

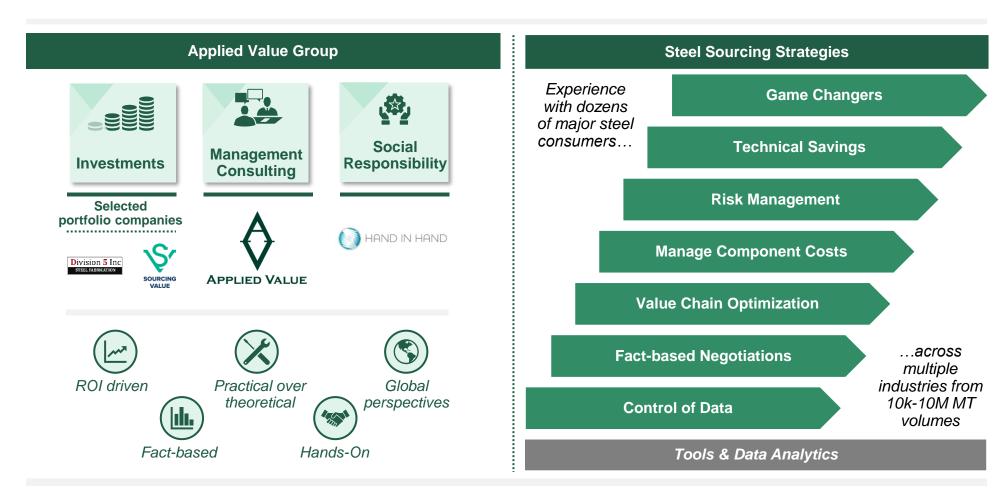


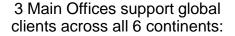
Applied Value

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Applied Value is a management consulting & investment firm with deep expertise in supporting clients throughout the steel industry.











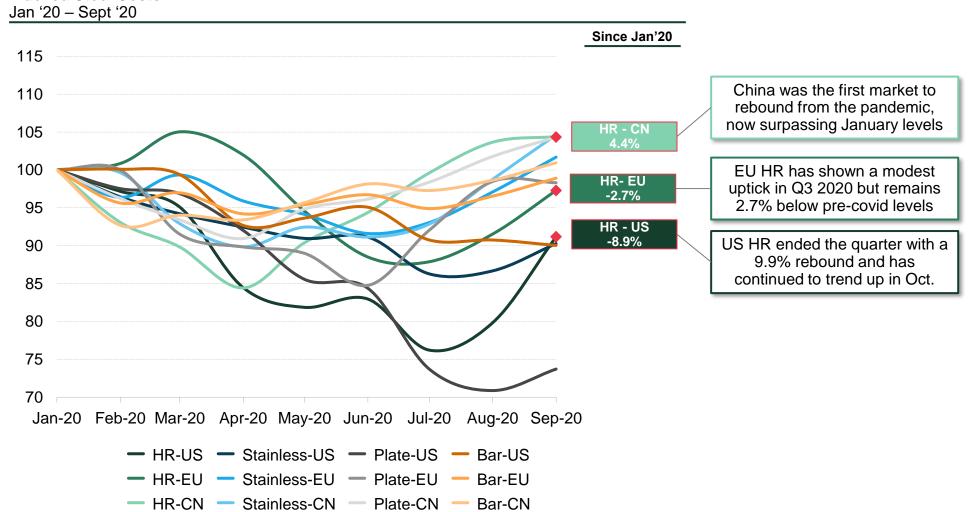


The Applied Value Group has recently launched Sourcing Value, a comprehensive digital platform to automate and enhance <u>steel</u> sourcing.



Global metals commodities trended upward in Q3 2020, however Chinese commodities are thus far the only to offset pandemic-related losses.



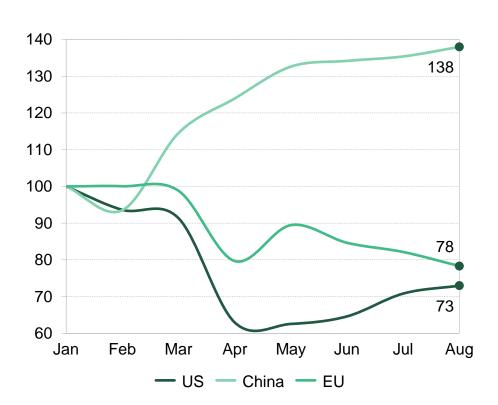




As global prices rebound, production levels in the US and Europe remain far below pre-Covid levels with the latest utilization rate in the US at just 65%.

Indexed Crude Steel Production

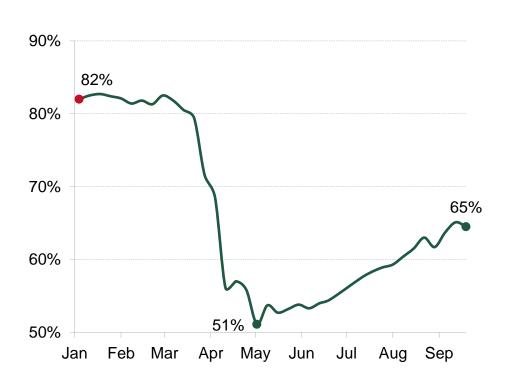
Jan '20 – Aug '20



- US Crude Steel Production climbed to ~5.6 million MT, a ~18% increase from its lowest in May when steelmakers idled production
- Production in EU has yet to show signs of recovery

US Steel Mill Utilization Rate

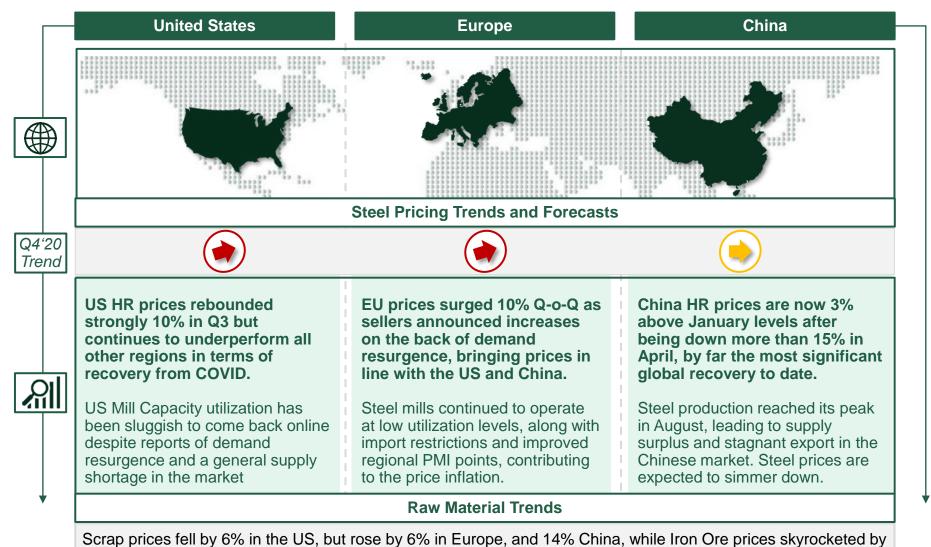
Jan '20 - Sept '20



Rising steel prices in the US are at least in part attributed to a resurgence of demand, yet utilization rates at the mills remain well below pre-Covid levels



The global steel market saw a robust recovery in Q3 '20, strengthened by the return of manufacturing activities, supply shortage and rising raw materials.



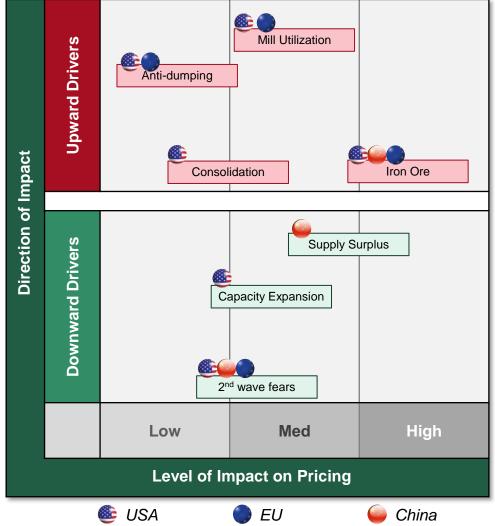
24% to multi-year highs in Q3. Coking Coal prices improved by 4% but still sit well below the historical average.



Global Steel Price & Trend Summary.

Commodity			Latest Approx. Price (Sep)	Last 3 Months	Trend (Forward)	
	Flat ¹	US	~\$605/MT	10%	→	
		EU	~€475/MT	10%	→	
		CN	~\$575/MT	11%	\Rightarrow	
	ss	US	~\$2,260/MT	-1%	→	
		EU	~\$2,190/MT	10%	→	
		CN	~\$2,255/MT	15%	→	
	Plate	US	~\$520/MT	-13%	→	
		EU	~\$580/MT	5%	→	
		CN	~\$584/MT	8%	>	
		US	~\$689/MT	-5%	→	
	Bar	EU	~\$542/MT	4%	→	
		CN	~\$530/MT	3%	>	

Major Market Drivers





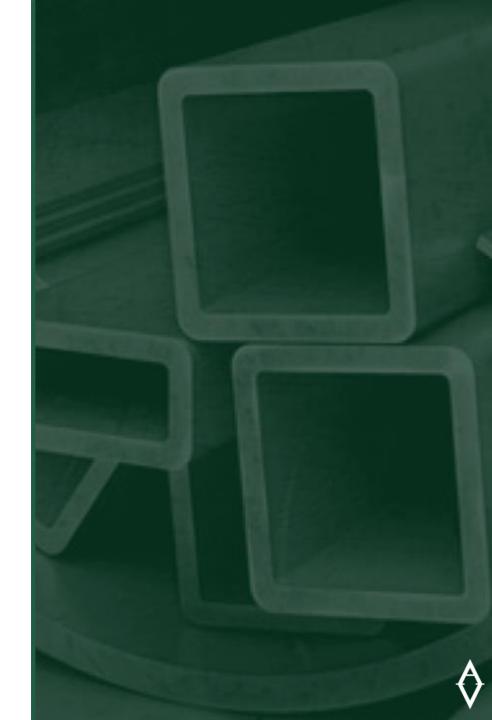
Applied Value Quarterly Steel Report

Q4 2020

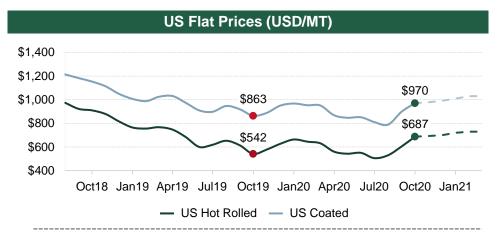
Market Conditions by Region

Steel Production Costs

Major Steel Mill Company Performance



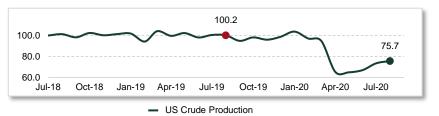
US flat prices are back to pre-pandemic levels, with HRC at ~\$690/MT in October, supported by the sluggish return of mill utilization.



- US hot-rolled and coated prices elevated to \$651/MT and \$970/MT by September, up by 10% and 6% Q-o-Q, respectively. Constrained supply paired with recovered downstream demand supported steel prices to increase. The upcoming presidential election in November will be key to watch as factors such as trade deals, stimulus, geopolitical relations would have impacts on steel prices.
- Scrap prices retreated by 8.5% Q-o-Q to ~\$290/MT, although September prices were starting to trend upward once again as the demand for steel scrap arises for usage in electric arc furnace. The reduced scrap flows pushed scrap prices higher from April to June and then dipped in July and August as supply increased and scrap exports fell.
- US crude steel production picked up in the third quarter from its lowest point in March-April when auto production was nearly zero. As automakers started to ramp up production, which historically accounts for ~30% steel output, crude steel volume output rose a modest 17% Q-o-Q.
- Steel mill capacity utilization inched up to ~64% after four consecutive months of improvement; however the ratio is still below the 80% threshold for sustaining profitability in the industry, along with downstream demand revival, steel mills announced price increase during the guarter.
- The China-US HR spread inflated to \$31/MT from -\$42/MT in July, US steel prices rebound at a faster pace when the reopening continues and steel mills being bullish.

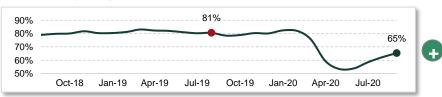


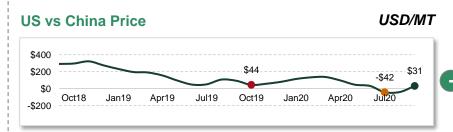
US Indexed Crude Steel Production Volume 100= July 2018



US Mill Capacity Utilization

Previous Year's Data





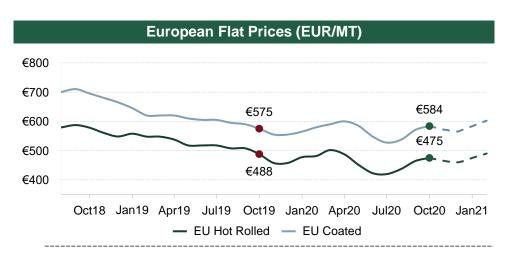
Correlation to Market Price

Latest Data

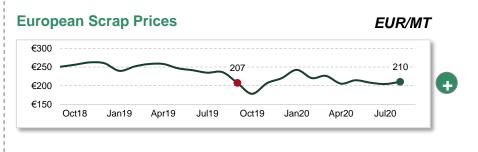


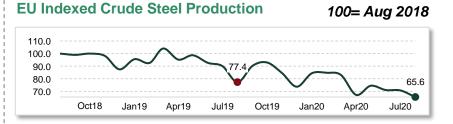
Source: AV Analysis

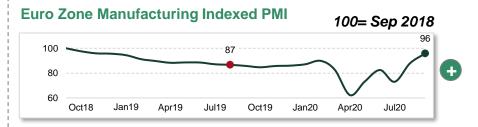
EU HR prices spiked in Q3 amid rising input costs, demand resurgence and import limitations, stabilizing at ~475 EUR/MT.

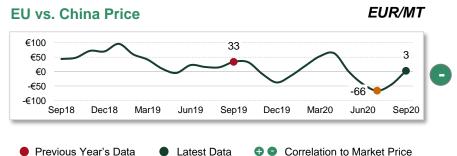


- With manufacturing activity picking back up, European hot-rolled and coated steel prices saw a substantial increase of 10% and 4% Q-o-Q to 475 EUR/MT and 584 EUR/MT, respectively. European steelmakers aggressively increased offer prices to pass on the elevated raw material costs due to import constraints and poor material availability.
- Turkish active buying of steel scrap in the European market provided the foundation for rising scrap prices which has landed at 210 EUR/MT in August.
- > EU crude steel production demonstrated a downward trend during the quarter when steel mills continued to operate at low levels of capacity utilization, ending the quarter with ~24% lower production on Y-o-Y basis.
- Euro Zone PMI had a strong performance in Q3, exceeding pre-covid levels by ~10%. Italy registered the highest PMI index among its European peers, pointing to the nation's improving conditions from the outsized hit it took at the onset of the pandemic.
- While EU and Chinese steel prices went up simultaneously during the quarter, the EU-China spread just barely inched into positive territory in September after reaching a floor of -66 EUR/MT in July.







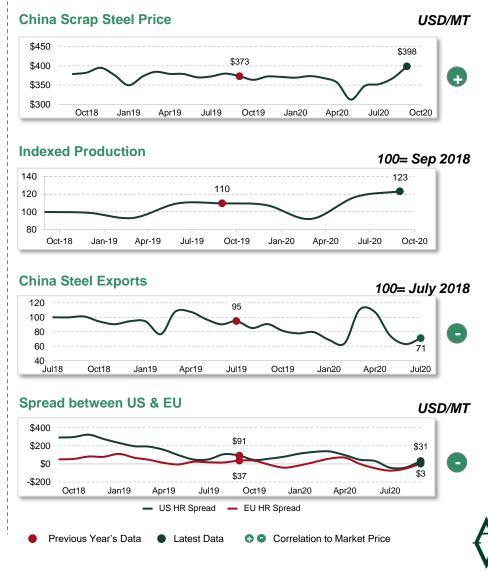




China HR prices continued to soar in Q3, hitting ~\$575/MT in October, but have started to cool off as high production levels contribute to oversupply.



- China hot-rolled and coated steel prices stood at \$720/MT and \$575/MT in September, representing an 11% and 14% increase, respectively. However, towards the end of September and early October prices appeared to lose some steam and indicate a potential downward cycle on the horizon.
- Domestic steel scrap price strengthened to \$398/MT amid increased use of scrap correlated with the sharp uptick in production. Scrap continues to gain popularity as an environmentally friendly substitute to iron ore, particularly as the price of iron ore continues to rise.
- China steel production hit historical highs in the third quarter, its crude steel output in July was up by 9.1% Y-o-Y and accounted for over 60% of the world's total. The momentum eased in September as inventories piled up and consumption fell behind of expectation in construction sector during the traditional low-demand season.
- Steel exports peaked in March as backlog orders during lockdown were shipped abroad. Pressured from rising domestic steel prices, reinforced global protectionism, dampened downstream demand, and appreciated Chinese yuan, China steel exports subsided to record low level in Q3.
- Over the last two years, the spread between global steel prices has narrowed significantly, as China steel prices spiked recently, the spread between US-China and Europe-China continued to be kept below zero



Rising raw material costs, optimism about demand prospects and limitations on steel supply supported steel prices to rise across all regions.

Upward Market Drivers



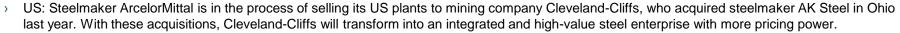
Supply Squeeze

US: Steel supply in the United States remained tight as steel mill utilization remained around 64%. Steel shipments in July were down by 25.6% on Y-o-Y basis. The competition from imports is limited as United States curbed steel imports from Brazil and Mexico by reducing quota on semi-finished goods to 60,000 metric tons from the previous 350,000.



> EU: With European steelmakers cutting steel outputs to cope with tepid downstream demand, steel supply in Europe is still constrained with limited imports. Germany's crude steel output from electric-arc furnaces declined by 13.1% Y-o-Y to 758,000 tonnes in July.

Supply Consolidation





Return of Automotive Production

- US: The return of US auto production from nearly zero in March and April is contributing to the upward momentum of prices. In July, motor vehicle production was up by 31.7% followed by a 3.7% contraction in August.
- EU: Car sales in Europe only slipped 3.7% in July compared to the same period last year. Despite the 18% tumble in new car sales, automakers are ramping up production of electric cars to meet the new emission standards.



Improved Manufacturing Activities

- US: Industrial production rose by 3.5 percent in July and another 0.4 percent in August with capacity utilization improving at a slower pace. Increase in machinery, equipment, furniture, computer, and electrical appliances helped offset production output decline in mining and utilities sector.
- > EU: Due to relaxed pandemic measures, industrial output was on track to recovery in the third quarter. Major economies like Germany managed to improve by 1.2% in July and total industrial output in France rose by 3.8% on a monthly basis.



Increased Raw Material Prices

Global: The global market saw widespread price increase when Turkish buyers were actively seeking for steel scrap in Europe, United States, and Russia amid growing case for electric arc furnace production over traditional blast furnaces. Iron ore prices also jumped to multi-year highs on demand optimism.



Despite the recent momentum, the steel market continues to face headwinds and downward pressures.

Downward Market Drivers



Second Wave Fears

Global: As weather cools down, new coronavirus cases are on the rise. Steel consumption is vulnerable to another wave of COVID-related lockdowns and re-introduction of guarantined measures in Europe.



Capacity Expansion Projects

US: Big River Steel expects to start up a second EAF in December at its steelmaking campus in Osceola, the expansion will double its output to 3.3 million tonnes. Other new capacity to be added to the market comes from SDI's 3-million-tpy flat-rolled steel mill in Sinton, Nucor's new project to expand hot-rolled capacity in Ghent, and BlueScope's HRC mill expansion in Delta which will bring extra 1 million tonnes of HRC.



Market Correction

- > CN: The Chinese market has been flooded with imported steel products recently, along with domestic steel oversupply, the market saw signs of downward correction.
- US: As downstream demand on track to recovery, the steel market is rebounding at a faster pace than expected. Industrial output and manufacturing activities cooled down after a quick surge during summer-time but still substantially down from pre-Covid levels.



Trade Flows

- EU: Turkey filed complaint with World Trade Organization about safeguard measures on steel imports imposed by EU who reduced import quota and raised tariff rates on 26 grades of steel products starting from July this year. If the quota were to ease in the rolling 12-month period, steel imports would exert some pressure to domestic steel prices.
- > China: China saw increased steel imports of 59.6% Y-o-Y from January to August with majority coming from India, South Korea, Japan, and Russia; on the other hand, China steel export fell by 18.6% Y-o-Y over the same period. China remained net exporter of steel but trade patterns reversed as imported steel are gaining price competitiveness against domestic steel products.

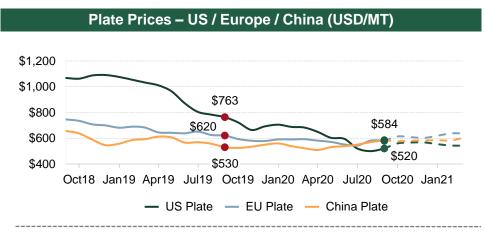


Slow Recovery to Pre-pandemic Levels

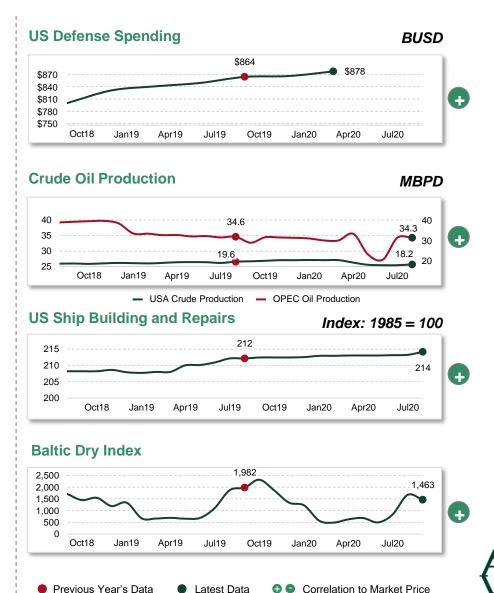
US: Despite a recent rebound, the auto industry is not likely to recoup its losses in the near term. Total vehicles sold were 17 million in 2019 and is predicted to fall to 13 million for 2020, industry experts suggested that it would take at least two yeas to recover to pre-pandemic levels.



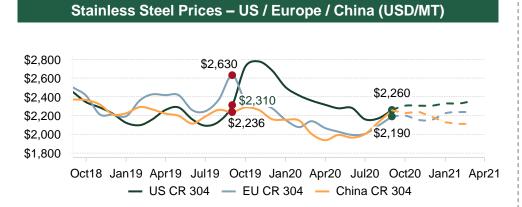
US plate price has fallen 32% Y-o-Y to ~\$520/MT, whereas EU plate price has recovered and increased to ~\$584/MT due to strengthened demand.



- US plate has showed the largest decline among all regions, with ~32% drop Y-o-Y. However the price strengthened for the first time this year in Sept., reaching to ~\$520/MT, was largely attributed to a jump in input costs.
- > EU plate price rebounded from the historical low in July to ~\$580/MT in September and went up by 5.3% Q-o-Q. With better demand being registered, many plate makers have been pushing up the price.
- China plate price has been growing continuously since economy fully reopened in April, reaching to ~\$584/MT, which is the highest among all region. The price hike was largely caused by soaring raw material prices and increasing demand from domestic construction and automobile sectors.
- OPEC oil production rebounded to pre-pandemic level, reaching to ~34 MBPD in August. Crude oil production in the US has risen in recent months to ~18 MBPD, as tight oil operators have brought wells back online in response to rising prices.
- BDI has recovered from the pandemic impact, reaching the highest point of the year in July and dropped slightly after, to 1463 in August.

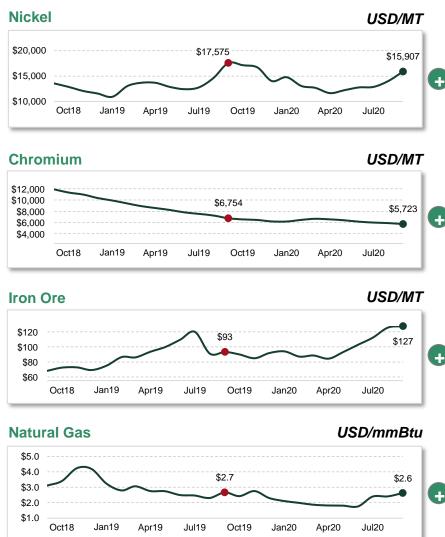


All regions have seen prices tick up as raw material prices increase, with US and China recording \$2,260/MT and Europe reaching \$2,190/MT.



- US Stainless price dropped to the lowest point in the year in July and rebounded back to ~\$2,260/MT in Sept, ending the quarter down 1%. The price increase was contributed by growing nickel price, soaring export volume, higher surcharge, and demand recovery, especially from automotive industry.
- After reaching the historical low in June, EU stainless steel price recovered in Q3 to ~\$2,190/MT, increased by 10% Q-o-Q. The European Commission has imposed anti-dumping duties on some stainless steel products from China, Indonesia and Taiwan, boosting the price.
- China price rose for an eighth-straight-week, reaching the peak since January 2019. The price hike was driven by strong demand and higher raw material cost that pushed up by weakening US dollar.
- The price of nickel rocketed upwards by ~24% Q-o-Q and held onto ninemonth highs, as mine production declines hit double digits due to COVID-19 related disruptions and demand from electric vehicle market continuously grows with the world moving towards green transportation.
- > Iron ore price rose ~24% Q-o-Q to ~\$127/MT. The price has soared multi-year high as Chinese government stimulus spurs infrastructure building and reduced supply from Brazil, where the pandemic conditions have continued to deteriorate.

Source: AV Analysis

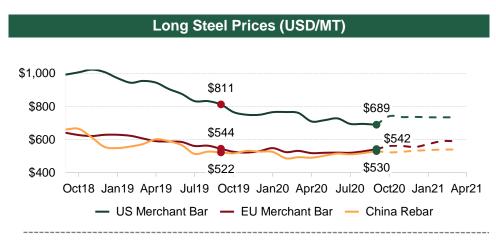


Latest Data

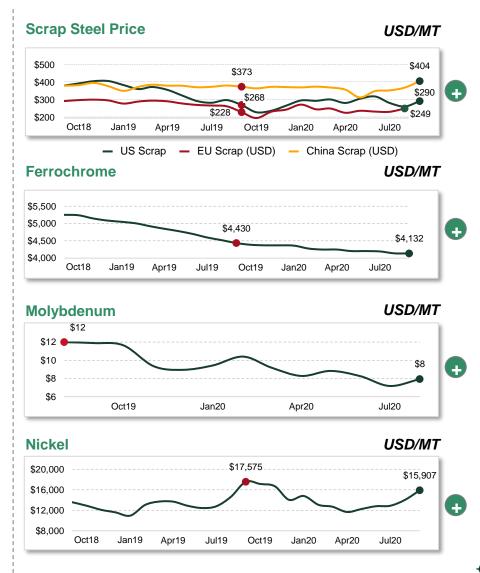
Correlation to Market Price

Previous Year's Data

All regions Long steel prices have been picking up in Q3 and have seen 3-4% increases, with US price remaining the highest at \$689/MT.



- US Merchant Bar fell 5.3% QoQ in Q3, ending the quarter at \$689/MT, hovering at the multi-year low. It is expected to tick up as domestic mills plan to announce price increases.
- China rebar prices went up by ~3% Q-o-Q as resilient downstream consumption restocking and an outlook for strong demand during the construction peak season.
- EU rebar price saw recovery during Q3 and reached \$542/MT in September, with 4% price increase Q-o-Q. Demand of rebar has picked up since manufacturers have started to restock after summer.
- > Ferrochrome prices have been on a downward trajectory since before Q3 2019, declining by 7% in the last 12 months, however the price is expected to recover as suppliers plan production cuts.
- Molybdenum prices declined by ~40% Y-o-Y, but a slight uptrend can be found in Q3 and the growth may continue as some suppliers start to reduce production and demand recovers from the pandemic.



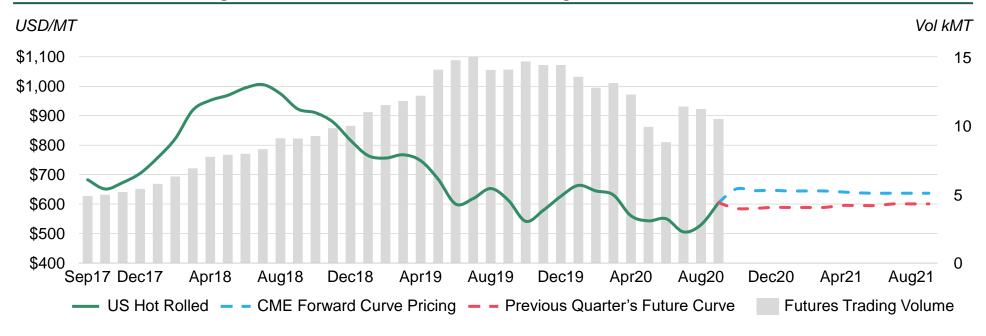
Latest Data

Correlation to Market Price

Previous Year's Data

Both US HR futures pricing and volume rebounded after the COVID-19 crisis, with the difference indicating improved market sentiment.

Hot Rolled Historical Pricing and Contract Volume & Futures CME Pricing



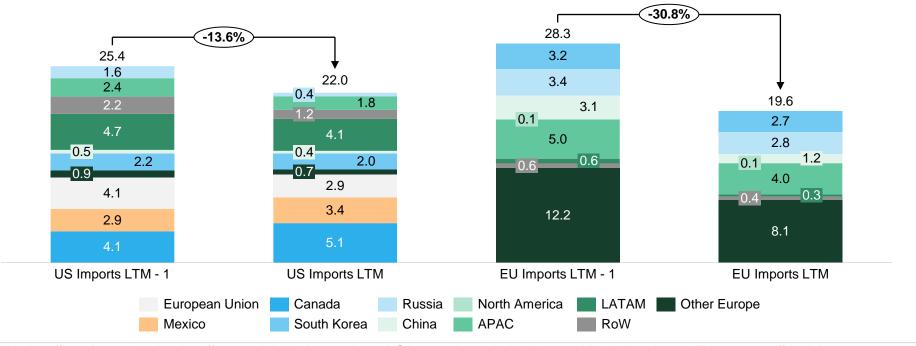
- > The CME HRC Futures Curve is slightly above the previous quarter's future curve, indicating that market sentiment has improved slightly as we are starting to see a slow and steady rehabilitation of HR prices post-COVID.
- After decreasing for four months since March 2020, futures trading volume has rebounded in Q3 and increased ~19% in September Q-o-Q, as manufacturing sectors start to restock at the floor price. However it is interesting to note that volumes are nearly double than when prices were at nearly the same level in 2017, perhaps due to large steel consumers adopting risk mitigation strategies.
- > With the ongoing COVID crisis and the potential second wave, the current futures curve could fluctuate with rising case counts and further economic shutdowns.



US imports from Canada and Mexico have increased since their exemption from 232, whereas EU imports has been tightened due to weak demand.

US and EU Imports - All Steel Products MMT

LTM: July 19 – June 201



- With the effect of 25% additional tariff on steel derivative products, US imports have declined 13.6% Y-o-Y, Russia and EU exports suffered the most significant falls, dropped by 72% and 28% respectively and both declined by 1.2 MMT on a yearly basis; Due to NAFTA and now USMCA agreement, Canada and Mexico were excluded from the additional tariff, the two regions both saw exports to US increase by 26% and 17%, respectively. Canada replaced LATAM becoming once again the largest supplier to US; Canada and Mexico's steel exports to the US likely to maintain or continue increase as the U.S.-Mexico-Canada Agreement (USMCA) took effect on 1st July 2020.
- Weak demand in EU market brought down imports by 30.8%, the decline largely from Other Europe country (especially Turkey) and China, the two largest exporters to EU plunged volume by 4.1 MMT (34%) and 1.9 MMT (62%) respectively, as the European Commission accelerated trade defense measures by launching an anti-dumping investigation into imports originating from Turkey and China. The downward trend may continue as EU commission announced it will make adjustment on current EU safeguard to a country-by-country quota for steel imports on 1st July 2020.



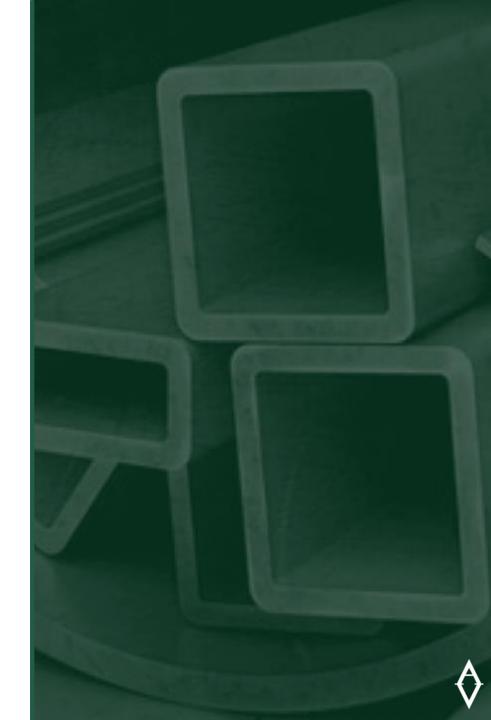
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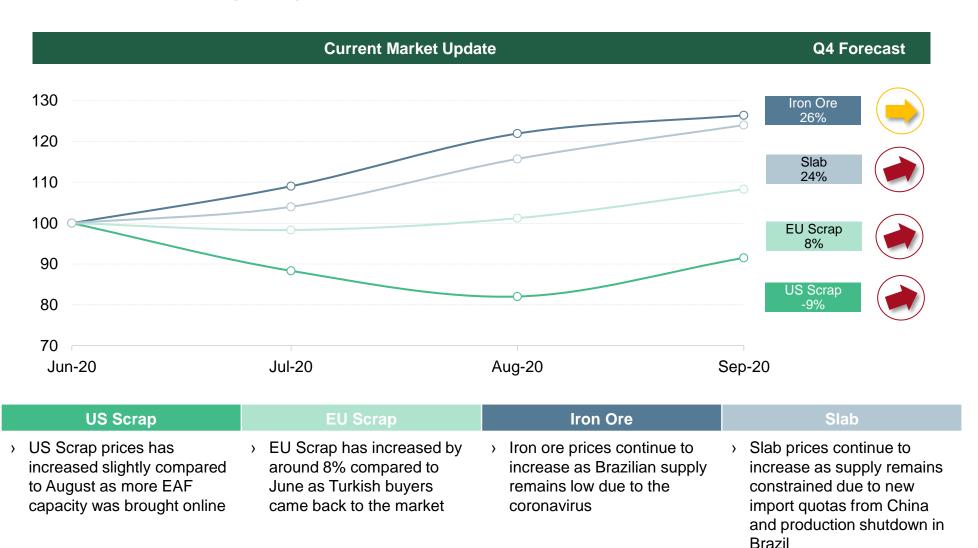
Market Conditions by Region

Steel Production Costs

Major Steel Mill Company Performance



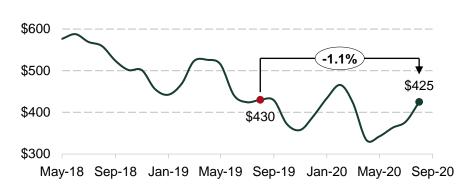
Major commodities prices have increased in Q3 of 2020 due to reopening of production causing heightened demand for steel raw materials.





Slabs and Pig Iron prices have been increasing and nearly recovered to previous year level, but Ferrous scrap prices remain at low level.





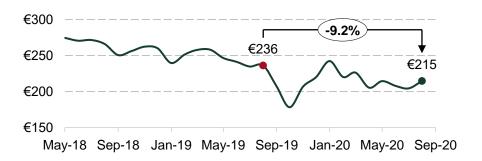
Pig Iron USD/MT

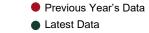


Ferrous Scrap US USD/GT



Ferrous Scrap Europe EUR/MT

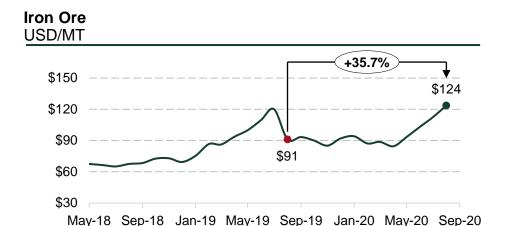


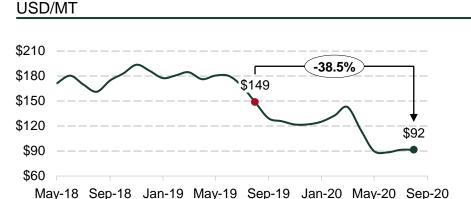




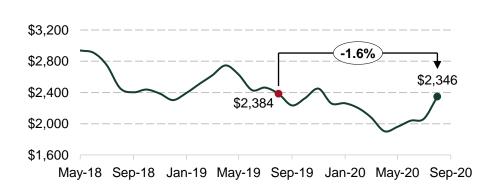
Iron ore price has increased significantly in Q3 of 2020 driven by stronger demand of re-opening of large steel mills and low supply from Brazil.

Coking Coal

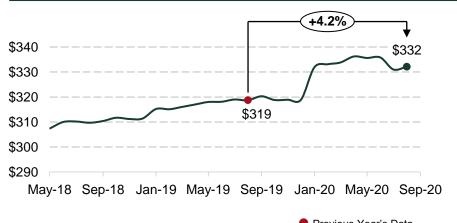


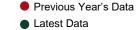


Zinc USD/MT



Limestone – Producer Price Index

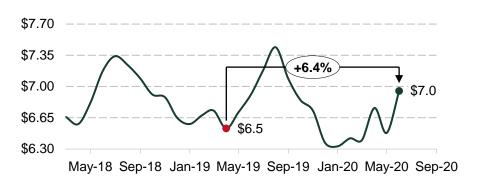




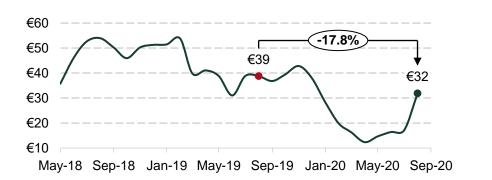


Natural gas has recovered slightly but remains low compared to historic levels, whereas electricity has rebounded to pre-COVID level.

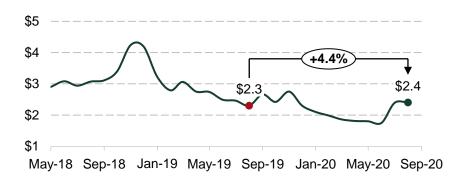
Electricity US US cents/KWH



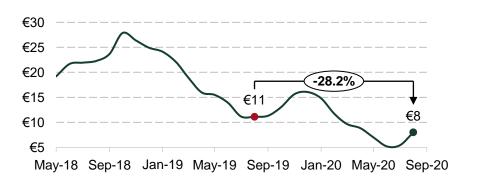
Electricity Europe EUR/MWH

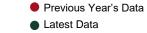


Natural Gas US USD/mmBtu



Natural Gas Germany EUR/MWH







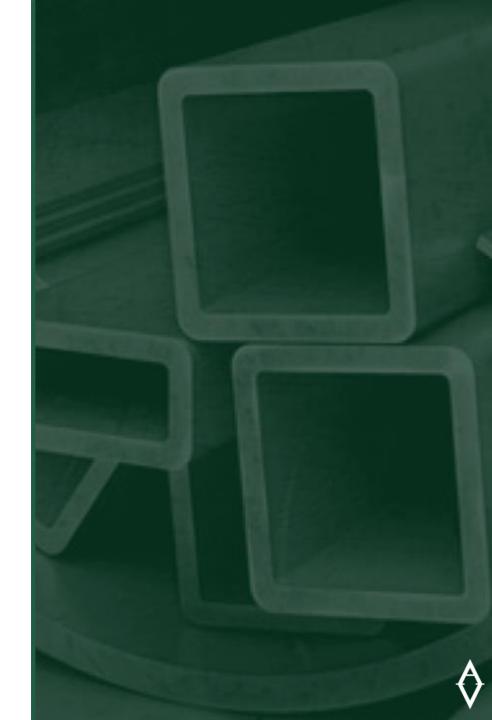
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Market Conditions by Region

Steel Production Costs

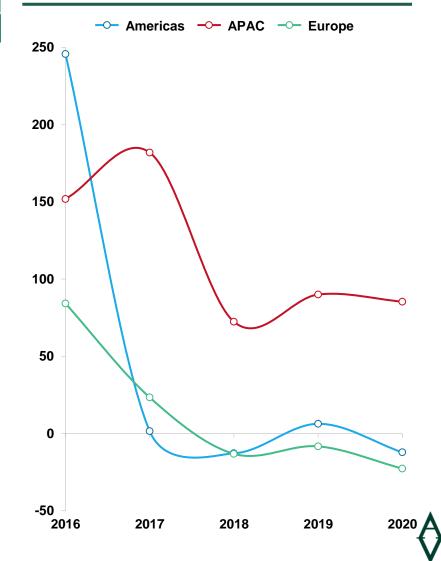
Major Steel Mill Company Performance



Global steel mill stock prices has declined significantly since the high in early 2016.

Regions	Mills	Indexed Stock Movement					
Regions	Willis	2016	2017	2018	2019	2020	
Americas	CLIFFS	460.1	-17.7	4.0	11.0	-17.3	
	GO GERDAU	121.5	20.8	18.2	32.3	7.7	
	NUCOR	52.6	5.0	-22.5	13.3	-13.2	
	(USS)	348.4	-1.9	-50.8	-31.2	-25.8	
	BAOSTEEL BAOSTEEL GROUP CORPORATION	13.3	31.8	-23.3	-12.7	-8.1	
ABAC	HBIS 河钢集团 HBIS GROUP	-1.8	16.5	-25.2	-11.2	-11.9	
APAC	JFE	-4.0	46.8	-37.9	-17.1	-42.2	
	TATA STEEL	151.9	181.9	72.4	90.0	85.4	
Europe	ArcelorMittal	81.8	29.2	-34.6	-11.5	-27.5	
	≡ EVRAZ	207.3	48.9	40.2	-15.7	-12.3	
	Severstal	74.8	2.5	-9.1	10.2	-14.3	
	ThyssenKrupp	23.9	5.3	-36.2	-20.7	-53.8	
	voestalpine	30.9	37.0	-47.2	-6.8	-10.2	

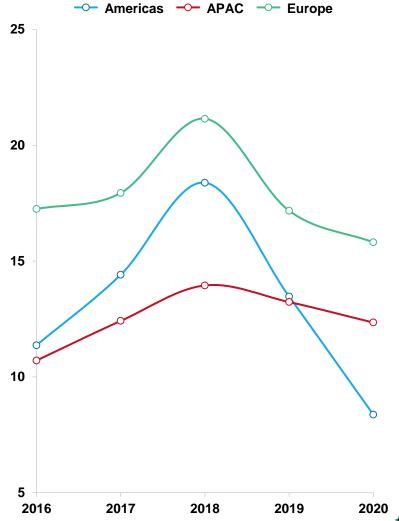
Regional Stock Movement 2016-2020



EBITDA margins of global steel mills has declined significantly in 2020 with America mills seeing the largest decline of 5 percentage points.

Pagions	Mills	EBITDA %					
Regions	IVIIII2	2016	2017	2018	2019	2020	
	CLIFFS	18.5	25.6	33.3	26.1	12.9	
Americas	GD GERDAU	9.9	10.8	13.4	12.4	11.6	
	NUCOR	13.3	12.9	16.5	12.0	10.5	
	(U _S S)	3.8	8.4	10.4	3.4	-1.5	
APAC	♣ ANSTEEL	13.4	15.2	15.6	11.1	10.7	
	山钢集团 SHAN STEEL	14.1	12.1	13.4	12.6	13.9	
	JFE	7.8	8.4	11.0	10.1	8.9	
	TATA STEEL	7.6	14.0	15.8	19.1	16.0	
	ArcelorMittal	10.2	11.7	12.9	5.1	3.7	
	■EVRAZ	19.2	23.7	29.0	21.2	19.5	
Europe	Severstal	31.8	32.4	36.1	33.7	32.7	
	ThyssenKrupp	5.1	2.7	4.3	2.6	1.1	
	voestalpine	12.9	13.0	15.2	11.2	9.9	

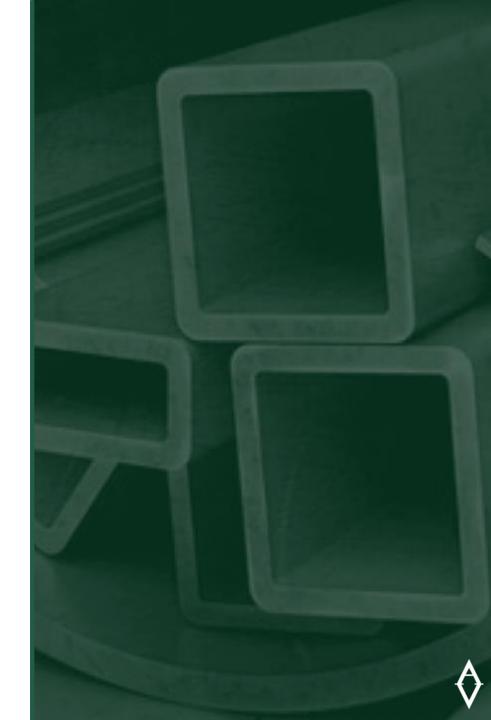
Regional EBITDA Movement 2016-2020





Introduction to Applied Value

Background



Macroeconomic

Applied Value has 15+ years of experience working with clients in numerous industries involved in various facets of steel purchasing.

Client Annual Consumption, tons		Data Control	Fact-based Negotiations	Leverage Creation	Manage Steel Component Costs	Risk Management	Factors on Global Steel Trade	Game Changers
10M	Automotive OEM	✓	✓	✓	✓	✓	✓	✓
	White Goods OEM	✓	✓	✓		✓		✓
	Automotive OEM		✓	✓		✓		
	Global Engineering		✓	✓				
1M	Global Construction	✓				✓		✓
1101	Industrial Products		✓			✓		
	4 Food Producers		✓				✓	✓
	Heavy Truck OEM		✓	✓	✓			
	Defense/Heavy Truck	✓	✓	✓	✓			
	Security Solutions	✓	✓	✓			✓	
	Heavy Truck OEM	✓	✓	✓	√	✓		
	Truck Tier 1	✓	✓	✓		✓		
	Lifting OEM	✓	✓	✓	√	✓		✓
	Global Engineering	✓	✓	✓		✓		
0.1M	Consumer Goods OEM		✓	✓				✓
	EU Turbine Manufacturer	✓	✓	✓	√	✓		
0.01M	Automotive Tier 1	✓	✓		✓	✓		
	Scand. Engineering	✓	✓	✓			✓	
	Scand. Construction	✓	✓	✓				

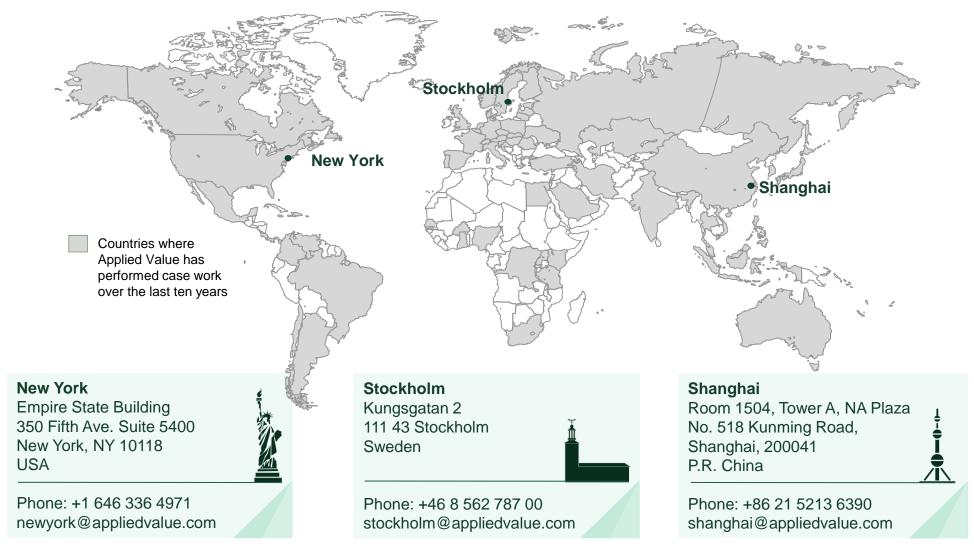


Our Lean Growth framework is based on Focus, Simplicity, Speed – guiding principles to raise client performance.





Applied Value works internationally with global clients.







APPLIED VALUE GROUP