

Vale

Strong 4Q23 on px; agreement on Fundão's dam failure expected for 1H24

Earnings Review

EBITDA rose 36% in 4Q23; affirm MW for the bonds

Vale reported strong figures in 4Q23, with revenues up +9% YoY to \$13.0bn driven by iron ore realized prices (+24% YoY; +18% QoQ) and EBITDA rising +36% YoY (+51% QoQ) to \$6.3bn. EBITDA margin expanded to 48.5% margin (+978bps YoY). Iron ore production grew +10% YoY to 89.4 MT in 4Q23, while the total output for the year was 321 MT (+4% YoY), and above the 315MT guidance for 2023. For FY24, Vale expected to produce 310-320 MT of iron ore. We affirm our MW for all bonds (Exhibit 1) as we think headlines on Fundão's new liabilities (see: [Vale: Downgrade Vale's belly to MW: we prefer SAMMIN 26 January 2024](#)), CEO succession, and government's ask for railway concession renewal (more below) to be short-term overhangs.

New provisions for Samarco; deal w/ authorities for 1H24

Vale's expanded net debt, which includes provisions for Brumadinho, Samarco/Renova and others, expanded to \$16.1bn (+\$670mn QoQ) mainly due to \$1.2bn of additional provisions set aside for Samarco, differing from BHP's \$3.2bn in extra provisions booked recently. Vale anticipates a potential settlement agreement with authorities related to Samarco's dam failure in the first half of 2024. The company aims to maintain its net debt within the \$10 to \$20bn range. Expanded net leverage remains low and was slightly down to 0.90x in 4Q23 (-0.05x QoQ).

FCF positive after dividends; cash cost to drop in FY24

Free cash flow was still positive at \$124mn in 4Q23, after \$2.2bn of dividend paid in the quarter. Iron ore C1 cash cost was \$24.7/t (+14% YoY) in 4Q23 and \$25.7/t in FY23 (+14% YoY), while the EBITDA breakeven price for iron ore fines and pellets stood at \$53.3/t (+10% YoY) in 4Q23 and \$54.8/t in FY23 (+11% YoY), with the higher costs attributed to third-party purchases and other adjustments. For 2024, Vale forecasts C1 cash cost of \$21.5 to 23.0/t and EBITDA breakeven at \$53 to 57/t.

Stake acquired in Anglo American's asset to close in 4Q24

In a strategic move, Vale acquired 15% stake in Anglo American's Minas-Rio iron ore complex for \$157mn plus Vale's Serra da Serpentina resources in Brazil. This partnership grants Vale a proportional share of Minas-Rio production (26.5Mtpy of pellet feed), which generated \$1.4bn of EBITDA in 2023. The deal is expected to close in 4Q24.

CEO renewal decision pending; base metals mines halted

Board of Director's decision on whether to extend company's current CEO term, or appoint a new CEO is still pending. Additionally, environmental licenses for Vale's Sossego and Onça Puma mines in Brazil were suspended last week, but this is not expected to significantly impact revenues as the mines are from company's base metals business. Brazil's Ministry of Transport is asking Vale's to pay \$4bn to \$6bn regarding the early renewal of railway concessions in Brazil signed during prior government.

Trading ideas and investment strategies discussed herein may give rise to significant risk and are not suitable for all investors. Investors should have experience in relevant markets and the financial resources to absorb any losses arising from applying these ideas or strategies.

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Refer to important disclosures on page 7 to 10. Analyst Certification on page 5. Valuation & Risk on page 4.

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Global Emerging Markets | Corporate Credit
LatAm | Brazil
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Exhibit 1: Indicative pricing

As of 02/23/2024

Bonds	Rec	Bid-P	YTW	OAS
VALEBZ 26	MW	101.53	5.50	93
VALEBZ 30	MW	90.53	5.53	124
VALEBZ 32	MW	108.29	5.88	161
VALEBZ 33	MW	101.62	5.88	159
VALEBZ 34	MW	117.37	5.87	161
VALEBZ 36	MW	106.98	6.06	173
VALEBZ 39	MW	107.08	6.13	174
VALEBZ 42	MW	97.59	5.81	135

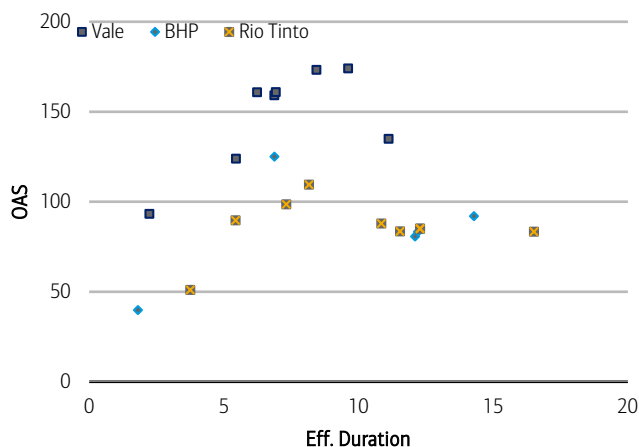
Source: BofA Global Research, Bloomberg

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Valuation

Exhibit 2: Vale vs. BHP and Rio Tinto

Vale trades over BHP and Rio Tinto

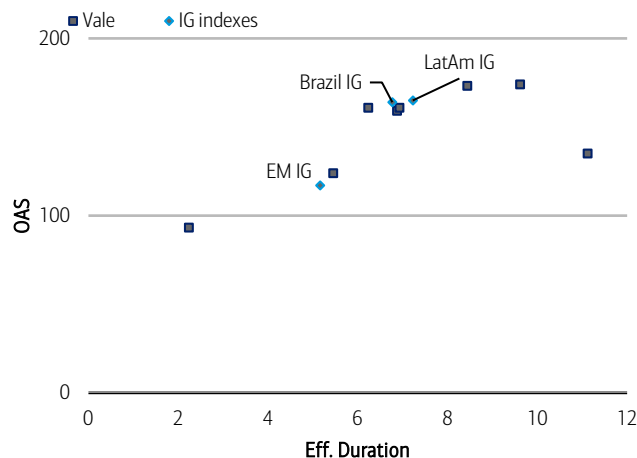


Source: BofA Global Research, Bloomberg

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Exhibit 3: Vale vs. ICE BofA IG indexes

Vale's belly trades tight to LatAm IG except for the 2036s and 2039s

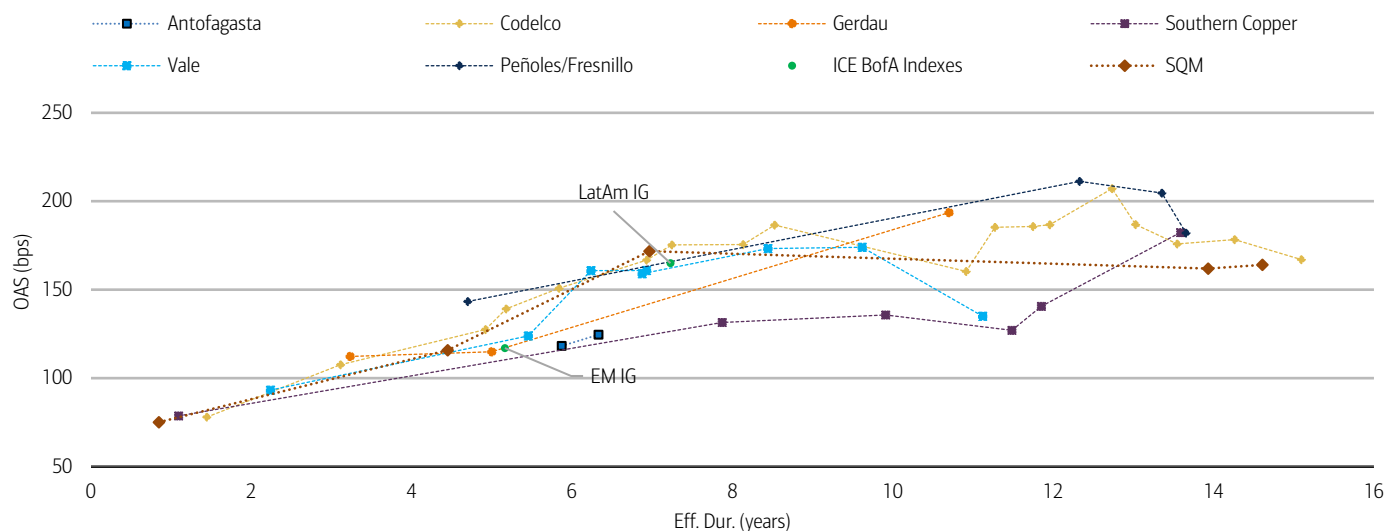


Source: BofA Global Research, Bloomberg

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Exhibit 4: Vale vs. LatAm IG mining peers

Vale's belly trades over SCCO and ANTOLN



Source: BofA Global Research, Bloomberg

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Exhibit 5: Indicative pricing

As of 02/23/2024

Issuer	Company	Maturity	Coupon	Currency	O/S	Eff. Duration	OAS	YTW	Bid Price	Rating
Vale										
VALEBZ 26	Vale	8/10/2026	6.250	USD	470	2.24	93	5.50	101.53	Baa3/BBB-/BBB
VALEBZ 30	Vale	7/8/2030	3.750	USD	1,500	5.45	124	5.53	90.53	Baa3/BBB-/BBB
VALEBZ 32	Vale	9/15/2032	7.200	USD	279	6.23	161	5.88	108.29	Ba1/BBB-/BBB
VALEBZ 33	Vale	6/12/2033	6.125	USD	1,500	6.87	159	5.88	101.62	Baa3/BBB-/BBB
VALEBZ 34	Vale	1/17/2034	8.250	USD	641	6.93	161	5.87	117.37	Baa3/BBB-/BBB
VALEBZ 36	Vale	11/21/2036	6.875	USD	1,335	8.44	173	6.06	106.98	Baa3/BBB-/BBB
VALEBZ 39	Vale	11/10/2039	6.875	USD	1,146	9.62	174	6.13	107.08	Baa3/BBB-/BBB
VALEBZ 42	Vale	9/11/2042	5.625	USD	491	11.12	135	5.81	97.59	Baa3/BBB-/BBB

Exhibit 5: Indicative pricing

As of 02/23/2024

Issuer	Company	Maturity	Coupon	Currency	O/S	Eff. Duration	OAS	YTW	Bid Price	Rating
Global iron ore peers										
BHP 26	BHP	3/1/2026	6.420	USD	323	1.81	40	5.06	102.51	A1/A-/Au
BHP 33	BHP	5/15/2033	6.250	USD	200	6.88	125	5.52	104.50	A2/A-/Au
BHP 42	BHP	2/24/2042	4.125	USD	1,000	12.20	83	5.29	86.43	A1/A-/Au
BHP 43	BHP	9/30/2043	5.000	USD	2,500	12.10	81	5.30	96.16	A1/A-/Au
BHP 53	BHP	9/8/2053	5.500	USD	800	14.29	92	5.32	102.49	A1/A-/Au
RIOLN 28	Rio Tinto	7/15/2028	7.125	USD	750	3.73	51	4.84	108.74	A1/A/Au
RIOLN 31	Rio Tinto	3/15/2031	7.250	USD	400	5.41	90	5.19	111.87	WR/A/Au
RIOLN 33	Rio Tinto	12/15/2033	6.125	USD	750	7.30	99	5.25	106.57	WR/A/Au
RIOLN 35	Rio Tinto	6/1/2035	5.750	USD	300	8.15	109	5.38	102.80	WR/A/Au
RIOLN 40	Rio Tinto	11/2/2040	5.200	USD	1,150	10.91	88	5.30	98.74	A1/A/Au
RIOLN 42	Rio Tinto	3/22/2042	4.750	USD	500	11.58	84	5.31	93.35	A1/A/Au
RIOLN 42	Rio Tinto	8/21/2042	4.125	USD	750	12.36	85	5.33	85.72	A1/A/Au
RIOLN 42	Rio Tinto	8/21/2042	4.125	USD	750	12.36	85	5.33	85.72	A1/A/Au
RIOLN 51	Rio Tinto	11/2/2051	2.750	USD	1,250	16.49	83	5.25	63.58	A1/A/Au
RIOLN 53	Rio Tinto	3/9/2053	5.125	USD	1,100	14.39	93	5.34	96.64	A1/A/Au
LatAm IG mining peers										
CDEL 25	Codelco	9/16/2025	4.500	USD	397	1.44	82	5.59	98.09	Baa1/BBB+/BBB+
CDEL 27	Codelco	8/1/2027	3.625	USD	1,268	3.11	107	5.48	93.93	Baa1/BBB+/BBB+
CDEL 29	Codelco	9/30/2029	3.000	USD	1,100	4.92	125	5.52	87.59	Baa1/BBB+/BBB+
CDEL 30	Codelco	1/14/2030	3.150	USD	1,000	5.18	139	5.67	87.15	Baa1/BBB+/BBB+
CDEL 31	Codelco	1/15/2031	3.750	USD	800	5.84	150	5.79	88.14	Baa1/BBB+/BBB+
CDEL 33	Codelco	2/2/2033	5.125	USD	900	6.93	167	5.96	93.91	Baa1/BBB+/BBB+
CDEL 34	Codelco	1/8/2034	5.950	USD	1,300	7.25	175	6.03	99.00	Baa1/BBB+/BBB+
CDEL 48	Codelco	5/18/2048	4.850	USD	600	10.91	161	6.39	80.84	NR/NR/NR
CDEL 35	Codelco	9/21/2035	5.625	USD	500	8.13	175	6.05	95.96	Baa1/BBB+/BBB+
CDEL 36	Codelco	10/24/2036	6.150	USD	500	8.53	185	6.17	99.28	Baa1/BBB+/BBB+
CDEL 42	Codelco	7/17/2042	4.250	USD	750	11.75	186	6.33	77.05	Baa1/BBB+/BBB+
CDEL 43	Codelco	10/18/2043	5.625	USD	950	11.27	186	6.34	91.36	Baa1/BBB+/BBB+
CDEL 44	Codelco	11/4/2044	4.875	USD	980	11.95	189	6.38	82.37	Baa1/BBB+/BBB+
CDEL 47	Codelco	8/1/2047	4.500	USD	1,250	13.03	187	6.34	77.25	Baa1/BBB+/BBB+
CDEL 49	Codelco	2/5/2049	4.375	USD	1,300	13.55	175	6.20	76.47	Baa1/BBB+/BBB+
CDEL 50	Codelco	1/30/2050	3.700	USD	2,680	14.27	177	6.21	67.35	Baa1/BBB+/BBB+
CDEL 51	Codelco	1/15/2051	3.150	USD	500	15.11	166	6.08	60.89	Baa1/BBB+/BBB+
CDEL 53	Codelco	9/8/2053	6.300	USD	1,200	12.75	206	6.46	97.38	Baa1/BBB+/BBB+
GGBRBZ 27	Gerdau	10/24/2027	4.875	USD	427	3.23	108	5.46	97.94	NR/BBB-/BBB
GGBRBZ 30	Gerdau	1/21/2030	4.250	USD	500	5.00	112	5.43	93.83	NR/BBB-/BBB
GGBRBZ 44	Gerdau	4/16/2044	7.250	USD	481	10.71	192	6.41	108.93	Baa3/BBB-/BBB
SCCO 25	Southern Copper	4/23/2025	3.875	USD	500	1.09	69	5.54	98.06	Baa1/BBB+/BBB+
SCCO 35	Southern Copper	7/27/2035	7.500	USD	1,000	7.86	137	5.66	115.07	Baa1/BBB+/BBB+
SCCO 40	Southern Copper	4/16/2040	6.750	USD	1,100	9.91	136	5.76	108.74	Baa1/BBB+/BBB+
SCCO 42	Southern Copper	11/8/2042	5.250	USD	1,200	11.48	128	5.75	93.60	Baa1/BBB+/BBB+
SCCO 45	Southern Copper	4/23/2045	5.875	USD	1,500	11.86	140	5.88	99.69	Baa1/BBB+/BBB+
SCCOMX 50	Southern Copper	1/26/2050	4.500	USD	1,000	13.60	181	6.25	77.34	Baa1/BBB+/BBB+
ANTOLN 30	Antofagasta	10/14/2030	2.375	USD	500	5.87	115	5.43	82.98	NR/BBB/BBB+
ANTOLN 32	Antofagasta	5/13/2032	5.625	USD	500	6.33	126	5.56	100.04	NR/BBB/BBB+
FRESLN 50	Fresnillo	10/2/2050	4.250	USD	850	13.70	178	6.21	74.32	Baa2/BBB/NR
PENOMX 29	Penoles	9/12/2029	4.150	USD	650	4.70	144	5.72	92.46	NR/BBB/BBB
PENOMX 49	Penoles	9/12/2049	5.650	USD	550	12.33	211	6.56	88.45	NR/BBB/BBB
PENOMX 50	Penoles	8/6/2050	4.750	USD	500	13.35	206	6.49	77.81	NR/BBB/BBB
SQM 25	SQM	1/28/2025	4.375	USD	250	0.85	81	5.79	98.65	Baa1/BBB+/NR
SQM 29	SQM	5/7/2029	4.250	USD	450	4.45	118	5.47	94.25	Baa1/BBB+/NR
SQM 33	SQM	11/7/2033	6.500	USD	750	6.96	177	6.06	102.81	Baa1/BBB+/NR
SQM 50	SQM	1/22/2050	4.250	USD	400	13.93	162	6.06	76.17	Baa1/BBB+/NR
SQM 51	SQM	9/10/2051	3.500	USD	700	14.61	164	6.05	65.65	Baa1/BBB+/NR
ICE BofA Indexes						Eff. Duration	OAS	YTW		
EBRI Index	ICE BofA Investment Grade Emerging Markets Corporate Plus Brazil Issuers Index					6.77	164	6.08		
EMIL Index	ICE BofA High Grade Latin America Emerging Markets Corporate Plus					7.23	165	6.10		
EMIB Index	ICE BofA High Grade Emerging Markets Corporate Plus Index					5.16	117	5.57		

Source: BofA Global Research, Bloomberg

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Financial summary

Exhibit 6: Vale – Financial summary (US\$mn)

EBITDA was US\$6.3bn in 4Q23 (+37% YoY; +52% QoQ)

Vale S.A (BBG: VALEBZ)

Operating Data

Production (k tonnes)	2020	2021	2022	LTM
Iron ore	300,385	315,610	307,789	321,152
Pellets	29,676	31,709	32,113	36,455
Nickel	216	168	179	165
Copper	360	297	253	327
Gold (000' oz troy)	469	364	289	410

Summary Income Statement (annual) US\$mm

	2020	2021	2022	2023
Net revenues	40,018	55,107	43,839	41,784
YoY change	6.5%	37.7%	-20.4%	-4.7%
Cost of sales	(19,039)	(22,762)	(24,028)	(24,089)
Gross profit	20,979	32,345	19,811	17,695
- % gross margin	52.4%	58.7%	45.2%	42.3%
SG&A	(554)	(484)	(515)	(553)
EBITDA	16,588	31,052	19,760	17,961
-% EBITDA margin	41.5%	56.3%	45.1%	43.0%
Net income	4,881	22,370	16,728	7,983

Cash Flow (annual) US\$mm

	2020	2021	2022	2023
Cash from operations	17,006	32,372	18,762	17,258
Interest Expense	(755)	(693)	(1,020)	(870)
Capex	(4,407)	(5,118)	(5,446)	(5,920)
Dividends / interest on capital	(3,364)	(19,059)	(12,651)	(8,268)
Income Taxes	(1,736)	(4,387)	(4,637)	(1,890)
Disposals of investment	426	704	437	(139)
Free cash flow	7,170	3,819	(4,555)	171

Balance Sheet (US\$mm)

	2020	2021	2022	2023
Cash	14,258	11,905	4,797	4,363
Total assets	92,007	89,442	86,894	94,186
S-T Debt	1,136	1,204	489	1,021
Total debt	13,360	12,180	11,181	12,461
Net Debt	(898)	275	6,384	8,098
Expanded Net Debt	13,334	15,061	19,955	21,985
PP&E	52,475	52,693	56,974	61,899
Shareholders'equity	34,821	35,306	37,358	40,981

Source: BofA Global Research estimates, company report

Capital Structure (12/31/23)

		Debt amortization		
Foreign debt	12,072	Year	Amount	%
Local debt	399	2023	0	0.0%
Total Debt	12,471	2024	657	5.3%
Net Debt	8,108	2025	451	3.7%
Leases	1,462	2026	572	4.6%
Brumadinho, Refis & others	12,425	2027+	10,624	86.3%
Expanded Debt	26,358	Total	12,304	100.0%
Expanded Net Debt	21,995	*Only principal		

Summary Income Statement (quarterly) US\$mm

	1Q23	2Q23	3Q23	4Q23
Net revenues	8,434	9,673	10,623	13,054
QoQ change	-29.4%	14.7%	9.8%	22.9%
Cost of sales	(4,949)	(5,940)	(6,309)	(6,891)
Gross profit	3,485	3,733	4,314	6,163
- % gross margin	41.3%	38.6%	40.6%	47.2%
SG&A	(118)	(139)	(150)	(146)
EBITDA	3,576	3,874	4,177	6,334
-% EBITDA margin	42.4%	40.0%	39.3%	48.5%
Net income	1,837	892	2,836	2,418

Select Financial Ratios

	2020	2021	2022	2023
Gross Leverage (x)	0.81x	0.39x	0.57x	0.69x
Net Leverage (x)	-0.05x	0.01x	0.32x	0.45x
Expanded Net Lev. (x)	0.80x	0.49x	1.01x	1.22x
Interest Coverage (x)	21.97x	44.81x	19.37x	20.64x
Cash/ST Debt	12.55x	9.89x	9.81x	4.27x
ST/TD	8.5%	9.9%	4.4%	8.2%
Debt/Cap	27.7%	25.6%	23.0%	23.3%
Liq Ratio	1.67x	1.47x	1.12x	1.28x

Valuation & risk

Vale (VALEBZ)

Our MW for Vale's bonds (26s, 30s, 32s, 33s, 36s, 39s and 42s) reflect our view that spreads are fairly valued vs. LatAm IG Metals & Mining peers. Vale should remain with very low leverage levels despite volatility of iron ore prices given its strong capital structure and competitive position in the global cash cost curve of the industry. Excess cash generation should remain being used for distribution to shareholders and for liability management. Company's very low leverage ratios offers a large cushion from 1) potential extra liabilities from the ongoing renegotiation with authorities on Samarco's accident, 2) new liabilities, 3) SEC charges and/or 4) lower iron ore prices. Upside risks to our call are: 1) higher demand & metals prices, 2) ratings upgrade, 3) additional sale of non-core assets and 4) settlement and agreement with authorities on pending litigations. Downside risks are: 1) volatility and lower demand and prices, 2) increased costs, 3) higher leverage, 4) ratings downgrade, 5) problems on tailing dams, 6) declined growth in China, 7) legal proceedings and contingencies/liabilities.

Vale Canada (VALEBZ)

Our MW for Vale's bonds (26s, 30s, 32s, 33s, 36s, 39s and 42s) reflect our view that spreads are fairly valued vs. LatAm IG Metals & Mining peers. Vale should remain with very low leverage levels despite volatility of iron ore prices given its strong capital structure and competitive position in the global cash cost curve of the industry. Excess cash generation should remain being used for distribution to shareholders and for liability management. Company's very low leverage ratios offers a large cushion from 1) potential extra liabilities from the ongoing renegotiation with authorities on Samarco's accident, 2) new liabilities, 3) SEC charges and/or 4) lower iron ore prices. Upside risks to our call are: 1) higher demand & metals prices, 2) ratings upgrade, 3) additional sale of non-core assets and 4) settlement and agreement with authorities on pending litigations. Downside risks are: 1) volatility and lower demand and prices, 2) increased costs, 3) higher leverage, 4) ratings downgrade, 5) problems on tailing dams, 6) declined growth in China, 7) legal proceedings and contingencies/liabilities.

Vale Overseas Ltd (VALEBZ)

Our MW for Vale's bonds (26s, 30s, 32s, 33s, 36s, 39s and 42s) reflect our view that spreads are fairly valued vs. LatAm IG Metals & Mining peers. Vale should remain with very low leverage levels despite volatility of iron ore prices given its strong capital structure and competitive position in the global cash cost curve of the industry. Excess cash generation should remain being used for distribution to shareholders and for liability management. Company's very low leverage ratios offers a large cushion from 1) potential extra liabilities from the ongoing renegotiation with authorities on Samarco's accident, 2) new liabilities, 3) SEC charges and/or 4) lower iron ore prices. Upside risks to our call are: 1) higher demand & metals prices, 2) ratings upgrade, 3) additional sale of non-core assets and 4) settlement and agreement with authorities on pending litigations. Downside risks are: 1) volatility and lower demand and prices, 2) increased costs, 3) higher leverage, 4) ratings downgrade, 5) problems on tailing dams, 6) declined growth in China, 7) legal proceedings and contingencies/liabilities.

Analyst Certification

I, Carlos Assumpcao, CFA, hereby certify that the views expressed in this research report accurately reflect my personal views about the subject securities and issuers. I also certify that no part of my compensation was, is, or will be, directly or indirectly, related to the specific recommendations or view expressed in this research report.

Special Disclosures

Some of the securities discussed herein should only be considered for inclusion in accounts qualified for high risk investment.

BofA Securities is currently acting as exclusive Financial Advisor to Manara Minerals Investment Company LLC in connection with its proposed strategic partnership with Vale S.A. on Vale Base Metals Limited, which was announced on 27 Jul 2023.

Disclosures

Important Disclosures

Credit opinion history

Vale Canada Ltd / VALEBZ

Security	Date ^{R1}	Action	Recommendation	Price
7.2, Senior, USD, 2032:B	31-Jan-2023		Marketweight	
	28-Apr-2023	Upgrade	Overweight	107.75
	27-Jul-2023	Restricted	NA	NA
	31-Jul-2023	Coverage Resumed	Overweight	
	26-Jan-2024	Downgrade	Marketweight	108.31

Table reflects credit opinion history as of previous business day's close.^{R1} First date of recommendation within the last 36 months, if for an issuer or within the last 12 months, if for a security or loan. The investment opinion system is contained at the end of the report under the heading "BofA Global Research Credit Opinion Key."

Pricing information in the table is provided for each action where available. In the case of bonds, loans, capital securities and equity preferreds, the price shown reflects the nominal cash price for the security; and in the case of CDS, the price shown reflects the spread, on the date of the relevant action.

B=Bond; L=Loan; CS=Capital Security (Not including Equity Preferred); EP=Equity Preferred; CDS=Credit Default Swap

Vale Overseas Ltd / VALEBZ

Security	Date ^{R2}	Action	Recommendation	Price
6.875, Senior, USD, 2036:B	31-Jan-2023		Overweight	
	27-Jul-2023	Restricted	NA	NA
	31-Jul-2023	Coverage Resumed	Overweight	
	26-Jan-2024	Downgrade	Marketweight	107.65
6.875, Senior, USD, 2039:B	31-Jan-2023		Overweight	
	27-Jul-2023	Restricted	NA	NA
	31-Jul-2023	Coverage Resumed	Overweight	
	26-Jan-2024	Downgrade	Marketweight	107.96
8.25, Senior, USD, 2034:B	31-Jan-2023		Overweight	
	22-Feb-2023	Downgrade	Marketweight	117.27
	28-Apr-2023	Upgrade	Overweight	116.19
	27-Jul-2023	Restricted	NA	NA
	31-Jul-2023	Coverage Resumed	Overweight	
6.25, Senior, USD, 2026:B	01-Aug-2023	Downgrade	Marketweight	116.55
	31-Jan-2023		Marketweight	
	22-Feb-2023	Upgrade	Overweight	102.12
	28-Apr-2023	Downgrade	Marketweight	103.07
	27-Jul-2023	Restricted	NA	NA
3.75, Senior, USD, 2030:B	31-Jul-2023	Coverage Resumed	Marketweight	
	31-Jan-2023		Overweight	
	28-Apr-2023	Downgrade	Marketweight	88.75
	27-Jul-2023	Restricted	NA	NA
	31-Jul-2023	Coverage Resumed	Marketweight	
6.125, Senior, USD, 2033:B	01-Aug-2023	Initial	Overweight	100.50
	26-Jan-2024	Downgrade	Marketweight	101.39

Table reflects credit opinion history as of previous business day's close.^{R2} First date of recommendation within the last 36 months, if for an issuer or within the last 12 months, if for a security or loan. The investment opinion system is contained at the end of the report under the heading "BofA Global Research Credit Opinion Key."

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B=Bond; L=Loan; CS=Capital Security (Not including Equity Preferred); EP=Equity Preferred; CDS=Credit Default Swap

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Security	Date ^{R3}	Action	Recommendation	Price
5.625, Senior, USD, 2042:B	31-Jan-2023		Marketweight	
	27-Jul-2023	Restricted	NA	NA
	31-Jul-2023	Coverage Resumed	Marketweight	

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Neutral: No purchase or sale of CDS is recommended.

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Corporate Credit Issuer Investment Rating Distribution: Global Group (as of 31 Dec 2023)

Coverage Universe	Count	Percent	Inv. Banking Relationships ^{R4}	Count	Percent
Buy	144	37.21%	Buy	119	82.64%
Hold	193	49.87%	Hold	163	84.46%
Sell	50	12.92%	Sell	37	74.00%

^{R4} Issuers that were investment banking clients of BofA Securities or one of its affiliates within the past 12 months. For purposes of this Investment Rating Distribution, the coverage universe includes only corporate credit issuer recommendations. A corporate credit issuer rated Overweight is included as a Buy, a corporate credit issuer rated Marketweight is included as a Hold, and a corporate credit issuer rated Underweight is included as a Sell.

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