Oil Rises & Iron Ore Remains Elevated Through March

- **Oil prices rose about $5/bbl through March and WTI contracts ended the month around $60/bbl, supported by OPEC+ production discipline.**
- **Asian LNG prices ease amid growing supply and tepid winter weather.**
- **Iron ore prices remain elevated as the market digests the extent of supply losses in Brazil.**

OIL RISES BUT $60/BBL WTI CEILING REMAINS DESPITE SUPPLY RISKS

Oil prices rose steadily through March as OPEC+ cuts kept balances tight and US supply growth expectations moderated once again. WTI contracts have gained about $5/bbl to close the month around $60/bbl (chart 1), a level that reignited President Trump's tweet-based reminders that OPEC+ should keep supply loose amid high crude prices and a "fragile" global economy. While the president's tweet knocked WTI back by a dollar or two intraday, we expect that OPEC+ will stay the course and crude prices will average around current levels through the remainder of the year. OPEC+ announced that it was cancelling its April meeting, effectively extending the organization's supply cuts through at least June when the next meeting is scheduled. The market took the decision as a bullish sign of continued supply support from the extended producer group, particularly given that some of the group's membership—most notably Venezuela and Iran—are facing additional involuntary cuts to crude output. This current round of supply curbs are in their third month, having begun again in January 2019 following an unsuccessful attempt late last year to return much of the group's withheld crude to the market. We expect OPEC+ to maintain production discipline and supply risks across the producer group appear tilted to the bullish side, though the market seems unwilling to let prices drift far above $60/bbl (WTI) before renewed concerns regarding US supply growth knock contracts back again. Current supply trends are thus likely to keep WTI tethered to the upper end of the $50–60/bbl shale band—we will be releasing our updated quarterly oil price outlook and rationale at the beginning of April in our Q2 Scotiabank Global Outlook.

Western Canadian Select crude has performed even better than the major global benchmarks, maintaining a narrower-than-expected discount to WTI through March of just more than $10/bbl. This discount remains lower than we believe is required to incentivize the necessary growth in oil-by-rail capacity, and the latest data from the NEB confirms that oil exports by rail slipped ~30 kbpd m/m to 325 kbpd in January. Higher-frequency shipping data from CN and CP rail, in addition to anecdotal media reports, indicate that volumes continued to slide and bottomed in February before stabilizing (chart 2). As anticipated, Alberta's provincial government announced further loosing of the supply curtailment, lifting the production cap by 25 kbpd in May and another 25 kbpd in June.

LNG PRICES SINK AS NEW SUPPLY RUNS INTO WARM ASIAN WEATHER

Spot Asian LNG prices have fallen to their lowest level in three years, reaching as low as $4.65/MMBtu in the week through March 21st according to a

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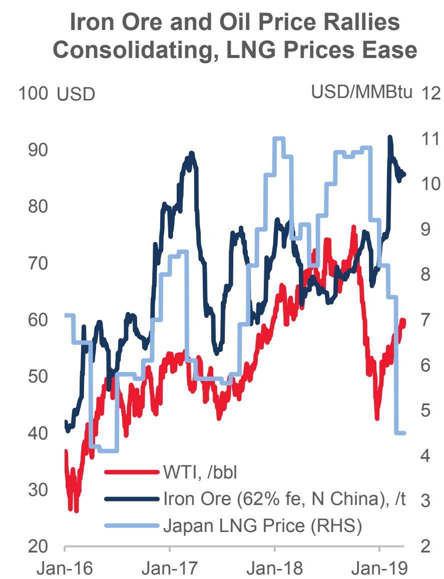
Chart 1



Note: March LNG price from Reuters report.
Sources: Scotiabank Economics, NYMEX, METI.

Scotiabank Commodity Price Index

February 2019	(% change)		
	M/M	Y/Y	YTD
All Commodity*	**3.6**	**-1.7**	**-3.9**
Industrials	**3.8**	**-1.0**	**-3.6**
Oil & Gas	4.2	5.7	0.1
Metal & Minerals	3.0	-5.2	-6.7
Forest Products	4.4	-4.1	-4.3
Agriculture	**2.7**	**-5.0**	**-5.3**

January 2007 = 100	2019		
	Feb	Jan	YTD avg.
All Commodity	**116.7**	**112.6**	**114.6**
Industrials	**114.2**	**110.0**	**112.1**
Oil & Gas	92.8	89.1	90.9
Metal & Minerals	124.1	120.4	122.2
Forest Products	151.9	145.5	148.7
Agriculture	**130.6**	**127.2**	**128.9**

* Weights: Oil & Gas (39.9%), Metal & Minerals (30.1%), Forest Products (14.7%), Agriculture (15.3%); Full technical note on page 6.

Reuters report. Prices have been steadily declining since peaking in November at around $11/MMBtu, a faster pace of declines than is seasonally typical given warmer than usual winter weather in major Big-3 LNG importers (China, Japan, and South Korea). While natural gas consumption is weaker than it would otherwise be at this time of the year, structural demand continues to rise and Big-3 imports are still up more than 4% year-on-year. The real challenge is on the supply side of the market, where the ramp-up of recently completed LNG export terminals (chart 3) has glutted the seaborne trade. Domestic Asian gas inventories remain high and spot markets are particularly oversupplied as unneeded cargoes received on long-term contract are being resold into an already weak market. At current levels, prices are now well below what is required to compensate all-in LNG costs and are bumping up against marginal cash costs for many shippers. We expect that this period of general oversupply will last a least a year or two, though extreme weather could accelerate or delay that rebalancing.

IRON ORE RALLIES AS MARKET DIGESTS BRAZILIAN SUPPLY LOSSES

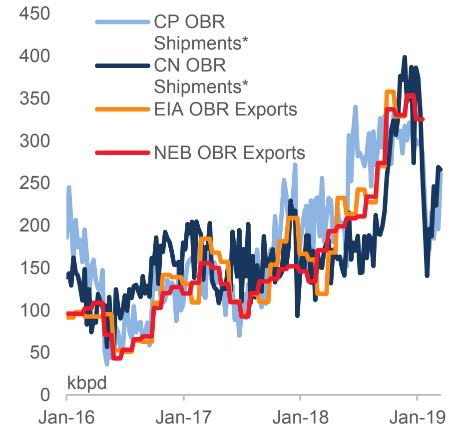
Iron ore has shifted from a staid market defined by surplus supply and falling prices to a rollercoaster of production uncertainty following Brazil's fatal Brumadinho tailings dam collapse in January. Contracts for 62% iron content ore delivered to Northern China remain elevated at around $85 per tonne up from less than $70/t at the end of 2018 and far above our prior forecast of $65/t for 2019–20. Work stoppages ordered by Brazilian regulators and courts are expected to reduce Vale's iron ore output by 40–70 Mt relative to prior guidance of 400 Mt and a total seaborne iron ore trade of roughly 1,600 Mt. While we expect to see supply offsets from higher production at other Brazilian mines—Vale's technical capacity is nearer 450 Mt, leaving ~50 Mt of theoretical slack—the disruption and adjustment costs have prompted us to lift our iron ore price forecast to $76/t in 2019 and $71 in 2020.

In mid-February Brazilian regulators announced a new regime that bans the upstream dam method of tailings management, which is less expensive but less stable than alternative structures and is the type of dam that collapsed in Brumadinho. Of the 226 tailings dams associated with iron ore mines in Brazil, 35 are constructed along the upstream method and dam operators have been given until the summer of 2021 and 2023 to decommission all inactive and active projects, respectively. The largest factor determining the extent of the near-term supply impact—whether losses will move toward the upper or lower bound of the 40–70 Mt range—is the restart timeline of Vale's 30 Mt Brucutu mine. Operations at Brucutu were expected to resume at the end of March after a stop was ordered in mid-February, but another subsequent injunction against 13 tailings dams in Minas Gerais state is now expected to further delay a resumption of operations. In the longer-term, post-Brumadinho policies aimed at tightening safety standards across the Brazilian mining industry are expected to structurally lift costs as mines shift to more expensive tailings management methods.

Beyond Brazilian mine challenges, iron ore shipping infrastructure is also seeing acute temporary disruptions in Australia where Cyclone Veronica caused the closure of major ports in iron ore-rich Western Australia. A five-day closure of the affected ports is expected to result in an annualized loss of 10 Mt iron ore in 2019. Currently-high prices are expected to bring previously idled Chinese mine supply back to the market, while seaborne demand for ore is also forecast to rise over the coming months as Chinese building activity revs out of its annual Lunar New Year lull and environmental winter production curtailments end in April.

Chart 2

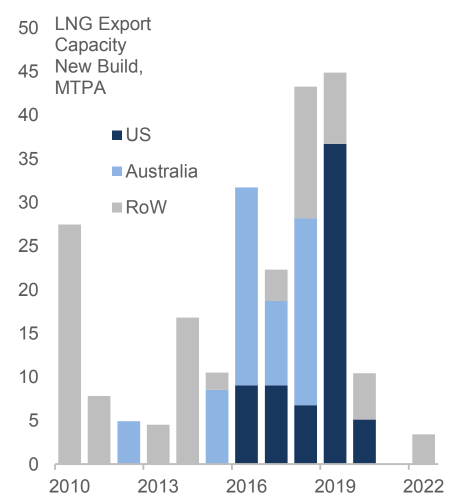
Oil-by-Rail Shipments Fell in January, Likely to Slip Further in February



*CN/CP Rail shipments are less 300 kbpd to adjust for estimted structural/intrabasin volume.

Chart 3

LNG Market Working Through Ramp Up of Significant New Export Capacity

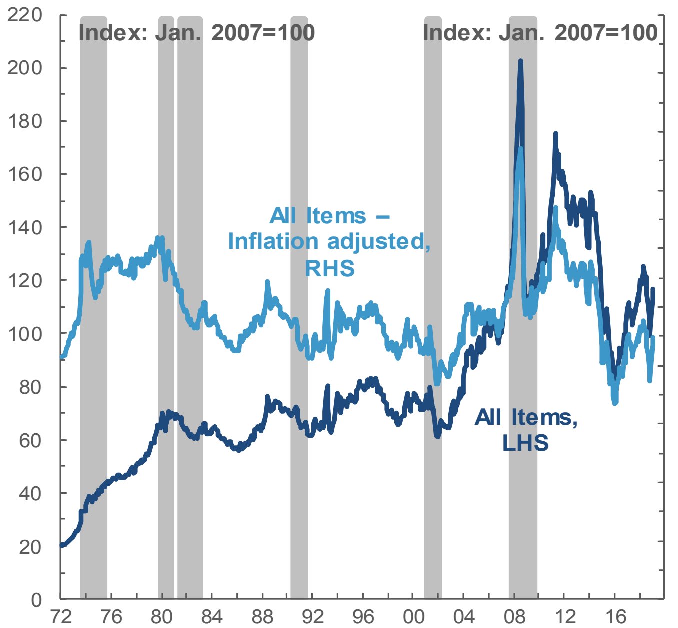


Sources: Scotiabank Economics, IGU.

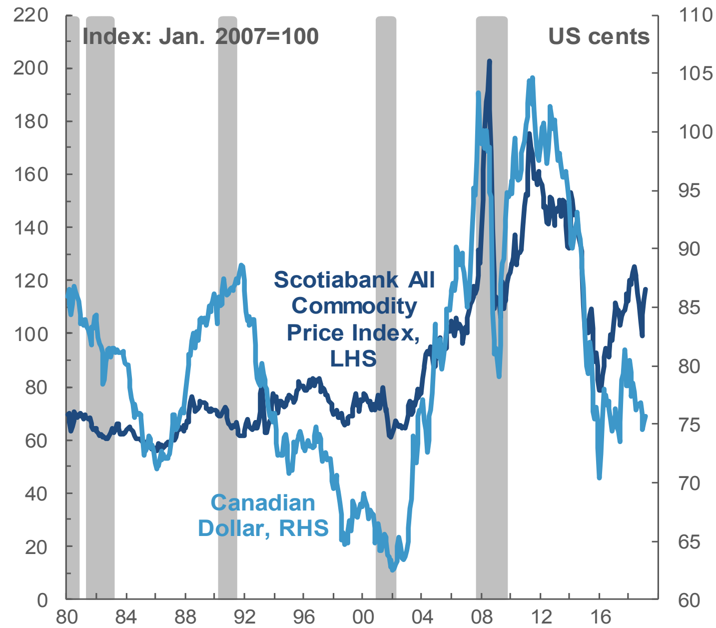
Price Outlook		2000–2017			2018	2019ytd	2019F	2020F
			Period					
Oil & Gas		Low	Avg.	High				
Crude Oils								
West Texas Intermediate	USD/bbl	17.45	62.05	145.29	64.90	54.40	58	62
North Sea Brent Blend	USD/bbl	17.68	64.93	146.08	71.69	63.42	67	69
WCS - WTI Discount*	USD/bbl	-42.50	-16.43	-5.50	-26.29	-10.58	-20	-20
Natural Gas								
Nymex Henry Hub	USD/MMBtu	1.64	4.83	15.38	3.07	2.88	3.25	2.80
Metals & Minerals								
Base Metals								
Copper	USD/lb	0.60	2.38	4.60	2.96	2.81	3.00	3.20
Nickel	USD/lb	2.00	7.12	24.58	5.95	5.59	5.50	6.00
Zinc	USD/lb	0.33	0.84	2.10	1.33	1.22	1.20	1.20
Aluminium	USD/lb	0.56	0.87	1.49	0.96	0.84	0.90	0.90
Bulk Commodities								
Iron Ore	USD/t	27	108	302	70	83	76	71
Metallurgical Coal	USD/t	39	131	330	208	205	175	160
Precious Metals								
Gold	USD/toz	256	890	1,895	1,268	1,303	1,300	1,300

* 2008-17 average.

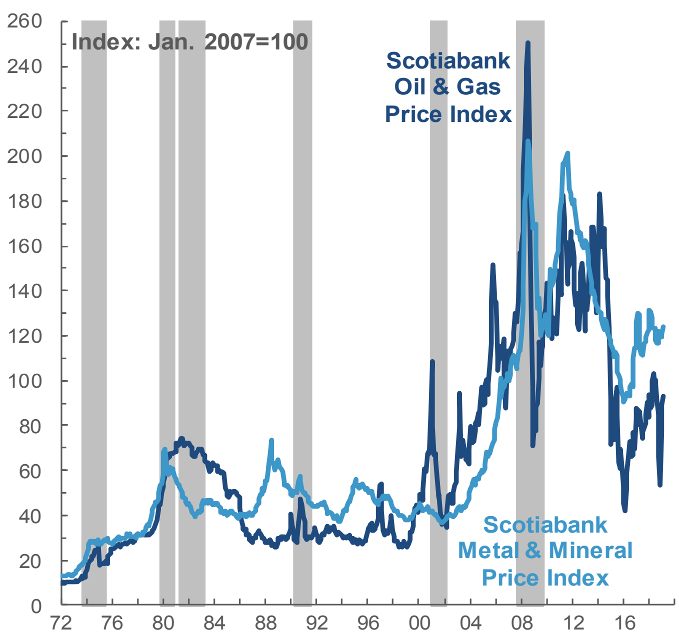
Scotiabank All Commodity Price Index



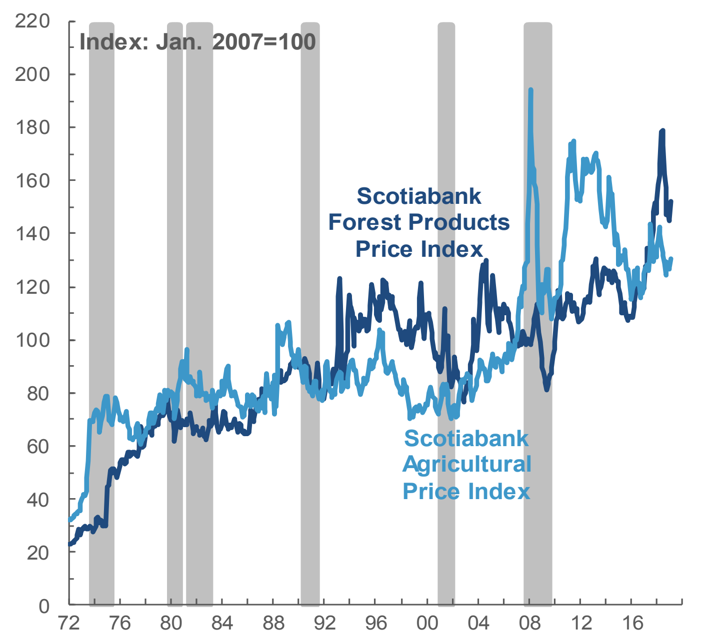
Canadian Dollar vs. Commodity Prices

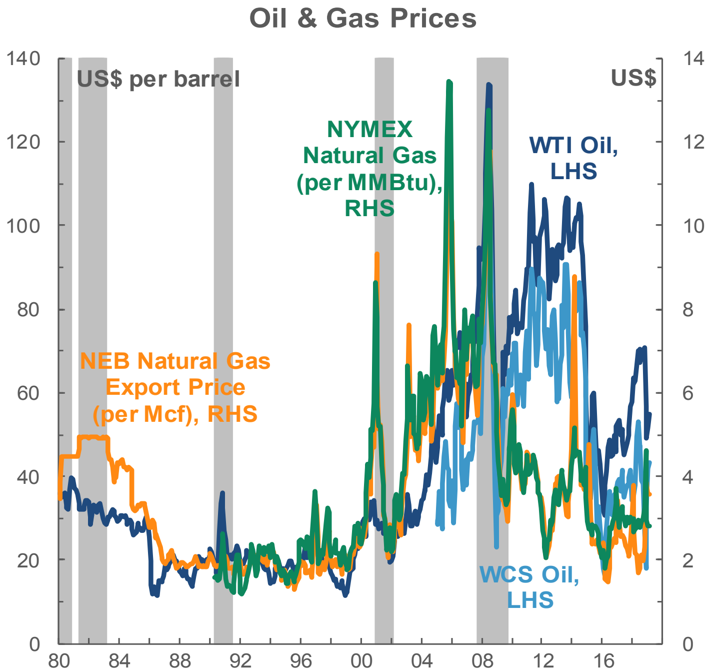


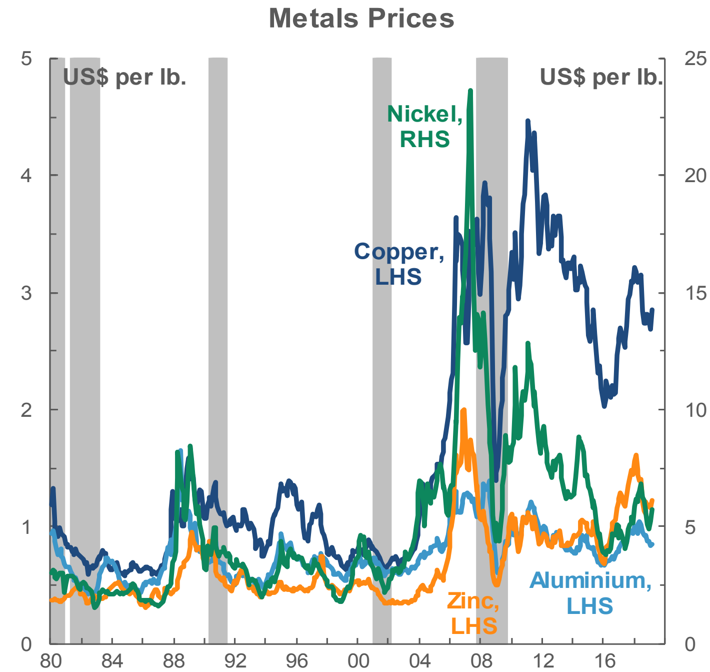
Scotiabank Oil & Gas and Metal & Mineral Indices

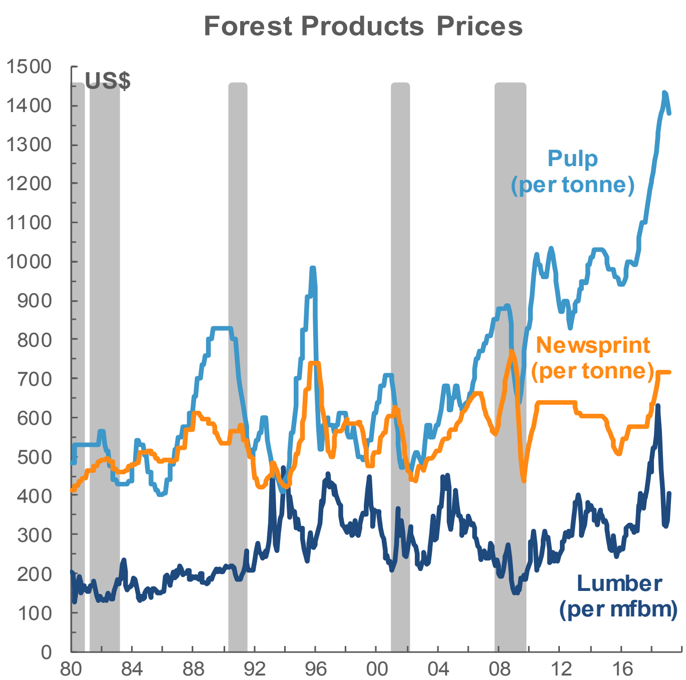


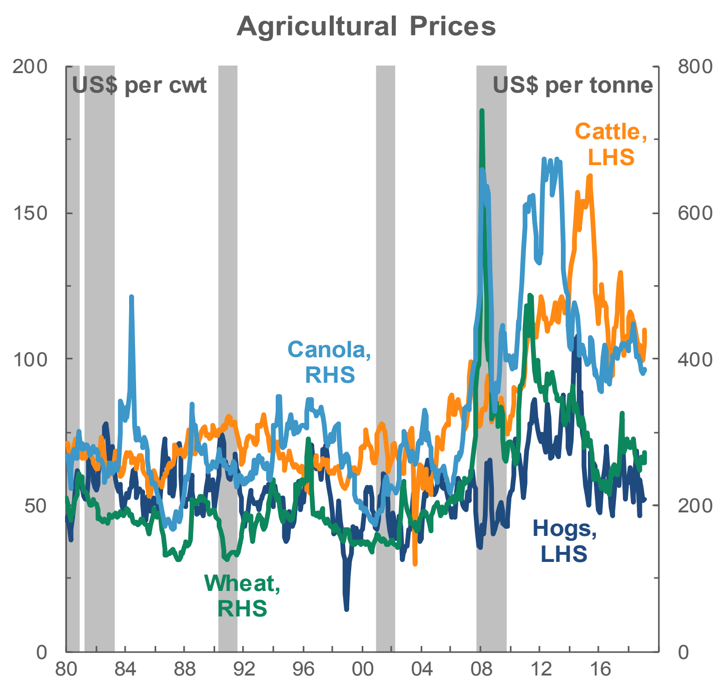
Scotiabank Forest Products & Agricultural Indices




Oil & Gas Prices
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)
1500
1400
1300
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 Bloomberg.

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) U_3O_8 near-by-futures from Bloomberg.

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**