Special Report: Digging Deep Into Metals & Minerals

A renewed sense of optimism is expected as representatives of the global mining industry gather in Toronto for the annual convention organized by the Prospectors and Developers Association of Canada (PDAC). This time last year, the prices of most industrial commodities were sitting near cycle lows and sentiment was dour. Since then, prices have risen across the board—from zinc's expected fortunes to copper's unexpected turn-around to downright frothy prices for the bulks.

While the worst is likely behind us (Chart 1), the pace and magnitude of some of these recent price gains has been exaggerated, driven by short-term government policy rather than organic industrial fundamentals. The following pages will provide an overview of the current state and forecast trajectory of the major metals markets, but one common factor for most is the outsized near-term importance of highly uncertain politics and policy. Many of these uncertainties relate to policy out of Beijing, which has the unique ability to sway the fate of virtually every material, but we will also see how Indonesian, Filipino, Chilean, Indian, and American policies are all affecting commodity prices in one way or another. Global miners have made considerable headway in increasing project efficiency and shedding marginal assets as a means of tackling industry debt and handling the commodity price rout. However, the question remains whether this cost control will remain as core a concern as prices rise, a question that becomes more pressing when one considers the often-transient policy supporting these higher prices.

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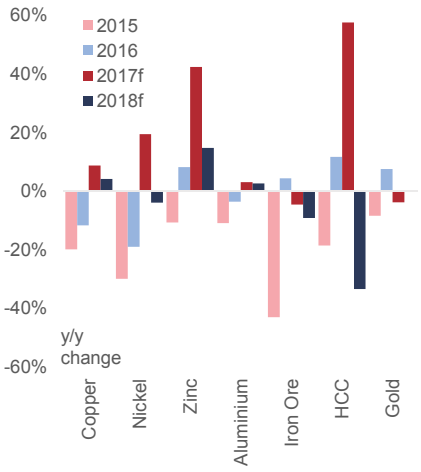
Chart 1

Scotiabank Metals Price Outlook



Source: Scotiabank Economics, LME, Bloomberg.

Table 1

Scotiabank Commodity Price Index

January 2017	(% change)		
	M/M	Y/Y	YTD
All Commodity*	**6.4**	**39.8**	**39.8**
Industrials	**6.9**	**48.9**	**48.9**
Oil & Gas	7.5	97.1	97.1
Metal & Minerals	9.9	39.5	39.5
Forest Products	-0.3	10.1	10.1
Agriculture	**4.1**	**8.3**	**8.3**

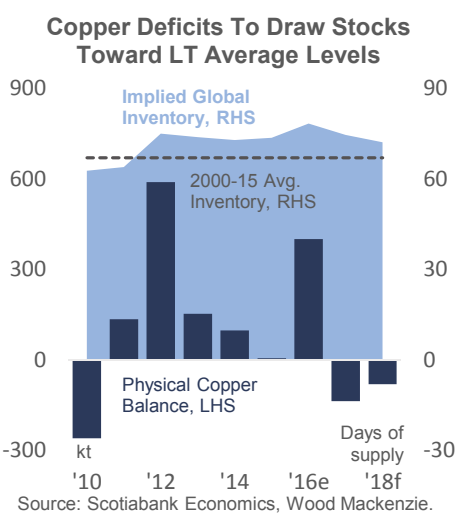
	January 2007 = 100		
	2017 Jan	2016 Dec	2017 YTD avg.
All Commodity	**110.2**	**103.6**	**110.2**
Industrials	**107.6**	**100.7**	**107.6**
Oil & Gas	89.4	83.1	89.4
Metal & Minerals	126.2	114.8	126.2
Forest Products	119.3	119.6	119.3
Agriculture	**124.6**	**119.8**	**124.6**

* Weights: Oil & Gas (39.9%), Metal & Minerals (30.1%), Forest Products (14.7%), Agriculture (15.3%); Full technical note on page 11.

1. COPPER: MAJOR SUPPLY DISRUPTIONS STOKE THE RED METAL'S RALLY

Copper stood out as the turn-around story of 2016 after the much-feared "wall of supply" that was forecast to overwhelm demand through 2018 faded into the background. Part of this was due to faster-than-anticipated project ramp-ups that shifted supply growth into 2016 from 2017 as well as the unexpected shuttering of some marginal copper assets. After averaging more than 4% y/y over the past two years, mine supply growth is expected to turn negative in 2017, though the contraction in refined supply is likely to be blunted by increased scrap availability due to recently high prices. Demand also came in stronger than forecast in 2016 as Chinese stimulus inflated construction and power sector consumption, which has pushed up Chinese demand forecasts through the rest of the forecast horizon. Global demand is expected to slow from roughly 2.5% last year to 1.5-2.0% y/y over the next two years.

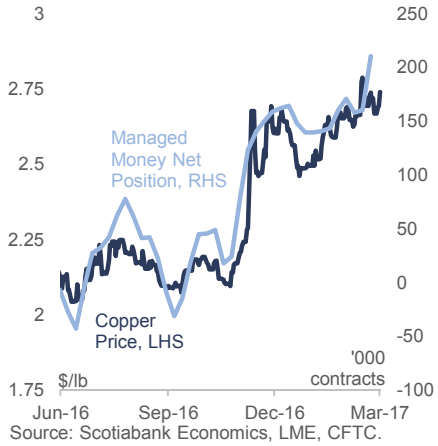
Chart 2



Source: Scotiabank Economics, Wood Mackenzie.

As demand growth outpaces available supply, deficits are expected to emerge that will provide fundamental support to copper prices over the forecast horizon (Chart 2). Higher prices today also lessen the risk of acute deficits further down the road, which were expected to become problematic near end-decade. **Copper prices are forecast to average $2.40/lb in 2017 and $2.50/lb in 2018**, and currently inflated spot prices above $2.70/lb are expected to ease after labour negotiation and export license uncertainties are resolved. Roughly 10% of global copper mine capacity is currently idle due to work stoppages at the world's two largest copper mines in Chile and Indonesia, and the headlines associated with these developments are expected to drive prices in the near term. **Bullish speculative positioning remains at an all-time high** (Chart 3) and prices will likely fall quickly as the narrative around these disruptions shifts and money managers begin to take profits.

Chart 3



Source: Scotiabank Economics, LME, CFTC.

The first major supply disruption, costing the market roughly 23 kt of copper supply per week, is the labour strike that began on February 9th at the 1.2 Mt BHP Billiton-operated Escondida mine—the world's largest—in northern Chile. More than two thousand workers ceased work due to an ongoing dispute over pay and benefits; 99% of union members voted to strike after demands for a 7% pay raise and a $39k bonus were countered with flat wages and a $12.5k bonus. At present, the workers seem committed to their collective demands and have expressed a willingness to outdo the 25-day strike conducted back in 2006 (there was also a two-week strike in 2011). However, a scenario where mine owners stick firm to their position and we see a month-long strike—equaling ~100 kt of lost copper supply—may actually be the less bullish outcome for copper prices despite the short-term loss of raw feedstock. If the owners of the mine give into worker demands in order to quickly resume production, we could see adverse knock-on effects through the rest of the copper supply landscape by emboldening workers at other mines, potentially setting off a chain of similar work stoppages and putting upward pressure on labour costs.

The second source of supply concern relates to export license issues at the Freeport-McMoRan-operated Grasberg copper mine in Indonesia, the world's second largest after Escondida. On January 12th, the government of Indonesia issued a five-year delay to its mineral ore export ban that was scheduled to come into full force after January 11th. However, exemption conditions on previously allowable exports like copper concentrate have been adjusted, and the government

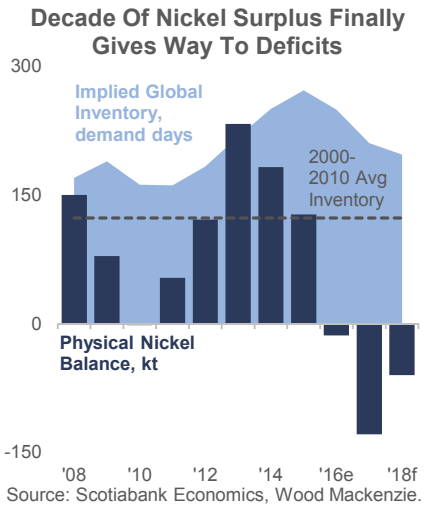
** All Prices in US Dollars

is attempting to shift the status of miners from "contracts of work" to "special mining permits," a less certain status that shifts negotiating power to Jakarta. At this stage, Freeport-McMoRan has not yet managed to come to a mutually acceptable agreement regarding production and exports from the mine, stating that it is not yet satisfied with the current "investment stability guarantees from the finance ministry." Grasberg reportedly ceased production on February 10 after on-site storage reached its limit.

2. NICKEL: ASIAN SUPPLY UNCERTAINTY MEETS HIGH INVENTORY LEVELS

The nickel market remains politically intriguing but weighed down nonetheless by burgeoning inventories built up following a decade of surplus. Despite prices plunging from $23/lb to less than $4/lb over the past ten years, producers have remained optimistic and supply robust despite a large portion of the industry operating in the red. After a prolonged downturn, supply deficits are finally beginning to emerge and prices are expected to trend higher as inventories are drawn down (Chart 4). The organic turnaround is being aided by the environmentally-driven mine closures in the Philippines, though upside is blunted by Indonesia's recent decision to loosen its ban on nickel ore exports. Demand growth is expected to remain strong as last year's stainless steel capacity additions in China, nickel's largest end-use, flow into 2017. **We expect that the market bottomed early last year and that prices will rise to average $5.20/lb this year and ease slightly to $5.00/lb in 2018** as Indonesian nickel pig iron exports begin in earnest.

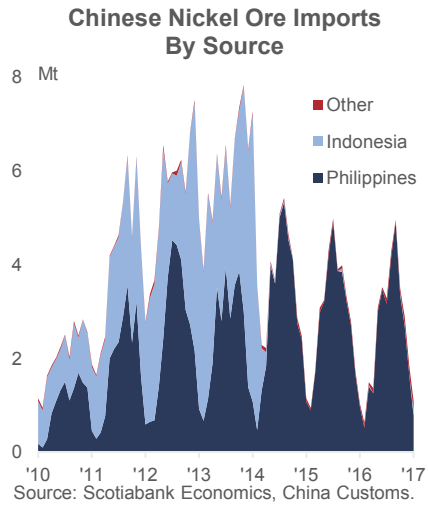
Chart 4



Source: Scotiabank Economics, Wood Mackenzie.

Nickel mining issues in the Philippines came to a head in early-February after the ongoing environmental audit ended with the ordered closure of 23 metallic mines and the suspension of five more for "serious environmental violations" out of a total of 41 mines operating in the country. Specifically, Environment and Natural Resources Secretary Regina Lopez, a well-known anti-mining activist prior to her appointment, cited the risks of contamination to active watersheds. Of these 28 mines at risk, 19 mined nickel to the tune of 144 kt or 49% of total Filipino production in 2016.The Philippines has been the world's largest source of nickel ore since Indonesia banned exports of unprocessed nickel in 2014 (Chart 5). Companies were given the option to appeal directly to the office of President Duterte, but it is unlikely that he will overturn the decision of his Environment Secretary. Mining represents only 1% of the Philippines' GDP and the imagery of standing up against mining companies on behalf of local communities is in line with his populist style. It is notable that the mines presented with closure or suspension orders were on average smaller than mines that passed the audit (11.1 kt vs 21.7 kt in 2016). Following the 2014 Indonesian ore export ban, many small companies quickly expanded Filipino output to plug the supply gap, perhaps prioritizing volume over efficiency and at the expense of environmental safeguards. This experience may prompt a round of domestic consolidation as larger miners—who are better able to shoulder the environmental compliance costs—get access to high-quality, relatively cheap assets.

Chart 5



Source: Scotiabank Economics, China Customs.

Lost Filipino ore may be replaced by a familiar source after the Indonesian government reversed course on its nickel ore export ban in mid-January. Jakarta says it will now conditionally allow limited volumes of low-grade unprocessed ore to leave the country. The export ban, which came into effect in 2014, was initially proposed as a bid to support the development of a domestic processing industry but also cut off the primary source of feedstock for Chinese nickel pig iron (NPI)

production—a gap filled by the Philippines. Under the new rules to export ore, a producer needs to either have a domestic smelter or approved plans for a viable project slated to come online within the next five years; aggregate domestic smelter capacity utilization also needs to reach at least 30% for ore to be allowed out of the country. Indonesia's Energy and Mineral Resources Minister stated that the country produces 10 Mt of low-grade ore annually and that 5.2 Mt of ore (~50 kt Ni) would be available for export after factoring for needed domestic processing capacity. However, production is expected to rise if producers see an opening export window, and this ore is likely going to hit the market just as exports of Indonesian NPI (the initial impetus for the export ban) begin in earnest, further weighing on the near-term outlook.

3. ZINC: CONCENTRATE SHORTAGE TO DRIVE PRICES HIGHER STILL

Zinc remains the metal with the strongest near-term fundamental outlook. An acute deficit in the supply of zinc concentrate, the precursor to zinc metal, has emerged on the back of major mine closures and strategic idling. **We expect zinc's rally to continue as this concentrate shortage works its way into the refined metal market and prices are expected to average $1.35/lb in 2017 and $1.55/lb in 2018 after rallying roughly 100% over the course of last year**.

The crux of the challenge for zinc supply is lack of fresh mine capacity. Natural depletion prompted the closure of the prolific Century (Australia) and Lisheen (Ireland) zinc mines over the past two years, taking a combined 500 kt or 4% of global supply with them. This capacity loss was compounded by Glencore's decision to strategically idle roughly another 500 kt of zinc concentrate capacity in order to help bolster the price and shorten the market's natural rebalancing process. While the timing of Glencore's capacity restarts will remain a point of market interest, the company's executives have indicated that ramp- ups will be gradual and are unlikely to jolt the market. It is also important to note that smelters would be short concentrate even with Glenore's mines running at full capacity.

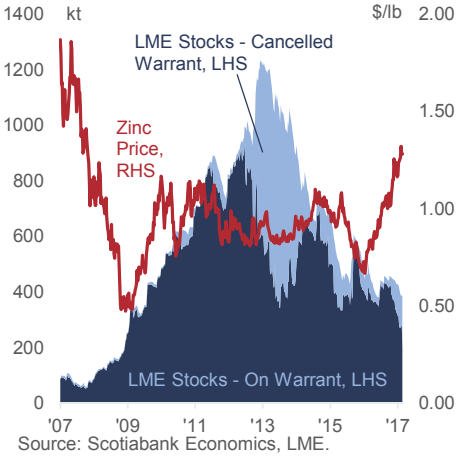
Zinc is the first metal among its peers to experience a major raw materials crunch, providing a preview of what's to come for metals like copper as mine supply gaps emerge. The clearest indication of this concentrate tightness is falling inventories, and available LME inventories (metal with live warrant) have fallen to their lowest level since 2008 (Chart 6). Another clear indication of tightness is the marked collapse in spot treatment charges, which move inversely with the availability of concentrate, from more than $200/t averaged in 2015 to between $30-40/t by the beginning of 2017 (Chart 7). Smelter revenues have been offset somewhat by the higher prices they are receiving for so-called "free zinc"—which refers to metal obtained from the smelting process beyond what is returned to the miner—but the relative concentrate scarcity has put smelters at a disadvantage when negotiating future terms and this volume of free metal may end up being clawed back in the near future.

4. ALUMINIUM: WILL CHINESE CAPACITY IDLING BOOST PRICES?

The aluminium industry has been in a rut for a while now and our base case forecast is for this aluminium malaise to continue over the forecast horizon. Prices are forecast to average $0.75/lb in 2017 and $0.77/lb in 2018, indicating a very gradual improvement in conditions, but the market is expected to remain in a state of overcapacity through end-decade.

Chart 6

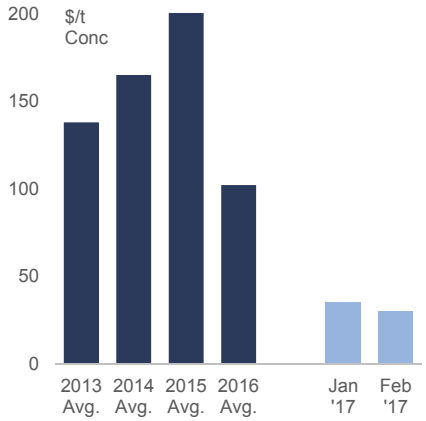
Zinc Inventories Continue To Draw



Source: Scotiabank Economics, LME.

Chart 7

Plunging Treatment Charges Indicate Zinc Concentrate Tightness



Source: Scotiabank Economics, Wood Mackenzie.

The recent rally in aluminium prices to $0.85/lb from near-$0.70/lb at the beginning of 4Q16 was sparked by concerns about Chinese supply. Specifically, a document from China's Ministry of Environmental Protection recommended seasonally idling large portions of the country's aluminium smelting capacity over the winter in order to combat the endemic smog that has plagued cities like Beijing. Aluminium smelting is a particularly electricity-intensive process, most of which is generated by thermal coal plants in China—hence the smog concern.

The irony of these higher prices is that they have been a boon for one country in particular—China (Chart 8). Global primary aluminium production rose 10% y/y through December and January, with China accounting for nearly the entirety of those gains, offsetting flat or falling production outside of Asia. **If the government went ahead with the recommendations, it could take upward of 3 Mt of primary aluminium off the market,** which could quickly flip the assumed 0.5-1.0 Mt surplus in 2017 to a 1-2 Mt deficit. However, past pollution control initiatives have tended to underperform expectations and we expect feedback from the domestic aluminium industry as well as local governments to be negative.

5. IRON ORE: LOW-COST SUPPLY TO DISPLACE HIGHER-COST PRODUCERS

The ongoing iron ore rally, which pushed northern Chinese prices (62% Fe) up more than 90% over the past 8 months, was prompted by unexpectedly strong demand on the back of Beijing's credit stimulus (Chart 9). Steel production rose to satisfy construction demand and inventories of iron ore at Chinese ports swelled as exuberant imports outpaced already impressive ore consumption (Chart 10).

As the stimulus unwinds and steel prices fall so too will demand for iron ore, both in steel mills and in storage; prices should remain buoyant in 1Q17 due to the seasonal downturn in ore shipments, but are expected to slide toward $50/t thereafter. **Prices of iron ore delivered to northern China (62% Fe) are forecast to average $55/t in 2017 and $50/t in 2018**.

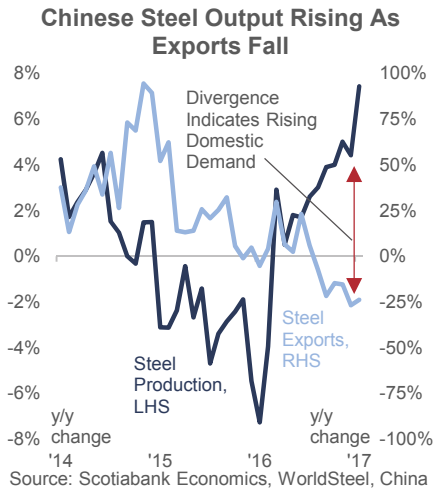
The challenge facing the iron ore industry is that it is essentially a non-growth market for the foreseeable future. Iron ore demand is estimated to have peaked in 2014 at 2.1 billion tonnes given low steel production growth and declining hot metal output. Both supply and demand are forecast to remain relatively stable over the coming decade as falling prices force out higher-cost producers and the Big-4 (Rio Tinto, Vale, BHP Billiton, and Fortescue) increase their market share with lower-cost supply concentrated in Australia and Brazil. The biggest loser in this marginal-cost iron ore market is China, where low grades (15%-20% vs nearer 60% in Australia & Brazil) and high costs are expected to reduce Chinese production to less than half of the 425 Mt high reached in 2013.

The ramp-up of the large new Australian and Brazilian projects is expected to be gradual, with the Big-4 idling some of their own high-cost supply as an offset to reduce the market impact. The Big-4 are expected to continue growing market share over the next half-decade and prices will be determined by the lower cost base of this new supply. Average per tonne costs for the Big-4 are below $30/t and virtually all seaborne exporters are making money with prices at current levels above $90/t.

Chart 8

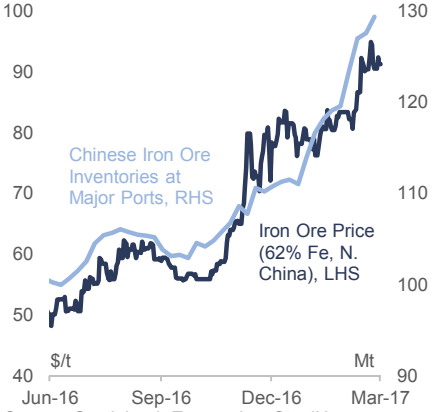
Source: Scotiabank Economics, LME, IAI.

Chart 9



Source: Scotiabank Economics, WorldSteel, China Customs.

Chart 10



Source: Scotiabank Economics, SteelHome, Bloomberg

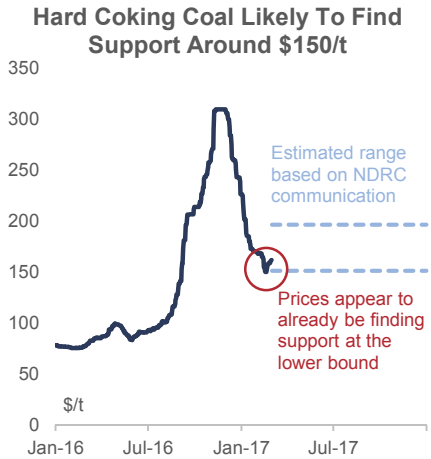
6. METALLURGICAL COAL: BEIJING TAKE THE WHEEL

The metallurgical coal market is expected to be driven by Chinese supply-side regulation in the near term following the rollout of the 276-working day rule (reduced from 330) that roiled seaborne markets last year. This working day policy is part of Beijing's ongoing supply-side rationalization strategy, combatting overcapacity and attempting to improve industry profitability in an effort to address burgeoning SOE debts. While supply and demand outside of China will continue to slowly adjust to price signals, policy out of Beijing will be able to calibrate production far faster than the market would be able to achieve organically. We expect seaborne hard coking coal prices to average $180/t this year and $120/t in 2018, though risks are skewed to the upside as we wait on the realization of Chinese policy adjustments.

The working day policy has been temporarily relaxed over the winter due to fears of a thermal coal shortage, but is expected to be reinforced come the end of heating season in late-March. Beijing recognizes that the level of coal price volatility prompted by its policy change last year—with thermal and coking coal rising 120% and 310%, respectively—is undesirable and has provided guidance as to its preferred price range. China's National Development and Reform Commission (NDRC), the powerful regulatory body overseeing the majority of China's industrial sector, has indicated support for a RMB 535/t (US$77/t) *thermal* coal target price, in line with the 2017 benchmark contract price agreed between major domestic producers and consumers. Prices will be allowed to deviate by 12% of this benchmark, with supply intervention expected if prices dip below RMB 470/t or rise above RMB 600/t. This means an effective price range for thermal coal of $68-87/t, compared to the sub-$50/t levels reached early last year.

Given that thermal and metallurgical coal supply is comingled in domestic Chinese mines, attempts to manage the thermal market will inevitably affect metallurgical pricing. There are murmurs that Beijing will allow some high-efficiency metallurgical mines to maintain production at 330 days, which could limit the supply impact, but details remain fuzzy. On pricing, the NDRC has focused its messaging on the thermal sector, but it also loosely mentioned the 2017 domestic coking coal supply contract signed late last year at RMB 1,300/t (US$188/t) as a desirable level. Applying a similar methodology as the NDRC's thermal coal framework, we get an implied range for domestic coking coal of $166-211/t; assuming that domestic prices trade near the lower-end of that band and adjusting for the typical seaborne discount to domestic Chinese coals, we get a rough floor of around $150/t for seaborne HCC (Chart 11). This price is slightly higher than the recent relationship between thermal and HCC prices, which has averaged 1.75 (HCC/thermal) over the past three years and would imply a $120/t acceptable lower bound for seaborne prices, leaving some downside risk to our assumed $150/t floor. However, given Beijing's recent record of volatility-inducing policy execution, it is also quite possible that markets overreact to the reinforcement of the 276 working day rule and rally again before settling in this lower range around $150/t.

Chart 11

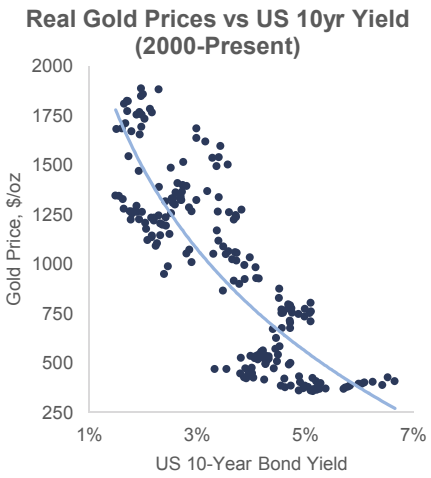


Source: Scotiabank Economics, Scotiabank Equity Research, Bloomberg, NRDC.

7. GOLD: RISING RATES, STRONGER DOLLAR, RISK-ON SENTIMENT, INDIAN DEMONETIZATION ALL HEADWINDS FOR GOLD

Gold's fundamentals look bearish. Interest rates are rising and the case for hawkish monetary policy is bolstered by a stronger global economy, which makes non-yielding gold assets less attractive to hold (Chart 12). US monetary policy is also

Chart 12



Source: Scotiabank Economics, Bloomberg.

expected to tighten faster than its peers, putting upward pressure on the US dollar and compounding gold's rates-related headwinds. Add to this that despite the highly uncertain political outlook, the market doesn't seem to be bidding a meaningful risk premium into gold. **The level of uncertainty concerning future gold prices is a statement about the level of uncertainty concerning the global outlook more generally**. Our current gold price forecast of $1,200/oz in both 2017 and 2018 factors for these fundamental headwinds, though prices may very well end up higher if political risk returns as a driving factor (Chart 13).

Beyond gold's financial market weaknesses, India's ongoing demonetization efforts are impacting physical gold demand. On November 8th (the same day as the US election), the Indian government banned higher-value Rs500 and Rs1000 notes from circulation in an attempt to crack down on the so-called "shadow economy." Some of India's gold was being used to transition shadow money back into the legitimate economy, and the elimination of high-denomination bills, the type most frequently used in such transactions, reduces this marginal source of demand. Demonetization also shocked India's economy more broadly, weakening Indian demand for gold in all forms. India is the world's second-largest purchaser of gold jewelry, and more than half of household savings are believed to be held in gold rather than more conventional bank deposits. This gold fixation is a drag on the Indian economy given that savings held in gold cannot be used by banks to expand available credit, as well as the fact that the vast majority of India's gold needs to be imported. The government has cited this as an issue in the past, and further gold-unfriendly policy moves present a risk for the yellow metal going forward.

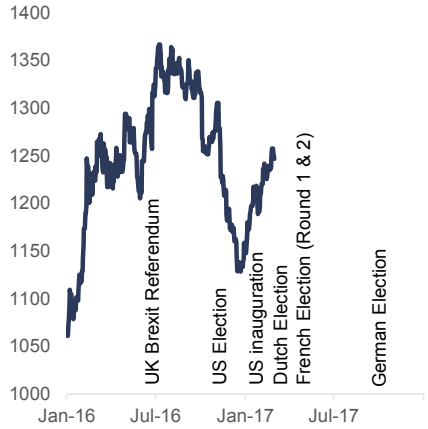
8. OIL MARKET UPDATE: PRECARIOUS SPECULATIVE POSITIONING IS A CONCERN BUT OUTLOOK REMAINS CONSTRUCTIVE

The oil market continues to rebalance as global supply growth slows and demand marches on. The International Energy Agency (IEA) estimates that the oil market remained oversupplied by roughly 0.5 Mbpd in the final quarter of 2016 down from a peak of 2 Mbpd in 2Q15, with supply up by a weak 0.4 Mbpd y/y in 2016 against impressive demand growth of 1.6 Mbpd. We expect that global inventories will begin to draw in the latter half of 2017, assuming continued OPEC discipline, a moderate rebound of US shale supply, and further demand strength. **WTI prices are forecast to average $58/bbl in 2017 and $61/bbl in 2018**.

Initial OPEC compliance has exceeded expectations, with estimates indicating that group-wide production (aside from exempted-members Libya and Nigeria) fell by 90% of agreed-upon levels, far above the historical average of nearer 60%. Strong compliance is likely a result of pinched national finances in addition to plenty of political capital expended bringing together the disparate membership. It also helped that Saudi Arabia over-delivered its cuts, likely due to its pleasure in getting Moscow on board with the agreement, a long-term strategic priority. OPEC will meet again in mid-2017 to determine if the supply curtailment, set to expire in July, will be extended for a further six months (our base case assumption is that OPEC will extend the agreement). OPEC Secretary General Mohammed Barkindo has indicated that the cartel will be basing that decision on visible inventory levels, and a return to five-year average crude levels has often been cited as a target. Current estimates have those inventories 300 Mbbl above that level, though crude from less visible jurisdictions is bound to appear when the market enters backwardation. While the overall crude surplus implied by the IEA's supply and

Chart 13

European Election Landscape: Potential Upside For Gold



Source: Scotiabank Economics, Bloomberg.

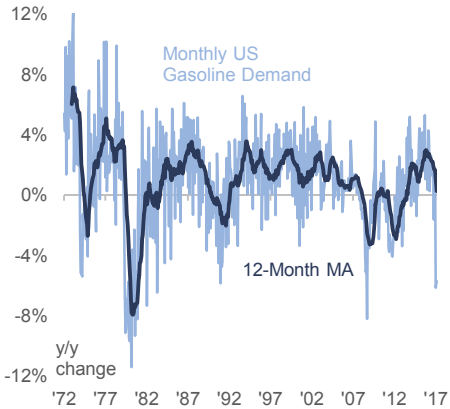
Chart 14

Speculative Positioning in WTI Surges But Price Trades Sideways

Source: Scotiabank Economics, NYMEX, CFTC.

Chart 15

US Gasoline Demand Starts 2017 With A Whimper



Note: Weekly estimates used for Jan/Feb 2017.
Source: Scotiabank Economics, EIA.

demand numbers amounts to more than 700 Mbbl over 2015-16, it is likely that a good deal of that surplus ended up in the opaque system of strategic storage, predominately in China where the government took advantage of low prices to build out state crude reserves.

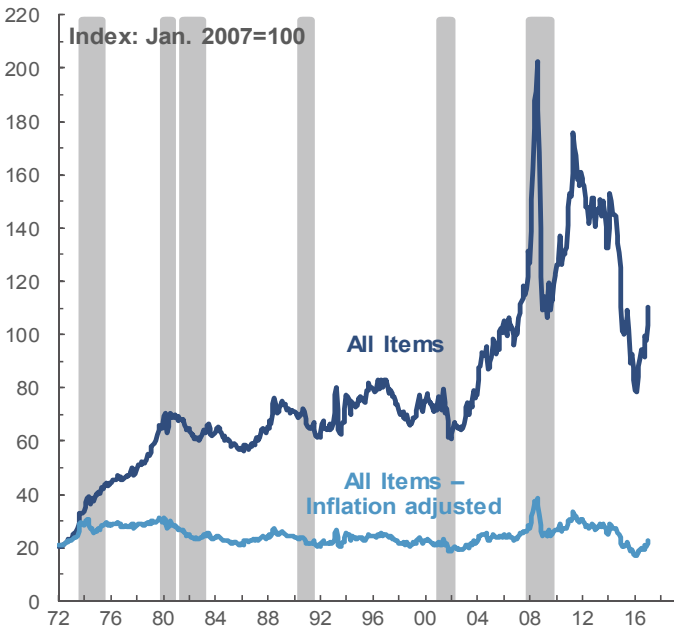
However, the oil market appears increasingly fragile in the near term. Despite a surge in bullish speculation, oil prices have remained flat as buyers found plenty of producers looking to sell their crude forward to lock in current prices and hedge against another downturn (Chart 14). Net managed money positioning in both WTI and Brent have reached record length. This leaves crude prices with limited upside and vulnerable to a retracement. Bearish headlines may spook investors into taking profits or establishing fresh shorts, putting downward pressure on prices—WTI could temporarily fall back to the low $40s before resuming its recovery. The gasoline market may be an early candidate for disappointing headlines (Chart 15). US gasoline demand abruptly dropped by 4.4% y/y to 8.2 Mbpd in January per initial weekly estimates, the only recorded instance of such a marked decline occurring outside a recession. Poor weather may explain part of the slow-down, as could the 31% y/y bump in prices at the pump, but the end effect is too much gasoline. US inventories are well above the seasonal norm and at their highest level since 1990. Absent a significant turnaround in US demand at the pump this inventory overhang will linger over the market and stifle any sustained rally until driving season rescues demand in mid-July.

While crude faces near-term headwinds, the medium-term outlook remains constructive. Demand growth remains robust and the carry-in momentum of 1.6 Mbpd growth in 2016 will provide support, particularly as supply levels off. We expect a strong rebound in US shale supply and the eventual return of OPEC supply, but there has been a sharp reduction in the large, conventional projects that typically provide the bulk of reliable supply growth needed to offset the 6-7% annual natural decline. US shale producers and OPEC supply can grow quickly as prices rise into the mid-$50s but they will be hard-pressed to replace the more than $1 trillion that has been erased from upstream investment plans through end-decade.

Price Outlook

Oil & Gas		2000–2015 Monthly Avg. Low	2000–2015 Period Avg.	2000–2015 Monthly Avg. High	2016	2017YTD	2017F	2018F
Crude Oils								
West Texas Intermediate	USD/bbl	19.40	63.68	134.02	43.47	53.01	58	61
North Sea Brent Blend	USD/bbl	19.06	66.44	134.56	45.13	55.74	60	63
Natural Gas								
Nymex Henry Hub	USD/MMBtu	2.05	5.09	13.46	2.55	3.10	3.25	3.15
Metals & Minerals								
Base Metals								
Copper	USD/lb	0.62	2.35	4.48	2.21	2.65	2.40	2.50
Nickel	USD/lb	2.19	7.45	23.67	4.36	4.67	5.20	5.00
Zinc	USD/lb	0.34	0.80	2.00	0.95	1.26	1.35	1.55
Aluminium	USD/lb	0.58	0.87	1.39	0.73	0.83	0.75	0.77
Bulk Commodities								
Iron Ore	USD/t	12	65	187	58	84.59	55	50
Metallurgical Coal	USD/t	40	128	330	143	172.97	180	120
Precious Metals								
Gold	USD/toz	261	842	1772	1251	1211.91	1200	1200

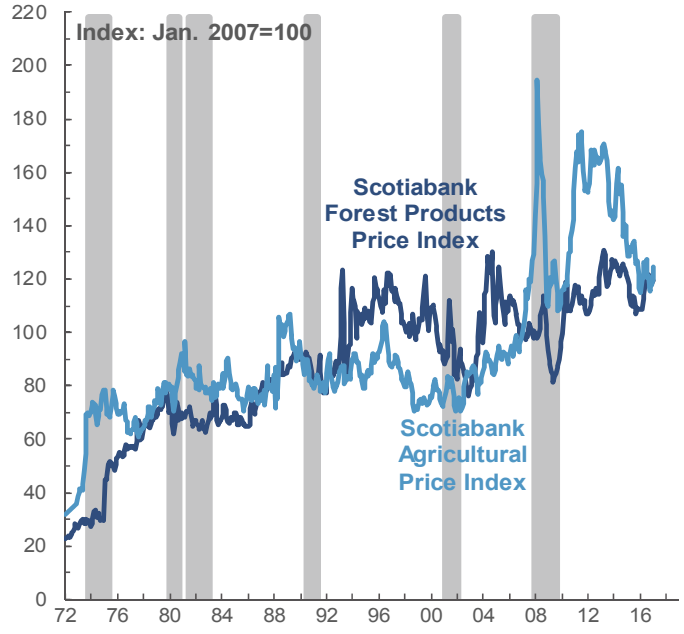
Scotiabank All Commodity Price Index



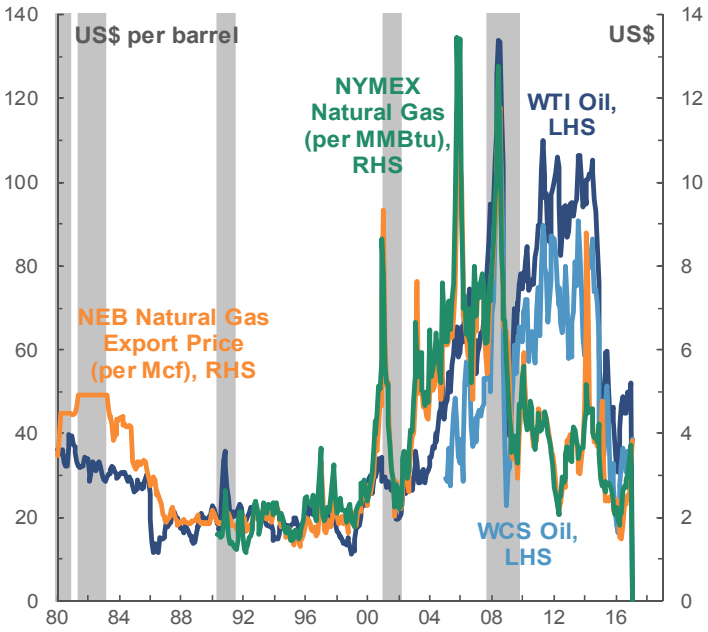
Canadian Dollar vs. Commodity Prices

Scotiabank Oil & Gas and Metal & Mineral Indices

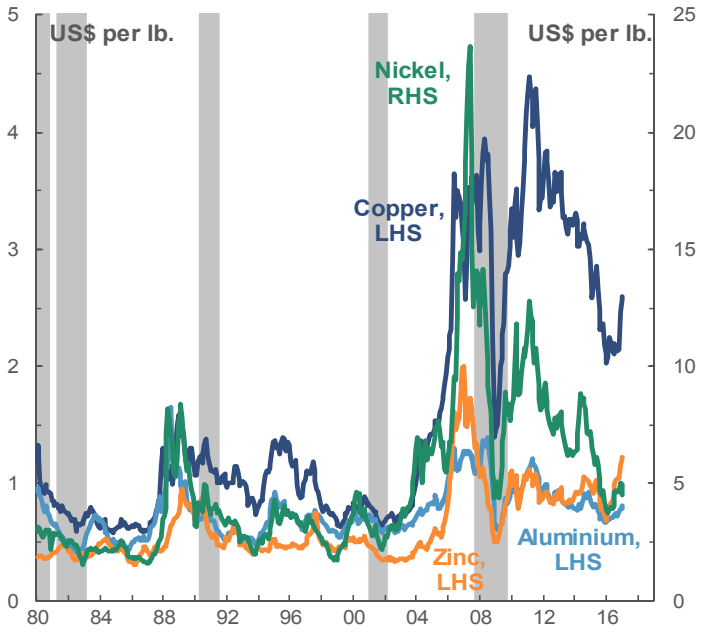
Scotiabank Forest Products & Agricultural Indices



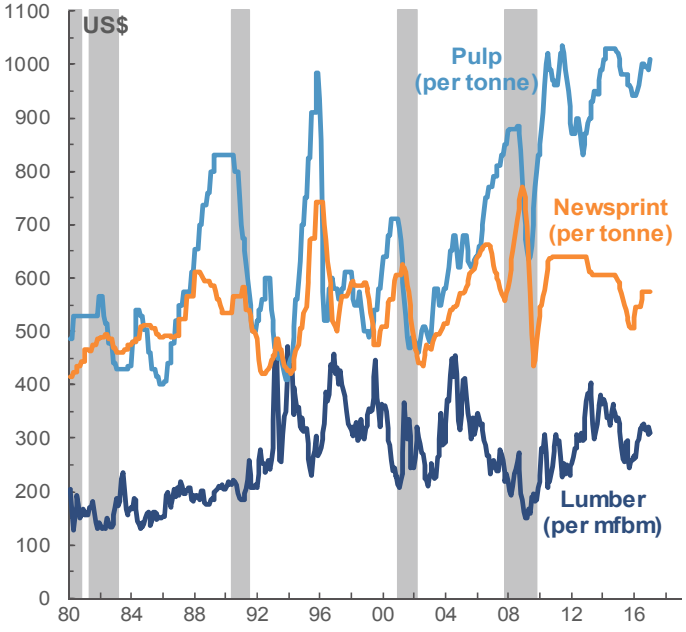
Oil & Gas Prices



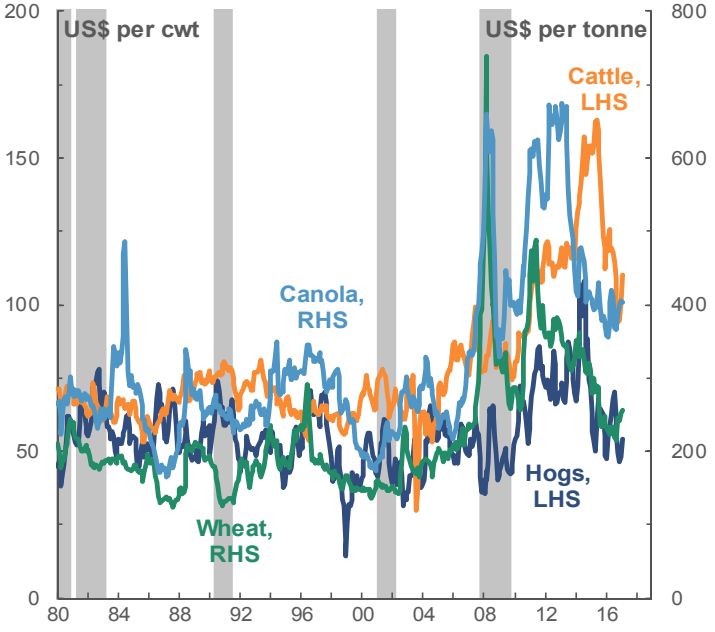
Metals Prices



Forest Products Prices



Agricultural Prices



Technical Note
Scotiabank Commodity Price Index — Principal Canadian Exports
January 2007 = 100

This Index has been designed to track the spot or transactions prices paid in U.S. dollars for key Canadian commodities and resource-based manufactured goods in export markets. The weight of each component is based upon its net export value in 2010. Prior to January 2007, the weight of each component was based on its export value in 1995-97, except for crude oil & refined petroleum products, uncoated freesheet paper and linerboard, where net exports were used. Canada imports a significant quantity of these products, and use of their export value alone would have overstated the importance in Canada's trade performance.

The following prices are included:

OIL & GAS

Crude Oil & Refined Petroleum Products (US$ per bbl) MSW light sweet crude oil at Edmonton (previously Edmonton Par crude) and Western Canadian Select heavy oil at Hardisty, Alberta; price differentials off WTI near-by futures from TMX/Shorcan Energy Brokers.

Natural Gas (US$ per mcf) Average export price quoted by the National Energy Board.

Natural Gas Liquids (NGLs – Propane, Butane, Ethane & Pentanes-Plus) (US$ per bbl), Propane at Edmonton & Sarnia.

METALS & MINERALS

Copper & Products (US$ per lb) LME official cash settlement price for grade A copper.

Zinc (US$ per lb) LME SHG cash settlement: prior to Sept 1990, U.S. producers' price for high-grade zinc delivered.

Lead (US$ per lb) LME official cash settlement price; prior to Jan. 1991, U.S. producers' price for common grade delivered.

Aluminium & Products (US$ per lb) since 1979, LME official cash settlement price.

Nickel (US$ per lb) since 1980, LME official cash settlement price.

Gold (US$ per oz) 'LBMA Gold Price PM' as of March 20, 2015.

Potash (US$ per tonne) Standard potassium chloride, spot price, FOB Vancouver.

Sulphur (US$ per tonne) Solid, spot price, FOB Vancouver.

Metallurgical Coal (US$ per tonne) Contract price for premium-grade hard coking coal, FOB Vancouver.

Iron Ore (US cents per dmtu) Spot price fines 62% Fe, CFR Qingdao, China; prior to Jan 2011, term-contract price for concentrates 66% Fe from Labrador/Quebec to Northern Europe (FOB Sept-Iles).

Uranium (US$ per lb) Spot price for U3O8.

Molybdenum (US$ per lb) since March 1992, MW dealer oxide.

Cobalt (US$ per lb) MW dealer price.

FOREST PRODUCTS

Lumber & Wood Products, Western Spruce-Pine-Fir 2x4 No.2 & Btr (US$ per mfbm) FOB mill.

Oriented Strandboard (US$ per thousand sq. ft.), U.S. North Central region, 7/16 inch.

Pulp, Bleached Northern Softwood Kraft (US$ per tonne) Transactions price, delivery USA.

Newsprint (US$ per tonne) Average transactions price, 48.8 gsm, delivery Eastern USA.

Groundwood Specialty Papers (US$ per ton) Supercalendered-A paper, 35 lb., delivery USA.

Linerboard (US$ per ton), delivery Eastern USA with zone discounts.

AGRICULTURE

Wheat & Flour (US$ per tonne), DNS No 1 14% protein Duluth, Minn; prior to April 2011 No.1 CWRS, 13.5% protein at St. Lawrence.

Barley (US$ per tonne), since Dec.1994, No.1 at Lethbridge, Alberta.

Canola & Oilseeds (US$ per tonne) No.1 Canada, in store Vancouver.

Cattle & Beef (US$ per cwt) Steers over 1,051 pounds at Toronto; from Jan 1993, Ontario average.

Hogs & Pork (US$ per cwt) 100 Index Hogs at Toronto; from Jan 1993, Ontario average.

Fish & Seafood (US$ per lb) West Coast silver coho salmon; Atlantic lobster prices; prior to 1986 cod fillets & blocks.

Scotiabank Commodity Price Index — Components And Weights

Index Components	Net Export Value In 2010 (millions of dollars)	Index Weight (per cent)
OIL & GAS INDEX	**46,537**	**39.90**
Crude Oil & Refined Products	33,231	28.49
Natural Gas & LNG	11,741	10.07
NGLs	1,565	1.34
METAL & MINERAL INDEX	**35,109**	**30.10**
Copper	3,160	2.71
Zinc	1,255	1.08
Lead	579	0.50
Aluminium	6,045	5.18
Nickel	4,246	3.64
Gold	4,678	4.01
Coal	4,757	4.08
Iron Ore	3,346	2.87
Potash	5,161	4.42
Sulphur	457	0.39
Uranium	891	0.76
Cobalt	288	0.25
Molybdenum	246	0.21
FOREST PRODUCTS INDEX	**17,081**	**14.66**
Lumber & Wood Products	4,673	4.01
OSB	812	0.70
Pulp	6,818	5.85
Newsprint	2,734	2.34
Groundwood Spec. Papers	1,971	1.69
Linerboard	87	0.07
AGRICULTURAL INDEX	**17,901**	**15.35**
Wheat & Flour	4,693	4.02
Barley & Feedgrains	1,088	0.93
Canola & Oilseeds	5,398	4.63
Cattle & Beef	1,640	1.41
Hogs & Pork	2,378	2.04
Fish & Seafood	2,704	2.32
TOTAL INDEX	**116,643**	**100.00**