B | RILEY Advisory Services

OCTOBER 2021

Monitor
Metals

WHEN WILL STEEL LOSE ITS LUSTER?

HRC STEEL PRICES SMASH MORE RECORDS
Hot rolled coil prices skyrocketed this year to surpass $1,950 per net ton in September, setting yet another record

CHINA'S WOES ADD MARKET VOLATILITY
China's economy is hit by a major power shortage and a debt crisis at the nation's largest property developer

STEEL MILLS EXPAND WITH EAFS
Given elevated prices and production gaps, some mills are expanding with efficient electric arc furnaces

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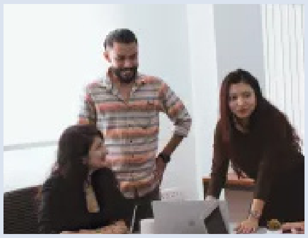
750
Company Transformations



30
Years of Experience

$4.1B
Company Savings

Broad
Industry Experience

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Trend Tracker

	Ferrous Metal	Non-ferrous Metal
NOLVS	Increasing ▲	Increasing ▲
Sales Trends	Increasing ▲	Increasing ▲
Gross Margin	Increasing ▲	Increasing ▲
Inventory	Mixed ▲▼	Mixed ▲▼
Pricing	Increasing ▲	Mixed ▲▼

NOLVS

- **Ferrous:** NOLVs increased since the prior year and over the last three months due to continued price increases amid a faster-than-anticipated rebound in demand and material shortages in the domestic market. NOLVs are expected to grow at a slower rate in the fourth quarter and possibly reverse in 2022 as market prices moderate.

- **Non-ferrous:** NOLVs increased versus the prior year due to strong market pricing, rebounding demand, and tight domestic supplies. However, more recently, base metal prices have experienced volatility amid China's power shortages and Evergrande Group debt issues.

SALES TRENDS

- **Ferrous and non-ferrous:** Sales increased on a dollar basis in recent months due to continued high domestic pricing. As 2021 progressed, sales volumes also increased as demand continued to rebound across major metal-consuming industries, especially compared to the depressed consumption in 2020.

GROSS MARGIN

- **Ferrous:** Gross margins increased versus last year due to continued market price increases, paired with material shortages that allowed for increased pricing to customers as they restocked. Gross margin increases are expected to level off in the fourth quarter, as companies are now selling through inventories that are held closer to current market rates.

- **Non-ferrous:** Gross margins increased versus last year as pricing remained strong, including record-high domestic aluminum premiums. However, investor sentiment and consumption expectations for China are in flux and could weigh down global prices and thus margins.

INVENTORY

- **Ferrous:** While inventory dollar values increased versus last year due to market price increases, volumes remain level or down as supply shortages hamper stocking in the U.S. market. However, with imports rising, inventory levels are anticipated to become more balanced with demand.

- **Non-ferrous:** Companies continue to replace inventory rather than stocking up in order to avoid the adverse effects of market fluctuations. In many cases, inventories remained consistent. However, domestic aluminum companies are short in supply, with reduced inventories.

PRICING

- **Ferrous:** Market pricing has continued to climb in recent months, albeit at a slower rate than in the first half of the year. With imports penetrating the market, the potential for a pricing peak appears imminent.

- **Non-ferrous:** Market prices for most non-ferrous metals have increased over the last few months, but experienced weakness more recently due to concerns surrounding China. The Midwest Transaction Premium for aluminum remains near record highs.

Overview

U.S. steel prices have skyrocketed in 2021, setting an unprecedented streak of record highs. Base metal prices remain strong but have largely cooled since the hot streak in the first half of 2021.

The extraordinary ascent in U.S. steel prices, which defied predictions of a peak earlier this year, has continued amid a supply bottleneck and elevated raw material costs. The artificial plunge in demand at the start of the pandemic due to lockdowns, which spurred plant idlings and capacity curtailments, was followed by a quicker-than-expected rebound in demand. After reopening, the economy rapidly grew stronger with trillions of dollars in government stimulus and COVID-19 vaccinations that allowed people to return to work, fueling a recovery in the manufacturing sector and boosting steel demand.

Although steel mills have ramped up capacity utilization to optimal levels at or above 80% since the summer of 2021, supply constraints persist and prices for hot rolled coil, a bellwether for steel prices in general, have smashed record highs month after month, reaching an all-time high north of $1,950 at the end of September 2021, up over 250% from the prior year. Additional capacity that was slated to come online has been delayed amid supply chain and labor issues.

Steel shipments have increased, albeit with many market participants reporting long lead times and delayed shipments from mills as they struggle to keep up with demand. According to the American Iron and Steel Institute (“AISI”), July 2021 shipments from steel mills increased 3.1% month-over-month and increased 37.2% year-over-year, with year-to-date shipments up 14.8% through July 2021 versus the first seven months of 2020. Meanwhile, the Metals Service Center Institute reported August 2021 shipments from steel service centers increased 14.3% year-over-year, reflecting more normalized levels versus earlier in the year, when increases were more dramatic given comparisons to the onset of the pandemic in 2020.

Despite rising capacity utilization, some mills (including U.S. Steel and Cleveland-Cliffs) have not fully restarted all of the capacity idled during the pandemic; restarting idled blast furnaces is a costly endeavor. Emboldened by the astronomical price environment and rising profits, and in an effort to fill production gaps, some mills are expanding. New mills with electric arc furnaces (“EAFs”) will operate with lower emissions and costs versus older, high-cost blast furnaces.

Current domestic sheet mill capacity totals 65.4 million tons and is anticipated to increase to 72.2 million tons by the end of 2022. A sampling of steelmaking capacity coming online within the next few years includes:

- SDI's construction of a new EAF-based steel mill with an annual capacity of 3.0 million tons (operating later this year)
- U.S. Steel's construction of a new EAF-based steel mill with an annual capacity of 3.0 million tons
- Nucor's construction of a new EAF-based sheet mill with an annual capacity of 3.0 million tons
- Nucor's ongoing expansion of a sheet mill in Kentucky with additional annual capacity of 1.4 million tons
- Nucor's construction of a new melt shop with an annual capacity of 600,000 tons at one of its existing bar mills
- BlueScope's ongoing expansion of its North Star mill, including a new EAF with an annual capacity of 937,000 net tons
- AM/NS Calvert's construction of an EAF-based mill with an annual capacity of 1.7 million net tons for slabs
- Commercial Metals Co.'s construction of an EAF micro-mill with annual capacity of 5.0 million tons of finished long products

Overview

Given the shortfall in U.S. steel supply and skyrocketing U.S. steel prices, more U.S. buyers have been seeking material from foreign mills. Demand weakness recently lowered prices in markets outside of the U.S., and August/September iron ore prices fell considerably from the all-time high reached in May 2021 as China slashed steel production. The U.S. Census Bureau reported that year-to-date through August 2021, total and finished steel imports increased 25.5% and 26.9%, respectively, versus the same period in 2020, with hot rolled sheet imports up 94%. While total and finished steel imports decreased 10.1% and increased 1.0%, respectively, in August 2021 versus the prior month, hot rolled sheet imports were up 22%. Steel imports remain below both pre-pandemic levels and pre-tariff levels.

Global steel output decreased 1.4% in August 2021 versus August 2020. China, which accounts for nearly half of global steel output, saw its crude steel production decrease 13.2%, marking the country's third consecutive month that output dropped and reaching the lowest rate since March 2020, given China's efforts to reduce pollution by curbing crude steel output. To compensate for potential lost profits given the high-price environment, China has raised export tariffs for certain steel products and removed rebates on exports of cold rolled products. China is currently the world's largest steel exporter.

While 2021 marked a banner year of rebounding demand and soaring prices for steel, there is writing on the wall that the peak may be reached in the fourth quarter or early 2022 as imports penetrate the market and price gains decelerate. Market sources also foresee a more balanced market for inventories, particularly given automakers' struggles with the semiconductor chip shortage.

Meanwhile, though aluminum prices have continued their ascent and nickel prices have made a comeback, prices for most other base metals cooled from the hot streak of rallies earlier this year, albeit remaining at elevated levels.

Supplies have normalized and uncertainty emerged amid the Delta variant of the coronavirus, while Chinese industrial activity slowed. More recently, China — the world's largest consumer of base metals — has been experiencing a growing power shortage that induced blackouts, led to mandatory production cuts, and further stressed supply chains. Also ailing China is a debt crisis at the Evergrande Group, China's largest property developer, which could trigger a domino effect for the country's construction industry. Logistical woes are contributing to high costs and pressures in the metals market, including a scarcity of truck drivers and rail cars, an increase in at-capacity warehouses preventing cargoes from being offloaded, a lack of empty shipping containers, and labor shortages. The situation arose from an unprecedented cocktail of measures related to the pandemic.

Domestic steel and base metal demand is driven by various manufacturing sectors. In August 2021, the Institute for Supply Management® PMI®, an indicator for manufacturing demand, increased 0.4 percentage points from the prior month to 59.9%, reflecting growth in both the manufacturing sector and the overall economy for the 15th straight month, according to the Institute for Supply Management.

While automotive demand has largely returned to normal levels thus far in 2021, the negative effects of the semiconductor shortage, supply chain constraints, and subsequent inventory shortages have weighed on the industry's recovery. As a result, the seasonally adjusted annualized rate for new light vehicles totaled 13.1 million units as of August 2021, a decrease of 14% versus the prior year.

Since plunging last year, West Texas Intermediate ("WTI") crude oil prices increased to $75 per barrel in late September, while Henry Hub natural gas prices soared near $6.00 per MMBtu. Oil country tubular goods ("OCTG") prices climbed due to the steady recovery in the oil and gas industry. However, the higher oil and gas prices will adversely impact production costs for steelmakers and aluminum smelters.

Carbon Steel

SCRAP

	Ferrous Shredded Scrap Price Trend
12-month	Increasing ▲
Three-month	Mixed ▲▼

On September 27, 2021, the SteelBenchmarker price for U.S. shredded scrap (East of the Mississippi) reached $466 per gross ton, up from $284 on September 28, 2020, but fluctuating since reaching $460 per gross ton three months earlier.

Ferrous scrap is used as an input in raw steel production. Due to pressing demand from mills, U.S. ferrous scrap prices generally climbed in the first half of 2021, despite minor fluctuations. However, shredded scrap prices appeared to plateau in July before dipping in August and September, despite continued increases in finished steel prices. Still, ferrous scrap prices remain elevated compared to last year.

With scrap prices stabilizing in relation to surging hot rolled coil prices, steelmakers are in an optimal position to pursue acquisitions of scrap companies. Nucor recently purchased Grossman Iron & Steel shredding operations in St. Louis, Missouri and Garden Street Iron & Metal Inc. shredding operations in Fort Meyers, Florida. Cleveland-Cliffs is seeking to enter the scrap business in the near future. Acquisitions of scrap yards can allow steelmakers to secure supply for existing EAFs and new EAF-based mills slated for construction.

Some scrap operators are also expanding, including metal-recycling giant Schnitzer Steel, which plans to acquire Columbus Recycling, a metals recycler that operates eight facilities across several Southeast states. It remains to be seen how the market consolidates in the coming months.

UTILIZATION RATES

At the onset of the COVID-19 pandemic, idled plants and capacity curtailments at domestic steel mills slashed production, with U.S. steel capacity utilization rates bottoming out in the 50% range in June 2020. Since restrictions were lifted around mid-2020, U.S. steel mills have been steadily increasing production to meet rebounding steel demand. Starting in late May 2021, steel capacity utilization rates have reached or exceeded 80%, denoting optimal mill profitability and reflecting levels last achieved prior to the pandemic, and in some cases, prior to the financial crisis in 2008.

The AISI reported that domestic raw steel production totaled 1,880,000 net tons in the week ended September 25, 2021, up 22.3% from the prior year, and up 0.3% from the prior week. Capacity utilization reached 85.2%, up from 68.6% the prior year and 84.9% the prior week. Adjusted year-to-date production through September 25, 2021 totaled 69,540,000 net tons at a capacity utilization rate of 81.0%, up 20.2% from 57,841,000 net tons the same period last year, when the capacity utilization rate was 66.8%.

Week Ended	Raw Steel Production (In Millions of Net Tons)	Steel Capacity Utilization
January 30, 2021	1.725	76.1%
February 27, 2021	1.749	77.2%
March 27, 2021	1.760	77.6%
April 24, 2021	1.836	78.4%
May 29, 2021	1.836	81.5%
June 26, 2021	1.835	82.7%
July 31, 2021	1.876	85.0%
August 28, 2021	1.873	84.9%
September 25, 2021	1.880	85.2%
Change vs. Prior Year	**22.3%**	**16.6**
YTD September 25, 2021	**69.540**	**81.0%**
YTD Change vs. Prior Year	**20.2%**	**14.2**

Carbon Steel

CARBON STEEL SHEET COIL

	Flat Rolled Steel Coil Price Trend
12-month	Increasing ▲
Three-month	Increasing ▲

SteelBenchmarker prices for U.S. hot rolled coil (East of the Mississippi) reached $1,910 per net ton on September 27, 2021, increasing over the past three months from $1,691 per net ton on June 28, 2021 and more than tripling from $546 per net ton the prior year. SteelBenchmarker prices for U.S. cold rolled coil reached $2,085 per net ton on September 27, 2021, increasing over the past three months from $1,866 on June 28, 2021 and significantly above $766 the prior year.

U.S. steel prices have skyrocketed in 2021. As manufacturing activity resumed following a brief collapse at the onset of the COVID-19 pandemic, mills scrambled to keep up with a faster-than-anticipated rebound in demand while also facing higher costs for ferrous scrap, an input in raw steel production.

U.S. hot rolled coil pricing, which serves as a bellwether for steel prices in general, has set a streak of new record highs. Prices began rising in September 2020, gathering momentum as hot rolled coil prices spiked above the $1,000 mark in January 2021, a level not seen in over 10 years. With further supply tightness amid winter weather, mill outages, and higher-than-expected demand, the continued ascent in prices set new records month after month, rising above $1,900 per net ton by the end of September 2021. The year-long price surge has defied predictions of a peak earlier this spring.

Although steel mills have ramped up steel production to meet or exceed optimal capacity utilization, supply constraints have persisted. The recent elevation in pricing was supported by a slate of mill maintenance shutdowns coming up, as buyers sought to avoid supply disruptions.

Meanwhile, import prices for hot rolled, cold rolled, and galvanized coil fell in late September as foreign producers sough to undercut domestic mills and expand market share.

Market participants are divided over how soon domestic steel prices will peak. Some contend that the peak is imminent or in progress as price gains decelerate, particularly as lower-cost imports take a larger share of demand and spot availability improves. Others believe that scheduled maintenance outages this fall will keep prices afloat near current levels until the first half of 2022. The recent announcements of new EAF-mill construction by steelmakers such as U.S. Steel and Nucor suggest they are betting on a generally elevated price environment for the foreseeable future; however it remains to be seen whether steelmakers plan to take any emissions-intensive output offline at the same time to hedge against overcapacity or the potential discontinuation of tariffs at some point in the future. Time will tell whether the coming reversal in pricing will reflect a gradual easing that will allow the market to adjust accordingly, or whether a sudden drop in pricing will leave the market awash with very high-cost inventory in a new lower-price environment.

Looking ahead over the next few years, approximately 9.0 million tons of annual sheet-steel capacity will be added to the U.S. market. As the new efficient EAF mills reduce steel prices, given their lower operating costs, more customers will turn to these mills versus older, high-cost blast-furnace mills that rely on higher steel prices to remain profitable.

In other industry news, Venture Steel acquired Olympic Steel Detroit, while Nucor purchased Hannibal Industries and a coil processing facility in Indiana. Majestic Steel plans to construct a service center on the Nucor campus in Arkansas. Ryerson began construction of a new service center in Washington. Ternium, the top steel producer in Latin America, is adding galvanization and painted steel lines at its Pesqueria mill.

Carbon Steel

STEEL PLATE

	Steel Plate Price Trend
12-month	Increasing ▲
Three-month	Increasing ▲

SteelBenchmarker prices for U.S. standard steel plate (East of the Mississippi) reached $1,707 per net ton on September 27, 2021, increasing over the past three months from $1,481 per net ton on June 28, 2021 and more than doubling from the prior year.

Similar to flat rolled steel coil, steel plate prices have soared amid supply constraints. While plate prices held relatively steady at elevated levels in September, JSW Steel (USA), Nucor, and SSAB Americas announced a price hike at the end of the month. Plate prices reached another all-time high in early October as a slew of planned fourth-quarter maintenance outages by large U.S. steel mills loomed. However, price gains may decelerate from the rate of the price increases earlier this year as ferrous scrap prices stabilize.

While plate prices have historically held a premium to the hot rolled coil market, the pandemic turned this dynamic on its head, in part because the plate market did not experience the same scope of mill shutdowns at the onset of the pandemic as the coil market. The gap between plate prices and hot rolled coil prices shrank in the first half of 2021, but have since widened as the continued gains in hot rolled coil prices outpaced those for plate. By early October 2021, cut-to-length plate prices were approximately $157 per net ton below hot rolled coil prices as the price gap narrowed again amid plate price hikes.

In industry news, Algoma Steel plans to upgrade its plate mill in Sault Ste. Marie, Ontario, Canada, to allow for wider and thicker plate in addition to improved shipment efficiency, with completion slated for the second half of 2022.

REBAR

	Rebar Price Trend
12-month	Increasing ▲
Three-month	Increasing ▲

In September 2021, U.S. Southeast rebar prices were above both prior-quarter levels and year-ago levels, although price gains have decelerated in recent months. After rising steadily in the first half of 2021 and through the summer construction season, U.S. rebar prices have largely stabilized, although lingering near record levels. While rebar demand remains healthy, the decline in shredded scrap prices in August and September have limited the upside of rebar pricing.

Market participants anticipate rebar pricing will soften slightly, though holding relatively steady within the current range, for the remainder of the year. Some distributors have noted canceled or delayed jobs, with inventories not being replenished to former levels. In addition, the seasonal winter construction slowdown is approaching, heralding more subdued buying activity.

Import prices for rebar have also stabilized given the typically slower season, in addition to end-of-year inventory taxes and the risks associated with ocean freight.

In industry news, Nucor announced plans to construct a melt shop at one of its bar mills in the western U.S. The project will add 600,000 tons of annual production capacity to Nucor's current bar capacity of 9.5 million tons per year.

"The new meltshop will help us maintain our market-leading position in steel bar production and help us meet anticipated growth for bar products from our customers in the western United States," said Dan Needham, Nucor's executive vice president of bar and rebar fabrication products.

Carbon Steel

OCTG

	J55 ERW Price Trend
12-month	Increasing ▲
Three-month	Increasing ▲

In September 2021, OCTG and line pipe prices continued to rise versus the prior year and over recent months due to a steady recovery in the oil and gas industry after COVID-19 lockdowns slashed worldwide oil demand throughout 2020. In addition, OCTG supplies are tight, with a lack of sufficient imports also contributing to supply constraints. Soaring hot rolled coil prices and elevated ferrous scrap prices have supported the rise in OCTG pricing.

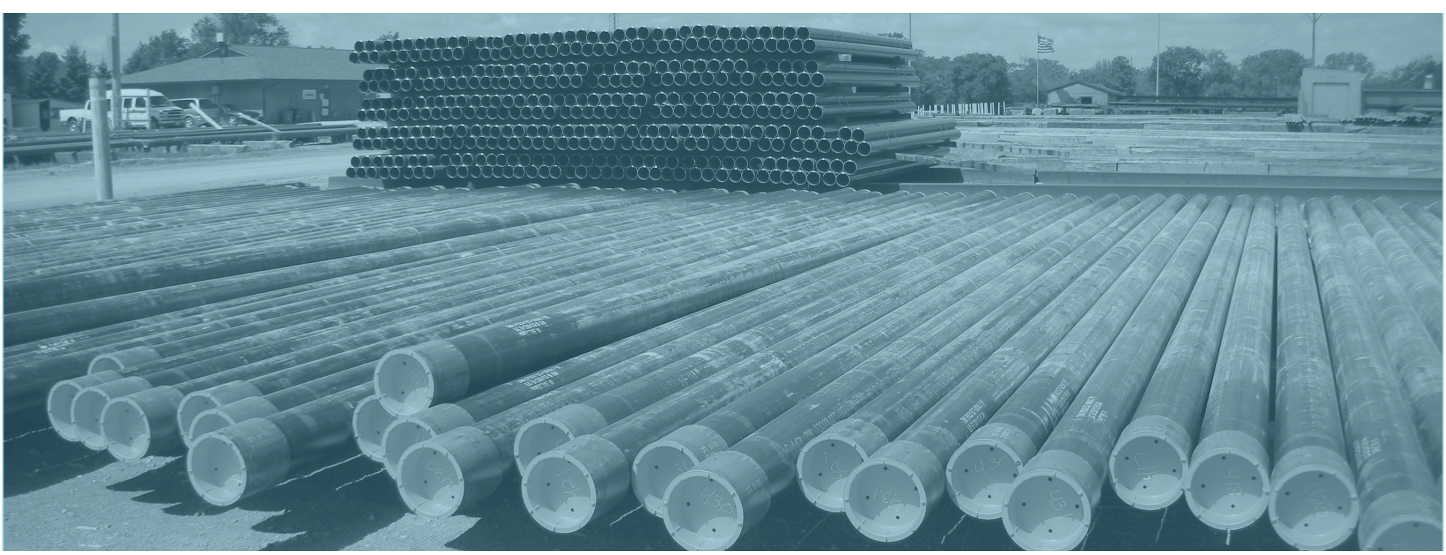
However, the paths diverge somewhat for seamless versus welded material. Seamless tubing mills, which use ferrous scrap as substrate instead of hot rolled coil, are scrambling to catch up to demand, with some producers citing order backlogs into mid-2022. Meanwhile, welded tubing mills are struggling to both secure hot rolled coil and pass the expensive costs on to customers; prices for welded material have therefore remained more stable compared to seamless material.

According to the U.S. Energy and Information Administration, the WTI price for crude oil averaged $72 per barrel for the week ended September 24, 2021, marking a significant improvement versus $40 per barrel the same week in 2020 as demand recovered, with traffic on the roads and in the skies increasing over the summer. The November contract for WTI crude oil reached $77.57 per barrel.

The outlook for the oil and gas industry largely hinges on the continued effectiveness of the COVID-19 vaccines and the outlook for disease variants, as a reduction in economic activity could reduce demand for the industry's products.

The U.S. oil and gas rig count totaled 528 units for the week of October 1, 2021, an increase of 98.5% from 266 units the same week the prior year, and up 1.3% from 521 units the prior week, reflecting a steady recovery in oil and gas exploration.

The U.S. Department of Commerce reported U.S. OCTG imports in July 2021 surged 168.8% year-over-year, but increased only 5.4% versus the prior month. Meanwhile, U.S. OCTG exports in June 2021 increased 6.3% year-over-year, but slipped 3.0% versus the prior month.



Aluminum

	Aluminum Price Trend
12-month	Increasing ▲
Three-month	Increasing ▲

In September 2021, average London Metal Exchange ("LME") prices for aluminum and Midwest transaction prices for grade P1020 aluminum were 62.7% and 74.7% above year-ago levels. The recent three-month price trends also increased, with LME aluminum prices up 16.4%.

Aluminum, among other base metals, enjoyed rallying prices for much of this year as economic activity continued to recover faster than anticipated after the shutdowns at the onset of the COVID-19 pandemic. However, strong demand and short supplies have kept aluminum prices charging ahead, while prices gains for most other base metals have slowed somewhat, or reversed in some cases, amid uncertainty surrounding the Delta variant.

Aluminum prices surged to a 10-year high near $1.22 per pound in early September, buoyed by a coup in Guinea, the second-largest producer of the bauxite ore used in aluminum production. Alumina, which is produced from bauxite, has also experienced supply issues, including an August fire at an alumina refinery in Jamaica, in addition to high freight costs.

While there are sufficient global supplies of aluminum, most of the metal is located in Asia, and buyers in the U.S. and Europe have experienced challenges accessing aluminum amid port bottlenecks and container shortages. LME warehouse inventories remain tight. In addition, China is currently experiencing power shortages that have tightened restrictions on energy use, forcing shutdowns at many industrial plants, including aluminum smelters, who have already struggled with a lack of coal from Australia amid an import ban as well as lower carbon emissions standards.

Aluminum prices have therefore continued to rise. As of October 6, 2021, the three-month LME price for aluminum reached $1.32 per pound.

U.S. imports of primary aluminum in July 2021 fell 21% from the prior year and were down 56% from 2019 (pre-pandemic), with Section 232 tariffs keeping import prices high as well. Pressure continues to be placed on the Biden administration to end Section 232 aluminum and steel tariffs.

	Midwest Transaction Premium Trend
12-month	Increasing ▲
Three-month	Increasing ▲

Meanwhile, aluminum premiums have also been climbing, with the Midwest aluminum premium remaining at an all-time high in late September given the tight market, while billet premiums set new record highs in late September despite slow spot activity. Soaring freight costs have helped boost premiums, which were further aided by contract negotiations for 2022.

In industry news, Alcoa, the largest U.S. producer of aluminum, recently announced plans to restart its Alumar aluminum smelter in Brazil, fully idled since 2015, which has an annual capacity of 268,000 metric tons. Per Alcoa, the first molten metal is expected in the second quarter of 2022, with full capacity set to be operational by the fourth quarter of 2022. In addition, AA Metals recently acquired JW Aluminum's former Williamsport, Pennsylvania foil plant, which will operate under the name Chance Aluminum with a targeted start date in the fourth quarter of 2021. Arconic plans to expand its facility in Tennessee to increase aluminum sheet capacity.

Copper

	Copper Price Trend
12-month	Increasing ▲
Three-month	Decreasing ▼

In September 2021, average copper prices on the LME were 38.9% above year-ago levels. However, copper prices have declined 3.0% in the last three months.

Since reaching record-high prices north of $4.76 per pound in May 2021, copper prices have cooled as supply pressures diminished and demand softened amid weaker economic data from China and uncertainty surrounding the Delta variant of the coronavirus.

Chinese authorities also intervened to stave off further surges in pricing, auctioning off state reserves of copper and other base metals to ensure supplies and stabilize prices, according to the National Food and Strategic Reserves Administration. In August, prices fell below $4.00 per pound for the first time in four months.

In late September, a sell-off of copper due to a debt crisis at Evergrande Group, China's largest property developer, sparked concerns about construction demand for copper, again sending prices below $4.00 per pound. Despite a power crunch in China, copper fabricators in the country noted that the lack of orders remained a larger concern than supplies. As of October 6, 2021, the three-month copper price reached $4.16 per pound on the LME.

While some analysts expect copper prices to remain protected from further drops in the short-term due to its widespread use across many industries and bottlenecks in the supply chain, others foresee increased copper supplies as labor tensions ease at Codelco, a Chilean state-owned copper mining company. Still, a structural deficit remains for copper in the long-term, while continued environmental efforts by governments and industries will ultimately generate further copper demand and benefit production.

According to the International Copper Study Group, world copper mine production and world refined copper production increased 4.9% and 3.2%, respectively, in the first half of 2021 versus the same period in 2020, while world refined copper usage climbed 3.8%.

Zinc

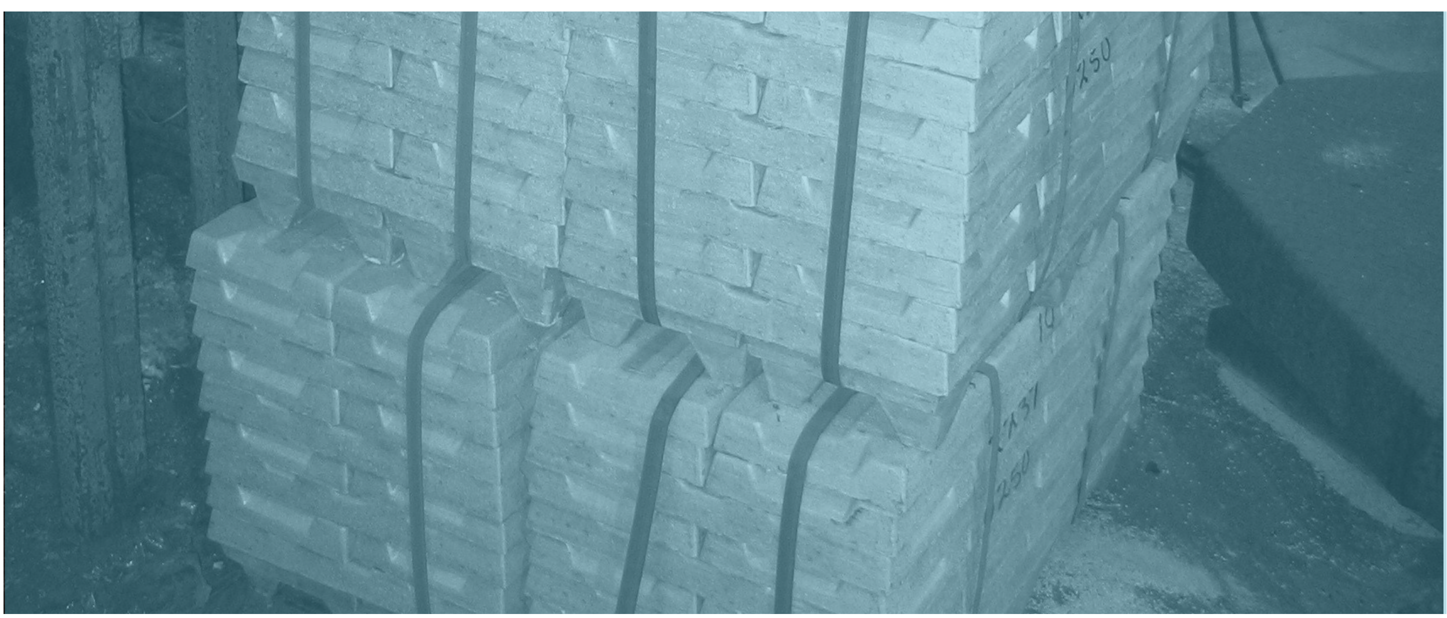
	Zinc Price Trend
12-month	Increasing ▲
Three-month	Increasing ▲

In September 2021, average zinc prices on the LME were 24.1% above year-ago levels and 3.1% above prices three months earlier.

After rising in the second quarter of 2021 in tandem with the rally of other base metals amid stimulus and bullishness, zinc prices experienced volatility as China's industrial activity slowed and new capacity was added while mine output climbed. In the first half of 2021, global zinc mine production increased 12.1% versus the same period in 2020, while refinery production increased 4.6%. Zinc usage jumped 10.5%. According to preliminary data from the International Lead and Zinc Study Group, the global market for refined zinc metal recorded a surplus of 31,000 tons over the first four months of 2021, with total reported inventories rising 142,000 tons. As of October 6, 2021, the three-month zinc price reached $1.38 per pound on the LME.

Zinc premiums have been on the rise, with U.S. special high-grade premiums topping a seven-year high due to tight supplies, high demand, and logistics issues while contract negotiations for 2022 are in the works. Climbing freight costs and port congestions are among the logistical challenges pushing up premiums, compounded by the lack of imports. China, which held auctions in July and September to sell off state reserves of zinc and other base metals, is likely to conduct another auction to further secure supplies and stabilize prices.

After rebounding this year from pandemic lows, global refined zinc demand is anticipated to increase at a slower rate next year amid continued economic recovery and low interest rates. Galvanization, in which iron and steel products are coated with zinc to prevent rusting, accounts for approximately 60% of total zinc demand. While global galvanized sheet output is slated to rise over the coming years, Chinese production of galvanized sheet is expected to fall this year, with a further decrease in 2022 before stabilizing. China's production of galvanized sheet makes up nearly 30% of global output.



Nickel

	Nickel Price Trend
12-month	Increasing ▲
Three-month	Increasing ▲

In September 2021, average nickel prices on the LME were 30.5% above year-ago levels and were up 8.1% from three months earlier. Nickel prices made a dramatic comeback after a sharp decline in March 2021 amid concerns of excess supply, reaching a seven-year high of $9.20 per pound on the LME in early September due to strong demand from China and supply constraints. China remains the world's largest consumer of stainless steel, which accounts for more than 70% of nickel demand. Meanwhile, China has experienced a supply squeeze on the Shanghai Futures Exchange as well as a physical shortage.

China, also the world's largest nickel producer, experienced a drop in refined nickel output in July due to top producer Jinchuan Nonferrous Metals overhauling a furnace, according to the China Nonferrous Metal Industry Association. For the first seven months of 2021, China's refined nickel output fell 15.7%. Indonesia is set to overtake China as the top nickel producer this year.

However, nickel prices have since appeared to peak on the LME as Chinese stainless steel production slowed in September and into October amid a power crisis, among other factors. As of October 6, 2021, the three-month nickel price on the LME reached $8.22 per pound.

Electrical vehicle ("EV") applications will remain a bright spot for nickel demand in the coming years. Ford Motor Co. announced plans for new EV and EV-battery production sites as part of its goal to provide zero-emission vehicles.

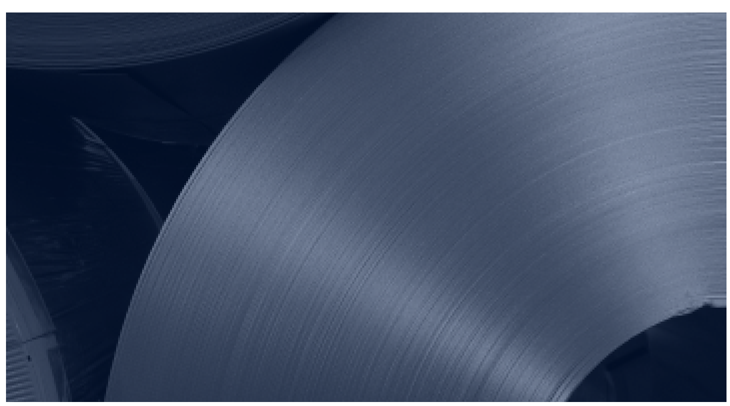
Stainless Steel

	Stainless Steel Price Trend
12-month	Increasing ▲
Three-month	Increasing ▲

In September 2021, stainless steel prices were above year-ago levels and also reflected increases over the past three months.

In early September, Outokumpo and North American Stainless announced base price increases by reducing the discount for certain grades, with alloy surcharges rising. Stainless steel demand remains strong in North America and Europe, given the global recovery, shipping delays, and supply chain issues.

However, demand has recently slowed in China, which has experienced lower manufacturing activity and a crippling power shortage that has halted production at plants in major industrial hubs.



Monitor Information

The *Metals Monitor* provides market value trends in both ferrous and non-ferrous metals. The commodity nature of steel scrap, aluminum ingot, copper cathode, zinc, and nickel often results in volatile market values. Our *Metals Monitor* reflects pricing and market trends in order to reflect significant developments in the metals markets. The information contained herein is based on a composite of B. Riley Advisory Services' industry expertise, contact with industry personnel, liquidation and appraisal experience, and data compiled from a variety of well-respected sources.

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Experience

B. Riley Advisory Services' extensive record of metals inventory valuations features companies throughout the entire metal supply chain, including foreign and domestic metal- and steel-producing mills; metal converters that produce tubing and pipe, as well as expanded, grating, and perforated metal types; metal service centers/processors and distributors; structural and custom fabricators and stampers; manufacturers that utilize metals as raw materials; and scrap yards, recyclers, dealers, and brokers. B. Riley Advisory Services has also appraised precious and specialty metals. B. Riley Advisory Services has appraised metal products with applications in a wide variety of industries.

A sampling of B. Riley Advisory Services' extensive appraisal experience includes:

- Steel mini-mills and producers of flat rolled steel products.
- Globally recognized vertically integrated manufacturers and distributors of steel tube, including OCTG.
- A vertically integrated producer of aluminum with over $1 billion in sales annually and over $130 million in inventory.
- A number of the largest scrap recycling processors in the U.S.
- Well-known service centers across the nation, including a multi-division full-line steel service center.

Moreover, B. Riley Wholesale & Industrial Solutions has liquidated a number of companies with metal products, including Charleston Aluminum, Advanced Composites, Aluminum Skylight & Specialty Corporation, Anello Corporation, Apex Pattern, Balox Fabricators, BJS Industries, Buckner Foundry, Crown City Plating, GE Roto Flow, Laird Technology, Maddox Metal Works, Miller Pacific Steel, R.D. Black Sheet Metal, Valley Brass Foundry, and Southline Steel. B. Riley Wholesale & Industrial Solutions has also been involved in liquidations of metalworking equipment for companies such as Adams Campbell Company, CAMtech Precision Manufacturing, Inc., Gregg Industries, Inc., International Piping Systems, Heat Transfer Products, PMC Machining and Manufacturing, Sherrill Manufacturing, Trans-Matic Manufacturing, Veristeel, Inc., and Weiland Steel, Inc. In addition, B. Riley Advisory Services maintains a staff of experienced metals experts with personal contacts within the metals industry that we utilize for insight and perspective on recovery values.

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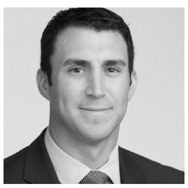

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About B. Riley Advisory Services

B. Riley Advisory Services works with lenders, law firms, private equity sponsors and companies of all types. Our Advisory Services are a unique mix of Valuation and Appraisal Services including asset-based lending (ABL) Valuations; Restructuring and Turnaround Management; Forensic Accounting and Litigation Support; Operations Management; Compliance, Risk & Resilience Services; and Transaction Support Services including Due Diligence and Quality of Earnings Reviews. B. Riley Advisory Services is the trade name for GlassRatner Advisory & Capital Group, LLC, B. Riley Advisory & Valuation Services, LLC, Great American Group Machinery & Equipment, LLC, and Great American Group Intellectual Property, LLC.

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In February 2021, B. Riley acquired National Holdings Corporation. The combination created an enhanced wealth management platform, and as a result of the acquisition, B. Riley has a synergistic footprint with offices now expanding from coast to coast.

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