BINH SON REFINING AND PETROCHEMICAL JSC (BSR) – INITIATION

Market Price	Target Price	Dividend Yield	Rating	Sector
VND19,300	VND27,300	1.55%	ADD	OIL & GAS

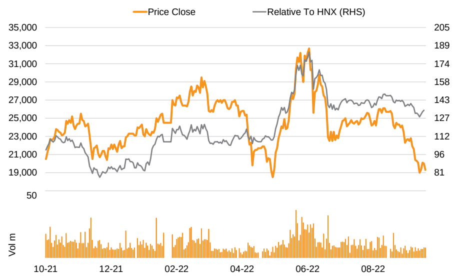
10 October 2022

Outlook – Short term: Positive
Outlook – Long term: Positive
Valuation: Positive

Consensus*: Add:5 Hold:2 Reduce:0
Target price / Consensus: -17.1%

Key changes in the report
- NA

Price performance



Source: VND RESEARCH

Key statistics

52w high (VND)	32,700
52w low (VND)	18,500
3m Avg daily value (VNDmn)	211,882
Market cap (VNDbn)	62,736
Free float (%)	7
TTM P/E (x)	4.8
Current P/B (x)	1.23

Ownership

PetroVietnam	92.1%
Others	7.9%

Source: VNDIRECT RESEARCH

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A resilient energy play

- BSR is the leading refinery in Vietnam, playing a vital role in supplying fuel for nation and remaining high utilisation rate at above 100% for many years.
- Refining margin is resilient on the high base due to the lingering geopolitical crisis to bode well for refineries like BSR in the next couple of years.
- Initiate coverage on BSR with an ADD rating and TP of VND27,300.

Vietnam's highly efficient oil refinery, playing a vital role in national energy

Dung Quat Refinery (managed by BSR) with total investment of US$3bn has played a vital role in supplying fuel for nation since it went to operation, meeting c.35% of total domestic requirements. In contrast to Nghi Son refinery, BSR remains the high utilization rate up to 105-108% for many years, showing the high profitability except 2020 due to Covid-19 outbreak and oil prices crash.

Refining margin is resilient on the high base to bode well for refineries

In 1H22, refining margins have surged globally due to Western sanctions on Russia while refinery utilisation remains low. We expect crack spreads to cool down in coming months when strong profit is likely to trigger the recovery in refinery utilisation globally. But refining margin will remain high compared to pre-war level in coming period due to the tight refined product market caused by the lingering Russia – Ukraine crisis and this will bode well for refineries including BSR. Overall, we forecast BSR's FY22F net profit to surged 128.4% yoy on the crack spreads spike, then decreasing by 40.1% yoy in FY23F due to crack spreads cooling down and the periodic maintenance (but still 37% higher than 2021 level). After that, FY24F NP is expected to be back to growth trajectory in FY24F with a growth rate of 12.2% yoy.

The upgrade project promises to be new growth engine in long-term

BSR plans to implement the upgrade and expansion project for Dung Quat refinery (est. capex of US$1.26bn) from 2023 which could increase the capacity to by 17% to 7.6m tons annually. After completion, BSR can distillate sourer crude oils and supply higher quality products (Euro V) to the market. As the orientation on raising proportion of high value products, we believe in the feasibility of this project, and we consider it will be key driver for BSR's business in long-term.

Initiate coverage with an ADD rating and target price (TP) of VND27,300

We initiate coverage on BSR with an ADD rating and TP of VND27,300, based on an equal weighting of FY23F target EV/EBITDA of 6.5x and FY23F target P/B of 1.5x. Potential upside catalysts are stronger-than-expected refined crack spreads and potential listing on the main bourse. Downside risks come from the decline in oil price/crack spreads and lower-than-expected production output.

Financial summary (VND)	12-21A	12-22E	12-23E	12-24E
Net revenue (bn)	101,080	156,311	125,681	133,470
Revenue growth	74.4%	54.6%	(19.6%)	6.2%
Gross margin	7.6%	10.8%	8.4%	8.9%
EBITDA margin	5.0%	8.9%	6.4%	7.1%
Net profit (bn)	6,716	15,338	9,192	10,316
Net profit growth		128.4%	(40.1%)	12.2%
Recurring profit growth		128.4%	(40.1%)	12.2%
Basic EPS	2,166	4,947	2,965	3,327
Adjusted EPS	2,166	4,947	2,965	3,327
BVPS	12,117	16,336	18,005	19,848
ROAE	19.6%	34.8%	17.3%	17.6%

Source: VNDIRECT RESEARCH

A RESILIENT ENERGY PLAY

Investment thesis

We like BSR for:

- Amid the rising concern over energy security, BSR is playing a vital role in supplying fuel for the country with c.35% of total domestic gasoline supply.
- In terms of crack spread, refined crack spreads are expected to be resilient on the high base due to the lingering Russia – Ukraine crisis and demand recovery after the pandemic. This should bode well for refineries like BSR in the next couple of years. We expect BSR's FY22F net profit to surge 128.4% yoy on the crack spreads spike, then decreasing by 40.1% yoy in FY23F due to crack spreads cooling down and the periodic maintenance (but still 37% higher than 2021 level). After that, FY24F NP is expected to be back to growth trajectory in FY24F with a growth rate of 12.2% yoy.
- In long-term, we believe the upgrade and expansion project to be a key growth driver for BSR, which could raise BSR's total capacity by 17% and increase the proportion of high value products like jet fuel, LPG, and petrochemical products.

We initiate coverage on BSR with an ADD rating. Our target price is VND27,300, based on the equal weighting of FY23F target EV/EBITDA of 6.5x (equivalent to Asian refinery average of 6.5-7x) and FY23F target P/B of 1.5x (+0.5 std over 4-year average P/B). We apply 0.5 std premium over its 4-year average P/B to reflect the high oil price environment and the expected widening crack spread base (as compared to pre-war level) in the couple of years due to lingering Russia – Ukraine crisis.

With potential upside of 43.0%, including dividend yield 1.55%, we believe the risk-reward is quite attractive to accumulate a good stock with a strong position in the industry like BSR. Notably, we consider the potential recovery of gasoline crack spread after the sharp decline in 3Q22 to be a short-term catalyst for BSR as BSR share price is usually sensitive with crack spreads movements.

Figure 1: Target price

Method	Implied share price (VND)	Weight (%)	Weighted share price (VND)
FY23F target EV/EBITDA of 6.5x	27,660	50%	13,830
FY23F target P/B of 1.5x	27,008	50%	13,504
Blended value			27,334
Target price			**27,300**

Source: VNDIRECT RESEARCH

Potential upside catalysts and downside risks:

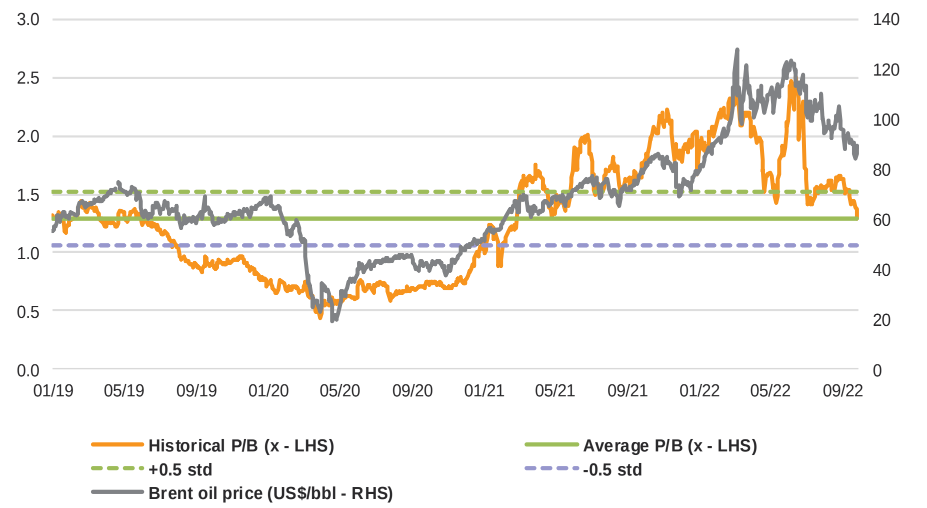
Potential upside catalysts:

- Stronger-than-expected global refined crack spreads due to more sanctions on Russia and strict lockdown measures in China which could hamper the operation of Chinese refineries.
- Higher-than-expected oil price could lead to inventory gain for BSR.
- Listing on the main bourse is a potential catalyst for BSR. The company targets to list on HOSE in 2023.

Downside risks:

- The decline in oil price could negatively affect BSR's performance as the company does not apply any hedging tools for its feedstock and crack margins.
- Lower-than-expected consumption volume due to high fuel prices.
- Low products quality (Euro II, Euro III) should be a downside risk for BSR if the authority applies higher fuel standard for domestic market to meet environment targets.

Figure 2: BSR's historical P/B versus Brent oil price



Source: BLOOMBERG, VNDIRECT RESEARCH

Figure 3: Oil refinery sector comparison

Company	Ticker	Price	Target price	Mkt Cap	P/E (x)		3-yr EPS CAGR (%)	EV/EBITDA (x)		P/BV (x)		ROE (%)		ROA (%)		Div. yield (%)	
		LC$	LC$	US$ m	FY22F	FY23F		FY22F	FY23F	FY22F	FY23F	FY22F	FY23F	FY22F	FY23F	FY22F	FY23F
Thai Oil	TOP TB	52.3	NA	3,498	3.3	9.0		5.0	8.3	0.7	0.7	25.0%	7.9%	8.6%	3.2%	9.2%	4.5%
IRPC	IRPC TB	3.1	NA	1,702	8.4	11.4		4.7	5.8	0.7	0.7	7.8%	7.5%	3.6%	3.4%	4.8%	5.3%
Star Petroleum Refining	SPRC TB	11.3	NA	1,308	3.0	7.1		2.3	3.6	1.1	1.0	39.1%	14.3%	22.7%	8.9%	14.5%	6.9%
PTT Global Chemical	PTTGC TB	40.8	NA	4,905	8.2	7.1		6.8	6.2	0.6	0.5	6.3%	7.7%	3.0%	3.5%	5.6%	6.8%
S-Oil Corp	010950 KS	84,200	NA	6,703	3.3	5.3		2.4	3.4	1.0	0.9	35.1%	19.0%	14.3%	8.2%	9.0%	5.7%
GS Holdings Corp	078930 KS	44,450	NA	2,920	1.8	2.3		4.3	5.1	0.3	0.3	19.1%	13.2%	8.1%	5.6%	5.7%	5.4%
Bharat Petroleum	BPCL IN	307	NA	8,093	10.5	6.8		9.3	6.7	1.2	1.0	10.4%	16.4%	2.9%	4.9%	4.0%	5.5%
Hindustan Petroleum	HPCL IN	216	NA	3,722	34.0	4.1		14.9	5.9	0.8	0.7	1.0%	17.6%	-0.5%	4.7%	4.9%	7.1%
Average				4,106	*9.1*	*6.6*		*6.2*	*5.6*	*0.8*	*0.7*	*18.0%*	*12.9%*	*7.8%*	*5.3%*	7.2%	5.9%
BSR VN	**BSR VN**	**19,300**	**27,300**	**2,518**	**3.9**	**6.5**	**15.4%**	**2.8**	**4.3**	**1.2**	**1.1**	**34.8%**	**17.3%**	**21.4%**	**11.5%**	**3.6%**	**5.2%**

Source: BLOOMBERG, VNDIRECT RESEARCH (DATA AS AT 07 OCT)

The leading crude oil refinery in Vietnam

BSR is the first oil refinery in Vietnam, playing a vital role in supplying fuel for the country

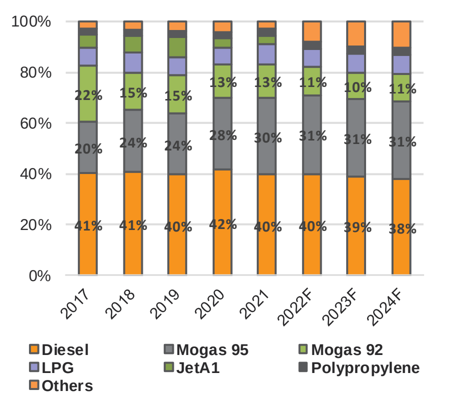
Binh Son Refining and Petrochemical JSC (BSR) owns Dung Quat Refinery – the first oil refinery of Vietnam, which was started construction in 2005 with total investment of US$3bn, coming commercial operation from 2011. The refinery has a design capacity of 6.5 million tonnes of low sulfur crude oil annually (equivalent to 148,000 barrels per day).

Figure 4: BSR is in downstream segment of Oil & Gas value chain

Source: RobecoSAM

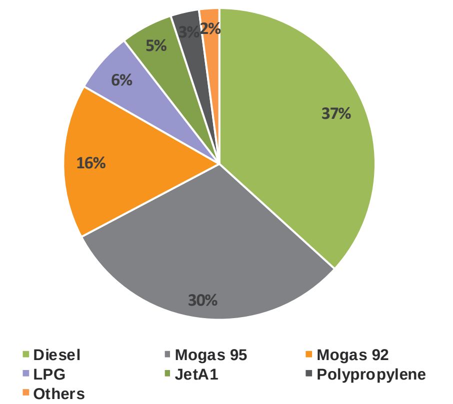
Currently, BSR's output is mainly refined oil products (including gasoline, diesel, fuel oil and LPG), accounting for 96-97% of total production output and contributing 95% of BSR's total revenue in.

Figure 5: BSR's product proportion by type



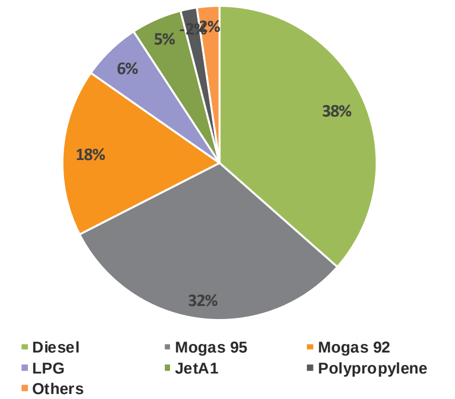
Source: VNDIRECT RESEARCH, COMPANY REPORTS

Figure 6: Revenue proportion by types of products in 1H22



Source: VNDIRECT RESEARCH, COMPANY REPORTS

Figure 7: Gross profit proportion by types of products in 1H22



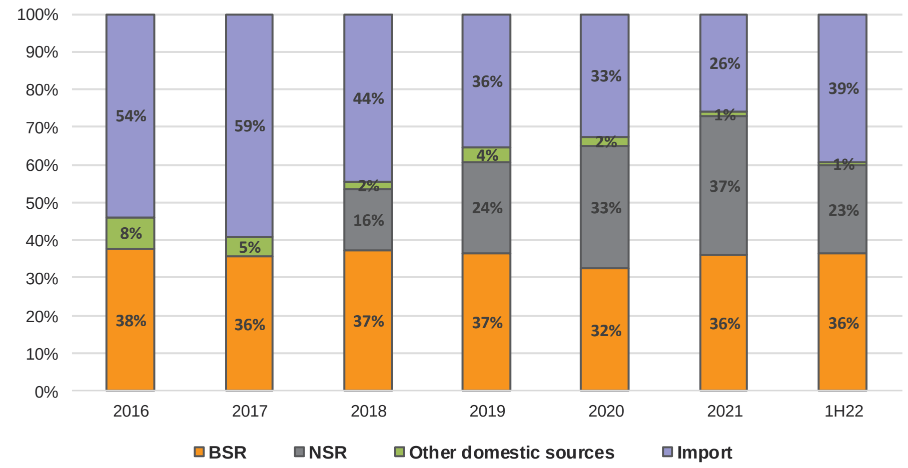
Source: VNDIRECT RESEARCH, COMPANY REPORTS

For BSR operation, diesel, RON95 (Mogas 95) and RON92 (Mogas 92) are the three main products of BSR, which are estimated to meet ~35% of total domestic requirements. In 1H22, these 3 products accounted for 83% and 88% of BSR's total revenue and gross profit, significant improving from 81% and 52% in 2021, respectively. This impressive strengthens came from the skyrocket of refined crack spreads globally after Russia – Ukraine crisis occurred. Furthermore, BSR also produce a small proportion of other high value products like JetA1, LPG and petrochemicals (polypropylene). We note that increasing these products proportion should be the upcoming path when BSR implements the upgrade and expansion project.

BSR's product output has been always fully absorbed, occupying around 35% of total domestic market

For price mechanism, BSR's selling price is benchmarked to Singapore Platts price (10-15 days average) plus the premium based on the agreement between BSR and its customers. This premium is usually lower than import tax constituting the base price, which help BSR's products more competitive than imported sources

Figure 8: Proportion of Vietnam's petroleum supply. BSR always ran at full capacity over the past years, contributing around 35% of total domestic demand



Source: VNDIRECT RESEARCH, COMPANY REPORTS

Currently, petroleum domestic demand is about 18 million cbm (cubic meter) annually, and domestic supply coming from BSR and Nghi Son refinery (NSR) meets up to 75% of total requirements. The proportion of import sources has been continuously falling since 2017, before reversing this trend in 1H22 as NSR operated under design capacity due to financial issues. Hence, thanks to the policy of prioritizing domestic sources, we suppose there is no significantly competitive risks for BSR's output consumption in coming few years as domestic supply has not yet met all requirements.

BSR's operating efficiency was higher than regional peers

For domestic market, there are currently two refineries operating in Vietnam. Besides Dung Quat refinery, Nghi Son refinery (NSR) located at Nghi Son in Thanh Hoa has come online since 2018. We see the contrasting pictures between two refineries in Vietnam. For NSR, it still has recorded the sluggish results with the accumulated loss of US$3.3bn from 2018. And in 1H22, Nghi Son refinery decreased its operation utilisation due to financial problems, causing the short-term domestic supply shortage. In contrast, BSR remains the high utilisation rate of above 100% for many years, showing the impressive performance except 2020 due to Covid-19 outbreak.

Figure 9: The comparison between BSR and NSR

Criteria	BSR	NSR
Owner	PVN (92%)	Kuwait Petroleum (35.1%), Idemitsu Kosan (35.1%), PVN (25.1%), Mitsui Chemical (4.7%)
Capex (US$m)	3,000	9,000
Designed capacity (million tons/year)	6.5	10
Feedstock	sweet and light crude oil (mainly from Bach Ho oilfield)	medium sour and heavy crude oil (from Kuwait)
Utilization rate (%)	~105%	~70%
Type of products	mainly refined oil products (including gasoline, diesel, fuel oil and LPG)	mainly refined oil products (including gasoline, diesel, fuel oil and LPG) and numerous petrochemical products
Quality of products	Euro II, Euro III	Euro III, Euro IV
Selling rice structure	Singapore Platts price + Premium	Singapore Platts price + Import tax

Source: VNDIRECT RESEARCH, COMPANY REPORTS

Next, take some views on **regional oil refineries comparison** in 1H22, most of standalone refineries like BSR and Thailand's refineries (Star Petroleum, Thai Oil) show impressive performances on crack spreads spike. Meanwhile, results of some others with integrated businesses (including petrochemicals and marketing) have been less effective due to low petrochemical margins this year. In which, we see BSR has strongest profitability compared to peers as: (1) BSR remains high refinery utilisation despite Covid-19 pandemic outbreak thanks to the policy of prioritizing domestic sources, and (2) BSR does not use any hedging tools, which help BSR maximize profit when oil prices and crack spreads surge.

Figure 10: Regional oil refineries comparison. We see BSR has higher profitability than Thailand's peers (with the same capacity and business specifications)

	Country	Year of operation	Capacity (bbl/day)	Quality of products	Refinery utilisation (%) FY21	1Q22	2Q22	2Q22 gross margin	2Q22 EBITDA margin	2Q22 net margin	2Q22 GRM (US$/bbl)
BSR	**Vietnam**	**2011**	**148,000**	**Euro II, Euro III**	**100%**	**103%**	**108%**	**20.8%**	**21.3%**	**19.4%**	**28.9**
Star Petroleum Refining	Thailand	1996	170,000	Euro IV	77%	86%	89%	12.7%	12.6%	9.2%	18.9
Thai Oil	Thailand	1964	275,000	Euro IV	100%	109%	112%	21.5%	20.9%	16.2%	25.1
IRPC	Thailand	1982	215,000	Euro IV	90%	90%	92%	14.4%	12.6%	3.9%	15.7
PTT Global Chemical	Thailand	2011	280,000	Euro V	95%	102%	98%	8.9%	5.0%	0.7%	21.1
Hindustan Petroleum	India	1954	356,000	BS VI (= Euro VI)	78%	NA	NA	NA	2.9%	NA	NA

GRM: Gross Refining Margin

Source: VNDIRECT RESEARCH, BLOOMBERG, COMPANY REPORTS

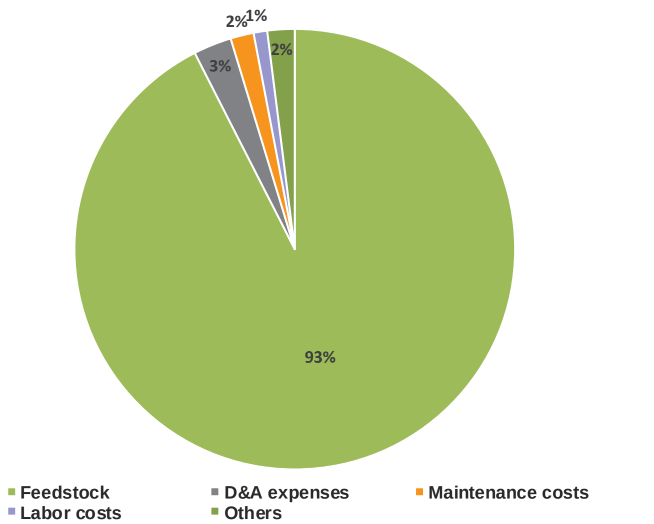
Currently, **BSR's operated by a top-notch management team** with average of 20 years of experience in oil refining field (since the factory was under construction) will help Dung Quat refinery to remain high operating utilisation in coming times. Besides, we also appreciate BSR's abundant experience engineers as they have not only applied many scientific solutions to increase Dung Quat refinery's operating efficiency (in which, solution chain related to optimize the refinery's production process in 201 5-19 period brought economic efficiency of over VND4,270bn as of end-2019), but also participated in supporting for Nghi Son refinery operation.

Outlook: Riding on the new higher refined crack spreads base triggered by Russia – Ukraine crisis and demand recovery

BSR's results have a high correlation with crack spreads and oil price

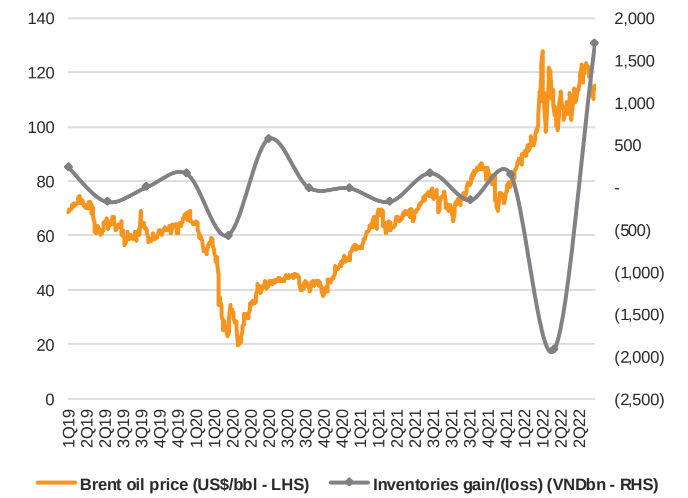
Crude oil accounts for ~93% of the company's cost of goods sold (COGS). Meanwhile, BSR usually maintains the amount of crude oil inventories equivalent to an average of 30 days of production to ensure continuous refinery operation. Thus, crude oil fluctuation puts strong impact on BSR's results as the company usually purchases feedstocks at global oil prices. Generally, the company faces the risk of global oil price fluctuations, especially when oil prices tumbled like 1H20 as product selling prices dropped faster than production costs and BSR also had to recognize a provision for devaluation of inventories. In contrast, if crude oil and refined product prices keep increasing, the company will be able to improve its gross margin.

Figure 11: Crude oil accounts for ~93% of the company's COGS



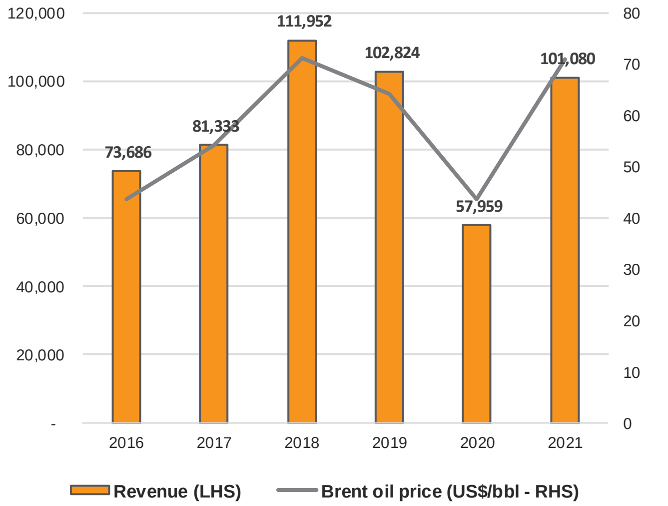
Source: VNDIRECT RESEARCH, COMPANY REPORTS

Figure 12: Global oil price fluctuation causes inventories gain/loss, significantly affecting BSR's performance



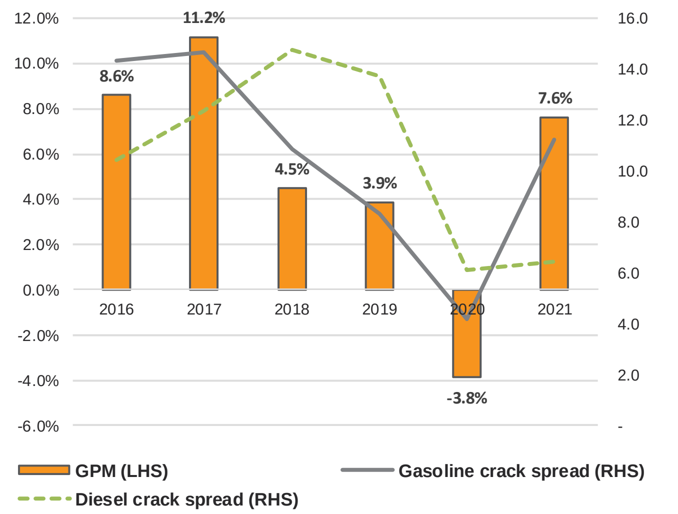
Source: BLOOMBERG, VNDIRECT RESEARCH, COMPANY REPORTS

Figure 13: BSR's revenue move in the same direction with Brent oil price (Unit: VNDbn)



Source: VNDIRECT RESEARCH, COMPANY REPORTS

Figure 14: BSR's GPM is mainly driven by gasoline crack spread (Unit:US$/bbl)

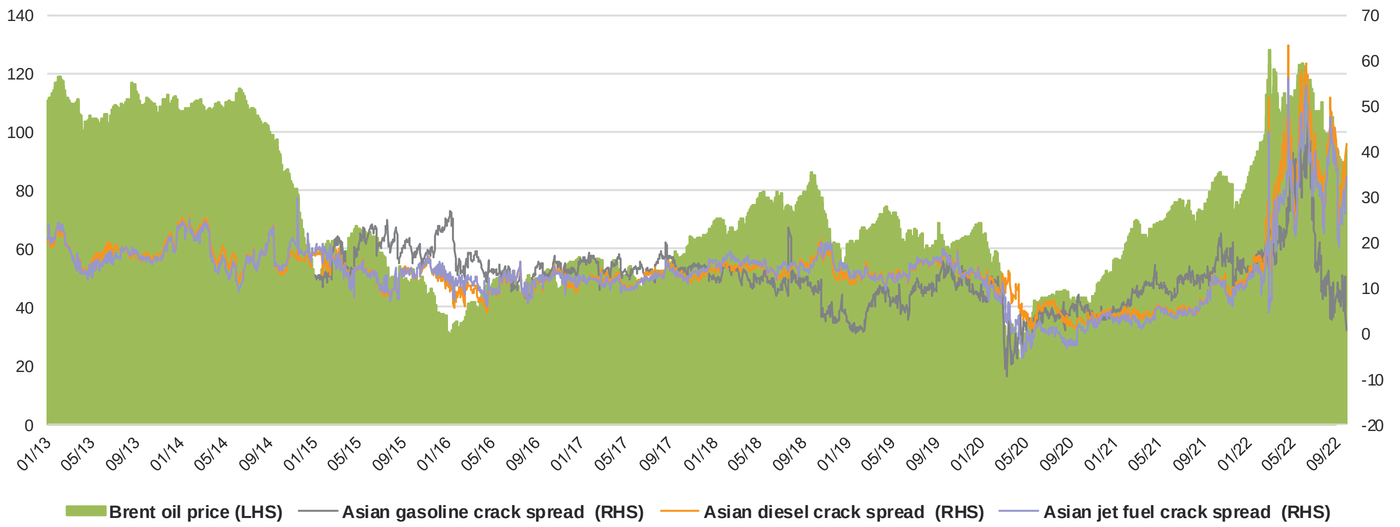


Source: BLOOMBERG, VNDIRECT RESEARCH, COMPANY REPORTS

Overall, due to operation at full capacity for many years, we see that BSR's revenue is mainly driven by global fuel prices, which are usually move in the same direction of Brent oil price. Meanwhile, BSR's gross profit margin (GPM) has a high correlation with crack spreads as the company does not use any hedging tools for its feedstock inputs as well as refined crack spreads. We see that refined crack spreads, especially gasoline crack spread has significantly declined from 2018 due to high competition from China's new refineries, putting strong pressure on BSR's GPM in same period. After that, GPM has ameliorated since 2021 following crack spreads recovery, then posting a record level in 2Q22 (20.8%) thanks to the wild movement in global crack margins.

Refined crack spreads are expected to be resilient on the high base to bode well for refineries in the next couple of years

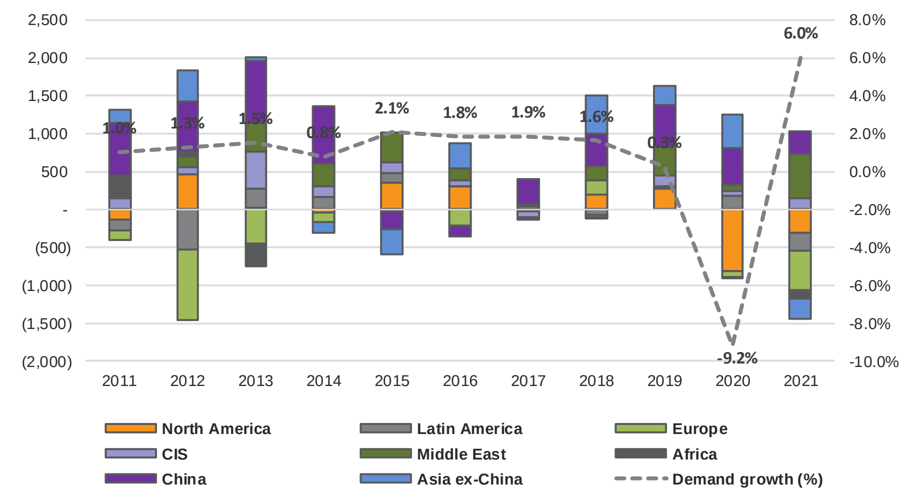
Figure 15: Crack spreads have wildly increased since Russia attacked Ukraine (Unit: US$/bbl)



Source: BLOOMBERG, VNDIRECT RESEARCH

We see refined crack spreads have significantly declined since 2017 due to high competition from Chinese new refineries. However, everything seems to be changed after the pandemic as it has led to the permanent closure of refineries in some regions, causing the decline in global refining capacity and reducing the competition in this industry. In 1H22, refined crack spreads especially diesel crack spread have surged globally since Russia attacker Ukraine in February due to: (1) fears of supply shortage in Europe as buyers avoid Russian supplies following numerous sanctions, (2) shutdowns in the US and Europe, and lower refinery runs in China, and (3) an increase in trucking activities, stretching fuel demand. After that, gasoline crack spread has significantly dropped since July due to the concerns on economic recession and strong profit to trigger the recovery in refinery utilisation globally. Meanwhile, diesel crack spread remained strong thanks to its multiple usages such as a fuel for motor vehicles and as a source of power for diesel generators (to replace gas-fired power).

Figure 16: Global refinery supply addition versus global demand growth since 2011. We see the contrasting pictures in refining sector between the West and Asia (Unit: '000 bbl/day)



Source: BP, VNDIRECT RESEARCH

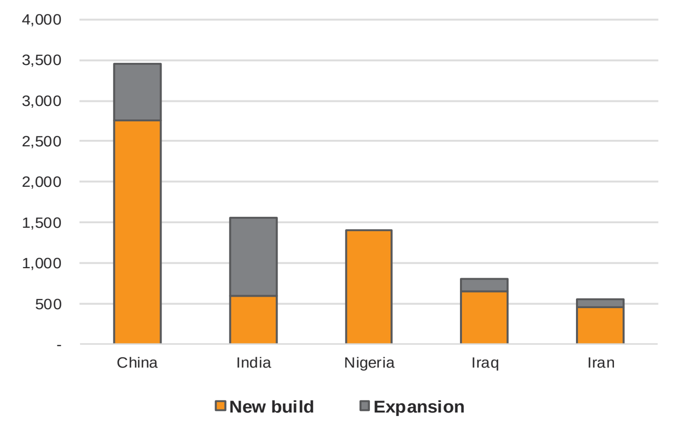
For refining market perspective, GlobalData's latest report indicates that global crude distillation unit (CDU) capacity is expected to witness a growth of 11.0% over the next four years, potentially increasing from 105.6 mbd in 2022 to 117.2 mbd by 2026, in which Asia expected to dominate amongst all regions. More than 60% of the region's capex is expected to be spent by India, China, and Indonesia.

However, we expect the West could be a destination for potential overcapacity of Asian refining market in coming years as follows:

- We expect in a slowdown in China's refinery expansion post-2025F as China's National Development and Reform Commission (NDRC) announced plans to peak carbon dioxide emissions before 2030. To achieve the target, total refinery capacity in China must not exceed 20 mbd by 2025. The small (lower than 40,000 barrels per day) and inefficient (utilisation rate of <80%) refinery capacities would be gradually phased out. This would reduce the high competition in the region in long-term, which originally puts strong downward pressure on crack spreads.

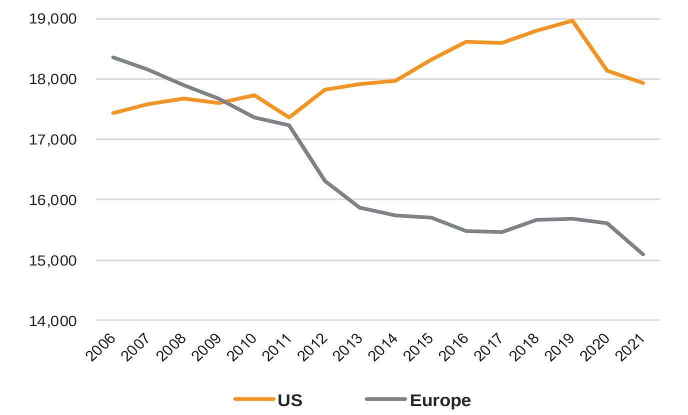
- While the additional supply looks high in Asia and Middle East during 2022-2026F, we believe other regions with refined product deficits would balance out the supply surplus. European refineries have been at high risk of closure during the past few years as they are older, smaller and less energy efficient compared to the new CDUs in the Middle East and China. We see a strong downward trend in European refining capacity since 2006 as many refineries in Europe had cut investment costs in the past few years, which meant these plants cannot process at their full capacity for a long period of time. Furthermore, these plants are very reliant on Russian crude and feedstocks, which exacerbated the shortage of refining products in this continent after Russia attacked Ukraine. Thus, we believe the West could be a potential destination for new capacity from Asia and Middle East, reducing the supply surplus and supporting for refined crack spreads.

Figure 17: New build and expansion refinery CDU capacity addition by some key countries, 2022-26 (Unit: '000 bbl/day)



Source: GlobalData

Figure 18: Oil refining capacity declined in both US and Europe due to permanent closure, especially in Europe (Unit: '000 bbl/day)



Source: BP, VNDIRECT RESEARCH

After a sharp decline from July, we believe gasoline crack spread to gradually recover in the rest of this year. Diesel crack spread will stay on the current high base this year as diesel genset is a feasible source to replace coal/gas-based power plant amidst the extremely tight situation in both global coal and natural gas markets. **In general, crack margin will cool down in FY23-24F but remain high compared to pre-war level in this period** due to: (1) demand recovery after the pandemic, (2) tight oil and refined product market due to the lingering Russia – Ukraine crisis, particularly in Europe, and (3) the decarbonisation pathway to net zero limiting the increase in refining capacity in long-term. And this high base will bode well for refineries (including BSR) in the next couple of years.

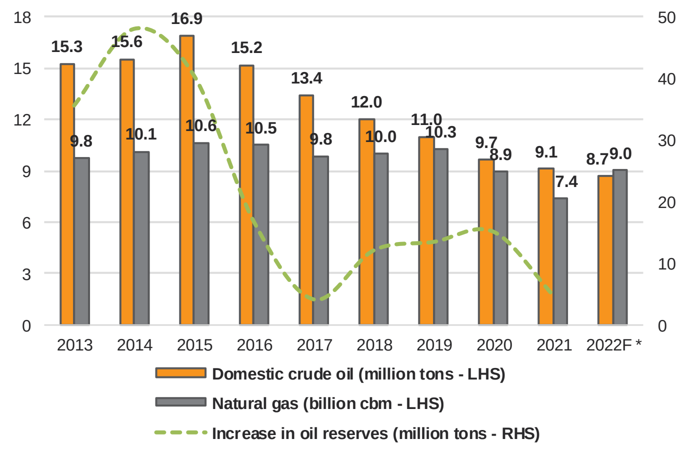
Awaiting the upgrade and expansion project approval for long-term growth

Diversifying feedstock sources to ensuring the refinery's utilisation rate

Dung Quat refinery has been initially designed to refine light sweet crude oil from Bach Ho oilfield and some neighbor oilfields. Due to the continuously decrease in Vietnamese crude oil production (and Bach Ho oilfield as well) since 2015, BSR must find out more alternative input sources to ensure the refinery's utilisation rate. Currently, the refinery is able to process a mixture containing over 20% crude oil from other domestic fields and imported sources, such as Azeri from Azerbaijan, WTI from the US, or Bonny Light from Nigeria.

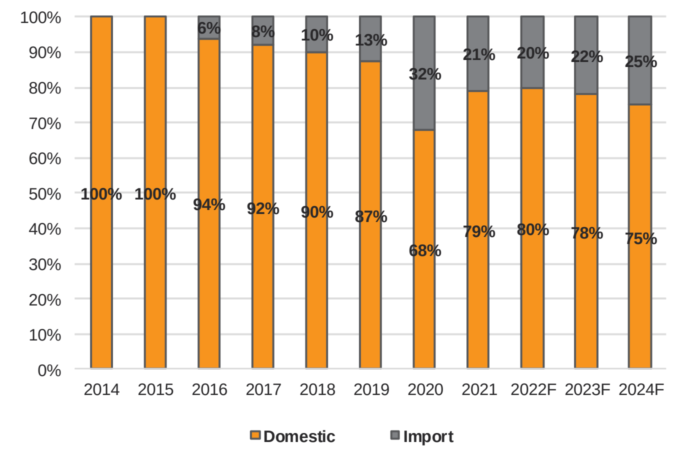
For the next three years, we believe BSR to still maximize domestic feedstock to limit geopolitical instability risks as well as take advantage of domestic sources regarding to transportation distance and costs. In addition, we expect BSR to gradually increase the proportion of imported feedstock to around 25% in the next 3 years to ensure operation efficiency. And we see the mixed impact of this trend on BSR's activities. On the one hand, there are costs incurred for R&D process as well as upgrading the current facilities to distillate other types of crude oil (sourer and heavier oil). On the other hand, in case of success, BSR is able to actively diversify its feedstock for the refinery operation in long-term. Besides, the imported crude oil with a reasonable price (often lower than Bach Ho oil) and abundant supply will bring benefits in terms of raw material costs for BSR. And the reducing import tax on crude oil to 0% from 5% since 2019 also facilitates for BSR to implement this business strategy.

Figure 19: Domestic crude oil and natural gas production have been continuously falling since 2015 due to lack of any major projects



Source: PVN, VNDIRECT RESEARCH

Figure 20: BSR has increased the proportion of imported feedstock to offset the decline in domestic oil production



Source: VNDIRECT RESEARCH, COMPANY REPORTS

Notably, BSR has developed a plan to import semi-finished materials distilled from crude oil (such as T-DAO, VGO, naphtha, reformate, residue, and substitute propylene) for deep processing. And BSR has recently proposes to reduce the MFN import tax rate of condensate from 3% to 0% and other semi-finished materials distilled from crude oil from 5% to 0%. In case of being approved, this will help BSR to reduce costs and diversify types of feedstocks in coming times.

The upgrade and expansion project should be a long-term driver for BSR

In 2022, BSR has submitted a final proposal to expand the refinery to PetroVietnam, which will then seek approval from the Government. Under the current proposal, the refinery capacity will be expanded by 17% to 7.6 million tons annually. Its gasoline and diesel products will be upgraded to meet Euro-V standards. Its crude oil mixture will include 53% of Azeri BTC and 47% of ESPO, but the exact percentage of each will be clarified in the final front-end engineering and design. The new refinery will be able to process up to 14 crude oil types, including two domestic and 12 imported types. We believe this will open the opportunity for BSR to access numerous high-sulfurs, high-yield crude oils with abundant supply in the world, particularly amidst domestic oil production has fallen for many years. We expect BSR to kick off the expansion and upgrade project in late-2023F and begin commercial operation in early-2027F.

Figure 21: The upgrade and expansion project

	Current	After upgrade and expansion
Capex (US$m)	3,000	1,260
Designed capacity (million tons/year)	6.5	7.6
Feedstock	sweet and light crude oil (mainly from Bach Ho oilfield)	sourer crude oil (with sulfur content in range of 0.12 - 0.34%)
Type of products	mainly refined oil products (including gasoline, diesel, fuel oil and LPG)	increase the proportion of petrochemical products and high value refined products like LPG, JetA1
Quality of products	EURO II, EURO III	EURO V
Capital structure		40% equity and 60% debt
Timeline		2023-27F

Source: VNDIRECT RESEARCH, COMPANY REPORTS

Currently, there are 5 trends for refineries. First, refineries must link up with oil producers to survive. Second, the refineries are linked to the product consumers. Third, refineries must switch to petrochemicals. Fourth, the refinery continues to operate and gradually transitions to petrochemicals. And finally, in case do not meeting any trend above, they will have to be permanent closure. For BSR, as Vietnam's petroleum demand has room for growth in the future, BSR will go to the fourth path, gradually transit to petrochemicals and high value-added products such as LPG, JetA1.

Recently, regarding to this project, the Ministry of Industry and Trade has concerned about to main points, including: (1) capital mobilizing plan for project, and (2) the possibility of importing crude oil extracted from Russia (EPSO crude oil). For the first point, we believe it is not a worrisome problem as BSR has been accumulating huge profits in 2021-22F and beyond, in our estimates, meeting equity requirement to implementing the project. The second point seems to be more complicated due to the lingering Russia – Ukraine crisis. However, BSR management said that they have also made back-up plans to replace crude oil feedstock sources.

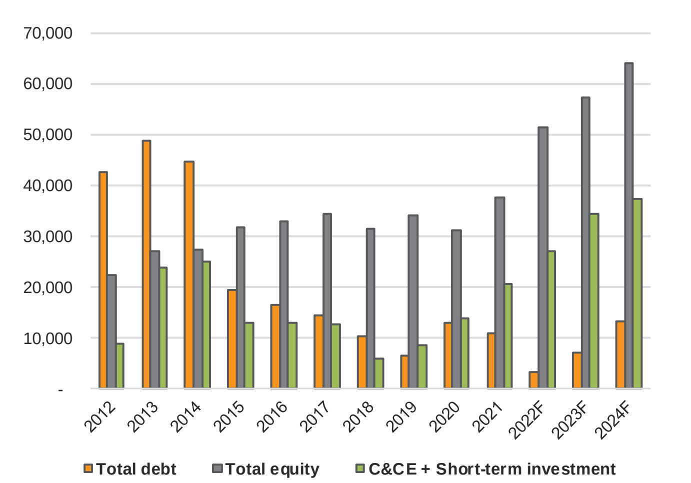
Overall, as the orientation on raising proportion of high value products and the strong financial health, we believe in the feasibility of this project, and we consider it will be key driver for BSR's business in long-term.

Improved financial health to support for the upgrade and expansion plan

Financial health is improving during many years, creating the pedestal for BSR to implement the upgrade and expansion project

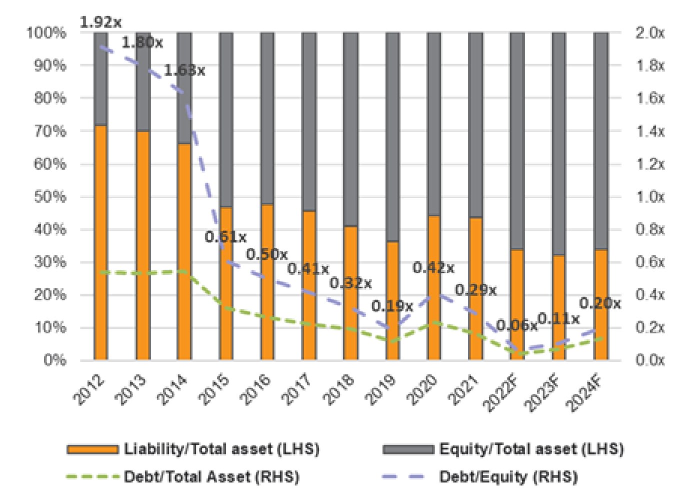
As Dung Quat refinery operated stably and there was not any major investment, BSR have accelerated debt repayment to improve its financial health, especially in 2015-17 period. The company's D/E ratio dropped from nearly 2.0x in 2012-13 to 0.29x in 2021, in which long-term debt incurred to invest the refinery decrease by 96% to VND942bn at end-2021. Meanwhile, thanks to highly efficient operation except 2020, BSR have accumulated a strong cash account at end-1H22, which increased 4.5 times since 2018.

Figure 22: BSR has significantly reduced its debt and increased cash account for a past few years (Unit: VNDbn)



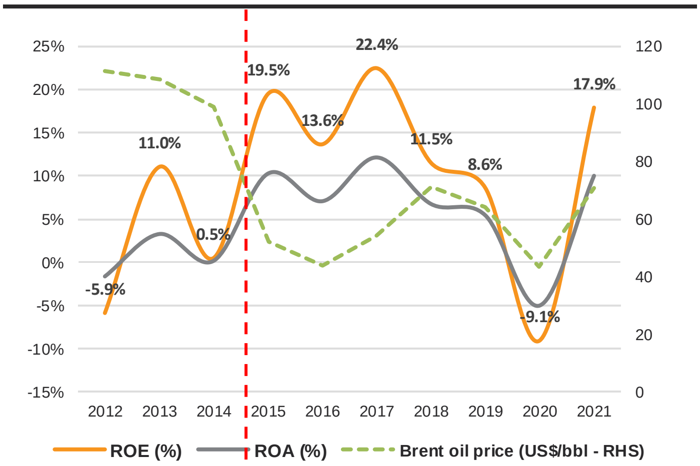
Source: VNDIRECT RESEARCH, COMPANY REPORTS

Figure 23: Capital structure improved with D/E ratio dropped to 0.29x in 2021. We expect D/E ratio to rise again from 2023F when BSR implements the upgrade project



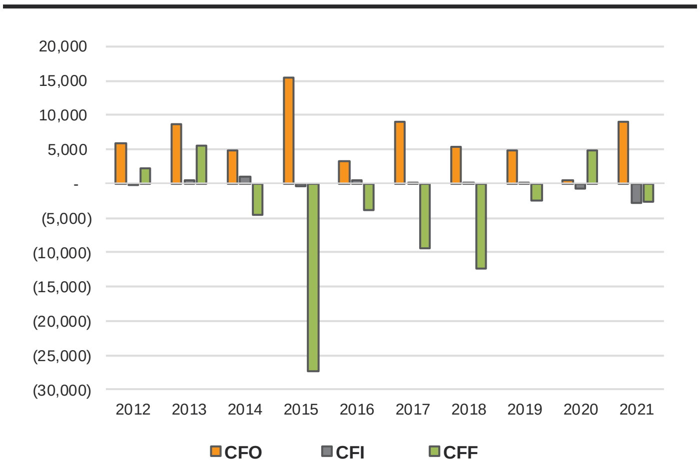
Source: VNDIRECT RESEARCH, COMPANY REPORTS

Figure 24: Profitability ratios have moved in same direction with oil price movement after BSR accelerated loan repayment from 2015



Source: BLOOMBERG, VNDIRECT RESEARCH

Figure 25: BSR's cash flow since 2012 (VNDbn)



Source: VNDIRECT RESEARCH, COMPANY REPORTS

After sharply reducing debt in 2015-17, we see that BSR's profitability ratios tended to move in same direction with oil price as financial expenses have not significantly affected the company's results. We expect BSR's ROE to surge to the record high level in the unprecedented 2022 (regarding to oil market), then decreasing to around 18% in FY23-24F.

Generally, we believe the current healthy financial position will be the pedestal for BSR to implement Dung Quat refinery's upgrade and expansion project with the expected capex of US$1.26bn. D/E ratio could increase again from 2023F as the company increase debt to finance the upgrade and expansion project. But financial position still be strong in the next couple of years thanks to positive business prospect.

Notably, the recent increasing interest rates environment is likely to bring benefits to BSR in short-term thanks to its rich-cash position (with net cash of VND21,597bn at end-1H22). This will strengthen the company's performance before BSR enters to the investment phase.

FY22-24F earnings forecasts

Earnings have likely peaked out in 2Q22

Figure 26: 2Q22 and 1H22 results overview

FYE Dec (VNDbn)	2Q21	2Q22	%yoy	1H21	1H22	%yoy	Comments
Production output ('000 tons)	1,702	1,756	3.2%	3,448	3,423	-0.7%	
Consumption volume ('000 tons)	1,870	1,876	0.3%	3,426	3,470	1.3%	
Utilisation rate (%)	105%	108%	3.3% pts	106%	105%	-0.8% pts	
Net revenue	**27,860**	**52,391**	**88.1%**	**48,909**	**87,174**	**78.2%**	1H22 net revenue grew 78.2% thanks to the surge in both global oil prices (Brent oil price: +61% yoy) and refined crack spreads
Gross profit	**1,874**	**10,898**	**481.5%**	**3,914**	**13,510**	**245.1%**	
Gross profit margin (%)	*6.7%*	*20.8%*	*14.1% pts*	*8.0%*	*15.5%*	*7.5% pts*	1H22 GM strongly expanded 7.5% pts thanks to the surging refined crack spreads, especially in 2Q22 after Russia attacked Ukraine
Selling expenses	(156)	(192)	23.2%	(350)	(441)	26.1%	
G&A expenses	(100)	(96)	-3.8%	(167)	(184)	9.8%	
Operating profit	1,619	10,610	555.5%	3,398	12,885	279.2%	
Net financial income (expenses)	129	60	-54.0%	197	340	72.6%	
Financial income	286	314	10.0%	485	776	59.9%	1H22 financial income surge 59.9% yoy thanks to stronger deposit income. At end-1H22, total cash and short-term investment increased by nearly 50% compared to end-1H21
Financial expenses	(156)	(255)	62.9%	(288)	(436)	51.2%	1H22 financial expenses rose 51.2% mainly due to the surge in FX loss (+3.6 times yoy to VND222bn)
Net other income	2	31	1264.7%	4	53	1084.8%	
Pre-tax profit	1,750	10,701	511.4%	3,599	13,164	265.8%	
Profit after tax	1,679	10,132	503.4%	3,528	12,444	252.8%	
Minority interest	(9)	(17)	91.1%	(17)	(29)	69.8%	
Net profit	**1,688**	**10,149**	**501.2%**	**3,544**	**12,473**	**251.9%**	The quarterly highest earning was recorded in 2Q22

Source: VNDIRECT RESEARCH

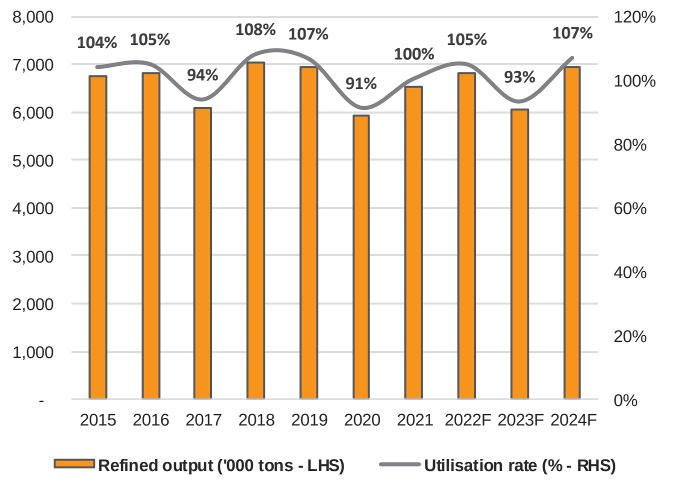
We see that gasoline crack spreads have slid since early-July as global economy slew down due to high inflation and people are easy to replace gasoline motor by other public vehicles. Meanwhile, diesel spread has strongly rebound thanks to its multiple usage, especially in industry and power generation, bringing diesel segment to be a key contributor for BSR's performance for the rest of this year. Overall, this reversing trend negatively impacted on BSR's performance in July. Thus, we suppose that BSR's earnings have likely peaked out in 2Q22.

We forecast NP growth to peak out in FY22F but remain at high level in FY23-24F thanks to the new higher refined crack spreads base triggered by Russia – Ukraine crisis

For FY22-24F, we expect BSR's utilisation rate to stay around 105%-107% level, except for 2023F due to the periodic maintenance (in around 50 days) on the back of: (1) the policy of prioritizing domestic sources, and (2) its advantages regarding to prices and transportation costs.

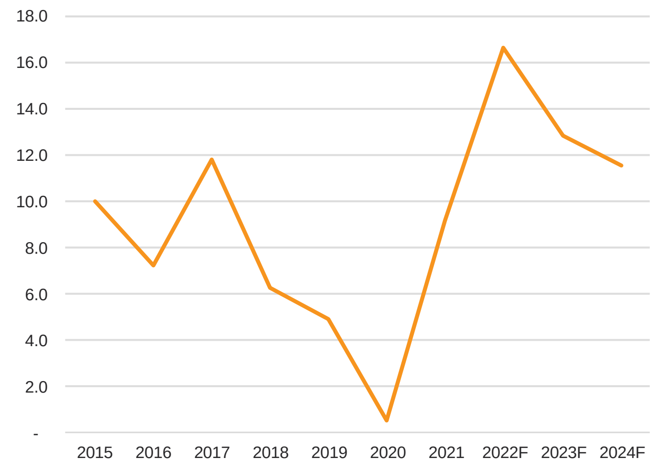
Besides, we expect BSR's gross refining margin (GRM) to reach the peak of US$16.6/bbl in 2022F. GRM should cool down to US$12.8/11.5 per barrel in 2023-24F as strong profit is likely to trigger the recovery in refinery utilisation globally, putting downward pressure on GRM.

Figure 27: We forecast BSR to remain high utilisation rate at around 105% - 107% in FY22-24F, except for FY23F periodic maintenance



Source: VNDIRECT RESEARCH, COMPANY REPORTS

Figure 28: BSR's GRM in our estimates (Unit: US$/bbl)



Source: VNDIRECT RESEARCH, COMPANY REPORTS

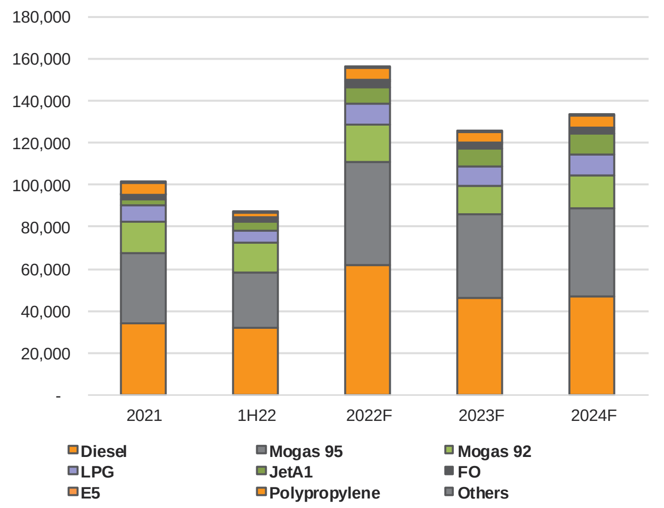
Figure 29: FY22-24F forecast summary

VNDbn	2021	2022F	2023F	2024F	Comments
The average Brent oil price (US$/bbl)	71	100	90	80	We assume the average Brent oil price of US$90/US$80 per barrel in FY23-24F. We expect in the high base of global oil price in the next two years as oil market remains tight in coming times due to: (1) Western sanctions on Russia, and (2) the slow recovery in oil production due to underinvestment in O&G industry during many few years
Total consumption volume ('000 tons)	6,529	6,825	6,058	6,955	
Implied utilisation rate (%)	100%	105%	93%	107%	We expect BSR's utilisation rate to drop to 93% in 2023F due to periodic maintenance (in around 50 days). BSR's utilisation rate should improve to 107% in 2024F after maintenance
GRM (US$/bbl)	9.1	16.6	12.8	11.5	We estimate BSR's GRM of 12.8/11.5 US$ per barrel in FY23-24F. This impressive GRMs (as compared to pre-war level) are mainly thanks to strong diesel and jet fuel crack spreads assumptions. As a results, we forecast BSR's gross margin of 8.4%/8.9% in FY23-24F. Notably, there are maintenance expenses of c.VND650bn incurred in 2023F causing to lower FY23F gross margin
Net revenue	**101,080**	**156,311**	**125,681**	**133,470**	
% yoy	*74.4%*	*54.6%*	*-19.6%*	*6.2%*	
Gross profit	**7,699**	**16,893**	**10,603**	**11,909**	
Gross profit margin (%)	*7.6%*	*10.8%*	*8.4%*	*8.9%*	
Selling expenses	(781)	(938)	(863)	(858)	
G&A expenses	(407)	(547)	(440)	(467)	
Operating profit	6,511	15,408	9,300	10,583	
Financial income	1,015	1,356	1,383	1,509	
Financial expenses	(619)	(739)	(494)	(655)	
Pre-tax profit	6,941	16,055	10,214	11,462	
Net profit	**6,716**	**15,338**	**9,192**	**10,316**	We apply higher tax rate assumptions of 10% in FY23-24F (from the current 5%) as the preferential tax rate of 5% for BSR will be end this year
% yoy	*NA*	*128.4%*	*-40.1%*	*12.2%*	

Source: VNDIRECT RESEARCH

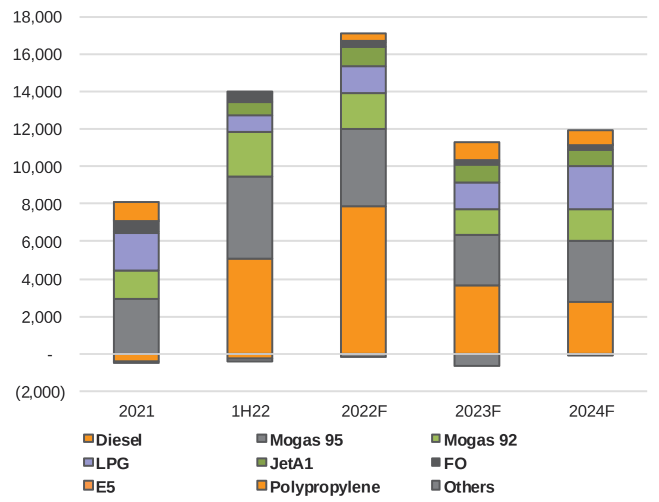
Overall, after posting the record performance in 1H22, we suppose it is difficult for BSR to pose earnings growth in the second half as: (1) refined crack spreads have likely peaked out in 2Q22, particularly gasoline crack spread which have dropped to below 2021 level, and (2) oil prices are expected to gradually decline towards end-2022F, which possibly causes the inventories loss for BSR. Overall, we forecast 2H22F NP to slightly decrease by 9% yoy, translating to a 128.4% yoy surge in FY22F NP. For FY23-24F, FY23F NP is forecasted to decrease by 40.1% yoy due to periodic maintenance, before back to growth trajectory in FY24F with a growth rate of 12.2% yoy.

Figure 30: Revenue breakdown in our forecasts (Unit: VNDvn)



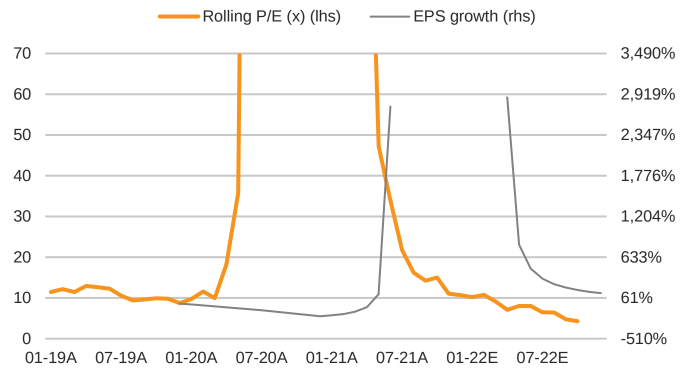
Source: VNDIRECT RESEARCH

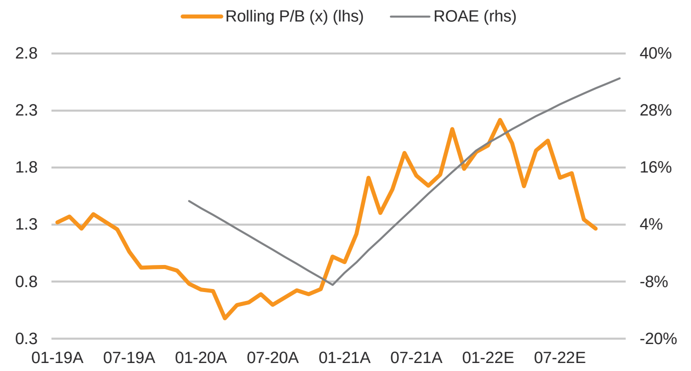
Figure 31: Gross profit breakdown in our forecasts (Unit: VNDvn)



Source: VNDIRECT RESEARCH

Valuation





Income statement

(VNDbn)	12-21A	12-22E	12-23E
Net revenue	101,080	156,311	125,681
Cost of sales	(93,381)	(139,418)	(115,079)
Gen & admin expenses	(407)	(547)	(440)
Selling expenses	(781)	(938)	(863)
Operating profit	**6,511**	**15,408**	**9,300**
Operating EBITDA	4,200	12,961	6,909
Depreciation and amortisation	**2,311**	**2,447**	**2,391**
Operating EBIT	**6,511**	**15,408**	**9,300**
Interest income	1,015	1,356	1,383
Financial expense	(619)	(739)	(494)
Net other income	34	30	24
Income from associates & JVs	0	0	0
Pre-tax profit	**6,941**	**16,055**	**10,214**
Tax expense	(257)	(790)	(1,021)
Minority interest	32	73	0
Net profit	**6,716**	**15,338**	**9,192**
Adj. net profit to ordinary	6,716	15,338	9,192
Ordinary dividends	0	0	0
Retained earnings	**6,716**	**15,338**	**9,192**

Balance sheet

(VNDbn)	12-21A	12-22E	12-23E
Cash and equivalents	16,346	17,593	24,092
Short term investments	4,190	8,379	9,217
Accounts receivables	13,601	17,130	15,495
Inventories	10,358	13,369	12,611
Other current assets	50	78	63
Total current assets	**44,544**	**56,549**	**61,478**
Fixed assets	20,136	17,846	18,528
Total investments	10	10	10
Other long-term assets	2,105	2,473	2,343
Total assets	**66,796**	**76,878**	**82,360**
Short-term debt	9,829	3,276	4,099
Accounts payable	9,450	11,991	12,052
Other current liabilities	7,661	9,383	6,916
Total current liabilities	**26,940**	**24,650**	**23,067**
Total long-term debt	943	0	1,845
Other liabilities	1,349	1,619	1,699
Share capital	31,005	31,005	31,005
Retained earnings reserve	6,562	14,046	19,222
Shareholders' equity	**37,570**	**50,650**	**55,826**
Minority interest	(6)	(41)	(76)
Total liabilities & equity	**66,796**	**76,878**	**82,360**

Cash flow statement

(VNDbn)	12-21A	12-22E	12-23E
Pretax profit	**6,941**	**16,055**	**10,214**
Depreciation & amortisation	2,311	2,447	2,391
Tax paid	(193)	(790)	(1,021)
Other adjustments	(971)	(1,387)	(1,670)
Change in working capital	**884**	**(2,305)**	**1**
Cash flow from operations	**8,971**	**14,019**	**9,914**
Capex	(63)	(156)	(3,074)
Proceeds from assets sales	0	0	0
Others	(2,715)	(4,190)	(838)
Other non-current assets changes			
Cash flow from investing activities	**(2,779)**	**(4,346)**	**(3,912)**
New share issuance	0	0	0
Shares buyback			
Net borrowings	(2,138)	(7,495)	2,667
Other financing cash flow			
Dividends paid	(502)	(930)	(2,170)
Cash flow from financing activities	**(2,640)**	**(8,426)**	**497**
Cash and equivalents at beginning of period	12,793	16,346	17,593
Total cash generated	**3,553**	**1,248**	**6,499**
Cash and equivalents at the end of period	16,346	17,593	24,092

Key ratios

	12-21A	12-22E	12-23E
Dupont			
Net profit margin	6.6%	9.8%	7.3%
Asset turnover	1.65	2.18	1.58
ROAA	10.9%	21.4%	11.5%
Avg assets/avg equity	1.79	1.63	1.50
ROAE	19.6%	34.8%	17.3%
Efficiency			
Days account receivable	49.1	40.0	45.0
Days inventory	40.5	35.0	40.0
Days creditor	36.9	31.4	38.2
Fixed asset turnover	4.76	8.23	6.91
ROIC	13.9%	28.5%	14.9%
Liquidity			
Current ratio	1.7	2.3	2.7
Quick ratio	1.3	1.8	2.1
Cash ratio	0.8	1.1	1.4
Cash cycle	52.7	43.6	46.8
Growth rate (yoy)			
Revenue growth	74.4%	54.6%	(19.6%)
Operating profit growth		136.6%	(39.6%)
Net profit growth		128.4%	(40.1%)
EPS growth		128.4%	(40.1%)

Source: VND RESEARCH

DISCLAIMER

RECOMMENDATION FRAMEWORK

Stock Ratings	Definition:
Add	The stock's total return is expected to reach 15% or higher over the next 12 months.
Hold	The stock's total return is expected to be between negative 10% and positive 15% over the next 12 months.
Reduce	The stock's total return is expected to fall below negative 10% over the next 12 months.

The total expected return of a stock is defined as the sum of the: (i) percentage difference between the target price and the current price and (ii) the forward net dividend yields of the stock. Stock price targets have an investment horizon of 12 months.

Sector Ratings	Definition:
Overweight	An Overweight rating means stocks in the sector have, on a market cap-weighted basis, a positive absolute recommendation.
Neutral	A Neutral rating means stocks in the sector have, on a market cap-weighted basis, a neutral absolute recommendation.
Underweight	An Underweight rating means stocks in the sector have, on a market cap-weighted basis, a negative absolute recommendation.

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