July 11, 2017

Commodity Price Index Down 2.6% m/m in June

Industrial commodities fell in June from May, led down by the Oil & Gas (-7.6%) as well as Metals & Minerals (-3.4%) sub-indices. Agricultural commodities (+6.1%) bucked this downtrend, however, on the back of hog and wheat strength.

****Content reproduced from our recently released quarterly *Scotiabank's Global Outlook*, which outlines the rationale for our commodities outlook (p. 41–44). 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.**

- **The second quarter of 2017 wasn't great for commodities: crude oil prices fell to their lowest level of the year in June and virtually all industrial metals posted quarter-on-quarter losses.**
- **Some of these declines reflected a true deterioration of fundamentals, as in the case of nickel, but we believe that the fallback in oil is an overreaction to an admittedly uninspiring string of high-frequency data.**
- **We remain optimistic, however, and see most commodities gaining through 2017 and 2018 on the back of a global economy that continues to strengthen as well as a gradual reversal of US dollar strength.**

OIL & GAS

Oil prices fell to their lowest level of the year, below $43/bbl (WTI), in June and the market is plagued by uncertainty. An uncertain market prioritizes the here and now, and the US Department of Energy's weekly data release on inventories and domestic production is driving spot price formation. These weekly data turned bearish in late May and sent prices tumbling, but only after fifteen weeks of counter-seasonal inventory draws that pointed to tightening physical balances (chart 1). **We remain committed to our view that oil market fundamentals will tighten through 2018, though we have lowered our WTI price forecast marginally to reflect second quarter weakness, now at $51/bbl in 2017 and $53/bbl in 2018**.

First, it is important to provide a bit of context on the buildup of US petroleum inventories that sparked crude's recent sell-off, which we believe to be the result of a transitory glut of light sweet crude in the Atlantic basin. Strong production growth in the US shale patch was coupled with sudden supply gains from Libya and Nigeria, both of which are exempt from OPEC+[1] cuts and export light sweet crude into the Atlantic. Demand growth also slowed on the back of lingering demonetization headwinds in India as well as seasonal maintenance and low utilization rates in China's independent refining sector. The surge in Atlantic production had nowhere to go and thus naturally backed up into the cheapest storage available: US tank farms.

[1] OPEC+ refers to the larger informal group of OPEC and non-OPEC producers that agreed to collectively reduce oil production by 1.8 Mbpd in a November supply deal. Output cuts were relative to October 2016 levels, with OPEC contributing 1.2 Mbpd and non-OPEC countries including Russia, Kazakhstan, and Oman agreeing to hold back the remaining 0.6 Mbpd.

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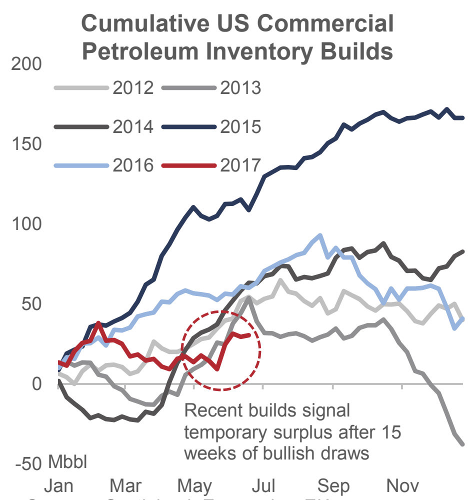
Chart 1



Sources: Scotiabank Economics, EIA.

Table 1

Scotiabank Commodity Price Index			
June 2017	(% change)		
	M/M	Y/Y	YTD
All Commodity*	**-2.6**	**7.5**	**25.8**
Industrials	**-4.5**	**8.1**	**31.7**
Oil & Gas	-7.6	1.3	47.2
Metal & Minerals	-3.4	14.1	29.9
Forest Products	-1.6	9.8	13.7
Agriculture	**6.1**	**5.1**	**4.6**
	January 2007 = 100		
	2017		
	Jun	May	YTD avg.
All Commodity	**101.4**	**104.1**	**107.9**
Industrials	**95.5**	**100.1**	**104.3**
Oil & Gas	74.2	80.3	82.6
Metal & Minerals	106.2	109.9	120.9
Forest Products	131.7	133.8	129.2
Agriculture	**134.0**	**126.2**	**128.0**

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

Importantly, we believe that this mini-glut will be short-lived and that inventories will resume their decline through the latter half of the year (chart 2). Global demand growth remains firm and is accelerating on the back of India and China's recovery. OPEC+ is expected to maintain production discipline, leaving the supply burden to the rest of the world. Outside OPEC+, the US shale patch will provide the lion's share of supply growth while other nations will muddle through, feeling the brunt of the roughly trillion-dollar post-crash reduction in planned global industry investment between 2015 and 2020.

From here, the key factors that will determine our escape path out of the current glut will be the performance of US shale, the pace of OPEC+'s return to the market in 2018, the volatility of Libyan and Nigerian production, as well as the fortune of non-OPEC supply outside the US.

Last quarter, we adopted what we called an "ultra-aggressive" outlook for the US shale patch. That forecast saw production growth exceeding 1 Mbpd y/y by the end of 2017 and maintaining that pace through 2018 and beyond. That's a lot of crude and a rarified pace of growth, matched only in the industry's history by the shale patch's pre-crash climb. This view was aggressive when first communicated but has since become consensus, establishing an effective near-term WTI price ceiling around $55/bbl. However, we are beginning to question the longevity of 1+ Mbpd y/y production growth in the US shale patch. Rig productivity has plateaued as drilling spreads to less prolific acreage (chart 3), putting the onus on an ever-rising rig count, which itself will likely feel the pressure of the recent price decline (chart 4). US shale producers have proven that they can adapt to tough times and we see US growth ending 2017 on a high note, but sub-$55/bbl prices are likely to stunt 2018 gains.

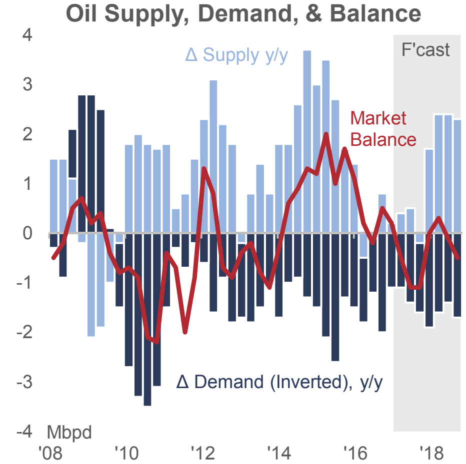
OPEC+ compliance with the supply reduction agreement remains high and we expect continued production discipline through the March 2018 extension. OPEC is then likely to become more data-dependent, carefully monitoring inventory and other fundamental data to determine the pace at which the market can accommodate a gradual return of restrained output. The more immediate concern is Libya and Nigeria, which were exempted from the agreement due to internal militancy challenges and have seen production rebound considerably in the last month. In Libya, production is up to roughly 900 kbpd, its highest level since 2013, from less than 600 in April and less than 300 last summer as a handful of major fields reopen and some contractor disputes are resolved. Similarly, Nigeria has reopened its Forcados pipeline that was offline for nearly 500 days due to militant attacks, upping shipments by nearly 300 kbpd. Libyan and Nigerian production has been extremely volatile, however, and these barrels may be lost as abruptly as they returned.

The outlook for non-OPEC producers outside the US has improved somewhat given progress in Brazil's offshore sub-salt developments, the further ramp-up of Kazakhstan's massive Kashagan field, and the continued rollout of Canadian oil sands capacity. However, these current growth centres will soon slow and output continues to contract in large producers like China and Mexico. We believe that production in this segment will suffer the brunt of the reduction in investment since the collapse of prices in 2014 and output is expected to stagnate over the forecast period, further increasing the importance of US shale producer innovation and OPEC policy.

Our natural gas outlook has weakened slightly on the risk that supply gains temporarily outstrip demand in the second half of 2017, and Henry Hub prices

Chart 2

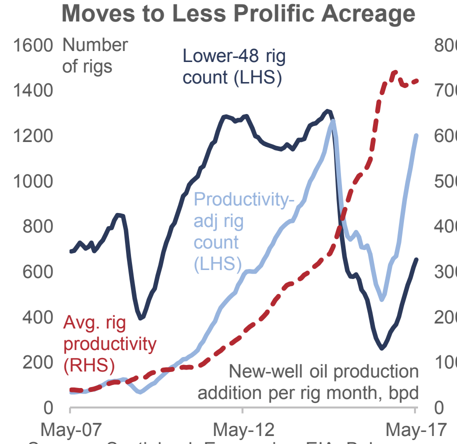
Oil Supply, Demand, & Balance



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

Chart 3

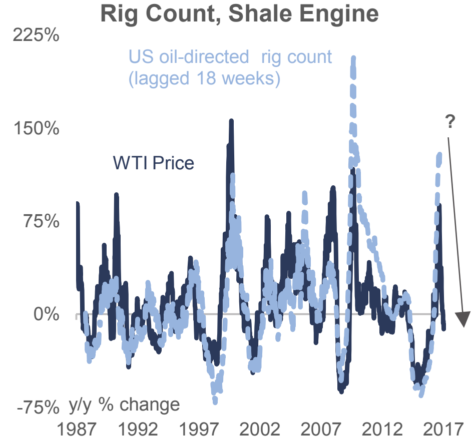
Rig Productivity Plateaus as Drilling Moves to Less Prolific Acreage



Sources: Scotiabank Economics, EIA, Baker Hughes.

Chart 4

Price Downturn Likely to Stall US Rig Count, Shale Engine



Sources: Scotiabank Economics, Bloomberg, Baker Hughes.

are now expected to average $3.10/MMBtu in 2017 and $2.95 in 2018 (chart 5). Supply strength is anticipated on the back of higher gas prices, associated gas production stemming from the upturn in oil drilling, and new pipeline capacity in the US northeast that will unlock previously trapped gas from the Marcellus and Utica basins. This short-term supply concern is balanced against a longer-term outlook that sees significant growth in gas demand in the power, industrial, and petrochemical sectors as well as for export as liquefied natural gas. The market may tighten sooner than later, however, if we have a normal winter after the two warmest heating seasons (2015–16 and 2016–17) since modern records began.

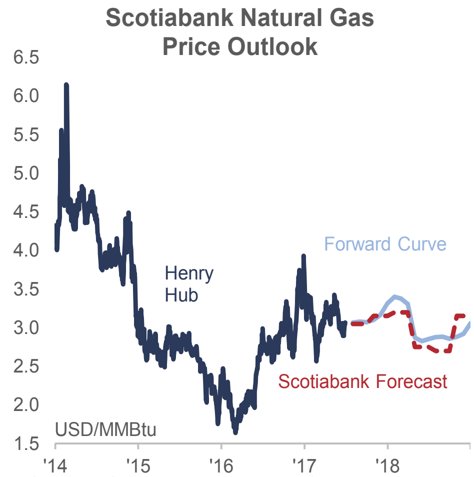
METALS & MINERALS

The metals story remains fundamentally unchanged, but the receding tide of Beijing's credit stimulus has slowed industrial activity in metals-intensive sectors like construction and manufacturing (chart 6), taking the wind out of prices. Economic activity in the world's largest consumer of raw commodities remains healthy, but metals in particular will experience underwhelming demand growth in 2017 relative to last year's credit boost.

Zinc's outlook remains the most promising among its base metal peers and prices staged a mid-June comeback, rallying to roughly $1.25/lb from a year-to-date low of $1.10 reached earlier that month. Zinc's journey upward took a bit of a pause after reaching a peak of $1.35/lb in February as speculators began taking profits. However, now that the headwinds of speculative position normalization have been worked through, zinc's fundamentals are reasserting themselves: treatment and refining charges continue to indicate extreme concentrate tightness, and the decline in exchange-listed zinc inventories has accelerated (chart 7). We are downgrading our 2017 outlook slightly to $1.25/lb given second quarter weakness, but prices are expected to continue rising through the forecast horizon and average $1.40/lb in 2018. **Copper markets have shifted to relative balance** (chart 8) and prices have consolidated into a stable $2.50–2.60/lb range after peaking around $2.80/lb in March. Minor supply deficits have been erased as Chinese copper demand contracts off last year's substantial stimulus push. Inventories have risen due to high prices incentivizing the selling of metal into exchange-listed sheds. Copper prices are forecast to average $2.55/lb in 2017 and rise to $2.75/lb in 2018 as the copper project pipeline empties and global demand growth strengthens after working through some of China's negative base effects.

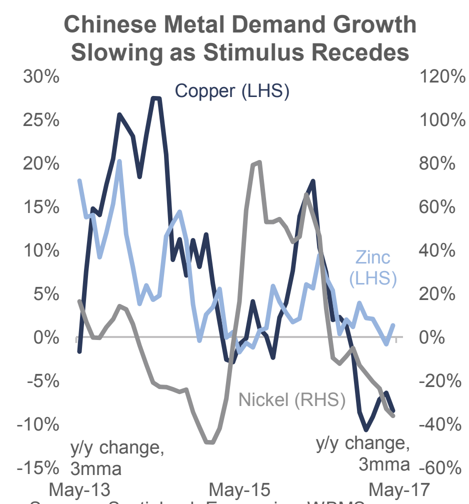
Nickel's fortunes have dimmed since last quarter and prices are now forecast to average $4.40/lb in 2017 and $5.00/lb in 2018. The prior bullish narrative rested on political disruptions to mine supply from Indonesia, which had banned the export of raw ore in 2014 in a bid to develop domestic processing capacity, and the Philippines, where environmental audits threatened the closure of half the country's nickel capacity. Indonesia's ore export ban has since been loosened and Philippine lawmakers removed Regina Lopez—the anti-mining activist turned Environment Minister who led the charge on mine audits—from her post, lessening the risk to nickel exports. Together, these factors point to more supply when the market desperately desires deficits to eat away at the inventory overhang, likely pushing the rebalancing of the nickel market into next decade. **Aluminium prices are performing as expected** so far this year after receiving a boost from concerns that China will idle capacity in the winter to address urban smog. However, the market is still waiting to

Chart 5



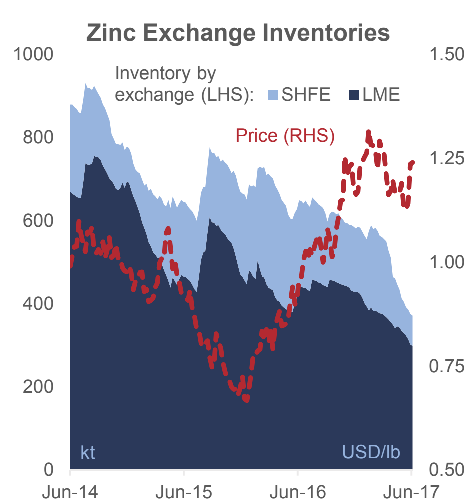
Sources: Scotiabank Economics, Scotiabank GBM, Bloomberg, NYMEX.

Chart 6



Sources: Scotiabank Economics, WBMS

Chart 7



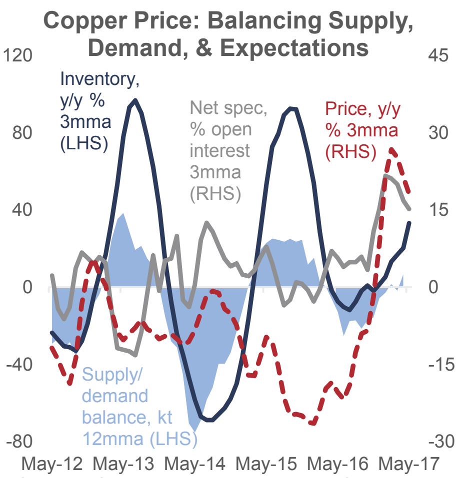
Sources: Scotiabank Economics, LME, SHFE.

see if Beijing follows through on these plans and the price rally has spurred Chinese aluminium production, which will likely bolster exports and dampen any further price gains. Aluminium prices are forecast to average $0.85/lb in both 2017 and 2018.

Iron ore prices have fallen precipitously to around $55/t (fines, 62% Fe, Northern China) from a mid-February peak of $95/t. This was an anticipated development after iron ore's unsustainable 4Q16–1Q17 rally—caused by a sharp uptick in Chinese imports running up against a seasonal downturn in seaborne shipments—eased following a resumption of seaborne supply and an accumulation of excess ore stocks at Chinese ports. Prices may need to temporarily fall further to push out some of the inefficient Chinese ore supply that was brought back to the market by high prices (chart 9), and are forecast to average $65/t in 2017 and $60/t in 2018. **Hard coking coal prices have eased** after spiking to $300/t in early-April on supply disruptions stemming from Cyclone Debbie, which damaged production and transportation infrastructure in coal-rich Queensland. Barring another acute supply disruption, we expect prices to average $185/t in 2017 given first-half disruptions and ease toward $125/t in 2018.

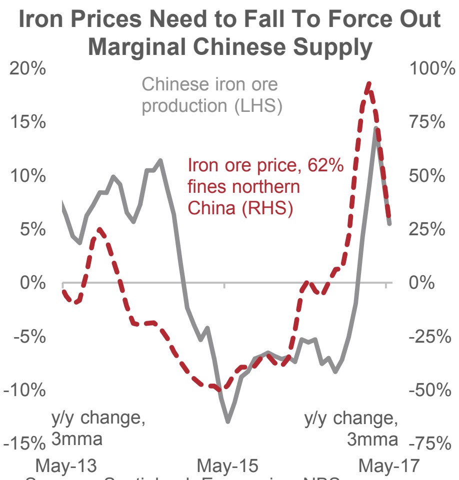
Gold prices have firmed over the last quarter on the back of falling yields and a weaker dollar, not to mention the cornucopia of headline risks that boosted safe haven demand. We have upgraded our forecast slightly to reflect this recent strength, now at $1,225/oz in 2017 and $1,250/oz in 2018. Going forward, an increasing bias towards tightening monetary policy will reverse recent yield weakness and may tarnish gold's appeal, though we continue to see the US dollar weakening through 2018 and we are unlikely to see a material decline in political risk.

Chart 8



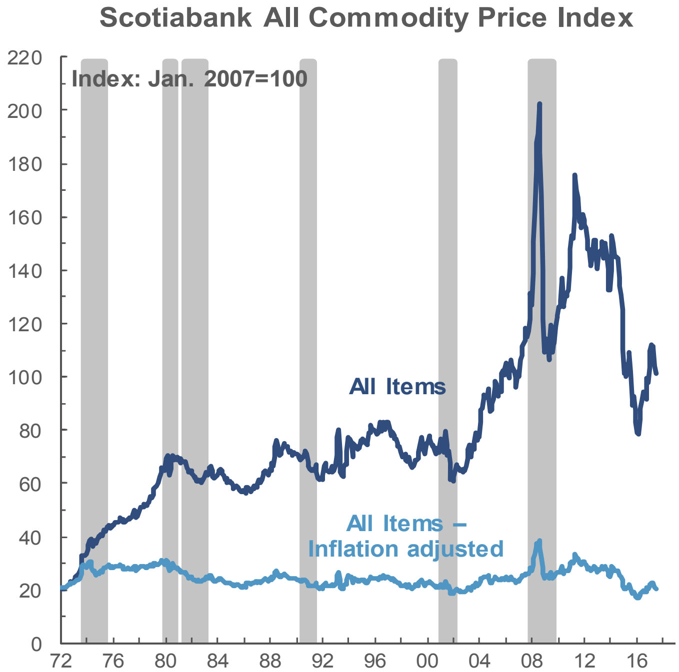
Sources: Scotiabank Economics, WBMS, LME, SHFE, COMEX, CFTC, Bloomberg.

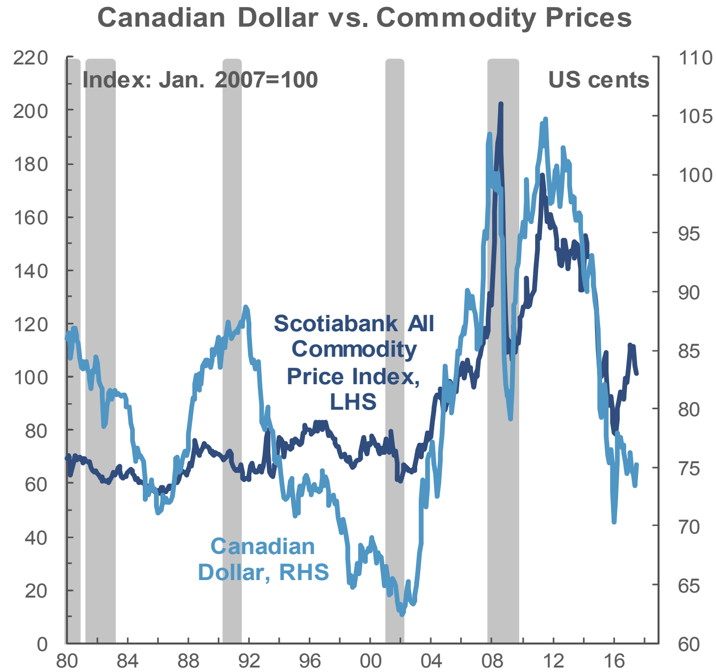
Chart 9



Sources: Scotiabank Economics, NBS, Bloomberg.

Price Outlook		2000–2015			2016	2017YTD	2017F	2018F
Oil & Gas		Monthly Avg. Low	Period Avg.	Monthly Avg. High				
Crude Oils								
West Texas Intermediate	USD/bbl	19.40	63.68	134.02	43.47	49.77	51	53
North Sea Brent Blend	USD/bbl	19.06	66.44	134.56	45.13	52.51	53	56
Natural Gas								
Nymex Henry Hub	USD/MMBtu	2.05	5.09	13.46	2.55	3.09	3.10	2.95
Metals & Minerals								
Base Metals								
Copper	USD/lb	0.62	2.35	4.48	2.21	2.61	2.55	2.75
Nickel	USD/lb	2.19	7.45	23.67	4.36	4.41	4.40	5.00
Zinc	USD/lb	0.34	0.80	2.00	0.95	1.22	1.25	1.40
Aluminium	USD/lb	0.58	0.87	1.39	0.73	0.85	0.85	0.85
Bulk Commodities								
Iron Ore	USD/t	12	65	187	58	74	65	60
Metallurgical Coal	USD/t	40	128	330	143	178	185	125
Precious Metals								
Gold	USD/toz	261	842	1,772	1,251	1,237	1,225	1,250


Scotiabank All Commodity Price Index
Index: Jan. 2007=100
All Items
All Items –
Inflation adjusted
0
20
40
60
80
100
120
140
160
180
200
220
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
0
20
40
60
80
100
120
140
160
180
200
220
60
65
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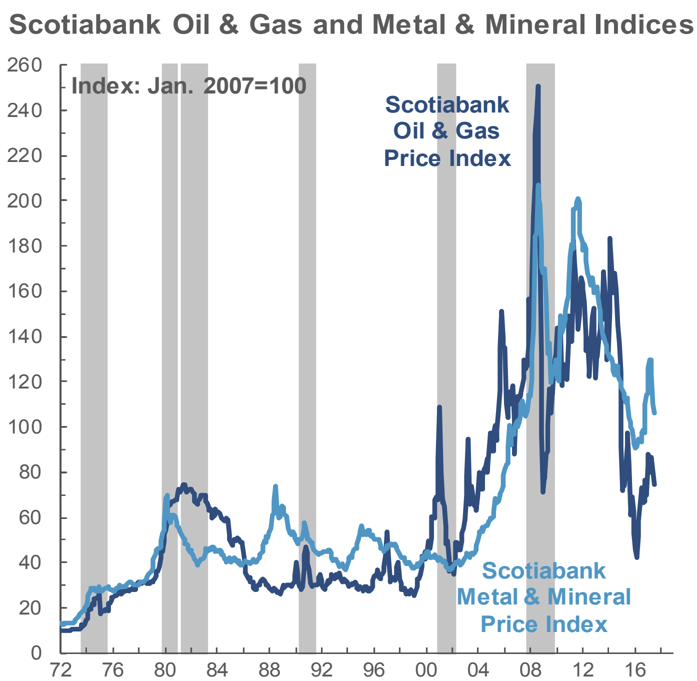
Scotiabank Oil & Gas and Metal & Mineral Indices
Index: Jan. 2007=100
Scotiabank
Oil & Gas
Price Index
Scotiabank
Metal & Mineral
Price Index
0
20
40
60
80
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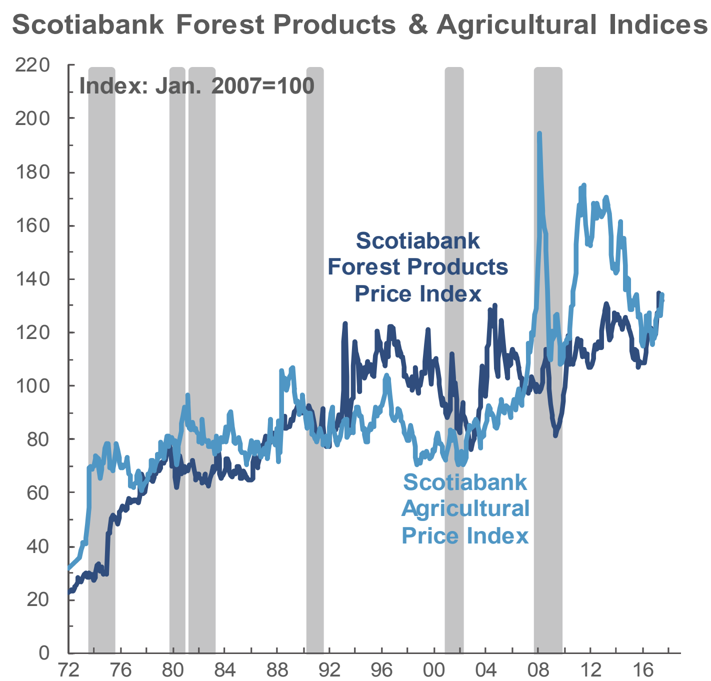
Scotiabank Forest Products & Agricultural Indices
Index: Jan. 2007=100
Scotiabank
Forest Products
Price Index
Scotiabank
Agricultural
Price Index
0
20
40
60
80
100
120
140
160
180
200
220
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76
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84
88
92
96
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04
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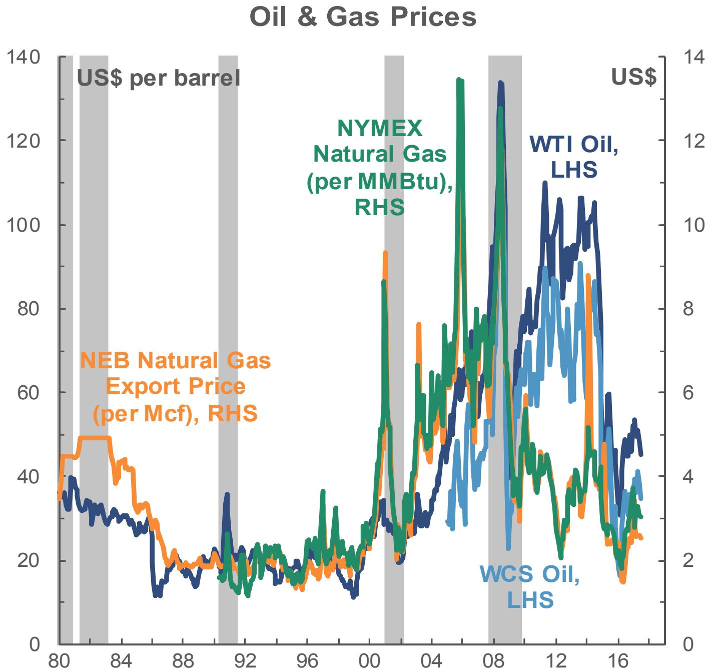
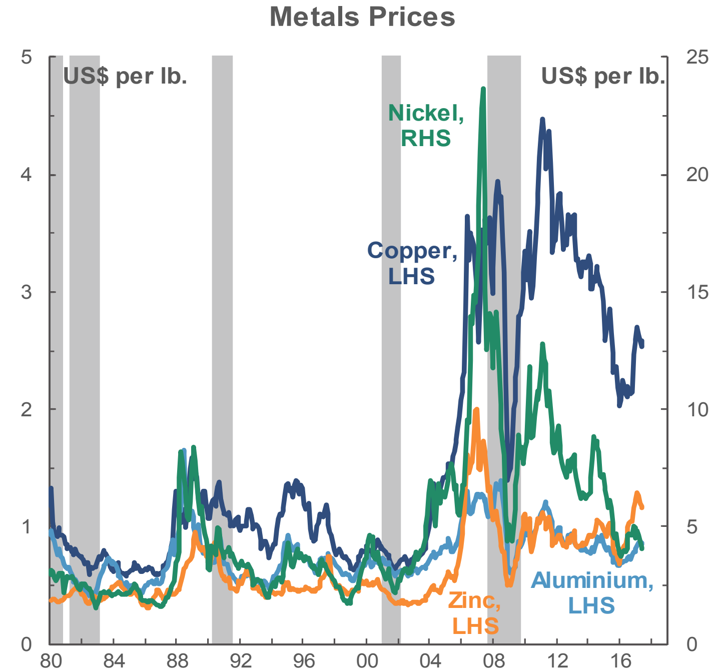
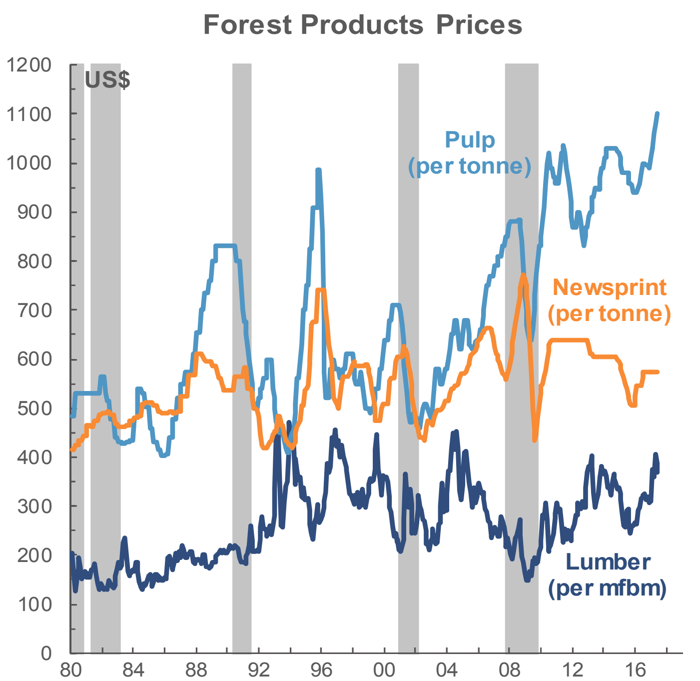
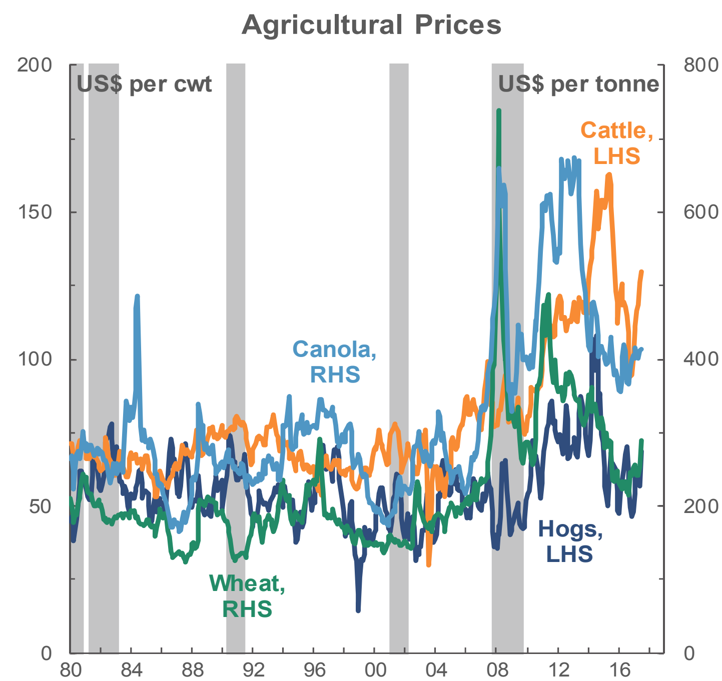

Oil & Gas Prices
US$ per barrel
US$
NYMEX Natural Gas (per MMBtu), RHS
WTI Oil, LHS
NEB Natural Gas Export Price (per Mcf), RHS
WCS Oil, LHS
140 120 100 80 60 40 20 0
14 12 10 8 6 4 2 0
80 84 88 92 96 00 04 08 12 16


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 00 04 08 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**