Commodity Price Index Ends 2016 Up 6.2% m/m

A large Oil & Gas gain in December complemented monthly gains in all other sub-indices.

****Content reproduced from our recently released quarterly *Scotiabank's Global Outlook*, which outlines the rationale for our commodities outlook. 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.**

- **Commodities are expected to broadly benefit from rising prices in 2017 after many averaged cycle-lows last year**. Oil will remain top-of-mind as OPEC output reductions are monitored and the market finally gets a taste of how quickly the US shale patch can put rigs and workers back to use as prices hover around $55 per barrel.
- **Base metals are expected to gain from a more-buoyant global economy** and rising manufacturing activity, with copper fundamentals in particular improving relative to our prior outlook.
- **Meanwhile, the gold outlook has deteriorated slightly** on the back of a stronger macro outlook, rising yields, and thus-far muted market response to political uncertainty.

OIL & GAS: OPEC FINALLY LENDS A HAND TO THE OIL RECOVERY

The oil market's recovery from the depths reached early last year, when WTI touched $26/bbl, remains on track and OPEC's recently-concluded deal to reduce output will artificially accelerate the rebalancing of supply and demand. **Prices for North American benchmark WTI have been moderately upgraded and are now forecast to average $58/bbl in 2017 and $61/bbl in 2018**. We see three key trends that will shape the oil market in 2017: 1) OPEC member compliance; 2) the strength and pace of the US shale patch's rebound; and 3) the persistence of global demand growth.

Our estimates indicate that global liquids supply was running at 97.7 Mbpd (+0.5 Mbpd y/y) against demand of 96.9 Mbpd (+1.3 y/y) in the final quarter of 2016. This 0.7 Mbpd surplus is down from 1.6 Mbpd the same time last year, and balances are expected to move to a deficit of 0.6 Mbpd by the final quarter of 2017. Supply growth is expected to remain depressed at 0.6 Mbpd in 2017, with demand advancing at roughly double that pace. Global inventories are forecast to begin drawing in the second half of 2017 (Chart 1), which will be the first sustained stock reduction since the beginning of 2014. Oil market balances are expected to average -0.2 Mbpd for 2017 as a whole.

We anticipate OPEC compliance of roughly 75%, with the strongest and clearest cuts coming from Saudi Arabia and its GCC allies, as well as a successful 6-month extension of the supply deal through the second half of the year. It appears that OPEC members are thus far going along with their committed cuts, with Saudi and core Gulf allies leading in rapid reductions as expected. OPEC members have a lot riding on this deal and a good amount of political capital has been spent to

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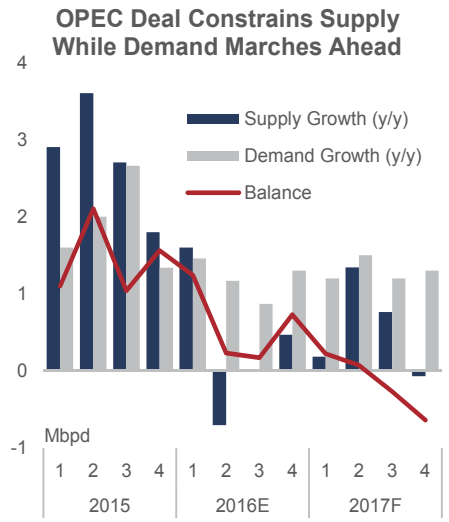
Chart 1



Sources: Scotiabank Economics, Scotiabank GBM, International Energy Agency.

Table 1

Scotiabank Commodity Price Index

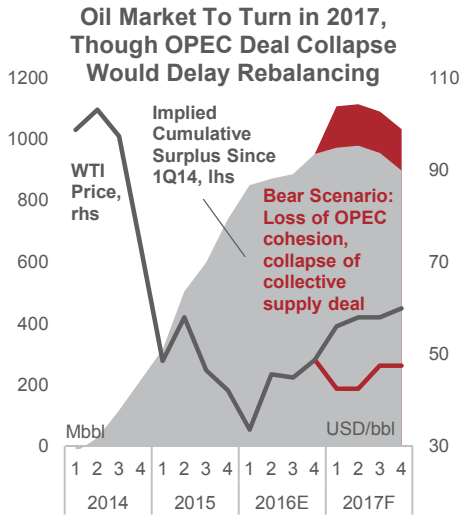
December 2016	(% change)		
	M/M	Y/Y	YTD
All Commodity*	**6.2**	**24.9**	**-6.7**
Industrials	**7.1**	**31.0**	**-6.9**
Oil & Gas	19.5	55.6	-14.0
Metal & Minerals	0.3	24.3	-6.3
Forest Products	1.1	10.0	4.6
Agriculture	**1.8**	**2.9**	**-5.6**
	January 2007 = 100		
	2016		
	Dec	Nov	YTD avg.
All Commodity	**103.3**	**97.3**	**91.0**
Industrials	**100.4**	**93.7**	**85.6**
Oil & Gas	82.4	68.9	64.0
Metal & Minerals	114.8	114.5	99.2
Forest Products	119.6	118.3	116.8
Agriculture	**119.8**	**117.6**	**120.7**

* Weights: Oil & Gas (39.9%), Metal & Minerals (30.1%), Forest Products (14.7%), Agriculture (15.3%); Full technical note on page 7.

bring the disparate parties together, which is likely to improve member compliance relative to past OPEC deals which took place under more sanguine oil market conditions. However, the potential production resurgence of exempted members Libya and Nigeria, which are experiencing depressed production levels due to domestic conflict, could offset some of the deal's efficacy. Thus far, Libyan barrels are returning faster than expected while Nigerian supply has been further impacted by militant attacks on infrastructure, keeping their combined contribution roughly in line with base case expectations.

We also expect a moderate rebound of US supply, which is expected to rise by 300–400 kbpd in 2017 as prices hover around $55/bbl WTI before rising toward $60/bbl by year-end. This will be our first real look at how the vast array of smaller US shale producers can convincingly grow production, a development that will have a powerful anchoring effect on future price expectations. Industry costs have fallen considerably over the past 18 months since prices collapsed, with likely half of this due to organic efficiency improvements prompted by the lower-price reality. However, the balance of savings were obtained by pushing down service costs along the supply chain. As prices rise and the industry recovers, the demand for these service firms will increase. Rising service costs and the difficulty in getting workers back into the field are expected to limit the ability of the US upstream to rapidly respond to the higher price environment.

Chart 2



Sources: Scotiabank Economics, Scotiabank GBM, International Energy Agency.

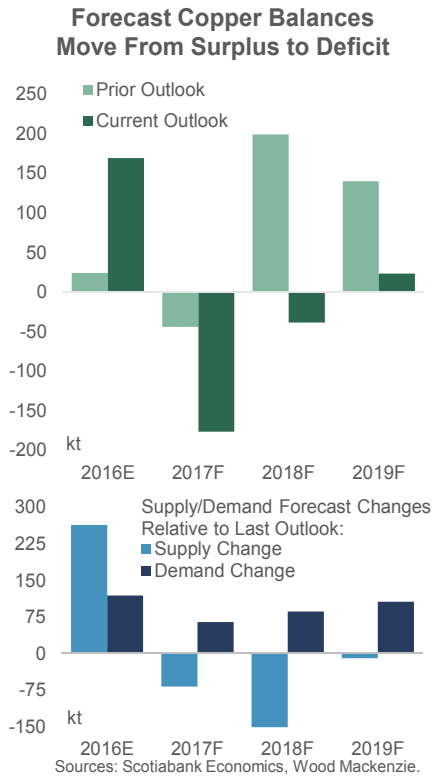
METALS & MINERALS: IMPROVING COPPER FUNDAMENTALS PROMPT FORECAST UPGRADE

We have upgraded our price forecasts for all base metals in 2017 as fundamentals improve on the back of stronger global economic growth and rising manufacturing activity. Copper saw the most significant outlook adjustment, as stronger-than-anticipated Chinese demand runs up against weaker supply growth. Nickel prices were boosted in 2017 but downgraded in 2018 to account for the assumed ramp-up of domestic Indonesian nickel pig iron (NPI) capacity. Zinc remains the metal with the strongest supporting fundamentals, and the higher 2016 hand-off prompted an mild upgrade to price expectations.

Copper's fundamental outlook has improved since our last quarterly outlook, with stronger global demand running up against lowered production guidance through 2017–18 (Chart 3). Market balances for the red metal are expected to move into moderate deficit territory this year and next following six consecutive years of surplus. Copper prices rallied in the final months of 2016 from below $2.10/lb to $2.70/lb on a surge in speculative positioning before prices eased again as profits were taken. While we expected the rally to subside from its heights, **supportive details emerged through the quarter and we have increased our copper price forecast from $2.20/$2.20 to $2.40/$2.50 for 2017/18**. Speculative positioning has maintained record net length, but small gross length reductions indicate that some profit-taking has already occurred, which we expect to continue as market froth subsides and prices fall back into a sustainable $2.40-2.50/lb range.

Global copper demand is expected to average roughly 2% in 2017–18 after growth surprised on the upside last year. The largest demand changes have been seen in China, where the government's credit-stimulus and infrastructure push have bolstered the near-term outlook for Chinese copper consumption; moderately

Chart 3



Sources: Scotiabank Economics, Wood Mackenzie.

** All Prices in US Dollars

stronger global manufacturing indicators, both in developed and developing markets, are also constructive for global demand. China is expected to continue driving global demand growth over the coming years, with the more-rapid expansion of its electrical grid providing the strongest impetus. Chinese construction trends will be a drag on copper demand due to an anticipated fall-off in industrial building. Vehicle sales are expected to fall back in 2017 alongside the government's phase-out of the small-engine vehicle tax break, but the December 15th decision to extend part of the cut through 2017 will limit the downside.

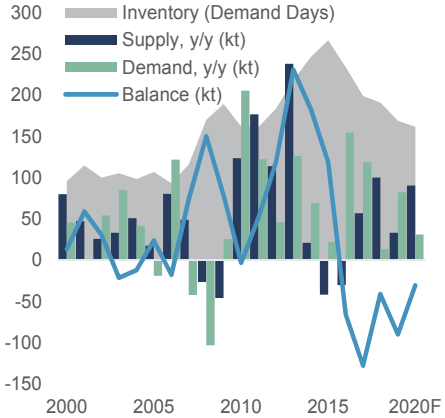
Meanwhile, supply growth was strong in 2016 at 3.8% y/y and, despite an uptick in demand, the overall annual surplus is larger than previously expected (170kt vs 25 kt). Part of this supply strength was due to below-average mine disruptions, which were under 4% in 2016, despite some lost tonnage in the final quarters, relative to an average of above 5%. The low-price environment and sluggish economic activity have impacted the availability of copper scrap (down 9% y/y), which in turn boosted demand for freshly refined metal and offset some of the market slack that would have further swamped refined balances in 2016. However, the 2017–18 supply outlook has been downgraded: mine supply is expected to contract by roughly 0.5% y/y in 2017 vs a prior expectation of reasonable growth (+1.5%), with some of this due to more rapid ramp-ups this year—which brought forward supply into 2016—and some global producers shuttering higher-cost projects and offloading marginal assets in a quest to tackle an industry-wide debt overhang. Some major projects are expected to continue coming online over the forecast horizon and supply growth is expected to accelerate again in 2018 before the project pipeline slows considerably thereafter.

The nickel market has finally shifted to a sustainable deficit after a decade of surplus production added a million tonnes of refined metal to global inventories (Chart 4). These deficits are expected to be maintained over the next five years, though prices will only rise gradually as global stocks—which ended 2016 at nearly 270 days of demand relative to 100 day levels averaged over the decade preceding the run-up (1996–2006)—are worked down. **Prices are expected to continue rising in 2017 to average $5.20/lb, stumble slightly in 2018 to $5.00/lb** as Indonesia's nascent NPI industry begins production in earnest, and then continue rising through end-decade.

Demand for nickel rose rapidly in 2016 and is expected to continue rising through 2017 as stainless steel capacity in China is ramped up, with global stainless melt forecast to grow 5% y/y in 2016–17. The key uncertainty that originally prompted an upturn in nickel prices, ahead of fundamental support, was the potential for significant nickel mine capacity shut-ins following environmental audits in the Philippines. Real supply impact has thus far been muted, but the continued delay in final decisions could keep the market spooked through the first half of the year. Chinese ore stocks—accumulated ahead of the seasonal monsoon-driven downturn in Filipino exports—will likely be depleted by the beginning of 2Q17, and global nickel supply could be hard hit if these smelters are unable to access fresh feedstock.

The zinc market remains acutely starved of concentrate following significant mine closures and price-prompted idling over the past two years, with global concentrate inventories falling to critically-low levels by the end of 2016. This tightness in concentrate stocks will limit the ability of smelters to respond to rising

Chart 4



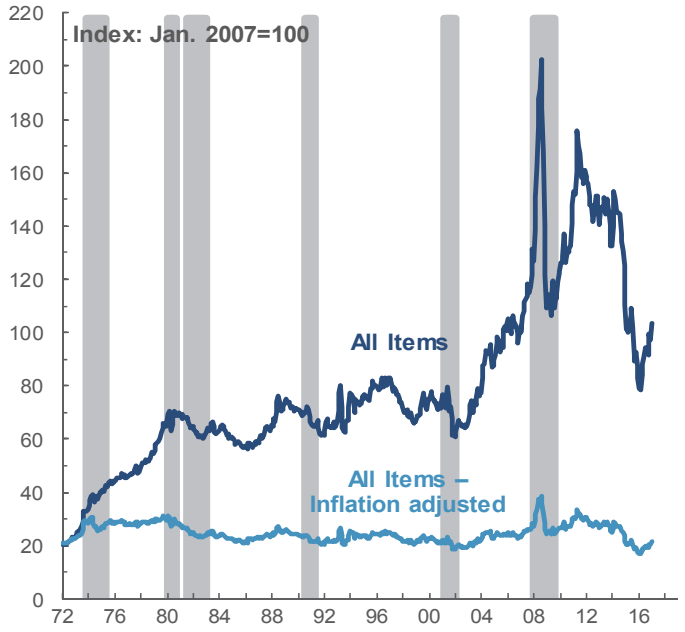
Sources: Scotiabank Economics, Wood Mackenzie.

zinc prices, which will translate to accelerating price gains as refined inventories continue to draw and fall to around 35 days of demand by mid-2017 (relative to the 2006–2015 average of 78 days). **Zinc prices are forecast to average $1.35/lb in 2017 and $1.55/lb in 2018, continuing the already-impressive gains made over the course of 2016**. The key uncertainty for zinc remains how quickly Glencore restarts 500kt worth of mine capacity that was strategically idled in 2015–16. Our current assumption is that this tonnage will begin to return to the market in the latter half of 2017, though recent comments from Glencore leadership indicated that the ramp-ups could be slow (9-15 months per mine) and that restarts could be staggered. Any delay in this concentrate returning to market is expected to further exacerbate the trends currently pushing zinc prices higher and presents upside risk to our current forecast.

Gold's outlook has deteriorated since our last report, with prices now forecast to average $1,200/oz in 2017 and 2018 from $1,300/oz prior. The upgraded global economic outlook, rising inflation and interest rate expectations, and the thus-far muted market response to political events widely considered to stoke uncertainty all speak to gold's dimmer prospects. We are also closely tracking developments associated with India's demonetization push, which has the potential to negatively impact demand in the world's largest physical gold importer. However, we continue to believe that the market's sanguine view of the risk environment is slanted bullish, and that gold will find some support as these views revert to balance.

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	52.60	58	61
North Sea Brent Blend	USD/bbl	19.06	66.44	134.56	45.13	55.51	60	63
Natural Gas								
Nymex Henry Hub	USD/MMBtu	2.05	5.09	13.46	2.55	3.30	3.25	3.15
Metals & Minerals								
Base Metals								
Copper	USD/lb	0.62	2.35	4.48	2.21	2.60	2.40	2.50
Nickel	USD/lb	2.19	7.45	23.67	4.36	4.54	5.20	5.00
Zinc	USD/lb	0.34	0.80	2.00	0.95	1.23	1.35	1.55
Aluminium	USD/lb	0.58	0.87	1.39	0.73	0.81	0.75	0.77
Bulk Commodities								
Iron Ore	USD/t	12	65	187	58	80.58	55	50
Metallurgical Coal	USD/t	40	128	330	143	185.74	180	120
Precious Metals								
Gold	USD/toz	261	842	1772	1251	1191.92	1200	1200

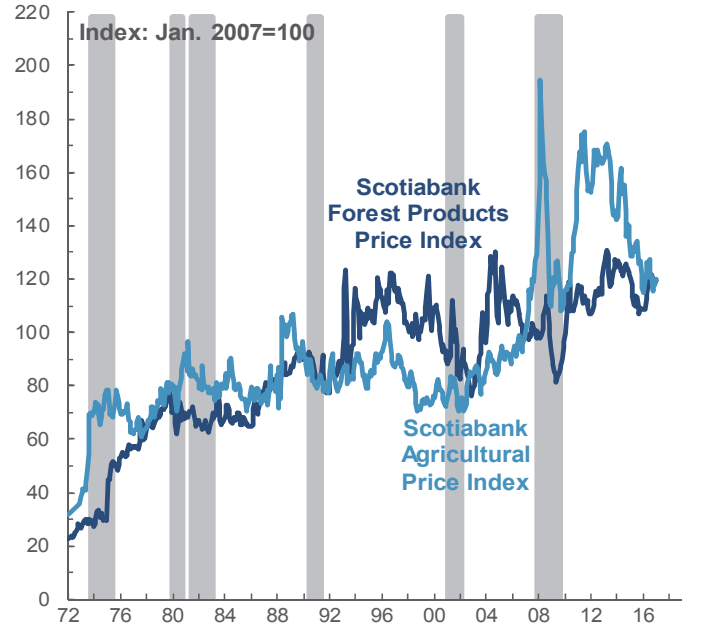
Scotiabank All Commodity Price Index

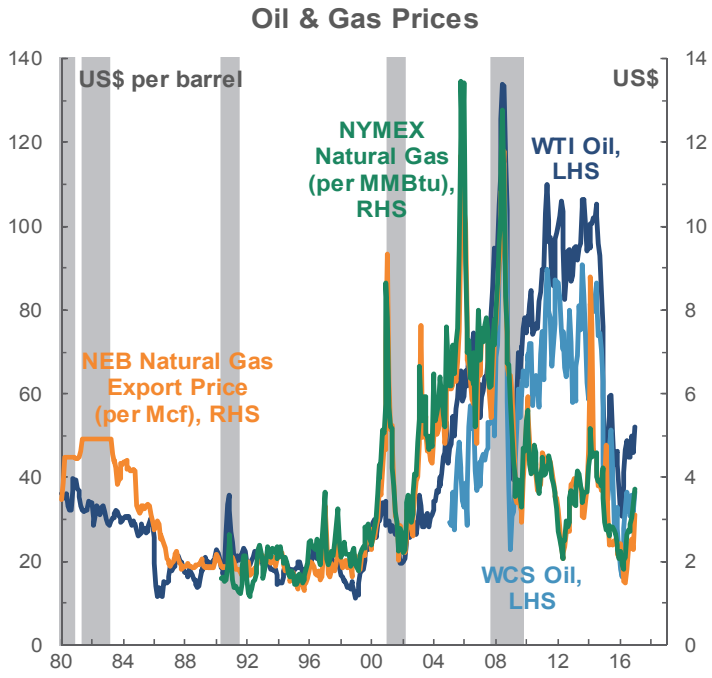


Canadian Dollar vs. Commodity Prices

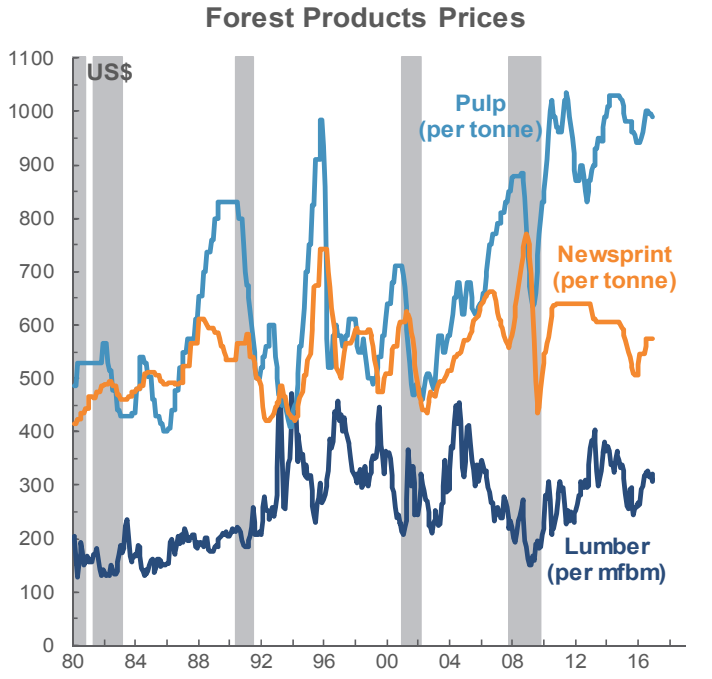
Scotiabank Oil & Gas and Metal & Mineral Indices

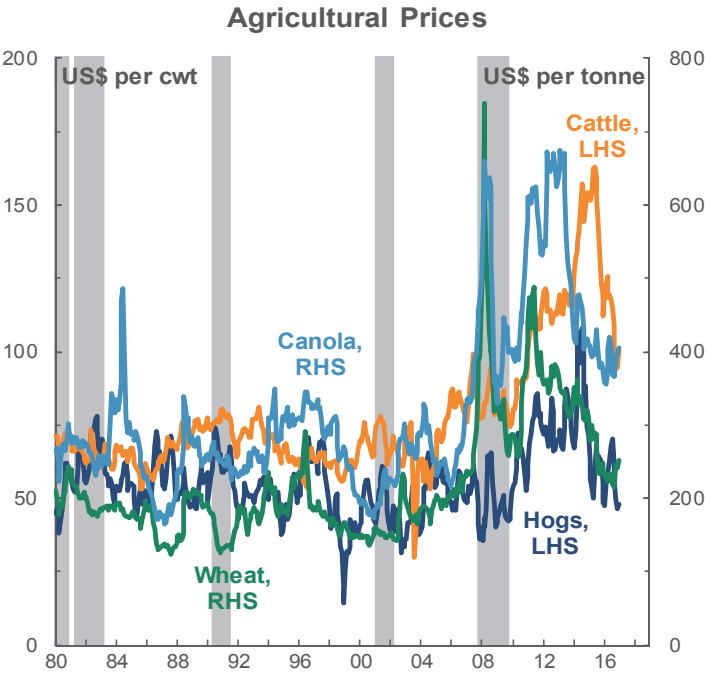
Scotiabank Forest Products & Agricultural Indices




Oil & Gas Prices
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)
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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