

PNC'S METALS INDUSTRY UPDATE

Issue 39

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Welcome to Issue #39 of PNC's *Metals Industry Update*.

2022 came to a grinding finish; metals prices continued their general decline, the bond market had little to no activity and the syndicated loan market for metals had its weakest quarter of the year. While we may hope for improvement in 2023, we see limited reasons for optimism.

Our cover story from PNC economist Abbey Omodunbi provides a cautious outlook for the year. Abbey has a mild recession in his base case, a decline in demand from some important steel-consuming U.S. end markets, offset by an economic recovery in China. Abbey points out that the World Steel Association predicts global steel consumption will grow 1% in 2023 after declining 2.3% in 2022. While we don't expect the economy will provide any tailwinds for industry financial performance, exceptional financial performance from most participants in 2021 and 2022 has left the industry well positioned to navigate what lies ahead.

Thank you for being a reader of PNC's *Metals Industry Update*. Our goal is to provide content that can help you stay abreast of market conditions. We appreciate your feedback on how we are doing. We encourage you to share any thoughts or observations on how we can improve.

CHINA REOPENING TO SUPPORT METAL PRICES WHILE GLOBAL ECONOMY SLOWS IN 2023

Summary

- Lukewarm global economic growth and China's reopening to support base metals demand.
- The outlook for U.S. construction is weak and total auto sales will fall this year.
- The World Steel Association forecasts global steel demand will grow 1% in 2023.

Many base metals had a volatile 2022. The Russian invasion of Ukraine pushed up prices in the first half of 2022, while aggressive monetary policy tightening by many major central banks, a weak Chinese economy, and elevated global recession risks drove the sharp decline in prices in the second half of the year. Hot-rolled coil steel peaked at \$1,535 per ton in March before closing the year at \$744. Aluminum peaked at \$3,878 per ton in March before dropping to \$2,349 at the end of 2022. PNC's baseline forecast calls for a mild recession in the U.S. this year as the Fed pushes up interest rates further, the housing downturn continues and global economic growth slows.

CHINA REOPENING TO SUPPORT METAL PRICES WHILE GLOBAL ECONOMY SLOWS IN 2023 *(Continued)*

Global recession fears are elevated in early 2023 as many central banks continue their hiking cycles to fight inflation. The U.K. economy contracted in the third quarter on a quarter-over-quarter basis thanks to higher interest rates, inflation and a weaker global economy; PNC forecasts a yearlong recession in the U.K., which likely started in the third quarter of 2022. The eurozone economy will likely experience a policy-driven shallow recession starting in the first quarter of 2023 as the European Central Bank (ECB) raises interest rates higher. The eurozone likely avoided a recession at the end of last year due to a mild winter and higher-than-average gas storage levels. China's reopening will be a slight boost to the global economy, but increased risks of a new COVID outbreak, slower growth in domestic consumer spending, and a still-weak housing sector will temper economic activity. The World Bank forecasts global real GDP growth of 1.7% in 2023 and 2.7% in 2024.

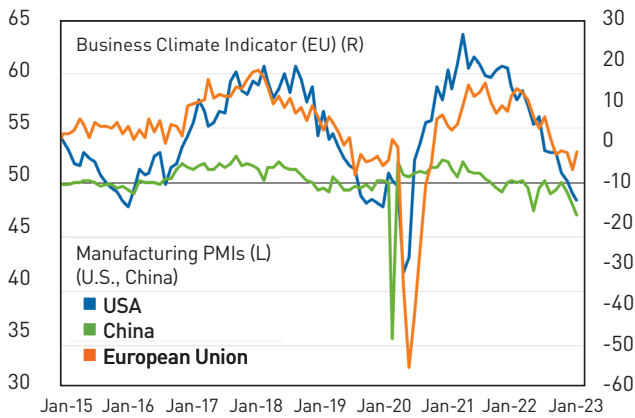
The decline in global manufacturing activity (**Chart 1**) will continue in 2023 as higher interest rates weigh on the demand for durable goods, inflationary pressures continue and labor shortages persist, although improved supply-chain networks will limit the contraction. Lower U.S. steel capacity utilization (**Chart 2**), high steel production in China and weak global demand will limit price growth for U.S. steel in 2023. The World Steel Association (WSA) forecasts that global steel demand will grow 1% this year after contracting 2.3% in 2022.

Higher mortgage rates and deteriorating affordability will continue to weigh on U.S. homebuilding (**Chart 3**), putting downward pressures on the demand for metals with heavy use in construction such as steel, iron, aluminum and lead. Higher borrowing costs will lead to a decline in investment in nonresidential structures (**Chart 4**) but infrastructure spending from bills passed in 2021 and 2022 (Inflation Reduction Act, the CHIPS and Science Act, and the Infrastructure Investment and Jobs Act) should provide some support in 2024.

Sales of electric and hybrid vehicles should increase this year thanks to the green energy transition but total sales in the automotive sector will likely decline (**Chart 5**) in 2023, in large part due to higher financing costs, before rebounding in 2024 when the U.S. economy is expected to recover. China is the biggest consumer of base metals, and a strong rebound in its economy this year will be bullish for base metals. This may be why forecasters (**Chart 6**) expect a 30% increase in the price of hot-rolled coil steel in the U.S. in 2023.

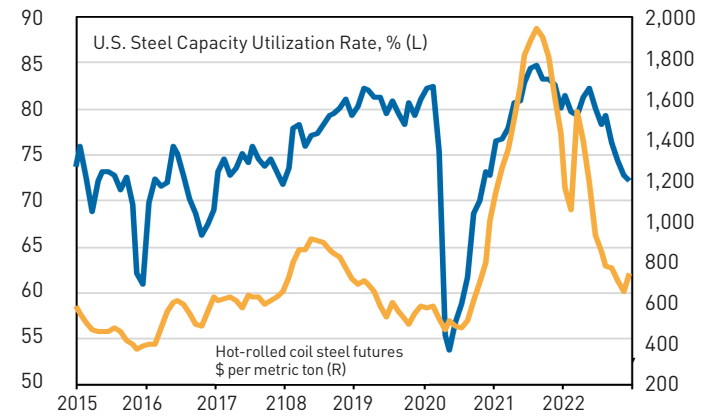
CHINA REOPENING TO SUPPORT METAL PRICES WHILE GLOBAL ECONOMY SLOWS IN 2023 *(Continued)*

CHART 1: GLOBAL MANUFACTURING SLUMP TO DEEPEN



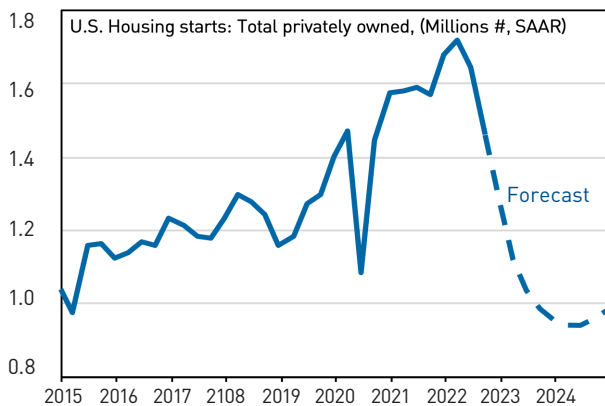
Sources: CFLP, ISM, EU EcFin

CHART 2: HOT-ROLLED COIL STEEL PRICES HAVE SLUMPED



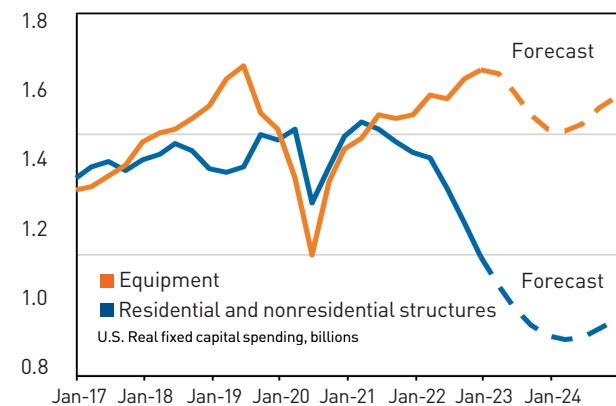
Source: Bloomberg

CHART 3: HOUSING MARKET WILL SLOW FURTHER



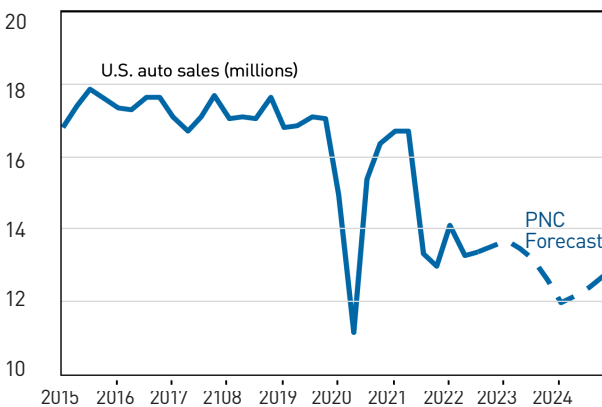
Sources: Moody's Analytics, PNC Economics Dec. 2022 forecast

CHART 4: PULLBACK IN CONSTRUCTION EXPECTED TO CONTINUE



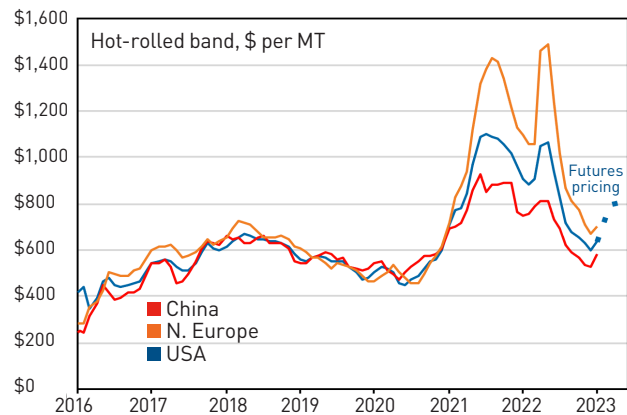
Sources: BEA, Moody's Analytics, PNC Economics Dec. 2022 forecast

CHART 5: AUTO SALES ARE HEADED LOWER



Sources: Moody's Analytics, PNC Economics Dec. 2022 forecast

CHART 6: FUTURES MARKETS ARE BULLISH ON STEEL



Source: Bloomberg

Visit <http://www.pnc.com/economicreports> to view the full listing of economic reports published by PNC's economists.

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METALS PRICING

Metals pricing during fourth quarter 2022 remained generally in a downward trend. Of the 21 product prices we track, 15 finished the quarter below where they started, three remained flat (we considered the \$.01 change in 3003 aluminum as flat) and three increased. The only products able to muster an increased price were Comex copper, nickel and iron ore pellets. There were some interesting observations during the quarter.

- Carbon flat-roll steel prices increased in December off an apparent November bottom on the strength of price increases from the major sheet mills.
- Spreads for CRC and Galv eroded another \$75 per ton in the quarter and are now \$175 per ton lower than much of the first half of 2022.
- Ni prices increased 31% during the quarter.
- Rebar prices declined \$2 per HWT but remain \$275 per ton higher than HRC. Just another reminder that supply and demand works.
- Ferrous scrap prices ended seven consecutive monthly price declines with a \$20 per ton price increase in December.

Below is the price detail for all the products we follow.

Carbon Flat-Rolled Steel \$/NT October–December 2022			
Product	October	November	December
Hot-Rolled	775	610	680
Cold-Rolled	1,150	930	980
Galvanized	1,250	1,030	1,080

Discrete Plate \$/NT October–December 2022			
Product	October	November	December
A36	1,620	1,620	1,480
A514	2,435	2,435	2,295
AR400	2,455	2,455	2,315

Wide Flange Beam \$/cwt. October–December 2022			
Size	October	November	December
24"x12¾"	70.25	69.25	66.00
18"x6"	68.25	67.25	64.00

MBQ \$/cwt. October–December 2022			
Shape	October	November	December
1" 1018 round	59.25	56.25	55.00

Rebar \$/cwt. – Grade 60 October–December 2022			
Size	October	November	December
16 mm - #5	49.50	48.25	47.50

SBQ \$/cwt. – 1" round October–December 2022			
Grade	October	November	December
HR 4140 Q&T	105.10	104.10	102.60

Pipe & Tube \$/NT October–December 2022			
Product	October	November	December
OCTG J55	2,250	2,250	2,175
Linepipe, ERW	1,500	1,450	1,425

Aluminum \$/lb October–December 2022			
Alloy	October	November	December
3003	2.19	2.16	2.20

Stainless \$/lb – Cold-Rolled Coil October–December 2022			
Grade	October	November	December
304	2.05	1.94	2.01

Copper \$/lb October–December 2022			
	October	November	December
Comex Avg.	3.47	3.68	3.82

Nickel \$/lb October–December 2022			
	October	November	December
LME Avg.	9.94	11.45	13.08

Ferrous Scrap \$/GT Midwest October–December 2022			
GRADE	October	November	December
No. 1 HMS	315	295	315
Shredded	385	365	385

Iron Ore \$/LT U.S. October–December 2022			
GRADE	October	November	December
Furnace Pellets	95	100	100

Met Coal \$/MT U.S. East Coast October–December 2022			
GRADE	October	November	December
Low-vol	285	285	255

PRICING FOR PUBLIC NOTES AND BONDS

METALS BOND UPDATE: GLOBAL VOLATILITY DAMPENS INVESTMENT GRADE & HIGH YIELD VOLUME IN 2022

Following a record 2021 for primary Investment Grade and High Yield volume, lofty supply expectations for 2022 quickly unraveled following Russia's invasion of Ukraine in late February and 40-year high CPI prints in first quarter. The Fed's mandate of controlling inflation went into full effect, prompting seven consecutive Fed Funds rate hikes totaling 425 bps. As heightened volatility and rising borrowing costs created dislocation in the markets, Investment Grade volume (\$1.22trn) ended down 18% Y/o/Y, while High Yield volume (\$101BN) finished down nearly 80%. Issuers that had to tap the market were able to find constructive windows, but terms favored investors (especially in the High Yield market) and many issuers elected to reduce tenor and/or offer security to boost investor demand.

The average Investment Grade new issue concession and order book subscription level finished 2022 at 11 bps and 3x, respectively. During Q4, A-rated and BBB-rated credit spreads tightened 10 bps and 47 bps, respectively, while total IG new issue volume of \$195BN was the lowest quarterly tally of 2022. ArcelorMittal was the only Investment Grade Metals issuer in Q4, pricing \$1.2BN of Baa3/BBB-rated 6.550% 2027 notes at T+255 bps and \$1.0BN of 6.800% 2032 notes at T+305 bps on 11/29/22. Looking specifically at the PNC IG Metals Bond Index, yields tightened 0.61% and spreads tightened 25 bps in 4Q22.

High Yield volume of just \$15BN in Q4 was down from \$18BN in Q3 and declined 78% Y/o/Y. Amidst rising interest rate uncertainty, issuers elected to reduce tenor on new deals — over 50% of issuers elected to price 5NC2 offerings in Q4. BB-rated yields declined 54 bps and B-rated yields tightened 57 bps on average. Compared to the previous quarter, average yields of companies in the PNC HY Metals Bond Index tightened by 155 basis points while spreads tightened 132 bps. There were no High Yield Metals deals announced in 4Q22.

METALS BOND INDEX*

As of Date	PNC IG Metals Bond Index			PNC HY Metals Bond Index		
	1/11/2023	10/14/2022	Change	1/11/2023	10/14/2022	Change
Effective Maturity (Years)	9.30	9.63	-0.33	5.66	6.26	-0.60
Composite Rating	BBB+	BBB+	–	BB-	BB-	–
Weighted Average Coupon	4.18%	3.78%	0.39%	5.53%	6.26%	-0.73%
Yield to Worst	5.15%	5.76%	-0.61%	6.37%	7.92%	-1.55%
Option Adjusted Spread to Treasuries (bps)	132.1	157.0	-24.9	233.7	366.2	-132.5

*Index members are market-value weighted.

Note: PNC IG Metals Bond Index excludes bonds of size less than \$250 million.

Source: Bloomberg

METALS BOND UPDATE

										As of 1/11/2023		Since 10/14/2022		
Issuance Date	Issuer	Amount Outstanding (\$MM)	Structure	Moody's Rating	S&P Rating	Maturity	Coupon Rate	Price at Issuance	Issuance Spread over Treasury	Yield to Worst	Spread (OAS)	10/14 Spread	Change in Spread (bps)	%Change in Spread
Steel Mills														
3/11/2019	ArcelorMittal SA	\$401	Sr Unsecured	Baa3	BBB-	3/11/2026	4.550%	99.72	200 bps	5.163%	134 bps	169 bps	-35 bps	-20.6%
11/29/2022	ArcelorMittal SA	\$1,200	Sr Unsecured	Baa3	BBB-	11/29/2027	6.550%	99.91	255 bps	5.748%	209 bps	-	-	-
7/16/2019	ArcelorMittal SA	\$500	Sr Unsecured	Baa3	BBB-	7/16/2029	4.250%	99.00	225 bps	5.782%	222 bps	216 bps	5 bps	2.5%
11/29/2022	ArcelorMittal SA	\$1,000	Sr Unsecured	Baa3	BBB-	11/29/2032	6.800%	99.37	305 bps	6.304%	274 bps	-	-	-
3/7/2011	ArcelorMittal SA	\$434	Sr Unsecured	Baa3	BBB-	3/1/2041	6.750%	99.18	230 bps	6.580%	282 bps	356 bps	-74 bps	-20.8%
3/13/2020	Cleveland-Cliffs Inc	\$829	1st lien	B2	BB	3/15/2026	6.750%	100.00	606 bps	5.934%	143 bps	245 bps	-102 bps	-41.5%
5/13/2019	Cleveland-Cliffs Inc	\$555	Sr Unsecured	Ba3	B+	6/1/2027	5.875%	96.13	#N/A N/A	6.334%	161 bps	348 bps	-187 bps	-53.7%
2/17/2021	Cleveland-Cliffs Inc	\$370	Sr Unsecured	Ba3	N/A	3/1/2029	4.625%	100.00	368 bps	6.088%	222 bps	347 bps	-125 bps	-36.1%
2/17/2021	Cleveland-Cliffs Inc	\$339	Sr Unsecured	Ba3	N/A	3/1/2031	4.875%	100.00	374 bps	6.219%	248 bps	337 bps	-88 bps	-26.2%
1/28/2022	Commercial Metals Co	\$300	Sr Unsecured	Ba2	BB+	1/15/2030	4.125%	100.00	#N/A N/A	5.766%	196 bps	323 bps	-127 bps	-39.2%
2/2/2021	Commercial Metals Co	\$300	Sr Unsecured	Ba2	BB+	2/15/2031	3.875%	100.00	279 bps	5.905%	225 bps	322 bps	-97 bps	-30.1%
1/28/2022	Commercial Metals Co	\$300	Sr Unsecured	Ba2	BB+	3/15/2032	4.375%	100.00	#N/A N/A	5.926%	240 bps	338 bps	-98 bps	-29.0%
4/16/2014	GTL Trade Finance Inc	\$500	Sr Unsecured	Baa3	BBB-	4/16/2044	7.250%	100.00	368 bps	5.928%	216 bps	279 bps	-63 bps	-22.6%
5/23/2022	Nucor Corp	\$500	Sr Unsecured	Baa1	A-	5/23/2025	3.950%	99.94	115 bps	4.700%	63 bps	81 bps	-18 bps	-22.4%
5/22/2020	Nucor Corp	\$500	Sr Unsecured	Baa1	A-	6/1/2025	2.000%	99.85	170 bps	4.845%	78 bps	97 bps	-19 bps	-19.4%
5/23/2022	Nucor Corp	\$500	Sr Unsecured	Baa1	A-	5/23/2027	4.300%	99.84	145 bps	4.525%	82 bps	118 bps	-36 bps	-30.3%
4/26/2018	Nucor Corp	\$500	Sr Unsecured	Baa1	A-	5/1/2028	3.950%	99.85	100 bps	4.759%	113 bps	148 bps	-35 bps	-23.8%
5/22/2020	Nucor Corp	\$500	Sr Unsecured	Baa1	A-	6/1/2030	2.700%	99.72	205 bps	4.740%	121 bps	168 bps	-46 bps	-27.6%
3/11/2022	Nucor Corp	\$550	Sr Unsecured	Baa1	A-	4/1/2032	3.125%	99.67	130 bps	4.701%	118 bps	178 bps	-60 bps	-33.7%
3/11/2022	Nucor Corp	\$550	Sr Unsecured	Baa1	A-	4/1/2052	3.850%	99.07	165 bps	5.052%	132 bps	191 bps	-58 bps	-30.7%
12/7/2020	Nucor Corp	\$329	Sr Unsecured	Baa1	A-	12/15/2055	2.979%	99.29	130 bps	5.142%	135 bps	196 bps	-62 bps	-31.4%
12/11/2019	Steel Dynamics Inc	\$400	Sr Unsecured	Baa3	BBB-	12/15/2024	2.800%	99.93	115 bps	4.518%	87 bps	97 bps	-10 bps	-10.5%
6/5/2020	Steel Dynamics Inc	\$400	Sr Unsecured	Baa3	BBB-	6/15/2025	2.400%	99.62	210 bps	4.730%	86 bps	125 bps	-39 bps	-31.0%
12/6/2016	Steel Dynamics Inc	\$400	Sr Unsecured	Baa3	BBB-	12/15/2026	5.000%	100.00	266 bps	4.040%	-41 bps	121 bps	-161 bps	-133.8%
10/9/2020	Steel Dynamics Inc	\$350	Sr Unsecured	Baa3	BBB-	10/15/2027	1.650%	99.30	120 bps	4.798%	127 bps	180 bps	-53 bps	-29.4%
12/11/2019	Steel Dynamics Inc	\$600	Sr Unsecured	Baa3	BBB-	4/15/2030	3.450%	99.74	165 bps	4.798%	138 bps	209 bps	-71 bps	-34.2%
6/5/2020	Steel Dynamics Inc	\$500	Sr Unsecured	Baa3	BBB-	1/15/2031	3.250%	98.96	260 bps	4.798%	146 bps	217 bps	-70 bps	-32.5%
10/9/2020	Steel Dynamics Inc	\$400	Sr Unsecured	Baa3	BBB-	10/15/2050	3.250%	96.33	185 bps	4.798%	163 bps	228 bps	-66 bps	-28.9%
2/11/2021	United States Steel Corp	\$475	Sr Unsecured	B1	BB-	3/1/2029	6.875%	100.00	592 bps	6.914%	225 bps	441 bps	-216 bps	-49.0%
5/21/2007	United States Steel Corp	\$274	Sr Unsecured	B1	BB-	6/1/2037	6.650%	99.41	180 bps	7.189%	342 bps	458 bps	-117 bps	-25.4%
9/18/2020	Big River Steel LLC	\$720	Secured	Ba2	BB-	1/31/2029	6.625%	100.00	604 bps	7.004%	268 bps	418 bps	-150 bps	-35.9%
Distribution														
4/12/2013	Reliance Steel & Aluminum Co	\$500	Sr Unsecured	Baa2	BBB	4/15/2023	4.500%	99.59	280 bps	4.451%	-5 bps	107 bps	-112 bps	-104.7%
8/3/2020	Reliance Steel & Aluminum Co	\$400	Sr Unsecured	Baa2	BBB	8/15/2025	1.300%	99.69	110 bps	4.807%	83 bps	120 bps	-37 bps	-30.7%
8/3/2020	Reliance Steel & Aluminum Co	\$500	Sr Unsecured	Baa2	BBB	8/15/2030	2.150%	99.72	160 bps	5.055%	153 bps	211 bps	-58 bps	-27.6%
11/20/2006	Reliance Steel & Aluminum Co	\$250	Sr Unsecured	Baa2	BBB	11/15/2036	6.850%	99.43	220 bps	6.012%	242 bps	270 bps	-28 bps	-10.3%
4/15/2014	Worthington Industries Inc	\$250	Sr Unsecured	Baa2	BBB +	4/15/2026	4.550%	99.79	195 bps	5.108%	125 bps	140 bps	-15 bps	-10.6%
Specialty														
5/13/2020	Arconic Corp	\$700	1st lien	Ba1	BB+	5/15/2025	6.000%	100.00	563 bps	6.003%	139 bps	291 bps	-152 bps	-52.4%
2/7/2020	Arconic Corp	\$900	2nd lien	NR	B+	2/15/2028	6.125%	100.00	457 bps	6.741%	257 bps	433 bps	-176 bps	-40.7%
9/22/2014	How met Aerospace Inc	\$1,090	Sr Unsecured	Ba1	BB+	10/1/2024	5.125%	100.00	255 bps	5.169%	84 bps	203 bps	-119 bps	-58.8%
4/24/2020	How met Aerospace Inc	\$600	Sr Unsecured	Ba1	BB+	5/1/2025	6.875%	100.00	255 bps	5.329%	120 bps	209 bps	-88 bps	-42.3%
9/1/2021	How met Aerospace Inc	\$700	Sr Unsecured	Ba1	BB+	1/15/2029	3.000%	100.00	255 bps	5.591%	199 bps	246 bps	-47 bps	-19.1%
1/25/2007	How met Aerospace Inc	\$625	Sr Unsecured	Ba1	BB+	2/1/2037	5.950%	99.62	113 bps	5.789%	214 bps	285 bps	-71 bps	-24.9%
7/13/2020	Alcoa Nederland Holding BV	\$750	Sr Unsecured	Baa3	BB+	12/15/2027	5.500%	100.00	255 bps	5.854%	150 bps	286 bps	-137 bps	-47.7%
5/17/2018	Alcoa Nederland Holding BV	\$500	Sr Unsecured	Baa3	BB+	5/15/2028	6.125%	100.00	314 bps	6.174%	172 bps	309 bps	-138 bps	-44.5%
3/24/2021	Alcoa Nederland Holding BV	\$500	Sr Unsecured	Baa3	BB+	3/31/2029	4.125%	100.00	274 bps	6.266%	261 bps	296 bps	-36 bps	-12.1%
11/22/2019	ATI Inc	\$350	Sr Unsecured	B2	B+	12/1/2027	5.875%	100.00	414 bps	6.428%	213 bps	386 bps	-173 bps	-44.9%
9/14/2021	ATI Inc	\$325	Sr Unsecured	B2	B+	10/1/2029	4.875%	100.00	255 bps	6.521%	275 bps	400 bps	-125 bps	-31.2%
9/14/2021	ATI Inc	\$350	Sr Unsecured	B2	B+	10/1/2031	5.125%	100.00	255 bps	6.502%	281 bps	401 bps	-120 bps	-29.9%
7/24/2020	Carpenter Technology Corp	\$400	Sr Unsecured	B2	BB+	7/15/2028	6.375%	100.00	587 bps	5.848%	268 bps	364 bps	-96 bps	-26.3%
3/16/2022	Carpenter Technology Corp	\$300	Sr Unsecured	B2	BB+	3/15/2030	7.625%	100.00	566 bps	5.848%	263 bps	379 bps	-116 bps	-30.5%
4/14/2021	Century Aluminum Co	\$250	Secured	Caa1	B	4/1/2028	7.500%	100.00	615 bps	10.439%	681 bps	614 bps	66 bps	10.8%
5/31/2018	JW Aluminum Continuous	\$300	1st lien	B3	B-	6/1/2026	10.250%	100.00	718 bps	9.074%	456 bps	384 bps	72 bps	18.8%
11/26/2019	Kaiser Aluminum Corp	\$500	Sr Unsecured	B1	BB	3/1/2028	4.625%	100.00	289 bps	6.401%	268 bps	420 bps	-151 bps	-36.1%
5/20/2021	Kaiser Aluminum Corp	\$550	Sr Unsecured	B1	BB	6/1/2031	4.500%	100.00	288 bps	7.153%	358 bps	422 bps	-64 bps	-15.1%
6/10/2015	Precision Castparts Corp	\$850	Sr Unsecured	Aa2	AA	6/15/2025	3.250%	99.80	110 bps	4.486%	39 bps	42 bps	-4 bps	-8.9%
6/10/2015	Precision Castparts Corp	\$275	Sr Unsecured	Aa2	AA	6/15/2035	4.200%	99.40	130 bps	4.738%	115 bps	128 bps	-13 bps	-10.5%
12/20/2012	Precision Castparts Corp	\$500	Sr Unsecured	Aa2	AA	1/15/2043	3.900%	99.38	100 bps	4.806%	100 bps	138 bps	-39 bps	-28.0%
6/10/2015	Precision Castparts Corp	\$325	Sr Unsecured	Aa2	AA	6/15/2045	4.375%	99.67	145 bps	4.782%	104 bps	146 bps	-42 bps	-28.8%
8/17/2020	Triumph Group Inc	\$544	1st lien	B1	B	6/1/2024	8.875%	100.00	871 bps	5.823%	132 bps	465 bps	-333 bps	-71.5%
9/23/2019	Triumph Group Inc	\$525	2nd lien	Caa1	CCC-	9/15/2024	6.250%	100.00	476 bps	9.139%	500 bps	745 bps	-245 bps	-32.9%
8/11/2021	Novelis Corp	\$750	Sr Unsecured	Ba3	BB	11/15/2026	3.250%	100.00	836 bps	5.808%	202 bps	284 bps	-82 bps	-28.7%
1/16/2020	Novelis Corp	\$1,600	Sr Unsecured	Ba3	BB	1/30/2030	4.750%	100.00	836 bps	6.272%	252 bps	344 bps	-92 bps	-26.8%
8/11/2021	Novelis Corp	\$750	Sr Unsecured	Ba3	BB	8/15/2031	3.875%	100.00	836 bps	6.309%	274 bps	339 bps	-65 bps	-19.1%

Denotes new issuance since 10/14/22 Metals Bond Update

Denotes bond that matures in the next two years

*+/- Indicates ratings currently on review for upgrade/downgrade

Source: Bloomberg

SYNDICATED BANK LOAN MARKET

The syndicated bank loan market ended 2022 with the weakest quarter of the year. There were just nine deals in fourth quarter for a total of \$3.5 billion. This is down significantly from fourth quarter 2021, which had 12 deals for \$9.58 billion. The totals for the full year 2022 are 53 deals and \$21.35 billion. This is a small improvement in number of deals and dollar volume over 2021, which had 46 deals totaling \$20.28 billion.

The quarter's largest deal was an \$800 million transaction for Commercial Metals, which includes an increased \$600 million revolver and a \$200 million DDTL. The increased revolver replaced a trade receivables securitization, and the DDTL is intended to refinance a portion of notes maturing in May 2023.

M&A created two deals during the quarter: Kloeckner Metals' \$650 million revolver to help finance the \$350 million acquisition of National Material de Mexico, and Olympic Steel's \$625 million revolver to help finance the \$131 million acquisition of Metal Fab Inc. Other notable deals in the quarter include: \$350 million for EMR, \$400 million for Commonwealth Rolled Products and \$160 million for Haynes International. **Below are details for some of this quarter's more notable transactions.**

(\$ in millions)					Olympic Steel, Inc.	Kloeckner Metals Corp	Commonwealth Rolled Products Inc	JSW Steel (USA) Inc
Date					January 2023	December 2022	January 2021 (Amended November 2022)	October 2022
Deal Size (\$ in MM)					\$625.0	\$650.0	\$400.0	\$182.0
Facility Type					ABL Revolver ¹	ABL Revolver	ABL Revolver	Other Loan
Tenor					5 years	5 years	6 years	<i>Not disclosed</i>
Purpose					Corporate Purposes	Corporate Purposes	Corporate Purposes	Capital Expenditure
Ratings								
S&P					NR	NR	NR	NR
Moody's					NR	NR	NR	NR
Amortization					-	-	-	-
Pricing at close (bps)								
All-in Spread					125.0 / 225.0	150.0	275.0	
SOFR Margin					125.0 / 225.0	150.0	275.0	<i>Not disclosed</i>
Facility Fee					-	-	-	
Commitment Fee					25.0	20.0	<i>Not disclosed</i>	
Sustainability Adjustment					-	<i>Not disclosed</i>	<i>Not disclosed</i>	<i>Not disclosed</i>
Pricing Detail (bps)								
	Average Daily Availability ²	Tran. A SOFR Spread	Tran. B SOFR Spread	Comm. Fee				
	\$195,000,000	125.0	225.0	25.0		<i>Not disclosed</i>	<i>Not disclosed</i>	<i>Not disclosed</i>
	≥ 97,500,000	150.0	250.0	25.0				
	< 97,500,000	175.0	275.0	25.0				
SOFR Adjustment (bps) (1-mo / 3-mo / 6-mo)					10.0 / 10.0 / 10.0	<i>Not disclosed</i>	<i>Not disclosed</i>	<i>Not disclosed</i>
Rate Floor					0.00%	<i>Not disclosed</i>	<i>Not disclosed</i>	<i>Not disclosed</i>
Financial Covenants								
Debt to Capital Ratio								
Total Leverage Ratio						<i>Not disclosed</i>	<i>Not disclosed</i>	<i>Not disclosed</i>
Fixed Charge Coverage					1.00x when Avail < the greater of i) \$30,000,000 and ii) 10% of Line Cap			
Secured					Yes	Yes	Yes	<i>Not disclosed</i>

Sources:
S&P Capital IQ, Moody's,
Refinitiv Loan Connector

¹ Consists of Tranche A (\$595.0MM) and Tranche B (\$30.0MM)

² Spreads in the two highest pricing levels will be reduced by 25 bps for three (3) months following compliance showing Leverage Ratio < 4.00x

SYNDICATED BANK LOAN MARKET *(Continued)*

(\$ in millions)	Commercial Metals Company	EMR USA Holdings																		
Date	October 2022	June 2021 (Amended October 2022)																		
Deal Size (\$ in MM)	\$600.0 / \$200.0	\$350.0																		
Facility Type	CF Revolver / DDTL	ABL Revolver																		
Tenor	5 years	5 years																		
Purpose	Corporate Purposes	Corporate Purposes																		
Ratings																				
S&P	BB+	NR																		
Moody's	Ba1	NR																		
Amortization	2.5% / 2.5% / 2.5% / 5.0% / 5.0%	-																		
Pricing at close (bps)																				
All-in Spread	150.0	150.0																		
SOFR Margin	150.0	150.0																		
Facility Fee	-	-																		
Commitment Fee	30.0	<i>Not disclosed</i>																		
Sustainability Adjustment	-	<i>Not disclosed</i>																		
Pricing Detail (bps)	<table> <tr> <th>Debt Rating</th><th>SOFR Spread</th><th>Comm. Fee</th></tr> <tr> <td>≥ BBB / Baa2</td><td>100.0</td><td>20.0</td></tr> <tr> <td>BBB- / Baa3</td><td>125.0</td><td>25.0</td></tr> <tr> <td>BB+ / Ba1</td><td>150.0</td><td>30.0</td></tr> <tr> <td>BB / Ba2</td><td>175.0</td><td>35.0</td></tr> <tr> <td>≤ BB- / Ba3</td><td>200.0</td><td>40.0</td></tr> </table>	Debt Rating	SOFR Spread	Comm. Fee	≥ BBB / Baa2	100.0	20.0	BBB- / Baa3	125.0	25.0	BB+ / Ba1	150.0	30.0	BB / Ba2	175.0	35.0	≤ BB- / Ba3	200.0	40.0	<i>Not disclosed</i>
Debt Rating	SOFR Spread	Comm. Fee																		
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BBB- / Baa3	125.0	25.0																		
BB+ / Ba1	150.0	30.0																		
BB / Ba2	175.0	35.0																		
≤ BB- / Ba3	200.0	40.0																		
SOFR Adjustment (bps) (1-mo / 3-mo / 6-mo)	10.0 / 10.0 / 10.0	<i>Not disclosed</i>																		
Rate Floor	0.00%	<i>Not disclosed</i>																		
Financial Covenants																				
Interest Coverage	-2.50x																			
Debt/Capitalization	-0.60x	<i>Not disclosed</i>																		
Fixed Charge Coverage	-																			
Secured	Yes ¹	Yes																		

¹ Collateral released upon investment grade rating

Sources:
S&P Capital IQ, Moody's,
Refinitiv Loan Connector

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