DEMAND LIFTS BASE METAL PRICING

CHINESE COPPER DEMAND RISES
Demand rises from China, the world’s largest consumer of copper

ZINC PRICES SHOW STRENGTH
Zinc prices on the LME have jumped by nearly 50% since January

STEEL MARKET SLOWS DOWN
Prices flatten or weaken amid lower scrap prices and a seasonal slowdown
Deals are a moving target. A constantly shifting mix of people, numbers, and timing. We’re here to simplify this process for you. Our experts are dedicated to tracking down and flushing out the values you need, even on the most complex deals. So when the time comes to take your shot with Great American, you’re always—right on the money.
NOLVS

- **Ferrous**: NOLVs increased versus the prior quarter due to relatively stable pricing and higher gross margins.

- **Non-ferrous**: NOLVs increased versus the prior quarter given a gradual rise in pricing since January.

SALES TRENDS

- **Ferrous**: Sales were mixed, as 12-month trends showed declines due to depressed market prices earlier this year compared to the prior year, while recent trends showed a reversal due to price increases since early 2016.

- **Non-ferrous**: Sales were mixed, with negative 12-month trends and positive recent trends, similar to ferrous inventory sales.

GROSS MARGIN

- **Ferrous**: Gross margins increased over the past quarter as lower-cost inventory sold at higher market prices.

- **Non-ferrous**: Gross margins remained consistent over the past quarter due to continued price stabilization compared to significant decreases in 2015.

INVENTORY

- **Ferrous**: Inventory levels remained consistent as most buyers delayed purchases amid uncertain market conditions, buying only to replace outgoing orders. However, oil and gas product distributors continue to destock due to muted demand.

- **Non-ferrous**: Inventory levels remained consistent as companies managed inventory levels relative to fluctuations in market pricing.

PRICING

- **Ferrous**: Prices remained relatively consistent since the prior quarter, as earlier capacity cuts and domestic trade restrictions have allowed mills to hold pricing fairly steady; however, price declines may be on the horizon.

- **Non-ferrous**: Prices increased slightly since the prior quarter due to output cutbacks and higher-than-expected demand from China.
Overview

Steel pricing began to recover earlier in 2016, but stabilized or weakened slightly in recent months amid lower ferrous scrap costs and a seasonal summer slowdown. Chinese steel exports remain a concern for the steel industry. Prices for most non-ferrous metals increased since January due to stronger market fundamentals.

Summer maintenance and a seasonal decline in demand have recently placed downward pressure on steel prices, with weak export demand adding an extra drag on ferrous scrap prices. Although U.S. steel imports in 2016 through May were nearly 11% below import levels for the same period last year, steel imports in May reached their highest level since October 2015 at 2.9 million tons, according to the U.S. Department of Commerce. The American Iron and Steel Institute (“AISI”) estimated that imports captured nearly a quarter of the U.S. market for steel in both June 2016 and the first half of 2016.

Lower-cost Chinese steel exports continue to worry producers in the U.S. steel market. Chinese overcapacity played a large role in last year’s steel market downturn. Although China has since announced efforts to reduce its excess capacity, the country’s planned capacity cuts are not being implemented according to plan. People’s Daily, a Chinese state-operated publication, reported that China has achieved only 47% of its targeted crude steel capacity cuts of 45 million tons per year for 2016 during the January-through-July period.

In June 2016, China exported 12.0 million tons of steel, markings its second-highest volume ever after its exports in September 2015. As a result, the country’s steel exports from January through June 2016 totaled 62.9 million tons, nearly 5.5 million tons above the same period in 2015. In June, the International Trade Commission determined that the U.S. steel industry was materially injured by imports of certain steel products from China.

Chinese corrosion-resistant steel will therefore be subject to a final anti-dumping duty of 210% and anti-subsidy duty of between 39% and 241%, while certain other Chinese steel may experience duties of over 500%.

Base metal prices have largely increased since their January lows due to improved supply and demand fundamentals. Aluminum is enjoying long-term demand growth from the automotive and power generation industries. Copper is experiencing stronger-than-expected demand from China, the world’s largest consumer of copper, as well as a reduction in the copper surplus. Nickel, the worst-performing base metal over the last year, benefitted recently from reduced supplies and improved Chinese demand. Zinc, the best-performing base metal over the last year, demonstrated pricing strength throughout 2016 thus far due to an expected long-term deficit. However, base metal pricing remains subject to fluctuations as investors respond to global economic indicators.
Overview

AUTOMOTIVE

The automotive industry is a significant consumer of steel and aluminum. In July 2016, U.S. auto sales totaled 1.5 million vehicles, reflecting a seasonally adjusted annualized rate of 17.9 million vehicles, which marked the highest rate since November 2015, according to Autodata Corp. However, despite healthy results for the overall industry in July, analysts fear recent trends compared to 2015 may signal that the pent-up demand driving the growth spurt earlier this year may be satisfied. After accelerating earlier in 2016, U.S. auto sales began to soften in recent months, with a decrease of 6% in May, an increase of 2.5% in June, and an increase of 0.7% in July, compared to the same months in 2015.

In addition, two of Detroit’s “Big Three” automakers reported sales declines for July versus the prior year. Sales for Ford Motor Company (“Ford”) and General Motors Company (“GM”) fell 3% and 2%, respectively, to lower-than-expected levels, while sales for Fiat Chrysler Automobiles inched up 0.3%. According to Ford CEO Bob Shanks, repressed demand built up during the recession has now been spent, and some buyers are opting for used cars versus new vehicles. Still, GM’s chief economist believes U.S. industry sales remain at healthy levels, with the potential for a new record this year.

MANUFACTURING

The Institute for Supply Management’s purchasing manager’s index (“PMI”), an indicator for manufacturing activity, decreased 0.6 percentage points from the seasonally adjusted June 2016 reading of 53.2 to a July 2016 reading of 52.6.

A PMI above 43.2 over a period of time typically denotes an expansion of the overall economy. The overall economy therefore grew for the 86th consecutive month in July. As a reading above 50 signals expansion in the production economy, the manufacturing sector grew for the fifth consecutive month, albeit at a slower rate.

<table>
<thead>
<tr>
<th>Month</th>
<th>PMI</th>
</tr>
</thead>
<tbody>
<tr>
<td>July 2016</td>
<td>52.6</td>
</tr>
<tr>
<td>June</td>
<td>53.2</td>
</tr>
<tr>
<td>May</td>
<td>51.3</td>
</tr>
<tr>
<td>April</td>
<td>50.8</td>
</tr>
<tr>
<td>March</td>
<td>51.8</td>
</tr>
<tr>
<td>February</td>
<td>49.5</td>
</tr>
<tr>
<td>January 2016</td>
<td>48.2</td>
</tr>
<tr>
<td>December 2015</td>
<td>48.0</td>
</tr>
<tr>
<td>November</td>
<td>48.4</td>
</tr>
<tr>
<td>October</td>
<td>49.4</td>
</tr>
<tr>
<td>September</td>
<td>50.0</td>
</tr>
<tr>
<td>August</td>
<td>51.0</td>
</tr>
<tr>
<td>July 2015</td>
<td>51.9</td>
</tr>
</tbody>
</table>

ENERGY

The Baker Hughes Rig Count tracks active rigs engaged in the exploration of oil and natural gas, and is a leading indicator of demand for metal products used in drilling, completing, producing, and processing hydrocarbons. Due to the continued oversupply in the global oil and natural gas market, crude oil and gas prices have fallen throughout much of 2015 and 2016 thus far, reducing exploration.

As of July 29, 2016, the U.S. rig count totaled 463 rigs, up by one rig from the prior week, but down by 411 rigs (47.0%) from the same week in 2015. The rig count remains substantially below its peak of 1,609 in October 2014. Out of the total 463 rigs, 374 represented oil rigs, with an increase of three oil rigs from the prior week (the fifth consecutive weekly increase), but a decrease of 290 oil rigs (43.7%) from the same week in 2015. Gas exploration, meanwhile, is down 58.9% from the prior year.

Although the U.S. rig count continues to decline, the rate of decline compared to the prior year has slowed in recent months, with the rig count of 463 as of July 29, 2016 reflecting an increase from the record-low rig count of 404 as of May 27, 2016.
Overview

However, U.S. crude oil futures recently fell below $41 per barrel for the first time since April as a result of persistently high supplies, which could cause the rig count to decline.

WTRG President James Williams noted there would be a lag time of one to two months before the rig count would decline, given the time needed to acquire permits, rigs, and crews.

Energy specialists at investment bank Piper Jaffray forecast the total U.S. oil and gas rig count will average 492 in 2016 before rising to an average of 686 in 2017, based on projections for crude oil prices.

The Canadian rig count totaled 119 rigs as of July 29, 2016, up by 17 rigs since the prior week, but decreasing by 96 rigs from the same week in 2015.

The international rig count totaled 927 rigs in June 2016, down by 28 rigs from the prior month and decreasing by 219 rigs from June 2015. Baker Hughes indicated the international rig count will remain pressured this year, despite regional strength in the Middle East and Russia.

<table>
<thead>
<tr>
<th>Date</th>
<th>U.S. Rig Count</th>
<th>Change From Prior Year</th>
<th>Canadian Rig Count</th>
<th>Change From Prior Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>July 29, 2016</td>
<td>463</td>
<td>(411)</td>
<td>119</td>
<td>(96)</td>
</tr>
<tr>
<td>June 24</td>
<td>421</td>
<td>(438)</td>
<td>76</td>
<td>(59)</td>
</tr>
<tr>
<td>May 27</td>
<td>404</td>
<td>(471)</td>
<td>43</td>
<td>(55)</td>
</tr>
<tr>
<td>April 1</td>
<td>450</td>
<td>(578)</td>
<td>49</td>
<td>(51)</td>
</tr>
<tr>
<td>March 4</td>
<td>489</td>
<td>(703)</td>
<td>129</td>
<td>(171)</td>
</tr>
<tr>
<td>February 19</td>
<td>514</td>
<td>(796)</td>
<td>206</td>
<td>(154)</td>
</tr>
<tr>
<td>January 29, 2016</td>
<td>619</td>
<td>(924)</td>
<td>231</td>
<td>(163)</td>
</tr>
<tr>
<td>December 31, 2015</td>
<td>698</td>
<td>(1,142)</td>
<td>83</td>
<td>(173)</td>
</tr>
<tr>
<td>November 25</td>
<td>744</td>
<td>(1,173)</td>
<td>184</td>
<td>(254)</td>
</tr>
<tr>
<td>October 30</td>
<td>775</td>
<td>(1,154)</td>
<td>191</td>
<td>(238)</td>
</tr>
<tr>
<td>September 25</td>
<td>838</td>
<td>(1,093)</td>
<td>176</td>
<td>(253)</td>
</tr>
<tr>
<td>August 28</td>
<td>877</td>
<td>(1,037)</td>
<td>196</td>
<td>(207)</td>
</tr>
<tr>
<td>July 31, 2015</td>
<td>874</td>
<td>(1,015)</td>
<td>215</td>
<td>(177)</td>
</tr>
</tbody>
</table>
Recent Appraisal Trends

Appraisals valuing metals inventory typically rely on market prices, which are affected by input costs, supply levels, and demand from metal-consuming industries such as the automotive, industrial, and oil and gas drilling sectors.

Based on industry trends, NOLVs for ferrous metals over the past few months have increased versus the prior quarter due to relatively stable pricing and higher gross margins, although pricing may have peaked in recent months. NOLVs for non-ferrous metals increased, given the general rise in non-ferrous metal prices since earlier this year.

Sales of ferrous inventory were mixed, as 12-month trends showed declines due to depressed market prices earlier this year compared to the prior year, while recent trends showed a reversal due to price increases since early 2016. However, sales volumes have not registered a significant change. Sales of non-ferrous inventory were mixed, as 12-month trends were negative due to prices that generally remained below year-ago levels, while recent trends have turned positive as pricing remained flat or increased since the first quarter of 2016.

Gross margins for ferrous metals increased over the past quarter as companies were able to sell lower-cost inventory at higher market prices due to recent market price increases; however, price increases have subsided over the past month, suggesting pricing may have peaked. Gross margins for non-ferrous metals were also consistent over the past quarter due to continued price stabilization compared to significant decreases in 2015.

Inventory levels for ferrous metals remained consistent as buyers took a wait-and-see approach to purchasing, only stocking to replace outgoing orders. Oil and gas product distributors remain the exception, however, as they continue to destock due to muted demand in the oil and gas industry.

Inventory levels for non-ferrous metals remained consistent as companies continued to manage inventory levels relative to price fluctuations. However, as prices begin to firm, inventory levels have the potential to increase in the coming months, although this may be mitigated by global economic indicators.

Prices for ferrous metals remained relatively consistent since the prior quarter, as earlier capacity cuts and domestic trade restrictions have allowed mills to hold pricing steady. However, a potential increase in imports and lower scrap pricing could place downward pressure on ferrous metal pricing in the near future. Prices for non-ferrous metals increased slightly since the prior quarter due to output cutbacks and higher-than-expected demand from China, with zinc prices rising consistently throughout 2016 thus far. However, global economic indicators continue to place pressure on any upward movement.

For commodity-based appraisals, the gross recovery rates are based on discounts from market pricing. Specialized grades, sizes, and forms of metals with limited distribution channels typically require increased discounts off market price, or may be sold at scrap market value. GA recognizes recovery values are unique for each company based on costing, gross margin trends, inventory mix and levels, and other company-specific factors. In addition, as market prices are volatile, a change in market price trends would have an impact on recovery values.
Carbon Steel

SCRAP
After climbing in the first five months of 2016 amid first-quarter restocking as well as rising prices for ore and export scrap, shredded steel scrap prices fell in June and July. Shredded carbon steel scrap prices averaged $243 per gross ton in July 2016, down from $254 per gross ton the prior month and remaining below the July 2015 average of $264.

The recent price decline was driven by weak export demand, compounded by a strong U.S. dollar, as well as slow domestic demand in light of summer stoppages. In addition, the failed mid-July coup attempt in Turkey, the largest overseas buyer of U.S. scrap, created market uncertainty.

The market outlook for August remains murky. According to a U.S. mill buyer, as reported by Steel Business Briefing, the domestic scrap market will be strongly influenced by export activity, which could determine the availability of shredded scrap in the domestic market if U.S. exporters possess shredded scrap that can be moved inland.

Another mill buyer indicated that scrap pricing can also be impacted by weaker order books for hot rolled coil at consuming mills, scrap imports, and September mill outages. However, while the buyer believes a downward price correction should be in store for prime scrap, he predicted shredded scrap pricing would trend sideways.
Carbon Steel

**UTILIZATION RATES**
As ferrous scrap is a key raw material for raw steel production, capability utilization rates for steel mills are an indicator of ferrous scrap demand. The AISI reported that domestic raw steel production totaled 1,682,000 net tons in the week ended July 30, 2016, declining 1.3% from the previous week and 3.9% from the same week in 2015. Capability utilization reached 71.9%, down from 72.8% the prior week and 73.2% the same week the previous year.

Adjusted year-to-date production through July 30, 2016 totaled 52,584,000 net tons at a capability utilization rate of 72.5%, reflecting a decrease of 0.9% from 53,074,000 net tons in the same period last year, when the capability utilization rate was 72.3%.

Despite lower steel import levels so far this year versus last year, U.S. steel producers remain hesitant to bring idled capacity back online, especially for flat rolled steel products.

<table>
<thead>
<tr>
<th>Week Ended</th>
<th>Production</th>
<th>Change Vs. Prior Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>January 3, 2016</td>
<td>1.86</td>
<td>2.4%</td>
</tr>
<tr>
<td>January 23</td>
<td>1.67</td>
<td>(7.6%)</td>
</tr>
<tr>
<td>February 20</td>
<td>1.69</td>
<td>(0.4%)</td>
</tr>
<tr>
<td>March 26</td>
<td>1.60</td>
<td>4.6%</td>
</tr>
<tr>
<td>April 23</td>
<td>1.65</td>
<td>2.1%</td>
</tr>
<tr>
<td>May 7</td>
<td>1.70</td>
<td>(1.4%)</td>
</tr>
<tr>
<td>June 25</td>
<td>1.75</td>
<td>(0.7%)</td>
</tr>
<tr>
<td>July 16</td>
<td>1.75</td>
<td>(0.2%)</td>
</tr>
<tr>
<td>July 30, 2016</td>
<td>1.68</td>
<td>(3.9%)</td>
</tr>
<tr>
<td>Year-to-Date</td>
<td>52.58</td>
<td>(0.9%)</td>
</tr>
</tbody>
</table>
CARBON STEEL SHEET COIL
After increasing in 2016 through June due to restocking, tighter supplies, extended lead times, and higher scrap costs, flat rolled steel prices stabilized in July. Hot rolled coil steel prices averaged $625 per net ton in July 2016, down from $633 the prior month but remaining above the July 2015 average of $465. Cold rolled coil steel prices averaged $830 per net ton in July 2016, remaining consistent with the prior month and remaining above the July 2015 average of $585.

Hot rolled steel prices slipped slightly and cold rolled steel prices held steady in July as buyers resisted restocking amid the summer downtime, despite a reduction in service center supplies of flat rolled steel to only two months of supply.

In addition, spot pricing has moderated, and lead times remained short. Certain customers therefore delayed purchases in anticipation of lower pricing in August. Although buying activity remained sluggish, mills were able to keep flat rolled steel pricing relatively stable throughout July given the tightened market. Mills have adjusted planned maintenance outages to support tight supplies; in addition, recent trade case determinations, particularly for cold rolled coil, have tightened the market more than expected.

In the first week of August, hot rolled coil pricing dipped, with S&P Global Platts reporting a price assessment averaging $615 per net ton. The price assessment for cold rolled coil, meanwhile, remained flat at an average of $830 per net ton.
PLATE
After a series of mill price hikes buoyed A36 steel plate prices in 2016 through May due to higher scrap costs, lower service center supplies, and increased lead times, prices stabilized in June and fell in July. A36 steel plate prices averaged $616 per net ton in July 2016, decreasing from $650 the prior month but remaining above the July 2015 average of $572.

The recent price decline was driven by a lack of service center spot purchases, as well as a reduction in distributor/service center resale prices to levels below domestic mill restock prices. Distributors/service centers were able to offer lower prices by blending less-expensive foreign orders from earlier in the year into their inventories.

Steel mills are working to hold the line on prices with the hope that supplies will tighten in September amid planned maintenance outages.

However, service centers reported approximately three months of supply on hand for plate in late June. According to data from the Metals Service Center Institute, June service center shipments totaled 271,300 net tons, down 2.6% from the prior month and dropping 26.3% from June 2015. In addition, the lead time for plate declined to 4.7 weeks in the first week of August versus 5.7 weeks the prior week.
LONG PRODUCTS
While rebar prices fell in 2015 and in 2016 through March due to an influx of lower-priced imports, prices climbed from April through June due to higher import prices, improved demand, and increased scrap costs. However, prices for rebar, U.S. domestic ex-works Southeast, averaged $540 per net ton in July 2016, down from $559 the prior month and remaining below the July 2015 average of $562.

The recent price decline was driven by lower scrap prices and a seasonal summer slowdown. In addition, lower-priced rebar imports have been on the rise, providing further price competition for domestic material. According to the U.S. Census Bureau, preliminary rebar import volumes totaled 188,574 metric tons in June 2016, up 38% from the prior month’s final volumes and soaring more than 100% from the final June 2015 volumes.

Of the 188,574 metric tons imported in June 2016, 58% was sourced from Turkey. Per Steel Business Briefing, rebar imports are expected to climb 45% to 273,933 metric tons in July versus the prior month, with 68% sourced from Turkey.

OCTG
Pricing for J55 ERW 4 1/2” to 8 5/8” averaged $785 per net ton in July 2016, remaining stable since May, but declining 20% from year-ago levels. Despite reduced inventory levels in the second quarter and improved mill inquiries for the third quarter, OCTG pricing currently remains in gridlock due to the availability of lower-cost imports and the recent weakening of crude oil prices to less than $41 per barrel for the first time since April, which may reduce drilling activity. Preliminary U.S. OCTG import volumes totaled 57,274 metric tons in May 2016, up 16% from the prior months’ final volumes but down nearly 62% from the final May 2015 volumes.
**Ferroalloys**

**OVERVIEW**

Ferroalloys consist of various alloys of iron (“Fe” on the periodic table) and other metals, which are used in the production of steel and alloys, imparting distinctive qualities or functions to the steel or alloys. Ferroalloys include ferro-chromium (“FeCr”), ferro-manganese (“FeMn”), silico-manganese (“SiMn”), ferro-silicon (“FeSi”), ferro-molybdenum (“FeMo”), ferro-vanadium (“FeV”), and ferro-titanium (“FeTi”), among others. Leading producers of ferroalloys include China, Russia, Ukraine, and South Africa.

According to the U.S. Department of Commerce, ferroalloy imports totaled 107,400 tons in April 2016, reflecting an increase of 35% from the prior month, and totaled 491,241 tons in the first four months of 2016. However, based on reports from Metalprices.com, U.S. ferroalloy imports largely declined in May in advance of the seasonal summer slowdown. Imports of high-carbon FeCr from South Africa comprised more than 95% of U.S. ferroalloy imports in May.

**FeCr**

In late July 2016, U.S. high-carbon FeCr (Cr 60% C 6%-8%) prices remained relatively stable at a range of $0.84 to $0.89 per pound, with tight offshore chrome ore and alloy supplies offsetting low domestic spot market demand. Argus Media Limited (“Argus”) reported that stainless steel mills have purchased several 20-ton lots of high-carbon FeCr at a price range of $0.85 to $0.87 per pound despite softer spot market trading, as U.S. traders and suppliers resisted lower offers. However, large-volume trading was marked by irregularity, given competitive bids from North American steel mills and summer mill maintenance.

Low-carbon FeCr prices also held steady, given stable demand from long-term contracts and low-volume orders. Per Argus, low-carbon FeCr (C 0.05%) prices ranged from $2.10 to $2.13 per pound, low-carbon FeCr (C 0.10%) prices ranged from $1.80 to $1.82 per pound, and low-carbon FeCr (C 0.15%) prices ranged from $1.78 to $1.80 per pound.

**FeMn/SiMn**

In late July 2016, U.S. high-carbon FeMn (Mn 80% C 6%-8%) prices climbed to a range of $810 to $860 per gross ton from $810 to $840 per gross ton the prior week. Prices were buoyed by increased inquiries for 20-ton lots. While the market settled at $840 to $860 per gross ton for similar volumes, some small-tonnage sales were made at levels as high as $860 to $870 per gross ton, according to Argus. However, pricing for medium-carbon FeMn (Mn 80% C 1%-2%) remained stable at a range of $0.75 to $0.78 per pound.

U.S. SiMn (Mn 65% Si 16%) remained flat at a range of $0.41 to $0.43 per pound, as tight supplies were offset by soft spot market trading after the conclusion of several large tenders in late June and early July.

**FeSi**

In late July 2016, U.S. FeSi prices held firm at a range of $0.72 to $0.75 per pound, according to Argus. Although South African and Brazilian FeSi supplies remained plentiful, traders and distributors were able to resist lower offers due to the steady stream of demand from small-tonnage orders. However, large-volume trading was marked by irregularity, given competitive bids from North American steel mills and summer mill maintenance.

**FeMo**

In late July 2016, U.S. FeMo (Mo 65%) prices slipped to a range of $7.70 to $8.00 per pound from $7.90 to $8.05 per pound the prior week. Argus reported that prices fell amid a decline in spot offers from steel mills after tight supplies began to ease. The weak overall demand was partially offset by sporadic low-volume trading above $8.00 per pound.
**Ferroalloys**

**FeV**
In late July 2016, U.S. FeV (V 78% - 82%) prices dropped to a range of $10.00 to $10.35 per pound from a range of $10.10 to $10.55 per pound the prior week. According to Argus, the price decline was driven by abundant offshore supplies, which offset tight domestic producer and trader supplies. In addition, spot market demand remained soft given the seasonal summer slowdown.

**FeTi**
In late July 2016, U.S. FeTi (Ti 70%) prices inched down to a range of $1.77 to $1.80 per pound from a range of $1.85 to $1.95 per pound the prior week. Per Argus, prices were pressured downward by lower spot market demand and competitive supplier bids, with suppliers and traders settling several lots at a range of $1.77 to $1.80 per pound after initial offers that reached $1.85 to $1.90 per pound. Market demand remained slow amid ongoing summer maintenance. However, FeTi prices for cored wire applications remained relatively steady at $1.90 per pound.

Prices for FeTi turnings (85% Ti non-tin bearing) increased to a range of $0.30 to $0.40 per pound from $0.25 to $0.35 per pound the prior week, boosted by steady FeTi producer demand. However, the recent softening in alloy prices and anticipated decline in near-term demand are placing downward pricing pressure on processors.
Despite monthly volatility, aluminum prices are up 10% overall from January. Prices for P1020 primary aluminum ingot averaged $0.81 per pound in July 2016, inching up from $0.80 the prior month but remaining slightly below the July 2015 average of $0.82. Aluminum prices have experienced a stronger rebound than copper this year due to growing demand from automotive applications and declining stocks at London Metal Exchange (“LME”) warehouses. However, Chinese production has been on the rise for the past month, with June marking the highest level since September 2015, according to American Metals Market. In addition, China plans to add more smelting capacity than the rest of the world combined. Given China’s subsidization of its aluminum industry, increased low-cost Chinese exports could put a drag on aluminum prices. Century Aluminum Co. therefore urges the U.S. government to file a trade case against China.

U.S. Midwest aluminum premiums have begun to stabilize at lower levels after the volatility seen in 2014 and 2015. After surging to a record high of $0.24 per pound in December 2014 due to the creation of queues by metal holders and the allure of contango financing, the premium fell to $0.09 at the end of 2015 and reached $0.07 in early August 2016, given dwindling LME warehouse queues and the reduced attractiveness of contango financing amid new rules.
While copper prices have been volatile this year, overall prices are up 5.2% year-to-date. The market price for copper on the LME averaged $2.20 per pound in July 2016, increasing from $2.10 the prior month but remaining below the July 2015 average of $2.48.

After declining from April through June, LME copper pricing increased in July as the global copper surplus contracted and demand continued to climb. According to analysts surveyed by Focus Economics, copper prices are expected to rise further this year and next year. Bloomberg reported that only six new copper projects are slated to come online by 2020, with two of those projects being subject to delays. Based on data from the International Study Copper Group, copper mine capacity is projected to grow at an estimated average rate of 4% per year to reach 26.5 million tons in 2019.
Nickel

While nickel prices have fallen the most among all base metals over the past year, nickel prices have begun to stabilize, with a large boost in July. Nickel prices on the LME averaged $4.65 per pound in July 2016, up from $4.04 the prior month but remaining below the July 2015 average of $5.16.

The recent price increase was supported by declining nickel stock levels at LME warehouses and significant production cuts, which were only partially offset by rising inventories at Shanghai Futures Exchange (“SHFE”) warehouses.

In addition, strengthening residential construction in China may add enough demand to result in a small deficit in 2016. However, according to Steel Business Briefing, Indonesia nickel smelters could increase production in light of favorable tax incentives, which would raise supplies.
In July 2016, prices for grades 301 (7%), 304 (8%), and 316 stainless steel averaged $0.92, $0.97, and $1.31 per pound, respectively, compared to $0.93, $0.98, and $1.29, respectively, the prior month. Stainless steel prices remained below July 2015 levels.

Stainless steel prices were mixed, with slightly higher discounts pulling down base prices, although higher nickel surcharges still lifted pricing for certain grades. Supplies remain tight amid increased shipments, longer lead times of nearly three months, and lower semi-finished stainless steel imports. Import levels have dropped this year given the filing of a trade case against China in February, as well as efforts by Allegheny Technologies, Inc. and AK Steel to reduce their exposure to spot market pricing.

In early August, the stainless steel market was in a similar situation with mixed prices. According to Platts, higher published surcharges for August deliveries boosted transaction prices for grades 304 and 316 cold rolled stainless steel, given the recent increase in nickel pricing.
Zinc

After a soft start to 2016, zinc prices have since increased. The LME market price for zinc averaged $0.99 per pound in July 2016, up from $0.92 the prior month and from the July 2015 average of $0.91.

Zinc prices have jumped by nearly 50% since January, making zinc the best-performer among the base metals tracked by the LME. Prices have been buoyed by recovering demand amid lower supplies.

Zinc stocks at LME and SHFE warehouses continue to draw down, while major producers such as Glencore have closed aged mines and slashed production. Although a number of major zinc producers recently announced increased zinc production in 2016, the increased supply is not sufficient to offset the cuts in global production. The concentrate and refined markets for zinc are therefore expected to remain in a deficit in both 2016 and 2017.
## Metals Reference Sheet

### CARBON STEEL SCRAP VALUES — CHICAGO MARKET

<table>
<thead>
<tr>
<th></th>
<th>One Year Ago</th>
<th>May 2016</th>
<th>June 2016</th>
<th>July 2016</th>
</tr>
</thead>
<tbody>
<tr>
<td>Auto Shred</td>
<td>$267/GT</td>
<td>$276/GT</td>
<td>$255/GT</td>
<td>$242/GT</td>
</tr>
<tr>
<td>HMS (Heavy Melt Steel)</td>
<td>$242/GT</td>
<td>$246/GT</td>
<td>$233/GT</td>
<td>$222/GT</td>
</tr>
<tr>
<td>Bushing</td>
<td>$270/GT</td>
<td>$269/GT</td>
<td>$275/GT</td>
<td>$275/GT</td>
</tr>
</tbody>
</table>

### CARBON STEEL VALUES IN COMMODITY FORMS

#### Carbon Flat Rolled Sheet Coil (Base Price)

<table>
<thead>
<tr>
<th></th>
<th>One Year Ago</th>
<th>May 2016</th>
<th>June 2016</th>
<th>July 2016</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hot Bands</td>
<td>$464/NT</td>
<td>$605/NT</td>
<td>$637/NT</td>
<td>$617/NT</td>
</tr>
<tr>
<td>Cold Rolled</td>
<td>$585/NT</td>
<td>$784/NT</td>
<td>$836/NT</td>
<td>$822/NT</td>
</tr>
<tr>
<td>Hot-Dipped Coated Galvanized</td>
<td>$659/NT</td>
<td>$854/NT</td>
<td>$906/NT</td>
<td>$896/NT</td>
</tr>
</tbody>
</table>

#### Carbon Steel Plates (Base Price)

<table>
<thead>
<tr>
<th></th>
<th>One Year Ago</th>
<th>May 2016</th>
<th>June 2016</th>
<th>July 2016</th>
</tr>
</thead>
<tbody>
<tr>
<td>Plate Coils and Strip Mill Coils</td>
<td>$475 - $495/NT</td>
<td>$615 - $630/NT</td>
<td>$653 - $668/NT</td>
<td>$629 - $644/NT</td>
</tr>
<tr>
<td>Discrete Plates*</td>
<td>Carbon Steel</td>
<td>$568/NT</td>
<td>$640/NT</td>
<td>$668/NT</td>
</tr>
<tr>
<td></td>
<td>Alloys Plates</td>
<td>$960/NT</td>
<td>$1,005/NT</td>
<td>$1,033/NT</td>
</tr>
</tbody>
</table>

*Depending on thickness limits and subject to grade extras up to $600/NT.

#### Hot Rolled Merchant Bar (MBQ) Shapes (Net of Discounts and Rebates)

<table>
<thead>
<tr>
<th></th>
<th>One Year Ago</th>
<th>May 2016 Delivery</th>
<th>June 2016 Delivery</th>
<th>July 2016 Delivery</th>
</tr>
</thead>
<tbody>
<tr>
<td>1/2” X 4” Flats*</td>
<td>$727 Avg/NT</td>
<td>$613 Avg/NT</td>
<td>$637 Avg/NT</td>
<td>$637 Avg/NT</td>
</tr>
<tr>
<td>2” X 2” X 1/4” Angles*</td>
<td>$723 Avg/NT</td>
<td>$609 Avg/NT</td>
<td>$633 Avg/NT</td>
<td>$633 Avg/NT</td>
</tr>
<tr>
<td>Rebar Coils, Grade 60: #3 to #5 Sizes</td>
<td>$580 Avg/NT</td>
<td>$554 Avg/NT</td>
<td>$555 Avg/NT</td>
<td>$540 Avg/NT</td>
</tr>
<tr>
<td>Merchant Bar (FOB Midwest Mill)</td>
<td>$668 - $678/NT</td>
<td>$608 - $623/NT</td>
<td>$608 - $623/NT</td>
<td>$608 - $623/NT</td>
</tr>
</tbody>
</table>

*Variances include East to West Coast markets and variances in rebates.

#### SBQ Bars (Including Surcharges and Net of Rebates)

<table>
<thead>
<tr>
<th></th>
<th>One Year Ago</th>
<th>May 2016 Delivery</th>
<th>June 2016 Delivery</th>
<th>July 2016 Delivery</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hot Rolled 1000 1” Diameter</td>
<td>$37.00/CWT ($740/NT)</td>
<td>$32.50/CWT ($650/NT)</td>
<td>$32.50/CWT ($650/NT)</td>
<td>$32.50/CWT ($650/NT)</td>
</tr>
<tr>
<td>Hot Rolled 4100 1” Diameter</td>
<td>$44.27/CWT ($885/NT)</td>
<td>$38.00/CWT ($760/NT)</td>
<td>$38.00/CWT ($760/NT)</td>
<td>$38.00/CWT ($760/NT)</td>
</tr>
<tr>
<td>Cold Finished C1018 1” Diameter</td>
<td>$50.50/CWT ($1,010/NT)</td>
<td>$48.86/CWT ($977/NT)</td>
<td>$47.45/CWT ($949/NT)</td>
<td>$46.50/CWT ($930/NT)</td>
</tr>
</tbody>
</table>
**Metals Reference Sheet**

### CARBON STEEL VALUES IN COMMODITY FORMS (CONTINUED)

#### OCTG and Line Pipe Sampling

<table>
<thead>
<tr>
<th></th>
<th>One Year Ago</th>
<th>May 2016 Delivery</th>
<th>June 2016 Delivery</th>
<th>July 2016 Delivery</th>
</tr>
</thead>
<tbody>
<tr>
<td>J55 ERW 4 1/2&quot; to 8 5/8&quot;</td>
<td>$950 - $1,000/NT</td>
<td>$770 - $800/NT</td>
<td>$770 - $800/NT</td>
<td>$770 - $800/NT</td>
</tr>
<tr>
<td>Line Pipe ERW 4&quot; Black</td>
<td>$800 - $820/NT</td>
<td>$960 - $980/NT</td>
<td>$960 - $980/NT</td>
<td>$960 - $980/NT</td>
</tr>
</tbody>
</table>

### PRIMARY MAJOR NON-FERROUS METALS

#### Aluminum

<table>
<thead>
<tr>
<th></th>
<th>One Year Ago</th>
<th>May 2016</th>
<th>June 2016</th>
<th>July 2016</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aluminum (LME Values)</td>
<td>$0.7430/LB</td>
<td>$0.7059/LB</td>
<td>$0.7222/LB</td>
<td>$0.7393/LB</td>
</tr>
<tr>
<td>Aluminum N.A. (High Grade P1020)</td>
<td>$0.7725/LB</td>
<td>$0.7858/LB</td>
<td>$0.7968/LB</td>
<td>$0.8091/LB</td>
</tr>
<tr>
<td>MWTP (Midwest Premium)</td>
<td>$0.0804/LB</td>
<td>$0.0799/LB</td>
<td>$0.0743/LB</td>
<td>$0.0696/LB</td>
</tr>
<tr>
<td>Aluminum Alloy A380.1 (LME Values)</td>
<td>$0.9270/LB</td>
<td>$0.8525/LB</td>
<td>$0.8410/LB</td>
<td>$0.8400/LB</td>
</tr>
</tbody>
</table>

#### Copper and Nickel

<table>
<thead>
<tr>
<th></th>
<th>One Year Ago</th>
<th>May 2016</th>
<th>June 2016</th>
<th>July 2016</th>
</tr>
</thead>
<tbody>
<tr>
<td>Copper High Grade A (LME Values)</td>
<td>$2.4752/LB</td>
<td>$2.1357/LB</td>
<td>$2.1004/LB</td>
<td>$2.2025/LB</td>
</tr>
</tbody>
</table>

*Depending on thickness limits and subject to grade extras up to $600/NT.

### STAINLESS STEEL AND SURCHARGES

#### Stainless Steel Flat Rolled Sheet Coil (With Current Average Distributor Discount)

<table>
<thead>
<tr>
<th></th>
<th>One Year Ago</th>
<th>May 2016 Delivery</th>
<th>June 2016 Delivery</th>
<th>July 2016 Delivery</th>
</tr>
</thead>
<tbody>
<tr>
<td>T304*</td>
<td>$1.1876/LB</td>
<td>$0.9592/LB</td>
<td>$0.9827/LB</td>
<td>$0.9695/LB</td>
</tr>
<tr>
<td>T316/316L*</td>
<td>$1.5485/LB</td>
<td>$1.2310/LB</td>
<td>$1.2876/LB</td>
<td>$1.3068/LB</td>
</tr>
</tbody>
</table>

*The above changes in product prices are driven by changes in monthly elemental metallic surcharges. These are most heavily impacted by changes in nickel values but result from the combined impact of nickel, chrome, molybdenum, titanium, ferrous scraps, and energy (natural gas). Surcharges are established from the monthly averages of the elements two months prior to the affected month.

#### Surcharges (From North American Stainless)

<table>
<thead>
<tr>
<th></th>
<th>One Year Ago</th>
<th>May 2016</th>
<th>June 2016</th>
<th>July 2016</th>
</tr>
</thead>
<tbody>
<tr>
<td>T304/304L</td>
<td>$0.5716/LB</td>
<td>$0.3432/LB</td>
<td>$0.3667/LB</td>
<td>$0.3535/LB</td>
</tr>
<tr>
<td>T316/316L</td>
<td>$0.7505/LB</td>
<td>$0.4330/LB</td>
<td>$0.4896/LB</td>
<td>$0.5088/LB</td>
</tr>
</tbody>
</table>
The *Metals Monitor* provides market value trends in both ferrous and non-ferrous metals. The commodity nature of steel scrap, aluminum ingot, copper cathode, and nickel often results in volatile market values. Our quarterly *Metals Monitor* reflects pricing and market trends over the prior quarter, as well as forward-looking projections, in order to reflect significant developments in the metals markets.

The *Metals Monitor* includes a sampling covering most metals projects. GA’s metals expertise is not confined to use on pure metals projects, but is always utilized in assuring the accuracy and insight for all manufacturing projects where metals are the primary or significant raw materials, regardless of the sector of the finished products. This assures that all appraisals from GA reflect the full scope of our experience and insight. GA internally tracks additional specialty and tool steels, all raw materials for steel, specialty steel, and primary aluminum production and manufacturing, but we are mindful to adhere to your request for a simple reference document.

Should you need any further information or wish to discuss recovery ranges for a particular segment, please feel free to contact your GA Business Development Officer.

GA’s *Metals Monitor* provides market value and industry trend information for a variety of metals products. The information contained herein is based on a composite of GA’s industry expertise, contact with industry personnel, industry publications, liquidation and appraisal experience, and data compiled from a variety of well-respected sources believed to be reliable.

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Over the past three months, GA performed appraisals of companies with annual revenues ranging from $12.8 million to $488.5 million, including the following sampling:

- A steel processor and service center.
- A fabricator of aluminum castings and extrusions.
- A manufacturer of metal roofing and siding panels.
- A recycler, broker, and exporter of scrap metal.
- A manufacturer of copper wire and cables.
- A manufacturer of metal roofing products.
- A distributor of alloyed non-heat-treated aluminum.
- A steel service center serving the construction markets.
- A steel service center serving the OEM markets.
- An importer and master distributor of stainless steel.
- A manufacturer of metal forgings for the auto industry.
- A manufacturer of roll-formed shapes and related goods.

GA’s extensive appraisal experience includes valuations of major businesses in the metals industry, including the following sampling:

- Globally recognized vertically integrated manufacturers and distributors of steel tube.
- A vertically integrated producer of aluminum, including both the upstream and downstream sides of the industry, with over $1 billion in sales annually and over $130 million in inventory.
- One of the U.S.’s largest scrap recycling processors, with nearly $550 million in sales annually.
- Well-known service centers across the nation, including a multi-division full line steel service center consisting of over 50 locations across the U.S., with $2.6 billion in annual sales and over $500 million in inventory.

GA additionally maintains appraisal experience involving precious metals and specialty metals, allowing GA to provide experience-based valuations across the entire metals industry. The metal products that GA has appraised have maintained applications throughout a wide variety of industries, including the automotive, construction, aerospace, industrial machinery and equipment, and appliance and electrical equipment markets.

Moreover, GA has liquidated a number of companies with metal products, including 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.

GA 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 to our vast appraisal and liquidation experience, GA maintains a staff of experienced metals experts with personal contacts within the metals industry that we utilize for insight and perspective on recovery values.
Appraisal & Valuation Team

BUSINESS DEVELOPMENT

Mike Marchlik
National Sales & Marketing Director
(818) 917-8175
mmarchlik@greatamerican.com

Ryan Mulcunry
Executive Vice President
Northeast Region, Canada & Europe
(857) 231-1711
rmulcunry@greatamerican.com

David Seiden
Executive Vice President
Southeast Region
(404) 808-8153
dseiden@greatamerican.com

Bill Soncini
Senior Vice President
Midwest Region
(773) 495-4534
bsoncini@greatamerican.com

Jennie Kim
Vice President
Western Region
(818) 974-0602
jkim@greatamerican.com

Daniel J. Williams
Managing Director
New York Region
(908) 251-3580
dwilliams@greatamerican.com

Drew Jakubek
Managing Director
Southwest Region
(214) 455-7081
djakubek@greatamerican.com

Bryan Fischer
Relationship Manager
CO, KS, MO, UT, NE
(857) 540-1319
bfischer@greatamerican.com

Greg Trilevsky
Senior Appraiser (Metals)
(909) 559-8135
ltrelevsky@greatamerican.com

Alex Tereszczuk
Senior Appraiser (Metals)
(336) 854-7859
aterszczuk@greatamerican.com

Dan Tracy
Senior Appraiser (Metals)
(412) 953-6357
dtracy@greatamerican.com

OPERATIONS

Michael Petruski
Executive VP, General Manager
(818) 884-3737
mpetruski@greatamerican.com

John Little
Senior Appraiser (Scrap Recycling)
(864) 630-4799
jlittle@greatamerican.com

Greg Trilevsky
Senior Appraiser (Metals)
(909) 559-8135
ltrelevsky@greatamerican.com

Kristi Faherty
Managing Director
(781) 429-4060
kfaherty@greatamerican.com

Alex Tereszczuk
Senior Appraiser (Metals)
(336) 854-7859
aterszczuk@greatamerican.com

Bill O’Brien
Managing Director
(781) 429-4073
bobrien@greatamerican.com

Dan Tracy
Senior Appraiser (Metals)
(412) 953-6357
dtracy@greatamerican.com

Ryan Lutz
Senior Project Manager
(781) 429-4052
rlutz@greatamerican.com

ASSET DISPOSITION TEAM

Scott Carpenter
President, GA Retail Solutions
(818) 884-3737
scarpenter@greatamerican.com

Adam Alexander
President, GA Global Partners
(818) 884-3737
aalexander@greatamerican.com

Ryan Mulcunry
Executive Vice President
Northeast Region, Canada & Europe
(857) 231-1711
rmulcunry@greatamerican.com

Drew Jakubek
Managing Director
Southwest Region
(214) 455-7081
djakubek@greatamerican.com

Bryan Fischer
Relationship Manager
CO, KS, MO, UT, NE
(857) 540-1319
bfischer@greatamerican.com

Bill Soncini
Senior Vice President
Midwest Region
(773) 495-4534
bsoncini@greatamerican.com

Jennie Kim
Vice President
Western Region
(818) 974-0602
jkim@greatamerican.com

Daniel J. Williams
Managing Director
New York Region
(908) 251-3580
dwilliams@greatamerican.com

Drew Jakubek
Managing Director
Southwest Region
(214) 455-7081
djakubek@greatamerican.com

Bryan Fischer
Relationship Manager
CO, KS, MO, UT, NE
(857) 540-1319
bfischer@greatamerican.com

Greg Trilevsky
Senior Appraiser (Metals)
(909) 559-8135
ltrelevsky@greatamerican.com

Alex Tereszczuk
Senior Appraiser (Metals)
(336) 854-7859
aterszczuk@greatamerican.com

Dan Tracy
Senior Appraiser (Metals)
(412) 953-6357
dtracy@greatamerican.com

Ryan Lutz
Senior Project Manager
(781) 429-4052
rlutz@greatamerican.com

Scott Carpenter
President, GA Retail Solutions
(818) 884-3737
scarpenter@greatamerican.com

Adam Alexander
President, GA Global Partners
(818) 884-3737
aalexander@greatamerican.com
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