India

**Overweight** *(no change)*

### Highlighted Companies

**Bharat Petroleum**

**REDUCE, TP Rs352,** Rs437 close

We maintain our Reduce rating with a TP of Rs352. This is based on Rs331 for core business (1.5x Mar 23F P/BV), 18% ROE in FY23F and Rs21 value for E&P).

**Hindustan Petroleum**

**HOLD, TP Rs285,** Rs300 close

We reiterate our Hold rating with a TP of Rs285, which is based on 1x Mar 23F P/BV and 15% ROE in FY23F. Large off-balance sheet debt will likely keep valuations in check.

**Indian Oil Corp**

**ADD, TP Rs150,** Rs127 close

We reiterate our Add rating with a TP of Rs150, which is based on 1.1x Mar 23F P/BV and 14% ROE in FY23F. Near 7% dividend yield is the key rerating catalyst.

### Summary Valuation Metrics

| P/E (x) | Mar21-F | Mar22-F | Mar23-F |
|---|---|---|---|
| Bharat Petroleum | 5.34 | 12.32 | 11.02 |
| Hindustan Petroleum | 4.24 | 7.6 | 6.76 |
| Indian Oil Corp | 5.41 | 7.45 | 6.48 |

| P/BV (x) | Mar21-F | Mar22-F | Mar23-F |
|---|---|---|---|
| Bharat Petroleum | 1.59 | 2.17 | 2 |
| Hindustan Petroleum | 1.13 | 1.08 | 0.97 |
| Indian Oil Corp | 1.02 | 0.96 | 0.89 |

| Dividend Yield | Mar21-F | Mar22-F | Mar23-F |
|---|---|---|---|
| Bharat Petroleum | 19.93% | 4.51% | 4.51% |
| Hindustan Petroleum | 7.89% | 4.78% | 4.67% |
| Indian Oil Corp | 9.42% | 6.28% | 7.85% |

# Oil & Gas Refinery

## A tale of two refineries

- BORL and HMEL have essentially not made a profit since inception. The resultant high debt/equity (over 300%) in these JVs goes largely unnoticed.
- Root cause of poor performance is high reliance on debt in project financing. We could see a similar story unfold with HPCL's upcoming Rajasthan refinery.
- We reiterate sector Overweight with Add on IOC (TP Rs150), Hold on HPCL (TP Rs285) and Reduce on BPCL (TP Rs352).

### A tale of two refineries

BPCL promoted Bharat Oman Refineries (BORL) while HPCL started Hindustan Mittal Energy (HMEL) with private JV partners. Both companies built complex refineries which came on stream around 2011. Given their classification as JVs, both companies have historically not been consolidated into their parent accounts. Consequently, information on their financials has been sketchy (especially for HMEL) and their large debt goes largely unnoticed, in our view. Hence, we prefer IOC which has limited such off-balance sheet debt. In this note, we take a deep dive into the financials of the two JVs.

### Essentially no profit since inception and very heavily leveraged

Since BORL commenced operations in FY12, its cumulative performance over FY12-21 has been a net loss of Rs11.2bn. Hence, net debt in Mar 2021 was Rs111bn with debt/equity ratio of 312%. Optically, HMEL has fared better as it has reported a cumulative profit of Rs30.9bn since inception. However, this includes Rs46.4bn gain on sales tax prepayment and Rs5bn on lowering depreciation rate. HMEL's net debt (including vendor financing and crude loans) in Mar 2021 was Rs371bn with debt to equity of 348% (the debt was elevated also due to a new petchem project).

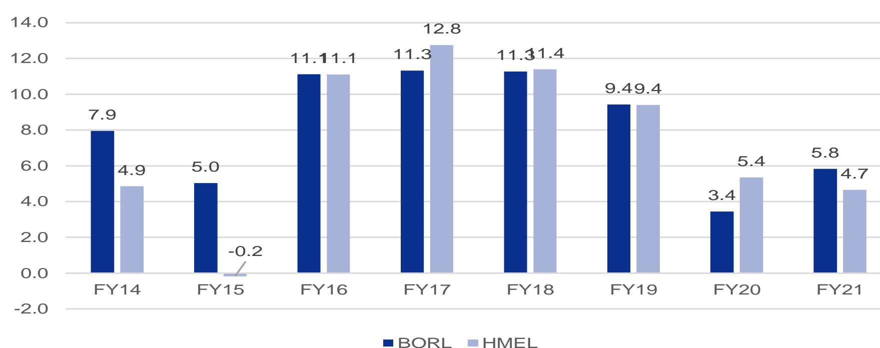
### High debt – the root cause of troubles

The financial performance of these JVs needs to be seen in the context of gross refining margins (GRMs) which were mid-cycle in FY12-14, very high during FY15-18 and poor in FY19-21. While GRMs have not been abnormally low over the last 10 years, the poor performance was largely driven by the very high reliance on debt in initial project financing, in our view. Consequently, unless execution is flawless (commercial production starting in the shortest period and no operational hiccups thereafter) the company falls into a debt trap. We see similar risks for HPCL's upcoming Rajasthan refinery where our channel checks suggest that there is significant escalation in project cost (officially at Rs431bn).

### Retain Add on IOC, Hold on HPCL and Reduce on BPCL

We retain our Overweight stance on the sector given expectations of volume and GRM recovery with IOC remaining our top pick. We prefer IOC to HPCL. While both are at similar valuations, HPCL has large off-balance sheet debt in its joint ventures, HMEL (Rs371bn) and the Rajasthan refinery (Rs331bn projected debt which is likely to rise), which makes it more expensive. We retain Reduce on BPCL as the stock is above fair value with investors focusing on upside from strategic sale, which is uncertain, in our view.

**Figure 1: BORL and HMEL GRMs (US$/bbl)**




SOURCES: INCRED RESEARCH, COMPANY REPORTS

Analyst(s)

**Avadhoot SABNIS**

**T** (91) 22 4161 1542

**E** avadhoot.sabnis@incredcapital.com

IMPORTANT DISCLOSURES, INCLUDING ANY REQUIRED RESEARCH CERTIFICATIONS, ARE PROVIDED AT THE END OF THIS REPORT. IF THIS REPORT IS DISTRIBUTED IN THE UNITED STATES IT IS DISTRIBUTED BY CGS-CIMB SECURITIES (USA), INC. AND IS CONSIDERED **THIRD-PARTY AFFILIATED RESEARCH.**

Powered by EQUITEC

# A tale of two refineries

## Context to the financial performance

### GRMs have not been abnormally low in the last 10 years ➤

Singapore complex GRMs (Reuters) ranged between US$5/bbl and US$8/bbl over FY12-19, collapsing sharply only in FY20 and FY21 as the full impact of Covid became evident. However, this GRM number alone does not capture the full picture on refining profitability as it is based on just product cracks and a pre-defined product slate proportion (actual slate will differ across refineries).

Actual GRM profitability is impacted by two other factors. Firstly, the differential between heavy/sour and sweet/light crude which is crucial for more complex refiners (higher the differentials, better for the complex refiners). Secondly, the cost of crude itself since fuel and loss on crude processing is normally around 8%.

Given the historical data (Figure 2), we believe the GRMs were mid-cycle in FY12-14, very high during FY15-18 and poor in FY19-21. On the whole, GRMs have not been abnormally low in the last 10 years, in our view.

**Figure 2: GRM and its drivers (US$/bbl)**

| Y/E 31 Mar | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 |
|---|---|---|---|---|---|---|---|---|---|---|
| Reuters Singapore Complex GRM | 8.4 | 7.7 | 5.6 | 6.4 | 7.5 | 5.9 | 7.2 | 4.9 | 3.2 | 0.5 |
| Brent crude (US$/bbl) | 114.5 | 110.6 | 107.6 | 85.5 | 47.6 | 49.0 | 57.6 | 70.1 | 61.0 | 44.9 |
| **Spreads over Dubai Crude (US$/bbl)** | | | | | | | | | | |
| Diesel | 15.6 | 15.5 | 16.8 | 17.1 | 13.7 | 11.2 | 12.9 | 15.5 | 14.4 | 5.5 |
| Jet Fuel | 15.1 | 16.1 | 16.1 | 15.4 | 12.8 | 11.2 | 12.1 | 13.3 | 12.2 | 1.9 |
| Naphtha | 2.9 | 1.9 | -3.5 | -1.8 | 2.8 | 0.5 | 0.3 | -3.7 | -6.1 | -0.6 |
| Furnace Oil | -11.8 | -13.7 | -14.7 | -12.1 | -8.7 | -8.0 | -7.5 | -7.0 | -11.5 | -5.4 |
| Gasoline | 15.0 | 16.5 | 10.8 | 11.8 | 14.7 | 9.6 | 10.7 | 5.7 | 6.4 | 0.9 |
| LPG | -34.4 | -32.1 | -29.4 | -22.1 | -10.5 | -14.4 | -13.2 | -23.6 | -20.5 | -9.4 |
| **Crude differentials** | | | | | | | | | | |
| Arab Light vs Arab Heavy pricing differential | 3.6 | 3.6 | 4.2 | 4.3 | 3.0 | 2.8 | 2.2 | 2.3 | 2.2 | 0.3 |
| Brent-Dubai differential | 4.6 | 3.7 | 3.1 | 1.8 | 1.7 | 2.2 | 1.8 | 1.2 | 0.8 | 0.5 |

SOURCES: INCRED RESEARCH, COMPANY REPORTS

### Headline GRMs can be misleading ➤

While analysing the historical financials of BORL and HMEL, we have worked out the GRMs and cash opex based on reported financials. So gross margins have been estimated based on sales value less cost of crude/taxes/freight, with the rest of costs (excluding interest, depreciation, forex) considered as cash operating costs to arrive at EBITDA. We have accordingly worked out the GRM based on crude throughput for both JVs (see Figures 5 and 6).

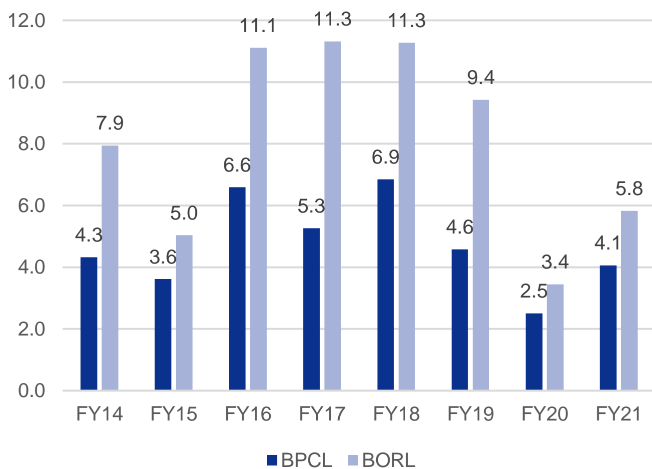
We find such actual GRMs (especially for HMEL) are way below the GRMs normally mentioned by management. For example, in FY18, HPCL's management quoted that HMEL GRMs were around US$15/bbl, whereas we estimate it at US$11.4/bbl. The point is that GRMs can be calculated in various ways (treatment of sales tax benefit for HMEL for example could be different) and it is important to cross check actual GRM levels as per reported financials to ensure accurate forecasts.

### Higher complexity does not mean better financials ➤

While building new refineries, managements always highlight how the higher complexity of these new refineries will translate into significantly higher GRMs. A direct comparison between older and newer JV refineries of BPCL and HPCL can be made for the last eight years which would also take care of inventory gains/losses in each year (see Figures 3 and 4). Past data indicates that while the newer complex refiners will generally earn superior GRMs, the extent of premium is not a fixed number. Higher complexity yields higher premiums under the right conditions (FY15-18), but this premium drops in a downturn, especially if crude differentials contract.

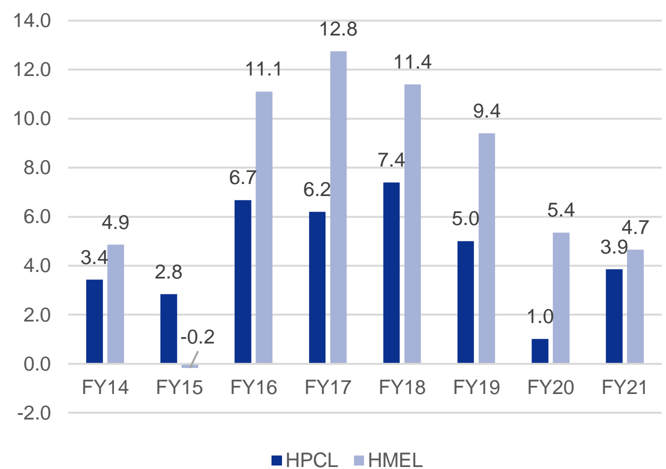
The other more crucial point is that the higher complexity comes at a higher capital cost and, hence, there may not necessarily be a high net benefit. This is evident from BORL/HMEL financials of the last 10 years.

**Figure 3: BPCL vs BORL GRMs (US$/bbl)**




SOURCES: INCRED RESEARCH, COMPANY REPORTS

**Figure 4: HPCL vs HMEL GRMs (US$/bbl)**




SOURCES: INCRED RESEARCH, COMPANY REPORTS

### Need for refining capacity but limited financial muscle to build it ➤

All the three oil marketing companies (OMCs) have historically aimed at ensuring broad refining self-sufficiency, i.e., growing their refining volumes in line with marketing volumes. While minimum economic scale (and hence capex) remains uniform across the sector, IOC's financial muscle has historically been well above that of BPCL/HPCL. Hence, while IOC could put up a new 9mt greenfield refinery at Paradip on its own balance sheet, the other two (BPCL/HPCL) have had to rely on creating JVs with external private parties. The stake of BPCL/HPCL in these JVs was historically limited to 50% which resulted in the JVs being classified as private entities outside the purview of government audit and regulations (thus enabling them to run their businesses like private enterprises).

## BORL and HMEL have no profit and high debt

### BORL debt will now be reflected in BPCL financials ➤

BORL's 6mt refinery at Bina, Madhya Pradesh (MP) state in Central India, came on stream in 2011 (initial capex Rs122bn) with a Nelson Complexity Index of 11.58. It was targeted to supply BPCL's customers in Central and North India. In the last 10 years, its capex was utilised only for capacity debottlenecking of 7.2mt and the rollout of BS VI fuel norms (implemented over FY19 and FY20).

BORL's equity capital of Rs17.72bn was shared 50:50 between BPCL and its JV partner Oman Oil (OOC), with the MP government holding warrants which entitled them to a 5% stake. However, after an equity infusion in FY10, Oman Oil was unwilling to put in more capital, forcing BPCL to provide additional funds of Rs38bn in the form of warrants and loans. While the BPCL:OOC capital contribution was effectively 85%:15%, the 50:50 equity share was maintained over the last 10 years, in our view, to ensure that BORL remained a private company.

As a result of GOI's plans to sell its entire stake in BPCL, the latter has arrived at an agreement with OOC, buying out its stake and making BORL a 100% subsidiary (from Jun 2021).

While BORL commenced operations in Apr 2011, ramping up capacity utilisation levels took a few years. Given high leverage, this resulted in significant losses in the initial years. The subsequent boom years in refining allowed BORL to recover a bit, but the last two years (FY20/21) again dragged down the company due to Covid issues (however, note that FY21 results should have benefited from large inventory gains). So, over the life of the refinery (FY12-21), we estimate BORL

has lost Rs11.2bn and, as at Mar 2021, it had net debt of Rs110.6bn (debt/equity of 312%).

With BORL being accounted as a JV, its debt was not reflected in BPCL financials. But with BORL becoming a 100% subsidiary, this debt would be added to BPCL's consolidated debt from FY22.

While BORL is located in MP, the oil demand within that state is limited. Hence the BORL product had to be bought by BPCL outside the state which entails levy of 2% central sales tax (CST). As part of the MP government's incentive package, BORL was entitled to an exemption of CST. This benefit was exhausted in FY20 and resulted in BORL bearing an additional cost of Rs5bn in FY21 (note that the hit on account of CST depends on the level of oil price – the higher the price, the higher the hit). BPCL now plans to merge BORL with itself which would avoid a CST hit.

The MP government has also provided fiscal assistance in the form of interest-free VAT loan up to Rs2.5bn per annum for 15 years, beginning from the year of commercial production. The VAT loan is repayable in the 16th year from each year in which such VAT loan was received. The total gross value of VAT loan up to Mar 2021 was Rs22.3bn (accounted at fair value of Rs13.9bn).

**Figure 5: BORL financials (Rs bn)**

| Year to 31 March | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 |
|---|---|---|---|---|---|---|---|---|---|---|
| **Balance sheet** | | | | | | | | | | |
| Net worth | 18.6 | 22.6 | 19.6 | 11.7 | 15.3 | 33.3 | 43.2 | 44.2 | 36.2 | 35.4 |
| Net debt | 118.7 | 125.7 | 142.9 | 129.0 | 110.7 | 98.9 | 87.3 | 99.9 | 83.2 | 110.6 |
| Deferred tax liability/(asset) | | -7.0 | -8.4 | -13.0 | -11.0 | -7.1 | -5.0 | -4.7 | -8.8 | -9.2 |
| **Total** | **137.3** | **141.3** | **154.1** | **127.8** | **115.0** | **125.1** | **125.5** | **139.4** | **110.5** | **136.9** |
| Fixed assets | 107.5 | 104.1 | 105.7 | 104.8 | 103.9 | 102.5 | 110.8 | 115.3 | 114.3 | 107.7 |
| Working capital | 29.8 | 37.2 | 48.4 | 23.0 | 11.1 | 22.6 | 14.7 | 24.1 | -3.8 | 29.2 |
| **Total** | **137.3** | **141.3** | **154.1** | **127.8** | **115.0** | **125.1** | **125.5** | **139.4** | **110.5** | **136.9** |
| **Net debt/equity** | **639%** | **556%** | **728%** | **1101%** | **725%** | **297%** | **202%** | **226%** | **230%** | **312%** |
| **Profit & Loss** | | | | | | | | | | |
| Total gross margins | 9.13 | 16.71 | 18.91 | 13.79 | 33.61 | 34.86 | 35.20 | 27.19 | 13.97 | 19.33 |
| Operating costs | 6.17 | 10.21 | 10.62 | 11.83 | 12.57 | 9.12 | 9.34 | 9.14 | 10.17 | 8.28 |
| EBITDA | 2.96 | 6.50 | 8.29 | 1.95 | 21.04 | 25.74 | 25.87 | 18.05 | 3.80 | 11.05 |
| Depreciation | -8.61 | -10.90 | -10.45 | -9.97 | -9.40 | -7.79 | -6.18 | -6.54 | -7.12 | -5.59 |
| Interest | -5.53 | -5.28 | -1.32 | -4.72 | -5.26 | -5.97 | -5.31 | -9.26 | -7.18 | -7.54 |
| Other income (incl forex) | 0.02 | 0.21 | -0.89 | 0.22 | -0.56 | 0.24 | 0.80 | -0.55 | -1.68 | 0.99 |
| Pre-tax profit | -11.16 | -9.47 | -4.37 | -12.51 | 5.82 | 12.23 | 15.19 | 1.70 | -12.17 | -1.09 |
| Current tax | | 0.01 | | | 0.04 | | | | | |
| Deferred tax | | 6.98 | 1.40 | 4.61 | -2.10 | -4.14 | -5.35 | -0.64 | 4.14 | 0.33 |
| Net profit | -11.16 | -2.48 | -2.97 | -7.90 | 3.75 | 8.08 | 9.84 | 1.07 | -8.03 | -0.76 |
| Refinery capacity utilisation | 24% | 79% | 75% | 85% | 88% | 87% | 92% | 79% | 84% | 65% |
| Crude processed mt | 1.8 | 5.7 | 5.5 | 6.2 | 6.4 | 6.4 | 6.7 | 5.7 | 7.9 | 6.2 |
| GRM US$/bbl | | 7.43 | 7.95 | 5.04 | 11.11 | 11.32 | 11.27 | 9.42 | 3.45 | 5.83 |
| Cash operating cost US$/bbl | | 4.54 | 4.46 | 4.32 | 4.16 | 2.96 | 2.99 | 3.17 | 2.51 | 2.50 |
| EBITDA US$/bbl | | 2.89 | 3.48 | 0.71 | 6.96 | 8.36 | 8.28 | 6.26 | 0.94 | 3.33 |

SOURCES: INCRED RESEARCH, COMPANY REPORTS

## HMEL's profits driven by accounting

HMEL's 9mt refinery at Bhatinda, Punjab state in Northern India, came on stream at the end of 2011/early 2012 with a Nelson Complexity Index of 12.6 (higher than BORL due to a 0.4mt polypropylene [PP] plant). Initial project cost was around Rs150bn, which included a crude pipeline from the west coast. The refinery was aimed at supplying HPCL's customers in North India and HPCL has signed a contract to lift HMEL's entire liquid output (solids like PP, petcoke are marketed directly by HMEL) until Dec 2026. Similar to BORL, HMEL implemented capacity debottlenecking of 11.3mt in FY18 (capex Rs32bn) and rolled out BS VI compliant fuels from Apr 2020.

Contrary to BORL, HMEL has taken a more aggressive stance by deciding to build a new petchem cracker which is currently expected to come on line in 4QFY22. Declared capex is Rs217bn with polyethylene (PE) capacity of 1.25mt and PP capacity of 0.5mt (which would add to existing PP capacity of 0.47mt). Capital WIP as at Mar 2021 was Rs185bn.

HPCL and Mittal Energy Investments (MEI) each hold 48.99% of HMEL's equity capital of Rs80.4bn, with the balance 2.02% held by domestic financial institutions. MEI is the investment arm of the Mittal family which controls the steel company –

Arcelor Mittal. Contrary to OOC, MEI has taken an active role in the management of HMEL and provided financial support in line with its stake.

Similar to BORL, HMEL struggled in the initial years. The commercial production date was reset to 30 Dec 2012 from the initial assessment of 23 Feb 2012. Very high losses over FY12-15 were followed by boom years (FY16-19) which allowed the company to recover from its initial precarious financial condition. The FY20/21 performance would be impacted by Covid, though as noted above the FY21 results should have benefited from large inventory gains. So, over the life of the refinery (FY13-21), we estimate HMEL has made a profit of Rs30.9bn and as at Mar 2021 it had a net debt of Rs371bn with debt to equity of 348% (part of the debt would be due to the petchem project).

Note that the above figure on net debt is inclusive of acceptances of Rs17bn (amount payable to crude supplier, wherein supplier has extended the credit period from 30 days to 120 days for which HMEL bears financing charge) and Rs34bn on creditors for capex.

HMEL's apparent better financial performance (vis-à-vis BORL) is due to accounting profits rather than business performance. HMEL has lowered the depreciation rates of certain assets with effect from 1 Oct 2019 which we estimate would have added Rs5bn to net profit over FY20/21. Further, we estimate that the cumulative gains on account of settlement of CST dues (explained below) was Rs46.4bn over FY13-21. Excluding both items, HMEL reported a cumulative loss of Rs20.5bn over FY13-21.

HMEL was allowed a deferment of CST up to 300% of the fixed capital for 15 years and was also entitled to receive an interest-free loan (IFL) of Rs12.5bn from the government of Punjab (GoP). However, the GoP only provided Rs0.1bn. Therefore, HMEL adjusted the NPV of the CST amount payable to the GoP with the IFL and recognised the difference as an income. The adjustments against IFL were fully utilised in FY21 and hence from FY22 the CST benefit income would not be available to the company. However, HMEL would continue to enjoy the benefits arising out of the deferment of annual CST liability till FY25. The repayment of the same would start from the 16th year in 30 half-yearly instalments.

**Figure 6: HMEL financials (Rs bn)**

| Year to 31 March | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 |
|---|---|---|---|---|---|---|---|---|---|---|
| **Balance sheet** | | | | | | | | | | |
| Net worth | 37.7 | 55.0 | 42.3 | 31.2 | 44.9 | 75.8 | 92.1 | 105.5 | 100.1 | 106.7 |
| Net debt | 177.8 | 202.8 | 276.2 | 260.1 | 215.4 | 191.9 | 201.9 | 250.6 | 320.1 | 371.5 |
| Deferred tax liability/(asset) | 5.7 | 0.3 | -13.5 | -26.9 | -15.6 | -8.7 | -7.7 | -7.3 | -12.8 | -12.2 |
| **Total** | **221.2** | **258.1** | **304.9** | **264.4** | **244.8** | **259.0** | **286.3** | **348.8** | **407.4** | **466.0** |
| Fixed assets | 194.8 | 231.5 | 227.2 | 231.9 | 231.5 | 232.5 | 250.2 | 306.6 | 379.9 | 430.0 |
| Working capital | 26.4 | 26.6 | 77.8 | 32.5 | 13.3 | 26.5 | 36.0 | 42.2 | 27.5 | 36.0 |
| **Total** | **221.2** | **258.1** | **304.9** | **264.4** | **244.8** | **259.0** | **286.3** | **348.8** | **407.4** | **466.0** |
| **Net debt/equity** | **472%** | **369%** | **653%** | **835%** | **480%** | **253%** | **219%** | **238%** | **320%** | **348%** |
| **Profit & Loss** | | | | | | | | | | |
| Total gross margins | -0.57 | 1.83 | 20.12 | -0.57 | 56.95 | 66.20 | 48.14 | 59.16 | 34.04 | 25.57 |
| Operating costs | 4.93 | 4.45 | 15.61 | 14.01 | 13.44 | 10.31 | 10.91 | 16.81 | 13.17 | 11.28 |
| EBITDA | -5.51 | -2.62 | 4.51 | -14.58 | 43.51 | 55.88 | 37.23 | 42.36 | 20.87 | 14.30 |
| Depreciation | -2.07 | -4.24 | -13.00 | -7.55 | -11.47 | -11.39 | -11.43 | -12.11 | -11.32 | -10.27 |
| Interest | -5.28 | -5.35 | -18.62 | -19.94 | -17.12 | -10.73 | -11.53 | -13.40 | -13.05 | -9.18 |
| Other income (incl forex) | 0.03 | 4.69 | 1.01 | 12.09 | 5.98 | 8.75 | 7.58 | 2.40 | 0.50 | 8.58 |
| Pre-tax profit | -12.82 | -7.51 | -26.11 | -29.99 | 20.91 | 42.51 | 21.85 | 19.24 | -3.00 | 3.42 |
| Current tax | -0.01 | 0.00 | 0.00 | 0.02 | -0.27 | -4.70 | -4.64 | -4.11 | 0.00 | -0.16 |
| Deferred tax | -5.72 | 5.43 | 13.35 | 13.08 | -4.68 | -6.91 | -0.92 | -0.45 | 2.34 | 0.77 |
| Net profit | -18.55 | -2.08 | -12.76 | -16.88 | 15.95 | 30.91 | 16.29 | 14.68 | -0.66 | 4.04 |
| Refinery capacity utilisation | 11% | 47% | 90% | 70% | 103% | 101% | 67% | 91% | 91% | 75% |
| Crude processed mt | 1.2 | 4.9 | 9.3 | 7.3 | 10.7 | 10.5 | 8.9 | 12.2 | 12.2 | 10.1 |
| GRM US$/bbl | | 0.93 | 4.86 | -0.17 | 11.11 | 12.75 | 11.39 | 9.40 | 5.35 | 4.65 |
| Cash operating cost US$/bbl | | 2.25 | 3.77 | 4.25 | 2.62 | 1.99 | 2.58 | 2.67 | 2.07 | 2.05 |
| EBITDA US$/bbl | | -1.33 | 1.09 | -4.42 | 8.49 | 10.76 | 8.81 | 6.73 | 3.28 | 2.60 |

SOURCES: INCRED RESEARCH, COMPANY REPORTS

## High debt – root cause of troubles

Refining is a highly cyclical industry with major boom and bust cycles. However, cycles even out over 10 years and, in our view, GRMs have not been abnormally low in the last 10 years. As explained above, in our view, GRMs were mid-cycle in FY12-14, very high during FY15-18 and poor in FY19-21. We believe the poor financial performance of the two JVs over the last 10 years is largely driven by very high reliance on debt in initial project costs. This is driven by two factors – the OMC's inability to infuse cash and easy availability of external debt.

As explained above, in our view, the initial objective of the JV structure was to limit cash outflow from the OMC. The JV structure allowed the equity burden to be shared by the JV partner and the debt portion of the project (up to 70% of project cost) to be raised on the JV balance sheet. The bigger issue, in our view, is the ease of debt availability. The anomaly here is while the debt on JV books may be non-recourse to JV owners, the lenders appear to be viewing it as quasi-government debt. This is borne out by the JV being able to raise fresh debt at competitive rates (10-year forex loan at 5.25%, 3-year rupee loan at 8.7% by HMEL), despite the already high level of gearing. HPCL management has reiterated often that it does not see the need to infuse fresh equity into HMEL (BORL will now be a closed chapter once it merges with BPCL).

The downside of funding the project with high debt levels is that unless execution is flawless (commercial production starting in the shortest period and no operational hiccups thereafter) the company falls into a debt trap. There is additional risk that the margin cycle could go into downturn during the initial years of commercial production. These risks have borne out for both HMEL and BORL.

HMEL continues to bear high risk given that future financial performance will critically depend on its new petchem cracker being able to start commercial operations in the shortest possible time.

We see similar risks for HPCL's upcoming 9mt Rajasthan refinery (with additional polymer capacity of 1.9mt). Management has estimated project cost at Rs431bn which will be financed with a 2:1 debt/equity ratio and project completion by FY24. HPCL's equity stake will be 74% with balance 26% being held by the government of Rajasthan. Our channel checks suggest that there is significant escalation in project cost, which could further push project completion to FY26F.

## Prefer IOC over BPCL/HPCL

Given their classification as JVs, both BORL and HMEL have historically not been consolidated into their parent accounts. Consequently, information on their financials has been sketchy (especially for HMEL) and their large debt goes largely unnoticed, in our view. Hence we prefer IOC which has limited such off-balance sheet debt.

## DISCLAIMER

This report (including the views and opinions expressed therein, and the information comprised therein) has been prepared for and is distributed by CGS-CIMB, Incred Research Services Private Limited (formerly known as by Earnest Innovation Partners Private Limited (hereinafter referred to as "IRSPL") pursuant to an arrangement between IRSPL and CGS-CIMB. IRSPL is not an affiliate of CGS-CIMB. IRSPL is held 76% by InCred Capital Wealth Portfolio Managers Private Limited and 24% by EIP Holdings Private Limited. IRSPL is registered with SEBI as a Research Analyst vide Registration No. INH000007793. Pursuant to a trademark agreement, IRSPL has adopted "InCred Equities" as its trademark for use in this report.

The term "IRSPL" shall, unless the context otherwise requires, mean IRSPL and its affiliates, subsidiaries and related companies. The term "CGS-CIMB" shall denote, where appropriate, the relevant entity distributing or disseminating the report in the particular jurisdiction referenced below, or, in every other case except as otherwise stated herein, CGS-CIMB Securities International Pte. Ltd. and its affiliates, subsidiaries and related corporations This report is not directed to, or intended for distribution to or use by, any person or entity who is a citizen or resident of or located in any locality, state, country or other jurisdiction where such distribution, publication, availability or use would be contrary to law or regulation and remains subject to the "Restrictions on Distribution" set out below. If your status has changed or the distribution restrictions set out below impact your ability to receive this report please contact your usual CGS-CIMB representative.

By accepting this report, the recipient hereof represents and warrants that he is entitled to receive such report in accordance with the restrictions set forth below and agrees to be bound by the limitations contained herein (including the "Restrictions on Distributions" set out below). Any failure to comply with these limitations may constitute a violation of law and limit our ability to provide reports to you.

This report is being supplied to you strictly on the basis that it will remain confidential. No part of this report may be (i) copied, photocopied, duplicated, stored or reproduced in any form by any means; or (ii) redistributed or passed on, directly or indirectly, to any other person in whole or in part, for any purpose without the prior written consent of IRSPL or CGS-CIMB.

The information contained in this report is prepared from data believed to be correct and reliable at the time of issue of this report.

Under the terms of the agreement between IRSPL and CGS-CIMB, IRSPL is not required to issue regular reports on the subject matter of this report at any frequency and it may cease to do so or change the periodicity of reports at any time. Neither IRSPL nor CGS-CIMB is under any obligation to update this report in the event of a material change to the information contained in this report. Neither IRSPL nor CGS-CIMB has any and will accept any, obligation to (i) check or ensure that the contents of this report remain current, reliable or relevant; (ii) ensure that the content of this report constitutes all the information a prospective investor may require; (iii) ensure the adequacy, accuracy, completeness, reliability or fairness of any views, opinions and information, and accordingly, IRSPL and its affiliates/group companies and/or CGS-CIMB, its affiliates and related persons including China Galaxy International Financial Holdings Limited ("CGIFHL") and CIMB Group Sdn. Bhd. ("CIMBG") and their respective related corporations (and their respective directors, associates, connected persons and/or employees) shall not be liable in any manner whatsoever for any consequences (including but not limited to any direct, indirect or consequential losses, loss of profits and damages) of any reliance thereon or usage thereof. In particular, CGS-CIMB disclaims all responsibility and liability for the views and opinions set out in this report.

Unless otherwise specified, this report is based upon reasonable sources. Such sources will, unless otherwise specified, for market data, be market data and prices available from the main stock exchange or market where the relevant security is listed, or, where appropriate, any other market. Information on the accounts and business of company(ies) will generally be based on published statements of the company(ies), information disseminated by regulatory information services, other publicly available information and information resulting from our research. Whilst every effort is made to ensure that statements of facts made in this report are accurate, all estimates, projections, forecasts, expressions of opinion and other subjective judgments contained in this report are based on assumptions considered to be reasonable as of the date of the document in which they are contained and must not be construed as a representation that the matters referred to therein will occur. Past performance is not a reliable indicator of future performance. The value of investments may go down as well as up and those investing may, depending on the investments in question, lose more than the initial investment. No report shall constitute an offer or an invitation by or on behalf of IRSPL and its affiliates/group companies and/or CGS-CIMB or their respective affiliates (including CGIFHL, CIMBG and their respective related corporations) or IRSPL and its affiliates/group companies, to any person to buy or sell any investments.

By IRSPL producing this report for CGS-CIMB, IRSPL has confirmed to CGS-CIMB that the opinions expressed are based on information it believes to be accurate and complete and obtained through reliable public or other non-confidential sources at the time made. (Information barriers and other arrangements may be established where necessary to prevent conflicts of interests arising. However, the analyst(s) may receive compensation that is based on his/their coverage of company(ies) in the performance of his/their duties or the performance of his/their recommendations. In reviewing this report, an investor should be aware that any or all of the foregoing, among other things, may give rise to real or potential conflicts of interest. Additional information is, subject to the duties of confidentiality, available on request.

The report is not a "prospectus" as defined under Indian Law, including the Companies Act, 2013, and is not, and shall not be, approved by, or filed or registered with, any Indian regulator, including any Registrar of Companies in India, SEBI, any Indian stock exchange, or the Reserve Bank of India. No offer, or invitation to offer, or solicitation of subscription with respect to any such securities listed or proposed to be listed in India is being made, or intended to be made, to the public, or to any member or section of the public in India, through or pursuant to this report

The research analysts, strategists or economists principally responsible for the preparation of this research report are segregated from the other activities of IRSPL. Information barriers and other arrangements have been established, as required, to prevent any conflicts of interests.

IRSPL may have issued other reports (based on technical analysis, event specific, short term views etc.) that are inconsistent with and reach different conclusion from the information presented in this report.

Holding of Analysts/Relatives of Analysts, IRSPL and Associates of IRSPL in the covered securities, as on the date of publishing of this report

| | Analyst/ Relative | Entity/ Associates |
|---|---|---|
| any financial interests in the company covered in this report (subject company) and nature of such financial interest | NO | NO |
| actual/beneficial ownership of 1% or more in securities of the subject company at the end of the month immediately preceding the date of publication of the research report or date of the public appearance; | NO | NO |
| any other material conflict of interest at the time of publication of the research report or at the time of public appearance | NO | NO |
| received any compensation from the subject company in the past twelve months for investment banking or merchant banking or brokerage services or investment advisory or depository or distribution from the subject company in the last twelve months for products/services other than investment banking or merchant banking or broker- age services or investment advisory or depository or distribution from the subject company in the last twelve months | NO | NO |
| managed or co-managed public offering of securities for the subject company in the last twelve months | NO | NO |
| received any compensation or other benefits from the subject company or third party in connection with the research report | NO | NO |
| served as an officer, director or employee of the subject company | NO | NO |
| been engaged in market making activity for the subject company | NO | NO |

**Analyst declaration**

- The analyst responsible for the production of this report hereby certifies that the views expressed herein accurately and exclusively reflect his or her personal views and opinions about any and all of the issuers or securities analysed in this report and were prepared independently and autonomously in an unbiased manner.
- No part of the compensation of the analyst(s) was, is, or will be directly or indirectly related to the inclusion of specific recommendations(s) or view(s) in this report or based any specific investment banking transaction.
- The analyst(s) has(have) not had any serious disciplinary action taken against him/her(them).
- The analyst, strategist, or economist does not have any material conflict of interest at the time of publication of this report.
- The analyst(s) has(have) received compensation based upon various factors, including quality, accuracy and value of research, overall firm performance, client feedback and competitive factors.

**CGS-CIMB DISCLOSURES**

| Country | CGS-CIMB Entity | Regulated by |
|---|---|---|
| Hong Kong | CGS-CIMB Securities (Hong Kong) Limited | Securities and Futures Commission Hong Kong |
| India | CGS-CIMB Securities (India) Private Limited | Securities and Exchange Board of India (SEBI) |
| Indonesia | PT CGS-CIMB Sekuritas Indonesia | Financial Services Authority of Indonesia |
| Malaysia | CGS-CIMB Securities Sdn. Bhd. | Securities Commission Malaysia |
| Singapore | CGS-CIMB Securities (Singapore) Pte. Ltd. | Monetary Authority of Singapore |
| South Korea | CGS-CIMB Securities (Hong Kong) Limited, Korea Branch | Financial Services Commission and Financial Supervisory Service |
| Thailand | CGS-CIMB Securities (Thailand) Co. Ltd. | Securities and Exchange Commission Thailand |

**Other Significant Financial Interests:**

As of the end of 31st August 2021 immediately preceding the date of this report CGS-CIMB does not:

(i) have a proprietary position in the securities (which may include but not be limited to shares, warrants, call warrants and/or any other derivatives) in the company(ies) covered in this report except for the following:
  (a) Nil

(ii) act as market maker or have assumed an underwriting commitment in securities of the company(ies) covered in this report except for the following:
  (a) Nil

(iii) perform or seek to perform significant investment banking, advisory, underwriting or placement services for or relating to the company(ies) covered in this report and/or solicit such investment, advisory or other services from the company(ies) covered in this report except for the following:
(a) Nil

CGS-CIMB, its affiliates, related corporations (including CGIFHL, CIMBG and their respective related corporations) and/or their respective directors, associates, connected parties and/or employees and/or IRSPL and/or its affiliates and/or its Directors/employees may own or have positions in securities of the company(ies) covered in this report or any securities related thereto and may from time to time add to or dispose of, or may be materially interested in, any such securities.

CGS-CIMB, its affiliates and related corporations (including CGIFHL, CIMBG and their respective related corporations) and/or IRSPL and/or its affiliates and/or its Directors/employees may do and seek to do business with the company(ies) covered in this research report and may from time to time (a) buy/sell the securities covered in this report, from time to time and/or (b) act as market maker or have assumed an underwriting commitment in securities of such company(ies), and/or (c) may sell them to or buy them from customers on a principal basis and/or (d) may also perform or seek to perform significant investment banking, advisory, underwriting or placement services for or relating to such company(ies) and/or (e) solicit such investment, advisory or other services from any entity mentioned in this report and/or (f) act as a lender/borrower to such company and may earn brokerage or other compensation. However, Analysts are forbidden to acquire, on their own account or hold securities (physical or uncertificated, including derivatives) of companies in respect of which they are compiling and producing financial recommendations or in the result of which they play a key part

This report does not purport to contain all the information that a prospective investor may require. Neither CGS-CIMB nor any of its affiliates (including CGIFHL, CIMBG and their related corporations) make any guarantee, representation or warranty, express or implied, as to the adequacy, accuracy, completeness, reliability or fairness of any such information and opinion contained in this report. Neither CGS-CIMB nor any of its affiliates nor their related persons (including CGIFHL, CIMBG and their related corporations) shall be liable in any manner whatsoever for any consequences (including but not limited to any direct, indirect or consequential losses, loss of profits and damages) of any reliance thereon or usage thereof.

This report is general in nature and has been prepared for information purposes only. It is intended for circulation amongst CGS-CIMB's and its affiliates' (including CGIFHL's, CIMBG's and their respective related corporations') clients generally and does not have regard to the specific investment objectives, financial situation and the particular needs of any specific person who may receive this report. The information and opinions in this report are not and should not be construed or considered as an offer, recommendation or solicitation to buy or sell the subject securities, related investments or other financial instruments or any derivative instrument, or any rights pertaining thereto.

Investors are advised to make their own independent evaluation of the information contained in this report, consider their own individual investment objectives, financial situation and particular needs and consult their own professional and financial advisers as to the legal, business, financial, tax and other aspects before participating in any transaction in respect of the securities of company(ies) covered in this report. The securities of such company(ies) may not be eligible for sale in all jurisdictions or to all categories of investors.

The report is not a "prospectus" as defined under Indian Law, including the Companies Act, 2013, and is not, and shall not be, approved by, or filed or registered with, any Indian regulator, including any Registrar of Companies in India, SEBI, any Indian stock exchange, or the Reserve Bank of India. No offer, or invitation to offer, or solicitation of subscription with respect to any such securities listed or proposed to be listed in India is being made, or intended to be made, to the public, or to any member or section of the public in India, through or pursuant to this report

Restrictions on Distributions

**Australia**: Despite anything in this report to the contrary, this research is prepared for and provided in Australia by CGS-CIMB Securities (Singapore) Pte. Ltd. and CGS-CIMB Securities (Hong Kong) Limited. This research is only available in Australia to persons who are "wholesale clients" (within the meaning of the Corporations Act 2001 (Cth) and is supplied solely for the use of such wholesale clients and shall not be distributed or passed on to any other person. You represent and warrant that if you are in Australia, you are a "wholesale client". This research is of a general nature only and has been prepared without taking into account the objectives, financial situation or needs of the individual recipient. CGS-CIMB Securities (Singapore) Pte. Ltd. and CGS-CIMB Securities (Hong Kong) Limited do not hold, and are not required to hold an Australian financial services license. CGS-CIMB Securities (Singapore) Pte. Ltd. and CGS-CIMB Securities (Hong Kong) Limited rely on "passporting" exemptions for entities appropriately licensed by the Monetary Authority of Singapore (under ASIC Class Order 03/1102) and the Securities and Futures Commission in Hong Kong (under ASIC Class Order 03/1103).

**Canada**: This report has not been prepared in accordance with the disclosure requirements of Dealer Member Rule 3400 – Research Restrictions and Disclosure Requirements of the Investment Industry Regulatory Organization of Canada. For any research report distributed by CIBC, further disclosures related to CIBC conflicts of interest can be found at https://researchcentral.cibcwm.com .

**China**: For the purpose of this report, the People's Republic of China ("PRC") does not include the Hong Kong Special Administrative Region, the Macau Special Administrative Region or Taiwan. The distributor of this report has not been approved or licensed by the China Securities Regulatory Commission or any other relevant regulatory authority or governmental agency in the PRC. This report contains only marketing information. The distribution of this report is not an offer to buy or sell to any person within or outside PRC or a solicitation to any person within or outside of PRC to buy or sell any instruments described herein. This report is being issued outside the PRC to a limited number of institutional investors and may not be provided to any person other than the original recipient and may not be reproduced or used for any other purpose.

**France**: Only qualified investors within the meaning of French law shall have access to this report. This report shall not be considered as an offer to subscribe to, or used in connection with, any offer for subscription or sale or marketing or direct or indirect distribution of financial instruments and it is not intended as a solicitation for the purchase of any financial instrument.

**Germany**: This report is only directed at persons who are professional investors as defined in sec 31a(2) of the German Securities Trading Act (WpHG). This publication constitutes research of a non-binding nature on the market situation and the investment instruments cited here at the time of the publication of the information.

The current prices/yields in this issue are based upon closing prices from Bloomberg as of the day preceding publication. Please note that neither the German Federal Financial Supervisory Agency (BaFin), nor any other supervisory authority exercises any control over the content of this report.

**Hong Kong:** This report is prepared for and distributed in Hong Kong by CGS-CIMB Securities (Hong Kong) Limited ("CHK") which is licensed in Hong Kong by the Securities and Futures Commission for Type 1 (dealing in securities) and Type 4 (advising on securities) activities. Any investors wishing to purchase or otherwise deal in the securities covered in this report should contact the Head of Sales at CHK. The views and opinions in this report are our own as of the date hereof and are subject to change. If the Financial Services and Markets Act of the United Kingdom or the rules of the Financial Conduct Authority apply to a recipient, our obligations owed to such recipient therein are unaffected. CHK has no obligation to update its

opinion or the information in this report.

This publication is strictly confidential and is for private circulation only to clients of CHK.

**India**: This report is prepared by IRSPL for and distributed in India by IRSPL or CGS-CIMB Securities (India) Private Limited ("CGS-CIMB India"), as the case may be. CGS-CIMB India is a subsidiary of CGS-CIMB Securities International Pte. Ltd. which is in turn is a 50:50 joint venture company of CGIFHL and CIMBG. The details of the members of the group of companies of CGS-CIMB can be found at www.cgs-cimb.com, CGIFHL at www.chinastock.com.hk/en/ACG/ContactUs/index.aspx and CIMBG at www.cimb.com/en/who-we-are.html. CGS-CIMB India is registered with the National Stock Exchange of India Limited and BSE Limited as a trading and clearing member ( under the Securities and Exchange Board of India (Stock Brokers and Sub-Brokers) Regulations, 1992. . CGS-CIMB India is registered with SEBI (SEBI Registration Number: INZ000209135) as a Research Analyst (INH000000669) pursuant to the SEBI (Research Analysts) Regulations, 2014 ("Regulations").

By IRSPL producing this report for CGS-CIMB, IRSPL has confirmed to CGS-CIMB that the research analysts, strategists or economists principally responsible for the preparation of this report are segregated from the other activities of IRSPL and they have received compensation based upon various factors, including quality, accuracy and value of research, firm profitability or revenues, client feedback and competitive factors. Research analysts', strategists' or economists' compensation is not linked to investment banking or capital markets transactions performed or proposed to be performed by IRSPL, CGS-CIMB India or its affiliates.

This report does not take into account the particular investment objectives, financial situations, or needs of the recipients. It is not intended for and does not deal with prohibitions on investment due to law/jurisdiction issues etc. which may exist for certain persons/entities. Recipients should rely on their own investigations and take their own professional advice before investment.

CGS-CIMB India does not have actual / beneficial ownership of 1% or more securities of the subject company in this report, at the end of the month immediately preceding the date of publication of this report. However, since affiliates of CGS-CIMB India are engaged in the financial services business, they might have in their normal course of business financial interests or actual / beneficial ownership of one per cent or more in various companies including the subject company in this report.

CGS-CIMB India or its associates, may: (a) from time to time, have long or short position in, and buy or sell the securities of the subject company in this report; or (b) be engaged in any other transaction involving such securities and earn brokerage or other compensation or act as a market maker in the financial instruments of the subject company in this report or act as an advisor or lender/borrower to such company or may have any other potential conflict of interests with respect to any recommendation and other related information and opinions.

CGS-CIMB India and associates have not received any compensation for investment banking, merchant banking or brokerage services from the subject company mentioned in the report in the past 12 months.

CGS-CIMB India and associates have not managed or co-managed public offering of securities for the subject company mentioned in the report in the past 12 months.

**Indonesia**: This report is prepared for and distributed in Indonesia by PT CGS-CIMB Sekuritas Indonesia ("CGS-CIMB Indonesia"). The views and opinions in this report is prepared from data believed to be correct and reliable at the time of issue of this report and are subject to change. CGS-CIMB Indonesia has no obligation to update the opinion or the information in this report. This report is for private circulation only to clients of CGS-CIMB Indonesia. Neither this report nor any copy hereof may be distributed in Indonesia or to any Indonesian citizens wherever they are domiciled or to Indonesian residents except in compliance with applicable Indonesian capital market laws and regulations.

This report is not an offer of securities in Indonesia. The securities referred to in this report have not been registered with the Financial Services Authority (Otoritas Jasa Keuangan) pursuant to relevant capital market laws and regulations, and may not be offered or sold within the territory of the Republic of Indonesia or to Indonesian citizens through a public offering or in circumstances which constitute an offer within the meaning of the Indonesian capital market law and regulations.

**Ireland**: CGS-CIMB is not an investment firm authorised in the Republic of Ireland and no part of this document should be construed as CGS-CIMB acting as, or otherwise claiming or representing to be, an investment firm authorised in the Republic of Ireland.

**Malaysia:** This report is prepared for and distributed in Malaysia by CGS-CIMB Securities Sdn. Bhd. ("CGS-CIMB Malaysia") solely for the benefit of and for the exclusive use of our clients. Recipients of this report are to contact CGS-CIMB Malaysia, at Level 29, Menara Bumiputra-Commerce, No. 11, Jalan Raja Laut, 50350 Kuala Lumpur, Malaysia, in respect of any matters arising from or in connection with this report. CGS-CIMB Malaysia has no obligation to update, revise or reaffirm the opinion or the information in this report after the date of this report.

**New Zealand**: In New Zealand, this report is for distribution only to persons who are wholesale clients pursuant to section 5C of the Financial Advisers Act 2008.

**Singapore:** This report is prepared for and distributed in Singapore by CGS-CIMB Securities (Singapore) Pte Ltd ("CGS-CIMB Singapore"). CGS-CIMB Singapore is a capital markets services licensee under the Securities and Futures Act (Chapter 289). Accordingly, it is exempted from the requirement to hold a financial adviser's licence under the Financial Advisers Act, Cap 110 ("FAA") for advising on investment products, by issuing or promulgating research analyses or reports, whether in electronic, print or other form. CGS-CIMB Singapore is subject to the applicable rules under the FAA unless it is able to avail itself to any prescribed exemptions.

Recipients of this report are to contact CGS-CIMB Singapore, 50 Raffles Place, #16-02 Singapore Land Tower, Singapore in respect of any matters arising from, or in connection with this report. CGS-CIMB Singapore has no obligation to update the opinion or the information in this report. This publication is strictly confidential and is for private circulation only. If you have not been sent this report by CGS-CIMB Singapore directly, you may not rely, use or disclose to anyone else this report or its contents.

If the recipient of this report is not an accredited investor, expert investor or institutional investor, CGS-CIMB Singapore accepts legal responsibility for the contents of the report without any disclaimer limiting or otherwise curtailing such legal responsibility. If the recipient is an accredited investor, expert investor or institutional investor, the recipient is deemed to acknowledge that CGS-CIMB Singapore is exempt from certain requirements under the FAA and its attendant regulations, and as such, is exempt from complying with the following:

(a) Section 25 of the FAA (obligation to disclose product information);

(b) Section 27 of the FAA (duty not to make recommendation with respect to any investment product without having a reasonable basis where you may be reasonably expected to rely on the recommendation);

(c) MAS Notice on Information to Clients and Product Information Disclosure [Notice No. FAA-N03];
(d) MAS Notice on Recommendation on Investment Products [Notice No. FAA-N16];
(e) Section 36 of the FAA (obligation on disclosure of interest in specified products); and
(f) any other laws, regulations, notices, directive, guidelines, circulars and practice notes which relates to the above, to the extent permitted by applicable laws, as may be amended from time to time, and any other laws, regulations, notices, directive, guidelines, circulars, and practice notes as we may notify you from time to time. In addition, the recipient who is an accredited investor, expert investor or institutional investor acknowledges that as CGS-CIMB Singapore is exempt from Section 27 of the FAA, the recipient will also not be able to file a civil claim against CGS-CIMB Singapore for any loss or damage arising from the recipient's reliance on any recommendation made by CGS-CIMB Singapore which would otherwise be a right that is available to the recipient under Section 27 of the FAA.

CGS-CIMB Singapore, its affiliates and related corporations, their directors, associates, connected parties and/or employees may own or have positions in specified products of the company(ies) covered in this report or any specified products related thereto and may from time to time add to or dispose of, or may be materially interested in, any such specified products. Further, CGS-CIMB Singapore, its affiliates and its related corporations do and seek to do business with the company(ies) covered in this report and may from time to time act as market maker or have assumed an underwriting commitment in specified products of such company(ies), may sell them to or buy them from customers on a principal basis and may also perform or seek to perform significant investment banking, advisory, underwriting or placement services for or relating to such company(ies) as well as solicit such investment, advisory or other services from any entity mentioned in this report.

As of CGS-CIMB Singapore does not have a proprietary position in the recommended specified products in this report.

CGS-CIMB Singapore makes a market on the specified products.

CGS-CIMB Singapore does not make a market on other specified products mentioned in the report.

**South Korea:** This report is prepared for and distributed in South Korea by CGS-CIMB Securities (Hong Kong) Limited, Korea Branch ("CGS-CIMB Korea") which is licensed as a cash equity broker, and regulated by the Financial Services Commission and Financial Supervisory Service of Korea. In South Korea, this report is for distribution only to professional investors under Article 9(5) of the Financial Investment Services and Capital Market Act of Korea ("FSCMA").

**Spain**: This document is a research report and it is addressed to institutional investors only. The research report is of a general nature and not personalised and does not constitute investment advice so, as the case may be, the recipient must seek proper advice before adopting any investment decision. This document does not constitute a public offering of securities.

CGS-CIMB is not registered with the Spanish Comision Nacional del Mercado de Valores to provide investment services.

**Sweden**: This report contains only marketing information and has not been approved by the Swedish Financial Supervisory Authority. The distribution of this report is not an offer to sell to any person in Sweden or a solicitation to any person in Sweden to buy any instruments described herein and may not be forwarded to the public in Sweden.

**Switzerland**: This report has not been prepared in accordance with the recognized self-regulatory minimal standards for research reports of banks issued by the Swiss Bankers' Association (Directives on the Independence of Financial Research).

**Thailand**: This report is prepared for and distributed in Thailand by CGS-CIMB Securities (Thailand) Co. Ltd. ("CGS-CIMB Thailand") based upon sources believed to be reliable (but their accuracy, completeness or correctness is not guaranteed). The statements or expressions of opinion herein were arrived at after due and careful consideration for use as information for investment. Such opinions are subject to change without notice and CGS-CIMB Thailand has no obligation to update its opinion or the information in this report.

CGS-CIMB Thailand may act or acts as Market Maker, and issuer and offerer of Derivative Warrants and Structured Note which may have the following securities as its underlying securities. Investors should carefully read and study the details of the derivative warrants in the prospectus before making investment decisions.

AAV, ACE, ADVANC, AEONTS, AMATA, AOT, AP, BAM, BANPU, BBL, BCH, BCP, BCPG, BDMS, BEC, BEM, BGRIM, BH, BJC, BTS, CBG, CENTEL, CHG, CK, CKP, COM7, CPALL, CPF, CPN, CRC, DELTA, DOHOME, DTAC, EA, EGCO, ESSO, GLOBAL, GPSC, GULF, GUNKUL, HANA, HMPRO, ICHI, INTUCH, IRPC, IVL, JAS, JMART, JMT, KBANK, KCE, KKP, KTB, KTC, LH, MAJOR, MEGA, MINT, MTC, NRF, OR, ORI, OSP, PLANB, PRM, PSL, PTG, PTL, PTT, PTTEP, PTTGC, QH, RATCH, RBF, RS, SAWAD, SCB, SCC, SCGP, SINGER, SPALI, SPRC, STA, STEC, STGT, SUPER, SYNEX, TASCO, TCAP, THANI, TISCO, TKN, TOP, TQM, TRUE, TTB, TU, TVO, VGI, WHA

**Corporate Governance Report**:

The disclosure of the survey result 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 result may be changed after that date. CGS-CIMB Thailand does not confirm nor certify the accuracy of such survey result.

| **Score Range:** | 90 - 100 | 80 – 89 | 70 - 79 | Below 70 | No Survey Result |
|---|---|---|---|---|---|
| **Description:** | Excellent | Very Good | Good | N/A | N/A |

**United Arab Emirates**: The distributor of this report has not been approved or licensed by the UAE Central Bank or any other relevant licensing authorities or governmental agencies in the United Arab Emirates. This report is strictly private and confidential and has not been reviewed by, deposited or registered with UAE Central Bank or any other licensing authority or governmental agencies in the United Arab Emirates. This report is being issued outside the United Arab Emirates to a limited number of institutional investors and must not be provided to any person other than the original recipient and may not be reproduced or used for any other purpose. Further, the information contained in this report is not intended to lead to the sale of investments under any subscription agreement or the conclusion of any other contract of whatsoever nature within the territory of the United Arab Emirates.

**United Kingdom and European Economic Area (EEA)**: In the United Kingdom and European Economic Area, this material is prepared for and being distributed by CGS-CIMB Securities (UK) Limited ("CGS-CIMB UK"). CGS-CIMB UK is authorized and regulated by the Financial Conduct Authority and its registered office is at 27 Knightsbridge, London, SW1X7YB. The material distributed by CGS-CIMB UK has been prepared in accordance with CGS-CIMB's policies for managing conflicts of interest arising as a result of publication and distribution of this material. This material is for distribution only to, and is solely directed at, selected persons on the basis that those persons: (a) are eligible counterparties and professional clients of CGS-CIMB UK; (b) have professional experience in matters relating to investments falling within Article 19(5) of the Financial Services and Markets Act 2000 (Financial Promotion) Order 2005 (as amended, the "Order"), (c) fall within Article 49(2)(a) to (d) ("high net worth companies, unincorporated associations etc") of the Order; (d) are outside the United Kingdom subject to relevant regulation in each jurisdiction, material(all such persons together being referred to as "relevant persons"). This material is directed only at relevant persons and must not be acted on or relied on by persons who are not relevant persons. Any investment or investment activity to which this material relates is available only to relevant persons and will be engaged in only with relevant persons.

This material is categorised as non-independent for the purposes of CGS-CIMB UK and therefore does not provide an impartial or objective assessment of the subject matter and does not constitute independent research. Consequently, this material has not been prepared in accordance with legal requirements designed to promote the independence of research and will not be subject to any prohibition on dealing ahead of the dissemination of research. Therefore, this material is considered a marketing communication.

**United States**: This report is prepared for and distributed in the United States of America by CGS-CIMB Securities (USA) Inc, a U.S. registered broker-dealer and an affiliate of CGS-CIMB Securities Sdn. Bhd., CGS-CIMB Securities (Singapore) Pte Ltd, PT CGS-CIMB Sekuritas Indonesia, CGS-CIMB Securities (Thailand) Co. Ltd, CGS-CIMB Securities (Hong Kong) Limited and CGS-CIMB Securities (India) Private Limited, and is distributed solely to persons who qualify as "U.S. Institutional Investors" as defined in Rule 15a-6 under the Securities and Exchange Act of 1934. This communication is only for Institutional Investors whose ordinary business activities involve investing in shares, bonds, and associated securities and/or derivative securities and who have professional experience in such investments. Any person who is not a U.S. Institutional Investor or Major Institutional Investor must not rely on this communication. The delivery of this report to any person in the United States of America is not a recommendation to effect any transactions in the securities discussed herein, or an endorsement of any opinion expressed herein. CGS-CIMB Securities (USA) Inc, is a FINRA/SIPC member and takes responsibility for the content of this report. For further information or to place an order in any of the above-mentioned securities please contact a registered representative of CGS-CIMB Securities (USA) Inc.

CGS-CIMB Securities (USA) Inc. has managed or co-managed a public offering of securities in the past 12 months.

CGS-CIMB Securities (USA) Inc. has not managed or co-managed a public offering of any of the securities mentioned in the past 12 months.

CGS-CIMB Securities (USA) Inc. has received compensation for investment banking services in the past 12 months.

CGS-CIMB Securities (USA) Inc. has not received compensation for investment banking services from any of the company mentioned in the past 12 months.

CGS-CIMB Securities (USA) Inc. expects to receive or intend to seek compensation for investment banking services within the next 3 months.

CGS-CIMB Securities (USA) Inc. neither expects to receive nor intends to seek compensation for investment banking services from any of the company mentioned within the next 3 months.

As of the end of the month immediately preceding the date of publication of this report, CGS-CIMB Securities (USA) Inc. beneficially owns 1% or more of any class of common equity securities.

**United States Third-Party Disclaimer**: If this report is distributed in the United States of America by Raymond James & Associates, Inc ("RJA"), this report is third-party research prepared for and distributed in the United States of America by RJA pursuant to an arrangement between RJA and CGS-CIMB Securities International Pte. Ltd. ("CGS-CIMB"). CGS-CIMB is not an affiliate of RJA. This report is distributed solely to persons who qualify as "U.S. Institutional Investors" or as "Major U.S. Institutional Investors" as defined in Rule 15a-6 under the Securities and Exchange Act of 1934, as amended. This communication is only for U.S. Institutional Investors or Major U.S. Institutional Investor whose ordinary business activities involve investing in shares, bonds, and associated securities and/or derivative securities and who have professional experience in such investments. Any person who is not a U.S. Institutional Investor or Major U.S. Institutional Investor must not rely on this communication. The delivery of this report to any person in the U.S. is not a recommendation to effect any transactions in the securities discussed herein, or an endorsement of any opinion expressed herein. If you are receiving this report in the U.S from RJA, a FINRA/SIPC member, it takes responsibility for the content of this report. For further information or to place an order in any of the above-mentioned securities please contact a registered representative of CGS-CIMB Securities (USA) Inc. or RJA. https://raymondjames.com/InternationalEquityDisclosures

**Other jurisdictions:** In any other jurisdictions, except if otherwise restricted by laws or regulations, this report is only for distribution to professional, institutional, or sophisticated investors as defined in the laws and regulations of such jurisdictions.

**Corporate Governance Report of Thai Listed Companies (CGR). CG Rating by the Thai Institute of Directors Association (Thai IOD) in 2020, Anti-Corruption 2020**

**ADVANC** – Excellent, Certified, **AMATA** – Excellent, Certified, **ANAN** – Excellent, n/a, **AOT** – Excellent, n/a, **AP** – Excellent, Certified, **ASP** – Excellent, n/a, **AU** – Good, n/a, **BAM** – Very Good, Certified, **BAY** – Excellent, Certified, **BBL** – Very Good, Certified, **BCH** – Good, Certified, **BCP** - Excellent, Certified, **BCPG** – Excellent, Certified, **BDMS** – Excellent, n/a, **BEAUTY** – Good, n/a, **BH** - Good, n/a, **BJC** – Very Good, n/a, **BLA** – Excellent, Certified, **BTS** - Excellent, Certified, **CBG** – Very Good, n/a, **CCET** – n/a, n/a, **CENTEL** – Excellent, Certified, **CHAYO** – Very Good, n/a, **CHG** – Very Good, n/a, **CK** – Excellent, n/a, **COM7** – Very Good, Certified, **CPALL** – Excellent, Certified, **CPF** – Excellent, Certified, **CPN** - Excellent, Certified, **CPNREIT** – n/a, n/a, **CRC** – Very Good, n/a, **DELTA** - Excellent, Certified, **DDD** – Very Good, n/a, **DIF** – n/a, n/a, **DOHOME** – Very Good, n/a, **DREIT** – n/a, n/a, **DTAC** – Excellent, Certified, **ECL** – Excellent, Certified, **EGCO** - Excellent, Certified, **EPG** – Excellent, Certified, **ERW** – Very Good, Certified, **GFPT** - Excellent, Certified, **GGC** – Excellent, Certified, **GLOBAL** – Very Good, n/a, **HANA** - Excellent, Certified, **HMPRO** - Excellent, Certified, **HUMAN** – Good, n/a, **ICHI** – Excellent, Certified, **III** – Excellent, n/a, **INTUCH** - Excellent, Certified, **IRPC** – Excellent, Certified, **ITD** – Very Good, n/a, **IVL** - Excellent, Certified, **JASIF** – n/a, n/a, **JKN** – Excellent, Declared, **JMT** – Very Good, Declared, **KBANK** - Excellent, Certified, **KCE** - Excellent, Certified, **KEX** – n/a, n/a, **KKP** – Excellent, Certified, **KSL** – Excellent, Certified, **KTB** - Excellent, Certified, **KTC** – Excellent, Certified, **LH** - Excellent, n/a, **LPN** – Excellent, Certified, **M** – Very Good, Certified, **MAKRO** – Excellent, Certified, **MC** – Excellent, Certified, **MEGA** – Very Good, n/a, **MINT** - Excellent, Certified, **MTC** – Excellent, Certified, **NETBAY** – Very Good, n/a, **NRF** – n/a, n/a, **OR** – n/a, n/a, **ORI** – Excellent, Certified, **OSP** – Very Good, n/a, **PLANB** – Excellent, Certified, **PRINC** – Very Good, Certified, **PR9** – Excellent, n/a, **PSH** – Excellent, Certified, **PTT** - Excellent, Certified, **PTTEP** - Excellent, Certified, **PTTGC** - Excellent, Certified, **QH** – Excellent, Certified, **RBF** – Good, n/a, **RS** – Excellent, n/a, **RSP** – Good, n/a, **S** – Excellent, n/a, **SAK** – n/a, n/a, **SAPPE** – Very Good, Certified, **SAWAD** – Very Good, n/a, **SCB** - Excellent, Certified, **SCC** – Excellent, Certified, **SCGP** – n/a, n/a, **SHR** – Very Good, n/a, **SIRI** – Excellent, Certified, **SPA** – Very Good, n/a, **SPALI** - Excellent, Declared, **SPRC** – Excellent, Certified, **SSP** - Good, Declared, **STEC** – n/a, n/a, **SVI** – Excellent, Certified, **SYNEX** – Very Good, n/a, **TCAP** – Excellent, Certified, **THANI** – Excellent, Certified, **TIDLOR** – n/a, n/a **TISCO** - Excellent, Certified, **TKN** – Very Good, n/a, **TMB** - Excellent, Certified, **TOP** - Excellent, Certified, **TRUE** – Excellent, Certified, **TU** – Excellent, Certified, **TVO** – Excellent, Certified, **VGI** – Excellent, Certified, **WHA** – Excellent, Certified, **WHART** – n/a, n/a, **WICE** – Excellent, Certified, **WORK** – Good, n/a.

- CG Score 2020 from Thai Institute of Directors Association (IOD)
- Companies participating in Thailand's Private Sector Collective Action Coalition Against Corruption programme (Thai CAC) under Thai Institute of Directors (as of January 30, 2021) are categorised into: companies that have declared their intention to join CAC, and companies certified by CAC.

**Recommendation Framework**

| **Stock Ratings** | Definition: |
|---|---|
| Add | The stock's total return is expected to exceed 10% over the next 12 months. |
| Hold | The stock's total return is expected to be between 0% and positive 10% over the next 12 months. |
| Reduce | The stock's total return is expected to fall below 0% or more 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. |

| **Country Ratings** | Definition: |
|---|---|
| Overweight | An Overweight rating means investors should be positioned with an above-market weight in this country relative to benchmark. |
| Neutral | A Neutral rating means investors should be positioned with a neutral weight in this country relative to benchmark. |
| Underweight | An Underweight rating means investors should be positioned with a below-market weight in this country relative to benchmark. |