# Following Different Paths on a Common Upward Hill

**The Scotiabank Commodity Price Index eked out a small gain of 0.7% m/m in September, with industrial commodity strength (+1.9%) outweighing losses in the agriculture index (-4.0%).**

****Content reproduced from our recently released quarterly *Scotiabank's Global Outlook*, which outlines the rationale for our commodities outlook (p. 40–43). Every quarter this publication will take a pause from index tracking and update readers on key changes to our forecasts. Commodity sub-index values can be found in Table 1.**

- **An accelerating global economy and a weakening US dollar will provide a broadly supportive backdrop and buttress the ongoing recovery of industrial commodity prices.**
- **Oil markets are rebalancing along prior expectations, though bearish sentiment will require further realized supply deficits for WTI prices to break above $55/bbl.**
- **Industrial metals rallied together through Q3, but prices have since diverged and we expect metal-specific fundamentals to drive differentiated price performance through 2019.**

**Global commodities are broadly forecast to gain ground through the forecast horizon but recovery paths are increasingly heterogeneous**, both across sectors and within them. Energy markets are experiencing gradual, range-bound recoveries against volatile metals performance. While metals rallied together in the third quarter, prices are diverging again as individual fundamentals reassert control. **These market-specific developments are occurring against a widely supportive backdrop, where an accelerating global economy is bolstering commodities demand and broad US dollar weakness is putting upward pressure on dollar-denominated contracts**. Chinese industrial and environmental policy remain the key outlook risks, with the timing of stimulus withdrawal as well as the seriousness of supply-side and environmental efforts likely to keep the market guessing. **On balance, we anticipate that most industrial commodities will continue to gain in year-over-year terms through the forecast horizon, though bulk commodities are expected to undergo a needed correction and precious metals prices are forecast to fall back on a higher rate environment (chart 1).**

## ENERGY: BEARISH OIL SENTIMENT WILL REQUIRE DEEPER, SUSTAINED DEFICITS TO PROVE RECOVERY'S STAYING POWER

**The oil market is rebalancing much as expected but prices have lagged the gradual recovery occurring in the physical market**, with still-high commercial inventories providing ample cover for bearish sentiment and tilting speculative price movements to the downside. Sentiment headwinds will slow the recovery in crude prices and are the primary reason for **a modest $1–2/bbl decrease to our WTI crude price forecast to average $50/bbl in 2017, $52/bbl in 2018, and $56/bbl in 2019**. However, we continue to see strengthening

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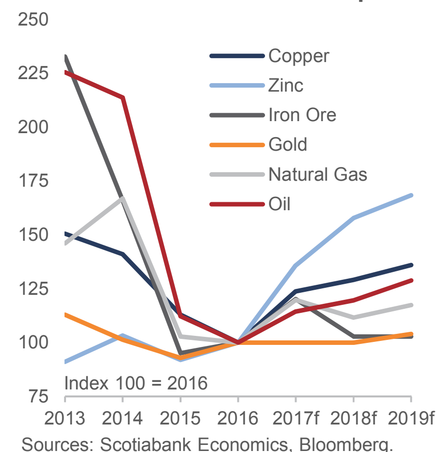
Chart 1



Sources: Scotiabank Economics, Bloomberg.

Table 1

**Scotiabank Commodity Price Index**

| September 2017 | (% change) | | |
|---|---|---|---|
| | M/M | Y/Y | YTD |
| **All Commodity*** | **0.7** | **19.2** | **22.6** |
| **Industrials** | **1.9** | **20.4** | **26.4** |
| Oil & Gas | 2.6 | 21.3 | 35.9 |
| Metal & Minerals | 0.5 | 21.1 | 25.9 |
| Forest Products | 3.0 | 18.0 | 14.1 |
| **Agriculture** | **-4.0** | **14.1** | **8.2** |

| | January 2007 = 100 | | |
|---|---|---|---|
| | 2017 | | |
| | Sep | Aug | YTD avg. |
| **All Commodity** | **108.8** | **108.0** | **107.9** |
| **Industrials** | **104.6** | **102.7** | **103.6** |
| Oil & Gas | 81.2 | 79.2 | 81.5 |
| Metal & Minerals | 117.6 | 117.0 | 119.1 |
| Forest Products | 141.4 | 137.2 | 132.3 |
| **Agriculture** | **131.8** | **137.3** | **131.2** |

* Weights: Oil & Gas (39.9%), Metal & Minerals (30.1%), Forest Products (14.7%), Agriculture (15.3%); Full technical note on page 8.

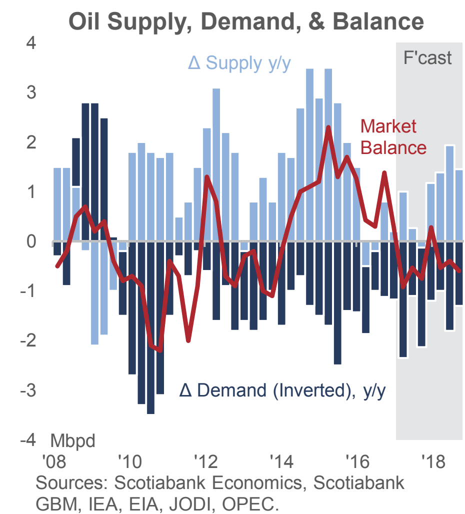
fundamentals (chart 2) that will tilt medium-term risk to the upside and ultimately drive prices higher through end-decade, with supply deficits expected to reduce the overhang in OECD commercial inventories back to 5-year average levels by mid-2019. Our optimism is rooted in a less sanguine outlook for US production growth coupled with steady OPEC discipline and weak output through the rest of the world. Demand is expected to continue growing at an above-trend pace of roughly 1.5 MMbpd y/y through 2019 given accelerating global growth and persistently low prices.

The oil market's intrigue is concentrated on the supply side of the ledger, where growth is expected to slow significantly in 2017 before bouncing back in 2018 as OPEC's return to the market adds to US shale gains. We believe that while US production growth will be impressive by almost every historical standard, shale oil supply will not maintain the 1 MMbpd+ pace of growth witnessed over the past few months but will grow by a still-impressive 500–800 kbpd per year through 2019 given a sub-$60/bbl price environment. Rig counts have plateaued and the efficiency of oil-directed drilling has declined slightly this year with prices stuck below $50/bbl (chart 3), but we expect higher drilling levels to support moderate US production growth as prices drift higher toward $55/bbl. This more gradual pace of US output growth is complemented by a return of OPEC supply in the latter half of 2018 or potentially into 2019, depending on prevailing market conditions. OPEC is expected to manage the return of withheld barrels so as to not undo the progress made by the cartel and its allies since last November. We believe that OPEC will target a production level low enough to keep the market in a modest deficit, whittling away the overhang of OECD industry inventories (chart 4), but not so low as to shock prices too high too fast, pushing the US shale patch into a renewed fervor.

Global petroleum demand growth through 2019 is forecast to average 1.5 MMbpd annually after a strong performance this year on the back of an accelerating global economy and stubbornly low prices (chart 5). Chinese and Indian growth will contribute more than 40% of these gains as emerging Asia continues to offset the stagnant-to-declining demand prospects in OECD countries. Chinese consumption growth is increasingly driven by the demand for consumer-related fuels like gasoline, jet fuel, and propane for cooking, a stark reversal from the norm even a few years ago when growth came on the back of diesel in the industrial sector. India is also a consumer fuel driven story, with gasoline and liquified petroleum gas demand over the past year up more than 10%. While global fuels demand remains strong, we have seen WTI begin trading at a steeper discount to global Brent given the effects of a tumultuous hurricane season on North American crude demand. Refinery outages, primarily stemming from Hurricane Harvey's deluge, have flipped WTI's forward curve into steep contango, depressing prompt prices and indicating a surplus of supply to depressed demand. However, this regional weakness must be balanced against a much tighter market globally, and Brent's forward curve—which is a better reflection of the global trade—has become increasingly backwardated, prompting further stock draws to cover immediate needs.

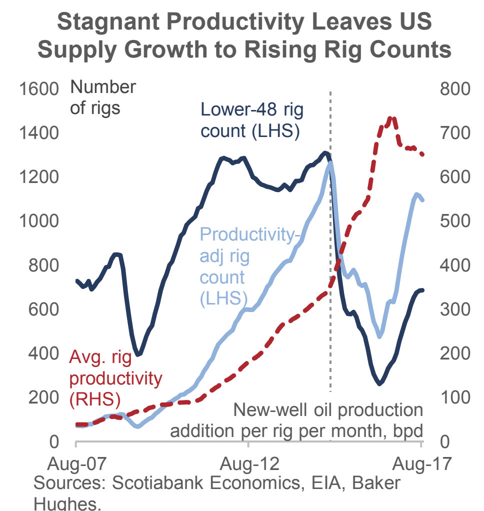
**North American natural gas markets are nearer their anticipated long-term balancing level than oil, but prices will be weighed down through 2018 by the delay of expected natural gas power plant start-ups**. US natural gas

Chart 2



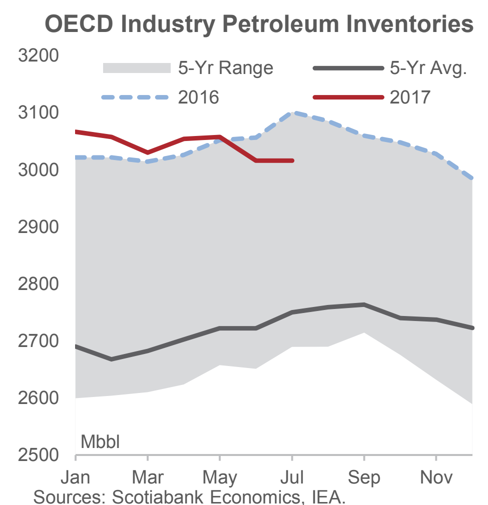

Sources: Scotiabank Economics, Scotiabank GBM, IEA, EIA, JODI, OPEC.

Chart 3




Sources: Scotiabank Economics, EIA, Baker Hughes.

Chart 4




Sources: Scotiabank Economics, IEA.

production growth forecasts remain strong on the back of a firmer gas price environment as well as the increased gas supply associated with oil drilling, which is also surging relative to last year. The build-out of natural gas-fed power plants was supposed to absorb a good deal of this new incremental gas output but the delay of these areas of demand will lead to higher inventory levels exiting 2017 than previously expected. **These higher inventory expectations have led us to slightly downgrade our Henry Hub natural gas forecast to average $3.06/MMBtu in 2017, $2.85 in 2018, and $3.00 in 2019**.

## BASE METALS: DIVERGENT OUTLOOKS FOLLOWING COLLECTIVE Q3 RALLY

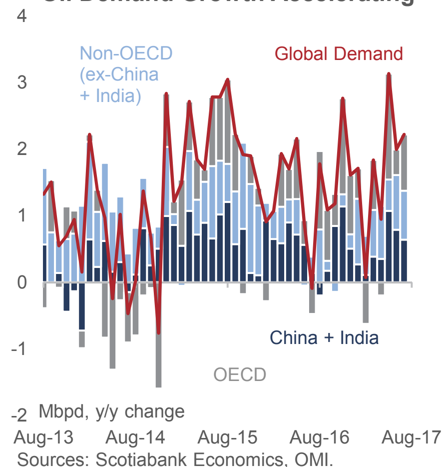
**Base metals markets experienced a collective third quarter rally, though prices have since diverged (chart 6) and metal-specific fundamentals are expected to drive individual performance through the forecast horizon**.

**Copper's recent volatility is surprising given a relatively balanced physical market compared with the supply situations in its sister base metals.** Moderate surpluses over the past few years have weighed on copper but the recent uptick in Chinese industrial activity pushed "Dr. Copper"—so-called for the belief that the metal's price reflects global industrial trends—into overdrive, leaping from lows near $2/lb last year to recent highs above $3.15/lb. Copper's fundamentals have tightened modestly since our last outlook but not nearly enough to justify recent price gains, and promising drawdowns of copper inventories proved to be a false start after fresh deliveries to LME sheds have left exchanges well-stocked (chart 7). **The completion of new mines as well the expansion of legacy mines, primarily in Chile, Zambia, and the DRC will tilt the market back to small surpluses over the forecast horizon, but an emptying of that mine capacity pipeline is expected to push prices to average $2.85/lb in 2018 and $3.00/lb in 2019**.

**The nickel market is experiencing growing supply deficits, but price performance is inhibited by a significant inventory overhang stemming from a decade of oversupply. A gradual reduction of these inventories is forecast to put soft upward pressure on nickel prices, which are expected to average $4.65/lb in 2017, $5.00/lb in 2018, and $5.50/lb in 2019**. Our outlook assumes that mines shuttered under Philippine environmental audits are restarted, but slow progress on that front tips our forecast risk to the upside, with less Philippine supply leading to more aggressive stock drawdowns and thus a steeper upward price path.

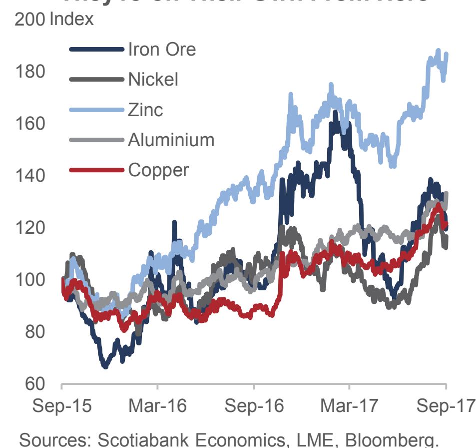
**Zinc continues to enjoy the strongest fundamentals within the base metals complex and supply tightness is expected to push prices higher than today's already-inflated levels, averaging $1.50/lb in 2018 and peaking at $1.60/lb in 2019**. Initially, these high prices had released a new wave of supply—primarily from Chinese mines—and had spooked the market but those supply gains have evaporated (chart 8), putting zinc back on our assumed path toward acute tightness over the next two years. However, we anticipate that prices in the $1.50–1.60/lb range will be sufficient to incentivize new mine supply onto the market and prices are expected to gradually come back down from 2019 onward. This downtrend from cycle highs will be amplified by the likely demand destruction that will occur as manufacturers shift to other, less zinc-intensive galvanizing processes. Future

Chart 5



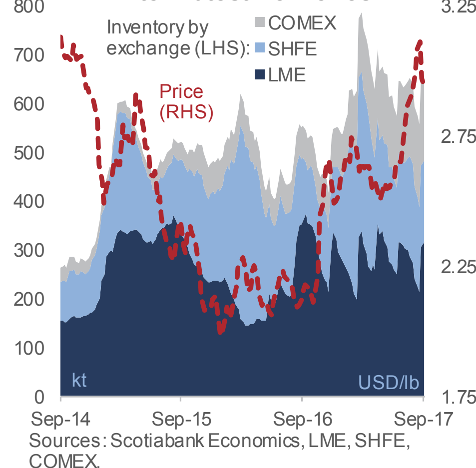
Sources: Scotiabank Economics, OMI.

Chart 6



Sources: Scotiabank Economics, LME, Bloomberg.

Chart 7



Sources: Scotiabank Economics, LME, SHFE, COMEX.

supply gains are expected to come largely from China and Australia, with additional new mine supply expected from South Africa, India, Peru, and Mexico.

**The aluminium market remains on edge as participants await the onset of the much-telegraphed winter capacity cutbacks which, when combined with recent government moves to shutter inefficient smelting capacity, have pushed prices to five-year highs near $1/lb as fears of supply shortage incentivize prompt buying**. However, the aluminium market appears fundamentally balanced absent significant and sustained policy action out of Beijing, and ultimate price levels will be determined by how much capacity is affected in China, for how long, and what prices are needed by ex-Chinese smelters to profitably restart idled plants. **We expect aluminium prices to average $0.90/lb through 2019, but risks are on the upside given the potential for deeper, longer environmental policy action in China**.

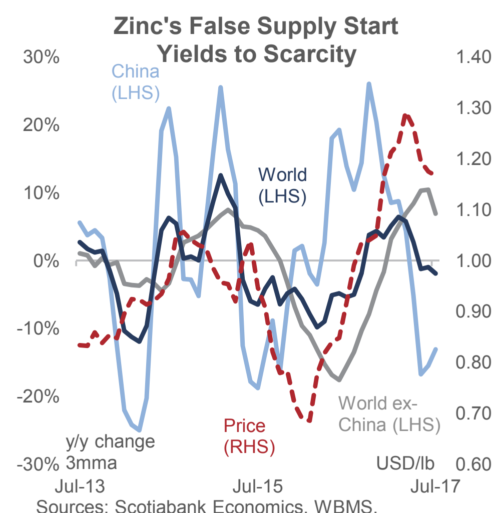
## BULK COMMODITIES: ENJOY THESE PRICES WHILE THEY LAST

**Bulk commodities like iron ore and coking coal have continued to surprise on the upside after receiving a demand jolt from newly profitable Chinese steel mills (chart 9)**, which increased imports of raw materials and strained seaborne supply. Stimulus has kept steel demand high at the same time that the government has been closing inefficient "illegal" smelting capacity, reducing domestic supply. This current market tightness is further exacerbated by China's looming winter capacity cutbacks, which have prompted affected mills to increase production today in hopes of offsetting forced idling between October and March; this intertemporal demand shifting has benefitted bulk commodities recently but will weigh on prices through the winter months as steel production and thus the need for imported feedstock falls away. **Iron ore prices are expected to average $60/t through the forecast period**, the upper end of the seaborne cost curve and more than sufficient to bring enough ore to market given a less compressed demand schedule. Hard coking coal (HCC) prices are expected to see a similar downtrend toward marginal pricing following this past year's roller coaster, which saw HCC gyrate between $150 and $310 per tonne on an assortment of supply-side constraints. **HCC prices are expected to fall to $150/t in 2018 and $130/t in 2019 barring further weather-related supply tightness**.

## PRECIOUS METALS: GOLD RANGEBOUND ON WEAK DOLLAR, HIGHER RATES

**The price of gold remains elevated after briefly breaching $1,350/oz in September, its highest level of the year, on falling market expectations of interest rate hikes in the US, a weakening US dollar, and heightened geopolitical risk concerns related to mounting rhetorical volleys between Washington and Pyongyang (chart 10)**. Despite these bullish gold factors, we believe that the market is currently underpricing the likelihood of further tightening by the US Federal Reserve later this year. We forecast that the US Fed will hike in December and as such gold will face dual headwinds, with gold expected to weaken on a higher real rate path as well as a temporarily stronger US dollar. **Following this adjustment, we believe that gold will average $1,300/oz in 2018 and 2019**. Anticipated continued US dollar weakness after a brief fourth quarter rebound is expected to provide gold with upward support and mitigate the downside pressure from a rising rate environment globally.

Chart 8

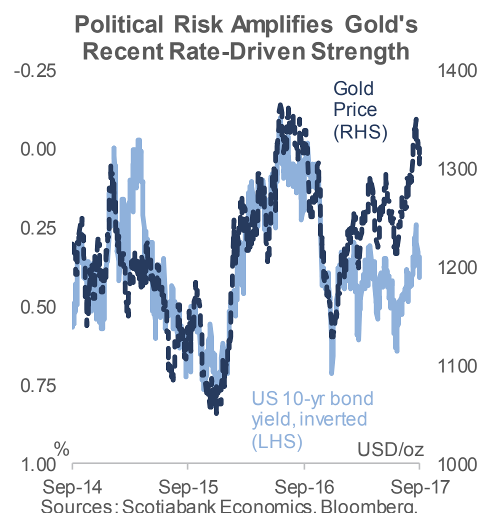


Sources: Scotiabank Economics, WBMS.

Chart 9

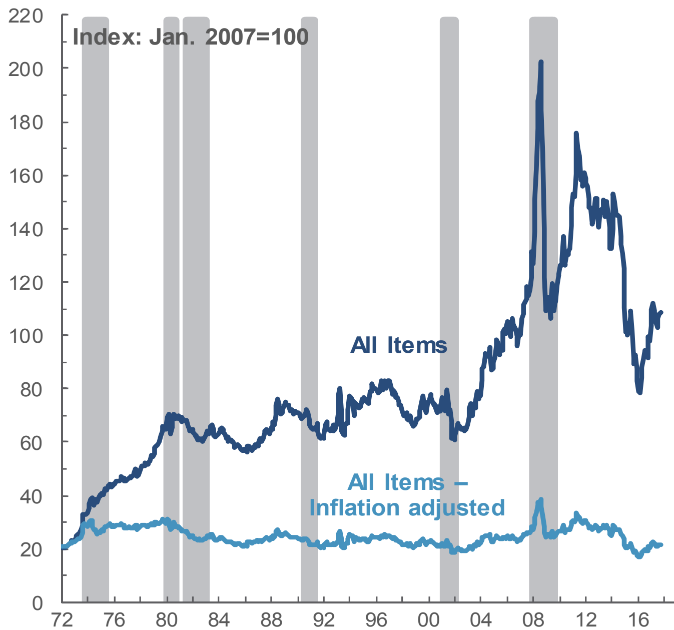
Sources: Scotiabank Economics, Bloomberg.

Chart 10

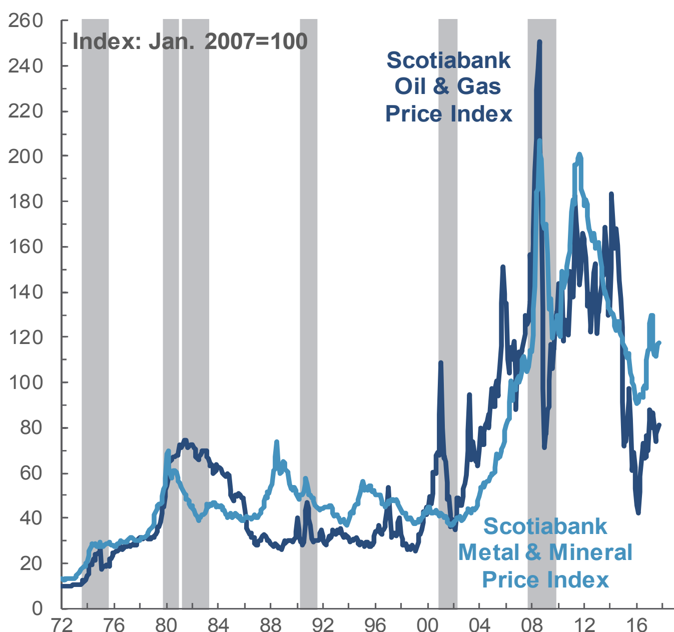


Sources: Scotiabank Economics, Bloomberg.

| Price Outlook | | 2000–2016 | | | 2017YTD | 2017F | 2018F | 2019F |
|---|---|---|---|---|---|---|---|---|
| Oil & Gas | | Monthly Avg. Low | Period Avg. | Monthly Avg. High | | | | |
| **Crude Oils** | | | | | | | | |
| West Texas Intermediate | USD/bbl | 19.40 | 62.70 | 134.02 | 49.43 | 50 | 52 | 56 |
| North Sea Brent Blend | USD/bbl | 19.06 | 65.53 | 134.56 | 52.74 | 51 | 53 | 57 |
| **Natural Gas** | | | | | | | | |
| Nymex Henry Hub | USD/MMBtu | 1.81 | 4.94 | 13.46 | 3.04 | 3.08 | 2.85 | 3.00 |
| **Metals & Minerals** | | | | | | | | |
| **Base Metals** | | | | | | | | |
| Copper | USD/lb | 0.62 | 2.35 | 4.48 | 2.72 | 2.72 | 2.85 | 3.00 |
| Nickel | USD/lb | 2.19 | 7.26 | 23.67 | 4.57 | 4.65 | 5.00 | 5.50 |
| Zinc | USD/lb | 0.34 | 0.81 | 2.00 | 1.28 | 1.29 | 1.50 | 1.60 |
| Aluminium | USD/lb | 0.58 | 0.86 | 1.39 | 0.88 | 0.87 | 0.90 | 0.90 |
| **Bulk Commodities** | | | | | | | | |
| Iron Ore | USD/t | 27 | 108 | 302 | 73 | 70 | 60 | 60 |
| Metallurgical Coal | USD/t | 39 | 127 | 330 | 183 | 206 | 150 | 130 |
| **Precious Metals** | | | | | | | | |
| Gold | USD/toz | 261 | 869 | 1,772 | 1,253 | 1,265 | 1,300 | 1,300 |


Scotiabank All Commodity Price Index
Index: Jan. 2007=100
All Items
All Items – Inflation adjusted
220
200
180
160
140
120
100
80
60
40
20
0
72
76
80
84
88
92
96
00
04
08
12
16

Canadian Dollar vs. Commodity Prices
Index: Jan. 2007=100
US cents
Scotiabank All Commodity Price Index, LHS
Canadian Dollar, RHS
220
200
180
160
140
120
100
80
60
40
20
0
110
105
100
95
90
85
80
75
70
65
60
80
84
88
92
96
00
04
08
12
16


Scotiabank Oil & Gas and Metal & Mineral Indices
Index: Jan. 2007=100
Scotiabank Oil & Gas Price Index
Scotiabank Metal & Mineral Price Index
260
240
220
200
180
160
140
120
100
80
60
40
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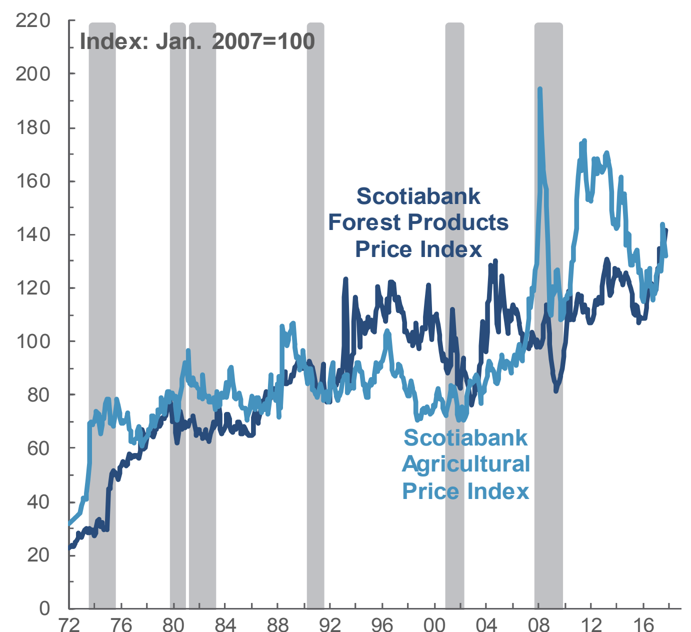
72
76
80
84
88
92
96
00
04
08
12
16


Scotiabank Forest Products & Agricultural Indices
Index: Jan. 2007=100
Scotiabank Forest Products Price Index
Scotiabank Agricultural Price Index
220
200
180
160
140
120
100
80
60
40
20
0
72
76
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88
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04
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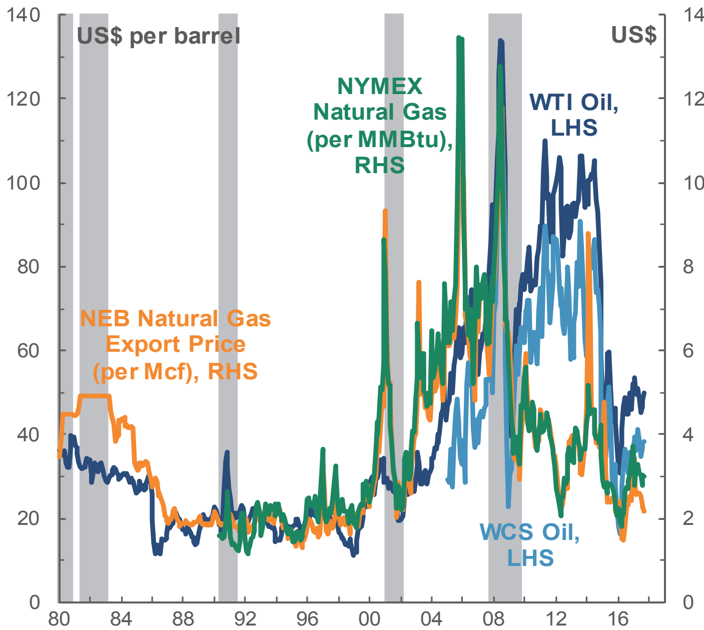
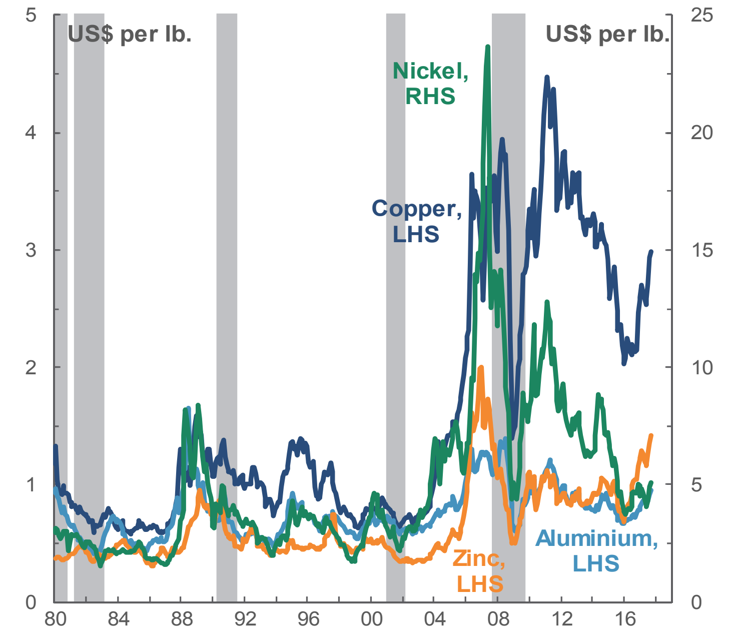
16


Oil & Gas Prices
US$ per barrel
US$
NYMEX Natural Gas (per MMBtu), RHS
WTI Oil, LHS
NEB Natural Gas Export Price (per Mcf), RHS
WCS Oil, LHS
140
120
100
80
60
40
20
0
14
12
10
8
6
4
2
0
80
84
88
92
96
00
04
08
12
16


Metals Prices
US$ per lb.
US$ per lb.
Nickel, RHS
Copper, LHS
Zinc, LHS
Aluminium, LHS
5
4
3
2
1
0
25
20
15
10
5
0
80
84
88
92
96
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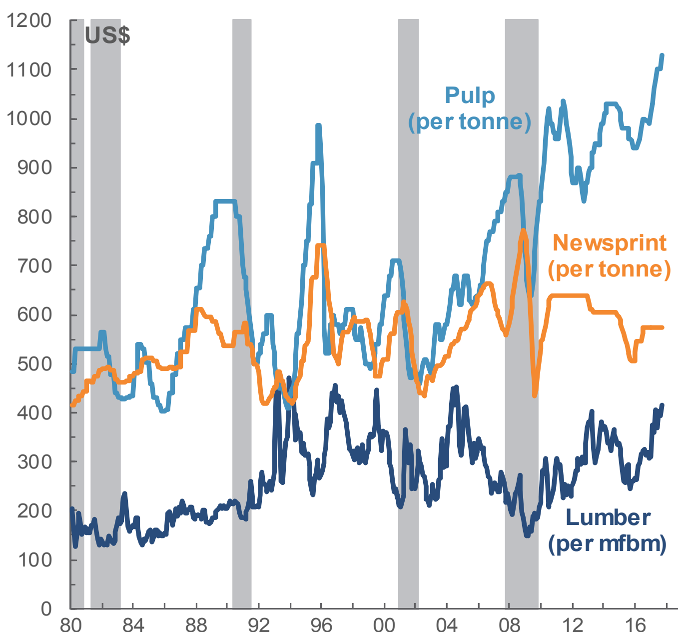
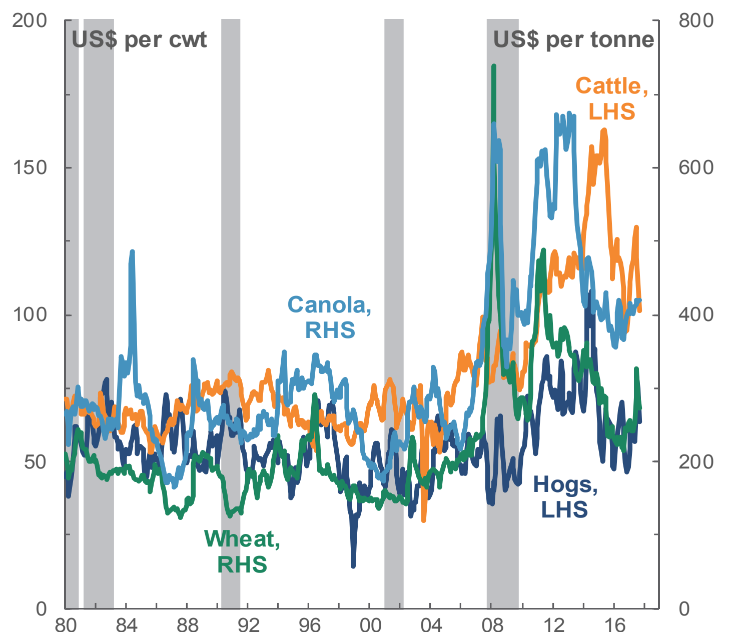
12
16


Forest Products Prices
US$
Pulp (per tonne)
Newsprint (per tonne)
Lumber (per mfbm)
1200
1100
1000
900
800
700
600
500
400
300
200
100
0
80
84
88
92
96
00
04
08
12
16


Agricultural Prices
US$ per cwt
US$ per tonne
Cattle, LHS
Canola, RHS
Hogs, LHS
Wheat, RHS
200
150
100
50
0
800
600
400
200
0
80
84
88
92
96
00
04
08
12
16

## 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** |

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