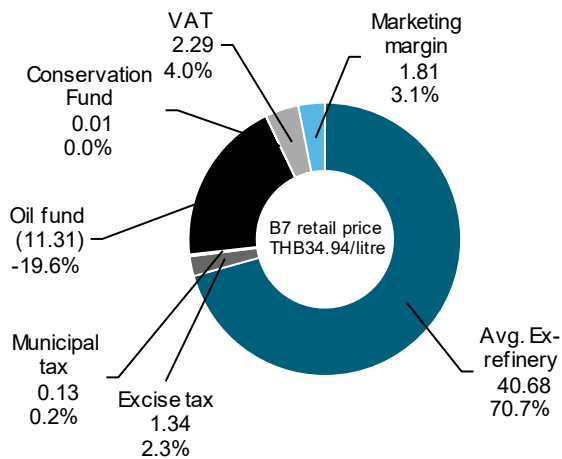
Exhibit 4: Oil fund tax as of 24 Jun-22



Source: EPPO

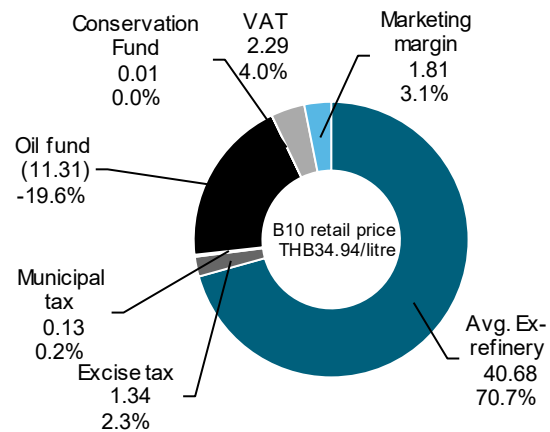
THB0.85b daily oil fund subsidy for diesel. We think the government's recent request for subsidies from refiners was triggered by the oil fund's significantly wider loss, dropping to THB96.6b as of 19 Jun-22, mostly coming from the THB59.7b loss from the diesel price subsidy at THB11.31/litre for diesel B7 and B10. At the daily diesel consumption rate of 75m litres per day (mlpd), we estimate that the government, via the oil fund, will incur a daily cost of THB0.85b to subsidise the current crude oil price of USD115/bbl.

Exhibit 5: Retail price – Diesel B7 as of 24 Jun-22



Source: EPPO

Exhibit 6: Retail price – Diesel B10 as of 24 Jun-22

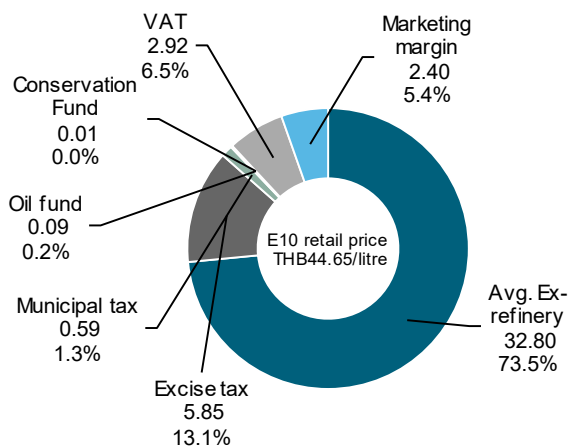


Source: EPPO

No oil fund subsidy for gasoline. Meanwhile, the retail price of gasohol 95 E10 and gasohol E20 (gasoline blended with ethanol 10% and 20%, respectively) mostly comes from the refinery prices in the range of 73.5% for E10 and 70.2% for E20. As the Thai government has long perceived gasoline as a “luxury” fuel for high-income consumers vs diesel used for the transportation of goods and services, the government has consistently imposed a high oil fund tax of THB4-6/litre on the retail price of gasoline.

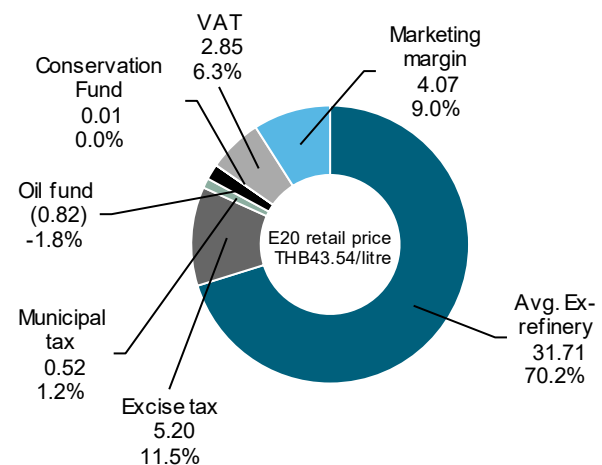
As of 22 Jun-22, the oil fund has not only provided no subsidy but is still imposing a small THB0.09/litre tax on gasohol 95 E10, the major gasoline blended fuel used in Thailand. While the oil fund subsidises THB0.82/litre for gasohol E20, the amount of the subsidy is far smaller than the tax collected from E10 as the consumption of E20 is less than 10% of the gasohol E10 consumed in Thailand.

Exhibit 7: Retail price structure – Gasohol 95 E10 as of 24 Jun-22



Source: EPPO

Exhibit 8: Retail price – Gasohol 95 E20 as of 24 Jun-22



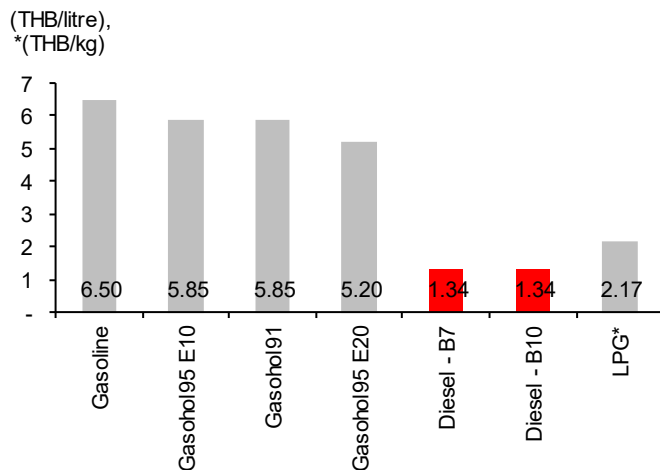
Source: EPPO

Currently, the Thai government provides a number of subsidies for the public, including:

- 1) NGV price by PTT at a THB2/kg subsidy for 3 months (16 Jun to 15 Sep-22);
- 2) THB3-5/kg subsidy for the LPG price, with a staggering price increase by THB0.93/kg monthly from THB17.18/kg for the 15-kg size in July to THB19.98/kg in Sept-22;
- 3) THB10/litre subsidy for the price of diesel at the capped price of THB35/litre, THB10-12/litre lower than the unsubsidised price;
- 4) Changing the formula of biodiesel from B10 (10% methyl ester and 90% refined diesel) to B5 (Jul-Sep 2022);
- 5) Fixing the marketing margin of oil station operators at THB1.4/litre (Jul-Sep 2022).

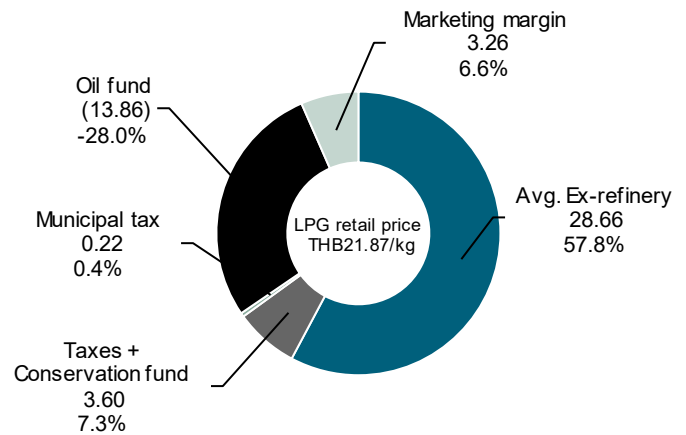
However, the most significant subsidy would come from the monthly THB8.5b subsidy request made to six refiners last week that led to the share price collapse of Thai refiners. According to Prachachat online, the cabinet is now likely to reduce the total subsidy from THB8.5b to THB3b-6b a month over three months, implying a USD5/bbl gross refining margin (GRM) subsidy for gasoline and a USD7-10/bbl subsidy for the diesel price, based on our estimate.

Exhibit 9: Excise tax for refined oil products as of 24 Jun-22



Source: EPPO

Exhibit 10: LPG price structure as of 24 Jun-22



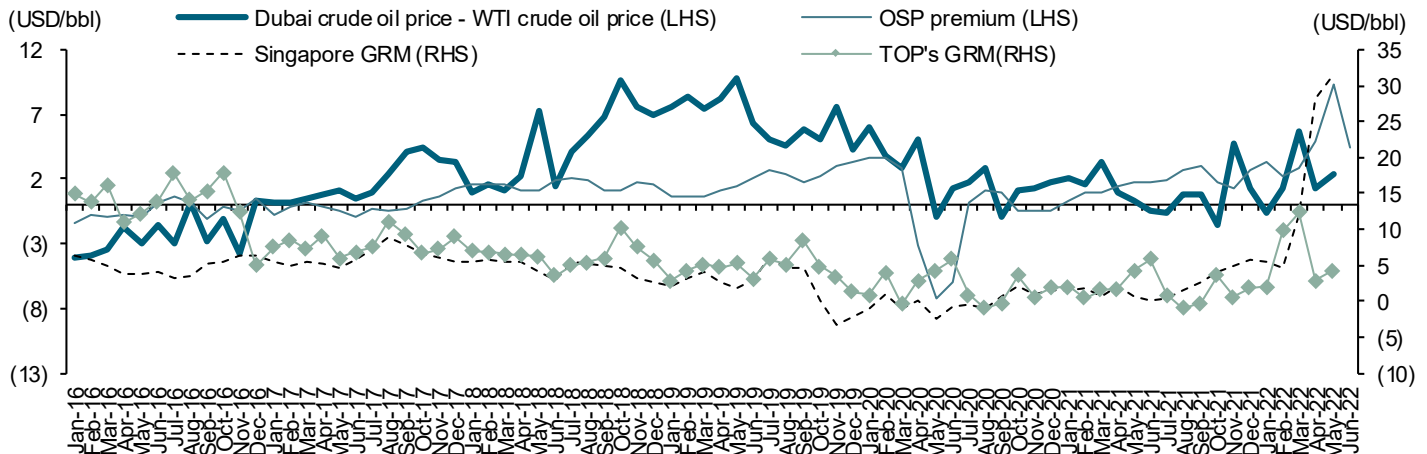
Source: EPPO

USD30/bbl GRM mark is now likely to sustain in 3Q22

Thanks to the tight supply globally, mainly from the permanent shutdowns of refiners during the two-year Covid-19 pandemic in 2020-21 and the lower export volume from China, the global GRM has continued to rise from strength to strength, hitting a record high above USD30/bbl for the first time in history.

Despite the higher crude premium of over USD7/bbl and the rising crude oil price above USD100/bbl since Mar-22, the GRMs for Thai refiners have remained elevated above USD15/bbl on average for all six refiners in 2Q22.

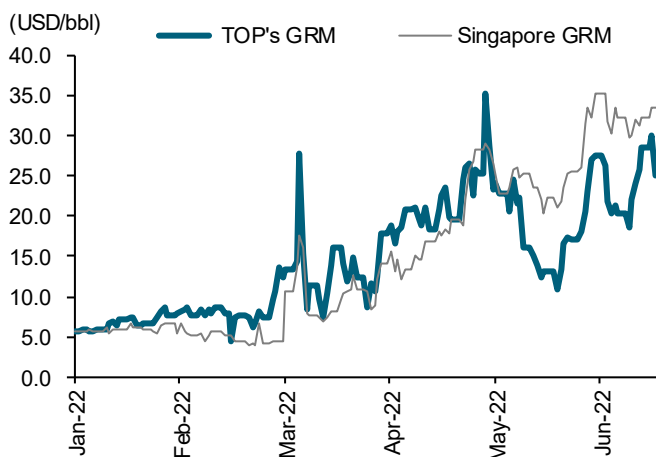
Exhibit 11: Dubai-WTI crude premium, Singapore GRM and TOP's GRM



Source: Bloomberg

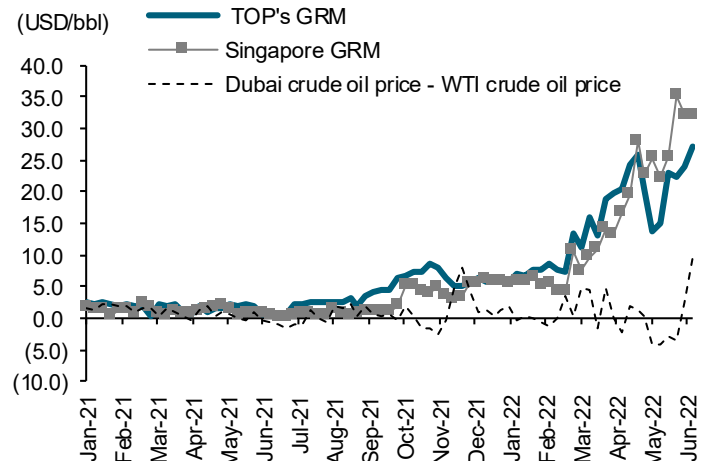
Using the market GRM of TOP as a proxy, we expect significant jumps in market GRMs for all Thai refiners to over USD15/bbl in 2Q22 and USD17-25/bbl in 3Q22. The industry benchmark Singapore GRM has already spiked to over USD35/bbl, driven by the sharp rises in the gasoline-crude margin.

Exhibit 12: TOP's GRM vs Singapore GRM (daily)



Source: Bloomberg

Exhibit 13: TOP's GRM vs Singapore GRM vs Dubai-WTI (weekly)



Source: Bloomberg

Divergence of Russian crude to Asia, African and US crudes to EU

Russian oil for Asia vs US and African oils for EU. According to Nikkei Asia, The EU has increased its oil imports from Western Africa – led by Angola, Nigeria, Cameroon, and Gabon – the US, and the Middle East, notably Iraq and Saudi Arabia, heralding the shift that its 27 member countries will have to comply with in 2022. In May the EU agreed to ban seaborne crude imports from Russia by the end of 2022 to increase the pressure on the Russian economy.

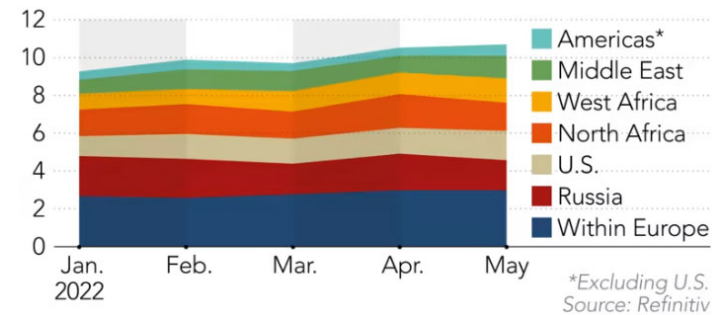
Since many European refineries are designed to process Urals crude, the most similar substitutes will come from Saudi Arabia and Iraq, thereby likely expanding the market shares of the EU's oil imports for Saudi Arabia and Iraq.

Exhibit 14: Price difference between Brent and Urals crude (USD/bbl)



Source: Nikkei Asia

Exhibit 15: Europe increased oil imports from Africa, US, and Middle East to replace Russian oil (mbpd)

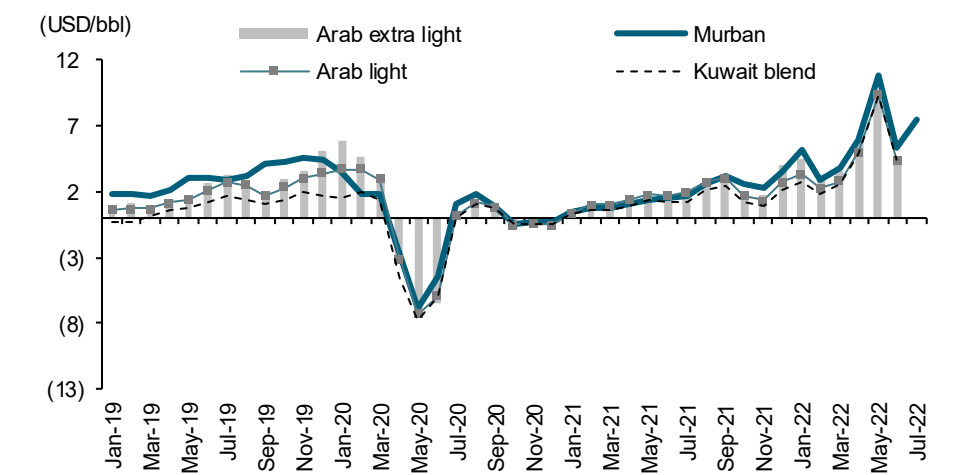


Source: Nikkei Asia

Saudi Arabia, the leading oil producer in OPEC, has cut its Official Selling Price (OSP) crude premiums for its key crudes sold to Asia, including Arab Light and Arab Extra Light, by USD5-6/bbl in Jun-Jul 2022 to USD5-6/bbl.

The crude premium cuts follow the higher-than-expected crude oil supply from Russia even after the sanctions imposed by the US and European countries, thanks to the higher crude purchases from China and India to mostly offset the decline in crude sales to the EU and US.

Exhibit 16: Crude premiums of Middle Eastern producers

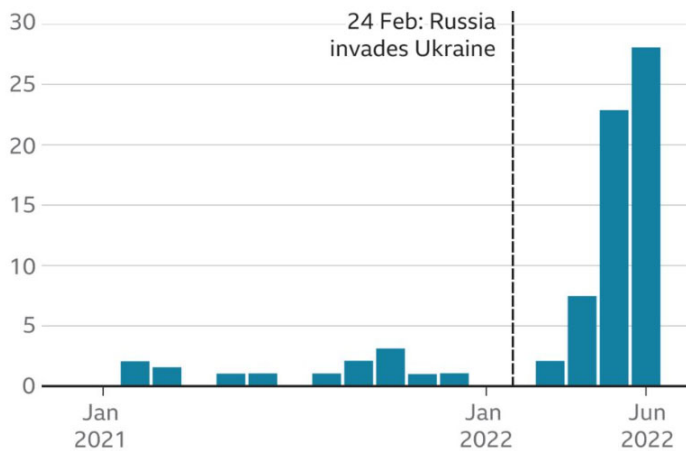


Source: TOP

We expect the crude premium to remain in the range of USD5-7/bbl in 2H22, given Russia's ability to sell its crude to China and India to replace the loss of the crude sales volume to EU clients.

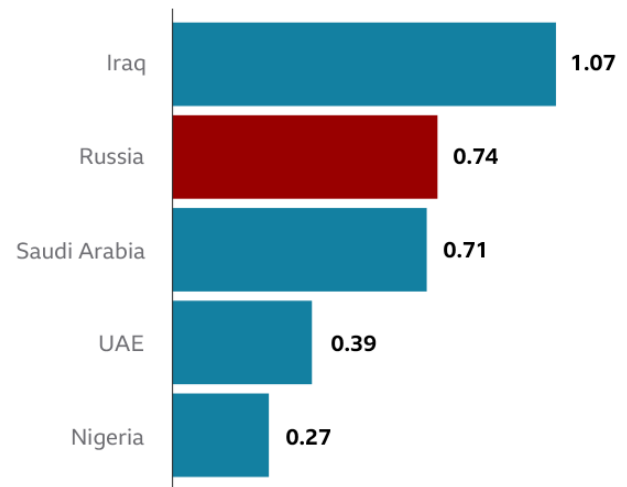
India is key to Russia's crude sales resiliency. India is the world's third-largest consumer of oil and over 80% is imported. Historically, Russia had not been a major oil supplier to India before the Russia-Ukraine war, with zero oil imports from Russia to India in Jan-Feb 2022.

Exhibit 17: Total oil imports from Russia to India (m bbls)



Source: [BBC](#)

Exhibit 18: India's top five oil suppliers in May 2022



Source: [BBC](#)

However, since 24 Feb-22, the day Russia invaded Ukraine, India has increased its oil imports from Russia markedly, jumping from zero in Jan-Feb 2022 to 27m bbls in Jun-22, according to tanker tracking data. Russia is now India's second-largest oil source after Iraq, based on India's contracts for Russia's Urals crude for March, April, May, and Jun-22 and the projections for deliveries in July and August (c66.5m bbls), which will be higher than the total Russian crude purchased in 2021 by India.

India has taken advantage of discounted prices to ramp up oil imports from Russia at a time when global energy prices have been rising. While the exact oil price sold to India from Russia is unknown, the discount of the Urals to Brent crude oil price remains at around USD30/bbl, which we think could be the minimum discount for the oil price that India purchased from Russia.

India-Russia crude trade currently jeopardising "petrodollar" long-standing dominance. Although the price for the imported crude from Russia is attractive, India's large refinery companies are now facing a challenge in financing the working capital for crude purchases from Russia due to the sanctions placed on Russian banks. Nevertheless, India has found leeway via rouble payments for India's exports to Russia, instead of by USD or Euro currencies, thereby directly eroding the demand for the USD as the long-standing "petrodollar" for global oil trading.

According to the US Energy Information Administration, India's oil imports from the US rose in Jan-Mar 2022 but then fell sharply in April and May-22 as India replaced its crude imports from the US with Russian crude. While India still buys a large amount from Middle East oil producers, the most significant increase in oil imports came from Russia.

India's foreign minister, S. Jaishankar, in his recent speech in the Commonwealth Heads of Government Meeting forum, indicated that the sanctions by the US against Venezuela and Iran have limited the "low-cost" oil supplies for India, and hence India's crude imports from Russia are economically sound and politically acceptable.

According to Nikkei Asia, China and India have significantly raised their Russian oil imports, which is greatly reshaping the global oil trade. However, the ability of Asia to replace the crude sales loss to European buyers remains to be seen as EU countries continue to wind down their oil imports from Russia.

Between 24 Feb to Jun-22, a total of 290 oil tankers departed Russia for Asia, up 100 tankers y-y, according to Nikkei Asia. India, China, and Turkey recorded the largest oil purchase increases, aggregately up almost 8x for India, 70% y-y for China, and 54% y-y for Turkey.

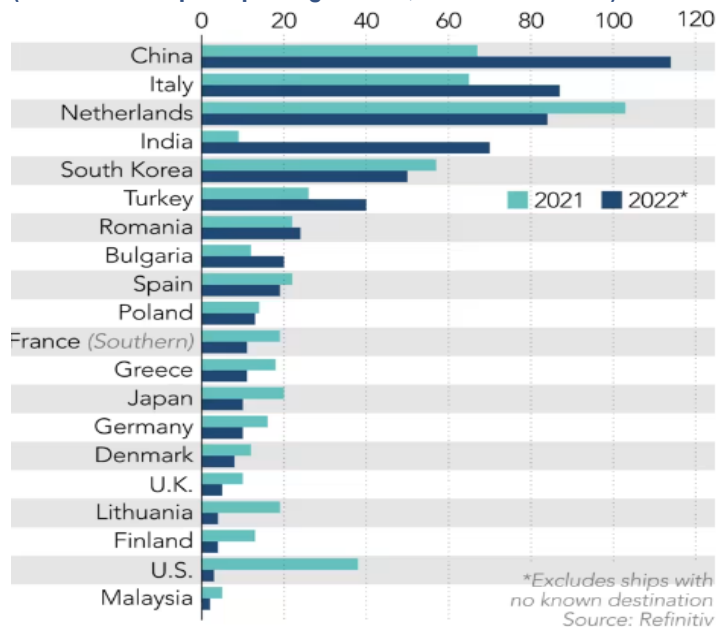
China's oil imports from Russia hit a record high in May-22. According to Reuters, China's crude oil imports from Russia soared 55% y-y to a record high in May-22, displacing Saudi Arabia as the top oil supplier for China, as Chinese refiners cashed in on discounted supplies amid sanctions on Russia for its Ukraine invasion. China's oil imports from Russia, including supplies pumped via the East Siberia Pacific Ocean pipeline and seaborne shipments from Russia's European and Far Eastern ports, totalled around 1.98mbpd (8.4m tonnes), up from 1.59mbpd in April, according to data from the Chinese General Administration of Customs.

Exhibit 19: China, India, and Turkey are three major crude buyers for Russia YTD



Source: [Nikkei Asia](#)

Exhibit 20: Seaborne oil imports from Russia by destination (number of ships departing Russia, Jan to 02 Jun-22)



Source: [Nikkei Asia](#)

While China's overall crude oil demand has been dampened by Covid-19 curbs and a slowing economy, leading oil refiners including Sinopec have raised their crude purchases from Russia on top of the sanctioned supplies from Iran and Venezuela that allows both Iran and Venezuela to scale back competition against the oil producers in West Africa and Brazil. Russia has taken back its top ranking of oil supplier to China after a 19-month gap, indicating that Russia is able to find buyers for its oil despite Western sanctions, even at the deeply discounted prices.

Saudi Arabia saw its crude sales to China decrease from 2.17mbpd in April to 1.84mbpd in May. China's overall crude imports rose almost 12% y-y in May from a low base in 2021 to 10.8mbpd vs the average 10.3mbpd in 2021. The rising crude imports from Russia and the ongoing imports from Iran, Venezuela, and Middle Eastern producers, have clearly indicated that China has gained substantially from the sanctions by the US against Iran, Venezuela, and Russia, to capture the crude supplies at deep-discount prices, which we estimate to be in the range of 20-50% to the Brent crude oil price.

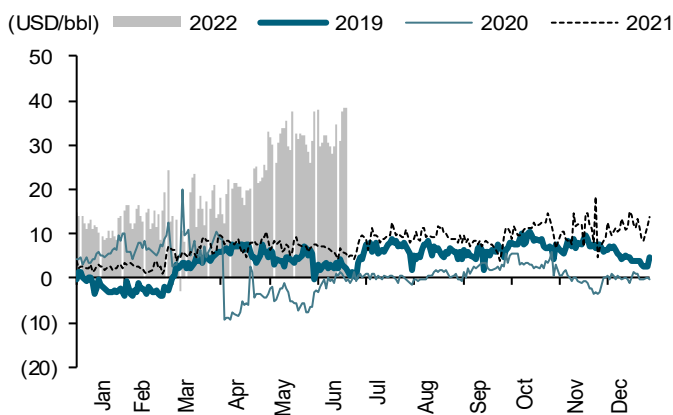
Russia's oil production rose by 0.3mbpd in May. After a 1mbpd fall to 9.14mbpd in April, far below its quota of 10.44mbpd under the OPEC+ crude production agreement, Russia's oil production is now back with a vengeance, rising by 0.3mbpd in May and likely to rise further in June, according to the Russian deputy prime minister.

Will USD30/bbl GRM be sustainable in 2H22?

The margins of gasoline, diesel, and jet over crude oil price have continued to strengthen, hitting multi-year highs at USD40/bbl for gasoline 92, USD60/bbl for diesel, and USD55/bbl for jet, even during the seasonally low demand in the summer for diesel. We believe that sustained high margins of gasoline, diesel, and jet, which together account for over 70% of the total production yields of Thai refiners, should lead to over USD15/bbl market GRMs for Thai refiners in 3Q-4Q22.

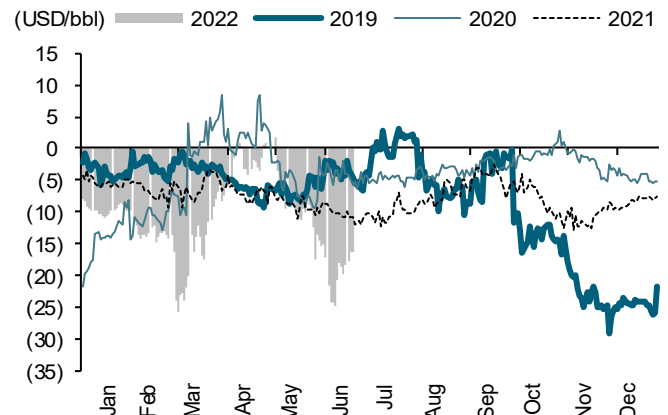
We believe the spikes in the margins for all three products will stay high at over USD30/bbl in 2H22, based on 1) the rising demand for gasoline, particularly in the US driving season (May-Sep) despite the sharp rise in the retail gasoline price to over USD5/gallon in the US; 2) the continued tight supply for refined oil products, mostly gasoline, diesel, and jet, due to the lower export volume from China; 3) a gradual increase in jet demand globally as the number of international flights are rising; and 4) the imbalance of supplies in Europe as EU countries ban Russian refined oil imports along with crude oil imports.

Exhibit 21: 92 octane gasoline price – Dubai crude oil price



Source: Bloomberg

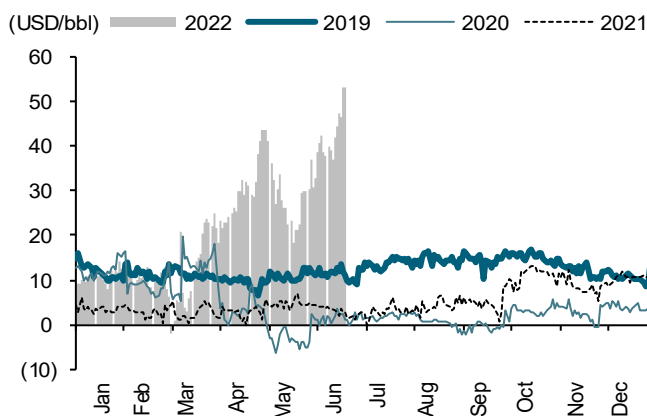
Exhibit 22: High sulphur fuel oil SG – Dubai crude price



Source: Bloomberg

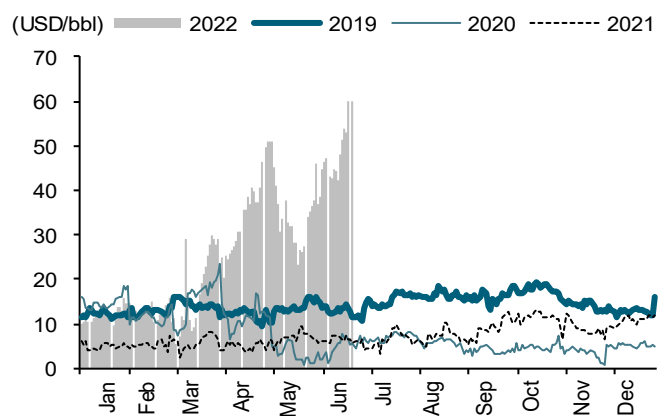
In addition, we think Russia may cut its sales of crude oil and gas completely in Sep-Oct, the two shoulder months ahead of the winter season in the Northern Hemisphere which requires 2x higher consumption of diesel as a heating fuel, potentially leading to a supply shock that will drive up the margins of diesel-crude even higher ahead of the high-demand winter season. In addition, we project the global demand for jet to increase further by 0.5-1.0mbpd to close to the pre-Covid level of 8-9mbpd, potentially catalysing the margin of jet-crude and the GRMs for Thai refiners.

Exhibit 23: Jet kerosene price – Dubai crude oil price



Source: Bloomberg

Exhibit 24: Gasoil 0.5% sulphur SG price – Dubai crude price



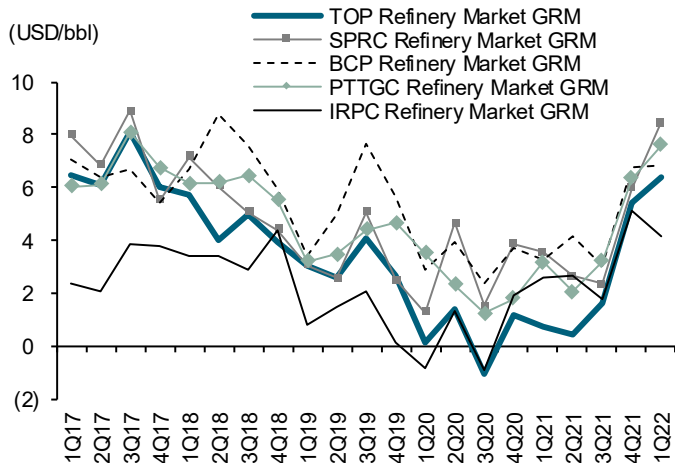
Source: Bloomberg

ESSO and SPRC are our top picks

While we expect the market GRMs and inventory gains to greatly boost the net profits of Thai refiners in 2Q-4Q22, we think the key factors to differentiate the winners among the six Thai refiners will be 1) hedging loss impact; 2) production yields of gasoline, diesel, and jet; 3) crude premiums; and 4) the net profit (loss) contributions from other non-refinery businesses.

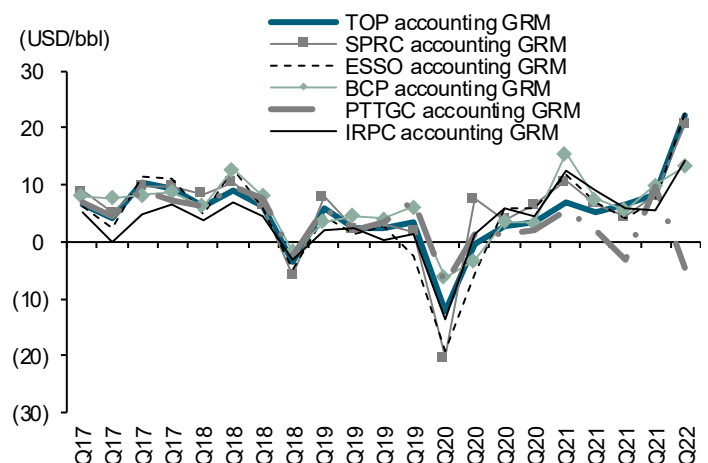
Bearing the four factors above in mind, we prefer ESSO and SPRC as our top picks in the Thai refinery sector. We replace BCP with SPRC on the back of higher potential downsides from the government's subsidy request for BCP over SPRC, the hedging loss for BCP vs zero for SPRC, and the higher gasoline yield of 29% for SPRC.

Exhibit 25: Refinery market GRM



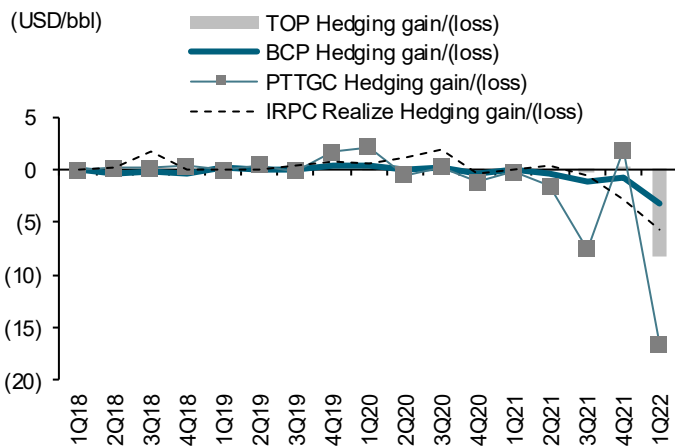
Source: Companies

Exhibit 26: Accounting GRM



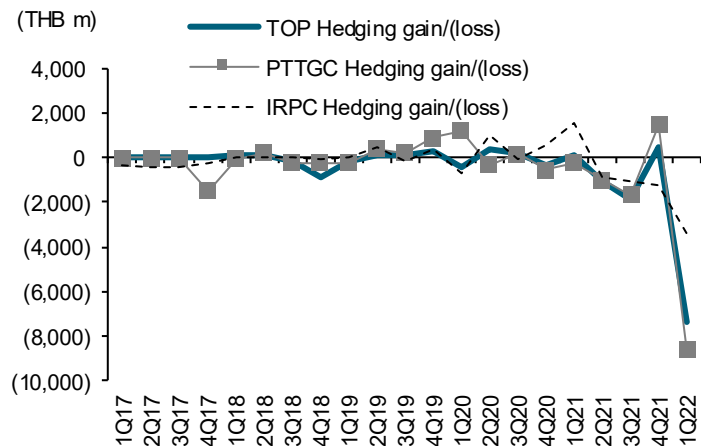
Source: Companies

Exhibit 27: Hedging gain (loss) per bbl for TOP, BCP, PTTGC, and IRPC

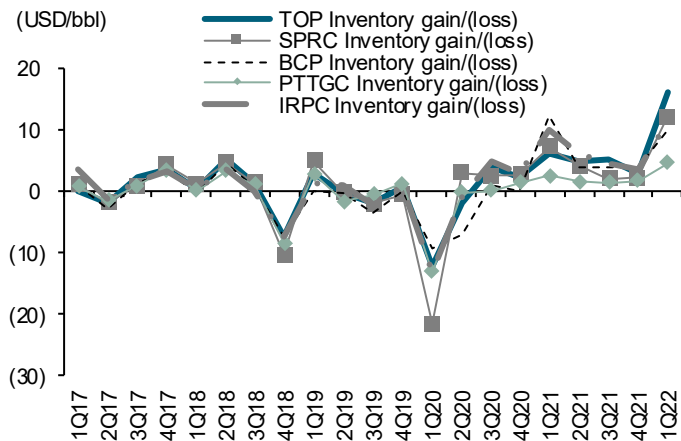


Sources: TOP; BCP; PTTGC; IRPC

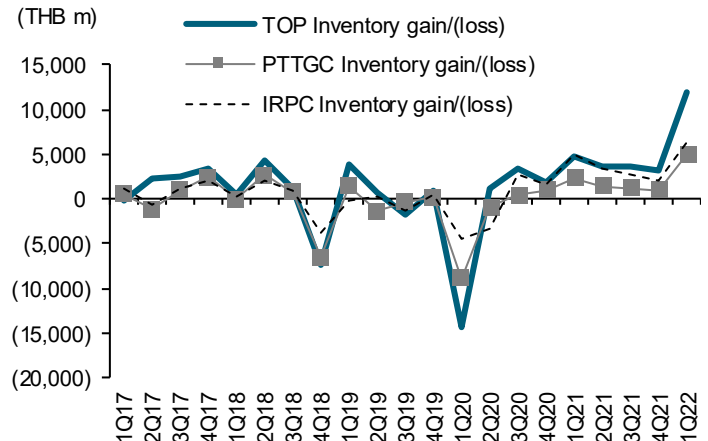
Exhibit 28: Hedging gains (losses) for TOP, PTTGC, and IRPC



Sources: TOP; PTTGC; IRPC

Exhibit 29: Quarterly inventory gain (loss) per bbl for five Thai refiners

Source: Companies

Exhibit 30: Quarterly inventory gains (losses)

Source: Companies

Exhibit 31: Peer comparisons

Company	BBG code	Rec	Share Price (LCY)	Target price (LCY)	Up side (%)	Market Cap (USD m)	3Y EPS CAGR (%)	----- PE ----- 22E 23E	----- ROE ----- 22E 23E	----- PBV ----- 22E 23E	EV / EBITDA 22E 23E
THAILAND											
Thai Oil	TOP TB	BUY	50.25	70.00	39	2,890	6.7	7.7 7.4	10.6 10.5	0.8 0.8	10.3 10.9
Star Petroleum	SPRC TB	BUY	12.00	14.00	17	1,467	65.4	7.1 7.6	19.6 15.7	1.3 1.1	4.1 3.8
Bangchak Corp	BCP TB	BUY	31.50	40.00	27	1,263	27.3	6.4 6.3	12.3 11.7	0.8 0.7	5.3 5.4
Esso Thailand	ESSO TB	BUY	11.40	12.90	13	1,112	91.4	6.8 6.3	27.7 25.3	1.7 1.5	6.2 5.6
Ptt Global Chem	PTTGC TB	REDUCE	44.75	40.00	(11)	5,688	(3.2)	6.9 7.2	9.1 8.9	0.6 0.6	7.2 7.1
Irpc	IRPC TB	REDUCE	3.16	3.00	(5)	1,820	(10.1)	13.8 6.4	5.5 11.6	0.8 0.7	9.2 5.9
Tipco Asphalt	TASCO TB	BUY	16.60	22.50	36	739	(8.9)	8.9 11.8	20.7 17.4	2.0 2.1	8.2 10.9
Thailand avg						14,978	3.4	8.0 7.3	12.2 12.1	0.9 0.9	7.6 7.3
INDIA											
Bharat Petrom	BPCL IN		307.90	n/a	n/a	8,511	(17.7)	6.6 7.1	18.8 15.8	1.2 1.1	7.5 7.7
Hindustan Petro	HPCL IN		225.70	n/a	n/a	4,025	(8.1)	4.8 4.5	17.2 16.4	0.8 0.7	6.8 6.0
Indian Oil	IOCL IN		107.30	n/a	n/a	12,947	(1.2)	4.0 5.0	19.3 14.5	0.8 0.7	5.1 5.9
India avg						25,483	(11.0)	5.0 5.6	18.8 15.2	0.9 0.9	6.1 6.5
TAIWAN											
Formosa Petro	6505 TT		93.40	n/a	n/a	30,524	0.9	17.6 20.2	14.0 11.4	2.5 2.4	11.1 12.3
Taiwan avg						30,524	0.9	17.6 20.2	14.0 11.4	2.5 2.4	11.1 12.3
SOUTH KOREA											
Sk Innovation	096770 KS		199,000	n/a	n/a	14,206	201.0	7.9 9.8	12.6 8.9	0.9 0.8	5.3 6.2
Gs Holdings	078930 KS		40,450	n/a	n/a	2,930	6.5	2.1 2.7	14.3 10.2	0.3 0.3	4.5 5.6
S-Oil Corp	010950 KS		101,500	n/a	n/a	8,800	2.8	5.0 7.2	29.0 17.6	1.3 1.2	4.1 5.6
South Korea avg						25,936	45.8	6.3 8.1	18.3 12.0	1.0 0.9	4.8 6.0
Refinery under coverage						14,978	3.4	8.0 7.3	12.2 12.1	0.9 0.9	7.6 7.3
Average (all)						96,922	30.97	9.78 11.13	16.13 12.68	1.42 1.36	7.58 8.32

Share prices as of 23 June 2022

Sources: Bloomberg, FSSIA estimates

Corporate Governance report of Thai listed companies 2021

EXCELLENT LEVEL – Score range 90-100										
AAV	BCPG	CPALL	GCAP	K	MSC	PLANET	SAMART	SPI	THRE	TVD
ADVANC	BDMS	CPF	GFPT	KBANK	MST	PLAT	SAMTEL	SPRC	THREL	TVI
AF	BEM	CPI	GGC	KCE	MTC	PORT	SAT	SPVI	TIPCO	TVO
AH	BGC	CPN	GLAND	KKP	MVP	PPS	SC	SSSC	TISCO	TWPC
AIRA	BGRIM	CRC	GLOBAL	KSL	NCL	PR9	SCB	SST	TK	U
AKP	BIZ	CSS	GPI	KTB	NEP	PREB	SCC	STA	TKT	UAC
AKR	BKI	DDD	GPSC	KTC	NER	PRG	SCCC	STEC	TMT	UBIS
ALT	BOL	DELTA	GRAMMY	LALIN	NKI	PRM	SCG	STI	TNDT	UV
AMA	BPP	DEMCO	GULF	LANNA	NOBLE	PROUD	SCGP	SUN	TNITY	VGI
AMATA	BRR	DRT	GUNKUL	LH	NSI	PSH	SCM	SUSCO	TOA	VIH
AMATAV	BTS	DTAC	HANA	LHFG	NVD	PSL	SDC	SUTHA	TOP	WACOAL
ANAN	BTW	DUSIT	HARN	LIT	NWR	PTG	SEAFECO	SVI	TPBI	WAVE
AOT	BWG	EA	HMPRO	LPN	NYT	PTT	SEOIL	SYMC	TQM	WHA
AP	CENEL	EASTW	ICC	MACO	OISHI	PTTEP	SE-ED	SYNTEC	TRC	WHAUP
ARIP	CFRESH	ECF	ICHI	MAJOR	OR	PTTGC	SELIC	TACC	TRU	WICE
ARROW	CHEWA	ECL	III	MAKRO	ORI	PYLON	SENA	TASCO	TRUE	WINNER
ASP	CHO	EE	ILINK	MALEE	OSP	Q-CON	SHR	TCAP	TSC	ZEN
AUCT	CIMBT	EGCO	ILM	MBK	OTO	QH	SIRI	TEAMG	TSR	
AWC	CK	EPG	INTUCH	MC	PAP	QTC	SIS	TFMAMA	TSTE	
AYUD	CKP	ETC	IP	MCOT	PCSGH	RATCH	SITHAI	TGH	TSTH	
BAFS	CM	FPI	IRPC	METCO	PDG	RS	SMK	THANA	TTA	
BANPU	CNT	FPT	ITEL	MFEC	PDJ	S	SMPC	THANI	TTB	
BAY	COM7	FSMART	IVL	MINT	PG	S & J	SNC	THCOM	TTCL	
BBL	COMAN	GBX	JSP	MONO	PHOL	SAAM	SONIC	THG	TTW	
BCP	COTTO	GC	JWD	MOONG	PLANB	SABINA	SPALI	THIP	TU	
VERY GOOD LEVEL – Score range 80-89										
2S	ASIMAR	CHOW	FLOYD	IT	LOXLEY	OCC	RPC	SKY	TCC	TVT
7UP	ASK	CI	FN	ITD	LRH	OGC	RT	SLP	TCMC	TWP
ABICO	ASN	CIG	FNS	J	LST	PATO	RWI	SMIT	TEAM	UEC
ABM	ATP30	CMC	FORTH	JAS	M	PB	S11	SMT	TFG	UMI
ACE	B	COLOR	FSS	JCK	MATCH	PICO	SA	SNP	TFI	UOBKH
ACG	BA	CPL	FTE	JCKH	MBAX	PIMO	SAK	SO	TIGER	UP
ADB	BAM	CPW	FVC	JMART	MEGA	PJW	SALEE	SORKON	TITLE	UPF
AEONTS	BC	CRD	GEL	JMT	META	PL	SAMCO	SPA	TKN	UPOIC
AGE	BCH	CSC	GENCO	KBS	MFC	PM	SANKO	SPC	TKS	UTP
AHC	BEC	CSP	GJS	KCAR	MGT	PMTA	SAPPE	SPCG	TM	VCOM
AIT	BEYOND	CWT	GYT	KEX	MICRO	PPP	SAWAD	SR	TMC	VL
ALL	BFIT	DCC	HEMP	KGI	MILL	PPPM	SCI	SRICHA	TMD	VPO
ALLA	BJC	DCON	HPT	KIAT	MTSIB	PRIME	SCN	SSC	TMI	VRANDA
ALUCON	BJCHI	DHOUSE	HTC	KISS	MK	PRIN	SCP	SSF	TMILL	WGE
AMANAH	BLA	DOD	HYDRO	KOOL	MODERN	PRINC	SE	STANLY	TNL	WIJK
AMARIN	BR	DOHOME	ICN	KTIS	MTI	PSG	SFLEX	STGT	TNP	WP
APCO	BROOK	DV8	IFS	KUMWEL	NBC	PSTC	SFP	STOWER	TOG	XO
APCS	CBG	EASON	IMH	KUN	NCAP	PT	SFT	STPI	TPA	XPG
APURE	CEN	EFORL	IND	KWC	NCH	QLT	SGF	SUC	TPAC	YUASA
AQUA	CGH	ERW	INET	KWM	NETBAY	RBF	SIAM	SWC	TPCS	
ASAP	CHARAN	ESSO	INSET	L&E	NEX	RCL	SINGER	SYNEX	TPS	
ASEFA	CHAYO	ESTAR	INSURE	LDC	NINE	RICHY	SKE	TAE	TRITN	
ASIA	CHG	ETE	IRC	LEO	NRF	RML	SKN	TAKUNI	TRT	
ASIAN	CHOTI	FE	IRCP	LHK	NTV	ROJNA	SKR	TBSP	TSE	
GOOD LEVEL – Score range 70-79										
A	BGT	CITY	GIFT	JTS	MDX	PK	SGP	SUPER	TQR	YGG
AI	BH	CMAN	GLOCON	JUBILE	MJD	PLE	SICT	SVOA	TTI	ZIGA
AIE	BIG	CMO	GREEN	KASET	MORE	PPM	SIMAT	TC	TYCN	
AJ	BLAND	CMR	GSC	KCM	MUD	PRAKIT	SISB	TCCC	UKEM	
ALPHAX	BM	CPT	GTB	KK	NC	PRAPAT	SK	THMUI	UMS	
AMC	BROCK	CRANE	HTECH	KKC	NDR	PRECHA	SMART	TNH	UNIQU	
APP	BSBM	CSR	HUMAN	KWI	NFC	PTL	SOLAR	TNR	UPA	
AQ	BSM	D	IHL	KYE	NNCL	RJH	SPACK	TOPP	UREKA	
ARIN	BTNC	EKH	IIG	LEE	NOVA	RP	SPG	TPCH	VIBHA	
AS	BYD	EMC	INGRS	LPH	NPK	RPH	SQ	TPIPL	W	
AU	CAZ	EP	INOX	MATI	NUSA	RSP	SSP	TIPIPP	WIN	
B52	CCP	F&D	JAK	M-CHAI	PAF	SABUY	STARK	TPLAS	WORK	
BEAUTY	CGD	FMT	JR	MCS	PF	SF	STC	TPOLY	WPH	

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. 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

Sources: Thai Institute of Directors Association (IOD); FSSIA's compilation; data as of 26 October 2021

Anti-corruption Progress Indicator

CERTIFIED										
2S	BCH	CPALL	GC	K	MFC	PE	QLT	SNP	THCOM	TU
7UP	BCP	CPF	GCAP	KASET	MFEC	PG	QTC	SORKON	THIP	TVD
ADVANC	BCPG	CPI	GEL	KBANK	MILL	PHOL	RATCH	SPACK	THRE	TVI
AF	BE8	CPN	GFPT	KBS	MINT	PK	RML	SPALI	THREL	TVO
AI	BEYOND	CSC	GGC	KCAR	MONO	PL	RWI	SPC	TIDLOR	TWPC
AIE	BGC	DCC	GJS	KCE	MOONG	PLANB	S & J	SPI	TIPCO	U
AIRA	BGRIM	DELTA	GPI	KGI	MSC	PLANET	SAAM	SPRC	TISCO	UBE
AKP	BJCHI	DEMCO	GPSC	KKP	MST	PLAT	SABINA	SRICHA	TKS	UBIS
ALPHAX	BKI	DIMET	GSTEEL	KSL	MTC	PM	SAPPE	SSF	TKT	UEC
AMA	BLA	DRT	GUNKUL	KTB	MTI	PPP	SAT	SSP	TMD	UKEM
AMANAHA	BPP	DTAC	HANA	KTC	NBC	PPPM	SC	SSSC	TMILL	UOBKH
AMATA	BROOK	DUSIT	HARN	KWC	NEP	PPS	SCB	SST	TMT	UPF
AMATAV	BRR	EA	HEMP	KWI	NINE	PR9	SCC	STA	TNITY	UV
AP	BSBM	EASTW	HENG	L&E	NKI	PREB	SCCC	STOWER	TNL	VGI
APCS	BTS	ECL	HMPRO	LANNA	NMG	PRG	SCG	SUSCO	TNP	VIH
AQUA	BWG	EGCO	HTC	LH	NNCL	PRINC	SCN	SVI	TNR	WACOAL
ARROW	CEN	EP	ICC	LHFG	NOBLE	PRM	SEA OIL	SYMC	TOG	WHA
AS	CENTEL	EPG	ICHI	LHK	NOK	PROS	SE-ED	SYNTEC	TOP	WHAUP
ASIAN	CFRESH	ERW	IFEC	LPN	NSI	PSH	SELIC	TAE	TOPP	WICE
ASK	CGH	ESTAR	IFS	LRH	NWR	PSL	SENA	TAKUNI	TPA	WIJK
ASP	CHEWA	ETE	ILINK	M	OCC	PSTC	SGP	TASCO	TPP	XO
AWC	CHOTI	FE	INET	MAKRO	OGC	PT	SINGER	TBSP	TRU	ZEN
AYUD	CHOW	FNS	INSURE	MALEE	ORI	PTG	SIRI	TCAP	TRUE	
B	CIG	FPI	INTUCH	MATCH	PAP	PTT	SITHAI	TCMC	TSC	
BAFS	CIMBT	FPT	IRC	MBAX	PATO	PTTEP	SKR	TFG	TSTE	
BAM	CM	FSMART	IRPC	MBK	PB	PTTGC	SMIT	TFI	TSTH	
BANPU	CMC	FSS	ITEL	MC	PCSGH	PYLON	SMK	TFMAMA	TTA	
BAY	COM7	FTE	IVL	MCOT	PDG	Q-CON	SMPC	TGH	TTB	
BBL	COTTO	GBX	JKN	META	PDJ	QH	SNC	THANI	TTCL	
DECLARED										
AJ	CHG	DDD	ETC	JR	MAJOR	NUSA	RS	SSS	TQM	YUASA
ALT	CPL	DHOUSE	FLOYD	JTS	NCAP	NYT	SAK	STECH	TSI	ZIGA
APCO	CPR	DOHOME	GULF	KEX	NCL	OR	SCGP	STGT	VARO	
B52	CPW	ECF	III	KUMWEL	NOVA	PIMO	SCM	TKN	VCOM	
BEC	CRC	EKH	INOX	LDC	NRF	PLE	SIS	TMI	VIBHA	

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)

Disclaimer:

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 26 October 2021) are categorised into: 1) companies that have declared their intention to join CAC, and; 2) companies certified by CAC.

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

GENERAL DISCLAIMER

ANALYST(S) CERTIFICATION

Suwat Sinsadok, CFA, FRM, ERP 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.

This report has been prepared by FSS International Investment Advisory Company Limited (FSSIA). The information herein has been obtained from sources believed to be reliable and accurate; however FSS makes no representation as to the accuracy and completeness of such information. Information and opinions expressed herein are subject to change without notice. FSS has no intention to solicit investors to buy or sell any security in this report. In addition, FSS does not guarantee returns nor price of the securities described in the report nor accept any liability for any loss or damage of any kind arising out of the use of such information or opinions in this report. Investors should study this report carefully in making investment decisions. All rights are reserved.

This report may not be reproduced, distributed or published by any person in any manner for any purpose without permission of FSSIA. Investment in securities has risks. Investors are advised to consider carefully before making investment decisions.

Company	Ticker	Price	Rating	Valuation & Risks
Thai Oil	TOP TB	THB 50.25	BUY	Downside risks to our EV/EBITDA-based TP are a sharp fall in oil price and weak demand for refined oil products.
Star Petroleum Refining	SPRC TB	THB 12.00	BUY	TP is based on EV/EBITDA. Downside risks are a sharp rise in oil price and weak demand for refined oil products.
Bangchak Corp	BCP TB	THB 31.50	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 11.40	BUY	The downside risks to our SoTP-based TP on ESSO include 1) lower-than-expected demand for petroleum products; 2) a higher crude premium; and 3) unplanned shutdowns of its refinery and petrochemical plants.
PTT Global Chemical	PTTGC TB	THB 44.75	REDUCE	The key upside risks to our EV/EBITDA-based TP are a stronger-than-expected HDPE price and HDPE-naphtha margin.
IRPC PCL	IRPC TB	THB 3.16	REDUCE	Key risks to our bearish view and EV/EBITDA-based target price are rising margins of PP-naphtha, SM and ABS-benzene, and a higher market GRM.
Tipco Asphalt	TASCO TB	THB 16.60	BUY	Downside risks to our EV/EBITDA-multiple based TP include 1) a lower asphalt margin due to oversupply in Asia on the back of a faster recovery in the utilisation rates for global refiners; and 2) a lower-than-expected supply of alternative crudes and asphalt.
PTT PCL	PTT TB	THB 33.25	BUY	Risks to our SoTP-based valuation are the oil price and potential earnings downside from government intervention.

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

FSSIA may incorporate the recommendations and target prices of companies currently covered by FSS Research into equity research reports, denoted by an 'FSS' before the recommendation. FSS Research is part of Finansia Syrus Securities Public Company Limited, which is the parent company of FSSIA.

All share prices are as at market close on 23-Jun-2022 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.