

2019 Market Outlook Webinar

ISRI Live Learning Series

January 8, 2019

Presenters:

Joe Pickard, ISRI Chief Economist and Director of Commodities

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- Extremely positive U.S. macroeconomic fundamentals but the increasingly volatile financials markets
- Despite China, the world's largest scrap importer, imposing numerous scrap import restrictions, U.S. exports of scrap were on track to exceed 40 million mt in 2018, the best performance since 2013
- U.S. imposed trade barriers were driving manufacturing capacity utilization rate higher, but downstream consumers were warning that tariffs were hurting their business
- In the commodity markets, despite reported global supply shortages for a range of metals including copper, lead, and zinc, prices for most of the major nonferrous metals were down anywhere from 10 to 25 percent as of late 2018
- For the U.S. economy, strongly positive consumer and business sentiment, along with rising income and spending levels, were pointing to continued growth ahead. At the same time, the Treasury bond yield curve approached inversion, a closely watched predictor of recessions

Positive Indicators: Strong Jobs Growth

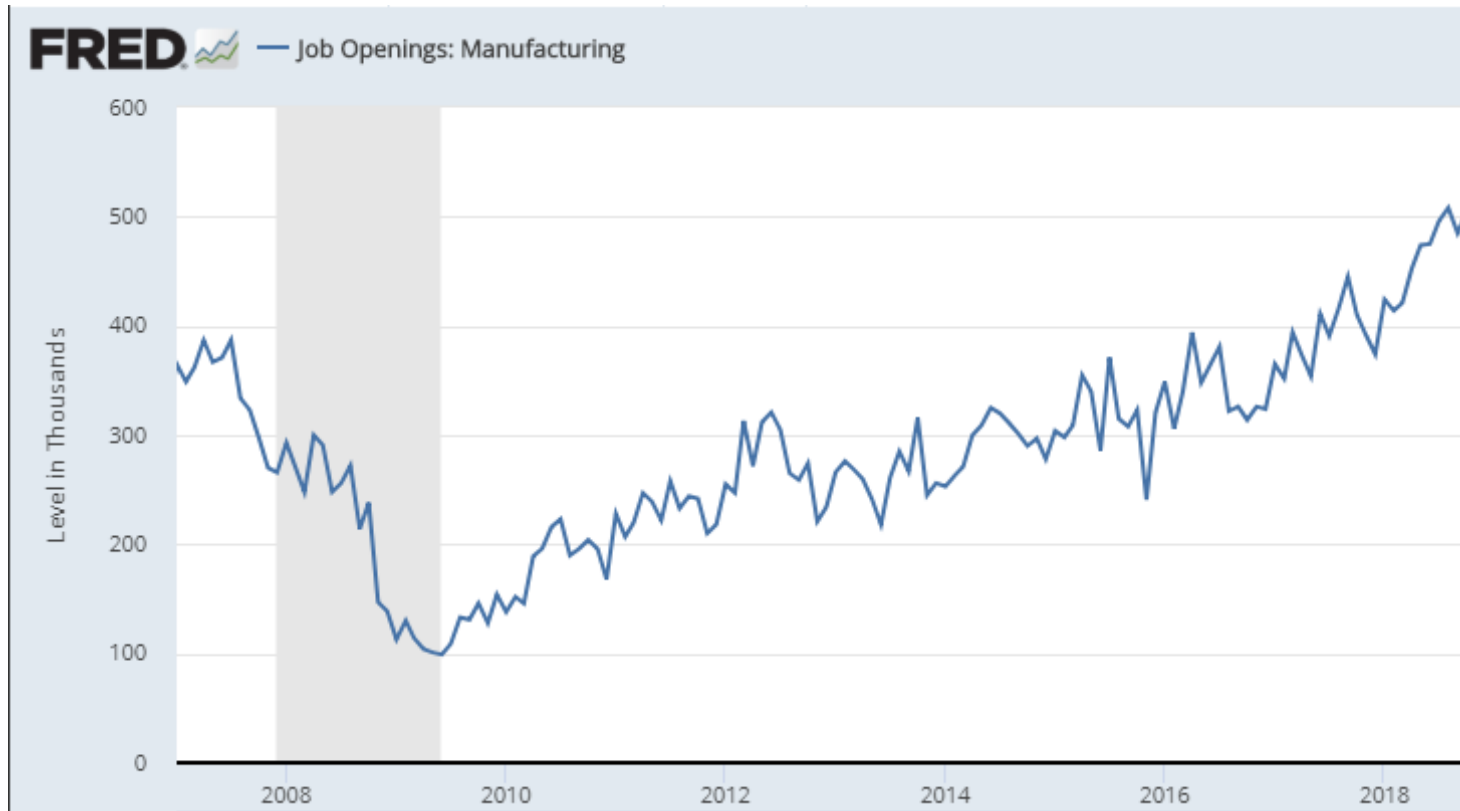
Monthly Gains In U.S. Nonfarm Payrolls in 2018 (1,000 jobs)

Source: Bureau of Labor Statistics



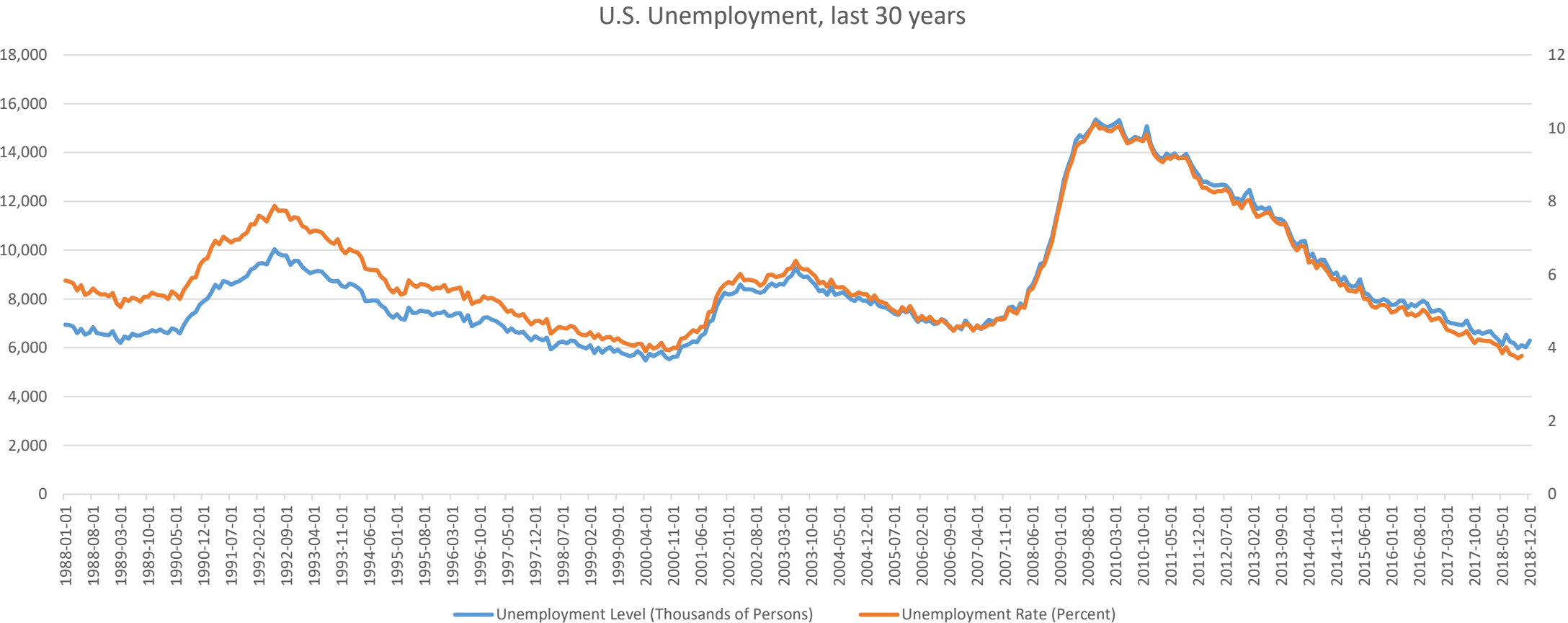
Manufacturers continue to hire more employees, contributing to the nation's job growth. According to the BLS: "Manufacturing added 32,000 jobs in December. Most of the gain occurred in the durable goods component (+19,000), with job growth in fabricated metal products (+7,000) and in computer and electronic products (+4,000). Employment in the nondurable goods component also increased over the month (+13,000). Manufacturing employment increased by 284,000 over the year, with about three-fourths of the gain in durable goods industries. Manufacturing had added 207,000 jobs in 2017."

Positive Indicators: Manufacturers Are Hiring



BLS also reports more than 500,000 unfilled job openings in the manufacturing sector as of October 2018, the highest level since the Labor Department started reporting job openings in 2000.

U.S. unemployment at historically low levels

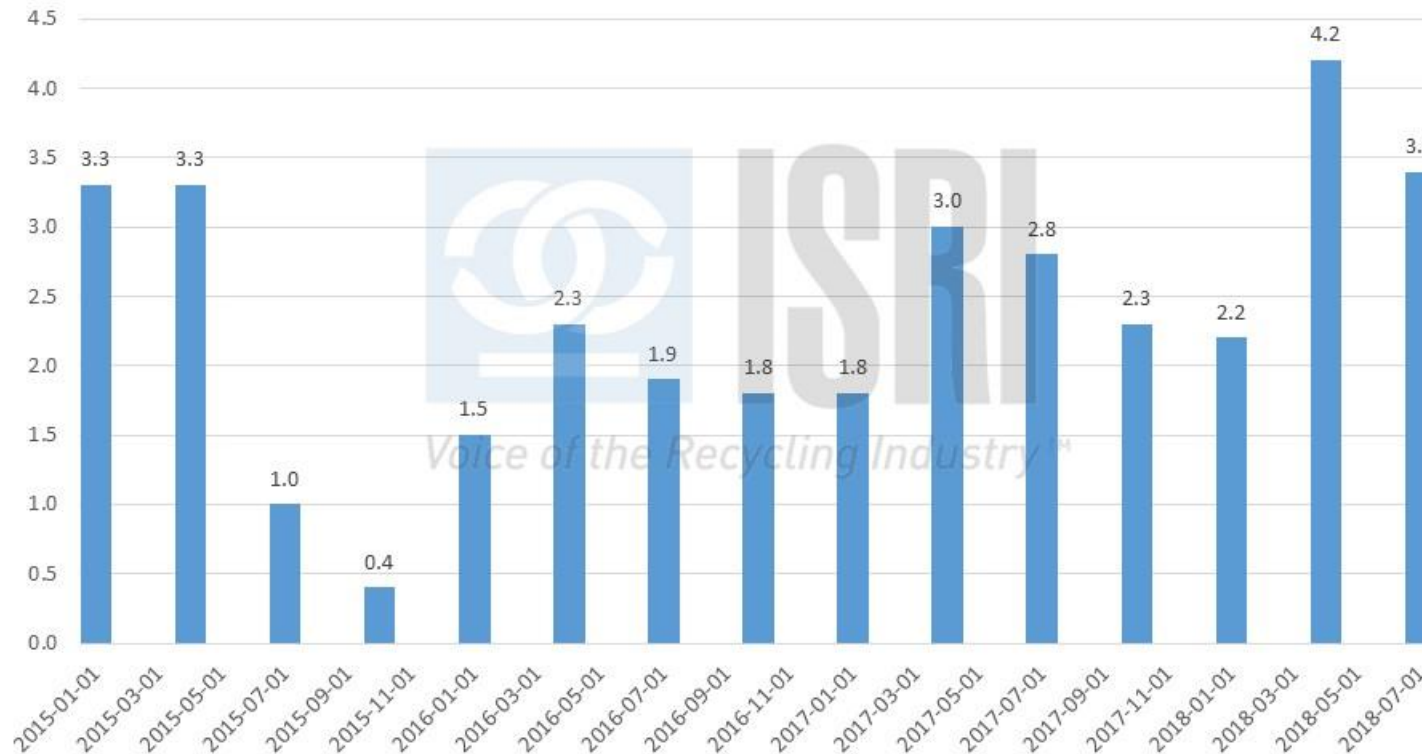


*U.S. Bureau of Labor Statistics

Positive Indicators: Real GDP Growth

Real Quarterly U.S. GDP Growth, Q1 2015 - Q3 2018

Source: Bureau of Economic Analysis



According to the Bureau of Economic Analysis, real gross domestic product (adjusted for inflation) advanced at an annualized rate of 3.4 percent in the third quarter of 2018. Despite strong gains in output, income, and payrolls, inflation levels have remained in check. The personal consumption expenditure price index—one of the Federal Reserve’s preferred inflation gauges—was up just 1.6 percent in the third quarter, still below the Fed’s 2 percent inflation target.

If the U.S. economy can get through the first half of 2019 without a recession, it will mark the longest continuous economic expansion since the National Bureau of Economic Research started measuring economic cycles 164 years ago.

Manufacturing PMI Still Positive, But Slowing

Category	DEC	NOV	OCT	SEP	AUG
Total Index	54.1	59.3	57.7	59.8	61.3
Orders	51.1	62.1	57.4	61.8	65.1
Production	54.3	60.6	59.9	63.9	63.3
Employment	56.2	58.4	56.8	58.8	58.5
Deliveries	57.5	62.5	63.8	61.1	64.5
Inventories	51.2	52.9	50.7	53.3	55.4
Export Orders	52.8	52.2	52.2	56.0	55.2
Prices paid (not seas adj)	54.9	60.7	71.6	66.9	72.1

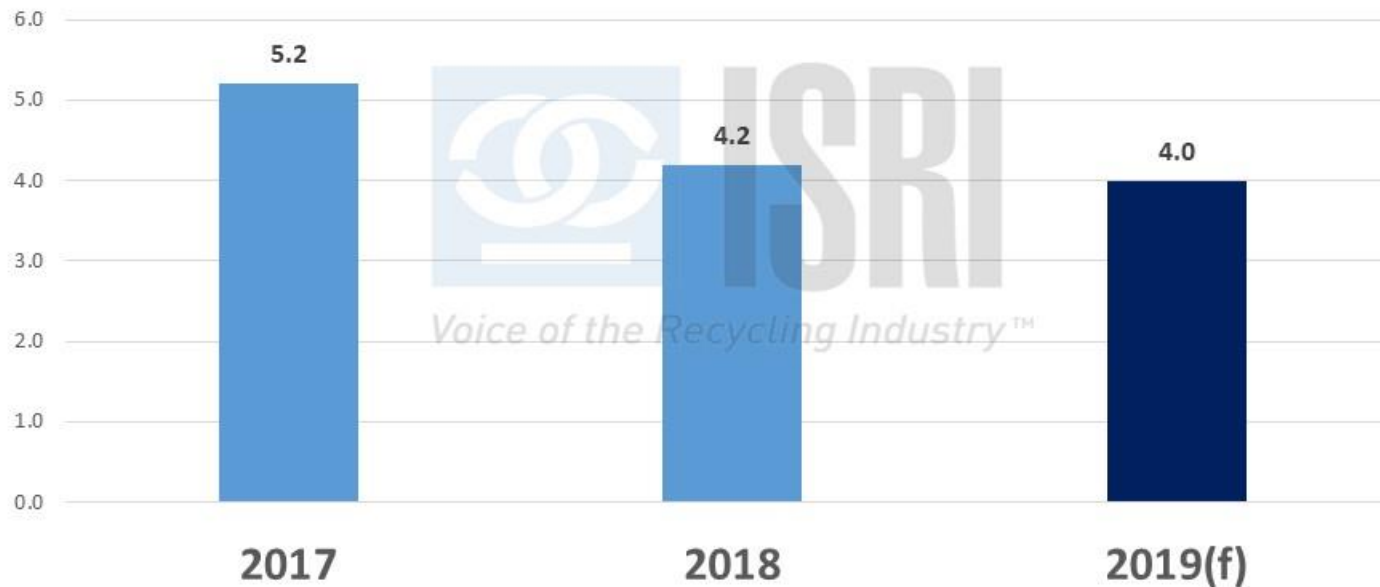
Here's what some of the ISM survey respondents had to say:

- “Growth appears to have stopped. Resources still focused on re-sourcing for U.S. tariff mitigation out of China.” (Computer & Electronic Products)
- “Brexit has become a problem due to labeling changes.” (Chemical Products)
- “Customer demand continues to decrease [due to] concerns about the economy and tariffs.” (Transportation Equipment)
- “Starting to see more and more inflationary increases for raw materials. Also, suppliers [are] forcing price increases due to tariffs.” (Food, Beverage & Tobacco Products)
- “The ongoing open issues with tariffs between U.S. and China are causing longer-term concerns about costs and sourcing strategies for our manufacturing operations. We were anticipating more clarity [regarding] tariffs at the end of 2018.” (Machinery)
- “Business is steady, but pace of incoming orders are slowing.” (Furniture & Related Products)
- “Business is robust for certain sectors [aerospace] and flat to downward for others [energy]. Tariffs continue to impact business direction and profit.” (Miscellaneous Manufacturing)
- “Caution seems to be the outlook. Are we in a correction, or is the market getting ready to slow over time?” (Fabricated Metal Products)
- “No major change in business operations towards the end of 2018; however, we are carefully monitoring oil prices and outside influence from market conditions to better understand our 2019 outlook and capital plans.” (Petroleum & Coal Products)
- “Customers are hedge buying in December as a result of announced price increases starting in January.” (Textile Mills)

Areas of Concern: Growth in Global Trade Expected to Slow

Percentage Growth in the Global Trade of Goods and Services, 2017 - 2019 (forecast)

Source: International Monetary Fund



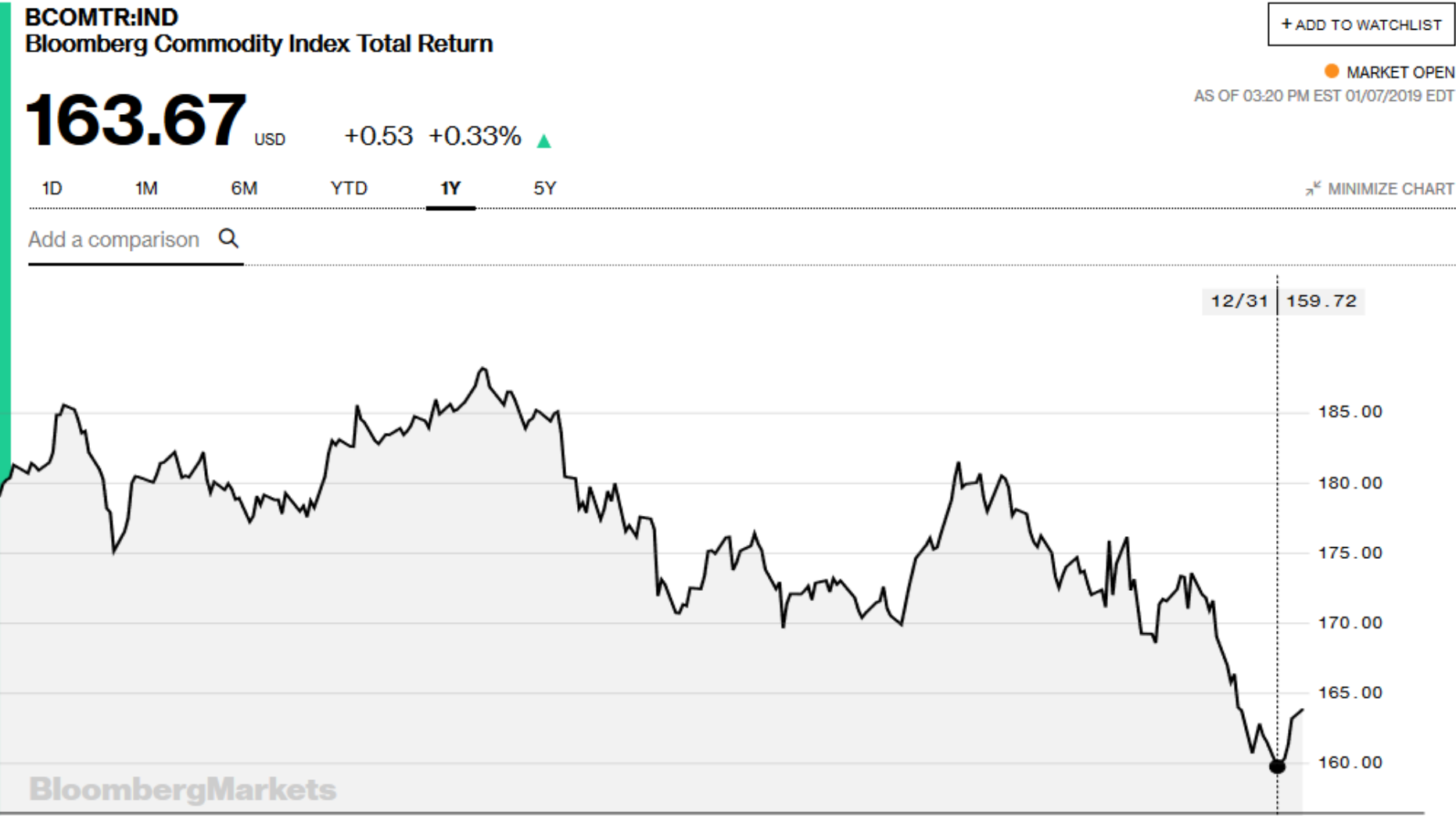
For 2019, the relationship between the United States and China will continue to reshape global trade flows and impact economic growth, especially given the administration's March 1 deadline for a trade deal with China.

The International Monetary Fund and other forecasters expect the new trade landscape will lead to slower trade flows, with the IMF predicting that growth in the global trade of goods and services will decline from 5.2 percent in 2017 to 4.2 percent in 2018 and 4.0 percent in 2019.

Sources of Concern: Market Volatility

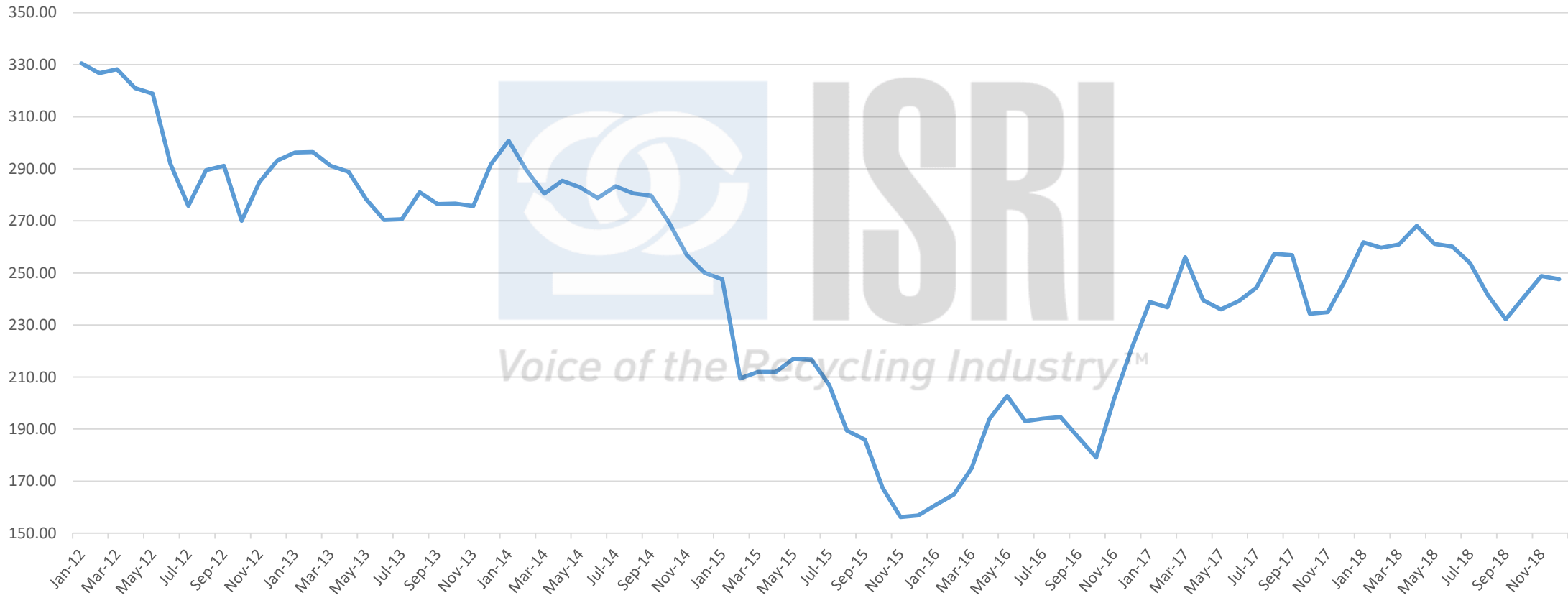


It wasn't pretty for the commodity indexes either...

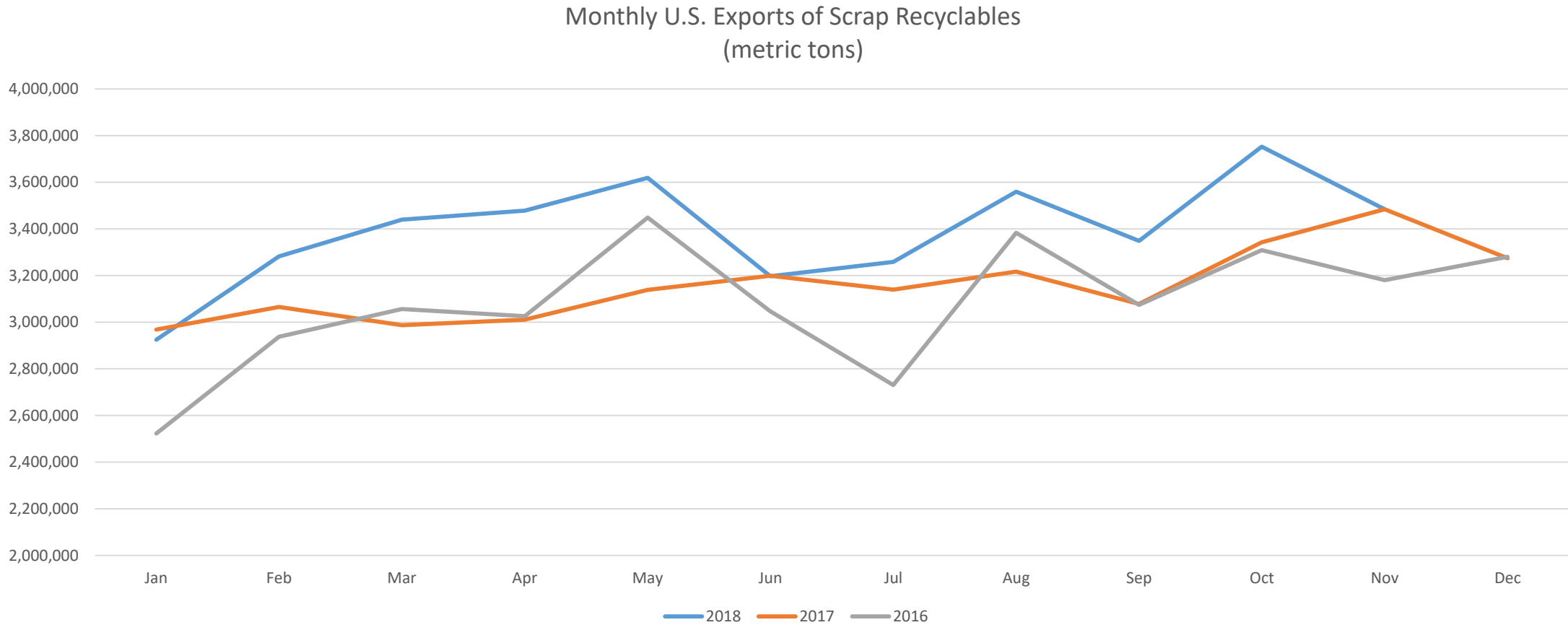


Primary Commodity Prices Impacting Scrap Values

ISRI Index: Jan 2012 - Dec 2018
(Jan 1998 = 100)



U.S. scrap export volumes have been exceeding the previous years.



*U.S. Census Bureau/U.S. International Trade Commission

- Markets have grown increasingly concerned about slowing Chinese growth, the trade war, and deteriorating Brexit negotiations.
- Rising interest rates also loom large: the Federal Reserve is signaling that it's likely to institute two more rate hikes in 2019, even as GDP growth is expected to taper off to 2.3 percent. Rising interest rates raise borrowing costs for everyone, from homeowners to car buyers to college students. For business owners, higher interest rates raise the bar on what capital investments will earn a positive return.
- Tighter monetary policy is a concern for global debt markets as well, with the Institute for International Finance now estimating global debt levels have ballooned to nearly \$250 trillion.
- Accompanying this year's expected increase in interest rates will be diminished stimulus from last year's corporate tax cuts.
- As the U.S. economy moves closer to full employment and population growth slows, productivity gains become harder to achieve.
- Political concerns also loom large, as the newly divided Congress and heightened partisan polarization will likely impede efforts to reform immigration and healthcare policy and boost infrastructure spending.
- As a result, nearly half of polled U.S. chief financial officers expect a recession by the end of 2019, and more than 80 percent expect a recession by the end of 2020, according to the Wall Street Journal.

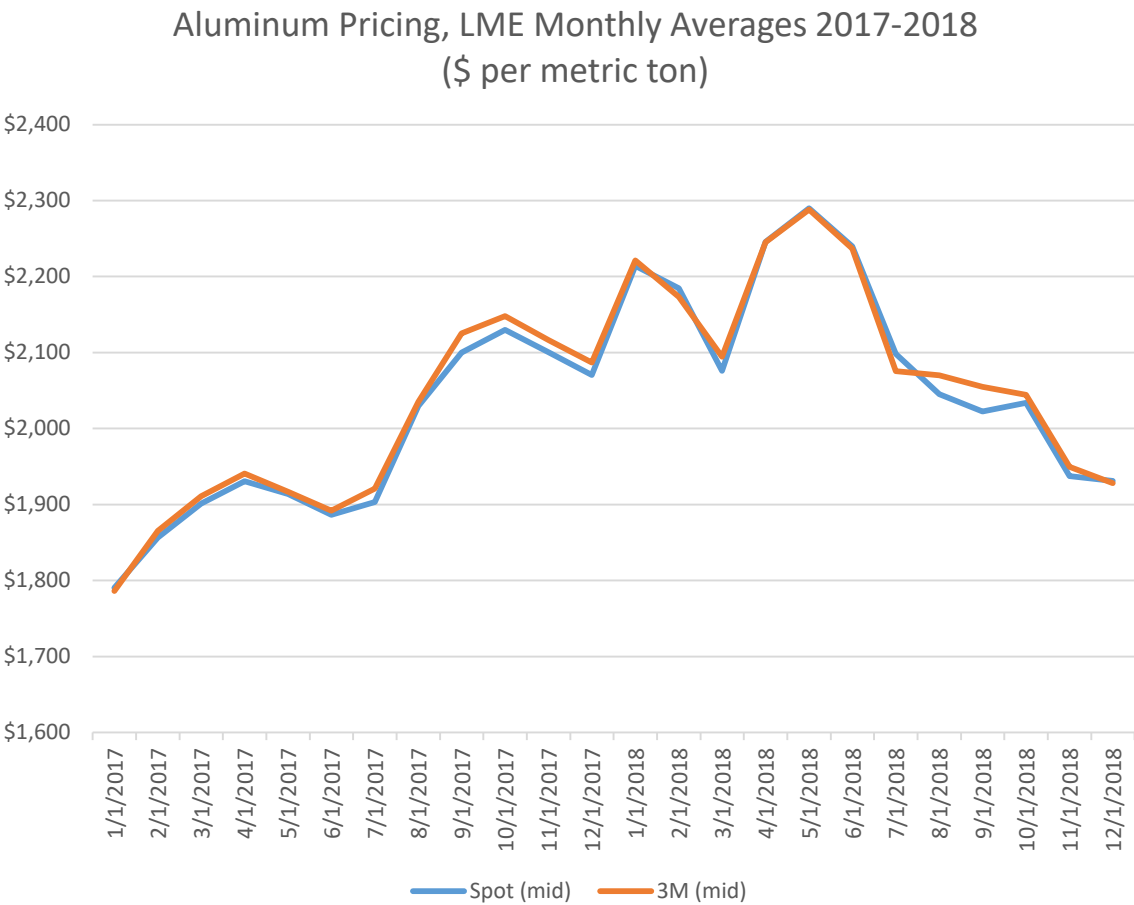
- For recyclers, tight labor markets, ongoing transportation headaches, and uncertainty on trade remain front and center.
- For scrap recyclers, the strained U.S.-China trade relationship and other global economic challenges have only accelerated the industry restructuring that was already underway.
- In the private sector, industry consolidation has continued as larger recycling companies compete to obtain profitable operations and expand their footprints.
- For residential recycling programs, the disconnect between which materials communities want to recycle and which materials recyclers can profitably market has come to a head.
- Recyclers are increasingly focused on market development and the targeted investments required to produce high-quality recycled commodities.

Commodities Outlook

This time last year, Macquarie Research (London) was forecasting an average aluminum price of \$2,038 per mt for 2018. In fact, the LME official aluminum cash price averaged nearly \$2,110 per ton last year. But LME aluminum prices also finished the year 18 percent lower in 2018 than they did at the end of 2017. The year-on-year decline came amid delayed U.S. sanctions against the Russian aluminum giant Rusal and a relatively modest 1-percent increase in Chinese primary aluminum production during the first 11 months of 2018, according to International Aluminium Institute (London) estimates.

For U.S. aluminum recyclers, transportation bottlenecks and difficult physical market fundamentals continue to pose challenges. Trade policy and domestic investment in aluminum production largely will continue to shape the outlook for 2019. One domestic project the U.S. Geological Survey notes is at Century Aluminum Co. (Chicago), which plans to expand the capacity of the billet casthouse at its Sebree, Ky., smelter by 90,000 mt a year, with a separate project there adding 20,000 mt a year of secondary aluminum smelting capacity.

Meanwhile, on the trade front, the U.S. International Trade Administration determined in November that imports of common alloy aluminum sheet from China are being sold at below market value. The U.S. International Trade Commission is considering whether that has materially injured U.S. aluminum producers, which would pave the way for potential antidumping duties. Macquarie Research projects that the average aluminum price will reach \$2,078 a ton in 2019 and grow to \$2,128 a ton in 2020.

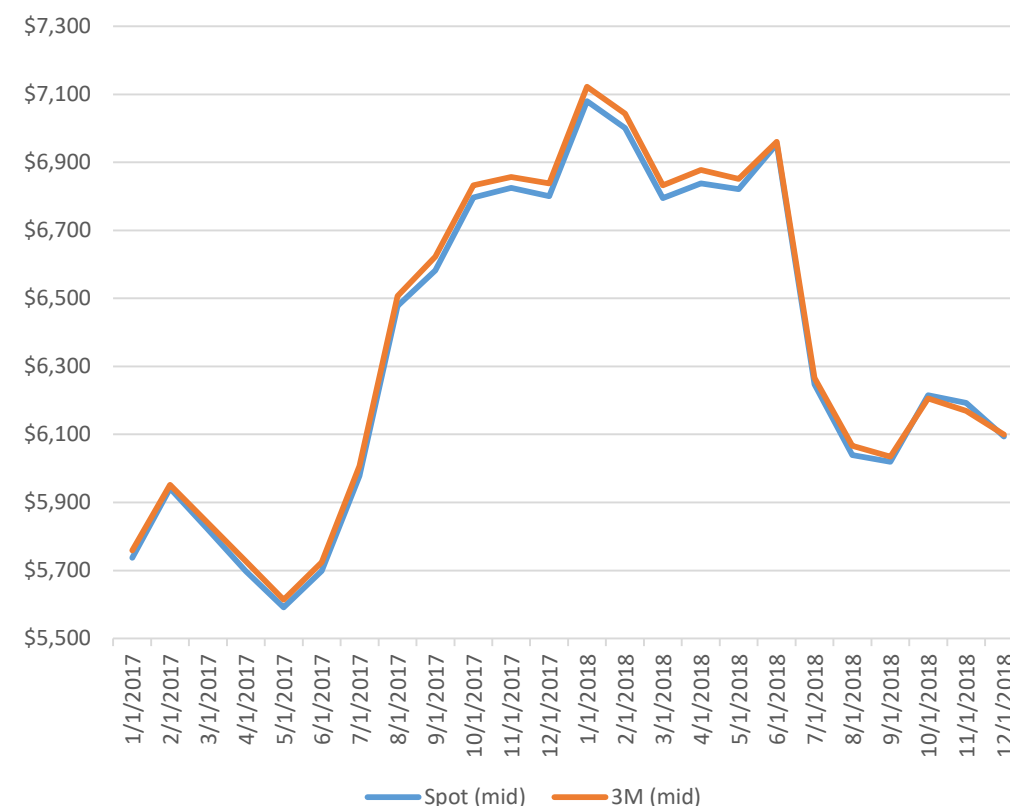


*London Metal Exchange via Fastmarkets

The U.S.-China trade war, weaker Chinese economic data, and stronger dollar continue to weigh on copper market sentiment as they have on other nonferrous metals. The LME official 3-month asking price for copper declined nearly 17 percent over the course of 2018 to finish the year at less than \$6,000 a mt. The decline in refined copper prices highlighted the disparity between market fundamentals and investor sentiment. According to figures from the International Copper Study Group (Lisbon, Portugal), global demand for refined copper exceed supply by 595,000 mt during the first nine months of 2018.

China's restrictions on copper and copper alloy scrap imports continue to reshape the global market, a process that's likely to continue well into 2019. According to trade figures from the U.S. Commerce Department, U.S. copper and copper alloy scrap shipments to mainland China were down 55 percent by volume during the first 10 months of 2018, although larger shipments to Malaysia, South Korea, Japan, India, Thailand, and other countries helped offset the reduction in Chinese demand. China's increased demand for higher-quality packages of No. 1 (Bare Bright) and No. 2 copper may contribute to tighter market conditions for those commodities, while lower-quality scrap commodities may see more balanced market conditions. With so many uncertainties heading into 2019—including the ongoing trade wars, rising interest rates, and increased volatility in commodity, foreign exchange, and equity markets—the outlook for red-metal demand next year is far from clear.

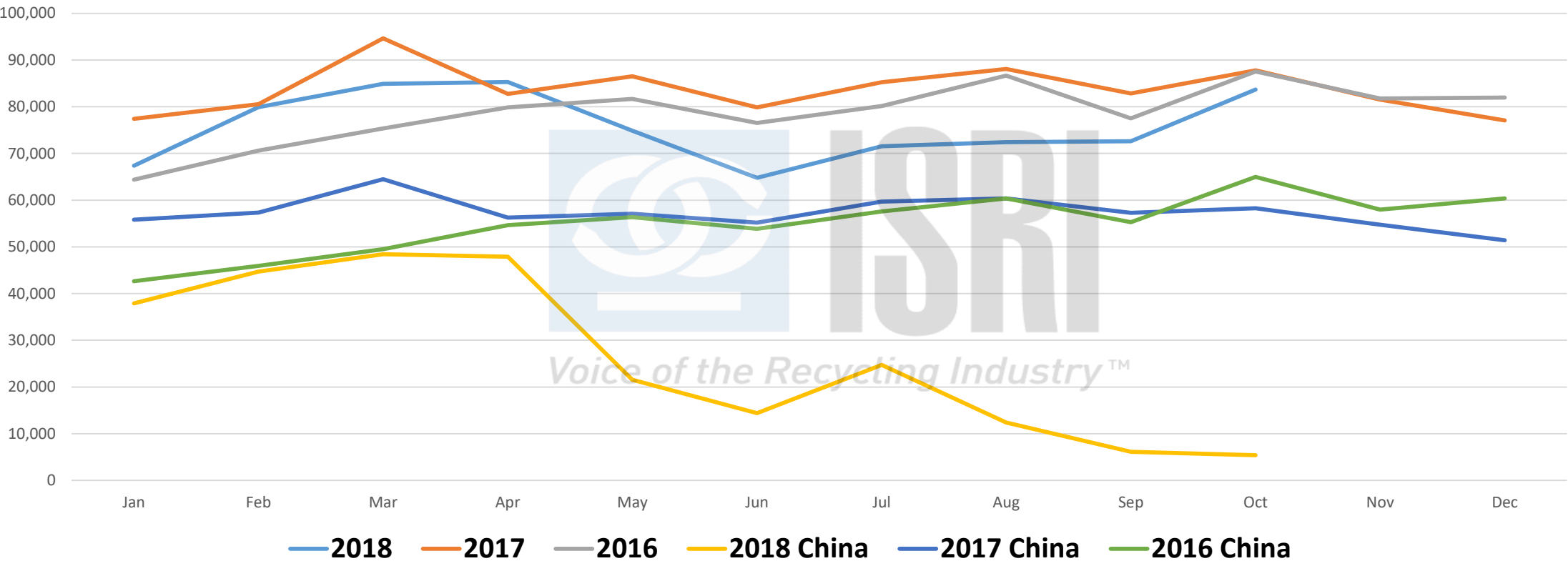
Copper Pricing, LME Monthly Averages 2017-2018
(\$ per metric ton)



*London Metal Exchange via Fastmarkets

U.S. Copper Scrap Exports (monthly in metric tons)

Monthly U.S. Copper Scrap Exports to the World and China
(metric tonnage)

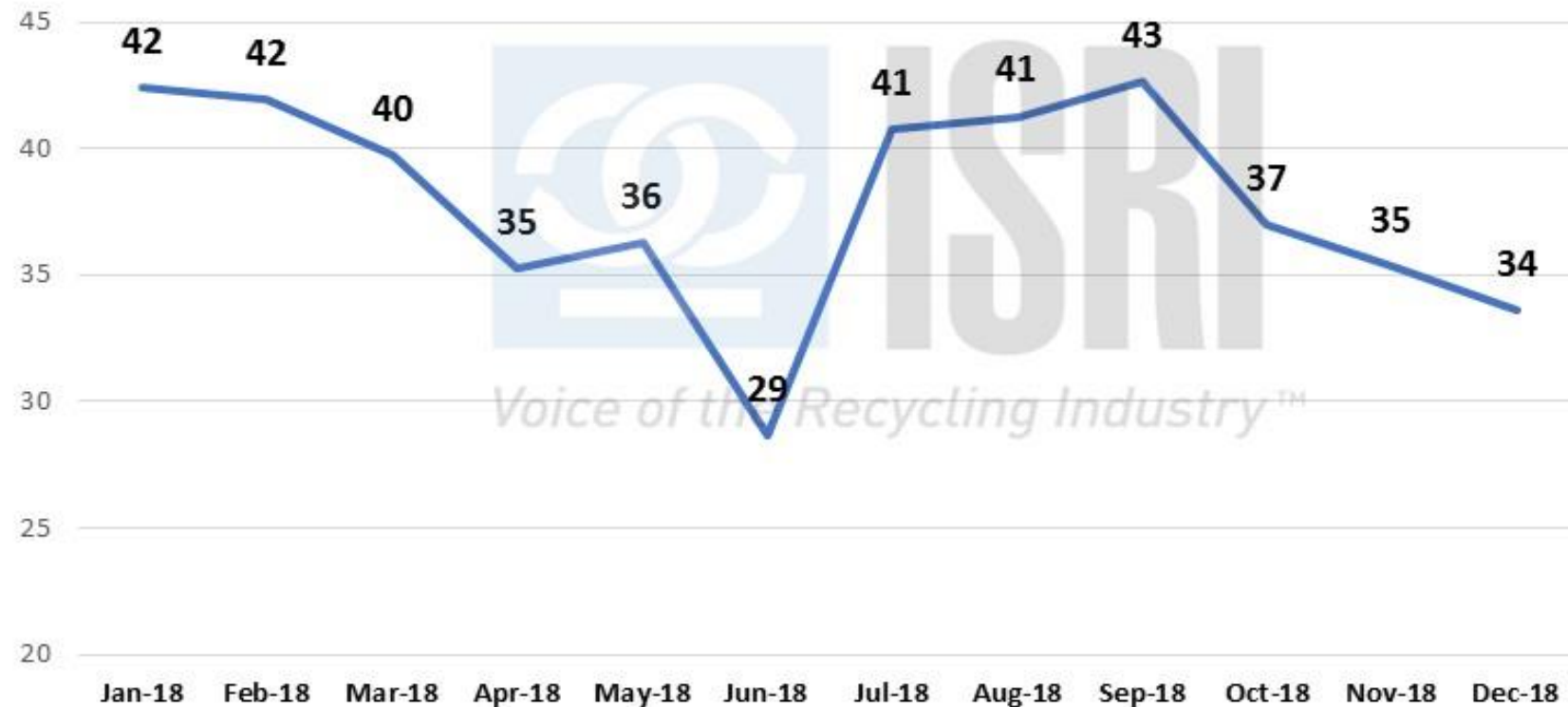


*U.S. Census Bureau/U.S. International Trade Commission

Falling Primary Copper Prices Impacting Scrap Values

**Average Monthly No. 2 Copper Scrap Discounts to U.S. Refiners
(cents/lb.)**

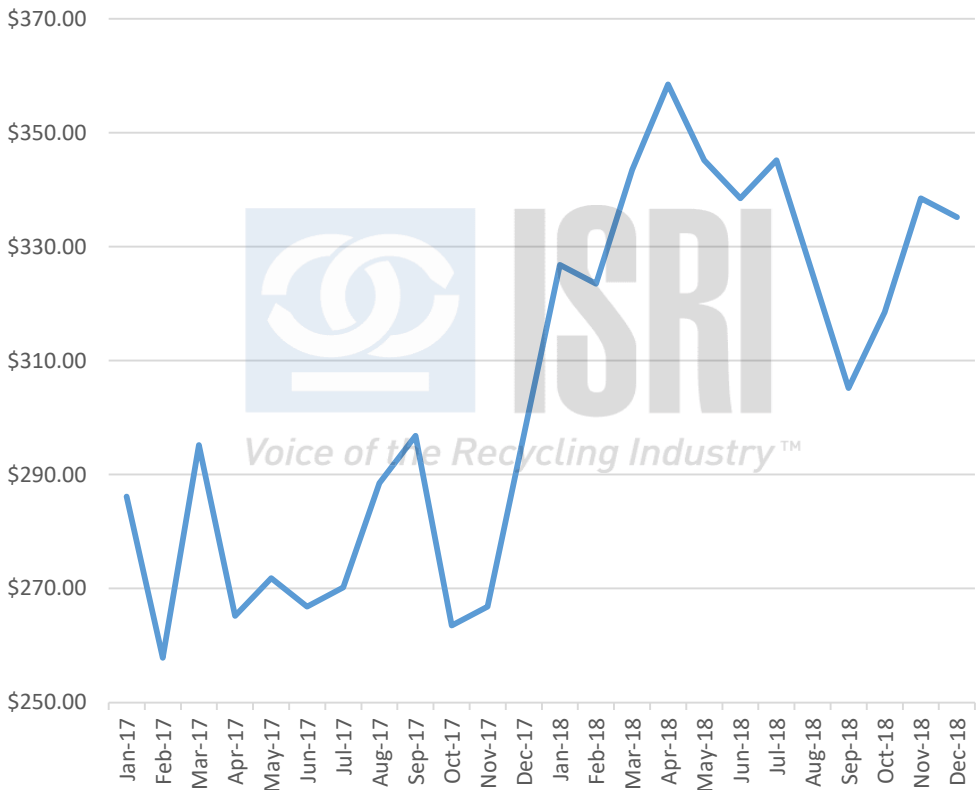
Source: Fastmarkets AMM



Ferrous scrap prices advanced over the course of 2018, with No. 1 heavy melt averaging \$333.50 per ton. U.S. ferrous scrap exports were up about 20 percent in 2018 compared with 2017 thanks to improved overseas demand for obsolete ferrous scrap. On the domestic front, new durable goods orders hovered around \$243 billion per month and were on a similar track with ferrous scrap prices. While purchasing has remained consistent, capacity utilization and personal expenditures on durable goods steadily increased over the course of the year. U.S. automobile sales were similar in 2017 and 2018 in terms of the number of units sold, but the composition of those sales shifted 5 percent from passenger vehicles to light trucks or larger vehicles.

The bipartisan political support for infrastructure investment and domestic steel production creates positive expectations for ferrous scrap markets in 2019. The ratification of the United States-Mexico-Canada Agreement would certainly help stabilize traditional trade relationships. Global steel production may have another issue to contend with, however, as countries work to meet their commitments for greenhouse gas reductions under the Paris Climate Agreement. With the U.S. announcing its intention to withdraw from the agreement, the onus of adjustment falls on many of the other steel-producing countries around the world. This is likely to mean a more rapid shift toward electric-arc furnace steel production. However, the World Steel Association’s (Belgium) calculation of the steel industry’s energy use has shown that efficiencies in production may have hit a marginal cost barrier in the last five years.

No. 1 HMS Monthly Average Prices 2017-2018
(per gross ton)



*Fastmarkets SPB

Among the major base metals, zinc and lead prices were the worst performers at the LME in 2018, with prices falling 25 percent and 19 percent, respectively, compared with 2017. As with other scrap commodities, the sister metals' price performance did not appear to coincide with physical market fundamentals or expectations. According to the International Lead and Zinc Study Group (Lisbon), the global refined zinc market was in a supply deficit of 305,000 mt during the first nine months of 2018, while world refined lead metal demand exceeded supply by 110,000 mt over the corresponding period. According to Fastmarkets (London), "Going forward, the global refined lead market remains fairly challenging. Chinese smelters have avoided buying U.S. lead ores and concentrates. Furthermore, supply from neighboring North Korea remains restricted due to United Nations sanctions."

In 2019, ILZSG is forecasting global lead metal supply will exceed demand by 50,000 mt while global demand for refined zinc will exceed supply by 72,000 mt. For zinc, Fastmarkets notes, "While the prevailing trend is to the downside, a lot of the bearish catalysts may have run their course. Momentum indicators we follow suggest the path of least resistance is to the upside and the risk profile to increase bearish exposure at current prices is ill-advised." According to analysts Reuters surveyed, the LME cash zinc price is expected to average \$2,732 per mt in 2019.

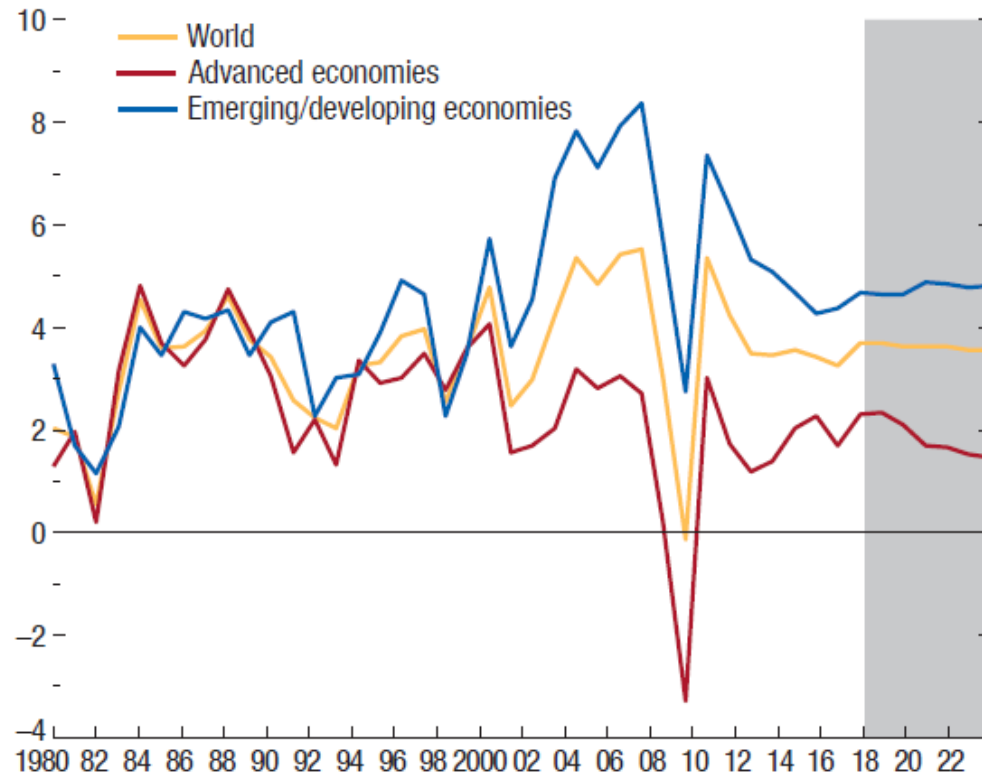
Nickel price volatility continues to live up to expectations. At the London Metal Exchange, 3-month nickel prices finished 2018 below \$11,000 per mt after having ended 2017 at just over \$12,300 per mt. Other key raw material inputs for stainless steel production have experienced even greater price volatility. LME cobalt prices finished the year around \$55,000 per mt, down from their second quarter average of more than \$87,000 per mt. Given the uptick in commodity price volatility, rising stainless steel production in China and Indonesia, and an expanding list of global risk factors, stainless scrap recyclers are faced with heightened uncertainty and myriad challenges.

According to figures from the International Stainless Steel Forum (Brussels), global stainless steel melt shop production in the first nine months of 2018 increased 10 percent year-on-year, to 39.1 million mt—including an 8.5-percent increase in Chinese stainless steel production, to 20.7 million mt. As stainless steel production in the United States has improved, stainless scrap (including revert scrap) may now be 80 to 90 percent of the feedstock for U.S. stainless mills, according to some industry analysts. Looking forward, one of the main questions for the nickel and stainless steel markets is how quickly existing nickel stocks can be drawn down. The International Nickel Study Group in Lisbon is now forecasting that world nickel use will increase to 2.422 million mt in 2019, outstripping global nickel production of 2.389 million mt, a potentially supportive feature for nickel prices going forward.

For recovered paper and scrap plastic markets, the last year or two have been especially unpredictable. Prices for most bulk grades of paper, particularly the brown and news grades, slid until processors found a new normal for Chinese consumption. Scrap plastic markets had a more abrupt adjustment, but polymer processing capacity is much more specialized and regionalized, thus the impact of China's trade policy changes varied greatly based on polymer and location. PET plastic processing, for example, was primarily located in China, and little new processing capacity has emerged outside of Asia. As 2018 closed, the search for alternative markets in Southeast Asia may not bear fruit, as many of those markets appear to be following China's lead in banning or drastically restricting plastic scrap imports. The trade statistics indicate these countries are unlikely to fill the void left by China.

Paper and plastics recyclers will remember 2018 by their search for alternative markets, the move to repatriate or improve processing capacity by attracting capital investments, and their efforts to work with municipal governments to establish more resilient recycling systems. More consumer brands are facing scrutiny for their packaging decisions, and changes they make will translate into shifts in the composition of the municipal recycling stream. The environmental concerns about nonrecycled paper and plastics are unlikely to abate in 2019. Poly-coated paper packaging is a convenient substitute for some plastic food packaging, but if the recycled paper stream were to develop a higher ratio of such material, paper mills would feel a heavy squeeze on their margins. Many paper and plastics recyclers formulated their business models based on a specific supply and demand dynamic that no longer exists. The initial Chinese shock appears to have subsided, but 2019 will center on what sustainability norms will prevail given the uncertain trade paradigm.

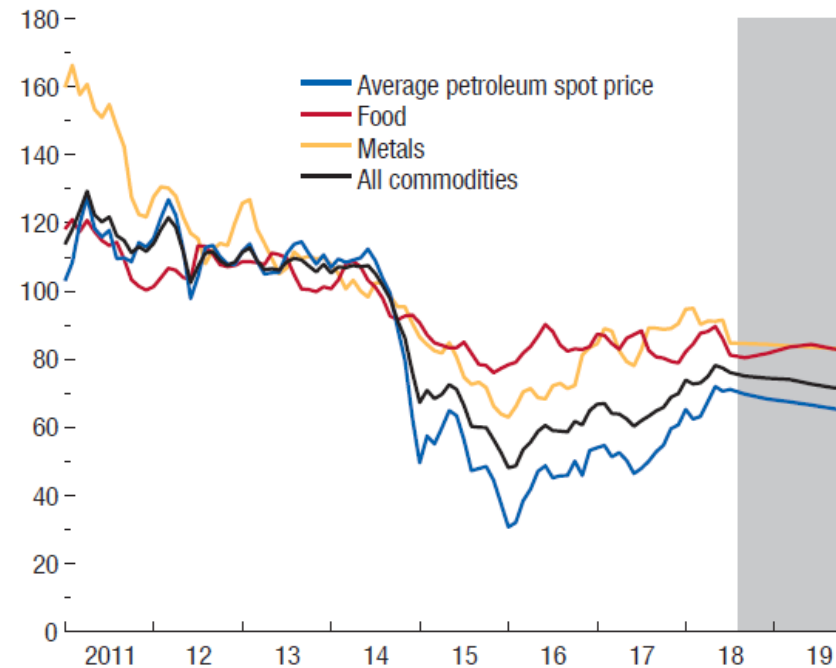
Figure 1. Real GDP Growth, by Country Group
(Year over year)



Source: IMF, *World Economic Outlook*, October 2018.
Note: Grey area denotes projections.

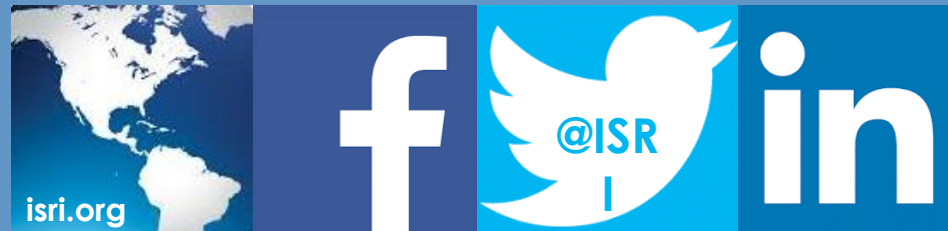
Figure 1.2. Commodity and Oil Prices
(Deflated using US consumer price index; index, 2014 = 100)

The commodity price index has risen in the past six months, driven by higher energy prices. Food prices fell amid rising trade tensions, while the price of metals softened because of weaker demand from China.



Sources: IMF, Primary Commodity Price System; and IMF staff estimates.

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