Metals & Mining

Dawn of good times

- India's steel sector is in a sweet spot due to strong domestic spreads and volumes, global supply discipline and a positive outlook.
- Hindalco/Nalco are beneficiaries of a global economic recovery and we are positive on Coal India/NMDC for attractive dividend/cash flow yields.
- We initiate with an Overweight rating on the sector due to favourable spreads and undemanding valuations.

Indian steel sector in a sweet spot

We believe the Indian steel sector's spreads are strong due to an iron ore cost push-driven hike to regional steel prices, the rupee's depreciation and an ongoing recovery in domestic demand. Global supply discipline in regions where demand is impacted have helped too. Chinese stimulus and global central bank liquidity would continue to support the demand side, in our view. Global manufacturing PMIs too paint a positive outlook for demand. Despite all this, steel spreads are not overheated, further supporting our outlook. We initiate coverage on the sector with Overweight rating & Add ratings on Tata Steel, Steel Authority of India (SAIL), Jindal Steel & Power (JSPL), JSW Steel (JSW).

Non-ferrous: We like Hindalco for its stable business model

Hindalco Industries's (Hindalco) EBITDA mix is diversified and only ~15% (FY22/23F) is directly linked to London Metal Exchange (LME) prices, and volatility is much lower than the global sector average. National Aluminium Company (NALCO) is among the lowest-cost alumina producers globally. In our view, NALCO's balance sheet protects against downside, while Hindalco and NALCO are likely to benefit from the ongoing global economic recovery. We initiate coverage on Hindalco and NALCO with Add ratings.

Mining: Upbeat on Coal India and NMDC

We like Coal India for its strong FCF-generation potential and weak positioning due to investor pessimism. The National Mineral Development Corporation's (NMDC) decision to demerge its steel asset removes a key overhang on the stock. NMDC benefits from strong iron ore prices and a tight domestic demand-supply situation. Both are key potential beneficiaries of the corporate tax rate cut and dividend distribution tax reform. We initiate coverage on Coal India and NMDC with Add ratings.

Sector well positioned with structural and tactical positives

The ongoing strong revival in demand has structural and pent-up components, in our view. The pent-up component is from six quarters (FY20, 1HFY21) of weakness and could play out for several quarters. Apart from the broad macro positives for the metals and mining sector as a whole, we believe there are bottom-up positives for our coverage stocks. As a result, we forecast FY22F EBITDA to be higher than FY19/20/21F; and FY21F EBITDA to be higher than FY20. We initiate coverage on the sector with an Overweight rating. **Catalysts:** Sequentially positive EBITDA momentum and strong spreads. **Risks:** Sharp increase in coking coal prices, sharp fall in iron ore prices, withdrawal of global liquidity due to large spikes in inflation and lack of supply discipline.

Figure 1: Valuation Summary

Company	Bloomberg Ticker	Closing Price (Rs/sh)	Target Price (Rs/sh)	Rating	Market cap (Rs b)	EV/EBITDA (x) FY22F	EV/EBITDA (x) FY23F	P/BV (x) FY22F	P/BV (x) FY23F	RoE FY22F	RoE FY23F	RoCE* FY22F	RoCE* FY23F
India													
JSW Steel	JSTL IN	366	590	ADD	880	5.1	4.3	1.6	1.3	24%	19%	18%	17%
Tata Steel	TATA IN	636	1020	ADD	729	4.9	4.9	0.8	0.7	16%	12%	12%	10%
Jindal Steel & Power	JSP IN	273	540	ADD	279	4.2	3.9	0.7	0.6	11%	10%	11%	10%
Steel Authority of India	SAIL IN	59	150	ADD	241	3.8	3.4	0.5	0.4	16%	13%	12%	12%
Hindalco Industries	HNDL IN	245	360	ADD	549	4.6	4.0	0.8	0.7	12%	12%	10%	10%
NALCO	NACL IN	43	60	ADD	80	2.5	3.0	0.7	0.7	14%	12%	15%	14%
Coal India	COAL IN	143	270	ADD	882	2.6	2.2	2.2	2.0	47%	48%	18%	20%
NMDC	NMDC IN	115	207	ADD	352	4.0	3.6	1.2	1.2	20%	20%	19%	19%
Average						**3.9**	**3.7**	**1.1**	**0.9**	**20%**	**18%**	**14%**	**14%**

*ROCE IS PRETAX TO BE CONSISTENT ACROSS COMPANIES;
SOURCES: EIP RESEARCH ESTIMATES, COMPANY REPORTS, BLOOMBERG. PRICED AS AT CLOSE OF 15 DEC 2020;

India

Overweight *(Initiating coverage)*

Highlighted Companies

Tata Steel
ADD, TP Rs1,020 Rs636 close
Tata Steel India (including the Bhushan Steel asset) is best placed to benefit from the expansion of steel spreads as a result of captive iron ore, in our view. We believe strong operating cash generation, coupled with asset sales, could drive significant free cash flow before capex for the company, in our view.

Steel Authority of India Limited
ADD, TP Rs150 Rs59 close
We believe SAIL's capacity expansion is close to yielding higher volumes in an environment of strong steel spreads. SAIL could generate free cash flow post capex, which is a significant positive in the context of high leverage, in our view.

Hindalco Industries
ADD, TP Rs360 Rs245 close
We like Hindalco's aluminum flat rolled and copper businesses for their stability and strong cash flow generation potential. ~85% of its consolidated FY22/23F EBITDA is stable and delinked from LME price volatility. Hindalco is trading at FY22F FCF yield of ~23%, which is attractive, in our view.

Summary Valuation Metrics

EV/EBITDA (x)	FY21F	FY22F	FY23F
Tata Steel	7.2	4.9	4.9
SAIL	8.5	3.8	3.4
Hindalco	6.0	4.6	4.0

P/BV (x)	FY21F	FY22F	FY23F
Tata Steel	0.97	0.83	0.74
SAIL	0.58	0.49	0.43
Hindalco	0.85	0.75	0.67

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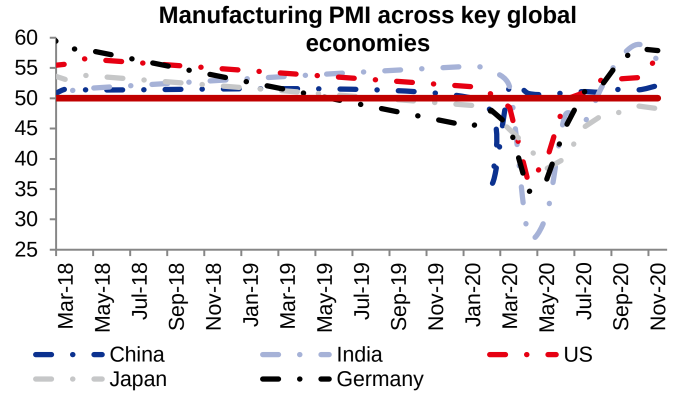
KEY CHARTS

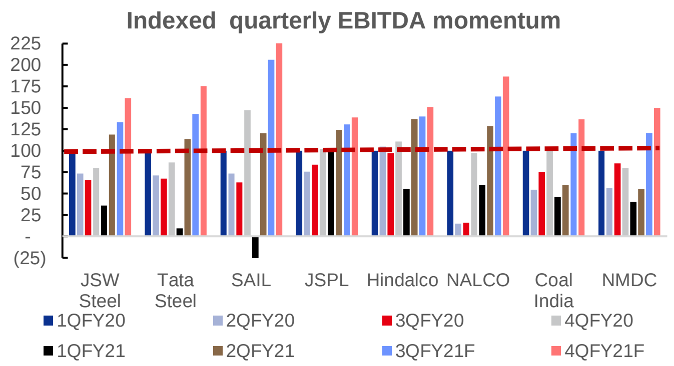
Synchronous recovery in manufacturing PMIs

Post the lifting of COVID-19 lockdowns and coupled with fiscal and monetary responses by governments and global central banks, manufacturing PMIs across major countries in the world have shown a synchronous recovery.



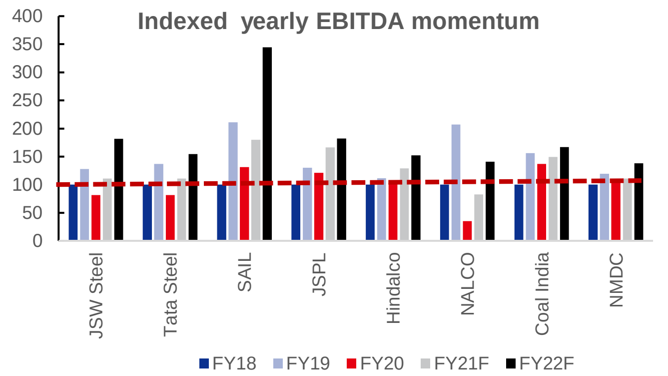
Positive near-term EBITDA momentum

We forecast positive EBITDA momentum for 3Q/4QFY21F for all the companies being initiated in this note vs 2QFY21 as a result of 1) increasing sales volumes trajectory due to near V-shaped recovery in domestic demand for ferrous and non-ferrous metals and coal post the COVID-19 lockdown-led demand destruction, 2) higher spreads as a result of higher underlying commodity prices aided by regional price strength and rupee depreciation, 3) higher share of domestic sales volumes, 4) operating leverage benefit of higher sales volumes and 5) only marginal cost inflation.



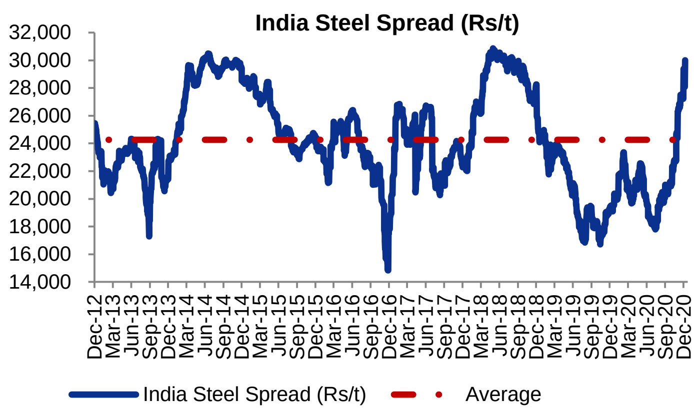
Positive FY21/22F EBITDA momentum vs FY20

Despite being a COVID-challenged year, we forecast the FY21F EBITDA for all the eight companies being initiated in this note to be higher than FY20. While we expect FY21F to be better than FY20, we also expect FY22F to be better than FY19/20/21F as a result of the recovery in underlying commodity prices and cost deflation – discretionary and non-discretionary. Yet, our underlying commodity assumptions are below the current spot prices to be conservative.



Indian steel spreads are strong

Indian steel spreads are strong due to factors like international iron ore cost-push-driven strong steel prices, weak coking coal prices, rupee depreciation and normalising demand in the country. This scenario is positive for Tata Steel, SAIL, JSW Steel and JSPL. We believe this scenario is favourable for Tata Steel and SAIL due to their captive iron ore

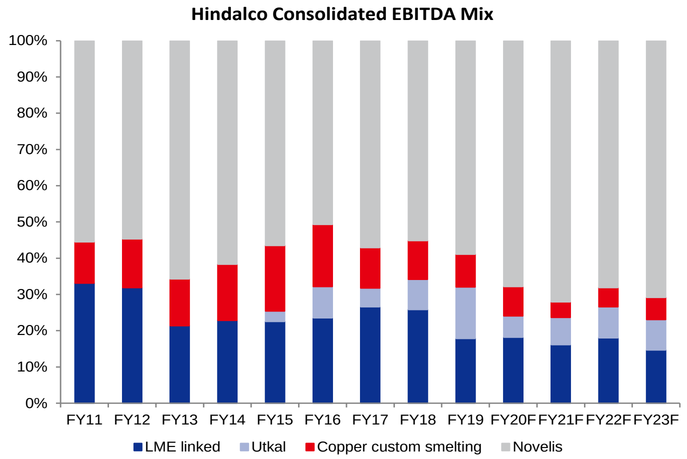


SOURCES: EIP RESEARCH ESTIMATES, BLOOMBERG, COMPANY REPORTS

KEY CHARTS continued…

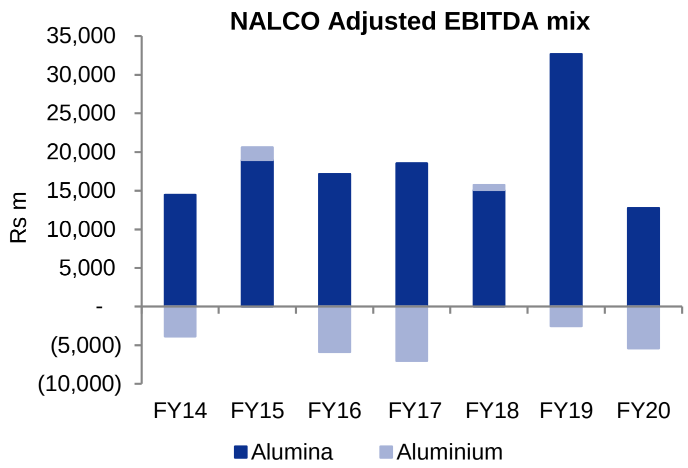
Hindalco is a play on relatively stable consolidated EBITDA mix

Novelis (stable conversion business) contributed 68% to Hindalco's consolidated EBITDA in FY20. We project this to increase to ~71% by FY23F. The relatively stable alumina (Utkal) and copper custom smelting business to contribute ~14% to Hindalco's consolidated EBITDA in FY23F, with only ~15% contributed by the aluminium segment whose prospects are linked to London Metal Exchange Aluminium prices which are volatile. To that extent, ~85% of Hindalco's FY23F consolidated EBITDA will have no correlation to LME metal price volatility, which, in our view, is an attractive proposition.



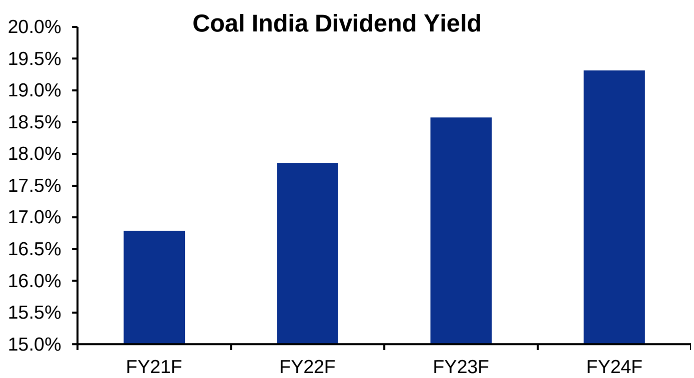
NALCO is primarily a play on alumina

NALCO's alumina business has among the lowest production costs in the world, making its volumes less vulnerable to a decline in prices and down cycles. NALCO is a significant player in the global alumina sea-borne trade and is not dependent on the domestic market alone.



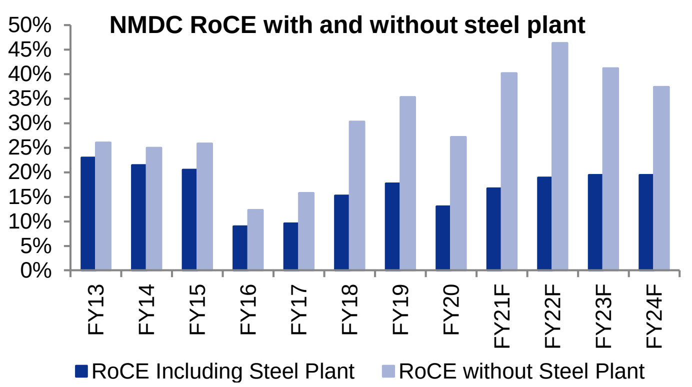
Coal India – attractive dividend yield

Coal India is a key beneficiary of the government's corporate tax rate cut and dividend distribution tax reform from FY20. Coal India generates significant amounts of cash leaving substantial dividend potential despite its high capex. Coal India sells coal at a substantial discount to internationally-traded coal, leaving significant room for price increases (although we don't build in any), in our view.



NMDC steel plant demerger a positive

The steel plant demerger 1) stops further cash outflows from NMDC's iron ore business as the remaining capex (~Rs50bn including working capital) will be funded through debt, which will be moved to the demerged entity; 2) dramatically spikes the iron ore business's RoCE, which could result in a strong multiple rerating; 3) unlocks value as the steel capital work in progress (CWIP) of ~Rs170bn was not assigned any value by investors in our view. NMDC is also a key beneficiary of high iron ore prices and the tight domestic availability of ore.



SOURCES: EIP RESEARCH ESTIMATES, COMPANY REPORTS

Valuation

Figure 2: Sector Valuation

Company	Bloomberg Ticker	Closing Price (Rs/sh)	Target Price (Rs/sh)	Rating	% Upside	Market cap (US$ m)	EV/EBITDA (x) CY21F	EV/EBITDA (x) CY22F	P/BV (x) CY21F	P/BV (x) CY22F	RoE CY21F	RoE CY22F	RoCE* CY21F	RoCE* CY22F	EV/CE CY21F	EV/CE CY22F	FCF Yield# CY21F	FCF Yield# CY22F
India																		
JSW Steel	JSTL IN	366	590	ADD	61%	11,893	5.6	4.4	1.7	1.3	22%	21%	17%	17%	1.2	0.9	19%	22%
Tata Steel	TATA IN	636	1020	ADD	60%	9,855	5.3	4.8	0.9	0.8	13%	13%	11%	11%	0.8	0.7	22%	25%
Jindal Steel & Power	JSP IN	273	540	ADD	98%	3,764	4.5	4.0	0.8	0.7	10%	10%	11%	10%	0.7	0.6	26%	28%
Steel Authority of India	SAIL IN	59	150	ADD	156%	3,251	4.3	3.4	0.5	0.4	13%	14%	11%	12%	0.6	0.5	41%	38%
Hindalco Industries	HNDL IN	245	360	ADD	47%	7,424	4.8	4.1	0.8	0.7	11%	11%	9%	10%	0.6	0.5	21%	23%
NALCO	NACL IN	43	60	ADD	40%	1,084	2.8	2.9	0.8	0.7	12%	12%	13%	14%	0.6	0.7	19%	19%
Coal India	COAL IN	143	270	ADD	89%	11,919	2.8	2.4	2.3	2.1	0%	0%	18%	20%	0.7	0.7	23%	27%
NMDC	NMDC IN	115	207	ADD	80%	4,757	4.5	3.9	1.3	1.2	19%	20%	18%	19%	1.2	1.1	17%	17%
Average							**4.3**	**3.7**	**1.1**	**1.0**	**13%**	**13%**	**13%**	**14%**	**0.8**	**0.7**	**23%**	**25%**
Global Peers		(LC)																
POSCO	005490 KS EQUITY	269,000	NA	NA	NA	22,083	4.7	3.2	0.5	0.5	3%	3%	2%	2%	0.7	0.7	NA	NA
Nucor Corp	NUE US EQUITY	57	NA	NA	NA	17,101	8.2	7.0	1.5	1.5	8%	8%	4%	4%	2.3	2.3	NA	NA
Baoshan Iron & Steel Co Ltd	600019 CH EQUITY	6	NA	NA	NA	20,281	4.9	3.5	0.7	0.7	6%	6%	5%	5%	1.3	1.3	NA	NA
Severstal PAO	CHMF RM EQUITY	1,267	NA	NA	NA	14,618	5.9	5.5	4.4	3.8	35%	33%	25%	24%	6.3	6.3	NA	NA
ArcelorMittal SA	MT NA EQUITY	19	NA	NA	NA	23,497	5.4	3.5	0.6	0.6	-6%	-8%	-7%	-8%	0.8	0.8	NA	NA
SSAB AB	SSAAF US EQUITY	3	NA	NA	NA	3,172	6.1	3.4	0.5	0.4	-3%	-6%	-2%	-3%	7.3	7.3	NA	NA
Whitehaven Coal Ltd	WHC AU EQUITY	2	NA	NA	NA	1,262	10.0	8.2	0.5	0.5	1%	0%	1%	3%	9.1	9.1	NA	NA
Aluminum Corp of China Ltd	2600 HK EQUITY	3	NA	NA	NA	8,729	9.6	3.4	0.7	0.7	0%	0%	1%	1%	2.0	2.0	NA	NA
Adaro Energy Tbk PT	ADRO IJ EQUITY	1,530	NA	NA	NA	3,546	4.6	3.6	1.0	0.9	8%	9%	3%	3%	8.5	8.5	NA	NA
Glencore PLC	GLEN LN EQUITY	240	NA	NA	NA	42,524	6.2	3.4	1.1	1.1	10%	10%	2%	2%	0.6	0.6	NA	NA
Anglo American PLC	AAL LN EQUITY	2,449	NA	NA	NA	40,691	4.6	3.8	1.5	1.3	6%	5%	7%	6%	0.8	0.8	NA	NA
Fortescue Metals Group Ltd	FMG AU EQUITY	21	NA	NA	NA	51,670	5.4	5.7	3.6	3.3	40%	25%	26%	18%	1.5	1.5	NA	NA
Kumba Iron Ore Ltd	KIO SJ EQUITY	59,544	NA	NA	NA	12,918	5.6	6.7	4.6	4.4	37%	31%	29%	24%	8.8	8.8	NA	NA
BHP Group Ltd	BHP AT EQUITY	42	NA	NA	NA	150,943	7.1	6.8	3.2	3.0	19%	18%	12%	12%	0.4	0.4	NA	NA
Rio Tinto PLC	RIO LN EQUITY	5,603	NA	NA	NA	125,495	5.8	6.4	2.5	2.4	26%	20%	13%	11%	0.5	0.5	NA	NA
Average							**6.3**	**4.9**	**1.8**	**1.7**	**13%**	**10%**	**8%**	**7%**	**3.4**	**3.4**	**NA**	**NA**

*NOTE: IN CASE OF THE EIGHT INIDAN COMPANIED BEING INITIATED THE MULTIPLES ARE BASED ON OUR ESTIMATES WHILE FOR THE REST THEY ARE BASED ON BLOOMBERG CONSENSUS ESTIMATES; *FCF IS CALCULATED AS OPERATING CASHFLOW LESS MAINTENANCE CAPEX LESS INTEREST PAID; ROCE IS PRE-TAX IN ALL CASES;
SOURCES: EIP RESEARCH ESTIMATES, COMPANY REPORTS, BLOOMBERG. PRICED AS AT 15 DEC 2020

Dawn of good times

Sector investment thesis

After the weak global industrial commodity prices/spreads over 2Q-4Q CY19, we witnessed a nascent recovery in the early part of 1QCY20 which was abruptly halted by the onset of COVID-19. Soon, the demand, prices and spreads collapsed due to government-induced demand-destructive lockdowns over 1Q-3Q CY20. After six quarters of pain, high frequency indicators in China, India and most large industrial nations point to a strong recovery in demand. Unprecedented and synchronous central bank monetary easing and liquidity measures and the fiscal stimulus by various governments, when coupled with resumption in business activity across regions and sectors and in the context of pent-up demand coming from six weak quarters, set the stage for a strong recovery that we expect to last several quarters.

Although COVID-19 is still not under full control globally as we witness subsequent rounds of infection, we now believe the response of governments worldwide in controlling the spread of the virus will not be close to the comprehensive lockdowns/shutdowns we witnessed in 1HCY20. COVID-19 is no longer an "unknown unknown", which means the uncertainty around the same is significantly lower, while central bank liquidity and fiscal stimuli continue to do their jobs.

As a result, there has been considerable improvement in demand for industrial metals globally. The recovery has, almost single handedly, been driven by China with support coming from the rest of the regions in a more lagged fashion.

In this note we initiate coverage on eight companies – four steel companies (JSW Steel, Tata Steel, SAIL, JSPL), Hindalco (primarily exposed to aluminium flat rolling, alumina, aluminium, and copper custom smelting), NALCO (alumina, aluminium), Coal India (mostly thermal coal) and NMDC (iron ore and steel plant). We initiate coverage on the sector with an Overweight rating and Add ratings on all the eight names. Each segment/subsector has its own dynamics, apart from the common macro level dynamics.

1) **Steel:** Indian steel sector spreads are strong due to an iron ore cost push-driven hike to regional steel prices, the rupee depreciation and an ongoing recovery in domestic demand. Global dynamics of supply discipline in regions where demand is impacted have been helping too. Strong Chinese stimulus and global central bank liquidity would continue to support the demand side of the equation, in our view. Global manufacturing PMIs too paint a positive outlook for demand. Despite all this, regional steel spreads are not overheated, supporting our positive outlook. **We initiate coverage on Tata Steel, SAIL, JSPL and JSW with Add ratings.**

2) **Aluminum flat rolling, alumina, aluminum and copper custom smelting:** Hindalco's EBITDA mix for FY22/23F is diversified and only 15% (FY22/23F) is directly linked to LME prices, and variability is much lower than the global sector average. NALCO is one of the lowest-cost alumina producers globally. We believe NALCO's balance sheet protects against downside, while Hindalco and NALCO are likely to benefit from the ongoing global economic recovery. **We initiate coverage on Hindalco and NALCO with Add ratings.**

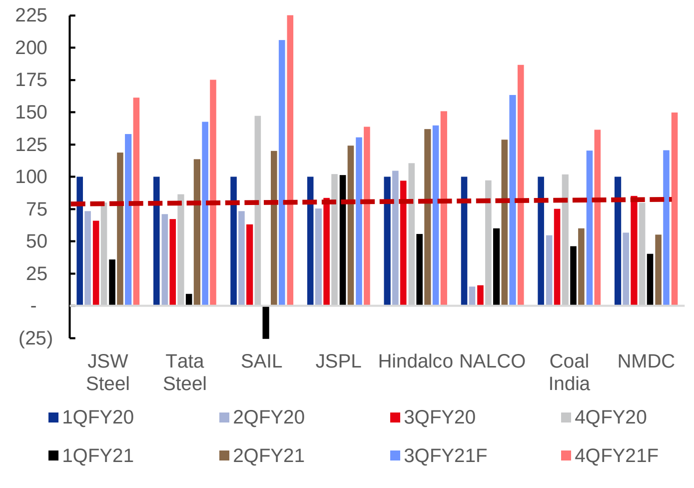
3) **Coal and iron ore mining:** We like Coal India for its robust FCF generation potential and weak positioning due to excessive investor pessimism. NMDC's decision to demerge the steel asset removes a key overhang on the stock, in our view. That apart, we believe NMDC will benefit from strong iron ore prices and a tight domestic demand-supply situation. Both companies are key beneficiaries of the corporate tax rate cut (announced in

2HFY20) and dividend distribution tax reform (announced in 4QFY20). We initiate coverage on Coal India and NMDC with Add ratings.

Near-term outlook: We forecast positive EBITDA momentum for 3Q/4QFY21F for all the companies being initiated in this note vs 2QFY21 as a result of 1) increasing sales volumes trajectory due to near V-shaped recovery in domestic demand for ferrous and non-ferrous metals and coal post the COVID-19 lockdown-led demand destruction, 2) higher spreads as a result of higher underlying commodity prices aided by regional price strength and rupee depreciation, 3) higher share of domestic sales volumes, 4) operating leverage benefit of higher sales volumes, and 5) only margin-cost inflation.

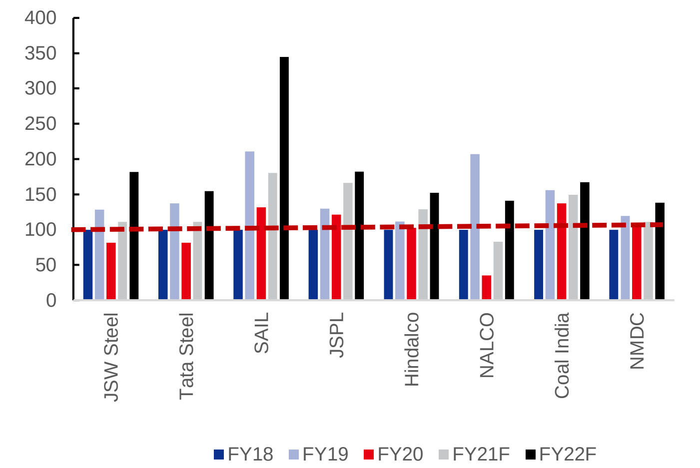
Despite being a COVID-challenged year, we forecast FY21F EBITDA for all the eight companies being initiated in this note to be higher than FY20. While we expect FY21F to be better than FY20, we also expect FY22F to be better than FY19/20/21F as a result of the recovery in underlying commodity prices and cost deflation – discretionary and non discretionary. Yet, our underlying commodity assumptions are well below the current spot prices.

Figure 3: Indexed quarterly EBITDA momentum



SOURCES: EIP RESEARCH ESTIMATES, BLOOMBERG, COMPANY REPORTS

Figure 4: Indexed yearly EBITDA momentum



SOURCES: EIP RESEARCH ESTIMATES, BLOOMBERG, COMPANY REPORTS

Valuation methodology: We use an enterprise value to invested capital (EV/IC)-based methodology to value JSW Steel, Tata Steel, SAIL, JSPL and Hindalco. The model ties the EV/IC multiple directly to the excess RoCE generated and, hence, we believe it is more sound than assigning an EV/EBITDA multiple to arrive at the valuation. We value Coal India and NALCO based on the dividend discount model as both companies are state owned where there is considerable capital expenditure each year. Our valuation of NMDC is based on the sum of parts (SoTP), where we value the iron ore business on an EV/EBITDA basis as there is not much cash drain like with Coal India, and the steel asset is also valued on an EV/EBITDA multiple basis.

Scenarios: To better capture the broad range of potential outcomes, we use a scenario-based approaches, base, upside and downside, to evaluate all eight companies. The base case scenario assumes the pricing and spreads will moderate somewhat from current levels for steel, aluminium and iron ore. We assume the situation improves from the current levels in the case of coal and aluminium flat rolling. In the upside case, we assume spreads, prices, volumes and profitability across the board to be similar to the upcycle witnessed in FY18/19. In our downside scenario, we broadly assume the situation prevailing in FY20.

What's priced in: Amongst the 8 companies we are initiating coverage in this note, stock prices of the 4 steel companies have rallied YTD (not from Covid event related low) by anywhere between 35-62%. Hindalco's share price has rallied YTD by 14%, while that of Coal India/NMDC/NALCO have corrected by ~33/10/1% (there are unique company specific reasons for the underperformance of Coal India & NMDC).

In the backdrop of the strong YTD stock price performance of the steel companies despite Covid induced challenges over the period, there are investor concerns on whether the stock prices are ahead of the underlying commodity prices/spreads and if there is overheating in the stock prices.

To address the concern, we have evaluated the fair valuation of the 4 steel companies using the spot steel prices and spreads assumptions: 1) China export HRC price of US$610/t fob China, 2) premium low vol coking coal price of US$110/t cif India, 3) domestic iron ore price of ~Rs6,000/t. As we show in figure 5 below, the stock prices are still significantly below the fair value implied by the spot steel prices and spreads.

Figure 5 also includes our base case Target Price (TP) in which we assume lower steel prices and spreads from the current spot levels to be conservative. While the current underlying steel prices and spreads are very strong and there is still scope for Indian steel prices to move higher in the near to medium term, we assume a contraction in steel prices and spreads from the current spot levels in our base case for all the 4 companies for FY22/23F to be conservative. Despite that, our base case TP for the companies is much higher than the current share prices.

In both the cases we have used a similar valuation methodology & implied EV/EBITDA multiple of 6.5x for all 4 stocks.

Figure 5: Steel companies fair valuation under our base case assumptions & spot price assumptions

Rs/sh	Current stock price	Our TP based on Base case assumptions	Fair value based on spot steel prices & spreads
JSW Steel	366	590	1,220
Tata Steel	636	1,020	2,126
JSPL	273	540	1,182
SAIL	59	150	576

SOURCES: EIP RESEARCH ESTIMATES,

Sector valuation

Despite a robust rally in stock prices from the COVID-19 lockdown lows of Mar 2020, and higher stock prices compared to the pre-COVID-19 highs seen in Jan 2020, at the current market value the Indian Metals & Mining sector's valuation appears undemanding based on our estimates. However, based on Bloomberg consensus estimates, valuations might look higher (as compared to ours). We believe there is upside to consensus estimates.

Figure 6: Sector Valuation

Company	Bloomberg Ticker	Closing Price (Rs)	Target Price (Rs/sh)	Rating	% Upside	Market cap (Rs b)	EV/EBITDA (x) FY22F	EV/EBITDA (x) FY23F	P/BV (x) FY22F	P/BV (x) FY23F	RoE FY22F	RoE FY23F	RoCE* FY22F	RoCE* FY23F	EV/CE FY22F	EV/CE FY23F	FCF Yield# FY22F	FCF Yield# FY23F
India																		
JSW Steel	JSTL IN	366	590	ADD	61%	880	5.1	4.4	1.6	1.3	24%	19%	18%	17%	1.1	1.0	22%	23%
Tata Steel	TATA IN	636	1020	ADD	60%	729	4.9	4.9	0.9	0.8	16%	12%	12%	10%	0.8	0.7	23%	26%
Jindal Steel & Power	JSP IN	273	540	ADD	98%	279	3.9	3.6	0.7	0.7	11%	10%	11%	10%	0.6	0.5	28%	27%
Steel Authority of India	SAIL IN	59	150	ADD	156%	241	3.8	3.4	0.5	0.4	16%	13%	12%	12%	0.6	0.5	43%	36%
Hindalco Industries	HNDL IN	245	360	ADD	47%	549	4.6	4.0	0.8	0.7	12%	12%	10%	10%	0.6	0.5	23%	24%
NALCO	NACL IN	43	60	ADD	40%	80	2.5	3.0	0.7	0.7	14%	12%	15%	14%	0.5	0.5	20%	20%
Coal India	COAL IN	143	270	ADD	89%	882	2.7	2.3	2.3	2.0	47%	48%	18%	20%	0.7	0.6	27%	27%
NMDC	NMDC IN	115	207	ADD	80%	352	4.0	3.6	1.2	1.2	20%	20%	19%	19%	1.1	1.1	17%	18%
Average							**3.9**	**3.7**	**1.1**	**1.0**	**20%**	**18%**	**14%**	**14%**	**0.7**	**0.7**	**25%**	**25%**

*NOTE: *FCF IS CALCULATED AS OPERATING CASHFLOW LESS MAINTENANCE CAPEX LESS INTEREST PAID; ROCE IS PRE-TAX IN ALL CASES; TP IS 1 YR FORWARD
SOURCES: EIP RESEARCH ESTIMATES, COMPANY REPORTS, BLOOMBERG. PRICED AS AT 15 DEC 2020

Our estimates vs. Bloomberg consensus

Our estimates for the sector are well ahead of Bloomberg consensus, as we factor in the ongoing recovery in spreads, volumes, profitability, etc to some extent. We believe there is significant upside to consensus estimates.

Figure 7: Earnings estimates comparison vs. Bloomberg Consensus

Rs m	EIP Research FY21F	EIP Research FY22F	EIP Research FY23F	Consensus FY21F	Consensus FY22F	Consensus FY23F	Difference FY21F	Difference FY22F	Difference FY23F
JSW Steel (Consol)									
-Revenue	733,467	1,126,895	1,163,417	716,080	880,336	981,901	2%	28%	18%
-EBITDA	164,458	268,660	268,273	143,673	187,281	212,527	14%	43%	26%
-PAT	58,489	136,753	133,484	43,433	68,632	80,572	35%	99%	66%
Tata Steel (Consol)									
-Revenue	1,420,261	1,569,032	1,544,284	1,373,270	1,548,574	1,569,175	3%	1%	-2%
-EBITDA	237,601	330,896	300,996	199,282	262,243	272,167	19%	26%	11%
-PAT	39,384	137,790	119,064	24,852	77,646	81,218	58%	77%	47%
Jindal Steel and Power (Consol)									
-Revenue	352,511	395,604	395,604	379,040	406,492	417,614	-7%	-3%	-5%
-EBITDA	107,475	117,916	107,998	102,743	100,267	100,253	5%	18%	8%
-PAT	25,949	42,045	40,439	24,359	23,827	27,865	7%	76%	45%
SAIL									
-Revenue	651,408	842,413	900,117	634,451	711,974	753,766	3%	18%	19%
-EBITDA	83,150	158,989	153,440	79,148	103,742	118,548	5%	53%	29%
-PAT	13,246	76,422	75,002	11,980	32,159	45,265	11%	138%	66%
Hindalco Industries (Consol)									
-Revenue	1,312,354	1,524,783	1,546,562	1,263,113	1,432,114	1,476,183	4%	6%	5%
-EBITDA	173,344	207,241	209,233	155,376	184,144	195,711	12%	13%	7%
-PAT	51,288	84,761	90,095	40,241	62,931	69,736	27%	35%	29%
NALCO									
-Revenue	92,676	108,756	108,557	88,048	92,744	90,392	5%	17%	20%
-EBITDA	15,416	24,191	21,555	10,509	12,428	10,906	47%	95%	98%
-PAT	8,337	14,947	12,816	6,273	6,333	4,487	33%	136%	186%
Coal India (Consol)									
-Revenue	935,900	1,054,488	1,127,578	899,751	991,189	1,071,764	4%	6%	5%
-EBITDA	238,938	267,382	304,040	152,907	182,687	199,478	56%	46%	52%
-PAT	176,197	183,207	209,281	121,915	142,131	156,788	45%	29%	33%
NMDC									
-Revenue	127,487	167,066	161,296	115,717	140,014	129,937	10%	19%	24%
-EBITDA	68,874	73,132	64,715	57,124	61,911	57,982	21%	18%	12%
-PAT	48,511	55,609	58,267	43,733	45,672	43,794	11%	22%	33%

SOURCES: EIP RESEARCH ESTIMATES, COMPANY REPORTS, BLOOMBERG

Key assumptions summary

Our assumptions for the underlying commodities are conservative compared to the current spot prices and when it comes to commodities which are costs for the companies, we have assumed higher levels compared to the current spot prices.

Figure 8: Key assumptions summary

Rs m	FY20	FY21F	FY22F	FY23F	Rs m	FY20	FY21F	FY22F	FY23F
Benchmark HRC price (US$/t)	490	480	525	510	Alumina (US$/t)	310	275	300	300
Coking coal (US$/t)	175	125	160	160	Coal India FSA Realisation (Rs/t)	1,438	1,417	1,487	1,487
LME Aluminium (US$/t)	1750	1775	2000	2000	Coal India Eauction (Rs/t)	2,177	1,615	1,725	1,859
Copper tc/rc (Usc/lb)	15.9	15.9	18	20	NMDC Iron ore realisation (Rs/t)	3,438	3,638	4,138	3,638
Company specific					**Company specific**				
JSW Steel					**Hindalco**				
Volume (mt) - SA	15.1	15.0	20.0	21.5	India Aluminium EBITDA (Rs m)	34,281	40,969	54,750	47,922
EBITDA/t (Rs/t) - SA	8,303	10,678	12,431	11,173	India Copper EBITDA (Rs m)	11,612	7,469	10,850	12,650
EBITDA	125,170	160,199	248,652	240,215	Novelis Volume (kt)	3,273	3,617	3,834	3,949
Capex	128,100	93,500	170,000	15,000	Adj EBITDA (US$/t)	430	463	495	505
FCF*	67,650	91,171	336,936	368,588	Adj EBITDA (US$ m)	1,406	1,675	1,899	1,992
Tata Steel					Capex	60,053	67,910	188,104	50,000
Volume (mt)	12.8	12.85	12.5	12.5	FCF*	64,985	87,455	122,871	128,815
EBITDA/t (Rs/t)	11,611	14,791	16,908	14,711	**NALCO**				
Europe Volume (mt)	9.29	8.75	9.50	9.50	Alumina volume (kt)	1,304	1,253	1,352	1,345
Europe EBITDA/t (Rs/t)	(130)	(925)	4,316	4,620	Aluminium volume (kt)	396	430	455	455
Consol EBITDA	174,631	237,601	330,896	300,996	EBITDA	4,892	15,416	24,191	21,555
Capex	(103,980)	(37,500)	(87,500)	(68,500)	Capex	(8,448)	(10,000)	(10,000)	(10,000)
FCF*	105,547	131,186	167,760	186,213	FCF*	(4,239)	13,750	16,105	15,396
JSPL					**Coal India**				
Steel Volume (mt)	6.1	7.4	8.0	8.5	Volume (mt)	582	586	632	669
Steel EBITDA/t (Rs/t)	8,507	12,635	12,999	11,076	Eauction (mt)	65	97	80	85
Power sales volume (mn kwh)	9,356	10,328	10,722	10,722	FSA Realisation (Rs/t)	1,438	1,417	1,487	1,487
Power EBITDA (Rs/kwh)	1.34	1.35	1.30	1.29	Eauction (Rs/t)	2,177	1,615	1,725	1,859
Consol EBITDA	78,539	107,475	117,916	107,998	EBITDA	219,209	238,938	267,382	304,040
Capex	16,646	10,500	10,500	10,500	Capex	51,906	70,000	80,000	80,000
FCF*	48,237	50,477	78,119	76,516	FCF*	35,352	96,112	236,580	237,908
SAIL					**NMDC**				
Volume (mt)	14.2	15.3	17.5	19.1	Volume (mt)	32	32	38	42
EBITDA/t (Rs/t)	20,152	20,336	23,175	23,370	Realisation (Rs/t)	3,438	3,638	4,138	3,638
EBITDA	60,782	83,150	158,989	153,440	EBITDA (Rs m)	60,104	64,374	80,260	89,157
Capex	44,491	30,000	20,000	20,000	Capex	(24,035)	(18,000)	(15,000)	(15,000)
FCF*	(55,782)	85,347	103,433	87,090	FCF*	19,495	51,481	60,746	61,867

*NOTE: *FCF IS CALCULATED AS OPERATING CASHFLOW LESS MAINTENANCE CAPEX LESS INTEREST PAID;
SOURCES: EIP RESEARCH, COMPANY REPORTS, BLOOMBERG

Detailed forecasts for the next 2 quarters

We forecast positive EBITDA momentum in 3Q/4QFY21F for all the companies being initiated in this note vs 2QFY21 as a result of 1) the increasing sales volumes trajectory due to the near V-shaped recovery in the domestic demand post the COVID-19 lockdown-led demand destruction, 2) higher spreads as a result of higher underlying commodity prices aided by regional price strength and rupee depreciation, 3) higher share of domestic sales volumes, 4) operating leverage benefit of higher sales volumes and 5) only marginal cost inflation.

Figure 9: Key assumptions summary

Rs m	Q1FY21	Q2FY21	Q3FY21F	q/q	y/y	Q4FY21F	y/y	FY21F (y/y)		Q1FY21	Q2FY21	Q3FY21F	q/q	y/y	Q4FY21F	y/y	FY21F (y/y)
JSW Steel									**Tata Steel**								
Volume (mt)	2.8	4.1	4.0	-2.9%	-0.7%	4.1	10.8%	-0.5%	Volume (mt)								
Realistion (Rs/t)	36,761	40,769	44,269	8.6%	13.2%	46,269	12.1%	-0.3%	-SA	2.1	3.6	3.4	-5.4%	-0.8%	3.8	28.8%	0.4%
EBITDA/t (Rs/t)	5,104	10,136	12,779	26.1%	93.1%	14,041	61.3%	28.6%	-Bhushan	0.7	1.3	1.3	-1.6%	-0.8%	1.3	27.6%	8.7%
EBITDA									-Europe	2.0	2.3	2.3	-0.9%	-4.3%	2.3	-5.9%	-5.8%
-SA	14,290	41,760	47,574	13.9%	78.4%	54,687	69.8%	28.0%	Realisation (Rs/t)								
-Cons	**13,410**	**44,140**	**49,500**	**12.1%**	**102.0%**	**60,000**	**101.7%**	**36.2%**	-SA	44,126	45,524	49,524	8.8%	11.2%	51,524	5.6%	2.1%
									-Bhushan	38,529	43,457	47,457	9.2%	18.7%	49,457	13.4%	3.2%
									-Europe	56,692	59,463	62,000	4.3%	5.4%	63,500	11.7%	0.6%
									EBITDA/t								
JSPL									-SA	5,911	12,867	17,348	34.8%	57.4%	19,191	53.2%	27.4%
Volume									-Bhushan	2,143	8,764	11,500	31.2%	410.2%	11,500	45.4%	87.0%
-Steel (mt)	1.6	1.9	1.9	-1.6%	18.0%	2.0	42.9%	22.1%	-Europe	(3,162)	(2,035)	(500)	-75.4%	-87.7%	1,500	451.5%	610.3%
-Power (mnkwh)	2,179	2,744	2,500	-8.9%	31.6%	3,000	23.5%	10.4%	EBITDA								
Realistion									-SA	12,510	46,247	58,983	27.5%	56.1%	71,966	97.2%	27.9%
-Steel (Rs/t)	40,261	40,722	42,222	3.7%	2.4%	43,222	2.0%	-3.7%	-Bhushan	1,500	11,130	14,375	29.2%	406.2%	14,375	85.5%	103.3%
-Power (Rs/kwh)	3.9	3.6	3.8	3.9%	-9.1%	3.8	-0.2%	-5.0%	-Europe	(6,260)	(4,620)	(1,125)	-75.6%	-88.2%	3,375	419.2%	569.0%
EBITDA per									**-Cons**	**5,055**	**61,108**	**76,737**	**25.6%**	**112.0%**	**94,220**	**102.8%**	**36.1%**
-Steel (Rs/t)	11,720	12,615	13,102	3.9%	56.0%	12,996	16.5%	48.5%									
-Power (Rs/kwh)	2	1	1	27.2%	3.5%	1	2.2%	1.4%	**SAIL**								
EBITDA									Volume (mt)	2.3	4.1	4.4	6.5%	7.3%	4.5	20.5%	7.5%
-Steel	18,283	24,348	24,893	2.2%	84.1%	25,992	66.4%	81.4%	Realistion (Rs/t)	39,424	40,977	42,977	4.9%	6.5%	44,977	3.8%	-1.7%
-Power	3,680	3,020	3,500	15.9%	36.2%	4,200	26.1%	11.9%	EBITDA/t (Rs/t)	(1,751)	4,602	7,405	60.9%	204.3%	7,952	-54.0%	-24.2%
-Cons	**22,021**	**27,023**	**28,393**	**5.1%**	**56.0%**	**30,192**	**36.0%**	**36.8%**	**EBITDA**	**(4,028)**	**19,005**	**32,580**	**71.4%**	**226.6%**	**35,784**	**-44.6%**	**-18.5%**
Hindalco									**Coal India**								
EBITDA									Volume (mt)								
-Aluminium SA	5,360	6,440	8,000	24.2%	5.7%	9,000	22.4%	7.9%	-FSA	102	108	130	20.3%	1.9%	137	-1.4%	-5.2%
- Utkal	3,200	4,160	4,000	-3.8%	43.4%	4,000	31.6%	55.3%	-Eauction	16	22	25	11.8%	154.1%	35	66.5%	48.7%
-Copper	370	2,080	2,250	8.2%	-12.1%	2,500	-38.4%	-35.7%	-Total	120	134	159	18.4%	12.0%	176	7.5%	0.7%
Novelis									Realisation (Rs/t)								
Volume (mt)	774	933	950	1.8%	19.2%	1,000	23.3%	10.5%	-FSA	1,359	1,412	1,425	0.9%	1.0%	1,460	1.0%	-1.5%
Adj EBITDA/t (US$/t)	327	488	487	-0.1%	13.2%	498	5.5%	7.8%	-Eauction	1,598	1,437	1,600	11.3%	-39.0%	1,700	-19.3%	-25.8%
Adj EBITDA (US$ m)	253	455	463	1.7%	35.0%	498	30.0%	13.8%	-Total	1,412	1,454	1,500	3.1%	-1.5%	1,545	-1.1%	-3.3%
Cons EBITDA	**19,330**	**47,500**	**48,505**	**2.1%**	**44.2%**	**52,352**	**36.3%**	**21.2%**	**EBITDA post OBR**	**27,991**	**33,997**	**79,581**	**134.1%**	**28.7%**	**90,204**	**-5.2%**	**9.0%**
									NMDC								
									Volume (mt)	6.4	6.6	9.0	36.3%	7.0%	10	16.0%	1.5%
NALCO									Realisation (Rs/t)	3,023	3,378	4,278	26.6%	19.7%	4,578	23.8%	7.4%
EBITDA	1,291	2,759	3,500	26.9%	919.2%	4,000	92.0%	215.1%	**EBITDA**	**7,549**	**10,302**	**22,498**	**118.4%**	**41.4%**	**27,976**	**87.5%**	**14.6%**

SOURCES: EIP RESEARCH, COMPANY REPORTS, BLOOMBERG

Experimental FCF yield based valuation approach to valuing companies with leverage: In this note we also discuss an alternative approach to value debt-heavy companies. This framework may only be applied to companies with a good track record in the business and proven ability to manage high debt levels and in cases where we are reasonably certain it is a going concern. In this approach we argue that while arriving at the current market valuation of companies, we should not reduce the net debt from the enterprise value. The only charge against the debt to be considered is the interest cost per year. As long as the interest obligation is being met and the interest rate is lower than the RoCE, and if reinvestment opportunities continue to generate RoCE greater than interest cost, paying off the debt doesn't make sense and it is prudent to constantly roll over the debt over a long period – i.e. close to the end of the life of the assets. This model assumes the accrual of benefits of lower cost debt to equity holders and yields substantially higher fair value compared to conventional enterprise value-based multiples. If the market value is derived from the EV in the traditional way, we disregard the company's ability to service interest cost while staying afloat all along and generating alpha. Please refer to the section 'Look through the debt' in page 50.

Figure 10: Fair value based on traditional multiple based valuation approach and FCF yield based valuation approach

Fair Valuation (Rs/sh)	Based on traditional multiple based valuation	Based on FCF yield approach
JSW Steel	590	760
Tata Steel	1,020	1,560
JSPL	540	675
SAIL	150	190
Hindalco	360	580

SOURCES: EIP RESEARCH ESTIMATES, COMPANY REPORTS

Steel industry section:

Indian steel sector in a sweet spot

After over six quarters of weak pricing and spreads, steel prices picked up over the last few months as a result of good demand driven by focused stimulus in China and a supply response in the rest of the world.

Post the COVID-19 shock, the global steel market has been a tale of two halves. On the one hand, Chinese steel production is quite strong while it is moderate for the rest of the world. Although we believe very high Chinese steel production is not positive for the pricing environment, China's robust production has not resulted in increased exports in YTD FY21. In recent months China increased steel imports, mainly semi-finished and commodity grades. The apparent consumption of steel in China is holding up well. Against this backdrop, the strong supply response from China has caused iron ore prices to rally sharply to about ~US$155/tonne now, giving steel prices a nice cost push.

Coking coal prices, another key steel-making ingredient, have been very soft at US$100/t. Most large Indian mills are blast furnace-based and, to that extent, depend on coking coal imports. In our view, premium grade coking coal prices have been soft due to multiple factors like generally low prices for energy commodities, not-so-strong steel output across the world and, more important, China's restrictions on imports of coal from Australia.

This is where Indian steel companies are in a sweet spot. The iron ore cost push has driven steel prices higher, coking coal prices are benign while domestic demand is strongly recovering. Iron ore cost push-driven higher steel prices are always welcome for India, given captive iron ore mines of Indian companies and, even in cases where there is no captive iron ore, domestic iron ore prices have always been at a discount to international prices. In our view, this is a favourable scenario for steel prices in India and expansion of spreads. The rupee's YTD depreciation has helped steel pricing in India as it is mostly determined on an import-parity basis.

Recent trends on demand and volumes

India's crude steel production declined by 15% yoy in Apr-Nov 2020, vs. 5%/4%/2% growth in FY18/19/20. Exports have been strong over the period which means not all production was absorbed by the domestic market. FYTD exports increased by 34% yoy to 7.1mt (million tonnes). Imports have been muted at 2.7mt over the period implying a 47% degrowth. Consequently, India's consumption of steel for the period declined by 21%. However, the larger steel companies fared better than the industry, implying the unorganised smaller mills had a disproportionately higher share of the decline.

We expect India's steel consumption to decline by ~13% in FY21F, higher than the production decline of 8% we expect for FY21F. In our view, FY22F will be a strong year for consumption, with a demand growth forecast of 18% over FY21F.

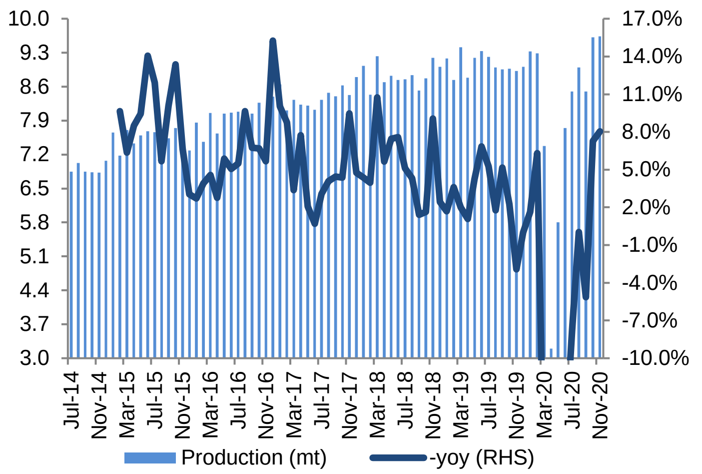
Most of the key demand indicators/drivers have made a strong recovery.

Figure 11: India demand indicators

Monthly data	Jul 19	Aug 19	Sep 19	Oct 19	Nov-19	Dec-19	Jan-20	Feb-20	Mar-20	Apr-20	May-20	Jun-20	Jul-20	Aug-20	Sep-20	Oct-20	Nov-20
IIP	**4.3**	**-1.1**	**-4.3**	**-3.8**	**1.8**	**-0.3**	**2.0**	**4.5**	**-16.6**	**-55.5**	**-34.7**	**-16.6**	**-10.6**	**-0.4**	**0.5**	**3.6**	
- Basic goods	3.5	1.1	-5.1	-6.0	-0.3	2.2	1.8	7.4	-3.4	-26.6	-20.0	-14.6	-10.9	-11.1	-1.5	-3.3	
- Capital goods	-7.1	-21.0	-20.7	-21.9	-8.6	-18.2	-4.3	-10.0	-35.6	-92.0	-64.9	-36.9	-22.8	-15.5	-3.3	3.3	
- Intermediate goods	13.9	7.0	7.0	22.2	17.1	12.5	15.8	22.5	-18.5	-66.1	-44.1	-25.1	-12.5	-6.8	-1.4	0.8	
- Consumer goods	3.3	-2.4	-4.5	-8.7	0.6	-6.7	-4.0	-6.4	-23.8	-61.8	-36.0	-6.9	-8.8	-6.3	3.6	11.6	
- Consumer non-durables	8.4	3.1	-0.4	-1.8	2.0	-3.7	-0.6	-0.3	-22.3	-48.1	-9.7	14.3	1.8	-2.3	2.4	7.5	
- Infrastructure goods	3.5	-4.8	-6.8	-9.7	-3.5	-2.6	-0.3	2.8	-24.3	-85.0	-39.0	-18.3	-8.2	-1.6	2.5	7.8	
PMI																	
-India mfg PMI	52.5	51.4	51.4	50.6	51.2	52.7	55.3	54.5	51.8	27.4	30.8	47.2	46	52	56.8	58.9	56.3
-India Services PMI	53.8	52.4	48.7	49.2	51.8	53.3	55.5	57.5	49.3	5.4	12.6	33.7	34.2	41.8	49.8	54.1	53.7
-India Composite PMI	53.9	52.6	49.8	49.6	48.3	53.7	56.3	57.6	50.6	7.2	14.8	37.8	37.2	46	54.6	58.0	56.3
Automobile Sector																	
MHCV + LCV (yoy %)	-28.8	-40.1	-40.5	-26.6	-18.4	-15.2	-16.6	-34.7	-86.6	NA	-95.5	-62.2	-42.8	-13.1	-11.0		
PV + UV (yoy %)	-25.6	-22.8	-18.1	0.5	3.0	1.5	-5.7	-4.3	-49.7	NA	-82.5	-49.2	-11.1	2.7	17.1	11.9	
Others																	
GST Collection (In Rs bn.)	1,021	982	919	954	103	103	111	105	98	32	62	91	87	86	95	105	105
Credit growth, %, yoy	12.2	10.3	8.3	8.9	7.2	7.0	7.2	6.1	6.1	6.8	5.5	5.6	6.4	5.5	5.1	5.5	
Cement production (yoy %)	8.0	-4.9	-2.1	-7.7	4.1	5.5	5.0	8.6	-24.7	-86.0	-21.4	-7.2	-13.7	-14.7	-3.4	2.8	
Electricity generation (yoy %)	10.5	3.4	-2.9	-12.9	-6.1	-1.7	2.1	10.5	-10.3	-25.8	-17.6	-11.3	-0.1	-2.9	4.4	8.9	1.7
Revenue earning railway freight tonnes % yoy	1.6	-6.1	-6.6	-8.1	0.9	4.3	2.8	6.5	-13.9	-35.3	-21.2	-7.7	-4.6	3.9	15.5	15.4	9.0
Quarterly data	**Sep 18**	**Dec 18**	**Mar 19**	**Jun 19**	**Sep 19**	**Dec-19**	**Mar-20**	**Jun-20**	**Sep-20**								
Real GDP growth yoy %	7.0	6.6	5.8	5.0	4.5	4.7	3.1	-23.9	-7.5								
GFCF growth yoy %	11.8	11.7	3.6	4.0	1.0	16.0	21.4	(48.6)	(14.9)								

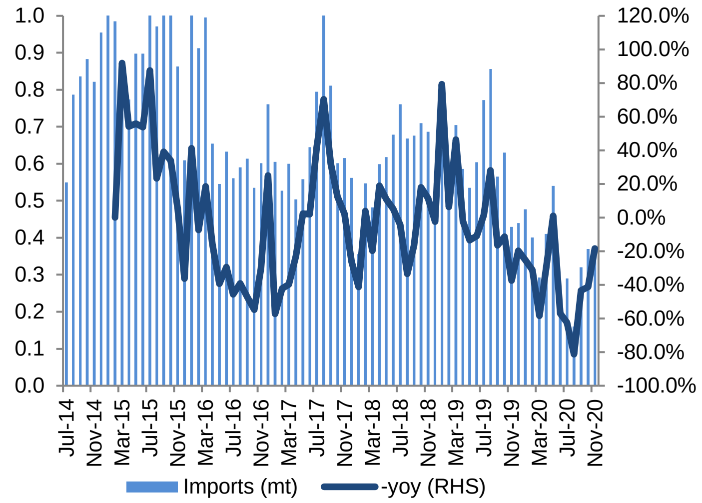
SOURCES: EIP RESEARCH, BLOOMBERG,MOSPI,SIAM,RBI,CEA

Figure 12: India steel production makes a V-shaped comeback



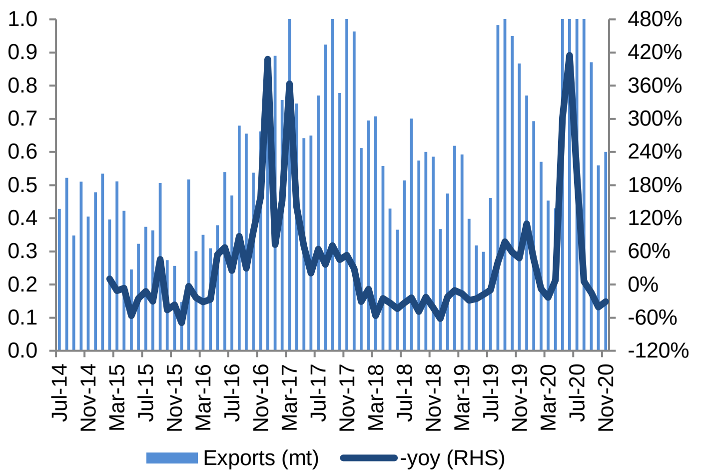
SOURCES: EIP RESEARCH, JOINT PLANT COMMITTEE, COMPANY REPORTS

Figure 13: Imports have tapered off FYTD21



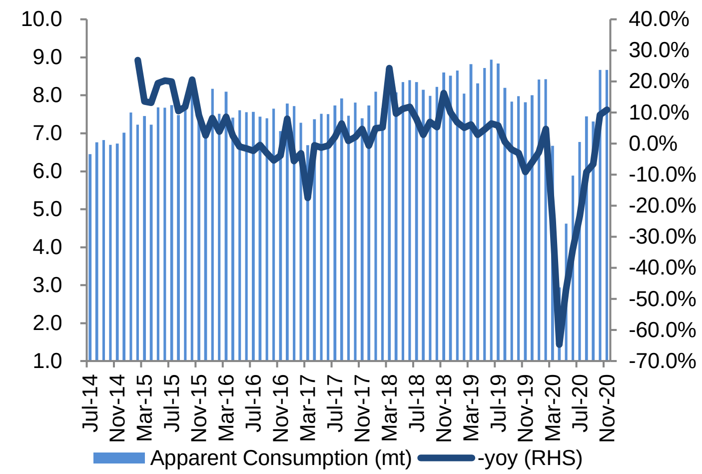
SOURCES: EIP RESEARCH, JOINT PLANT COMMITTEE COMPANY REPORTS

Figure 14: Spike in exports meant domestic demand weakness was absorbed to a great extent



SOURCES: EIP RESEARCH, JOINT PLANT COMMITTEE, COMPANY REPORTS

Figure 15: Apparent consumption of steel made a solid V-shaped comeback

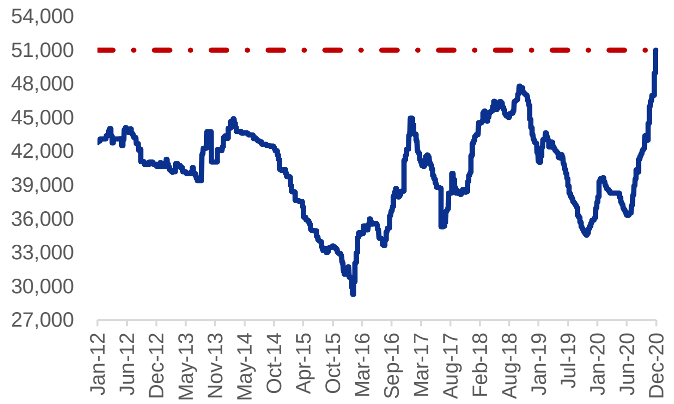


SOURCES: EIP RESEARCH, JOINT PLANT COMMITTEE, COMPANY REPORTS

Pricing and profitability

Indian benchmark HRC grade steel prices are closer to their eight-year high levels of Rs51,000/t, which raises concerns over whether the prices are overheated and at their peak. However, US$-denominated prices and regional spreads are both well below their peaks, indicating there isn't any overheating at this stage.

Figure 16: India's domestic HRC (Rs/t)

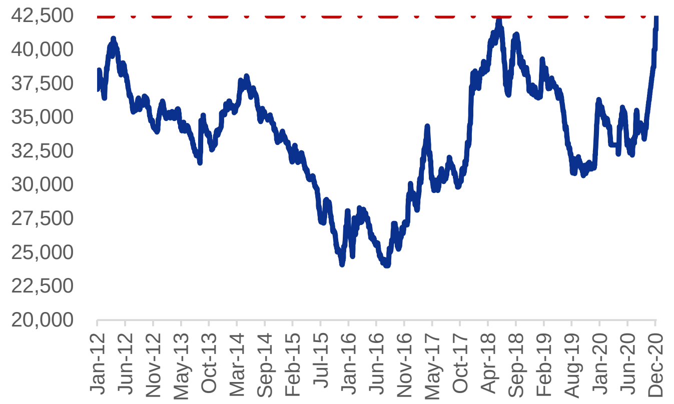


SOURCES: EIP RESEARCH, BLOOMBERG, COMPANY REPORTS

Figure 17: India's domestic HRC (US$/t)

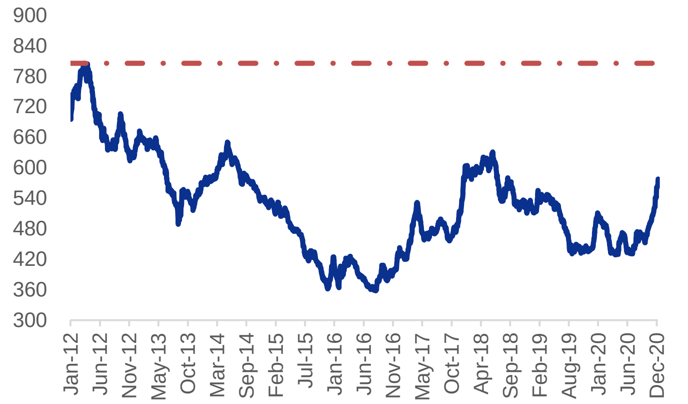
SOURCES: EIP RESEARCH, BLOOMBERG, COMPANY REPORTS

Figure 18: India's domestic Rebar (Rs/t)



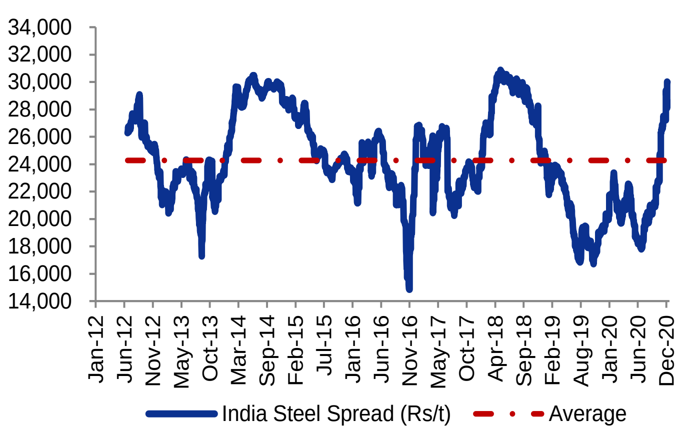
SOURCES: EIP RESEARCH, BLOOMBERG, COMPANY REPORTS

Figure 19: India's domestic Rebar (US$/t)



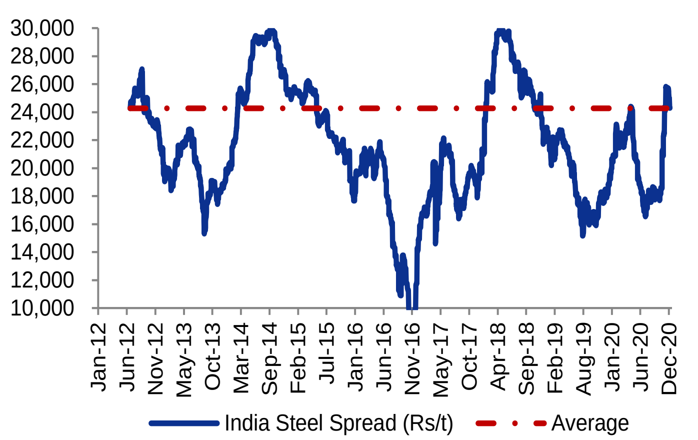
SOURCES: EIP RESEARCH, BLOOMBERG, COMPANY REPORTS

Figure 20: India's domestic HRC spread still below peak



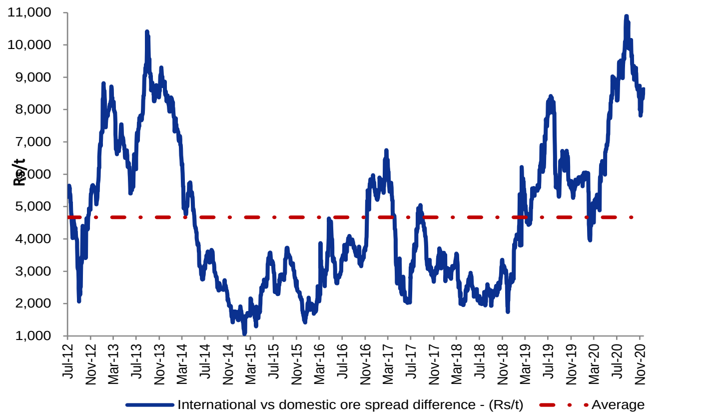
SOURCES: EIP RESEARCH, BLOOMBERG, COMPANY REPORTS

Figure 21: India's domestic Rebar spread well below peak



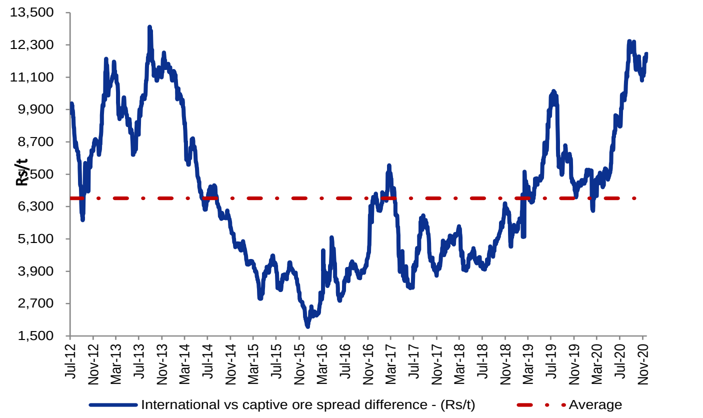
SOURCES: EIP RESEARCH, BLOOMBERG, COMPANY REPORTS

Figure 22: India's steel spread difference – international vs. domestic ore



SOURCES: EIP RESEARCH, BLOOMBERG, COMPANY REPORTS

Figure 23: India's steel spread difference – international vs. captive ore



SOURCES: EIP RESEARCH, BLOOMBERG, COMPANY REPORTS

Medium- to long-term India demand-supply scenario

Capacity addition mainly by incumbents

India's steel industry has witnessed significant pain and subsequent restructuring over the last five years. Most of the stressed assets have been acquired by the incumbent steel players. The table below lists the assets that were resolved through the National Company Law Tribunal under the Insolvency and Bankruptcy Code (IBC).

Figure 24: Steel assets resolved under IBC as at 8 Dec 2020

Asset	Capacity (mt)	Status	Buyer
Essar Steel	10.0	Resolved	ArcelorMittal
Bhushan Steel	5.6	Resolved	Tata Steel
Bhushan Power and Steel	3.5	Almost resolved, JSW Steel trying to ring-fence from company's prior period litigations	JSW Steel
Electrosteel Steels	2.5	Resolved	Vedanta
Monnet Ispat and Energy	1.5	Resolved	JSW Steel Aio Capital consortium
Uttam Galva	1.0	Resolved	Carval-Nithia Capital
Usha Martin	1.0	Resolved	Tata Sponge

SOURCES: EIP RESEARCH, BLOOMBERG, PRESS, BOMBAY STOCK EXCHANGE (BSE)

Subsequently, new players have announced few capacity addition plans. According to company announcements, capacity addition over the next three to four years is limited to:

1) JSW Steel's 6mtpa brownfield expansion at Dolvi and Vijaynagar;
2) Tata Steel's 5mtpa Kalinganagar Phase 2 expansion;
3) NMDC's 3mtpa greenfield plant in Nagarnar;
4) c4mtpa from SAIL's progressive commissioning of major facilities under its ongoing modernisation and expansion programme.

Apart from the above, we expect higher production volume from:

1) JSPL's scaling up of utilisation at Angul to add c1mtpa,
2) progressive increase in utilisation at Tata Bhushan Steel (Not Rated [NR], CP: Rs39.2), Bhushan Power and Steel, Essar Steel, Electrosteel, Monnet Ispat & Energy (NR, CP: Rs28.75), Tata Steel Long (NR, CP Rs:514.0) post the full implementation of resolution of plans by acquiring companies.

India's steel demand grew at a CAGR of 5% over FY15-19, while we forecast demand to rise by 4% over FY20-23F. We believe this growth rate is achievable given the government's emphasis on housing and infrastructure development in India. Even under conservative GDP growth assumptions of 6% per year for India in FY22-23F, we believe steel demand can grow by 6% per year, assuming gearing of 1x.

Figure 25: India steel demand-supply model

mt	FY08	FY09	FY10	FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18	FY19	FY20	FY21F	FY22F	FY23F
Crude Steel Capacity	**59.8**	**66.3**	**75.0**	**80.4**	**90.9**	**97.0**	**102.3**	**109.9**	**122.0**	**128.3**	**138.0**	**142.2**	**142.2**	**147.2**	**151.2**	**156.2**
- growth	*5.3%*	*10.9%*	*13.1%*	*7.2%*	*13.1%*	*6.7%*	*5.5%*	*7.4%*	*11.0%*	*5.1%*	*7.6%*	*3.1%*	*0.0%*	*3.5%*	*2.7%*	*3.3%*
Effective crude steel capacity	**58.3**	**63.1**	**70.7**	**77.7**	**85.7**	**94.0**	**99.7**	**106.1**	**116.0**	**125.1**	**133.1**	**140.1**	**142.2**	**144.7**	**149.2**	**153.7**
-Effective capital utilisation %	*92.5%*	*92.6%*	*93.1%*	*91.0%*	*86.7%*	*83.4%*	*82.0%*	*83.9%*	*78.5%*	*77.9%*	*76.8%*	*79.2%*	*76.3%*	*69.0%*	*77.0%*	*79.0%*
-Effective capacity growth %		*8.1%*	*12.1%*	*10.0%*	*10.2%*	*9.7%*	*6.1%*	*6.5%*	*9.3%*	*7.9%*	*6.4%*	*5.2%*	*1.5%*	*1.8%*	*3.1%*	*3.0%*
Crude Steel Production	53.9	58.4	65.8	70.7	74.3	78.4	81.7	89.0	91.0	97.5	102.3	110.9	108.5	99.9	114.9	121.5
- growth	*6.1%*	*8.3%*	*12.7%*	*7.4%*	*5.1%*	*5.5%*	*4.2%*	*8.9%*	*2.3%*	*7.1%*	*5.0%*	*8.4%*	*-2.2%*	*-8.0%*	*15.1%*	*5.7%*
Implied Finished Steel Production	48.5	52.6	59.2	63.6	66.9	70.6	73.5	80.1	81.9	87.7	92.1	99.8	97.7	89.9	103.4	109.3
- growth	*6.1%*	*8.3%*	*12.7%*	*7.4%*	*5.1%*	*5.5%*	*4.2%*	*8.9%*	*2.3%*	*7.1%*	*5.0%*	*8.4%*	*-2.2%*	*-8.0%*	*15.1%*	*5.7%*
Net Imports	**1.8**	**2.0**	**4.1**	**3.4**	**2.4**	**2.5**	**-0.5**	**3.8**	**7.6**	**-1.1**	**-2.1**	**1.5**	**-1.6**	**-6.3**	**-5.2**	**-5.2**
Finished Steel import	6.9	5.7	7.3	6.8	6.9	7.9	5.5	9.3	11.7	7.2	7.5	7.9	6.7	3.6	2.7	3.1
- growth	*40.8%*	*-17.4%*	*28.1%*	*-6.8%*	*1.5%*	*14.5%*	*-30.4%*	*69.1%*	*25.8%*	*-38.5%*	*3.9%*	*5.2%*	*-15.1%*	*-46.1%*	*-24.5%*	*14.8%*
Finished Steel export	5.1	3.7	3.2	3.4	4.5	5.4	6.0	5.5	4.1	8.3	9.6	6.4	8.2	9.9	7.9	8.3
- growth	*-3.8%*	*-27.5%*	*-13.5%*	*6.3%*	*32.4%*	*20.0%*	*11.1%*	*-8.3%*	*-25.5%*	*102.4%*	*15.9%*	*-33.7%*	*29.1%*	*20.0%*	*-20.0%*	*5.0%*
Apparent Finished Steel Consumption	**50.3**	**54.6**	**63.3**	**67.0**	**69.3**	**73.1**	**73.0**	**83.9**	**89.5**	**86.6**	**89.9**	**101.3**	**96.1**	**83.6**	**98.2**	**104.1**
- growth	*11.0%*	*8.4%*	*16.1%*	*5.9%*	*3.3%*	*5.5%*	*0.0%*	*14.9%*	*6.7%*	*-3.2%*	*3.8%*	*12.7%*	*-5.2%*	*-13.0%*	*17.5%*	*6.0%*

SOURCES: EIP RESEARCH ESTIMATES, MINISTRY OF STEEL, BLOOMBERG, COMPANY REPORTS

Progress of capacity utilisation in India

We assume reasonable demand growth of 4% p.a. over FY20-23F. Amid the backdrop of limited capacity additions, this results in the sector's capacity utilisation increasing from 76% in FY20 to 82% in FY23F. Even so, we do not expect the sector's pricing power to improve materially because steel prices broadly follow import-parity pricing.

However, high capacity utilisation may result in domestic prices trading at a marginal premium to import-parity prices, which is good for the industry's financial health, in our view.

As a result of significant industry consolidation, we believe the production share of the six largest players, i.e., JSW Steel, Tata Steel, JSPL, SAIL, Essar Steel and Rashtriya Ispat Nigam Ltd (RINL), is set to increase vs. the rest of the industry.

Figure 26: Steel industry capacity utilisation progression

mt	FY08	FY09	FY10	FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18	FY19	FY20	FY21F	FY22F	FY23F
Total Crude Capacity	**59.8**	**66.3**	**75.0**	**80.4**	**90.9**	**97.0**	**102.3**	**109.9**	**122.0**	**128.3**	**138.0**	**142.2**	**142.2**	**147.2**	**151.2**	**156.2**
- growth %	*5.3%*	*10.9%*	*13.1%*	*7.2%*	*13.1%*	*6.7%*	*5.5%*	*7.4%*	*11.0%*	*5.1%*	*7.6%*	*3.1%*	*0.0%*	*3.5%*	*2.7%*	*3.3%*
Effective Crude Capacity	58.3	63.1	70.7	77.7	85.7	94.0	99.7	106.1	116.0	125.1	133.1	140.1	142.2	144.7	149.2	153.7
Total Crude Production	53.9	58.4	65.8	70.7	74.3	78.4	81.7	89.0	91.0	97.5	102.3	110.9	108.5	99.9	114.9	126.1
- growth %	*6.1%*	*8.3%*	*12.7%*	*7.4%*	*5.1%*	*5.5%*	*4.2%*	*8.9%*	*2.3%*	*7.1%*	*5.0%*	*8.4%*	*-2.2%*	*-8.0%*	*15.1%*	*9.7%*
-Effective capacity utilisation %	*92.5%*	*92.6%*	*93.1%*	*91.0%*	*86.7%*	*83.4%*	*82.0%*	*83.9%*	*78.5%*	*77.9%*	*76.8%*	*79.2%*	*76.3%*	*69.0%*	*77.0%*	*82.0%*
Top 6 Players Production																
SAIL	13.6	13.1	13.2	13.5	13.0	13.4	13.4	13.8	14.2	14.4	15.0	16.3	16.2	14.9	19.5	20.3
Tata Steel	5.0	5.6	6.6	6.9	7.1	8.1	9.2	9.3	10.0	11.7	12.5	16.8	18.2	16.8	20.5	20.5
JSW Steel	8.5	6.2	10.8	8.9	12.1	11.0	12.2	13.1	12.7	16.5	17.3	19.8	18.8	17.4	24.0	26.0
JSPL	1.2	1.5	2.0	2.3	2.5	2.8	2.6	2.8	3.7	3.8	4.3	6.2	7.0	8.0	8.3	9.0
Essar Steel	3.6	3.3	3.5	3.4	4.3	4.2	3.2	2.9	3.7	5.4	6.8	6.9	7.2	6.7	8.0	8.0
RINL	3.1	3.0	3.2	3.2	3.1	3.1	3.2	3.3	3.6	4.0	4.8	5.2	6.2	5.7	6.4	6.4
Production share of top 6 players	**35.1**	**32.8**	**39.2**	**38.1**	**42.2**	**42.6**	**43.8**	**45.2**	**47.8**	**55.7**	**60.6**	**71.2**	**73.6**	**69.6**	**86.7**	**90.3**
-%	***65.2%***	***56.1%***	***59.6%***	***53.9%***	***56.7%***	***54.3%***	***53.6%***	***50.8%***	***52.5%***	***57.2%***	***59.3%***	***64.2%***	***67.8%***	***69.7%***	***75.4%***	***71.6%***
Private Player Share in TOP 6	18.3	16.7	22.8	21.4	26.1	26.1	27.2	28.1	30.0	37.3	40.9	49.7	51.3	48.9	60.8	63.5
-% of Top 6	*52.2%*	*50.9%*	*58.2%*	*56.2%*	*61.8%*	*61.3%*	*62.1%*	*62.2%*	*62.7%*	*67.0%*	*67.4%*	*69.8%*	*69.6%*	*70.3%*	*70.1%*	*70.4%*
-% of Total	*34.0%*	*28.5%*	*34.7%*	*30.3%*	*35.1%*	*33.3%*	*33.3%*	*31.6%*	*32.9%*	*38.3%*	*40.0%*	*44.8%*	*47.2%*	*49.0%*	*52.9%*	*50.4%*
Tail	18.8	25.6	26.6	32.6	32.1	35.8	37.9	43.8	43.2	41.8	41.7	39.7	34.9	30.3	28.2	35.8
-%	*34.8%*	*43.9%*	*40.4%*	*46.1%*	*43.3%*	*45.7%*	*46.4%*	*49.2%*	*47.5%*	*42.8%*	*40.7%*	*35.8%*	*32.2%*	*30.3%*	*24.6%*	*28.4%*

SOURCES: EIP RESEARCH ESTIMATES, BLOOMBERG, MINISTRY OF STEEL, COMPANY REPORTS

Key raw material integration, price outlook and impact on Indian companies

Iron ore: Iron ore prices averaged US$102/t in 2020, largely driven by strong Chinese steel production coupled with a disruption in production due to the tailings dam accident in Brazil and production constraints globally due to COVID-19 disruption.

As at 15 Dec 2020, iron ore prices were US$155/t and well ahead of marginal cost of production and attracting new supply, including countries such as China. This additional supply should reduce the likelihood of iron ore prices rising further. However, this supply adjustment could take longer and iron ore's price strength could well continue into 2021F.

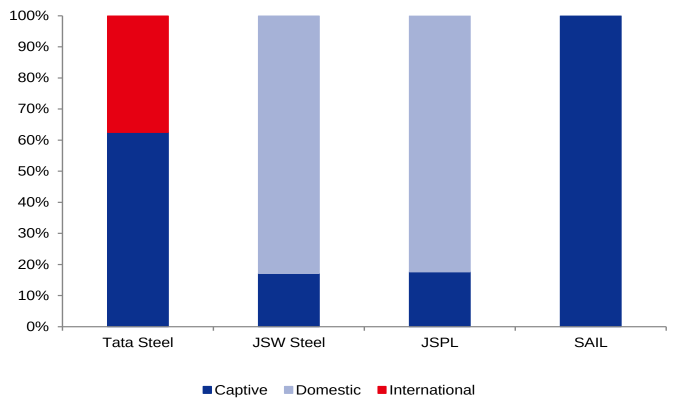
Impact on Indian steel companies: We believe a strong iron ore price scenario would be positive for integrated steel companies like Tata Steel and SAIL. Although there is no one-on-one correlation between international and domestic iron ore prices, domestic iron prices are heading in the same direction as international prices. In a rising iron ore price environment, we believe companies with the least captive iron ore resources, like JSPL and JSW Steel, would not be better placed.

Metallurgical coal: Metallurgical coal has been the Indian steel sector's Achilles' heel due to negligible production of this type of coal in India, especially the low volatility premium grade coal. However, premium coking coal prices have been modest at ~US$102/t as at 15 Dec 2020, largely due to lower energy prices and import restrictions from China. There could be an upward bias to coking coal prices over the next few quarters, in our view.

Domestic supplies of iron ore: While India has among the world's largest iron ore reserves, the supply situation is quite tight currently and we expect it to remain so for a few more quarters. Although, there was a successful auction of mines in the state of Odisha, due to the aggressive bidding for the mines, many of the mines of the auction wouldn't be viable commercially. As a result, we expect about 30+mtpa worth of capacity going off stream. Added to this and given the strong international iron ore prices, we expect significantly higher exports from India (~40mtpa in FY21/22F vs less than 10mt in FY20), further tightening the demand-supply balance. International iron ore price strength, coupled with tight domestic supplies, means domestic iron ore prices would continue to be elevated. In such a scenario, companies with 100% captive low-cost iron ore like Tata Steel and SAIL would benefit the most, while the ones which don't have access to 100% low-cost captive iron ore would not be able to benefit as much as the former.

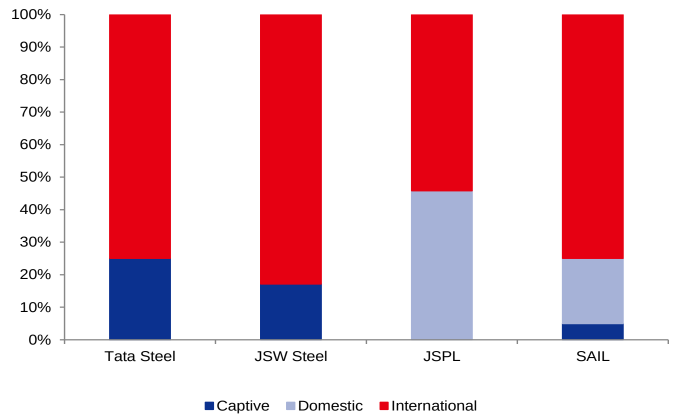
Impact on Indian steel companies: In an environment of low metallurgical coal prices, companies with more dependence on coking coal imports and high-cost base like SAIL, JSW Steel and JSPL tend to benefit disproportionately higher than others.

Figure 27: Iron ore integration by player (FY20)



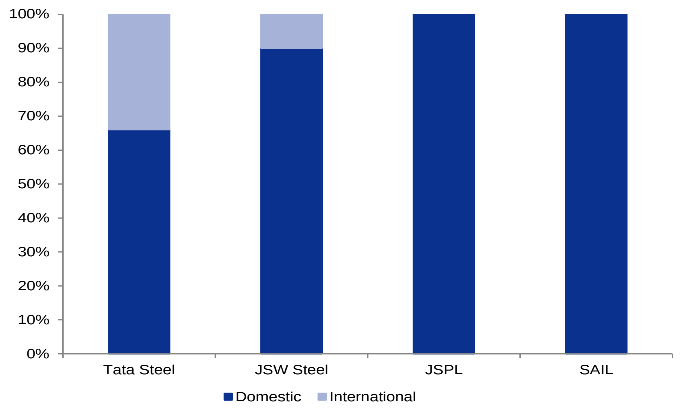
NOTE: WE DON'T INCLUDE JSW STEEL's ODISHA MINES UNDER CAPTIVE DUE TO THE HIGH PREMIUM; SOURCES: EIP RESEARCH ESTIMATES, COMPANY REPORTS

Figure 28: Coal (energy) integration by player (FY20)



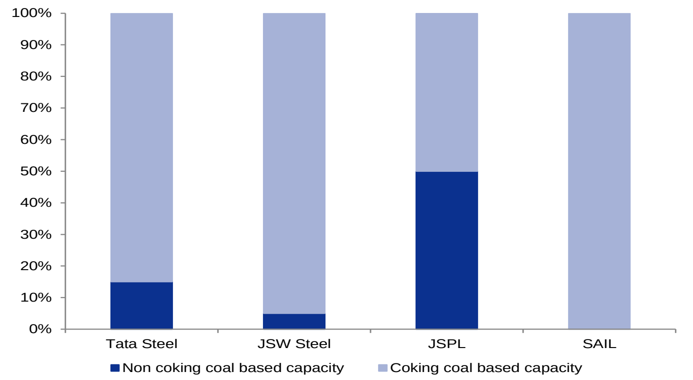
SOURCES: EIP RESEARCH ESTIMATES, COMPANY REPORTS

Figure 29: Iron ore – domestic vs. international dependency (FY20)



SOURCES: EIP RESEARCH, COMPANY REPORTS

Figure 30: Coking coal vs. non coking coal-based capacity (FY20)



SOURCES: EIP RESEARCH, COMPANY REPORTS

China steel sector and demand indicators

China demand indicators

Major steel-relevant indicators like industrial production, fixed asset investment, property markets indicators rebounded sharply post the weak data print in Jan/Feb 2020. An infrastructure focus stimulus of US$550bn provided by the Chinese government, coupled with increase in local government borrowing limits, relaxation in hukou, strong restocking demand, rebound in export trade, have all aided the demand side of metals and commodities. We expect the positive momentum for some more quarters given key milestones in 2021/22 like the Chinese Communist Party's (CCP) 100th anniversary celebrations and the National Congress of the CCP in 2022.

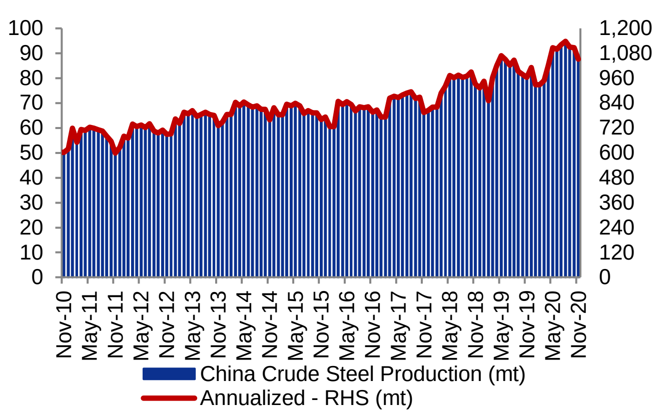
Figure 31: Key indicators for China

	Oct 19	Nov 19	Dec 19	Jan 20	Feb 20	Mar 20	Apr 20	May 20	June 20	July 20	Aug 20	Sept 20	Oct 20	Nov 20
China Total Social Financing, Rmb bn	662	1,750	2,103	5,051	874	5,184	3,104	3,187	3,468	1,693	3,585	3,469	1,417	2,130
China TSF (L 12m % change yoy)	-10%	9%	30%	9%	23%	80%	121%	119%	51%	56%	78%	49%	114%	22%
SHIBOR Fixing- 3Mth	2.887	3.017	3.02	2.858	2.429	1.933	1.4	1.453	2.126	2.593	2.636	2.691	2.972	3.123
Manufacturing PMI	49.3	50.2	50.2	50.0	35.7	52.0	50.8	50.6	50.9	51.1	51.0	51.5	51.4	52.1
Caixin Manufacturing PMI	51.7	51.8	51.5	51.1	40.3	50.1	49.4	50.7	51.2	52.8	53.1	53.0	53.6	54.9
Caixin Services PMI	51.1	53.5	52.5	51.8	26.5	43.0	44.4	55.0	58.4	54.1	54.0	54.8	56.8	57.8
China Steel PMI (CISA)	51.2	51.2	50.1	39.4	38.0	56.9	57.7	53.3	50.6	49.9	50.1	52.6	52.3	49.7
Fixed Asset Investment (ex-rural) % change yoy	5.2	5.2	5.4	NA	-24.5	-16.1	-10.3	-6.3	-3.1	-1.6	-0.3	0.8	1.8	2.6
-Infrastructure FAI % change yoy	4.2	4.00	3.8	NA	-30.3	-19.7	-11.8	-6.3	-2.7	-1.00	-0.3	0.2	0.7	1.0
-Real Estate development FAI % change yoy	10.90	11.10	11.80	NA	-16.30	-9.50	-4.50	-1.10	1.80	3.00	4.90	6.10	7.00	
Total Power consumption, % change yoy	5.00	4.70	NA	NA	-10.10	-4.20	0.70	4.60	6.10	2.30	7.70	7.20	6.60	
Passenger Vehicle Sales, % change yoy	-4.0	-4.0	-0.1	-18.6	-79.1	-43.2	4.5	14.7	11.8	16.8	11.7	13.0	12.7	12.7
China air conditioner production, % change yoy	-2.0	1.2	11.1	NA	NA	-19.4	-18.9	-11.3	16.7	9.8	7.0	-3.9	8.8	
Property starts % change yoy	23.2	-2.9	7.4	NA	NA	-10.5	-1.3	2.5	8.9	11.3	2.4	-2.0	3.5	4.1
Property sales % change yoy	14.6	10.1	7.8	NA	NA	-12.1	-2.6	16.2	12.6	17.7	29.4	18.0	26.0	20.1
Property completions % change yoy	10.3	10.2	9.9	NA	-16.3	-7.7	-3.3	-0.3	1.9	3.4	4.6	5.6	6.3	6.8
Land sales % change yoy	1.4	-10.3	41.6	-16.0	26.0	-22.5	34.3	14.7	39.7	5.3	47.5	21.5	27.2	
Construction index	49.8	49.2	49.2	40.2	37.7	61.6	57.6	54.1	49.9	49.5	50.3	52.6	52.0	48.7
Tier 1 Residential prices % yoy	4.7	4.9	3.9	3.8	3.5	3.4	2.9	2.9	3.3	3.6	3.9	3.9	4.1	3.9
Tier 3 Residential prices % yoy	8.0	7.4	7.0	6.7	6.2	5.7	5.5	5.3	5.2	5.1	5.1	4.9	4.5	4.2
Price Indicators														
CRB Rind % MoM	-0.5	-0.3	4.0	1.6	-1.6	-7.0	-1.9	1.0	0.3	4.5	3.4	1.7	1.9	3.6
China Rebar future price, % mom	-0.4	0.0	-7.0	-0.3	-4.0	-1.2	-0.7	4.2	0.1	0.5	1.0	-1.6	1.6	8.0
Others														
WTI, % change mom	0.2	1.8	11.0	-15.6	-13.2	-54.2	-8.0	88.4	10.7	2.5	5.8	-5.6	-11.0	26.7
Copper, % change mom	2.3	0.2	6.0	-10.0	1.2	-12.5	5.7	3.0	11.9	5.7	6.0	-0.3	0.5	12.2
MSCI Mining, % change mom	2.5	2.0	7.0	-6.2	-12.7	-14.5	20.3	5.8	6.4	10.7	2.7	-5.4	-2.9	9.6
Shanghai Property Index, % change mom	0.5	-1.7	11.0	-4.9	-1.3	-3.7	2.4	-5.4	1.0	5.9	2.2	-3.2	-2.4	6.8

NOTE: L 12 STANDS FOR LAST 12 MONTHS.
SOURCES: EIP RESEARCH, WORLD STEEL ASSOCIATION (WSA)

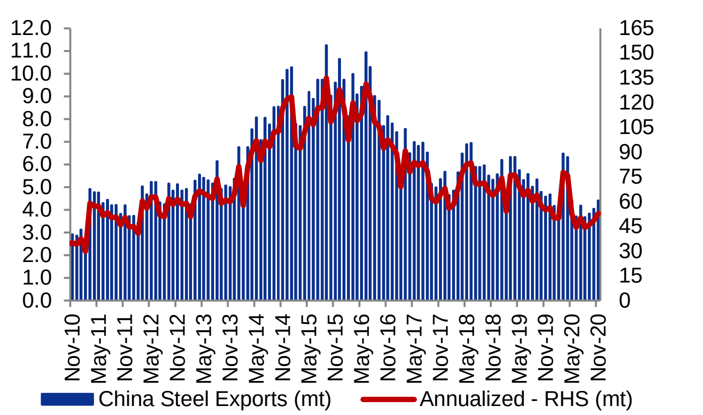
China steel sector – volume and demand trends

Figure 32: China crude steel production robust



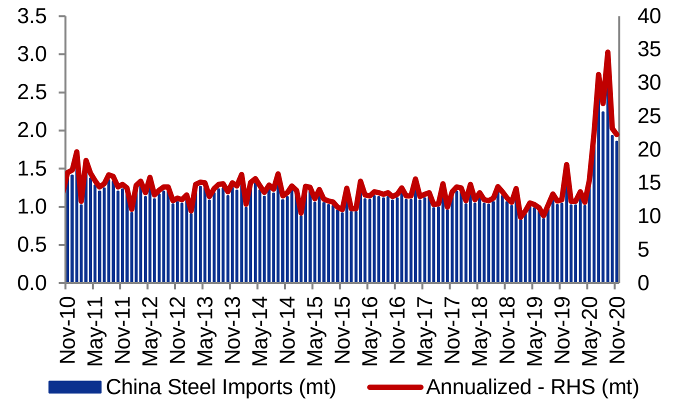
SOURCES: EIP RESEARCH, BLOOMBERG, COMPANY REPORTS

Figure 33: Exports remain muted



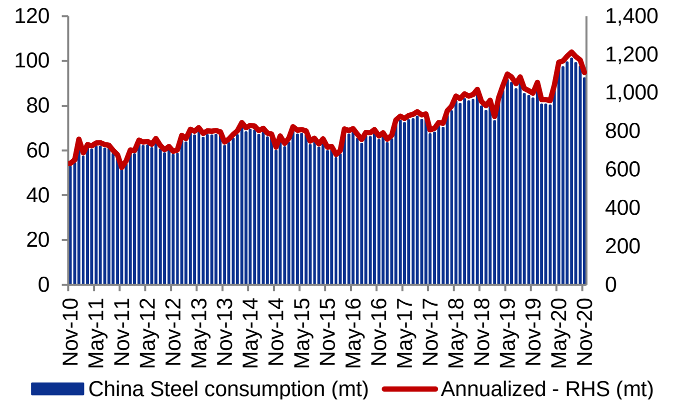
SOURCES: EIP RESEARCH, BLOOMBERG, COMPANY REPORTS

Figure 34: Chinese import spike in H1 has surprised



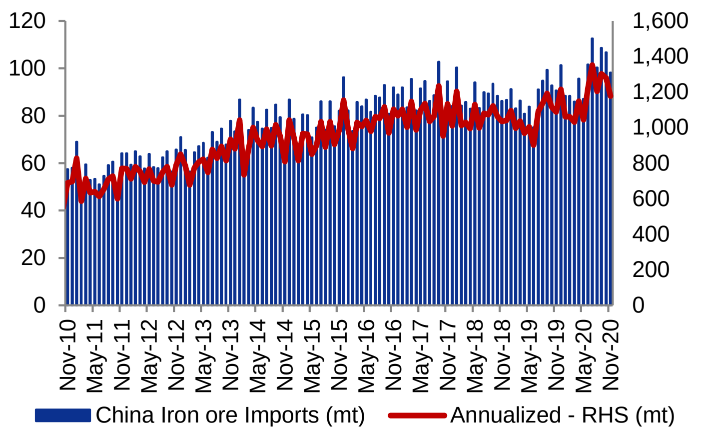
SOURCES: EIP RESEARCH, BLOOMBERG, COMPANY REPORTS

Figure 35: Apparent consumption of steel in China annualising at 1.1bn to 1.2 bn tonnes



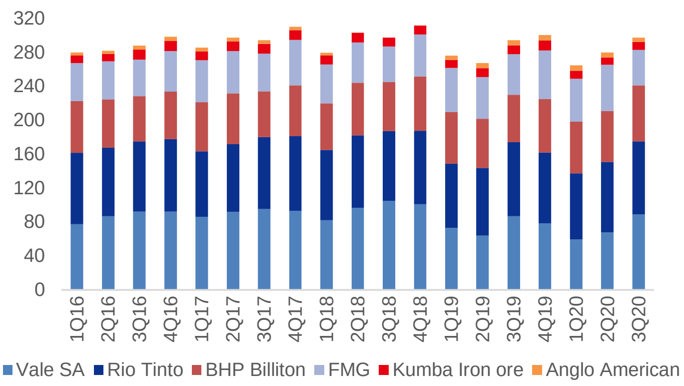
SOURCES: EIP RESEARCH, BLOOMBERG, COMPANY REPORTS

Figure 36: China iron ore imports high



SOURCES: EIP RESEARCH, COMPANY REPORTS

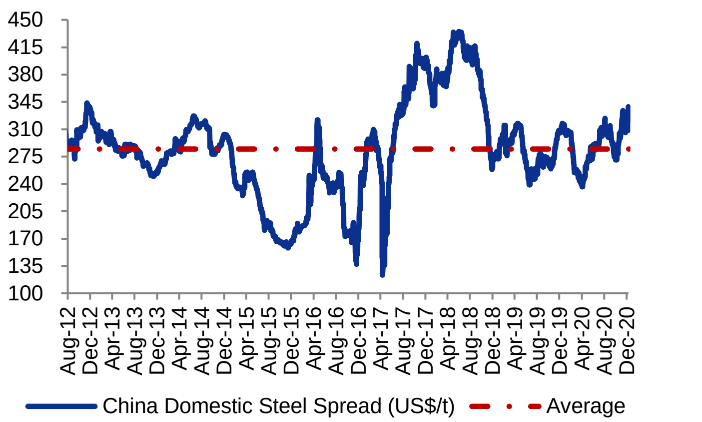
Figure 37: Global iron ore majors' production rampup (mt) not commensurate with Chinese demand



SOURCES: EIP RESEARCH, COMPANY REPORTS

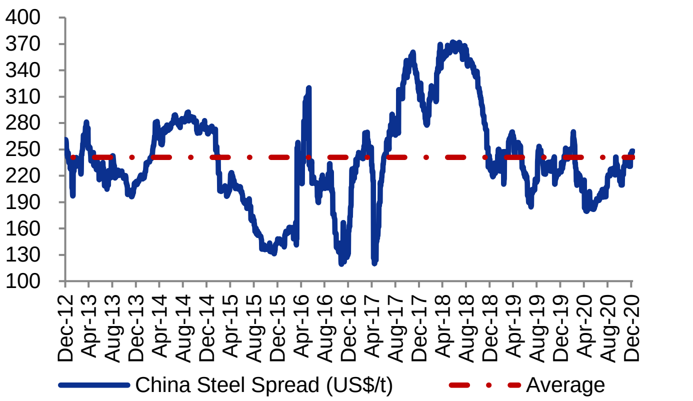
China steel sector spreads

Figure 38: China domestic steel spread still some distance away from peak



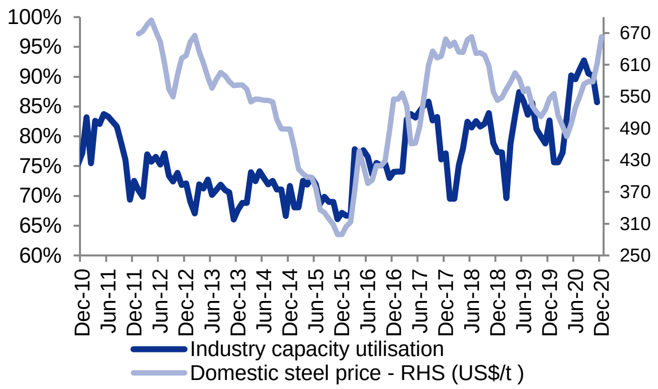
SOURCES: EIP RESEARCH, BLOOMBERG, COMPANY REPORTS

Figure 39: China domestic steel spread still some distance away from peak



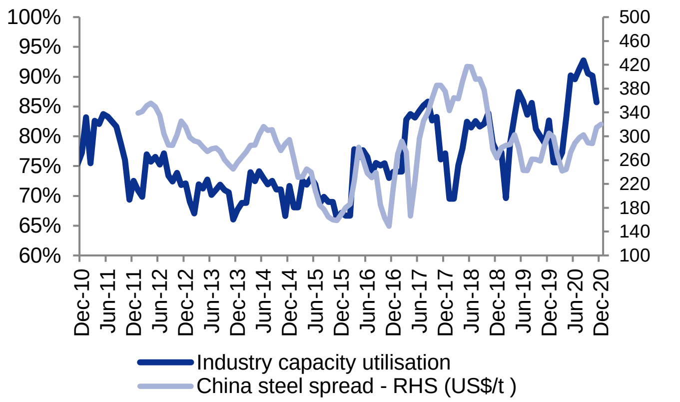
SOURCES: EIP RESEARCH, BLOOMBERG, COMPANY REPORTS

Figure 40: High China capacity utilisation keeps prices high



SOURCES: EIP RESEARCH, BLOOMBERG, COMPANY REPORTS

Figure 41: High China capacity supportive for spreads



SOURCES: EIP RESEARCH, BLOOMBERG, COMPANY REPORTS

Global steel demand outlook and recent production trends

As steel is a continuous process-based manufacturing sector, even during weak global economic conditions we don't witness a commensurate reduction in supply. This oversupply puts pressure on regional balances and, hence, prices.

However, during the COVID-19-led downturn in 2020, we saw a large reduction in supply in regions which have been slow to recover from the virus's impact, for eg, North/South American, European, Commonwealth of Independent States (CIS) and some Asian nations like India. Also, we saw a strong rebound in regions which recovered quickly from the virus's impact, eg, China and Vietnam. We do not attribute this phenomenon to the global steel sector's prudence but infer that the pandemic has been so severe that even steel sector supply hasn't been able to withstand its effects despite being a continuous process industry where there is an incentive to run the furnaces at high levels of utilisation.

Post the lifting of COVID-19 lockdowns and coupled with fiscal and monetary responses by governments and global central banks, manufacturing PMIs across major countries in the world have shown a synchronous recovery.

Figure 42: Global manufacturing PMI heat map

Country/Region	Jan-20	Feb-20	Mar-20	Apr-20	May-20	Jun-20	Jul-20	Aug-20	Sep-20	Oct-20	Nov-20
China	50.0	35.7	52.0	50.8	50.6	50.9	51.1	51.0	51.5	51.4	52.1
India	55.3	54.5	51.8	27.4	30.8	47.2	46.0	52.0	56.8	58.9	56.3
US	51.9	50.7	48.5	36.1	39.8	49.8	50.9	53.1	53.2	53.4	56.7
Japan	48.8	47.8	44.8	41.9	38.4	40.1	45.2	47.2	47.7	48.7	48.3
South Korea	49.8	48.7	44.2	41.6	41.3	43.4	46.9	48.5	49.8	51.2	52.9
Russia	47.9	48.2	47.5	31.3	36.2	49.4	48.4	51.1	48.9	46.9	46.3
Germany	45.3	48.0	45.4	34.5	36.6	45.2	51.0	52.2	56.4	58.2	57.9
Turkey	51.3	52.4	48.1	33.4	40.9	53.9	56.9	54.3	52.8	53.9	51.4
Mexico	49.0	50.0	47.9	35.0	38.3	38.6	40.4	41.3	42.1	43.6	43.7
Italy	48.9	48.7	40.3	31.1	45.4	47.5	51.9	53.1	53.2	53.8	51.5
Vietnam	50.6	49.0	41.9	32.7	42.7	51.1	47.6	45.7	52.2	51.8	49.9
Brazil	51.0	52.3	48.4	36.0	38.3	51.6	58.2	64.7	64.9	66.7	64.0
Taiwan	51.8	49.9	50.4	42.2	41.9	46.2	50.6	52.2	55.2	55.1	56.9
Thailand	49.9	49.5	46.7	36.8	41.6	43.5	45.9	49.7	49.9	50.8	50.4
Canada	50.6	51.8	46.1	33.0	40.6	47.8	52.9	55.1	56.0	55.5	55.8
Indonesia	49.3	51.9	45.3	27.5	28.6	39.1	46.9	50.8	47.2	47.8	50.6
Poland	47.4	48.2	42.4	31.9	40.6	47.2	52.8	50.6	50.8	50.8	50.8
Spain	48.5	50.4	45.7	30.8	38.3	49.0	53.5	49.9	50.8	52.5	49.8
Saudi Arabia	54.9	52.5	42.4	44.4	48.1	47.7	50.0	48.8	50.7	51.0	54.7
UK	50.0	51.7	47.8	32.6	40.7	50.1	53.3	55.2	54.1	53.7	55.2
Philippines	52.1	52.3	39.7	31.6	40.1	49.7	48.4	47.3	50.1	48.5	49.9
Malaysia	48.8	48.5	48.4	31.3	45.6	51.0	50.0	49.3	49.0	48.5	48.4
Egypt	46.0	47.1	44.2	29.7	40.7	44.6	49.6	49.4	50.4	51.4	50.9
UAE	49.3	49.1	45.2	44.1	46.7	50.4	50.8	49.4	51.0	49.5	
Sweden	51.5	53.2	43.5	37.3	40.6	48.3	51.5	54.1	55.9	58.2	59.1

SOURCES: EIP RESEARCH, BLOOMBERG

Figure 43: Global crude steel production (k tonnes)

Country	Jan 20	Feb 20	Mar 20	Apr 20	May 20	Jun 20	Jul 20	Aug 20	Sep 20	Oct 20	Mar-Oct'20	Mar-Oct'19	Y/Y
Germany	3,117	3,456	3,287	2,557	2,565	2,475	2,423	2,830	3,018	3,417	22,572	27,077	-16.6%
Italy	1,873	2,042	1,372	1,124	1,858	1,811	1,737	939	1,794	2,119	12,753	15,786	-19.2%
France	1,297	1,232	903	581	784	836	909	722	963	1,065	6,763	9,938	-31.9%
Spain	982	1,105	1,162	626	786	834	693	696	936	1,113	6,846	9,490	-27.9%
Poland	720	720	658	671	637	638	700	505	599	620	5,028	6,060	-17.0%
Belgium	649	591	601	426	495	480	615	552	467	550	4,186	5,368	-22.0%
Austria	631	642	543	484	528	492	479	460	460	480	3,925	5,024	-21.9%
UK	658	576	567	621	572	499	587	561	545	565	4,517	4,858	-7.0%
Other EU 28	3,133	3,089	3,057	2,776	2,174	1,958	2,147	2,087	2,385	2,681	19,265	23,640	-18.5%
EU 28	**13,059**	**13,452**	**12,148**	**9,866**	**10,397**	**10,024**	**10,291**	**9,352**	**11,167**	**12,610**	**85,854**	**1,07,240**	**-19.9%**
Turkey	3,014	2,851	3,110	2,245	2,272	2,799	3,149	3,268	3,225	3,208	23,275	22,761	2.3%
Others	267	276	268	186	206	214	198	202	247	254	1,776	2,398	-25.9%
Other Europe	**3,281**	**3,128**	**3,378**	**2,431**	**2,477**	**3,014**	**3,347**	**3,470**	**3,472**	**3,462**	**25,050**	**25,159**	**-0.4%**
Russia	6,266	5,806	6,125	5,676	5,783	5,777	5,930	6,054	5,860	6,050	47,255	47,846	-1.2%
Ukraine	1,843	1,709	1,765	1,339	1,638	1,809	1,751	1,827	1,651	1,653	13,434	14,421	-6.8%
Other CIS	665	612	686	505	559	656	671	671	665	690	5,103	5,476	-6.8%
CIS	**8,774**	**8,127**	**8,576**	**7,520**	**7,980**	**8,242**	**8,352**	**8,552**	**8,176**	**8,393**	**65,792**	**67,743**	**-2.9%**
United States	7,656	7,067	6,995	4,822	4,912	4,947	5,423	5,931	5,976	6,143	45,148	58,908	-23.4%
Mexico	1,503	1,407	1,619	1,331	1,154	1,107	1,258	1,445	1,419	1,470	10,803	12,319	-12.3%
Canada	1,090	1,127	1,021	804	780	832	823	763	821	850	6,694	8,639	-22.5%
Others	54	52	49	36	23	19	29	39	40	42	277	418	-33.7%
North America	**10,304**	**9,654**	**9,683**	**6,993**	**6,869**	**6,906**	**7,532**	**8,178**	**8,256**	**8,505**	**62,922**	**80,284**	**-21.6%**
Brazil	2,711	2,740	2,692	1,948	2,251	2,139	2,570	2,705	2,592	2,784	19,680	21,683	-9.2%
Argentina	298	344	286	107	194	241	325	336	358	382	2,230	3,272	-31.8%
Others	366	356	353	175	186	185	249	286	295	313	2,042	3,024	-32.5%
South America	**3,375**	**3,440**	**3,331**	**2,230**	**2,631**	**2,565**	**3,144**	**3,327**	**3,244**	**3,479**	**23,952**	**27,979**	**-14.4%**
Egypt	771	774	682	664	628	662	534	577	601	670	5,018	4,670	7.4%
South Africa	439	476	482	3	141	277	387	361	313	380	2,343	4,299	-45.5%
Libya	60	67	23	0	47	58	15	30	1	50	224	400	-43.9%
Africa	**1,270**	**1,317**	**1,187**	**667**	**815**	**997**	**937**	**968**	**915**	**1,100**	**7,585**	**9,369**	**-19.0%**
Iran	2,405	2,064	2,304	2,321	2,368	2,425	2,339	2,337	2,572	2,660	19,325	17,141	12.7%
Saudi Arabia	651	672	691	589	545	541	605	590	533	748	4,841	5,412	-10.6%
UAE	303	289	264	115	164	219	229	195	233	192	1,610	2,148	-25.0%
Qatar	230	179	163	49	63	80	78	83	80	48	644	1,801	-64.3%
Middle East	**3,590**	**3,203**	**3,422**	**3,075**	**3,139**	**3,264**	**3,251**	**3,205**	**3,417**	**3,648**	**26,420**	**26,502**	**-0.3%**
China	79,929	74,773	78,975	85,033	92,267	91,579	93,359	94,845	92,555	92,202	7,20,815	6,79,780	6.0%
India	9,307	9,439	8,094	3,292	6,262	7,709	8,673	9,066	8,785	9,058	60,939	74,024	-17.7%
Japan	8,244	7,919	7,950	6,575	5,923	5,617	6,045	6,449	6,484	7,200	52,244	67,896	-23.1%
South Korea	5,740	5,417	5,784	5,079	5,384	5,089	5,526	5,773	5,388	5,859	43,881	48,105	-8.8%
Taiwan, China	1,795	1,768	1,957	1,756	1,742	1,689	1,646	1,705	1,605	1,660	13,762	14,938	-7.9%
Vietnam	1,540	1,662	2,114	1,844	1,859	1,981	2,176	2,277	3,167	3,372	18,789	13,822	35.9%
Pakistan	345	340	281	81	200	282	355	350	365	375	2,289	2,269	0.9%
Thailand	413	376	360	310	300	321	342	349	377	390	2,750	2,933	-6.2%
Asia	**1,07,314**	**1,01,694**	**1,05,514**	**1,03,971**	**1,13,937**	**1,14,268**	**1,18,123**	**1,20,814**	**1,18,727**	**1,20,116**	**9,15,469**	**9,03,767**	**1.3%**
Australia	440	464	428	429	471	470	478	477	391	518	3,663	3,743	-2.1%
New Zealand	55	39	38	2	59	59	55	66	52	59	390	442	-11.7%
Oceania	**495**	**504**	**466**	**430**	**530**	**528**	**534**	**544**	**443**	**578**	**4,053**	**4,184**	**-3.1%**
World Total	**1,51,462**	**1,44,519**	**1,47,707**	**1,37,183**	**1,48,774**	**1,49,807**	**1,55,511**	**1,58,410**	**1,57,817**	**1,61,890**	**12,17,098**	**12,52,226**	**-2.8%**

SOURCES: EIP RESEARCH, WSA

Steel Companies section

JSW Steel (JSTL IN, Add, TP Rs590)

Likely to benefit from asset sweating in a favourable cycle

We like JSW Steel for its promoter's passion for the steel business, management's shrewd capital decisions, company's conversion efficiency, nimble-footed sales strategy, ability to turn around loss-making businesses, driving synergies across businesses/units, capital structure which has high – but manageable – amounts of leverage, and superior investor communication.

JSW Steel has embarked on ambitious capacity expansion, downstream asset addition and cost-saving raw material augmentation programmes. As each of these projects gets commissioned progressively from 3QFY21F, benefits will likely be visible in higher volumes, operating profits and profitability.

Also, we believe JSW Steel will be a beneficiary of the ongoing steel spread expansion and the volume growth we expect for the sector in FY22/23F.

Figure 44: Capacity expansion plan details Nov 2020

Category	Asset	Timeline	Outlay (Rs bn)
Upstream- Steel-making capacity addition	Expansion of Vijaynagar steel-making capacity from 12 to 13 mtpa (BF)	Completed	405
	Expansion of Dolvi steel-making capacity from 5 to 10 mtpa (BF)	Q4'FY21	
	Acquisition of Bhushan Power and Steel through NCLT under IBC - 3.5 mtpa	Most likely in 2021	
Downstream- To match upstream steelmaking capacity addition and to enrich product portfolio	Setting up of 1.2mtpa wire rod mill at Vijaynagar	Trial production underway	62
	Capacity expansion of Vijaynagar CRM 1 complex from 0.85 to 1.8mtpa	Q4'FY21	
	Setting up of 1.2mtpa continuous picking line	Q4'FY21	
	Setting up of 2*0.45mtpa construction grade galvanised products	Q4'FY21	
	Capacity expansion at pre-painted galvalume line at Kalmeshwar by 0.22mtpa	Q4'FY21	
Cost saving projects/Initiatives	Setting up of 8mtpa pellet plant at Vijaynagar	Q4'FY21	138
	Setting up of 1.5mtpa coke oven plant at Vijaynagar	H2'FY22	
	Setting up of 4mtpa pellet plant at Dolvi	Q4'FY21	
	Setting up of 1.5mtpa coke oven plant at Dolvi along with coke dry quenching facility	Q4'FY21	
	Setting up of 235MW waste heat recovery power plant at Dolvi	Q4'FY21	
	24km pipe conveyor to transport iron ore to the plant	Commissioned	
	Capex to fully ramp-up acquired 9 mines in Karnataka + 3mines in Odisha	Completed mostly	
Sustenance	Sustenance Capex	FY18-22	70
Total Capex		**FY18-22**	**674**

NCLT IS NATIONAL COMPANY LAW TRIBUNAL.
SOURCES: EIP RESEARCH, COMPANY REPORTS

Near-term outlook: We expect positive EBITDA momentum for 3Q/4QFY21F as a result of 1) increasing sales volumes trajectory due to near V-shaped recovery in domestic demand post the COVID-19 lockdown-led demand destruction, 2) higher steel spreads as a result of higher steel prices aided by regional steel price strength and rupee depreciation, 3) improving share of domestic sales volumes, and 4) operating leverage benefit of higher sales volumes. Based on these factors, we expect JSW Steel's EBITDA/t to improve from Rs10,100/t to a Rs12,500-Rs14,000/t range over 3Q/4QFY21F.

Valuation approach: We value JSW Steel using an EV/IC multiple of 1.0x (last five-year trough multiple) in years when the RoCE is less than the weighted average cost of capital (WACC). We raise our multiple in years when the RoCE is ahead of WACC. We have an EV/IC based TP of Rs590 and an Add rating on the stock.

Scenarios: We use a scenario-based approach to better capture the broad range of potential outcomes. Our upside scenario assumes higher India steel prices, sales volumes and better profitability at overseas operations vs. our base case. Our downside scenario assumes lower prices and sales volumes vs. the base case. We arrive at upside/downside valuations of Rs762/Rs214 per share.

Figure 45: Summary of scenario assumptions

FY22-23F Average	Base Case Scenario	Upside Scenario	Downside scenario
China steel export price fob (US$/t)	610	608	450
Steel sales volume (mt)	20.8	20.8	19.5
Coking coal price (US$/t)	110	225	160
EBITDA/t (Rs/t)	21,643	14,468	7,358
EBITDA (consol less SA) (Rs mn)	24,033	37,535	4,575
Consol EBITDA (Rs mn)	4,72,782	3,37,514	1,48,118
EVEBITDA Multiple (x)	6.4	6.1	7.1
Fair value per share (Rs/sh)	1255	762	214

SOURCES: EIP RESEARCH ESTIMATES, COMPANY REPORTS

Re-rating catalysts and downside risks

Catalysts

- Steel price increases, normalisation of domestic volumes, continued soft global coking coal prices.

Downside risks

- A significant drop in steel prices would lower revenue and have an impact on EBITDA/t.
- Sudden and significant drops in iron ore prices could push steel prices lower, diminishing the cost advantage JSW enjoys now.
- A significant fall in spreads as a result of spikes in global coking coal prices would impact JSW Steel's EBITDA/t negatively.

Base case assumptions and valuation

Figure 46: Base case – assumptions

Rs m	FY20	FY21F	FY22F	FY23F
Steel Sales volume (mt)				
-Standalone	15.1	15.0	20.0	21.5
-JSW Coated	1.9	1.6	2.6	2.6
Consolidated Revenue	733,260	733,467	1,126,895	1,163,417
Consolidated EBITDA	**120,750**	**164,458**	**268,660**	**268,273**
-Standalone	125,170	160,199	248,652	240,215
-JSW Coated	5,500	5,600	7,800	9,100
-US Plate & Pipe Mill	(2,218)	(716)	1,208	1,208
-Acero junction	(7,915)	(10,000)	-	4,000
-Aferpi	(2,553)	(625)	1,000	3,750
-Others	2,766	10,000	10,000	10,000
EBITDA per tonne				
-Standalone	8,303	10,678	12,431	11,173
-JSW Coated	2,957	3,500	3,000	3,500
-US Plate & Pipe Mill	(7,717)	(3,000)	4,000	4,000
-Acero junction	NA	(20,000)	-	-
-Aferpi	NA	(625)	1,000	3,750
Consolidated PAT	**39,190**	**58,489**	**136,753**	**133,484**
Cashflow Workings				
EBITDA	120,750	164,458	268,660	268,273
Other Income	5,460	5,771	6,909	5,761
Tax paid	(11,550)	(17,026)	(31,239)	(28,714)
Interest exp	(62,870)	(43,874)	(40,412)	(31,532)
Working cap changes	27,570	(3,568)	1,025	92
Maintenance Capex	(12,000)	(12,000)	(12,000)	(12,000)
Cashflow available for growth	**67,360**	**93,761**	**192,943**	**201,880**
Growth Capex	(116,100)	(81,500)	(158,000)	(3,000)
Cashflow available for deleveraging	(48,740)	12,261	34,943	198,880

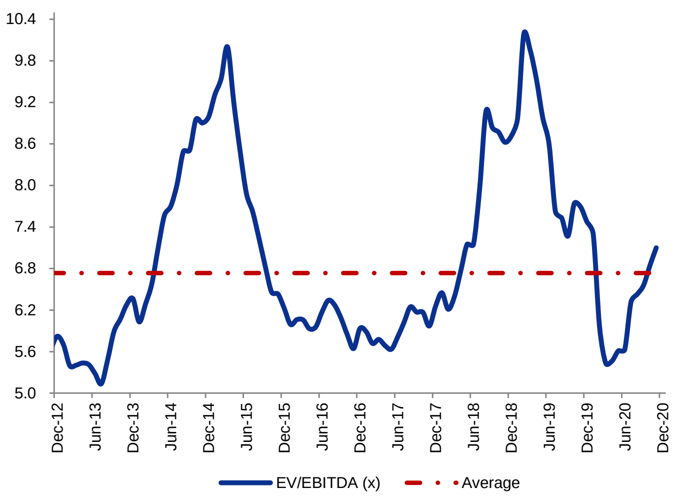
SOURCES: EIP RESEARCH ESTIMATES, COMPANY REPORTS

Figure 47: JSW Steel: EV/IC-based target price derivation – base case

Rs m	FY18	FY19	FY20	FY21F	FY22F	FY23F	WACC Calculation	
RoCE	13.1%	14.9%	6.7%	9.0%	14.7%	13.4%	Cost of Debt post tax	7.0%
WACC	9.2%	9.2%	9.2%	9.2%	9.2%	9.2%	Cost of Debt	8.8%
RoCE less WACC	4.0%	5.7%	-2.5%	-0.1%	5.6%	4.2%	Tax Rate	20%
EV	976,674	1,235,079	1,142,449	1,397,175	1,362,232	1,163,352		
Capital Employed	712,920	909,760	1,090,980	1,156,600	1,257,174	1,213,289	Cost of Equity Calculation	10.8%
EV/IC	1.37	1.36	1.05	1.21	1.08	0.96	-Market Return Assumption	10.8%
							-Market Risk Premium	5.0%
Target EV/IC			**1.05**	**1.00**	**1.40**	**1.45**	-Rf	5.8%
Target EV			1,145,529	1,156,600	1,760,043	1,759,269	-Beta	1.00
Gross Debt			654,780	654,780	604,780	414,780		
Cash & Equivalents			120,050	132,311	117,254	126,133	Gross Debt	654,780
Net Debt			534,730	522,469	487,526	288,647	Market Value of Equity	874,685
LT Provision			5,090	5,090	5,090	5,090		
EQUITY VALUE			605,709	629,041	1,267,427	1,465,533	Debt Weight	43%
EQUITY VALUE PER SHARE			251	260	524	606	Market Value Weight	57%
1 yr forward TP (Rs/sh)						**590**	**WACC**	**9.2%**
Implied Multiples								
EV/EBITDA (x)			9.5	7.0	6.6	6.6		
P/E (x)			15.0	10.8	9.3	11.0		
P/BV (x)			1.7	1.5	2.3	2.1		
RoE			11%	14%	24%	19%		

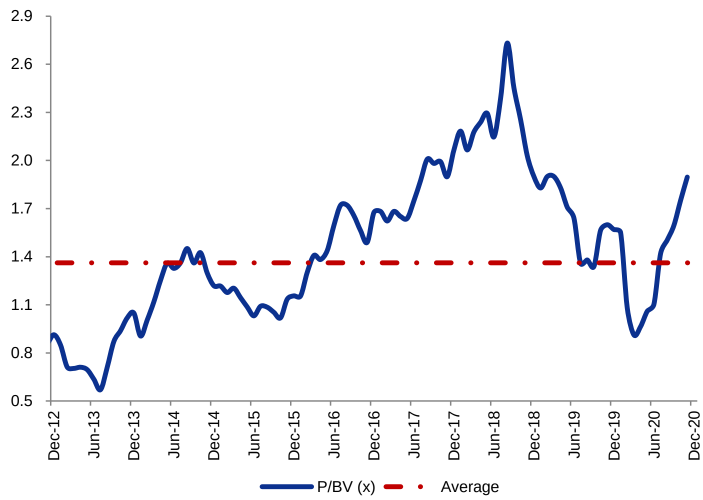
SOURCES: EIP RESEARCH ESTIMATES, COMPANY REPORTS

Figure 48: JSW Steel's 12 m fwd EV/EBITDA (x)



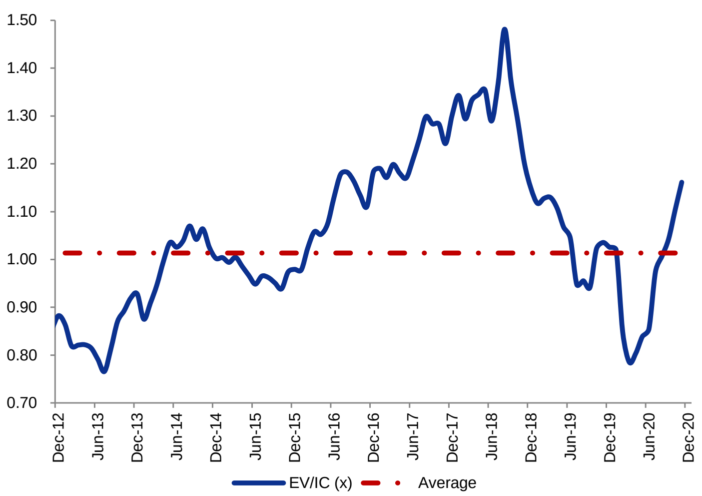
SOURCES: EIP RESEARCH, COMPANY REPORTS, BLOOMBERG

Figure 49: JSW Steel's 12 m fwd P/BV (x)



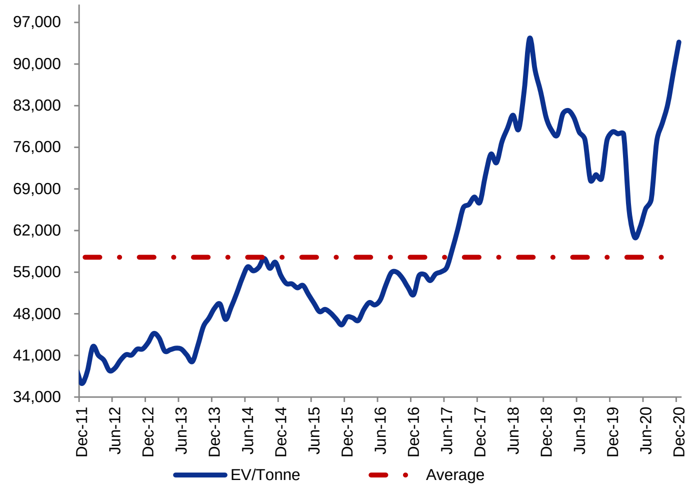
SOURCES: EIP RESEARCH, COMPANY REPORTS, BLOOMBERG

Figure 50: JSW Steel's 12 m fwd EV/IC (x)



SOURCES: EIP RESEARCH, COMPANY REPORTS, BLOOMBERG

Figure 51: JSW Steel's 12 m fwd EV/tonne (Rs)



SOURCES: EIP RESEARCH, COMPANY REPORTS, BLOOMBERG

Tata Steel (TATA IN, Add, TP Rs1,020)

In the steel sweet spot – our top pick

Tata Steel will be a significant beneficiary of the ongoing iron ore cost push-driven steel price increases globally, in our view. After a painful 1HFY21 in Europe, we now see significant spread increases which will boost the company's profitability. We believe closure of the proposed transaction to sell the Netherlands asset to SSAB has the potential to reduce net debt by ~US$2-2.5bn, which translates to ~20% of the company's consolidated net debt at the end of 1HFY20. The asset divestment gives near-term benefits and the sort of immediate inflows markets like, in our view. However, we have a different view on this proposed transaction. Our workings below (figure 52) show that at an EV/EBITDA multiple of less than ~9.1x, the proposed deal is cashflow dilutive.

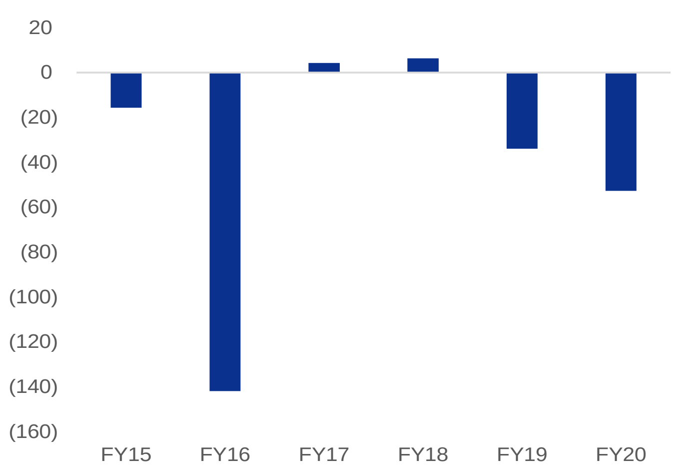
The European operations are generally painted with one brush, but as we show in the figures (53 and 54) below the Netherlands operations are much more profitable compared to the UK operations. We would have hoped to see the disposal of the UK asset along with the Netherlands asset, but we believe that is a more complicated transaction to consummate (further complicated due to the current Brexit situation.)

Figure 52: Netherlands asset divestment workings under normalised assumptions

Normalised scenario	
Annual Volumes (mt)	6.75
EBITDA/t (US$/t)	70
EBITDA (US$ m) -- (A)	473
Taxes (US$ m)	75
Maintenance capex pa (US$ m)	140
FCF post maintenance capex -- (B)	258
Transaction EV/EBITDA multiple (x) -- (C)	6.00
Deal Valuation (US$ m) -- (D)= A*B	2,835
Overseas debt rate of interest assumption -- (E)	6%
Annual interest cost savings due to net debt reduction -- (F)= C*D	170
FCF accretion/(dilution) -- (G)= B less F	(87)
FCF neutral divestment value -- (H)= A/D	**4,292**
Implied EV/EBITDA multiple (x) -- (I)= H/A	**9.1**

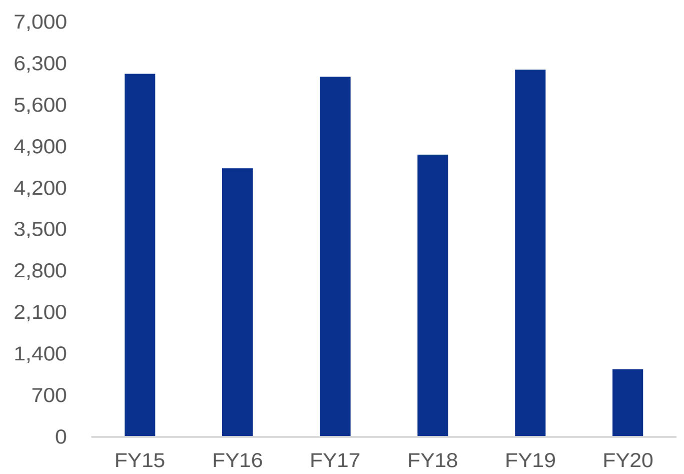
SOURCES: EIP RESEARCH ESTIMATES, COMPANY REPORTS

Figure 53: Tata Steel UK business Adjusted EBITDA/t (GBP/t)



NOTE: PER TON CALCULATIONS BASED ON STEEL PRODUCTION VOLUMES IMPLIED FROM REPORTED TATA STEEL EUROPE DELIVERIES NUMBERS ADJUSTED FOR TATA STEEL IJMUIDEN NUMBERS (PRODUCTION); SOURCES: EIP RESEARCH, COMPANY REPORTS

Figure 54: Tata Steel Netherlands business Adjusted EBITDA/t (EUR/t)



NOTE: PER TON CALCULATIONS BASED ON STEEL PRODUCTION VOLUMES; SOURCES: EIP RESEARCH, COMPANY REPORTS

Near-term outlook: We expect positive EBITDA momentum for 3Q/4QFY21F as a result of 1) increasing volume trajectory due to the near V-shaped recovery in domestic demand post the COVID-19 lockdown-led demand destruction, 2) higher steel spreads in India and Europe due to higher steel prices aided by regional steel price strength and the rupee's depreciation, 3) improving share of domestic volumes in the India business, 4) operating leverage benefit of higher volumes. Based on these factors, we expect Tata Steel's standalone EBITDA/t to improve from ~Rs13,000/t to the Rs17,500-Rs19,000/t range over 3Q / 4QFY21F and the Bhushan asset EBITDA/t to increase from ~Rs8,000/t in 2Q to the Rs10,000-Rs12,000/t range over 3Q/4QFY21F. The potential merger of Bhushan Steel with the Tata Steel parent company could lead to potential tax savings due to Bhushan Steel's large accumulated losses. Completion of sale of Netherlands asset to SSAB would be another potential near term positive.

Valuation approach: We value Tata Steel using an EV/IC multiple of 0.7x (last five-year trough multiple) in years when the RoCE is less than the WACC. We raise our multiple in years when the RoCE is ahead of WACC. We have an EV/IC based TP of Rs1,020 and an Add rating on the stock.

Scenarios: We use a scenario-based approach to better capture the broad range of potential outcomes. Our upside scenario assumes higher India steel prices & spreads, higher profitability at European operations than our base case. Our downside scenario assumes lower India steel prices & spreads, lower profitability at European operations than our base case. We arrive at upside/downside valuations of Rs1,560/Rs280 per share.

Figure 55: Summary of scenario assumptions

FY22-23F Average	Base Case Scenario	Upside Scenario	Downside scenario
China steel export price fob (US$/t)	508	608	450
Steel sales volume (mt)			
- SA	12.5	12.5	12.5
- Bhushan	4.9	4.9	4.9
- Europe	9.5	9.5	9.5
Coking coal price (US$/t)	160	225	160
EBITDA/t (Rs/t)			
- SA	15,809	20,827	10,888
- Bhushan	12,571	16,130	7,649
- Europe	4,468	6,068	(228)
EBITDA Consol	3,15,946	4,24,061	1,70,735
-EBITDA standalone	1,97,618	2,60,338	1,36,094
-EBITDA Bhushan	61,198	78,552	37,285
-EBITDA Europe	42,447	57,649	(2,165)
EV EBITDA Multiple (x)	6.5	6.2	8.3
Fair value per share (Rs/sh)	1,020	1,560	280

SOURCES: EIP RESEARCH ESTIMATES, COMPANY REPORTS

Re-rating catalysts and downside risks

Catalysts

- Steel price increases, normalisation of domestic volumes, continued soft global coking coal prices.

Downside risks

- A significant drop in steel prices would lower revenue and have an impact on Tata Steel's EBITDA/t.
- Sudden and significant drops in iron ore prices could push steel prices lower, diminishing the cost advantage Tata Steel enjoys now.
- A significant fall in spreads as a result of spikes in global coking coal prices would impact Tata Steel's EBITDA/t negatively.

Base case assumptions and valuation:

Figure 56: Base case – assumptions

Rs m	FY20	FY21F	FY22F	FY23F
Steel Sales volume (mt)				
-Standalone	12.8	12.9	12.5	12.5
-Bhushan Steel	4.1	4.5	4.8	5.0
-Europe	9.3	8.8	9.5	9.5
-South East Asia	-	-	-	-
Consolidated Revenue	1,398,167	1,420,261	1,569,032	1,544,284
Consolidated EBITDA	**168,982**	**237,601**	**330,896**	**300,996**
-Standalone	142,972	190,060	211,351	183,884
-Bhushan Steel	20,950	42,582	62,871	59,525
-Europe	(1,210)	(8,095)	41,003	43,891
-South East Asia	-	-	-	-
-Others	6,270	7,863	7,863	7,863
EBITDA per tonne				
-Standalone	11,170	14,791	16,908	14,711
-Bhushan Steel	5,060	9,463	13,236	11,905
-Europe	(130)	(925)	4,316	4,620
-South East Asia	NA	NA	NA	NA
Consolidated PAT	11,725	39,384	137,790	119,064
Net Debt	**1,048,416**	**961,644**	**867,799**	**736,501**
FCF Workings				
EBITDA	168,982	237,601	330,896	300,996
Other Income	3,052	6,206	11,304	12,766
Tax paid	(21,059)	(40,479)	(42,305)	(36,263)
Interest exp	(76,850)	(76,650)	(72,750)	(67,225)
Working cap changes	41,962	31,847	(32,047)	3,277
Others	47,527	(0)	0	(0)
Maintenance capex	(30,000)	(30,000)	(30,000)	(30,000)
FCF available for disposal	133,613	128,525	165,099	183,552
Capex*	(118,307)	(7,500)	(57,500)	(38,500)
FCF post capex	**15,306**	**121,025**	**107,599**	**145,052**

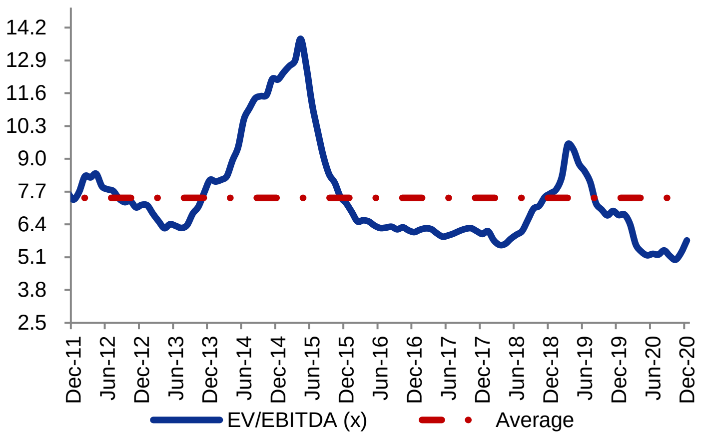
SOURCES: EIP RESEARCH ESTIMATES, COMPANY REPORTS

Figure 57: Tata Steel: EV/IC-based target price derivation – base case

Rs m	FY19	FY20	FY21F	FY22F	FY23F	WACC Calculation	
RoCE	12.7%	5.3%	7.3%	11.8%	10.2%	Cost of Debt post tax	4.9%
WACC	7.1%	7.1%	7.1%	7.1%	7.1%	Cost of Debt	6.5%
RoCE less WACC	5.6%	-1.8%	0.2%	4.7%	3.1%	Tax Rate	25%
EV	1,539,575	1,573,618	1,684,409	1,590,564	1,459,266		
Capital Employed	1,954,774	2,126,203	2,099,172	2,150,547	2,153,197	Cost of Equity Calculation	10.8%
CWIP		82,471	77,471	92,471	152,471		
Capital Employed Ex-KPO-2		2,043,733	2,021,701	2,058,077	2,000,726		
EV/IC	0.79	0.74	0.80	0.74	0.68	-Market Return Assumptior	10.8%
						-Market Risk Premium	5.0%
Target EV/IC (x)		**0.7**	**0.80**	**1.02**	**0.92**	-Rf	5.8%
Target EV		1,430,613	1,617,361	2,088,948	1,840,668	-Beta	1.00
Add: CWIP@20% discount		65,976	61,976	73,976	121,976		
Total EV		**1,496,589**	**1,679,338**	**2,162,924**	**1,962,644**		
Gross Debt		1,163,282	1,113,282	1,043,282	943,282		
Cash & Equivalents		114,866	151,637	175,482	206,780	Gross Debt	1,163,282
Net Debt		1,048,416	961,645	867,800	736,502	Market Value of Equity	698,446
LT Provision		78,333	78,333	78,333	78,333		
EQUITY VALUE		369,841	639,360	1,216,792	1,147,810	Debt Weight	62%
EQUITY VALUE PER SHARE		323	558	1,062	1,001	Market Value Weight	38%
1 yr forward TP (Rs/sh)					**1,020.0**	**WACC**	**7.1%**
Implied Multiples							
EV/EBITDA (x)		8.6	7.1	6.5	6.5		
P/E (x)		31.5	16.2	8.8	9.6		
P/B (x)		0.5	0.9	1.4	1.2		
RoE		1.7%	5.4%	17.3%	13.1%		

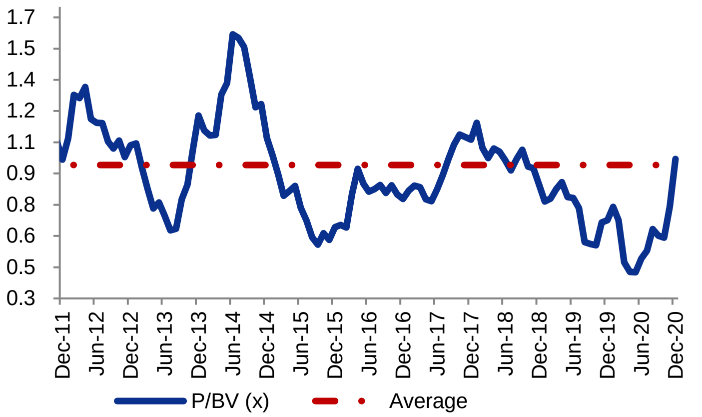
SOURCES: EIP RESEARCH ESTIMATES, COMPANY REPORTS

Figure 58: Tata Steel's 12 m fwd EV/EBITDA (x)



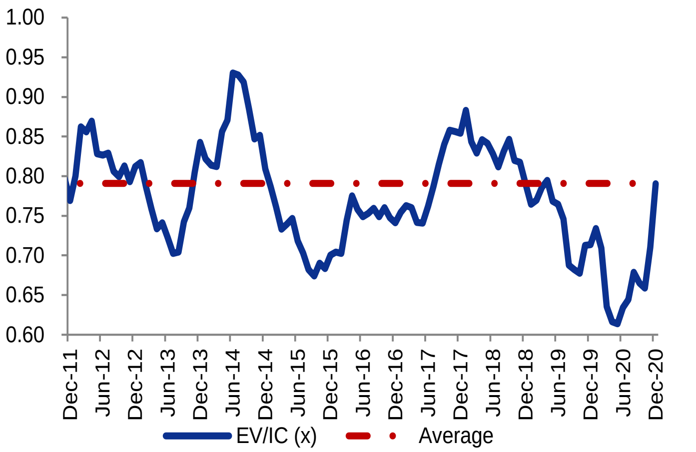
SOURCES: EIP RESEARCH, COMPANY REPORTS, BLOOMBERG

Figure 59: Tata Steel's 12 m fwd P/BV (x)



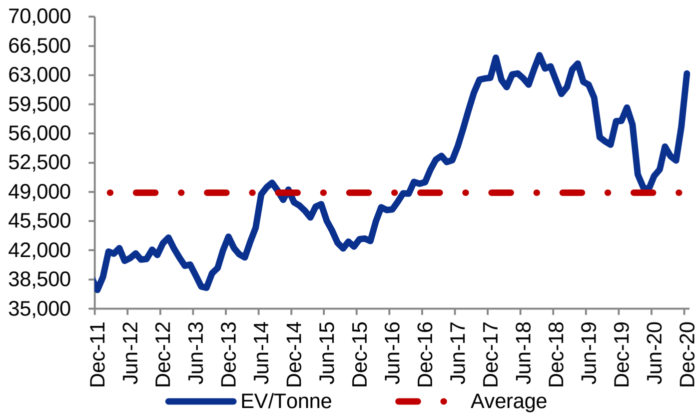
SOURCES: EIP RESEARCH, COMPANY REPORTS, BLOOMBERG

Figure 60: Tata Steel's 12 m fwd EV/IC (x)



SOURCES: EIP RESEARCH, COMPANY REPORTS, BLOOMBERG

Figure 61: Tata Steel's 12 m fwd EV/tonne (Rs)



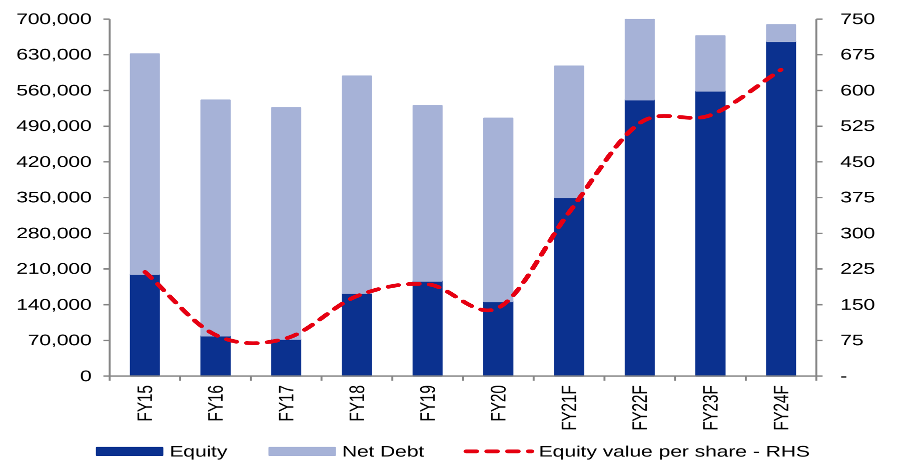
SOURCES: EIP RESEARCH, COMPANY REPORTS, BLOOMBERG

Jindal Steel and Power (JSP IN, Add, TP Rs540)

FCF generation to drive market capitalisation gains

JSPL's asset sweating-led deleveraging story has been playing out well and we expect this theme to continue. The company has been able to grow its steel volumes as per our bullish expectations. We trust its ability to deliver on the steel business. Increasing power business utilisation is challenging given new power purchase agreements (PPAs) from the state governments now. Renewable energy streams like solar are good to have for India, but cannot meet peak power demand. As overall power demand increases from FY22F, we expect increased volumes from JSPL's power asset, although to be conservative we do not factor any into our estimates.

Figure 62: Absolute equity & debt values within EV compared to equity value per share



SOURCES: EIP RESEARCH ESTIMATES, COMPANY REPORTS

Near-term outlook: We expect positive EBITDA momentum for 3Q/4QFY21F as a result of 1) increasing volumes trajectory due to a near V-shaped recovery in domestic demand post the COVID-19 lockdown-led demand destruction, 2) higher steel spreads as a result of higher steel prices aided by regional steel price strength and rupee depreciation, 3) improving share of domestic sales volumes, 4) operating leverage benefit of higher volumes, 5) increasing contribution from pellet sales due to the steep increase in pellet prices. Benefits from the recently won Gare Palma IV/1 coal block (in coal block auctions) from FY22F.

Valuation approach: We value JSPL using an EV/IC multiple of 0.8x (last 5-year trough multiple) in years when the RoCE is less than the WACC. We raise our multiple in years when the RoCE is ahead of WACC. We have an EV/IC-based TP of Rs540 and an Add rating on the stock.

Scenarios: We use a scenario-based approach to capture better the broad range of potential outcomes. Our upside scenario assumes higher steel volumes, prices & profitability, higher power volumes and faster deleveraging than our base case. Our downside scenario assumes lower steel volumes, prices & profitability, lower power volumes and slower deleveraging than our base case. We arrive at upside/downside valuations of Rs810/Rs330 per share.

Figure 63: Summary of scenario assumptions

FY22-23F Average	Base Case Scenario	Upside Scenario	Downside scenario
Steel blended realisation (Rs/t)	43,462	51,212	39,727
Steel sales volume (mt)	8.3	8.3	7.6
Steel EBITDA/t (Rs/t)	12,037	16,414	9,345
Pow er Blended Realisation (Rs/kw h)	3.8	3.9	3.8
Pow er sales volume (mn kw h)	10,722	11,905	9,934
Pow er EBITDA/kw h	1.3	1.3	1.3
EBITDA Consol	1,12,957	1,50,461	83,852
EV EBITDA Multiple (x)	6.2	6.0	6.3
Fair value per share (Rs/sh)	540	810	330

SOURCES: EIP RESEARCH ESTIMATES, COMPANY REPORTS

Re-rating catalysts and downside risks

Catalysts

- Steel price increases, normalisation of domestic volumes, continued soft global coking coal prices.

Downside risks

- A significant drop in steel prices would lower JSPL's revenue and have an impact on its EBITDA/t.
- Sudden and significant drops in iron ore prices could push steel prices lower, diminishing the cost advantage JSPL enjoys now.
- A significant fall in spreads as a result of spikes in global coking coal prices would impact JSPL's EBITDA/t negatively.
- Non availability of thermal coal could impact the operating performance of JSPL's power business.

Base case assumptions and valuation:

Figure 64: Base case – assumptions

Rs m	FY20	FY21F	FY22F	FY23F
Steel Sales volume				
-Standalone (mt)	6.1	7.4	8.0	8.5
-Oman (mt)	1.8	1.8	2.0	2.0
Jindal Power (million kwh)	9,356	10,328	10,722	10,722
Consolidated Revenue	369,175	352,511	395,604	413,119
Consolidated EBITDA	**78,539**	**107,475**	**117,916**	**107,998**
-Standalone	51,550	93,499	103,994	94,143
-Oman	9,784	0	0	0
-Jindal Power	12,490	13,975	13,922	13,856
-Others	4,714	-	-	-
Unitary EBITDA				
-Standalone (Rs/t)	8,507	12,635	12,999	11,076
-Oman (Rs/t)	5,436	-	-	-
-Jindal Power (Rs/kwh)	1.34	1.35	1.30	1.29
Consolidated PAT	**(1,092)**	**25,949**	**42,045**	**40,439**
Net Debt	359,190	311,713	236,594	163,078
FCF Workings				
EBITDA	78,539	107,475	117,916	107,998
Other Income	262	-	-	-
Tax paid	35	(11,588)	(16,557)	(15,694)
Interest exp	(40,054)	(34,930)	(23,848)	(15,944)
Working cap changes	15,127	(13,511)	(1,826)	(192)
Others	4,891	10,531	9,934	7,847
Maintenance capex	(10,500)	(10,500)	(10,500)	(10,500)
FCF available for disposal	48,299	47,477	75,119	73,516
Capex	(6,146)	0	(0)	-
FCF post capex	**42,153**	**47,477**	**75,119**	**73,516**

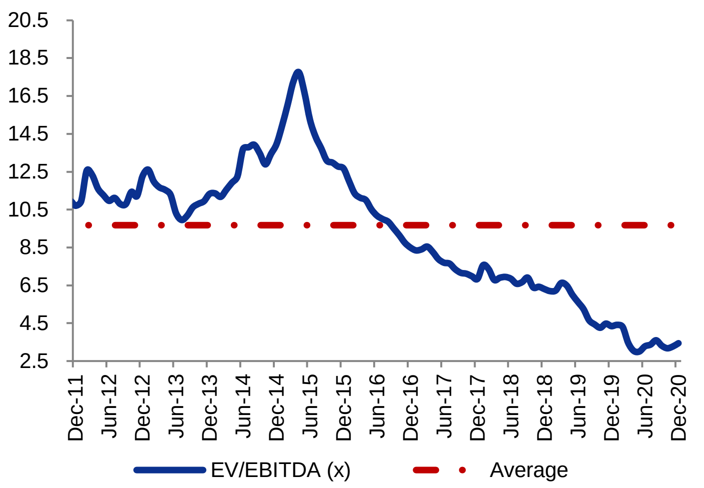
SOURCES: EIP RESEARCH ESTIMATES, COMPANY REPORTS

Figure 65: JSPL: EV/IC-based target price derivation – base case

Rs m	FY18	FY19	FY20	FY21F	FY22F	FY23F	FY24F	WACC Calculation	
RoCE	3.2%	3.9%	5.3%	9.4%	10.9%	9.8%	9.3%	Cost of Debt post tax	7.5%
WACC	8.9%	8.9%	8.9%	8.9%	8.9%	8.9%	8.9%	Cost of Debt	10.0%
RoCE less WACC	-5.8%	-5.1%	-3.6%	0.5%	2.0%	0.8%	0.3%	Tax Rate	25%
EV	587,742	530,182	505,560	574,975	490,574	417,058	341,449		
Capital Employed	798,428	725,615	777,637	764,014	745,994	729,279	748,962	Cost of Equity Calculation	12.0%
EV/IC	0.74	0.73	0.65	0.75	0.66	0.57	0.46	-Market Return Assumption	10.8%
								-Market Risk Premium	5.0%
Target EV/IC				0.80	0.98	0.92	0.93	-Rf	5.8%
Target EV				611,211	727,344	670,937	692,790	-Beta	1.25
Gross Debt - ex Oman				263,628	193,628	128,628	98,628		
Cash & Equivalents				6,915	12,034	20,550	66,159	Gross Debt	346,210
Net Debt				256,713	181,594	108,078	32,469	Market Value of Equity	163,099
LT Provision				3,942	3,942	3,942	3,942		
EQUITY VALUE				350,557	541,809	558,918	656,379	Debt Weight	68%
EQUITY VALUE PER SHARE				344	531	548	644	Market Value Weight	32%
1 yr forward TP (Rs/sh)						**540.0**		**WACC**	**8.9%**
Implied Multiples									
EV/EBITDA (x)				5.7	6.2	6.2	6.6		
P/E (x)				13.5	12.9	13.8	15.6		
P/BV (x)				1.1	1.4	1.3	1.4		

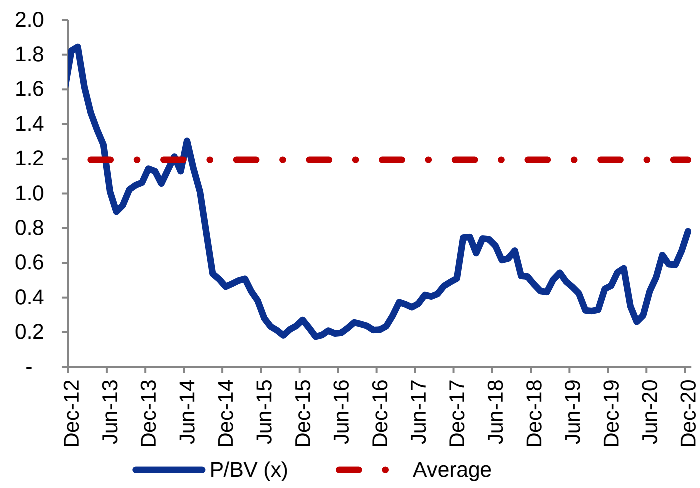
SOURCES: EIP RESEARCH ESTIMATES, COMPANY REPORTS

Figure 66: JSPL's 12 m fwd EV/EBITDA (x)



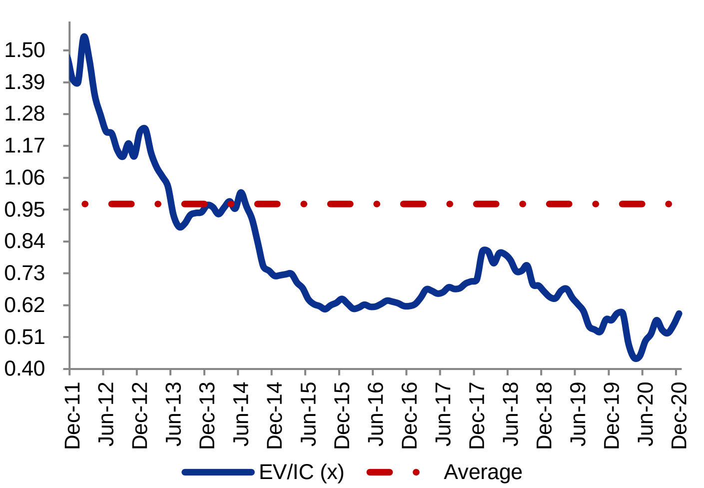
SOURCES: EIP RESEARCH, COMPANY REPORTS, BLOOMBERG

Figure 67: JSPL's 12 m fwd P/BV (x)



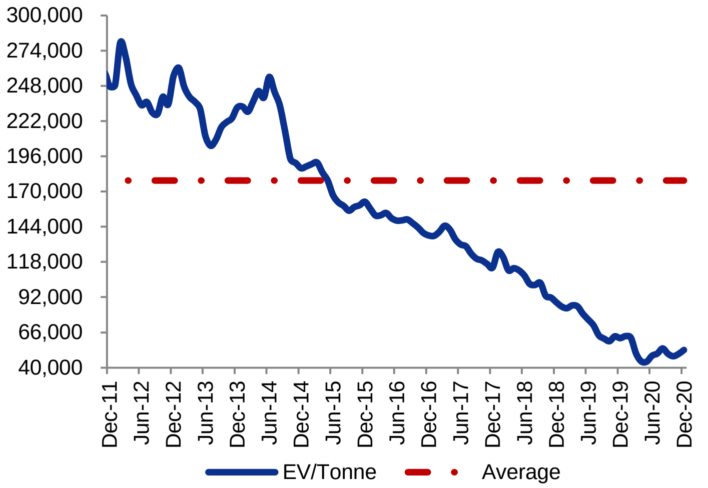
SOURCES: EIP RESEARCH, COMPANY REPORTS, BLOOMBERG

Figure 68: JSPL's 12 m fwd EV/IC (x)



SOURCES: EIP RESEARCH, COMPANY REPORTS, BLOOMBERG

Figure 69: JSPL's 12 m fwd EV/tonne (Rs)



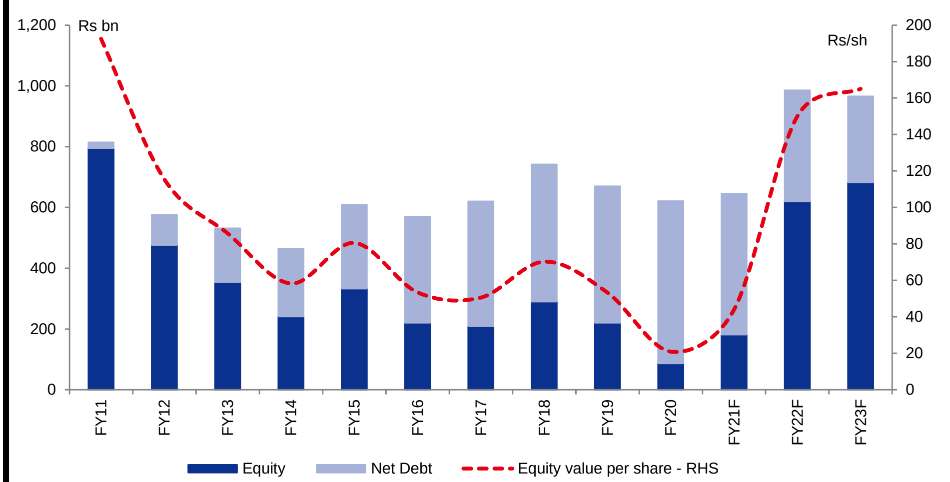
SOURCES: EIP RESEARCH, COMPANY REPORTS, BLOOMBERG

Steel Authority of India (SAIL IN, Add, TP Rs150)

In steel sweet spot plus leverage – top pick 2

Despite SAIL's ongoing capacity expansion programme, volume growth has been elusive. The company is now on the verge of being able to grow volumes and we expect it to grow by 10% CAGR over FY20-23F. SAIL's volume growth couldn't have come at a more opportune time. In our view, with 100% iron ore integration, SAIL is in an excellent position to drive EBITDA higher. In our view, volume growth in an environment of strong pricing and spread increases with high amounts of leverage (as on 15 Dec 2020 mcap formed only ~34% of EV) means SAIL's share price could potentially deliver a sector-leading performance.

Figure 70: Equity and net debt, along with implied equity value per share



SOURCES: EIP RESEARCH ESTIMATES, COMPANY REPORTS

Near-term outlook: We expect positive EBITDA momentum for 3Q/4QFY21F as a result of 1) increasing volumes trajectory due to near V-shaped recovery in domestic demand post the COVID-19 lockdown-led demand destruction, 2) higher steel spreads as a result of higher steel prices aided by regional steel price strength and rupee depreciation, 3) improving share of domestic volumes, and 4) operating leverage benefit from higher volumes. Due to these factors, we expect SAIL's EBITDA/t to improve from Rs4,600/t to the Rs8,000/t range over 3Q/4QFY21F.

Valuation approach: We assign SAIL an EV/IC multiple of 0.65x (last five-year trough multiple) in years when the RoCE is less than the weighted average cost of capital (WACC). We raise our multiple in years when the RoCE is ahead of WACC. We have an EV/IC based TP of Rs150 and an Add rating on the stock.

Scenarios: We use a scenario-based approach to better capture the broad range of potential outcomes. Our upside scenario assumes higher steel volumes, prices, and profitability than our base case. Our downside scenario assumes lower steel volumes, prices, and profitability than our base case. We arrive at upside/downside valuations of Rs270/Rs30 per share.

Figure 71: Summary of scenario assumptions

FY22-23F Average	Base Case Scenario	Upside Scenario	Downside scenario
China steel export price fob (US$/t)	508	615	450
Steel sales volume (mt)	18.3	19.1	16.6
Coking coal price	160	225	160
EBITDA/t (Rs/t)	8,557	12,843	3,636
Consol EBITDA (Rs mn)	1,56,215	2,45,442	60,395
EV/EBITDA Multiple (x)	6.3	6.0	9.7
Fair value per share (Rs/sh)	150	270	30

SOURCES: EIP RESEARCH ESTIMATES, COMPANY REPORTS

Re-rating catalysts and downside risks

Catalysts

- Steel price increases, normalisation of domestic volumes, continued soft global coking coal prices would be catalysts for SAIL's stock price.

Downside risks

- A significant drop in steel prices would lower SAIL's revenue and have an impact on EBITDA/t.
- Sudden and significant drops in iron ore prices could push steel prices lower, diminishing the cost advantage SAIL enjoys now.
- A significant fall in spreads as a result of spikes in global coking coal prices would impact SAIL's EBITDA/t negatively.

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Base case assumptions and valuation:

Figure 72: Base case – assumptions

Rs m	FY19	FY20	FY21F	FY22F	FY23F
Steel Sales volume (mt)	14.1	14.2	15.3	17.5	19.1
Revenue	669,673	616,606	651,408	842,413	900,117
EBITDA	**97,341**	**101,990**	**83,150**	**158,989**	**153,440**
PAT	21,788	20,215	13,246	76,422	75,002
Per tonne					
-Revenue	47,444	43,331	42,576	48,135	47,101
-Raw material exp	24,576	20,152	20,336	23,175	23,370
-Employee exp	6,256	6,171	5,766	5,174	4,852
-Other exp	9,716	9,841	11,039	10,702	10,850
-EBITDA	**6,896**	**7,167**	**5,435**	**9,085**	**8,029**
FCF Workings					
EBITDA	97,341	101,990	83,150	158,989	153,440
Other Income	5,328	9,852	5,000	5,000	5,000
Tax paid	357	(871)	(3,311)	(19,106)	(18,751)
Interest exp	(33,521)	(36,538)	(30,012)	(26,882)	(22,082)
Working cap changes	(26,258)	(106,806)	47,039	1,212	(15,131)
Others	(2,526)	(11,022)	(1,518)	(781)	(387)
Maintenance capex	(15,000)	(15,000)	(15,000)	(15,000)	(15,000)
FCF avaialble for disposal	25,722	(58,395)	85,347	103,433	87,090
Capex	(23,783)	(29,491)	(15,000)	(5,000)	(5,000)
FCF post capex	**49,505**	**(28,904)**	**100,347**	**108,433**	**92,090**

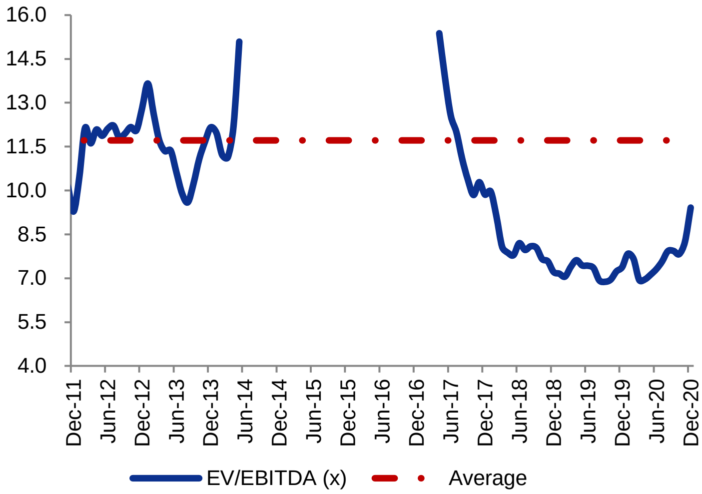
SOURCES: EIP RESEARCH ESTIMATES, COMPANY REPORTS

Figure 73: SAIL: EV/IC-based target price derivation – base case

	FY18	FY19	FY20	FY21F	FY22F	FY23F
RoCE	2.3%	7.6%	7.7%	4.9%	12.5%	11.9%
WACC	6.8%	6.8%	6.8%	6.8%	6.8%	6.8%
RoCE less WACC	-4.4%	0.9%	0.9%	-1.9%	5.7%	5.1%
EV	741,705	669,581	699,621	629,278	553,713	473,187
Capital Employed	887,453	915,096	1,018,196	981,200	978,598	974,436
EV/IC	0.84	0.73	0.69	0.64	0.57	0.49
Target EV/IC			**0.65**	**0.70**	**1.05**	**1.04**
Target EV			661,827	686,840	1,027,527	1,008,542
Gross Debt			538,032	488,032	408,032	328,032
Cash & Equivalents			3,633	23,975	19,540	20,066
Net Debt			534,399	464,056	388,492	307,966
LT Provision			41,158	41,326	42,296	43,205
EQUITY VALUE			86,270	181,457	596,739	657,371
EQUITY VALUE PER SHARE			21	44	144	159
1 yr forward TP (Rs/sh)						**150**
Implied Multiples - SAIL						
EV/EBITDA (x)			6.5	8.3	6.5	6.6
P/E (x)			4.3	13.7	7.8	8.8
P/BV (x)			0.2	0.4	1.2	1.2

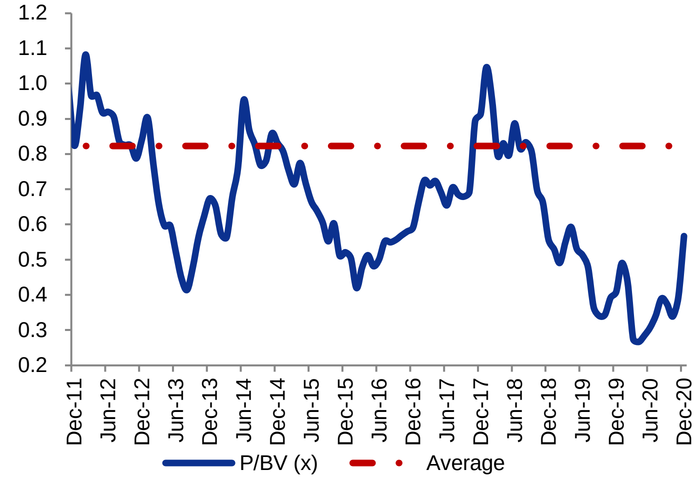
SOURCES: EIP RESEARCH ESTIMATES, COMPANY REPORTS

Figure 74: SAIL's 12 m fwd EV/EBITDA (x)



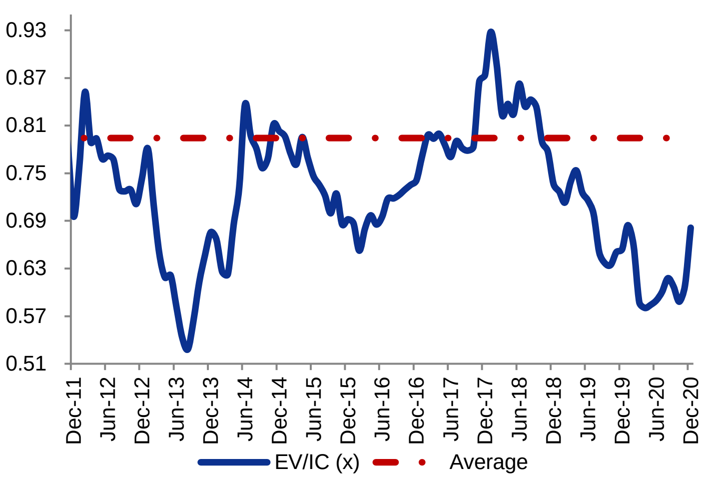
SOURCES: EIP RESEARCH, COMPANY REPORTS, BLOOMBERG

Figure 75: SAIL's 12 m fwd P/BV (x)



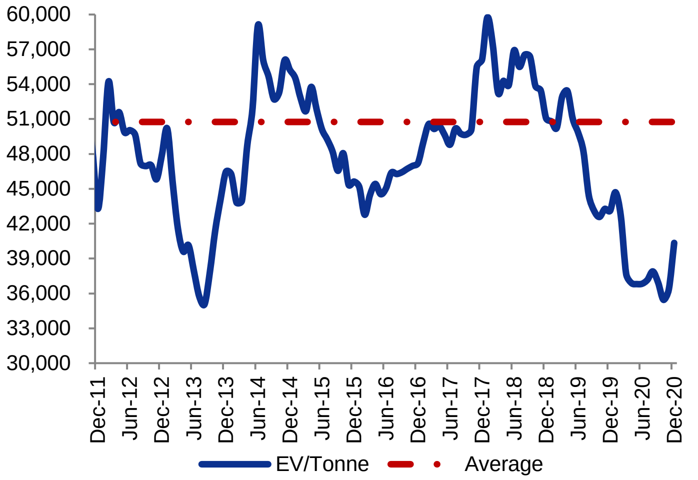
SOURCES: EIP RESEARCH, COMPANY REPORTS, BLOOMBERG

Figure 76: SAIL's 12 m fwd EV/IC (x)



SOURCES: EIP RESEARCH, COMPANY REPORTS, BLOOMBERG

Figure 77: SAIL's 12 m fwd EV/tonne (Rs)



SOURCES: EIP RESEARCH, COMPANY REPORTS, BLOOMBERG

Non-ferrous Companies section

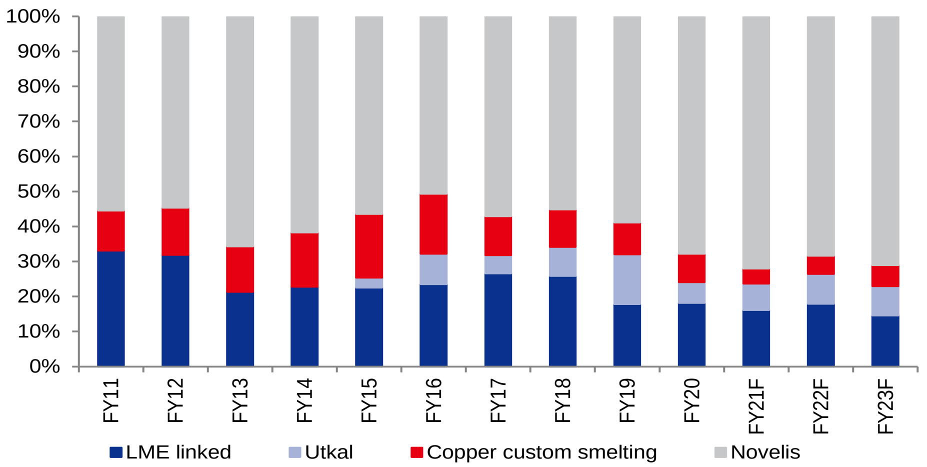
Hindalco Industries Ltd (HNDL IN, Add, TP Rs360)

Resilient business division dominates

Novelis (stable conversion business with upside risks due to mix benefits) contributed 68% (FY20) to Hindalco's consolidated EBITDA; we project this to further increase to ~71% by FY22/23F. We expect relatively stable Utkal alumina & copper custom smelting to contribute ~14% to its consolidated EBITDA in FY22F, leaving only ~15% contribution from the aluminium segment whose prospects are linked to LME Aluminium prices. To that extent, ~85% of Hindalco's FY22/23F consolidated EBITDA will have no correlation to LME metal price volatility, which, in our view, is an attractive proposition.

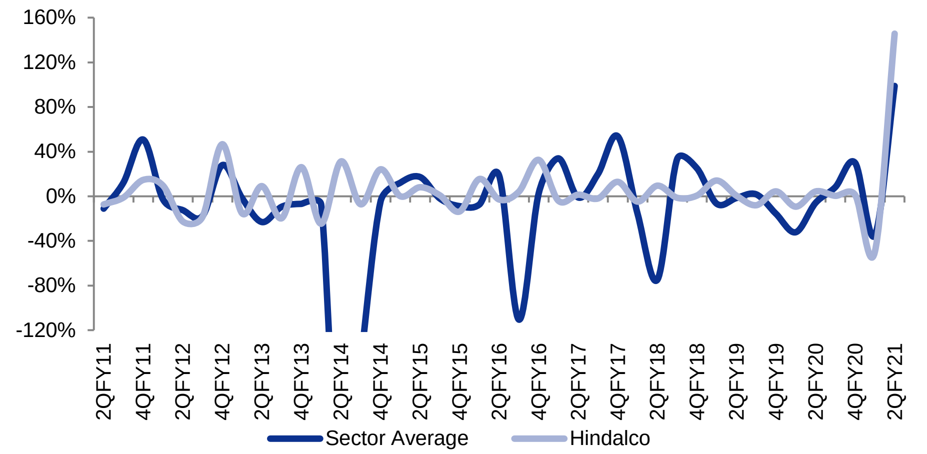
Low variability in EBITDA: Hindalco's consolidated EBITDA is derived from the following underlying businesses: 1) global aluminium flat rolling (Novelis is a market leader in volume terms), 2) low cash cost alumina business (Utkal Alumina), 3) stable copper custom smelting, and 4) aluminium smelting operations that rank in the middle of the global cash cost curve in our view. As we show in Figure 78 below, the bulk of EBITDA is derived from non-LME-linked businesses. This would make us believe the variability in EBITDA for Hindalco would be much lower than the metals and mining sector in India as well as globally. We have analysed (Figure 79) the quarterly EBITDA variability of 14 large global/Indian metals and mining companies which validates the same.

Figure 78: Hindalco's EBITDA mix progression



SOURCES: EIP RESEARCH ESTIMATES, COMPANY REPORTS

Figure 79: Variability in Hindalco's EBITDA qoq vs. the sector



SOURCES: EIP RESEARCH, COMPANY REPORTS

Aleris acquisition is FCF accretive, even assuming no synergy benefit: Novelis completed the acquisition of Aleris's ~1mtpa rolling capacity for a consideration of US$2.6bn in Apr 2020. Aleris brings exposure to the high-end aerospace segment which is a virgin area for Novelis. We find the Aleris acquisition to be a step in the right direction. The low cost of financing for Novelis (to put it into context – Novelis closed a US$1.6bn bond issue that has a coupon of 4.6% in 4QFY20) makes this asset FCF accretive at an EBITDA level of above US$280m per year.

Figure 80: Aleris acquisition's sensitivity to Hindalco's valuation per share

Aleris EBITDA sensitivity to Hindalco's Valuation					
US$ m					
Annual EBITDA Assumption	200	250	280	350	400
-Lewisport + Duffels EBITDA (assumption)	120	120	120	120	120
Residual EBITDA	80	130	160	230	280
Deal value	2,600	2,600	2,600	2,600	2,600
Lewisport + Duffels value realised	500	500	500	500	500
Residual deal value	2,100	2,100	2,100	2,100	2,100
Interest cost @ 5.5% cost of debt	116	116	116	116	116
Depreciation	84	84	84	84	84
Aleris PBT	(120)	(70)	(40)	31	81
Tax @ 25%	-	-	-	8	20
Aleris Sustenance capex	42	42	42	42	42
Aleris FCF	(78)	(28)	3	65	102
Aleris FCF (Rs m)	(5,503)	(1,953)	178	4,606	7,269
FCF Yield required by Hindalco shareholders	10.8%	10.8%	10.8%	10.8%	10.8%
Equity Value (Rs m)	(5,503)	(18,163)	1,651	42,848	67,615
Equity Value per share of Hindalco (Rs/sh)	**(2)**	**(8)**	**1**	**19**	**30**

SOURCES: EIP RESEARCH ESTIMATES, COMPANY REPORTS

Near-term outlook: We expect positive EBITDA momentum for 3Q/4QFY21F due to: 1) increasing volumes trajectory as a result of near V-shaped recovery in domestic demand post the COVID-19 lockdown-led demand destruction and global demand for flat-rolled products driven by the turnround in the automotive, building & construction, and specialty segments, 2) higher aluminum spreads as a result of higher LME Aluminum prices, rupee depreciation to improve India's business profits, 3) improving share of domestic volumes, 4) operating leverage benefit of higher volumes, 5) recovery in acid prices and by-product credits in the copper business. Due to these factors, we expect Hindalco's consolidated EBITDA to stage a solid comeback in 3Q/4QFY21F. Completion of the 500kt expansion at the low cost Utkal Alumina refinery to drive gains from FY22F.

Valuation approach: We assign Hindalco an EV/IC multiple of 0.65x (last five-year trough multiple) in years when the RoCE is less than the WACC. We raise our multiple in years when the RoCE is ahead of WACC. We have an EV/IC-based TP of Rs360 and an Add rating on the stock.

Scenarios: We use a scenario-based approach to better capture the broad range of potential outcomes. Our upside scenario assumes higher LME Aluminium prices for India business, and higher volumes, EBITDA/t for Novelis than our base case. Our downside scenario assumes lower LME Aluminium prices for India business, and lower volumes & EBITDA/t for Novelis than our base case. We arrive at upside/downside valuations of Rs430/Rs285 per share.

Figure 81: Summary of scenario assumptions

FY22-23F Average	Base Case Scenario	Upside Scenario	Downside scenario
LME Aluminium (US$/t)	2,000	2,250	1,800
Alumina (US$/t)	300	350	285
Copper TC/RC (US$/t)	419	419	507
Novelis volume (kt)	3,891	3,998	3,707
Novelis Adj. EBITDA/t (US$/t)	495	527	458
Conso EBITDA (Rs m)	**212,898**	**239,851**	**184,709**
-Novelis EBITDA (Rs m)	144,442	158,162	127,224
-Standalone EBITDA (Rs m)	45,554	52,501	36,470
-Utkal EBITDA (Rs m)	17,531	23,819	15,645
EV/EBITDA multiple (x)	6.6	6.5	6.6
1 year forward Fair Value (Rs/sh)	**360**	**430**	**285**

SOURCES: EIP RESEARCH ESTIMATES, COMPANY REPORTS

Possible rerating catalysts and downside risks

Rerating catalysts: 1) Significant rallies in aluminium/alumina prices, 2) global risk on trade, 3) spike in copper TC/RC, 4) increase in EBITDA/t at Novelis, and 5) potential cash returns from Novelis to the parent.

Downside risks: 1) Significant fall in aluminium/alumina prices will impact Hindalco's profitability adversely, 2) Hindalco's share price could correct during global risk-off trades, 3) declines in copper TC/RC will impact the Copper segment's profitability adversely, 4) decrease in EBITDA/t at Novelis will impact the profitability at Novelis which is an important cog in the wheel, and 5) significant volatility in aluminium physical market premia will impact the operating profit at Novelis as there is no effective tool to hedge this risk.

Base case assumptions and valuation:

Figure 82: Base case – assumptions

Rs m	FY20	FY21F	FY22F	FY23F
India Business				
Volume				
-Aluminium (kt)	1,290	1,248	1,250	1,250
-Copper (kt)	335	300	350	350
-Utkal Alumina (kt)	1,500	1,500	1,850	2,000
Realisation (US$/t)				
-LME Aluminium	1,750	1,775	2,000	2,000
-Copper tc/rc	438	448	502	538
-Utkal Alumina	349	275	300	300
EBITDA				
-Aluminium	25,908	27,967	37,065	30,544
-Margin	*11.9%*	*13.5%*	*15.6%*	*12.8%*
-Copper Cathode	11,612	7,469	10,850	12,650
-Margin	*6.3%*	*3.8%*	*4.4%*	*5.5%*
-Utkal Alumina	8,373	13,002	17,685	17,378
-Margin	*31.6%*	*42.0%*	*42.5%*	*38.6%*
Novelis				
-Rolled Products (kt)	3,273	3,617	3,834	3,949
-EBITDA US$mn	1,361	1,665	1,889	1,982
-EBITDA/t (US$/t)	430	460	493	502
Consolidated				
-Revenue	1,181,440	1,312,354	1,524,783	1,546,562
-EBITDA	143,060	173,344	207,241	209,233
-PAT	37,670	51,288	84,761	90,095
FCF Workings				
EBITDA	143,060	173,344	207,241	209,233
Other Income	2,830	2,543	10,563	10,143
Tax paid	(1,020)	(15,786)	(29,723)	(31,846)
Interest expense	(40,160)	(44,923)	(38,669)	(32,783)
Working Capital Changes	(11,780)	12,316	(1,682)	(669)
Others	(27,760)	(55,655)	1,390	988
Maintenance capex	(26,250)	(26,250)	(26,250)	(26,250)
FCF Available for Disposa	**38,920**	**45,589**	**122,871**	**128,815**
Capex	(41,660)	(161,854)	(23,750)	(23,750)
FCF post Capex	**(2,740)**	**(116,265)**	**99,121**	**105,065**

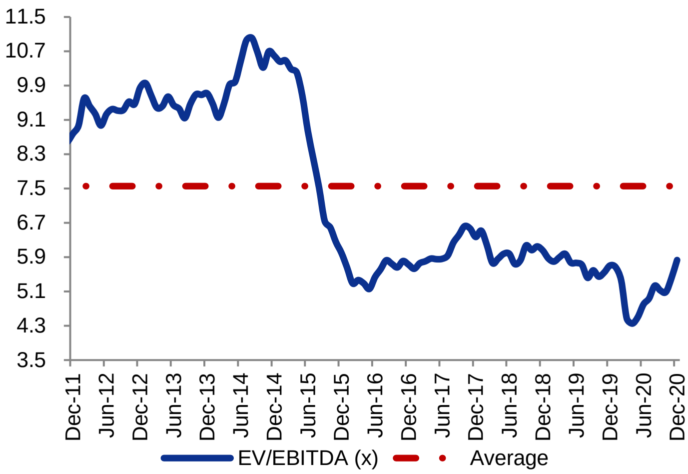
SOURCES: EIP RESEARCH ESTIMATES, COMPANY REPORTS

Figure 83: Hindalco: EV/IC based target price derivation – base case

Rs m	FY19	FY20	FY21F	FY22F	FY23F
RoCE	9.8%	7.9%	7.9%	10.1%	10.3%
WACC	6.9%	6.9%	6.9%	6.9%	6.9%
RoCE less WACC	2.9%	1.0%	1.0%	3.2%	3.4%
EV	887,396	595,610	720,305	615,950	505,798
Capital Employed	1,231,185	1,410,280	1,570,084	1,554,959	1,545,137
EV/IC	0.72	0.42	0.46	0.40	0.33
Target EV/IC (x)		0.65	0.72	0.90	0.90
Target EV		916,682	1,130,460	1,399,463	1,390,624
Gross Debt		522,573	670,960	787,124	682,124
Cash & Equivalents		136,419	278,480	269,949	269,304
Net Debt		386,155	392,480	517,175	412,820
LT Provision		74,401	83,370	83,370	83,370
EQUITY VALUE		456,126	654,610	798,918	894,434
EQUITY VALUE PER SHARE (Rs/sh)				378	421
1 yr forward TP (Rs/sh)					**360**
Implied Multiples					
EV/EBITDA (x)		6.4	6.3	6.6	6.5
P/E (x)		5.4	3.5	9.3	9.8
P/B (x)		0.8	1.0	1.1	1.1
RoE		9.6%	6.5%	9.0%	12.3%

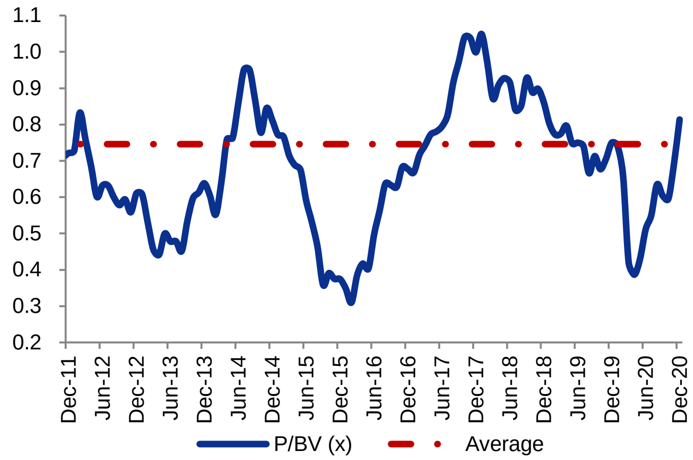
SOURCES: EIP RESEARCH ESTIMATES, COMPANY REPORTS

Figure 84: Hindalco's 12 m fwd EV/EBITDA (x)



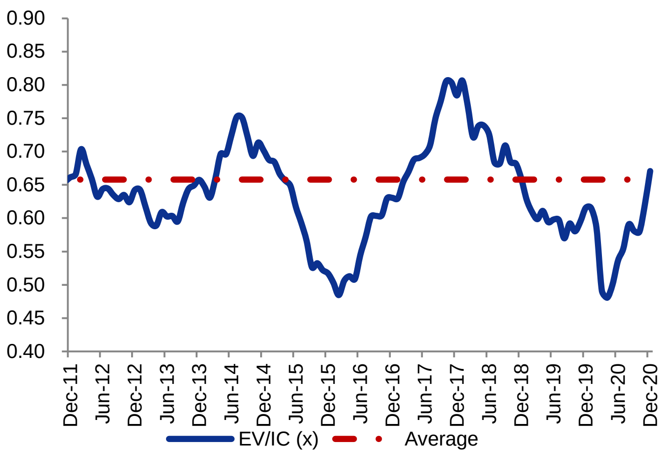
SOURCES: EIP RESEARCH, COMPANY REPORTS, BLOOMBERG

Figure 85: Hindalco's 12 m fwd P/BV (x)



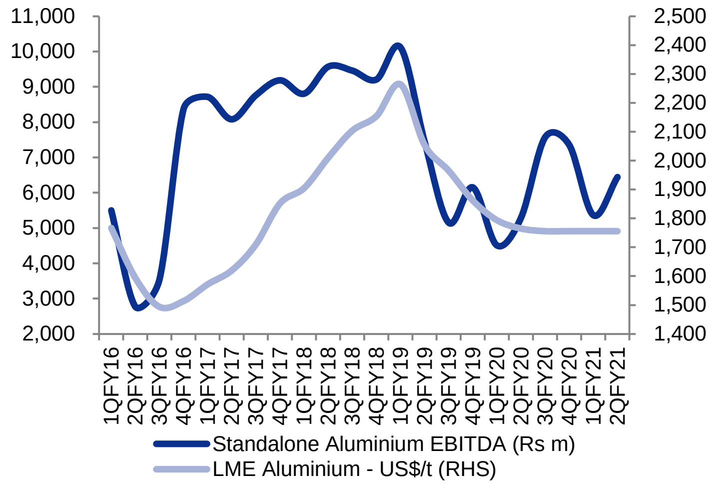
SOURCES: EIP RESEARCH, COMPANY REPORTS, BLOOMBERG

Figure 86: Hindalco's 12 m fwd EV/IC (x)



SOURCES: EIP RESEARCH, COMPANY REPORTS, BLOOMBERG

Figure 87: LME Aluminium vs. Standalone Aluminium EBITDA



SOURCES: EIP RESEARCH, COMPANY REPORTS, BLOOMBERG

National Aluminium Co Ltd (NACL IN, Add, TP Rs60)

Alumina play

NALCO's alumina cash cost of production is among the lowest globally, mainly due to access to high quality bauxite reserves. NALCO exports most of its surplus (~60% of production, FY15-20 average) alumina. We believe post the de-linking of alumina from LME (London Metal Exchange) Aluminium prices, alumina has always traded based on its fundamentals around the marginal cost of production, demand-supply dynamics, etc. This independent pricing of alumina is here to stay and NALCO will be a key beneficiary, in our view. NALCO pays out all free cash flow post capital expenditure as dividends. We believe NALCO will continue its dividend payout, as expected by its major shareholder – the government of India, in our view.

With multiple projects on the company's plate, we expect a fine balance between capex and dividends:

Below is a summary of the key expansion/other projects:

1) The expansion of the alumina refinery by 1mtpa and development of the Panchapatmalli/Pottangi bauxite mine, which are slated to supply ore to the expanded refinery capacity. This integrated project also involves the development of evacuation infrastructure. The total outlay for all these put together is Rs60bn-62bn and the project is expected to be completed by FY24F, in our view.
2) Development of Utkal D and E coal blocks which together can produce 4mtpa and save ~Rs2bn in annual costs, in our view.
3) Development of caustic soda project as part of a joint venture (JV).
4) Development of coal tar pitch project as part of a JV.
5) Forward integration into value-added products, such as wire rods, rolled products, etc.

Of the projects above, there is visibility on the alumina refinery expansion, mine development and associated evacuation infrastructure, Utkal coal blocks, and caustic soda JV. The rest of the projects are still at the conceptualisation stage. Our forecasts are conservative and do not include volume benefit from these projects.

Figure 88: Summary of expansion projects under consideration, according to the company

Projects	Capex	Capacity	Timeline
Alumina refinery	Rs56bn	1mn tpa	Expect to be completed by FY24F.
Pottangi Mine & Infrastructure	Rs6bn	3.2 mn tpa	Expected to be ready to start before the refinery expansion is completed.
Utkal D & E coal blocks	Rs6bn	c.2 mn tpa each	Utkal coal block D is expected to be commissioned by FY21/22F.
Caustic Soda JV	Rs2.4bn	270 KT	Expected to be ready by FY22F.
Aluminium smelter	Rs96bn	600 KT	At conceptualisation stage.
Coal tar pitch	-	20 KT	Signed MoU with MINL; project is at conceptualisation stage.

SOURCES: EIP RESEARCH, COMPANY REPORTS

Near-term outlook: We expect a positive EBITDA momentum for 3Q/4QFY21F as a result of 1) increasing volumes trajectory due to near V-shaped recovery in domestic demand post the COVID-19 lockdown-led demand destruction and better global demand driven by a strong recovery in China, 2) higher aluminium/alumina spreads as a result of higher LME prices, rupee depreciation and the benign cost of energy, 3) improving share of domestic volumes, and 4) the operating leverage benefit of higher volumes. Based on these factors, we expect NACLO's EBITDA to improve from Rs2bn in 2QFY21 to Rs3bn-Rs4bn over 3Q/4QFY21F.

Valuation approach: We value NALCO using the Dividend Discount Model and arrive at a TP of Rs60. We also ran an EV-to-IC based valuation for NALCO. We assume a cost of equity of 10.75% (based on the capital asset-pricing model) and a long-term growth rate in dividend of 0% to be conservative.

We further cross checked the EV-to-IC based valuation in terms of implied EV/EBITDA and P/BV valuations.

Scenarios: We use a scenario-based approach to better capture the broad range of potential outcomes. Our upside scenario assumes higher LME Aluminium and Alumina prices, higher spreads vs. our base case. Our downside scenario assumes lower LME Aluminium and Alumina prices, lower spreads vs. our base case. We arrive at upside/downside valuations of Rs81/Rs36 per share.

Figure 89: Scenario assumptions summary

FY22-23F Average	Base Case Scenario	Upside Scenario	Downside scenario
LME Aluminium (US$/t)	2,000	2,250	1,800
Alumina (US$/t)	300	350	285
Aluminium sales volume (kt)	414	414	414
Alumina sales volume (kt)	1,349	1,349	1,349
EBITDA (Rs m)	22,873	31,433	15,672
1 year forward DDM Valuation (Rs/sh)	60	81	36

SOURCES: EIP RESEARCH ESTIMATES, COMPANY REPORTS

Possible catalysts and downside risks

Potential catalysts: 1) Rally in aluminium/alumina prices, 3) risk-on trades.

Downside risks: 1) A significant decline in alumina prices or alumina price proportion of LME Aluminum price will adversely impact its profitability, 2) global risk-off trade would lead to a correction of NALCO's share price.

Base case assumptions and valuation:

Figure 90: Base case – assumptions

Rs m	FY19	FY20	FY21F	FY22F	FY23F
Operational & P&L Metrics					
Sales Volume (kt)					
-Alumina	1,318	1,304	1,253	1,352	1,345
-Aluminium	441	396	430	455	455
Realisation (Rs/t)					
-Alumina	33,659	22,845	23,177	25,052	25,052
-Aluminium	154,872	136,257	143,991	159,741	159,741
Revenue	114,993	84,718	92,676	108,756	108,557
EBITDA	**28,869**	**4,892**	**15,416**	**24,191**	**21,555**
PAT	17,324	1,382	8,337	14,947	12,816
DPS (Rs/sh)	**5.8**	**1.5**	**2.5**	**6.2**	**6.2**
FCF Workings					
EBITDA	28,869	4,892	15,416	24,191	21,555
Other Income	3,315	2,726	1,110	1,231	1,108
Tax	(10,209)	(1,005)	(2,779)	(4,982)	(4,272)
Interest	-	(9)	(11)	(11)	(11)
Working Capital Changes	3,935	(7,917)	3,014	(1,323)	16
Others	2,329				
Maintenace capex	(3,000)	(3,000)	(3,000)	(3,000)	(3,000)
FCF Available for Disposal	**25,239**	**(4,312)**	**13,750**	**16,105**	**15,396**
Capex	(6,252)	(5,448)	(7,000)	(7,000)	(7,000)
FCF post capex	**18,988**	**(9,760)**	**6,750**	**9,105**	**8,396**

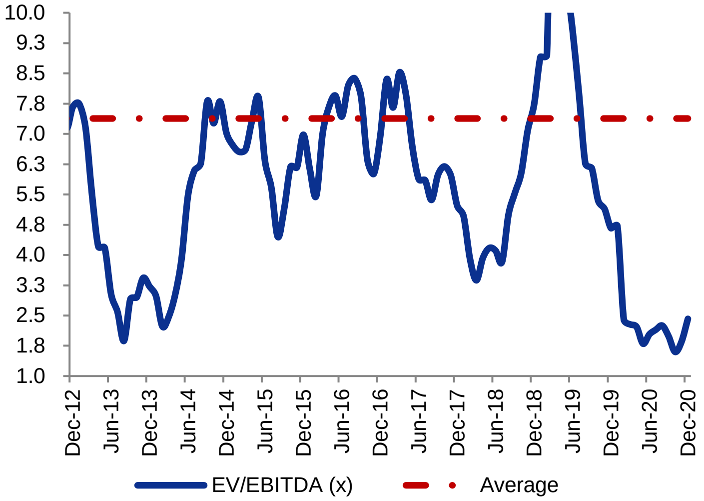
SOURCES: EIP RESEARCH ESTIMATES, COMPANY REPORTS

Figure 91: NALCO's DDM Valuation

DDM Valuation - Base case scenario	
Cost of Equity Calculation	11.3%
-Market Return Assumption	10.8%
-Market Risk Premium	5.0%
-Rf	5.8%
-Beta	1.10
Dividend Discount Model	
Sustainable Long Term Growth Rate in Dividends ---> A	1%
Cost of Equity ----> B	11.3%
FY22F DPS (Rs/share) ----> C	6.2
Equity Value (Rs/share) ----> C/(B-A) = D	60.0
1 yr forward TP (Rs/sh)	**60.0**

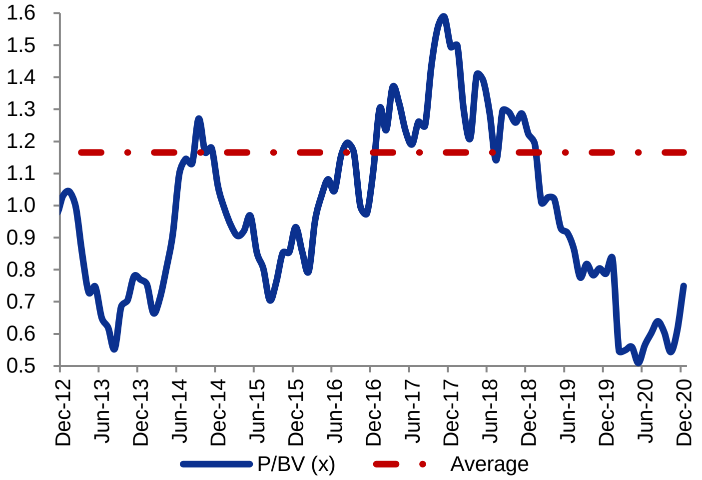
SOURCES: EIP RESEARCH ESTIMATES, COMPANY REPORTS

Figure 92: NALCO's 12 m fwd EV/EBITDA (x)



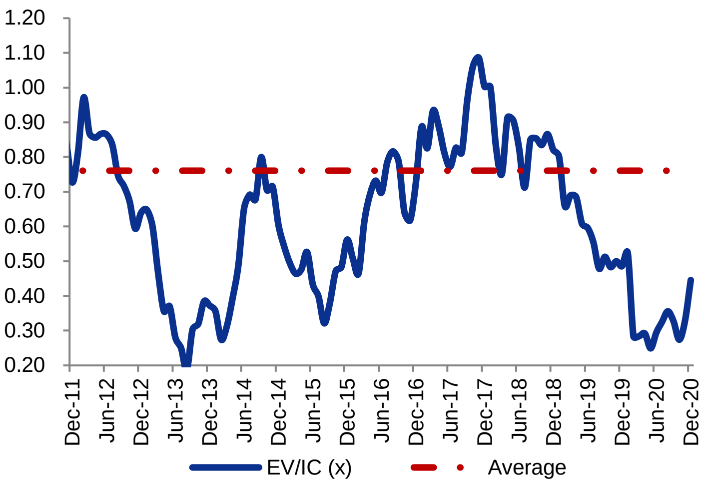
SOURCES: EIP RESEARCH, COMPANY REPORTS, BLOOMBERG

Figure 93: NALCO's 12 m fwd P/BV (x)



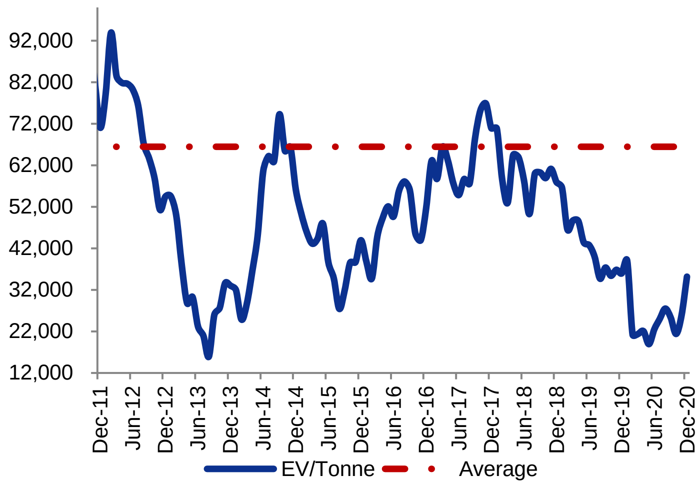
SOURCES: EIP RESEARCH, COMPANY REPORTS, BLOOMBERG

Figure 94: NALCO's 12 m fwd EV/IC (x)



SOURCES: EIP RESEARCH, COMPANY REPORTS, BLOOMBERG

Figure 95: NALCO's 12 m fwd EV/tonne (Rs)



SOURCES: EIP RESEARCH, COMPANY REPORTS, BLOOMBERG

Mining Companies section

Coal India (COAL IN, Add, TP Rs270)

Period of potential gains post the period of pains

Coal India is a key beneficiary of the corporate tax rate cuts and dividend distribution tax (DDT) reforms announced by the Government of India (GoI) in FY20. However, just as Coal India would have started to accrue the benefits, COVID-19 struck the company hard. Although there was only a limited loss to demand for the company's coal, payments from generation companies dried up and, as a result, receivables spiked to ~Rs230bn (~Rs40/share of Coal India, i.e. ~30% of the company's share price) by Oct end from ~Rs130bn as of FY20 end. We believe there is excessive pessimism built into the stock price now.

Figure 96: DDT Abolishment - Impact on various shareholder/investor categories

S. No.	Shareholder/Investor Category	Earlier regime	New regime	Comment
1	FPIs	20%	5-15%	Net Impact: Not only is the tax rate low er, this low er tax is also available for credit in their home jurisdiction
2	Mutual Fund Schemes	20%	Nil	Net Impact: Effective rate goes dow n from 20% to Nil
3	Insurance Companies			
-a)	-ULIP portfolio	20%	-Nil or 14-15%	We need some clarification, in any case effective rate is low er than w hat it w as earlier
-b)	-Other portfolio	20%	-14-15%	Net impact: Effective rate is low er than w hat it w as earlier
4	Corporate Treasury	20% + 10%	Taxed @ corporates' effective tax rate	Net impact: Effective rate is low er in most cases
5	Retail Investors	20% + 10%	Taxed @ investors' marginal tax rate	Net impact: Mixed

SOURCES: EIP RESEARCH, COMPANY REPORTS

Figure 97: Pricing comparison on a landed-cost basis (on 10 Dec 2020) – COAL's fuel supply agreement price is at a significant discount to alternatives

	Coal India FSA-Core	Coal India FSA-Non core	Coal India E-auction coal	Indonesia Coal	South African Coal	Comments
Underlying GCV (kcal/kg)	4,300	4,300	4,300	4,300	6,000	Approximate
Base Price (Rs/t)	1,150	1,350	1,800	2,516	5,832	Indonesian/South African coal @ US$34/81 cif & US$INR of 74
Royalty Applicable (Rs/t)	161	189	262	0	0	@14%
Assesable Value (Rs/)t	1,311	1,539	2,062	2,516	5,832	
GST	66	77	103	126	292	@5% for coal
GST Compensation cess (Rs/t)	400	400	400	400	400	
Sales Price (Rs/t)	1,777	2,016	2,565	3,042	6,524	Ex-mine/Port/Factory
Crushing & Evacuation charges	100	100	100	250	250	
Approx Road Distance (km)	500	500	250	250	250	
Freight per ton km	750	750	1,200	1,200	1,200	@ Rs 1.5/4 per ton km for rail/road
Sales price @ enduser site	2,627	2,866	3,765	4,242	7,724	
Sales Price (Rs/000 k cal)	0.61	0.67	0.88	0.99	1.29	
Expensive By	**NA**	**9%**	**43%**	**61%**	**111%**	

SOURCES: EIP RESEARCH ESTIMATES, COMPANY REPORTS

Near-term outlook: We expect positive EBITDA momentum for 3Q/4QFY21F as a result of 1) increasing volumes trajectory as a result of the near V-shaped recovery in domestic demand post the COVID-19 lockdown-led demand destruction, 2) higher blended realisations as a result of higher e-auction prices, higher mix of e-auction and sales to non-regulated sector, 3) operating leverage benefits due to higher volumes, 4) potential reduction in receivables as the loan package to discoms is progressively disbursed by the government/respective entities. Due to these factors, we expect Coal India's EBITDA to improve from Rs52bn in 2QFY21 to Rs70bn-Rs100bn range over 3Q/4QFY21F.

Valuation approach: Over the last eight years (FY12-20), COAL paid out all free cash flow post-capex as dividends and expect it to continue doing so. Hence, we apply the enhanced dividend discount model (DDM) framework to value COAL whereby we also incorporate the potential cash flow return to shareholders via buybacks. We arrive at a TP of Rs270/sh. We assume a cost of equity of 10.75% (based on the capital asset-pricing model) and a long-term growth rate in dividend of 0% to be conservative.

Scenarios: We use a scenario-based approach to capture the broad range of potential outcomes. Our upside scenario assumes higher e-auction prices, higher volumes and lower receivables than our base case. Our downside scenario assumes lower e-auction prices, lower volumes and higher receivables than our base case. We arrive at upside/downside valuations of Rs360/Rs180 per share.

Figure 98: Scenario assumptions

FY22-23F Average	Base Case Scenario	Upside Scenario	Downside scenario
Volume (mT)	651	704	609
E-auction proportion	13%	12%	12%
FSA Realisation (Rs/t)	1,487	1,516	1,473
E-auction Realisation (Rs/t)	1,792	1,933	1,694
EBITDA post OBR (Rs m)	285,711	362,951	213,745
FY22F Receivables (Rs m)	161,591	117,801	188,766
Dividend (Rs/sh)	26	34	17
Sustainable growth in dividends	0%	0%	0%
1 year forward DDM Valuation (Rs/s	270	360	180

SOURCES: EIP RESEARCH ESTIMATES, COMPANY REPORTS

Re-rating catalysts and downside risks

Catalysts

- Decline in receivables.
- Positive momentum on e-auction realisation normalisation.
- Potential price hike for the fuel supply agreement (FSA) segment which more than offsets the upcoming wage hikes.

Downside risks

- Spike in receivables as a result of further stress in discoms.
- Lack of positive momentum on coal e-auction price realisations

Base case assumptions and valuation:

Figure 99: Base case – assumptions

	FY19	FY20	FY21F	FY22F	FY23F
Operational & Pnl Metrics					
Sales Volumes (mt)	**608**	**582**	**586**	**632**	**669**
-yoy		*-4.3%*	*0.7%*	*7.9%*	*5.9%*
-FSA (mt)	525.4	501.0	474.8	537.5	569.8
-E-auction (mt)	68.5	65.4	97.3	80.3	85.1
-Washed (mt)	11.2	11.0	10.6	11.0	11.0
-Others (mt)	3.017	4.54	3.5	3.5	3.5
Average Selling Price (Rs/t)	1,536	1,560	1,485	1,555	1,570
-FSA (Rs/t)	1,357	1,438	1,417	1,487	1,487
-E-auction (Rs/t)	2,632	2,177	1,615	1,725	1,859
-Washed (Rs/t)	2,713	3,100	2,887	3,137	3,137
Total Revenue (Rs m)	9,95,469	9,60,803	9,35,900	10,54,488	11,27,578
Adj EBITDA post OBR (Rs m)	**2,49,771**	**2,19,209**	**2,38,938**	**2,67,382**	**3,04,040**
-yoy		*-12%*	*9%*	*12%*	*14%*
-EBITDA/t (Rs/t)	**411**	**377**	**408**	**423**	**454**
APAT (Rs m)	**1,74,639**	**1,67,015**	**1,76,197**	**1,83,207**	**2,09,281**
-yoy		*-4%*	*5%*	*4%*	*14%*
Adj EPS (Rs/sh)	28.3	27.1	28.6	29.7	34.0
Dividend per Share (Rs/sh)	**13.1**	**12.0**	**23.5**	**25.0**	**26.0**
-yoy		*-8%*	*96%*	*6%*	*4%*
FCF Workings (Rs m)					
EBITDA post overburden exp	**2,49,771**	**2,19,209**	**2,38,938**	**2,67,382**	**3,04,040**
Other Income	31,410	61,054	36,003	20,080	21,430
Tax	-97,782	-1,19,463	-59,361	-61,722	-70,507
Interest	-2,750	-5,029	-5,029	-5,029	-5,029
Working Capital Changes & others	-50,852	-1,23,268	-66,439	55,870	27,973
Capex	-74,577	-60,985	-90,000	-1,00,000	-1,00,000
FCF	**55,219**	**-28,482**	**54,112**	**1,76,580**	**1,77,908**
Buyback	-12,643	0	0	0	0
Dividend	**-99,468**	**-96,760**	**-1,44,824**	**-1,54,068**	**-1,60,231**
Cash Changes (excl OBR rel cash)	**-56,891**	**-1,25,242**	**-90,713**	**22,511**	**17,676**
Cash Accrual against OBR prov	50,712	55,419	-8,000	0	0
Cash Changes (incl OBR rel cash)	**-6,179**	**-69,823**	**-98,713**	**22,511**	**17,676**
Year beginning cash	3,34,921	3,28,742	2,85,465	1,86,753	2,09,264
Year end cash	**3,28,742**	**2,58,919**	**1,86,753**	**2,09,264**	**2,26,941**

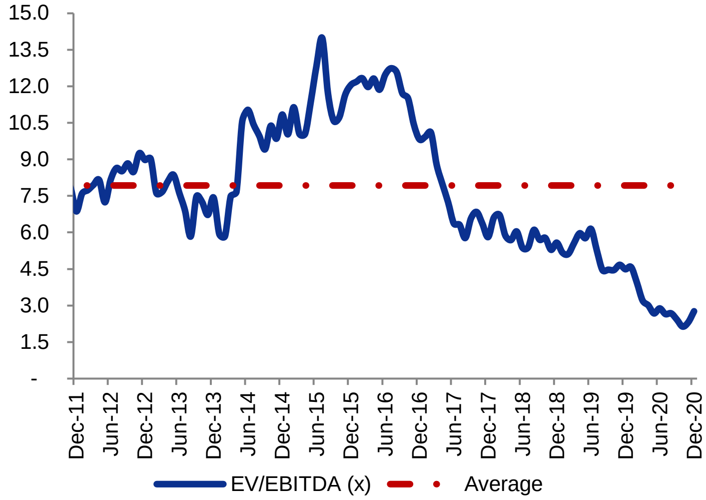
SOURCES: EIP RESEARCH ESTIMATES, COMPANY REPORTS

Figure 100: Coal India: target price derivation - base case

Enhanced DDM Valuation - Base case scenario	
Cost of Debt post tax	6.5%
Cost of Debt	10%
Tax Rate	35%
Cost of Equity Calculation	**10.0%**
-Market Risk Premium	5.0%
-Rf	5.8%
-Beta	0.85
Dividend Discount Model enhanced to incoporate buybacks	
Sustainable Long Term Growth Rate in Dividends ---> A	0.0%
Cost of Equity ----> B	10.0%
FY23 F Average DPS (Rs/share) ----> C	**26.0**
Equity Value (Rs/share) ----> C/(B-A) = D	**265**
ADD: General Reserves available for Buyback (post 20% Buyback Tax) - (Rs m)	32,455
-Per share (Rs/sh) ---> E	5.3
1 yr forward TP (Rs/sh)	**270**

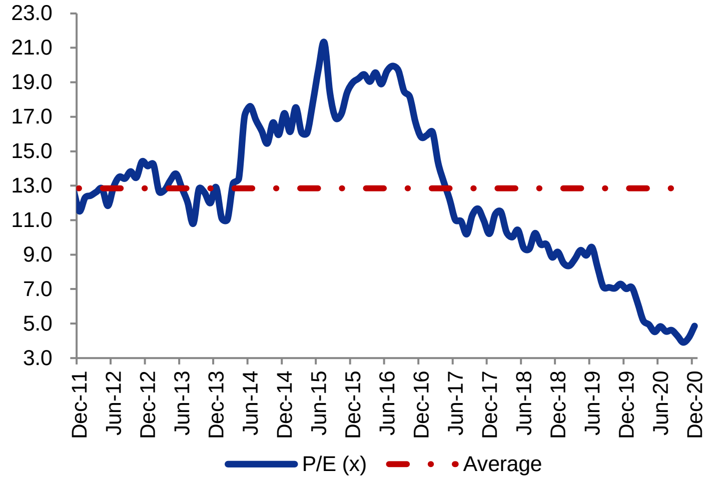
SOURCES: EIP RESEARCH ESTIMATES, COMPANY REPORTS

Figure 101: Coal India's 12 m fwd EV/EBITDA (x)



SOURCES: EIP RESEARCH, COMPANY REPORTS, BLOOMBERG

Figure 102: Coal India's 12 m fwd P/E (x)



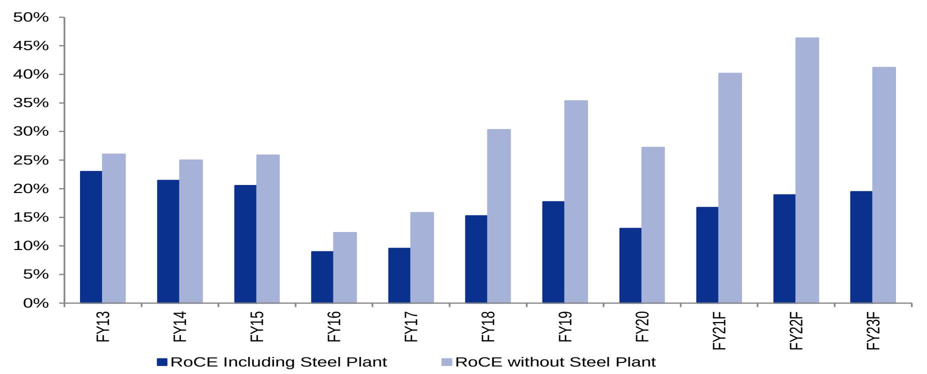
SOURCES: EIP RESEARCH, COMPANY REPORTS, BLOOMBERG

NMDC Ltd (NMDC IN, Add, TP Rs207)

Demerger of steel plant a positive; a key beneficiary of iron ore price strength and tight domestic supply

We believe the Nagarnar steel plant demerger 1) stems further cash outflows from NMDC's iron ore business as the remaining capex (~Rs50bn including working capital) will be funded through debt which will be moved to the demerged entity, 2) dramatically spikes the RoCE of the iron ore business and could result in a strong multiple rerating, and 3) unlocks value as the steel CWIP of ~Rs170bn was not being assigned any value by the investors, in our view.

Figure 103: NMDC's RoCE with and without steel asset



SOURCES: EIP RESEARCH ESTIMATES, COMPANY REPORTS

In our view, the overhang on the stock due to the issue of additional royalty/premium on the renewal of mine leases has an element of noise as NMDC has the ability to pass on the additional royalty/premium.

Figure 104: NMDC's iron ore prices can increase upto Rs9,410/t before international ore becomes cheaper

NMDC Landed Price (Rs/t)					
NMDC Iron ore price (64% fe fines)	2,610	3,610	4,610	5,610	9,410
Royalty & cess	522	722	922	1,122	1,882
Other cess & fees (FDT in Karnataka)	313	433	553	673	1,129
Rail Freight	750	750	750	750	750
Other handling charges	250	250	250	250	250
Landed cost at plant from NMDC	**4,445**	**5,765**	**7,085**	**8,405**	**13,421**
International Iron ore landed price (Rs/t)					
International iron ore price cif India (64% fe fines) - US$/t	155	155	155	155	155
USDINR	75	75	75	75	75
International iron ore price cif India (64% fe fines) - Rs/t	11,625	11,625	11,625	11,625	11,625
Import duty @2.5%	291	291	291	291	291
Port handling charges (approx)	500	500	500	500	500
Rail Freight	750	750	750	750	750
Other handling charges	250	250	250	250	250
Landed cost at plant from imports	13,416	13,416	13,416	13,416	13,416
NMDC's ore discount vs International ore	8,970	7,650	6,330	5,010	(6)
% Discount of NMDC ore	**-67%**	**-57%**	**-47%**	**-37%**	**0%**

NOTE: INTERNATIONAL BENCHMARK PRICE AS OF 5 DEC 2020, ADJUSTED FOR 64% FE; SOURCES: EIP RESEARCH ESTIMATES, COMPANY REPORTS

We believe Odisha mine auctions concluded in 2020 are not threats to NMDC's volumes, in fact they are potential opportunities to gain market share. There are concerns that NMDC's volumes are under threat due to some of its customers acquiring iron ore mines for captive use in the Indian state of Odisha. We do not perceive it as a threat to NMDC's volumes. The loss of volumes from merchant miners in Odisha who had to acquire mines in auction at high premiums (~100% premium, leaving no scope for profits on commercial sales), offers NMDC scope to gain market share. Our calculations (figure 105 below) based on an international iron ore price of US$121/t (64% fe [iron], India free on board [FOB]) and above NMDC's exports sales could generate EBITDA/t equivalent to its spot domestic sales EBITDA/t. Since NMDC's iron ore is of high grade with limited impurities, the demand for such ore in seaborne markets would be strong, in our view.

Figure 105: NMDC's export sales profitability would be higher than domestic profitability at iron ore price of US$121/t and above

Profitability of exports vs. domestic sales (Rs/t)					
NMDC Cash cost	1,000	1,000	1,000	1,000	1,000
Royalty	500	500	500	500	500
Domestic logistics cost to port	750	750	750	750	750
Port handling charges	500	500	500	500	500
64% fe iron ore price India fob - US$/t	**101**	**111**	**121**	**131**	**141**
USDINR	75	75	75	75	75
64% fe iron ore price India fob - Rs/t	7,586	8,336	9,086	9,836	10,586
Export duty	2,276	2,501	2,726	2,951	3,176
All in cost for NMDC	5,026	5,251	5,476	5,701	5,926
Export realisation	7,586	8,336	9,086	9,836	10,586
EBITDA on exports	**2,560**	**3,085**	**3,610**	**4,135**	**4,660**
NMDC Domestic ASP	**4,610**	**4,610**	**4,610**	**4,610**	**4,610**
EBITDA on domestic sales	**3,610**	**3,610**	**3,610**	**3,610**	**3,610**
Export profitability premium over domestic	**(1,050)**	**(525)**	**-**	**525**	**1,050**
Export profitability higher by %	**-29%**	**-15%**	**0%**	**15%**	**29%**

NOTE: NMDC PRICE AS OF 5 DEC 2020. SOURCES: EIP RESEARCH ESTIMATES, COMPANY REPORTS

Near-term outlook: We expect positive EBITDA momentum for 3Q/4QFY21F as a result of 1) increasing volumes trajectory as a result of near V-shaped recovery in domestic demand post the COVID-19 lockdown-led demand destruction, 2) higher domestic iron ore prices as a result of international benchmark ore price strength and domestic supply tightness. Progress on the demerger of the steel plant would be positive for NMDC. Final decision on the quantum and scope of the imposition of additional royalty payable yearly to state governments by NMDC would remove the overhang on the stock.

Valuation approach: We value NMDC's iron ore business based on EV/EBITDA multiple and separately value the steel business on an EV/EBITDA basis too, assuming both were different entities in line with the majority shareholder's intention to demerge the steel asset into a separate company with shareholding that mirrors that of NMDC. We value NMDC's iron ore business on an EV/EBITDA multiple of 6.5x (in line with asset-heavy steel sector's multiple, but we are being conservative in assigning the same to NMDC's iron ore business which runs an asset-light, high RoCE business) on FY22-23F average EBITDA, while we assign an EV/EBITDA multiple of 8.0x to the steel business on FY23F EBITDA. We assign a higher multiple of 8.0x to the steel asset vs. the sector's last five-year average trading multiple of 6.5x, because the asset would be in ramp-up mode in FY23F and is unlikely to reflect the asset's full EBITDA potential. Now, since the steel asset is 1) close to completion and 2) according to management, most of the remaining capex would be funded by raising debt which will be transferred to the demerged steel company, we see no strain on NMDC's core cashflows. Thereby the situation does not necessitate using a more conservative dividend discount framework.

Scenarios: We use a scenario-based approach to better capture the broad range of potential outcomes. Our upside scenario assumes higher volumes and iron ore prices, steel spreads than our base case and demerger of the steel plant. Our downside scenario assumes lower volumes and iron ore prices, lower steel spreads than our base case and no demerger of steel plant. We arrive at upside/downside valuations of Rs285/Rs72 per share.

Figure 106: Scenario summary

FY22-23F Average	Base Case Scenario	Upside Scenario	Downside Scenario
Iron ore volume (mt)	40.0	43.5	36.5
Iron ore realisation (Rs/t)	3,888	4,513	2,988
Steel plant utilisation (%)	57%	57%	57%
Steel plant divested	Yes	Yes	Yes
EBITDA (Rs m)	84,708	117,564	43,400
Dividend (Rs/sh)	17.9	22.6	7.7
Valuation methodology	EV/EBITDA - Sum of the parts	EV/EBITDA - Sum of the parts	Dividend Discount Model
Valuation per share now (Rs/sh)	207	285	72

SOURCES: EIP RESEARCH ESTIMATES, COMPANY REPORTS

Potential catalysts and downside risks

Possible catalysts:

- Progress on demerger process of steel asset and commissioning of the asset.
- Decreasing regulatory uncertainty on imposition of additional royalty/premium in mine lease renewals.
- Increase in iron ore prices by NMDC, in line with strength in the international benchmark prices. This also increases confidence to the investors that-NMDC is capable of passing on higher royalties/premium that may be imposed by state governments for mine lease renewals.

Risks to our Add call are:

- Significant delays in commissioning the steel asset and lack of progress/shelving of the demerger plan.
- NMDC is a state-owned entity, and sometimes the government's decisions regarding its business might not be in line with the profit-seeking minority investors.

Base case assumptions and valuation

Figure 107: Base case – assumptions

(Rs m)	FY19	FY20	FY21F	FY22F	FY23F
Operational & P&L Metrics					
Iron ore Production vol (mt)	32.4	31.5	32.0	39.6	45.9
Iron ore sales vol(mt)	32.4	31.5	32.0	38.0	42.0
-Exports (mt)	1.2	2.4	2.5	2.5	2.5
-Domestic (mt)	31.2	29.1	29.5	35.5	39.5
Iron ore selling price (Rs/t)	3,708	3,671	3,943	4,362	3,809
-Exports	4,624	6,447	7,545	7,545	6,516
-Domestic	3,673	3,438	3,638	4,138	3,638
Steel Sales vol(mt)	NA	NA	0.0	1.0	2.4
Steel Realisation (Rs/t)	NA	38,995	45,000	45,000	45,000
Revenue	**121,527**	**116,992**	**127,487**	**167,066**	**161,296**
-Mining	121,527	116,992	127,487	167,066	161,296
-Steel			1	44,550	108,000
Total Opex	(52,227)	(56,888)	(63,114)	(131,356)	(180,139)
-Mining	(52,227)	(56,888)	(58,613)	(96,318)	(101,754)
-Steel			(4,501)	(35,038)	(78,385)
Total EBITDA	**69,300**	**60,104**	**64,374**	**80,260**	**89,157**
yoy	*19.3%*	*-13.3%*	*7.1%*	*24.7%*	*11.1%*
-Mining	69,300	60,104	68,874	70,748	59,542
-EBITDA/t (Rs/t)	**2,142**	**1,907**	**2,152**	**1,862**	**1,418**
-Steel			(4,500)	9,512	29,615
-EBITDA/t (Rs/t)			**NA**	**9,608**	**12,340**
Net Profit	46,421	36,101	48,511	55,609	58,267
yoy	*22.0%*	*-22.2%*	*34.4%*	*14.6%*	*4.8%*
EPS (Rs)	**15.2**	**11.8**	**16.8**	**19.2**	**20.2**
DPS (Rs)	5.5	6.8	10.0	17.5	18.4
FCF Workings					
EBITDA	69,300	60,104	64,374	80,260	89,157
Other Income	4,925	4,065	2,965	2,625	2,903
Tax Paid	(26,024)	(22,796)	(16,172)	(18,538)	(19,424)
Interest Exp	(401)	(99)	(396)	(396)	(396)
Working Capital Changes	(8,629)	(20,872)	5,710	1,795	(5,373)
Capex	928	(24,035)	(18,000)	(15,000)	(15,000)
Loans/Others	(8,587)	23,384	-	-	-
FCF post capex	**31,512**	**19,751**	**38,481**	**50,746**	**51,867**

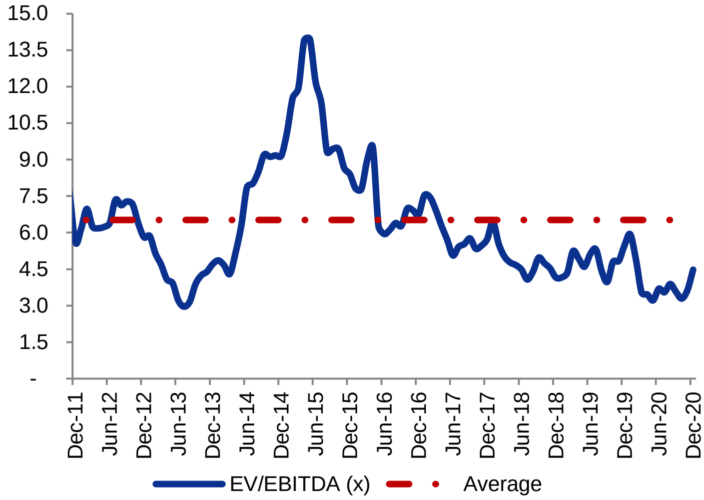
SOURCES: EIP RESEARCH ESTIMATES, COMPANY REPORTS

Figure 108: NMDC's SOP-based target price derivation

Multiple Based Valuation - Base case scenario (Rs m)	
	FY22/23F
EBITDA	65,145
Multiple (x)	6.50
EV	423,441
Net Debt - (FY20)	(15,951)
Market value	439,392
Equity Value per Share (Rs/sh)	Rs 148
Steel asset value (Rs/sh)	Rs 60
1 yr forward TP (Rs/sh)	**Rs 207**

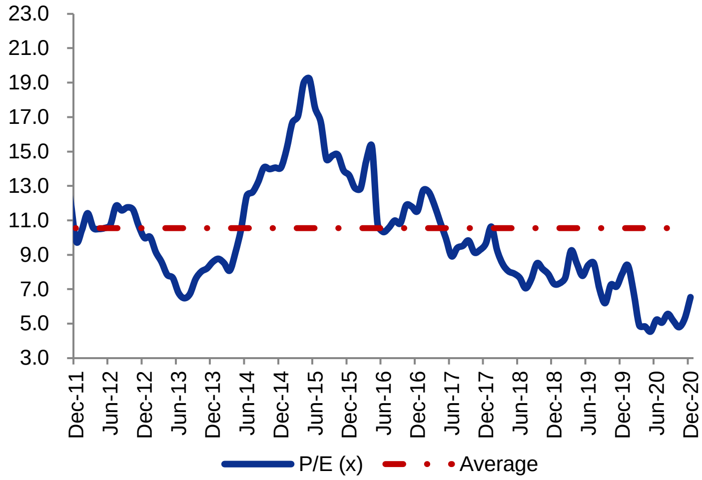
SOURCES: EIP RESEARCH ESTIMATES, COMPANY REPORTS

Figure 109: NMDC's 12 m fwd EV/EBITDA (x)



SOURCES: EIP RESEARCH, COMPANY REPORTS, BLOOMBERG

Figure 110: NMDC's 12 m fwd P/E (x)



SOURCES: EIP RESEARCH, COMPANY REPORTS, BLOOMBERG

Look through the debt approach

FCF yield-based valuation – Experimental approach to valuing companies with leverage: This framework may only be applied to companies with a good track record in the business and proven ability to manage high debt levels and in cases where we are reasonably certain it is a going concern.

In this approach we argue that while arriving at the current market valuation of companies, we should not reduce the net debt from the enterprise value. The only charge against the debt to be considered is the interest cost per year. As long as the interest obligation is being met and the interest rate is lower than the RoCE, and if reinvestment opportunities continue to generate RoCE greater than interest cost, paying off the debt doesn't make sense and it is prudent to constantly roll over the debt over a long period – i.e., close to the end of the life of the assets.

This model assumes the accrual of benefits of lower cost debt to equity holders and yields substantially higher fair value compared to conventional enterprise value-based multiples. If the market value is derived from the EV in the traditional way, we disregard the company's ability to service interest cost while staying afloat all along and generating alpha.

We evaluate five (JSW Steel, Tata Steel, SAIL, JSPL, Hindalco) of the eight companies being initiated in this report using the above framework under the respective base-case assumptions as follows:

Figure 111: JSW Steel's valuation using the FCF-yield approach

Rs m	FY18	FY19	FY20	FY21F	FY22F	FY23F	FY24F
Cash flow from operations (CFO)	123,790	146,330	127,850	149,634	245,355	245,411	255,192
Interest Paid	(37,010)	(39,170)	(42,650)	(43,464)	(40,002)	(31,122)	(17,062)
Capex	(15,000)	(15,000)	(15,000)	(15,000)	(15,000)	(15,000)	(15,000)
Others	(17,340)	14,620	(3,568)	1,025	92	138	-
FCF to Equity	54,440	106,780	66,632	92,196	190,445	199,428	223,131
Required FCF Yield				10.8%	10.8%	10.8%	10.8%
Equity Value				**857,634**	**1,771,578**	**1,855,146**	**2,075,634**
Total Equity Value per share (Rs/sh)				**355**	**733**	**767**	**859**
1 year forward Fair Value (Rs/sh)					**760**		

SOURCES: EIP RESEARCH ESTIMATES, COMPANY REPORTS

Figure 112: Tata Steel's valuation using the FCF-yield approach

Rs m	FY18	FY19	FY20	FY21F	FY22F	FY23F
Cash flow from operations (CFO)	80,234	253,360	201,687	228,969	256,544	268,010
Other income (OI)	3,656	3,238	3,052	6,206	11,304	12,766
CFO + OI	83,890	256,597	204,740	235,174	267,848	280,776
Interest Paid	(51,456)	(71,519)	(74,193)	(73,988)	(70,088)	(64,563)
Capex	(25,000)	(25,000)	(25,000)	(25,000)	(25,000)	(25,000)
Others	(2,089)	(665)	-	-	-	-
FCF to Equity	5,346	159,413	105,547	136,186	172,760	191,213
Required FCF Yield				10.8%	10.8%	10.8%
Equity Value				**1,266,846**	**1,607,067**	**1,778,723**
Add CWIP				**61,976**	**73,976**	**121,976**
Equity Value incl CWIP ---> A				**1,328,823**	**1,681,044**	**1,900,700**
Total Equity Value per share (Rs/sh)				**1,159**	**1,467**	**1,658**
1 year forward Fair value (Rs/sh)					**1,560**	

SOURCES: EIP RESEARCH ESTIMATES, COMPANY REPORTS

Figure 113: JSPL's valuation using the FCF yield approach

Rs m	FY18	FY19	FY20	FY21F	FY22F	FY23F
Cash flow from operations (CFO)	77,243	90,269	95,264	92,907	109,467	99,960
Interest Paid	(46,845)	(45,699)	(40,054)	(34,930)	(23,848)	(15,944)
Capex	(10,000)	(10,000)	(10,000)	(10,000)	(10,000)	(10,000)
Others	8,712	15,890	227	10,531	9,934	7,847
FCF to Equity	29,111	50,461	45,437	58,508	85,553	81,863
Required FCF Yield				12%	12%	12%
Equity Value				487,567	712,945	682,190
Total Equity Value per share (Rs/sh)				**478**	**699**	**669**
1 year forward fair value (Rs/sh)					**675**	

SOURCES: EIP RESEARCH ESTIMATES, COMPANY REPORTS

Figure 114: SAIL's valuation using the FCF-yield approach

Rs m	FY18	FY19	FY20	FY21F	FY22F	FY23F
Cash flow from operations (CFO)	61,578	73,016	(6,506)	125,355	140,312	119,169
Interest Paid	(28,515)	(33,521)	(36,538)	(30,012)	(26,882)	(22,082)
Capex	(15,000)	(15,000)	(15,000)	(15,000)	(15,000)	(15,000)
Others	2,423	1,684	2,262	5,000	5,000	5,000
FCF to Equity	**20,485**	**26,179**	**(55,782)**	**85,343**	**103,430**	**87,088**
Required FCF Yield				11.8%	11.8%	11.8%
Equity Value				**726,323**	**880,255**	**741,171**
Total Equity Value per share (Rs/sh)				**176**	**213**	**179**
1 year forward Fair value (Rs/sh)					**190**	

SOURCES: EIP RESEARCH ESTIMATES, COMPANY REPORTS

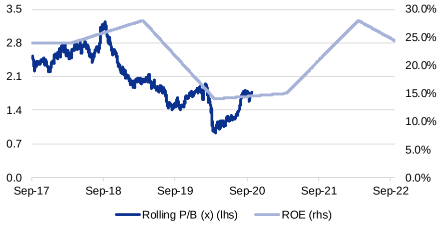
Figure 115: Hindalco's valuation using the FCF yield approach

Rs m	FY19	FY20	FY21F	FY22F	FY23F
Cash flow from operations (CFO)	119,795	126,650	112,656	182,461	182,793
Other income (OI)	5,403	3,310	2,543	10,563	10,143
CFO + OI	125,198	129,960	115,198	193,024	192,935
Interest Paid	(35,766)	(40,160)	(44,923)	(38,669)	(32,783)
Capex	**(25,783)**	**(27,970)**	**(28,400)**	**(30,000)**	**(30,000)**
Others	4	(550)	-	-	-
FCF to Equity	**63,653**	**61,280**	**41,875**	**124,355**	**130,152**
Required FCF Yield			10.8%	10.8%	10.8%
Equity Value			**389,533**	**1,156,791**	**1,210,717**
Add CWIP			47,605	46,983	56,983
Equity Value incl CWIP ---> A				**1,203,774**	**1,267,700**
Listed investments @20% Discount ---> B				40,769	40,769
Total Equity Value A+B				**1,244,542**	**1,308,469**
Total Equity Value per share (Rs/sh)				**563**	**589**
1 year forward Fair value (Rs/sh)				**580.0**	

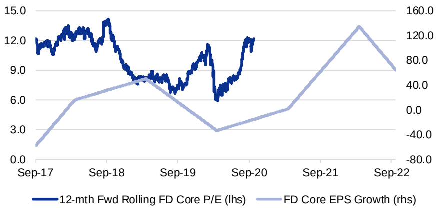
SOURCES: EIP RESEARCH ESTIMATES, COMPANY REPORTS

BY THE NUMBERS (JSW Steel)

P/B vs ROE



12-mth Fwd FD Core P/E vs FD Core EPS Growth



Profit & Loss

(Rsm)	Mar-19A	Mar-20A	Mar-21F	Mar-22F	Mar-23F
Total Net Revenues	**8,47,570**	**7,33,260**	**7,33,467**	**11,26,895**	**11,63,417**
Gross Profit	**8,47,570**	**7,33,260**	**7,33,467**	**11,26,895**	**11,63,417**
Operating EBITDA	**1,89,520**	**1,20,750**	**1,64,458**	**2,68,660**	**2,68,273**
Depreciation And Amortisation	(40,410)	(42,460)	(43,708)	(53,345)	(67,672)
Operating EBIT	**1,49,110**	**78,290**	**1,20,749**	**2,15,315**	**2,00,600**
Financial Income/(Expense)	(39,170)	(42,650)	(43,464)	(40,002)	(31,122)
Pretax Income/(Loss) from Assoc.	(300)	(900)			
Non-Operating Income/(Expense)	2,040	5,460	5,771	6,909	5,761
Profit Before Tax (pre-EI)	**1,11,680**	**40,200**	**83,056**	**1,82,223**	**1,75,240**
Exceptional Items	(272)	8,050			
Pre-tax Profit	**1,11,680**	**48,250**	**83,056**	**1,82,223**	**1,75,240**
Taxation	(36,440)	(9,060)	(24,567)	(45,469)	(41,756)
Exceptional Income - post-tax					
Profit After Tax	**75,240**	**39,190**	**58,489**	**1,36,753**	**1,33,484**
Minority Interests	1,150	1,110			
Preferred Dividends	(410)	(410)	(410)	(410)	(410)
FX Gain/(Loss) - post tax					
Other Adjustments - post-tax					
Net Profit	**75,980**	**39,890**	**58,079**	**1,36,343**	**1,33,074**
Recurring Net Profit	75,980	33,352	58,079	1,36,343	1,33,074
Fully Diluted Recurring Net Profit	**75,980**	**33,352**	**58,079**	**1,36,343**	**1,33,074**

Cash Flow

(Rsm)	Mar-19A	Mar-20A	Mar-21F	Mar-22F	Mar-23F
EBITDA	1,89,520	1,20,750	1,64,458	2,68,660	2,68,273
Cash Flow from Invt. & Assoc.					
Change In Working Capital	(15,810)	16,390	(3,568)	1,025	92
(Incr)/Decr in Total Provisions					
Other Non-Cash (Income)/Expense	(23,140)	11,180			
Other Operating Cashflow	(1,610)	(8,920)	5,771	6,909	5,761
Net Interest (Paid)/Received	(38,150)	(45,200)	(43,464)	(40,002)	(31,122)
Tax Paid	(2,630)	(11,550)	(17,026)	(31,239)	(28,714)
Cashflow From Operations	**1,08,180**	**82,650**	**1,06,171**	**2,05,353**	**2,14,290**
Capex	(1,02,060)	(1,28,100)	(93,500)	(1,70,000)	(15,000)
Disposals Of FAs/subsidiaries					
Acq. Of Subsidiaries/investments					
Other Investing Cashflow	(12,420)	(67,760)			
Cash Flow From Investing	**(1,14,480)**	**(1,95,860)**	**(93,500)**	**(1,70,000)**	**(15,000)**
Debt Raised/(repaid)	66,540	1,16,470		(50,000)	(1,90,000)
Proceeds From Issue Of Shares		60			
Shares Repurchased					
Dividends Paid	(9,330)	(17,670)	(410)	(410)	(410)
Preferred Dividends					
Other Financing Cashflow	(1,530)	(1,770)			
Cash Flow From Financing	**55,680**	**97,090**	**(410)**	**(50,410)**	**(1,90,410)**
Total Cash Generated	49,380	(16,120)	12,261	(15,057)	8,880
Free Cashflow To Equity	**60,240**	**3,260**	**12,671**	**(14,647)**	**9,290**
Free Cashflow To Firm	**31,850**	**(68,010)**	**56,134**	**75,355**	**2,30,411**

SOURCES: EIP RESEARCH ESTIMATES, COMPANY REPORTS

BY THE NUMBERS…cont'd

Balance Sheet

(Rsm)	Mar-19A	Mar-20A	Mar-21F	Mar-22F	Mar-23F
Total Cash And Equivalents	62,690	1,20,050	1,32,311	1,17,254	1,26,133
Total Debtors	71,600	45,050	48,336	65,538	67,077
Inventories	1,45,480	1,38,640	1,37,912	1,84,923	1,89,129
Total Other Current Assets	57,030	61,950	61,950	61,950	61,950
Total Current Assets	**3,36,800**	**3,65,690**	**3,80,509**	**4,29,664**	**4,44,289**
Fixed Assets	7,36,650	8,87,700	9,37,492	10,54,147	10,01,475
Total Investments	18,120	12,570	12,570	12,570	12,570
Intangible Assets	8,400	4,150	4,150	4,150	4,150
Total Other Non-Current Assets	49,170	48,090	48,090	48,090	48,090
Total Non-current Assets	**8,12,340**	**9,52,510**	**10,02,302**	**11,18,957**	**10,66,285**
Short-term Debt	63,330	83,250	83,250	83,250	83,250
Current Portion of Long-Term Debt					
Total Creditors	1,61,200	1,79,180	1,78,170	2,43,407	2,49,244
Other Current Liabilities	81,480	49,650	49,650	49,650	49,650
Total Current Liabilities	**3,06,010**	**3,12,080**	**3,11,070**	**3,76,307**	**3,82,144**
Total Long-term Debt	4,52,920	5,71,530	5,71,530	5,21,530	3,31,530
Hybrid Debt - Debt Component					
Total Other Non-Current Liabilities	5,240	54,100	54,100	54,100	54,100
Total Non-current Liabilities	**4,58,160**	**6,25,630**	**6,25,630**	**5,75,630**	**3,85,630**
Total Provisions	41,520	20,250	27,792	42,022	55,064
Total Liabilities	**8,05,690**	**9,57,960**	**9,64,492**	**9,93,959**	**8,22,838**
Shareholders' Equity	3,47,950	3,65,990	4,24,069	5,60,412	6,93,485
Minority Interests	(4,500)	(5,750)	(5,750)	(5,750)	(5,750)
Total Equity	**3,43,450**	**3,60,240**	**4,18,319**	**5,54,662**	**6,87,735**

Key Ratios

	Mar-19A	Mar-20A	Mar-21F	Mar-22F	Mar-23F
Revenue Growth	0.2%	(0.1%)	0.0%	0.5%	0.0%
Operating EBITDA Growth	0.3%	(0.4%)	0.4%	0.6%	(0.0%)
Operating EBITDA Margin	22.4%	16.5%	22.4%	23.8%	23.1%
Net Cash Per Share	(187.42)	(221.21)	(216.14)	(201.69)	(119.41)
BVPS	143.78	151.41	175.43	231.84	286.89
Gross Interest Cover	3.81	1.84	2.78	5.38	6.45
Effective Tax Rate	32.6%	18.8%	29.6%	25.0%	23.8%
Net Dividend Payout Ratio	15.7%	15.2%	59.9%	58.9%	59.8%
Accounts Receivables Days	25.55	29.03	23.24	18.44	20.80
Inventory Days					
Accounts Payables Days					
ROIC (%)	18.1%	8.2%	12.0%	19.1%	18.7%
ROCE (%)	18.7%	8.1%	11.3%	18.8%	17.1%
Return On Average Assets	11.1%	6.0%	7.5%	12.1%	10.8%

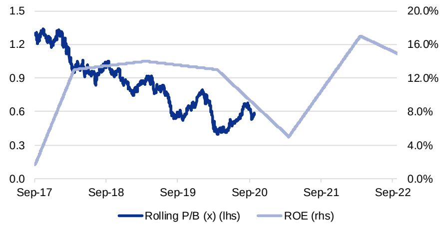
Key Drivers

	Mar-19A	Mar-20A	Mar-21F	Mar-22F	Mar-23F
ASP (% Change)	0.18	0.17	-0.12	0.00	0.12
Unit Sales Growth (%)	5.7%	0.9%	(4.3%)	(0.5%)	33.3%
Utilisation Rate (%)	90.4%	91.2%	87.2%	67.9%	90.6%

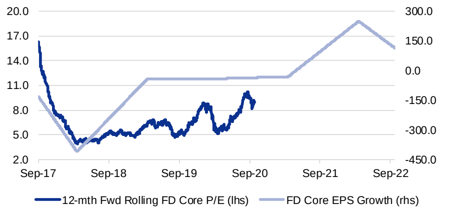
SOURCES: EIP RESEARCH ESTIMATES, COMPANY REPORTS

BY THE NUMBERS (Tata Steel)

P/B vs ROE



12-mth Fwd FD Core P/E vs FD Core EPS Growth



Profit & Loss

(Rsm)	Mar-19A	Mar-20A	Mar-21F	Mar-22F	Mar-23F
Total Net Revenues	**15,76,690**	**13,98,167**	**14,20,261**	**15,69,032**	**15,44,284**
Gross Profit	**9,68,016**	**8,23,419**	**8,74,596**	**9,89,852**	**9,69,854**
Operating EBITDA	**2,93,833**	**1,74,631**	**2,37,601**	**3,30,896**	**3,00,996**
Depreciation And Amortisation	(73,418)	(84,407)	(89,955)	(92,017)	(93,872)
Operating EBIT	**2,20,415**	**90,223**	**1,47,645**	**2,38,880**	**2,07,124**
Financial Income/(Expense)	(76,601)	(75,335)	(73,988)	(70,088)	(64,563)
Pretax Income/(Loss) from Assoc.	2,247	1,880			
Non-Operating Income/(Expense)	14,206	18,435	6,206	11,304	12,766
Profit Before Tax (pre-EI)	**1,60,267**	**35,203**	**79,863**	**1,80,095**	**1,55,327**
Exceptional Items	(1,210)	(37,521)			
Pre-tax Profit	**1,59,057**	**(2,317)**	**79,863**	**1,80,095**	**1,55,327**
Taxation	(67,184)	25,684	(40,479)	(42,305)	(36,263)
Exceptional Income - post-tax					
Profit After Tax	**91,873**	**23,367**	**39,384**	**1,37,790**	**1,19,064**
Minority Interests	11,200	3,841			
Preferred Dividends					
FX Gain/(Loss) - post tax					
Other Adjustments - post-tax	(890)	(11,642)			
Net Profit	**1,02,183**	**15,565**	**39,384**	**1,37,790**	**1,19,064**
Recurring Net Profit	1,02,882	53,086	39,384	1,37,790	1,19,064
Fully Diluted Recurring Net Profit	**1,02,882**	**53,086**	**39,384**	**1,37,790**	**1,19,064**

Cash Flow

(Rsm)	Mar-19A	Mar-20A	Mar-21F	Mar-22F	Mar-23F
EBITDA	2,93,833	1,74,631	2,37,601	3,30,896	3,00,996
Cash Flow from Invt. & Assoc.					
Change In Working Capital	25,905	41,962	31,847	(32,047)	3,277
(Incr)/Decr in Total Provisions					
Other Non-Cash (Income)/Expense					
Other Operating Cashflow	61,982	81,961	73,988	70,088	64,563
Net Interest (Paid)/Received	(77,419)	(75,807)	(73,988)	(70,088)	(64,563)
Tax Paid	(50,942)	(21,059)	(40,479)	(42,305)	(36,263)
Cashflow From Operations	**2,53,360**	**2,01,687**	**2,28,969**	**2,56,544**	**2,68,010**
Capex	(90,910)	(1,03,980)	(37,500)	(87,500)	(68,500)
Disposals Of FAs/subsidiaries	(3,46,369)	(40,470)			
Acq. Of Subsidiaries/investments	1,35,023	(3,906)	(10,500)		
Other Investing Cashflow	10,147	3,052	6,206	11,304	12,766
Cash Flow From Investing	**(2,92,109)**	**(1,45,304)**	**(41,794)**	**(76,196)**	**(55,734)**
Debt Raised/(repaid)	79,758	73,523	(52,661)	(72,661)	(1,02,661)
Proceeds From Issue Of Shares	(60)	1,875			
Shares Repurchased					
Dividends Paid	(14,239)	(18,152)	(13,753)	(13,753)	(13,753)
Preferred Dividends					
Other Financing Cashflow	(72,186)	(74,193)	(73,988)	(70,088)	(64,563)
Cash Flow From Financing	**(6,727)**	**(16,946)**	**(1,40,403)**	**(1,56,503)**	**(1,80,978)**
Total Cash Generated	(45,477)	39,438	46,771	23,845	31,298
Free Cashflow To Equity	**41,008**	**1,29,907**	**1,34,513**	**1,07,687**	**1,09,615**
Free Cashflow To Firm	**38,669**	**1,32,191**	**2,61,163**	**2,50,436**	**2,76,839**

SOURCES: EIP RESEARCH ESTIMATES, COMPANY REPORTS

BY THE NUMBERS…cont'd

Balance Sheet

(Rsm)	Mar-19A	Mar-20A	Mar-21F	Mar-22F	Mar-23F
Total Cash And Equivalents	58,662	1,14,866	1,51,638	1,75,483	2,06,781
Total Debtors	1,33,071	78,849	80,095	88,485	87,089
Inventories	3,16,561	3,10,687	2,80,161	3,09,508	3,04,626
Total Other Current Assets	81,669	88,814	88,814	88,814	88,814
Total Current Assets	**5,89,964**	**5,93,217**	**6,00,708**	**6,62,289**	**6,87,310**
Fixed Assets	13,90,865	14,99,930	14,47,474	14,42,958	14,17,586
Total Investments	32,133	28,533	49,033	49,033	49,033
Intangible Assets	39,966	40,545	40,545	40,545	40,545
Total Other Non-Current Assets	2,82,896	3,41,970	3,41,970	3,41,970	3,41,970
Total Non-current Assets	**17,45,860**	**19,10,978**	**18,79,023**	**18,74,506**	**18,49,134**
Short-term Debt	1,08,021	1,91,845	1,91,845	1,91,845	1,91,845
Current Portion of Long-Term Debt					
Total Creditors	2,15,472	2,15,472	2,18,039	2,23,729	2,20,728
Other Current Liabilities	1,65,578	1,62,519	1,62,519	1,62,519	1,62,519
Total Current Liabilities	**4,89,071**	**5,69,836**	**5,72,403**	**5,78,092**	**5,75,092**
Total Long-term Debt	9,00,141	9,71,437	9,21,437	8,51,437	7,51,437
Hybrid Debt - Debt Component					
Total Other Non-Current Liabilities	17,564	12,297	12,297	12,297	12,297
Total Non-current Liabilities	**9,17,706**	**9,83,734**	**9,33,734**	**8,63,734**	**7,63,734**
Total Provisions	2,16,152	1,88,996	1,88,996	1,88,996	1,88,996
Total Liabilities	**16,22,928**	**17,42,566**	**16,95,133**	**16,30,822**	**15,27,821**
Shareholders' Equity	6,89,251	7,35,763	7,58,732	8,80,107	9,82,757
Minority Interests	23,645	25,866	25,866	25,866	25,866
Total Equity	**7,12,896**	**7,61,629**	**7,84,598**	**9,05,973**	**10,08,623**

Key Ratios

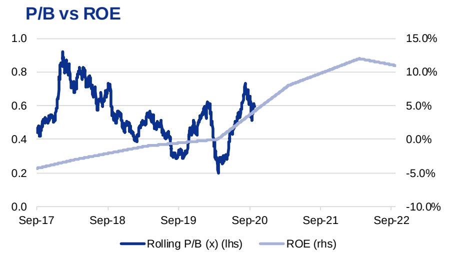
	Mar-19A	Mar-20A	Mar-21F	Mar-22F	Mar-23F
Revenue Growth	0.3%	(0.1%)	0.0%	0.1%	(0.0%)
Operating EBITDA Growth	0.4%	(0.4%)	0.4%	0.4%	(0.1%)
Operating EBITDA Margin	18.6%	12.5%	16.7%	21.1%	19.5%
Net Cash Per Share	(828.45)	(914.75)	(839.04)	(757.16)	(642.60)
BVPS	601.38	641.96	662.00	767.90	857.46
Gross Interest Cover	2.88	1.20	2.00	3.41	3.21
Effective Tax Rate	42.2%	33.9%	50.7%	23.5%	23.3%
Net Dividend Payout Ratio	11.1%	21.6%	29.1%	8.3%	9.6%
Accounts Receivables Days	29.77	27.66	20.42	19.61	20.75
Inventory Days	179.86	199.17	197.61	185.81	195.11
Accounts Payables Days	(125.81)	(136.84)	(144.99)	(139.20)	(141.21)
ROIC (%)	11.8%	4.6%	7.8%	12.4%	10.9%
ROCE (%)	12.6%	4.7%	7.4%	11.8%	10.1%
Return On Average Assets	7.6%	5.1%	4.5%	8.3%	7.2%

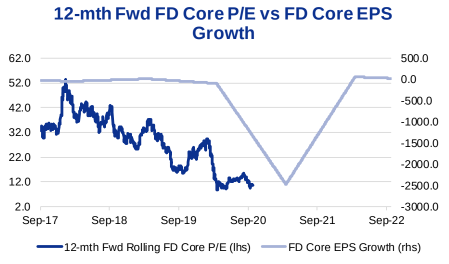
Key Drivers

	Mar-19A	Mar-20A	Mar-21F	Mar-22F	Mar-23F
ASP (% Change)	0.13	-0.15	0.02	0.08	-0.03
Unit Sales Growth (%)	4.5%	0.8%	0.4%	(2.7%)	
Utilisation Rate (%)	99.8%	99.1%	98.8%		

SOURCES: EIP RESEARCH ESTIMATES, COMPANY REPORTS

BY THE NUMBERS (Jindal Steel & Power)





Profit & Loss

(Rsm)	Mar-19A	Mar-20A	Mar-21F	Mar-22F	Mar-23F
Total Net Revenues	**3,93,721**	**3,69,175**	**3,52,511**	**3,95,604**	**4,13,119**
Gross Profit	**84,055**	**78,539**	**1,07,475**	**1,17,916**	**1,07,998**
Operating EBITDA	**84,055**	**78,539**	**1,07,475**	**1,17,916**	**1,07,998**
Depreciation And Amortisation	(54,804)	(38,672)	(35,009)	(35,466)	(35,923)
Operating EBIT	**29,251**	**39,867**	**72,466**	**82,450**	**72,076**
Financial Income/(Expense)	(42,642)	(41,493)	(34,930)	(23,848)	(15,944)
Pretax Income/(Loss) from Assoc.					
Non-Operating Income/(Expense)	157	262	7,845	8,900	9,925
Profit Before Tax (pre-EI)	**(13,234)**	**(1,365)**	**37,536**	**58,603**	**56,132**
Exceptional Items	(14,783)	(1,094)			
Pre-tax Profit	**(28,017)**	**(2,458)**	**37,536**	**58,603**	**56,132**
Taxation	3,902	(1,539)	(11,588)	(16,557)	(15,694)
Exceptional Income - post-tax					
Profit After Tax	**(24,115)**	**(3,997)**	**25,949**	**42,045**	**40,439**
Minority Interests	7,662	2,905			
Preferred Dividends					
FX Gain/(Loss) - post tax					
Other Adjustments - post-tax					
Net Profit	**(16,453)**	**(1,092)**	**25,949**	**42,045**	**40,439**
Recurring Net Profit	(1,670)	2	25,949	42,045	40,439
Fully Diluted Recurring Net Profit	**(1,670)**	**2**	**25,949**	**42,045**	**40,439**

Cash Flow

(Rsm)	Mar-19A	Mar-20A	Mar-21F	Mar-22F	Mar-23F
EBITDA	84,055	78,539	1,07,475	1,17,916	1,07,998
Cash Flow from Invt. & Assoc.					
Change In Working Capital	4,654	15,127	(13,511)	(1,826)	(192)
(Incr)/Decr in Total Provisions					
Other Non-Cash (Income)/Expense					
Other Operating Cashflow	(1,793)	3,004	10,531	9,934	7,847
Net Interest (Paid)/Received	(42,642)	(41,493)	(34,930)	(23,848)	(15,944)
Tax Paid	296	35	(11,588)	(16,557)	(15,694)
Cashflow From Operations	**44,571**	**55,210**	**57,977**	**85,619**	**84,016**
Capex	(14,333)	(16,646)	(10,500)	(10,500)	(10,500)
Disposals Of FAs/subsidiaries	2,436	339			
Acq. Of Subsidiaries/investments	(42)	(7)			
Other Investing Cashflow	3,619	315			
Cash Flow From Investing	**(8,321)**	**(15,999)**	**(10,500)**	**(10,500)**	**(10,500)**
Debt Raised/(repaid)	(36,897)	(38,507)	(50,000)	(70,000)	(65,000)
Proceeds From Issue Of Shares		5,129			
Shares Repurchased					
Dividends Paid	(18)	(18)			
Preferred Dividends					
Other Financing Cashflow		(2,169)			
Cash Flow From Financing	**(36,915)**	**(35,565)**	**(50,000)**	**(70,000)**	**(65,000)**
Total Cash Generated	(665)	3,646	(2,523)	5,119	8,516
Free Cashflow To Equity	**(647)**	**704**	**(2,523)**	**5,119**	**8,516**
Free Cashflow To Firm	**78,892**	**80,705**	**82,407**	**98,967**	**89,460**

SOURCES: EIP RESEARCH ESTIMATES, COMPANY REPORTS

BY THE NUMBERS…cont'd

Balance Sheet

(Rsm)	Mar-19A	Mar-20A	Mar-21F	Mar-22F	Mar-23F
Total Cash And Equivalents	4,266	9,438	6,915	12,034	20,550
Total Debtors	30,292	35,493	36,309	38,967	39,543
Inventories	65,095	63,687	60,380	66,232	68,248
Total Other Current Assets	36,790	50,691	50,691	50,691	50,691
Total Current Assets	**1,36,443**	**1,59,309**	**1,54,296**	**1,67,925**	**1,79,032**
Fixed Assets	7,30,335	7,19,573	6,21,214	5,96,248	5,70,826
Total Investments	1,452	1,430	1,430	1,430	1,430
Intangible Assets	6,164	6,098	6,098	6,098	6,098
Total Other Non-Current Assets	15,616	11,009	84,758	84,758	84,758
Total Non-current Assets	**7,53,567**	**7,38,111**	**7,13,500**	**6,88,534**	**6,63,112**
Short-term Debt	48,259	91,663	91,663	91,663	66,663
Current Portion of Long-Term Debt					
Total Creditors	1,64,394	1,19,783	1,03,782	1,10,465	1,12,864
Other Current Liabilities					
Total Current Liabilities	**2,12,653**	**2,11,445**	**1,95,444**	**2,02,128**	**1,79,527**
Total Long-term Debt	2,99,402	2,76,965	1,71,965	1,01,965	61,965
Hybrid Debt - Debt Component					
Total Other Non-Current Liabilities	4,360	35,233	35,233	35,233	35,233
Total Non-current Liabilities	**3,03,763**	**3,12,199**	**2,07,199**	**1,37,199**	**97,199**
Total Provisions	58,008	60,167	70,596	80,531	88,377
Total Liabilities	**5,74,423**	**5,83,811**	**4,73,239**	**4,19,857**	**3,65,103**
Shareholders' Equity	3,20,847	3,21,372	3,32,025	3,74,070	4,14,509
Minority Interests	(5,261)	(7,764)	(7,764)	(7,764)	(7,764)
Total Equity	**3,15,586**	**3,13,608**	**3,24,261**	**3,66,306**	**4,06,744**

Key Ratios

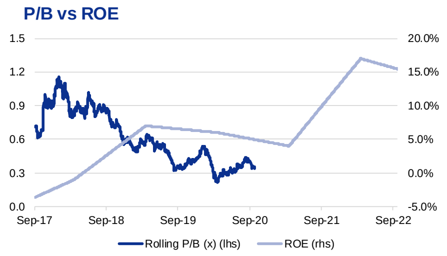
	Mar-19A	Mar-20A	Mar-21F	Mar-22F	Mar-23F
Revenue Growth	0.4%	(0.1%)	(0.0%)	0.1%	0.0%
Operating EBITDA Growth	0.3%	(0.1%)	0.4%	0.1%	(0.1%)
Operating EBITDA Margin	21.3%	21.3%	30.5%	29.8%	26.1%
Net Cash Per Share	(354.77)	(352.15)	(251.68)	(178.03)	(105.96)
BVPS	331.47	315.07	325.51	366.74	406.38
Gross Interest Cover	0.69	0.96	2.07	3.46	4.52
Effective Tax Rate	32.4%	16.6%	30.9%	28.3%	28.0%
Net Dividend Payout Ratio	61.8%	59.4%	59.9%	58.9%	59.8%
Accounts Receivables Days	22.51	32.52	37.17	34.73	34.68
Inventory Days	67.59	80.87	92.40	83.21	80.44
Accounts Payables Days	(55.63)	(67.90)	(79.93)	(72.30)	(71.23)
ROIC (%)	4.1%	5.2%	9.6%	11.3%	10.2%
ROCE (%)	3.9%	5.5%	10.4%	12.8%	11.5%
Return On Average Assets	3.7%	4.3%	6.9%	7.6%	6.6%

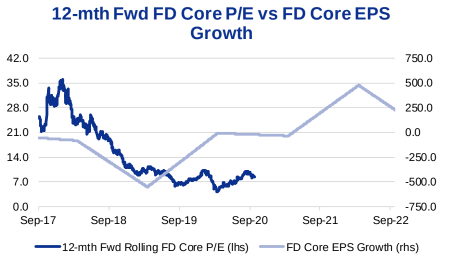
Key Drivers

	Mar-19A	Mar-20A	Mar-21F	Mar-22F	Mar-23F
ASP (% Change)	0.16	-0.20	-0.04	0.05	-0.01
Unit Sales Growth (%)	43.8%	(6.2%)	(4.5%)	12.2%	4.4%

SOURCES: EIP RESEARCH ESTIMATES, COMPANY REPORTS

BY THE NUMBERS (Steel Authority of India)





Profit & Loss

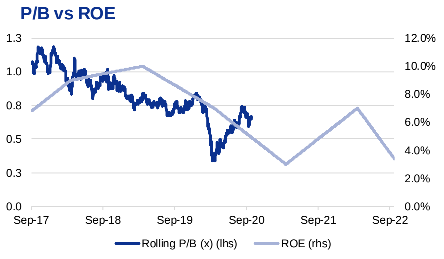
(Rsm)	Mar-19A	Mar-20A	Mar-21F	Mar-22F	Mar-23F
Total Net Revenues	**6,69,673**	**6,16,606**	**6,51,408**	**8,42,413**	**9,00,117**
Gross Profit	**3,22,782**	**3,29,840**	**3,40,269**	**4,36,828**	**4,53,517**
Operating EBITDA	**97,341**	**1,01,990**	**83,150**	**1,58,989**	**1,53,440**
Depreciation And Amortisation	(33,847)	(37,551)	(39,356)	(41,579)	(42,605)
Operating EBIT	**63,494**	**64,440**	**43,794**	**1,17,410**	**1,10,835**
Financial Income/(Expense)	(31,549)	(34,868)	(30,012)	(26,882)	(22,082)
Pretax Income/(Loss) from Assoc.					
Non-Operating Income/(Expense)	5,328	9,852	5,000	5,000	5,000
Profit Before Tax (pre-EI)	**37,273**	**39,424**	**18,781**	**95,528**	**93,753**
Exceptional Items	(3,894)	(7,718)	(2,224)		
Pre-tax Profit	**33,379**	**31,707**	**16,557**	**95,528**	**93,753**
Taxation	(11,591)	(11,491)	(3,311)	(19,106)	(18,751)
Exceptional Income - post-tax					
Profit After Tax	**21,788**	**20,215**	**13,246**	**76,422**	**75,002**
Minority Interests					
Preferred Dividends					
FX Gain/(Loss) - post tax					
Other Adjustments - post-tax					
Net Profit	**21,788**	**20,215**	**13,246**	**76,422**	**75,002**
Recurring Net Profit	24,330	25,136	15,025	76,422	75,002
Fully Diluted Recurring Net Profit	**24,330**	**25,136**	**15,025**	**76,422**	**75,002**

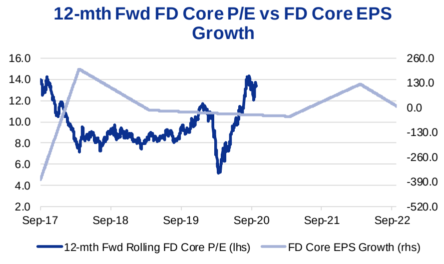
Cash Flow

(Rsm)	Mar-19A	Mar-20A	Mar-21F	Mar-22F	Mar-23F
EBITDA	97,341	1,01,990	83,150	1,58,989	1,53,440
Cash Flow from Invt. & Assoc.					
Change In Working Capital	(26,258)	(1,06,806)	47,039	1,212	(15,131)
(Incr)/Decr in Total Provisions					
Other Non-Cash (Income)/Expense	1,373	(188)	706	(781)	(387)
Other Operating Cashflow	32,484	34,512	22,788	21,882	17,082
Net Interest (Paid)/Received	(32,281)	(35,142)	(25,012)	(21,882)	(17,082)
Tax Paid	357	(871)	(3,311)	(19,106)	(18,751)
Cashflow From Operations	**73,016**	**(6,506)**	**1,25,360**	**1,40,315**	**1,19,172**
Capex	(38,783)	(44,491)	(30,000)	(20,000)	(20,000)
Disposals Of FAs/subsidiaries					
Acq. Of Subsidiaries/investments	(355)	117			
Other Investing Cashflow	1,582	2,012	5,000	5,000	5,000
Cash Flow From Investing	**(37,557)**	**(42,361)**	**(25,000)**	**(15,000)**	**(15,000)**
Debt Raised/(repaid)	(2,387)	89,074	(50,000)	(80,000)	(80,000)
Proceeds From Issue Of Shares					
Shares Repurchased					
Dividends Paid		(2,481)			
Preferred Dividends					
Other Financing Cashflow	(33,521)	(36,538)	(30,012)	(26,882)	(22,082)
Cash Flow From Financing	**(35,908)**	**50,055**	**(80,012)**	**(1,06,882)**	**(1,02,082)**
Total Cash Generated	(449)	1,188	20,347	18,433	2,090
Free Cashflow To Equity	**33,072**	**40,207**	**50,360**	**45,315**	**24,172**
Free Cashflow To Firm	**68,980**	**(12,329)**	**1,30,372**	**1,52,197**	**1,26,254**

SOURCES: EIP RESEARCH ESTIMATES, COMPANY REPORTS

BY THE NUMBERS (Hindalco Industries)





Profit & Loss

(Rsm)	Mar-19A	Mar-20A	Mar-21F	Mar-22F	Mar-23F
Total Net Revenues	**13,05,423**	**11,81,440**	**13,12,354**	**15,24,783**	**15,46,562**
Gross Profit	**5,18,530**	**4,98,730**	**5,20,394**	**5,67,979**	**5,75,862**
Operating EBITDA	**1,54,998**	**1,43,060**	**1,73,344**	**2,07,241**	**2,09,233**
Depreciation And Amortisation	(47,662)	(50,910)	(63,889)	(64,651)	(64,651)
Operating EBIT	**1,07,335**	**92,150**	**1,09,455**	**1,42,590**	**1,44,582**
Financial Income/(Expense)	(37,780)	(41,970)	(44,923)	(38,669)	(32,783)
Pretax Income/(Loss) from Assoc.	5	40			
Non-Operating Income/(Expense)	11,271	11,860	2,543	10,563	10,143
Profit Before Tax (pre-EI)	**80,831**	**62,080**	**67,074**	**1,14,484**	**1,21,941**
Exceptional Items	(272)	(2,840)			
Pre-tax Profit	**80,831**	**59,240**	**67,074**	**1,14,484**	**1,21,941**
Taxation	(25,881)	(21,570)	(15,786)	(29,723)	(31,846)
Exceptional Income - post-tax					
Profit After Tax	**54,950**	**37,670**	**51,288**	**84,761**	**90,095**
Minority Interests					
Preferred Dividends					
FX Gain/(Loss) - post tax					
Other Adjustments - post-tax					
Net Profit	**54,950**	**37,670**	**51,288**	**84,761**	**90,095**
Recurring Net Profit	54,950	39,476	51,288	84,761	90,095
Fully Diluted Recurring Net Profit	**54,950**	**39,476**	**51,288**	**84,761**	**90,095**

Cash Flow

(Rsm)	Mar-19A	Mar-20A	Mar-21F	Mar-22F	Mar-23F
EBITDA	1,54,998	1,43,060	1,73,344	2,07,241	2,09,233
Cash Flow from Invt. & Assoc.					
Change In Working Capital	1,21,813	(11,780)	12,316	(1,682)	(669)
(Incr)/Decr in Total Provisions					
Other Non-Cash (Income)/Expense					
Other Operating Cashflow	(1,00,377)	38,360	31,134	40,059	33,772
Net Interest (Paid)/Received	(37,780)	(41,970)	(44,923)	(38,669)	(32,783)
Tax Paid	(18,883)	(1,020)	(15,786)	(29,723)	(31,846)
Cashflow From Operations	**1,19,770**	**1,26,650**	**1,56,086**	**1,77,227**	**1,77,706**
Capex	(60,053)	(67,910)	(1,88,104)	(50,000)	(50,000)
Disposals Of FAs/subsidiaries	334				
Acq. Of Subsidiaries/investments	(3,099)	(17,860)	(41,866)		
Other Investing Cashflow	6,338	2,760	2,543	10,563	10,143
Cash Flow From Investing	**(56,480)**	**(83,010)**	**(2,27,427)**	**(39,437)**	**(39,857)**
Debt Raised/(repaid)	(14,413)	1,09,390	1,16,164	(1,05,000)	(1,05,000)
Proceeds From Issue Of Shares	61	70			
Shares Repurchased					
Dividends Paid	(3,229)	(3,200)			
Preferred Dividends					
Other Financing Cashflow	(37,079)	(40,160)	(44,923)	(38,669)	(32,783)
Cash Flow From Financing	**(54,660)**	**66,100**	**71,241**	**(1,43,669)**	**(1,37,783)**
Total Cash Generated	8,630	1,09,740	(101)	(5,879)	65
Free Cashflow To Equity	**48,877**	**1,53,030**	**44,822**	**32,789**	**32,848**
Free Cashflow To Firm	**1,01,070**	**85,610**	**(26,418)**	**1,76,458**	**1,70,632**

SOURCES: EIP RESEARCH ESTIMATES, COMPANY REPORTS

BY THE NUMBERS…cont'd

Balance Sheet

(Rsm)	Mar-19A	Mar-20A	Mar-21F	Mar-22F	Mar-23F
Total Cash And Equivalents	1,36,420	2,78,480	2,78,379	2,72,500	2,72,565
Total Debtors	1,13,890	93,450	1,13,171	1,27,047	1,30,593
Inventories	2,21,940	2,23,840	2,44,194	2,63,779	2,64,848
Total Other Current Assets	69,524	67,050	59,230	60,835	61,240
Total Current Assets	**5,41,774**	**6,62,820**	**6,94,974**	**7,24,161**	**7,29,245**
Fixed Assets	7,12,596	7,68,180	8,92,395	8,77,744	8,63,093
Total Investments	51,360	31,320	38,186	38,186	38,186
Intangible Assets	1,85,750	2,00,980	2,32,944	2,32,944	2,32,944
Total Other Non-Current Assets	37,000	31,980	61,352	61,352	61,352
Total Non-current Assets	**9,86,706**	**10,32,460**	**12,24,876**	**12,10,225**	**11,95,574**
Short-term Debt	42,260	87,170	1,04,692	1,04,692	1,04,692
Current Portion of Long-Term Debt					
Total Creditors	2,07,230	1,83,000	2,17,215	2,49,348	2,53,303
Other Current Liabilities	71,520	79,890	90,247	91,498	91,893
Total Current Liabilities	**3,21,010**	**3,50,060**	**4,12,153**	**4,45,538**	**4,49,888**
Total Long-term Debt	4,80,320	5,83,790	6,82,432	5,77,432	4,72,432
Hybrid Debt - Debt Component					
Total Other Non-Current Liabilities	15,110	25,970	26,609	26,609	26,609
Total Non-current Liabilities	**4,95,430**	**6,09,760**	**7,09,041**	**6,04,041**	**4,99,041**
Total Provisions	1,36,940	1,52,190	1,64,098	1,65,487	1,66,476
Total Liabilities	**9,53,380**	**11,12,010**	**12,85,292**	**12,15,066**	**11,15,404**
Shareholders' Equity	5,75,010	5,83,170	6,34,458	7,19,220	8,09,315
Minority Interests	90	100	100	100	100
Total Equity	**5,75,100**	**5,83,270**	**6,34,558**	**7,19,320**	**8,09,415**

Key Ratios

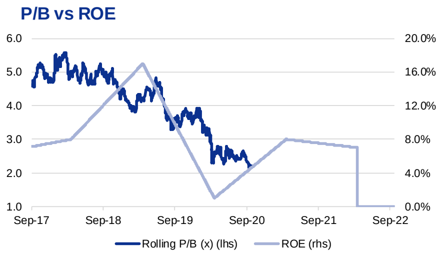
	Mar-19A	Mar-20A	Mar-21F	Mar-22F	Mar-23F
Revenue Growth	0.1%	(0.1%)	0.1%	0.2%	0.0%
Operating EBITDA Growth	0.1%	(0.1%)	0.2%	0.2%	0.0%
Operating EBITDA Margin	11.9%	12.1%	13.2%	13.6%	13.5%
Net Cash Per Share	(173.95)	(176.79)	(229.16)	(184.52)	(137.19)
BVPS	259.01	262.69	285.79	323.97	364.56
Gross Interest Cover	2.84	2.20	2.44	3.69	4.41
Effective Tax Rate	32.0%	36.4%	23.5%	26.0%	26.1%
Net Dividend Payout Ratio	5.8%	59.4%	59.9%	58.9%	59.8%
Accounts Receivables Days	29.85	32.03	28.73	28.75	30.40
Inventory Days	101.64	119.16	107.85	96.89	99.39
Accounts Payables Days	(95.41)	(104.32)	(92.23)	(88.99)	(94.50)
ROIC (%)	10.6%	8.7%	9.8%	11.0%	11.3%
ROCE (%)	9.6%	7.5%	7.9%	9.8%	10.0%
Return On Average Assets	6.2%	5.1%	5.3%	6.4%	6.4%

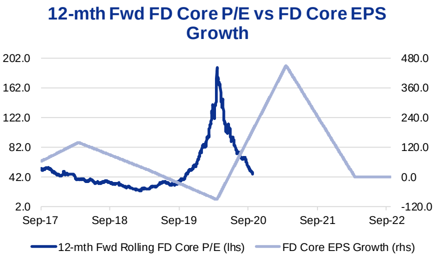
Key Drivers

	Mar-19A	Mar-20A	Mar-21F	Mar-22F	Mar-23F
ASP main cmdty (US$/tn)	2046.53	1750.00	1775.00	2000.00	2000.00
Vol. grth main cmdty (%)	(0.5%)	1.3%	(3.2%)	0.1%	10.4%
ASP 2ndary cmdty (US$/tn)	634400.0%	585700.0%	650000.0%	700000.0%	650000.0%
Vol. grth 2ndary cmdty (%)	0.5	0.1	(0)	0	

SOURCES: EIP RESEARCH ESTIMATES, COMPANY REPORTS

BY THE NUMBERS (NALCO)





Profit & Loss

(Rsm)	Mar-19A	Mar-20A	Mar-21F	Mar-22F	Mar-23F
Total Net Revenues	**1,14,993**	**84,718**	**92,676**	**1,08,756**	**1,08,557**
Gross Profit	**95,847**	**71,346**	**76,806**	**91,760**	**91,529**
Operating EBITDA	**28,869**	**4,892**	**15,416**	**24,191**	**21,555**
Depreciation And Amortisation	(4,761)	(5,298)	(5,399)	(5,481)	(5,564)
Operating EBIT	**24,108**	**(406)**	**10,017**	**18,710**	**15,991**
Financial Income/(Expense)	(24)	(57)	(11)	(11)	(11)
Pretax Income/(Loss) from Assoc.					
Non-Operating Income/(Expense)	3,315	2,726	1,110	1,231	1,108
Profit Before Tax (pre-EI)	**27,399**	**2,262**	**11,116**	**19,930**	**17,088**
Exceptional Items	(272)	(2,518)			
Pre-tax Profit	**27,399**	**2,262**	**11,116**	**19,930**	**17,088**
Taxation	(10,075)	(880)	(2,779)	(4,982)	(4,272)
Exceptional Income - post-tax					
Profit After Tax	**17,324**	**1,382**	**8,337**	**14,947**	**12,816**
Minority Interests					
Preferred Dividends					
FX Gain/(Loss) - post tax					
Other Adjustments - post-tax					
Net Profit	**17,324**	**1,382**	**8,337**	**14,947**	**12,816**
Recurring Net Profit	17,324	1,382	8,337	14,947	12,816
Fully Diluted Recurring Net Profit	**17,324**	**1,382**	**8,337**	**14,947**	**12,816**

Cash Flow

(Rsm)	Mar-19A	Mar-20A	Mar-21F	Mar-22F	Mar-23F
EBITDA	28,869	4,892	15,416	24,191	21,555
Cash Flow from Invt. & Assoc.					
Change In Working Capital	3,935	(7,917)	3,014	(1,323)	16
(Incr)/Decr in Total Provisions					
Other Non-Cash (Income)/Expense					
Other Operating Cashflow	(854)	(1,578)	(914)	(1,002)	(880)
Net Interest (Paid)/Received	2,348	2,122	1,007	1,111	988
Tax Paid	(10,209)	(1,005)	(2,779)	(4,982)	(4,272)
Cashflow From Operations	**24,089**	**(3,486)**	**15,744**	**17,994**	**17,408**
Capex	(9,252)	(8,448)	(10,000)	(10,000)	(10,000)
Disposals Of FAs/subsidiaries	5,695	674			
Acq. Of Subsidiaries/investments	(4,440)	14,246			
Other Investing Cashflow	2,678	2,255	1,018	1,122	999
Cash Flow From Investing	**(5,319)**	**8,727**	**(8,982)**	**(8,878)**	**(9,001)**
Debt Raised/(repaid)	218	(579)			
Proceeds From Issue Of Shares	(5,074)				
Shares Repurchased					
Dividends Paid	(12,451)	(6,185)	(4,663)	(11,563)	(11,563)
Preferred Dividends					
Other Financing Cashflow		(9)	(11)	(11)	(11)
Cash Flow From Financing	**(17,308)**	**(6,773)**	**(4,674)**	**(11,574)**	**(11,574)**
Total Cash Generated	1,463	(1,531)	2,088	(2,458)	(3,167)
Free Cashflow To Equity	**18,988**	**4,662**	**6,762**	**9,116**	**8,407**
Free Cashflow To Firm	**18,794**	**5,299**	**6,773**	**9,127**	**8,418**

SOURCES: EIP RESEARCH ESTIMATES, COMPANY REPORTS

BY THE NUMBERS…cont'd

Balance Sheet

(Rsm)	Mar-19A	Mar-20A	Mar-21F	Mar-22F	Mar-23F
Total Cash And Equivalents	35,772	20,355	22,443	19,986	16,819
Total Debtors	2,405	1,401	1,532	1,798	1,795
Inventories	12,100	16,969	15,234	17,878	17,845
Total Other Current Assets	5,730	6,853	6,853	6,853	6,853
Total Current Assets	**56,007**	**45,578**	**46,063**	**46,514**	**43,311**
Fixed Assets	81,297	86,619	91,220	95,739	1,00,175
Total Investments	1,758	2,773	2,773	2,773	2,773
Intangible Assets	388	2,495	2,495	2,495	2,495
Total Other Non-Current Assets	12,020	8,031	8,031	8,031	8,031
Total Non-current Assets	**95,463**	**99,918**	**1,04,519**	**1,09,038**	**1,13,474**
Short-term Debt	668	123	123	123	123
Current Portion of Long-Term Debt					
Total Creditors	12,858	7,729	9,141	10,727	10,707
Other Current Liabilities	15,526	19,347	19,347	19,347	19,347
Total Current Liabilities	**29,051**	**27,200**	**28,611**	**30,197**	**30,177**
Total Long-term Debt					
Hybrid Debt - Debt Component					
Total Other Non-Current Liabilities	6,267	7,809	7,809	7,809	7,809
Total Non-current Liabilities	**6,267**	**7,809**	**7,809**	**7,809**	**7,809**
Total Provisions	11,307	10,606	10,606	10,606	10,606
Total Liabilities	**46,625**	**45,615**	**47,026**	**48,612**	**48,593**
Shareholders' Equity	1,04,845	99,881	1,03,556	1,06,940	1,08,192
Minority Interests					
Total Equity	**1,04,845**	**99,881**	**1,03,556**	**1,06,940**	**1,08,192**

Key Ratios

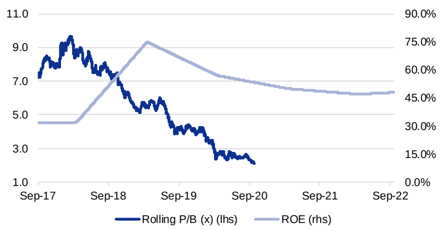
	Mar-19A	Mar-20A	Mar-21F	Mar-22F	Mar-23F
Revenue Growth	0.2%	(0.3%)	0.1%	0.2%	(0.0%)
Operating EBITDA Growth	1.1%	(0.8%)	2.2%	0.6%	(0.1%)
Operating EBITDA Margin	25.2%	5.8%	16.7%	22.3%	19.9%
Net Cash Per Share	18.82	10.85	11.97	10.65	8.95
BVPS	56.22	53.56	55.53	57.34	58.01
Gross Interest Cover	1,012.92	(7.07)	904.15	1,688.76	1,443.34
Effective Tax Rate	36.8%	38.9%	25.0%	25.0%	25.0%
Net Dividend Payout Ratio	62.2%	202.4%	55.9%	77.4%	90.2%
Accounts Receivables Days	7.91	8.20	5.78	5.59	6.04
Inventory Days	229.16	396.72	370.32	355.55	382.87
Accounts Payables Days	(214.23)	(280.96)	(193.99)	(213.33)	(229.72)
ROIC (%)	27.6%	(0.5%)	10.5%	19.3%	15.6%
ROCE (%)	20.6%	(0.4%)	8.9%	16.1%	13.5%
Return On Average Assets	11.7%	1.0%	5.6%	9.8%	8.2%

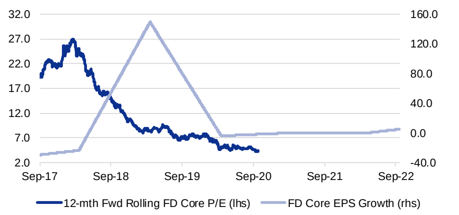
Key Drivers

	Mar-19A	Mar-20A	Mar-21F	Mar-22F	Mar-23F
ASP main cmdty (US$/tn)	2046.53	1750.00	1790.00	2000.00	2000.00
Fuel cost main cmdty (US$tn)	2549980.1%	2964600.0%	2290344.7%	2565873.8%	2565873.8%

SOURCES: EIP RESEARCH ESTIMATES, COMPANY REPORTS

BY THE NUMBERS (Coal India)





Profit & Loss

(Rsm)	Mar-19A	Mar-20A	Mar-21F	Mar-22F	Mar-23F
Total Net Revenues	**9,95,469**	**9,60,803**	**9,35,900**	**10,54,488**	**11,27,578**
Gross Profit	**4,01,645**	**3,78,379**	**3,39,637**	**3,86,033**	**4,30,719**
Operating EBITDA	**2,49,771**	**2,19,209**	**2,38,938**	**2,67,382**	**3,04,040**
Depreciation And Amortisation	(34,504)	(34,508)	(34,353)	(37,503)	(40,653)
Operating EBIT	**2,15,268**	**1,84,700**	**2,04,584**	**2,29,878**	**2,63,387**
Financial Income/(Expense)	28,912	28,068	13,474	7,550	8,901
Pretax Income/(Loss) from Assoc.					
Non-Operating Income/(Expense)	27,101	27,957	17,500	7,500	7,500
Profit Before Tax (pre-EI)	**2,71,280**	**2,40,725**	**2,35,558**	**2,44,929**	**2,79,788**
Exceptional Items	(272)	(2,518)			
Pre-tax Profit	**2,71,280**	**2,40,725**	**2,35,558**	**2,44,929**	**2,79,788**
Taxation	(96,625)	(73,710)	(59,361)	(61,722)	(70,507)
Exceptional Income - post-tax					
Profit After Tax	**1,74,656**	**1,67,015**	**1,76,197**	**1,83,207**	**2,09,281**
Minority Interests	(3)				
Preferred Dividends					
FX Gain/(Loss) - post tax					
Other Adjustments - post-tax	(8)	(12)			
Net Profit	**1,74,644**	**1,67,003**	**1,76,197**	**1,83,207**	**2,09,281**
Recurring Net Profit	1,74,644	1,67,003	1,76,197	1,83,207	2,09,281
Fully Diluted Recurring Net Profit	**1,74,644**	**1,67,003**	**1,76,197**	**1,83,207**	**2,09,281**

Cash Flow

(Rsm)	Mar-19A	Mar-20A	Mar-21F	Mar-22F	Mar-23F
EBITDA	2,49,771	2,19,209	2,38,938	2,67,382	3,04,040
Cash Flow from Invt. & Assoc.					
Change In Working Capital	(48,918)	(1,23,268)	(66,439)	55,870	27,973
(Incr)/Decr in Total Provisions					
Other Non-Cash (Income)/Expense					
Other Operating Cashflow	60,484	64,988	(8,000)		
Net Interest (Paid)/Received	31,314	33,886	30,974	15,050	16,401
Tax Paid	(97,782)	(1,19,463)	(59,361)	(61,722)	(70,507)
Cashflow From Operations	**1,94,869**	**75,352**	**1,36,112**	**2,76,580**	**2,77,908**
Capex	(74,577)	(60,985)	(90,000)	(1,00,000)	(1,00,000)
Disposals Of FAs/subsidiaries					
Acq. Of Subsidiaries/investments					
Other Investing Cashflow	(35,797)	29,736			
Cash Flow From Investing	**(1,10,374)**	**(31,248)**	**(90,000)**	**(1,00,000)**	**(1,00,000)**
Debt Raised/(repaid)	6,718	27,944			
Proceeds From Issue Of Shares					
Shares Repurchased	(12,643)				
Dividends Paid	(99,468)	(96,760)	(1,44,824)	(1,54,068)	(1,60,231)
Preferred Dividends					
Other Financing Cashflow	(3,361)				
Cash Flow From Financing	**(1,08,753)**	**(68,815)**	**(1,44,824)**	**(1,54,068)**	**(1,60,231)**
Total Cash Generated	(24,258)	(24,712)	(98,713)	22,511	17,676
Free Cashflow To Equity	**91,213**	**72,048**	**46,112**	**1,76,580**	**1,77,908**
Free Cashflow To Firm	**84,591**	**44,790**	**51,141**	**1,81,609**	**1,82,937**

SOURCES: EIP RESEARCH ESTIMATES, COMPANY REPORTS

BY THE NUMBERS…cont'd

Balance Sheet

(Rsm)	Mar-19A	Mar-20A	Mar-21F	Mar-22F	Mar-23F
Total Cash And Equivalents	3,28,742	2,85,465	1,86,753	2,09,264	2,26,941
Total Debtors	54,986	1,44,082	2,24,231	1,61,591	1,29,538
Inventories	55,839	66,189	52,480	59,250	63,330
Total Other Current Assets	1,64,058	1,84,570	1,84,570	1,84,570	1,84,570
Total Current Assets	**6,03,625**	**6,80,307**	**6,48,033**	**6,14,675**	**6,04,378**
Fixed Assets	4,22,726	4,51,119	4,96,765	5,49,262	5,98,608
Total Investments	14,210	18,732	28,732	38,732	48,732
Intangible Assets					
Total Other Non-Current Assets	1,97,056	1,95,243	1,95,243	1,95,243	1,95,243
Total Non-current Assets	**6,33,992**	**6,65,094**	**7,20,740**	**7,83,237**	**8,42,583**
Short-term Debt	7,305	44,326	44,326	44,326	44,326
Current Portion of Long-Term Debt					
Total Creditors	68,156	1,01,076	1,01,076	1,01,076	1,01,076
Other Current Liabilities	2,21,726	1,16,517	1,16,517	1,16,517	1,16,517
Total Current Liabilities	**2,97,187**	**2,61,919**	**2,61,919**	**2,61,919**	**2,61,919**
Total Long-term Debt	14,723	19,934	19,934	19,934	19,934
Hybrid Debt - Debt Component					
Total Other Non-Current Liabilities	61,541	67,869	67,869	67,869	67,869
Total Non-current Liabilities	**76,264**	**87,803**	**87,803**	**87,803**	**87,803**
Total Provisions	5,95,559	6,70,169	6,62,169	6,62,169	6,62,169
Total Liabilities	**9,69,010**	**10,19,890**	**10,11,890**	**10,11,890**	**10,11,890**
Shareholders' Equity	2,64,539	3,21,569	3,52,942	3,82,081	4,31,131
Minority Interests	4,068	3,941	3,941	3,941	3,941
Total Equity	**2,68,607**	**3,25,510**	**3,56,883**	**3,86,021**	**4,35,071**

Key Ratios

	Mar-19A	Mar-20A	Mar-21F	Mar-22F	Mar-23F
Revenue Growth	0.1%	(0.0%)	(0.0%)	0.1%	0.1%
Operating EBITDA Growth	1.9%	(0.1%)	0.1%	0.1%	0.1%
Operating EBITDA Margin	26.9%	24.5%	27.4%	27.2%	28.9%
Net Cash Per Share	49.77	35.89	19.88	23.53	26.40
BVPS	42.93	52.18	57.27	62.00	69.96
Gross Interest Cover	79.01	36.73	40.68	45.71	52.37
Effective Tax Rate	35.6%	30.6%	25.2%	25.2%	25.2%
Net Dividend Payout Ratio	46.4%	44.3%	82.2%	84.1%	76.6%
Accounts Receivables Days	26.01	37.81	71.82	66.77	47.12
Inventory Days	36.96	38.24	36.32	30.50	32.10
Accounts Payables Days	(34.83)	(53.03)	(61.87)	(55.19)	(52.94)
ROIC (%)	35.6%	22.4%	21.9%	24.7%	27.6%
ROCE (%)	60.7%	48.3%	42.4%	43.6%	46.6%
Return On Average Assets	12.0%	10.8%	12.0%	12.7%	14.1%

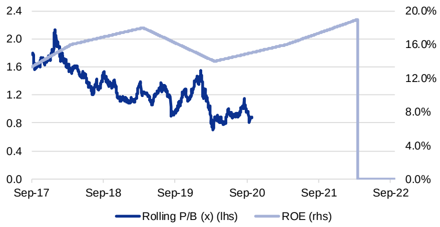
Key Drivers

	Mar-19A	Mar-20A	Mar-21F	Mar-22F	Mar-23F
ASP (US$/tonne)	21.97	22.22	20.84	21.81	22.02
Volume Growth (%)	4.8%	(4.3%)	0.7%	7.9%	5.9%

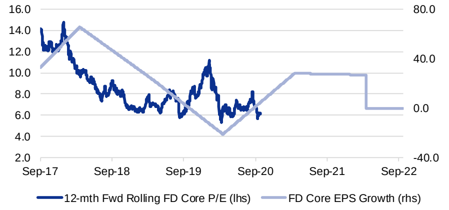
SOURCES: EIP RESEARCH ESTIMATES, COMPANY REPORTS

BY THE NUMBERS (NMDC)

P/B vs ROE



12-mth Fwd FD Core P/E vs FD Core EPS Growth



Profit & Loss

(Rsm)	Mar-19A	Mar-20A	Mar-21F	Mar-22F	Mar-23F
Total Net Revenues	**1,21,527**	**1,16,992**	**1,27,489**	**2,11,616**	**2,69,296**
Gross Profit	**98,019**	**92,624**	**1,03,284**	**1,31,710**	**1,55,141**
Operating EBITDA	**69,300**	**60,104**	**64,374**	**80,260**	**89,157**
Depreciation And Amortisation	(2,789)	(2,944)	(2,255)	(8,337)	(13,968)
Operating EBIT	**66,511**	**57,160**	**62,120**	**71,923**	**75,188**
Financial Income/(Expense)	4,093	3,575	1,569	1,229	1,507
Pretax Income/(Loss) from Assoc.					
Non-Operating Income/(Expense)	1,386	1,464	1,000	1,000	1,000
Profit Before Tax (pre-EI)	**71,991**	**62,199**	**64,689**	**74,152**	**77,696**
Exceptional Items	(272)	(964)			
Pre-tax Profit	**71,991**	**61,235**	**64,689**	**74,152**	**77,696**
Taxation	(25,565)	(25,126)	(16,172)	(18,538)	(19,424)
Exceptional Income - post-tax					
Profit After Tax	**46,425**	**36,109**	**48,516**	**55,614**	**58,272**
Minority Interests					
Preferred Dividends					
FX Gain/(Loss) - post tax					
Other Adjustments - post-tax	(4)	(8)	(5)	(5)	(5)
Net Profit	**46,421**	**36,101**	**48,511**	**55,609**	**58,267**
Recurring Net Profit	46,421	36,670	48,511	55,609	58,267
Fully Diluted Recurring Net Profit	**46,421**	**36,670**	**48,511**	**55,609**	**58,267**

Cash Flow

(Rsm)	Mar-19A	Mar-20A	Mar-21F	Mar-22F	Mar-23F
EBITDA	69,300	60,104	64,374	80,260	89,157
Cash Flow from Invt. & Assoc.					
Change In Working Capital	(8,629)	(20,872)	5,710	1,795	(5,373)
(Incr)/Decr in Total Provisions					
Other Non-Cash (Income)/Expense					
Other Operating Cashflow	8,964	7,672	2,569	2,229	2,507
Net Interest (Paid)/Received	(4,093)	(3,578)	(2,569)	(2,229)	(2,507)
Tax Paid	(26,024)	(22,796)	(16,172)	(18,538)	(19,424)
Cashflow From Operations	**39,518**	**20,529**	**53,912**	**63,517**	**64,360**
Capex	(19,972)	(24,035)	(18,000)	(15,000)	(15,000)
Disposals Of FAs/subsidiaries					
Acq. Of Subsidiaries/investments					
Other Investing Cashflow	12,585	21,262	2,965	2,625	2,903
Cash Flow From Investing	**(7,387)**	**(2,773)**	**(15,035)**	**(12,375)**	**(12,097)**
Debt Raised/(repaid)	(1,359)	2,091			
Proceeds From Issue Of Shares					
Shares Repurchased	(10,067)		(18,000)		
Dividends Paid	(21,321)	(19,525)	(28,905)	(50,583)	(53,112)
Preferred Dividends					
Other Financing Cashflow	740	(97)	(396)	(396)	(396)
Cash Flow From Financing	**(32,008)**	**(17,531)**	**(47,301)**	**(50,979)**	**(53,508)**
Total Cash Generated	124	225	(8,423)	163	(1,245)
Free Cashflow To Equity	**30,772**	**19,848**	**38,877**	**51,142**	**52,263**
Free Cashflow To Firm	**31,728**	**17,658**	**38,481**	**50,746**	**51,867**

SOURCES: EIP RESEARCH ESTIMATES, COMPANY REPORTS

BY THE NUMBERS…cont'd

Balance Sheet

(Rsm)	Mar-19A	Mar-20A	Mar-21F	Mar-22F	Mar-23F
Total Cash And Equivalents	46,077	24,375	15,951	16,114	14,869
Total Debtors	14,245	22,237	15,718	14,494	18,445
Inventories	6,662	7,236	7,885	8,697	11,067
Total Other Current Assets	12,656	19,634	19,634	19,634	19,634
Total Current Assets	**79,640**	**73,482**	**59,189**	**58,940**	**64,015**
Fixed Assets	1,65,131	1,85,179	2,00,925	2,07,588	2,08,620
Total Investments	9,393	9,101	9,101	9,101	9,101
Intangible Assets					
Total Other Non-Current Assets	43,655	43,677	43,677	43,677	43,677
Total Non-current Assets	**2,18,180**	**2,37,957**	**2,53,703**	**2,60,366**	**2,61,397**
Short-term Debt	3,642	5,656	5,656	5,656	5,656
Current Portion of Long-Term Debt					
Total Creditors	2,027	2,256	2,096	3,479	4,427
Other Current Liabilities	24,952	19,910	19,910	19,910	19,910
Total Current Liabilities	**30,621**	**27,821**	**27,661**	**29,044**	**29,992**
Total Long-term Debt					
Hybrid Debt - Debt Component					
Total Other Non-Current Liabilities					
Total Non-current Liabilities					
Total Provisions	7,684	8,279	8,279	8,279	8,279
Total Liabilities	**38,305**	**36,100**	**35,940**	**37,323**	**38,271**
Shareholders' Equity	2,59,515	2,75,340	2,76,951	2,81,982	2,87,142
Minority Interests					
Total Equity	**2,59,515**	**2,75,340**	**2,76,951**	**2,81,982**	**2,87,142**

Key Ratios

	Mar-19A	Mar-20A	Mar-21F	Mar-22F	Mar-23F
Revenue Growth	0.0%	(0.0%)	0.1%	0.7%	0.3%
Operating EBITDA Growth	0.2%	(0.1%)	0.1%	0.2%	0.1%
Operating EBITDA Margin	57.0%	51.4%	50.5%	37.9%	33.1%
Net Cash Per Share	13.86	6.11	3.56	3.62	3.19
BVPS	84.76	89.92	95.82	97.56	99.34
Gross Interest Cover	164.96	578.54	156.91	181.67	189.92
Effective Tax Rate	35.5%	41.0%	25.0%	25.0%	25.0%
Net Dividend Payout Ratio	43.9%	67.2%	59.6%	91.0%	91.2%
Accounts Receivables Days	43.51	56.91	54.33	26.06	22.32
Inventory Days	96.10	104.09	114.02	37.87	31.60
Accounts Payables Days	(28.13)	(32.08)	(32.81)	(12.73)	(12.64)
ROIC (%)	30.9%	22.3%	23.4%	26.6%	27.1%
ROCE (%)	28.3%	22.8%	23.1%	26.2%	26.9%
Return On Average Assets	14.5%	11.0%	15.0%	17.2%	17.6%

Key Drivers

	Mar-19A	Mar-20A	Mar-21F	Mar-22F	Mar-23F
ASP main cmdty (US$/tn)	53.04	51.78	52.58	58.16	50.79
Vol. grth main cmdty (%)	(10.3%)	(2.6%)	1.5%	18.8%	10.5%

SOURCES: EIP RESEARCH ESTIMATES, COMPANY REPORTS

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

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Corporate Governance Report of Thai Listed Companies (CGR). CG Rating by the Thai Institute of Directors Association (Thai IOD) in 2019, Anti-Corruption 2019

ADVANC – Excellent, Certified, **AEONTS** – Good, n/a, **AH** – Very Good, n/a, **AMATA** – Excellent, Declared, **ANAN** – Excellent, Declared, **AOT** – Excellent, n/a, **AP** – Excellent, Certified, **ASP** – Very Good, Certified, **BAM** – not available, n/a, **BANPU** – Excellent, Certified, **BAY** – Excellent, Certified, **BBL** – Very Good, Certified, **BCH** – Good, Certified, **BCP** - Excellent, Certified, **BCPG** – Excellent, Certified, **BDMS** – Very Good, n/a, **BEAUTY** – Good, n/a, **BEC** – Very Good, n/a, **BGRIM** – Very Good, Declared, **BH** - Good, n/a, **BJC** – Very Good, n/a, **BJCHI** – Very Good, Certified, **BLA** – Very Good, Certified, **BPP** – Very Good, Declared, **BR** - Good, n/a, **BTS** - Excellent, Certified, **CBG** – Very Good, n/a, **CCET** – Good, n/a, **CENTEL** – Very Good, Certified, **CHAYO** - Good, n/a, **CHG** – Very Good, Declared, **CK** – Excellent, n/a, **COL** – Excellent, Declared, **CPALL** – Excellent, Certified, **CPF** – Excellent, Certified, **CPN** - Excellent, Certified, **CPNREIT** – not available, n/a, **CRC** – not available, n/a, **DELTA** - Excellent, Declared, **DEMCO** – Excellent, Certified, **DDD** – Very Good, n/a, **DIF** – not available, n/a, **DREIT** – not available, n/a, **DTAC** – Excellent, Certified, **EA** – Excellent, n/a, **ECL** – Very Good, Certified, **EGCO** - Excellent, Certified, **EPG** – Very Good, n/a, **ERW** – Very Good, n/a, **GFPT** - Excellent, Certified, **GGC** – Excellent, Certified, **GLOBAL** – Very Good, n/a, **GLOW** – Very Good, Certified, **GPSC** – Excellent, Certified, **GULF** – Very Good, n/a, **GUNKUL** – Excellent, Certified, **HANA** - Excellent, Certified, **HMPRO** - Excellent, Certified, **HUMAN** – Good, n/a, **ICHI** – Excellent, Declared, **III** – Excellent, n/a, **INTUCH** - Excellent, Certified, **IRPC** – Excellent, Certified, **ITD** – Very Good, n/a, **IVL** - Excellent, Certified, **JASIF** – not available, n/a, **BJC** – Very Good, n/a, **JMT** – Very Good, n/a, **KBANK** - Excellent, Certified, **KCE** - Excellent, Certified, **KKP** – Excellent, Certified, **KSL** – Excellent, Certified, **KTB** - Excellent, Certified, **KTC** – Excellent, Certified, **LH** - Excellent, n/a, **LPN** – Excellent, Certified, **M** – Very Good, Certified, **MACO** – Very Good, n/a, **MAJOR** – Very Good, n/a, **MAKRO** – Excellent, Certified, **MALEE** – Excellent, Certified, **MC** – Excellent, Certified, **MCOT** – Excellent, Certified, **MEGA** – Very Good, n/a, **MINT** - Excellent, Certified, **MK** – Very Good, n/a, **MTC** – Excellent, n/a, **NETBAY** – Very Good, n/a, **OSP** – Very Good, n/a, **PLANB** – Excellent, Certified, **PLAT** – Very Good, Certified, **PR9** – Excellent, n/a, **PSH** – Excellent, Certified, **PSTC** – Very Good, Certified, **PTT** - Excellent, Certified, **PTTEP** - Excellent, Certified, **PTTGC** - Excellent, Certified, **QH** – Excellent, Certified, **RATCH** – Excellent, Certified, **ROBINS** – Excellent, Certified, **RS** – Excellent, n/a, **RSP** – not available, n/a, **S** – Excellent, n/a, **SAPPE** – Very Good, Declared, **SAT** – Excellent, Certified, **SAWAD** – Very Good, n/a, **SC** – Excellent, Certified, **SCB** - Excellent, Certified, **SCC** – Excellent, Certified, **SCN** – Excellent, Certified, **SF** – Good, n/a, **SHR** – not available, n/a, **SIRI** – Very Good, Certified, **SPA** - Good, n/a, **SPALI** - Excellent, n/a, **SPRC** – Excellent, Certified, **STA** – Very Good, Certified, **STEC** – Excellent, n/a, **SVI** – Excellent, Certified, **SYNEX** – Excellent, Certified, **TASCO** – Excellent, Certified, **TCAP** – Excellent, Certified, **THANI** – Excellent, Certified, **TIPCO** – Very Good, Certified, **TISCO** - Excellent, Certified, **TKN** – Very Good, n/a, **TMB** - Excellent, Certified, **TNR** – Very Good, Certified, **TOP** - Excellent, Certified, **TPCH** – Good, n/a, **TPIPP** – Good, n/a, **TRUE** – Excellent, Certified, **TU** – Excellent, Certified, **TVO** – Excellent, Declared, **UNIQ** – not available, n/a, **VGI** – Excellent, Certified, **WHA** – Excellent, Certified, **WHART** – not available, n/a, **WICE** – Excellent, Certified, **WORK** – Good, n/a.

1 CG Score 2019 from Thai Institute of Directors Association (IOD)
2 AGM Level 2018 from Thai Investors Association
3 Companies participating in Thailand's Private Sector Collective Action Coalition Against Corruption programme (Thai CAC) under Thai Institute of Directors (as of November 30, 2018) are categorised into:
companies that have declared their intention to join CAC, and companies certified by CAC.
4 The Stock Exchange of Thailand : the record of listed companies with corporate sustainable development "Thai sustainability Investment 2018" included:
SET and mai listed companies passed the assessment conducted by the Stock Exchange of Thailand: THSI (SET) and THSI (mai)
SET listed companies passed the assessment conducted by the Dow Jones Sustainability Indices (DJSI)

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.