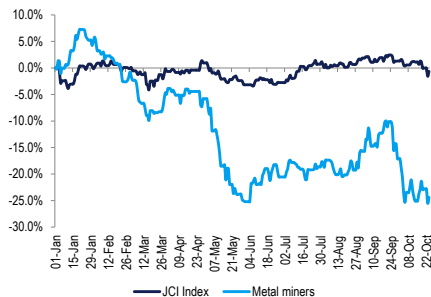


Sector Index Performance

	3M	6M	12M
Absolute	-15.1%	-24.6%	17.9%
Relative to JCI	-11.6%	-21.3%	23.7%



Summary Valuation Metrics

P/E (x)	2023F	2024F	2025F
ADMR IJ	9.6	8.1	7.4
ANTM IJ	11.6	10.3	9.2
HRUM IJ	6.9	9.7	8.1
INCO IJ	13.0	24.0	42.9
MBMA IJ	473.9	25.8	15.0
MDKA IJ	N/A	28.8	23.0
NCKL IJ	9.9	6.7	5.9
EV/EBITDA (x)	2023F	2024F	2025F
ADMR IJ	6.6	5.9	4.8
ANTM IJ	8.6	7.6	6.7
HRUM IJ	4.8	5.1	5.4
INCO IJ	5.2	9.3	11.3
MBMA IJ	38.9	9.9	7.2
MDKA IJ	15.7	6.6	6.0
NCKL IJ	7.3	4.7	3.7
Div. Yield	2023F	2024F	2025F
ADMR IJ	N/A	N/A	N/A
ANTM IJ	4.8%	4.3%	4.9%
HRUM IJ	N/A	N/A	N/A
INCO IJ	N/A	N/A	N/A
MBMA IJ	N/A	N/A	N/A
MDKA IJ	N/A	N/A	N/A
NCKL IJ	0.0%	3.0%	4.5%

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4Q23 outlook: slight improvement in NPI cash margin

- We expect slight improvement in NPI cash margin in 4Q23F despite higher ore prices starting to affect cash costs in Oct-23.
- Higher est. ore costs (+6% qoq) are set to be offset by further decline in thermal coal prices (-8% qoq), while ASP is expected to be flat qoq.
- NPI prices continue to remain soft amid oversupply situation in FY23F and as such, we re-iterate our Neutral rating on the sector.

3Q23 recap: improvement in NPI cash margin across the board

Overall NPI cash margin in Indonesia improved to US\$1.5k-3.4k/ton (c.+14% qoq on average) in 3Q23, vs. as low as <US\$1k/ton in 2Q23, mainly driven by the decline in thermal coal prices (Newcastle -37% qoq), and nickel ore prices (-13% qoq). In September itself, average NPI cash costs have further improved with cash costs reaching below US\$11k/ton for c.20ktpa RKEF capacity, based on our channel checks. Another interesting observation that we noticed during 3Q23 was the fact that high-grade nickel matte (HGNM)'s producers' cash margin is now as low as c.US\$1.1k/ton compared to NPI cash margin at US\$1.5k-3.4k/ton. Our calculation indicated that HGNM prices need to be above NPI prices by US\$2k/ton, to incentivize the conversion and with HGNM prices declining to below US\$15k/ton, we expect higher NPI supply to further pressure NPI prices.

4Q23: slight improvement in NPI cash margin

We expect cash margin could at least be maintained and slightly improving qoq in 4Q23 vs. 3Q23, despite higher ore costs, and this would be partly offset by lower coal and electricity prices (as ICI prices have only started to trended upwards in Oct-23, of which it would translate to higher prices in Dec-23 rather than full quarter of 4Q23) while ASP is expected to be flat qoq. In general, the ore costs would be the highest in Oct-23, as the ore purchase price after Oct-23, is set to trend down as the dollar premium remain flat while HPM price declined on lower LME nickel price (Fig. 10).

Maintain our sector Neutral rating on soft NPI price

We maintain our Neutral sector rating as we continue to see limited upside from soft NPI prices. Among nickel space, we continue to prefer names that can deliver volume growth in upcoming quarters (i.e. NCKL/MBMA). Our supply-demand tracker also pointed out the FID postponement in Sonic Bay HPAL and recent construction halt in PT Huashan (Huayou), which led us to believe that there might be upside in medium to long-term period to NiSO4 and MHP price, as the oversupply narrative in Class-1 nickel might be overblown. Our commodity price assumptions remain unchanged for now, as we have factored in the potential delay in these projects.

Fig. 1: Metal miners valuation summary

Ticker	Company	Rating	Target price (Rp/share)	P/E			EV/EBITDA			Dividend yield (%)		
				23F	24F	25F	23F	24F	25F	23F	24F	25F
ADMR IJ	Adaro Minerals Indonesia	Buy	1,800	9.6	8.1	7.4	6.6	5.9	4.8	N/A	N/A	N/A
ANTM IJ	Aneka Tambang	Buy	2,050	11.6	10.3	9.2	8.6	7.6	6.7	4.8%	4.3%	4.9%
HRUM IJ	Harum Energy	Buy	2,150	6.9	9.7	8.1	4.8	5.1	5.4	N/A	N/A	N/A
INCO IJ	Vale Indonesia	Hold	5,560	13.0	24.0	42.9	5.2	9.3	11.3	N/A	N/A	N/A
MBMA IJ	Merdeka Battery Materials	Buy	940	473.9	25.8	15.0	38.9	9.9	7.2	N/A	N/A	N/A
MDKA IJ	Merdeka Copper Gold	Buy	3,230	N/A	28.8	23.0	15.7	6.6	6.0	N/A	N/A	N/A
NCKL IJ	Trimegah Bangun Persada	Buy	1,300	9.9	6.7	5.9	7.3	4.7	3.7	0.0%	3.0%	4.5%

Source: Bloomberg, Indo Premier

3Q23 recap and 4Q23 outlook

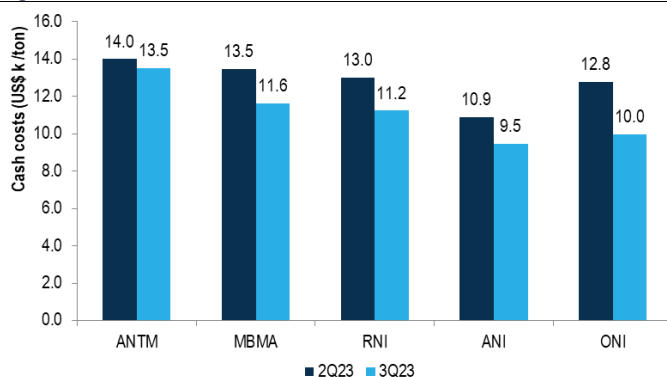
3Q23 recap: cash margin improvement across the board

NPI cash margin improved across the board with average cash costs improved by 13-14% on average on quarterly basis – excluding ANTM and Oracle Nickel (NIC) which both showcased a significant volume swing qoq, hence its cash costs per ton were affected by economies of scale – driven by lower coal and electricity price (c.40-50% of cash costs), in addition to lower ore price (20-25% of cash costs).

On smelter-specific basis, cash costs for c.20ktpa capacity RKEF in IMIP (Indonesia Morowali Industrial Park) was around US\$11k-11.6k/ton, reflected in MBMA's smelters in addition to NIC's Ranger Nickel Indonesia.

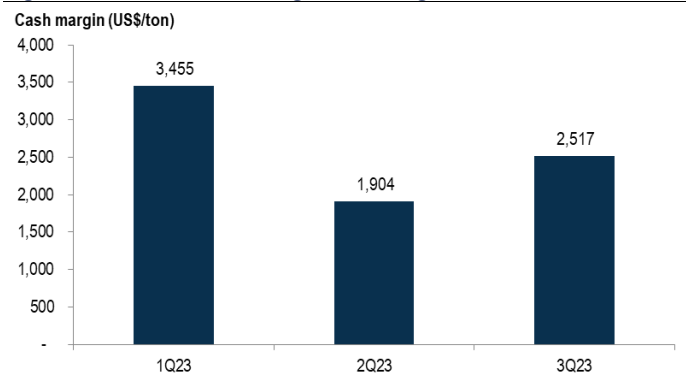
Meanwhile, bigger capacity RKEF (up to c.50ktpa nameplate capacity) cash costs have further improved to US\$9.4k-10k/ton. This has resulted in higher cash margin despite the drop in NPI price (5-6% qoq) in 3Q23 with average cash margin of US\$1.5-3.4k/ton for NPI smelters. In September itself, average NPI cash costs have further improved with cash costs below US\$11k/ton for c.20ktpa RKEF capacity, based on our channel checks.

Fig. 2: RKEF smelters' cash costs



Source: Bloomberg, Indo Premier;

Fig. 3: RKEF smelters' average cash margin



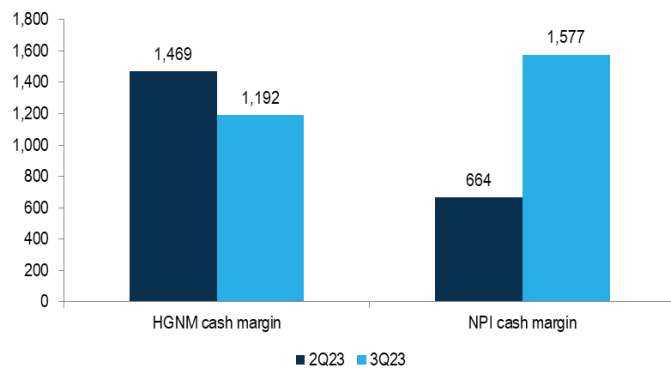
Source: Bloomberg, Indo Premier; 3Q23 based on 8 RKEF smelters that have publicly reported their cash costs and ASP vs. 12 smelters as benchmark in 2Q23

Matte margin lower than NPI = more NPI production?

Another interesting observation that we noticed during 3Q23 was the fact that high-grade nickel matte (HGNM)'s producers' cash margin is now lower at US\$1.1k/ton compared to nickel pig iron (NPI) producers' cash margin at US\$1.5k/ton, as evident in MBMA's HNMI margin vs. RKEF's (i.e. CSI, BSI, and ZHN, Fig. 4), partly driven by lower matte price following the decline in LME nickel and/or nickel sulphate price, while NPI price remain relatively stable at US\$13-14k/ton level.

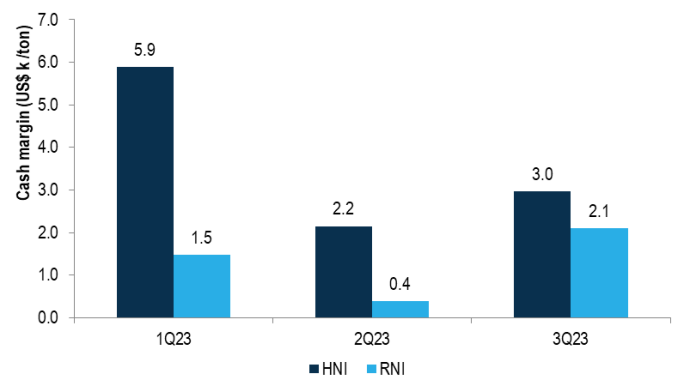
Similarly, Hengjaya Nickel (NIC)'s cash margin – which produces low-grade nickel matte (LGNM) – has narrowed vs. Ranger Nickel (produces NPI) in 3Q23. If the trend continues, we could expect higher NPI production as matte producers could switch back into producing NPI rather than nickel-matte, which may pressure NPI prices going forward. Our calculation indicates that HG nickel-matte prices need to be above NPI prices by US\$2k/ton, to incentivize the conversion with anything below US\$2k/ton incentivize non-conversion of matte. And as of latest, despite higher matte payability in Oct-23 (at 82% vs. <80% in previous months) and NPI price declining to US\$13.5k/ton, producing NPI would generate higher margin than HGNM and this would lead to incremental oversupply in NPI.

Fig. 4: HGNM converter vs RKEF cash margin



Source: Bloomberg, Indo Premier

Fig. 5: Hengjaya (LGNM) vs Ranger Nickel cash margin



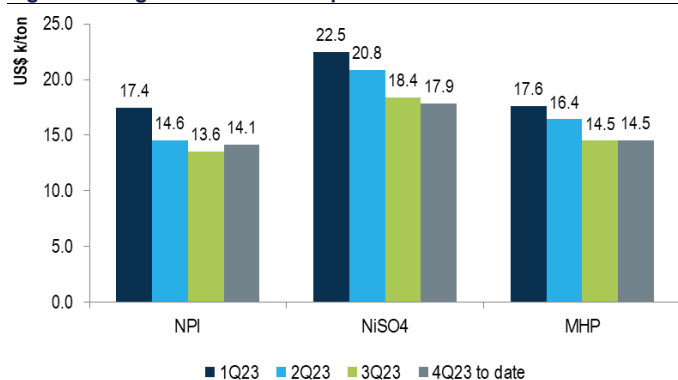
Source: Bloomberg, Indo Premier

4Q23 to date: average NPI price likely to be flat qoq

Over 4Q23F-to-date (1-month lag), average NPI prices have actually improved on quarterly basis, with NPI prices averaging at US\$14.1k/ton in Sep and Oct-23 (+4% qoq vs. 3Q23's of US\$13.5k/ton). However, with the latest price already hitting US\$13.4k/ton as of November 1st, in the scenario of NPI price staying at this level for the rest of November, the average NPI price for 4Q23 would be around US\$13.9k/ton, relatively flat qoq (+2%).

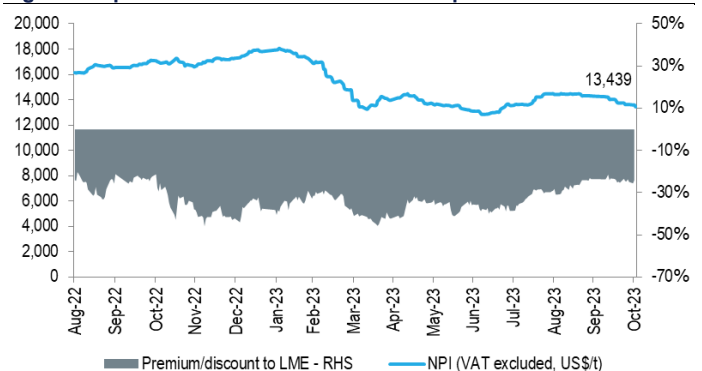
Similarly, despite the recent recovery in nickel sulphate (NiSO₄) and MHP price over the month of Aug and Sep, we expect 4Q23F NiSO₄ price to slightly decline by 3% qoq to US\$17.8k/ton and flattish qoq for MHP price, owing to MHP's higher payability amid lower MHP supply on the back of custom issues in China and earthquake in Papua New Guinea's Ramu in Oct-23, leading to ~3 weeks operation suspension due to safety protocol, albeit Ramu has since resumed its operation to normal state.

Fig. 6: Average NPI/NiSO₄/MHP price 4Q23F-to-date



Source: Bloomberg, Indo Premier

Fig. 7: NPI price and discount to LME nickel price



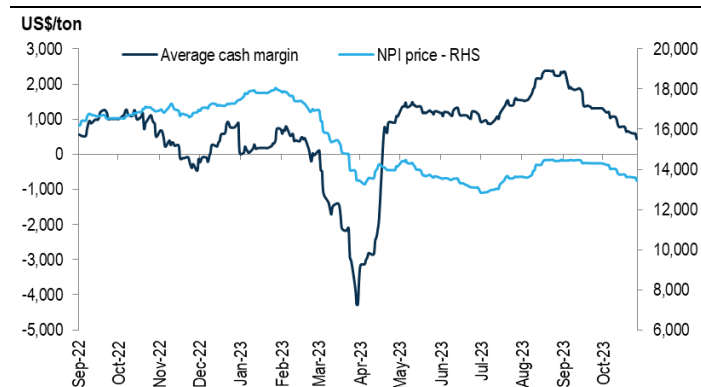
Source: Bloomberg, Indo Premier

We have previously noted that NPI price is likely to follow the movement in the marginal costs of production (90th percentile cash costs) which we benchmarked the marginal costs of production to China's RKEF smelters. As of latest, China RKEF's cash costs stood at US\$13k/ton on average, while these Chinese smelters have been making very limited cash margin (<US\$200/ton) and have been loss-making on net profit basis, which may indicate that the downside in NPI is already limited.

However, such costs-support to NPI price may still be affected by declining ore price from Philippines in addition to thermal-coal prices (Fig. 9). While

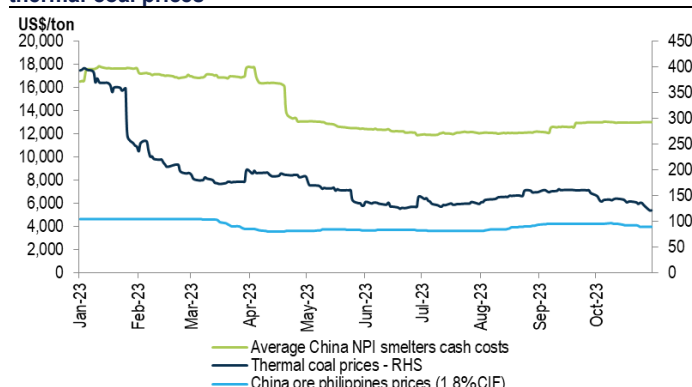
the latter (i.e. thermal coal) is relatively unaffected by NPI supply-demand dynamics, historically, Philippines' ore price could trend down lower amid soft demand, providing downside risk to the aforementioned NPI cost-supports.

Fig. 8: China's RKEF smelters' cash margin



Source: Bloomberg, Indo Premier

Fig. 9: Chinese RKEF cash-costs would be affected by PH ore and thermal-coal prices



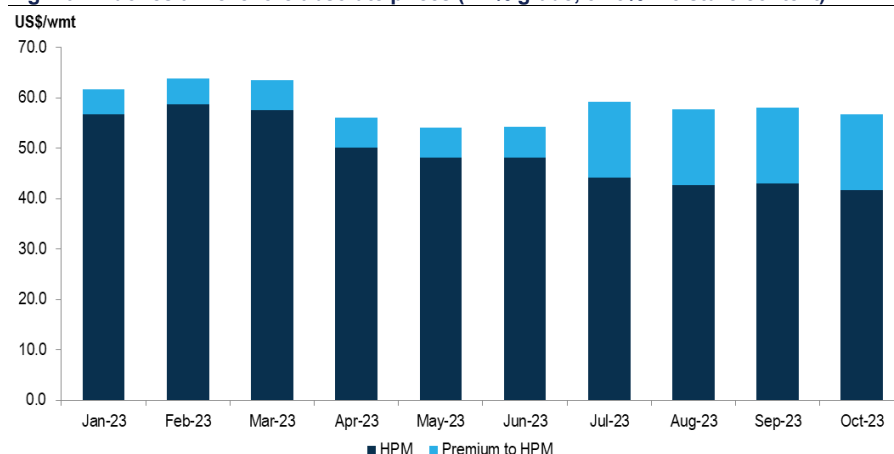
Source: Bloomberg, Indo Premier

Ore price trending down on lower LME despite recent dollar premium

Our channel check suggests that the dollar premium to the nickel ore price remains relatively high at a range of US\$15-20/wmt premium for Oct-23 purchase. However, with the decline in LME nickel price, the absolute nickel ore prices in Indonesia have actually trending down on a monthly basis since July, due to the decline in ore benchmark price (HPM, Fig. 10). Nevertheless, our channel-check suggests that the higher ore price in Jul-23 have started to slightly affect Indonesian NPI cash costs in Oct-23, given the inventory lag between the purchase and actual usage of the nickel ore of roughly around 2-3 months on average.

All in all, we expect cash margin could be at least maintained in 4Q23 vs. 3Q23, despite higher ore costs, and this would be partly offset by lower smelting coal and electricity prices (as ICI prices have only started to trended upwards in Oct-23 which it would translate to higher prices in 1Q24 rather than 4Q23), while ASP set to be flat qoq. In general, the ore costs would be the highest in Oct-23, as the following ore purchase price after Oct-23, is set to trend down as the dollar premium is maintained while HPM price declined (Fig. 10).

Fig. 10: Indonesia nickel ore absolute prices (1.7% grade, 32.5% moisture content)



Source: APNI, Indo Premier estimates

Supply-demand tracker: Oct-23**Jindal Stainless Steel to pull-out from Indonesia**

Indian-based stainless steel producer, Jindal is set to exit its Indonesia operations (150ktpa cold-rolling capacity, c. 2% of Indonesia stainless steel capacity) due to unfavourable market conditions mainly due to high tax on exports into key geographical area such as in the U.S and Europe. From financial standpoint, Jindal Stainless Indonesia have started to report net losses in 3Q23. Such financial difficulties have been experienced by Delong Obsidian Steel as well, that halted their stainless operation starting in 2Q23.

Our view: The potential exit of Jindal and operation suspension by Delong Obsidian Steel in Indonesia has led us to believe that stainless-steel demand remain relatively soft, especially on ex-China demand as stainless steel production in China rose by 29% yoy in 3Q23, which is then offset by the decline in ex-China production by 2%, with notable decrease from Indonesia (-7% yoy).

Unless there are significant recovery in stainless-steel demand over the medium-term, there are two potential projects at risks from miners under our coverage: 1) Karunia Permai Sentosa (KPS, 35%-owned by NCKL), and 2) Bahodopi FeNi by INCO, which may build stainless steel capacity in Bahodopi, with the help of its partner TISCO (#3 global stainless steel player).

Huayou is set to halt construction of 120ktpa HPAL

Bloomberg reported that Huayou is set to halt the construction of their 120ktpa HPAL capacity in Weda Bay area (PT Huashan). As of latest, Huayou already has an existing exposure to HPAL: 1) Huayue Nickel Cobalt (HNC) 60ktpa in IMIP (Morowali), and 2) PT Huafei, 120ktpa HPAL capacity in Weda Bay, which was already operating since mid-2023.

Sonic Bay HPAL FID postponed to 1H24

Final investment decision (FID) for Sonic Bay HPAL (Eramet-BASF) is postponed to 1H24 from previously in FY23. Nonetheless, we have previously removed Sonic Bay and Huashan HPAL from our potential HPAL projects and categorized it as probable projects without any specific timeline, hence, no change to our NiSO₄ and MHP assumptions in FY24F/25F. There are only a few projects that we consider as highly likely to commission over the next 3-4 years (Fig. 11); postponement or cancellation of these projects **might be positive for NiSO₄ and MHP price over medium to long-term period**.

Fig. 11: Class-1 HPAL projects (high likelihood)

Class-1 pipeline	Owner	Annual capacity	Timeline
HPAL			
Halmahera Persada Lygend (HPL)	Trimegah Bangun Persada (45.1%), Lygend (54.9%)	55,000	Operating
Huayue Nickel Cobalt (HNC)	Huayou, Nickel Industries (10% Interest), China Molybdenum	60,000	Operating
QMB New Materials	GEM, Tsingshan	50,000	Operating
PT Huafei	Tsingshan, EVE Battery, Huayou	120,000	Operating
Obi Nickel Cobalt (ONC)	Trimegah Bangun Persada (10%), Lygend (60%), Harita Group (30%)	65,000	1Q24
CATL-MBM HPAL	MBM (66%), Ningbo Brunp CATL (34%)	60,000	2H25
GEM-MBM HPAL	MBM (55%), GEM (45%; option for Ecopro 21%)	30,000	2025
Blue Sparkling Energy (BSE)	Tsingshan, HRUM*	67,000	2026

Source: Company data, Indo Premier

Weda Bay Nickel (WBN) revised down their ore sales target

WBN is set to revise their ore sales target from 35mn target in FY23F to 30mn, citing the inability to obtain the approval on the revision of the mining quota (RKAB). Our channel-check have also suggests that RKAB revision especially for those that are seeking extension from their initial approval has remain relatively slow in terms of the approval process. As such, we expect the dollar premium to HPM to be at least maintained until the end of FY23, which should benefit ANTM at least in **4Q23**, as **ANTM has started to sell their ore at a premium in Oct-23**. Every additional dollar premium in ANTM's nickel ore sales in 4Q, would lead to additional 8%/0.8% to 4Q23F/FY23F net profit.

Sensitivity analysis: MBMA/NCKL/HRUM affected the most by soft NPI price; NCKL to benefit from stronger NiSO₄ price

We conducted sensitivity analysis for metal-miners under our coverage, by assessing the impact of 1% change in the underlying commodity prices assumptions into its earnings per share (Fig. 16) in FY23F/24F or EBITDA specifically for MDKA/MBMA given its relatively low nominal earnings versus peers.

Fig. 12: Sensitivity analysis on 1% change in the underlying commodity price

FY23F	ADMR	ANTM	HRUM	MDKA	MBMA	NCKL	INCO
LME nickel		1.7%		0.1%	0.2%	0.9%	3.6%
Nickel pig iron (NPI)/FeNi		1.0%	0.3%	2.6%	7.4%	2.7%	
Copper				0.3%			
Coking-coal	1.9%						
Nickel sulphate						0.9%	
Thermal coal			2.1%				
Gold		0.2%		0.6%			
FY24F	ADMR	ANTM	HRUM	MDKA	MBMA	NCKL	INCO
LME nickel		1.6%		0.2%	0.4%	0.8%	5.5%
Nickel pig iron (NPI)/FeNi		1.3%	2.1%	1.8%	2.9%	2.3%	
Copper				0.3%			
Coking-coal	2.0%						
Nickel sulphate						0.7%	
Thermal coal			2.0%				
Gold		0.2%		0.3%			

Source: Company data, Indo Premier estimates; We conducted sensitivity analysis on EBITDA for MDKA/MBMA, while the rest are based on earnings/net profit.

Overall, we expect MBMA/NCKL/HRUM to be affected by the soft NPI pricing, albeit we have taken into account this into our forecast as we are already expecting NPI price to average at around US\$13,750/ton in 4Q23F vs. 4Q23F to-date average of US\$14k/ton. MDKA would also indirectly affect as MBMA are consolidated within MDKA's income/financial statement.

SECTOR RATINGS

- 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

COMPANY RATINGS

- BUY : Expected total return of 10% or more within a 12-month period
- HOLD : Expected total return between -10% and 10% within a 12-month period
- SELL : Expected total return of -10% or worse within a 12-month period

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