

October 31, 2018

Spooky October for Markets, Commodities Suffer

- A steep pullback in global equity markets depressed commodity prices through October as investors withdrew from risky assets; haven demand boosted the greenback, adding further weight to dollardenominated commodities contracts.
- Oil prices fell back as correlations with tumbling equities tightened; in . addition to mounting risk aversion, the recent bull run in global crude benchmarks went too far, too fast and ran ahead of fundamentals that, while relatively supportive, won't become tight enough to justify Brent above \$80/bbl until later into 2019, in our view.
- The lead up to Halloween was all tricks, no treats for Canadian heavy crude as discounts spiked to all-time highs on the back of continued pipeline bottlenecks and the steepest maintenance-related shutdowns for US Midwest refineries—major consumers of Canadian crude—in over a decade.

The Scotiabank Commodity Price Index fell 3.1% m/m in September, pulled down by the Oil & Gas sub-index (-6.0%) as persistent Canadian heavy crude weakness spread to lighter Canadian oil benchmarks like Mixed Sweet (MSW). Wider differentials for Canadian crude persisted through October, with both heavy and light Canadian oil benchmarks falling to all-time lows relative to US benchmark WTI.

The broad sell-off in global equity markets—the S&P500 index is down 10% since early October—has put the commodities complex on the defensive. this time bringing crude prices along for the ride that metals experienced earlier in the year. Correlations between equity and oil prices tightened considerably (chart 1) as funds sold into a falling market—the worst monthly rout since the financial crisis, potentially bringing the longest bull market in history to an end. Investors are pulling back from risky assets abroad, boosting the greenback and adding further weight to dollar-denominated commodity contracts. A withdrawal of the Trump tariffs would likely provide a boost to calm the selling, a policy option that might well materialize through the end of the year if the White House perceives a steepening market rout as jeopardizing its Great Again narrative.

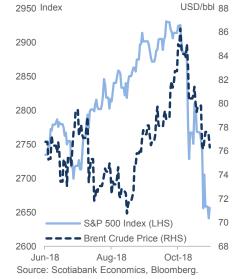
Oil market speculators have been taking profits for the past few weeks and now maintain the lowest net position in crude contracts since the summer of **2017.** Beyond the impacts of bearish equity developments, oil market sentiment has been further hit by the ramp-up of Saudi and Russian production, meant to fillin for anticipated losses of Iranian exports but arriving before said declines are realized. Sentiment looked stretched as Brent breached above \$86/bbl and much of this pullback is simply a rationalization of that overextension, but we believe that fundamentals remain supportive over the next eighteen months. The presently well-supplied market is expected to tighten considerably through 2019 as Iranian barrels are pushed out of the market by US sanctions and OPEC bumps up against output capacity constraints, though a seasonal fallback in winter demand will likely delay a material bounce-back until next spring when tightness will really begin to manifest.

CONTACTS

Rory Johnston, Commodity Economist 416 862 3908 Scotiabank Economics rory.johnston@scotiabank.com

Chart 1

Equity Market Turmoil Spooks Crude



Scotiabank Commodity Price Index						
September 2018	(% change)					
	MM	Y/Y	YTD			
All Commodity*	-3.1	2.5	10.9			
Industrials	-3.0	4.3	12.8			
Oil & Gas	-6.0	5.4	15.4			
Metal & Minerals	0.2	-0.7	3.9			
Forest Products	-3.2	11.1	25.1			
Agriculture	-3.3	-5.6	2.3			
	January 2007 = 100					
	2018					
	Sep	Sep Aug YTD avg.				
All Commodity	111.3	114.9	119.5			
Industrials	109.0	112.4	116.8			
Oil & Gas	85.4	90.8	94.0			
Metal & Minerals	116.8	116.6	123.5			
Forest Products	157.1	162.3	165.4			
Agriculture	124.3	128.6	134.2			
* Weights: Oil & Gas (39.9%), Metal & Minerals (30.1%), Forest Products (14.7%), Agriculture (15.3%): Full technical note on page 6.						

(15.3%); Full technical note on page 6.



October 31, 2018

ALL TRICKS, NO TREATS FOR CANADIAN HEAVY CRUDE

Breaking records isn't always a cause for celebration. Case in point, the discount borne by Canadian heavy oil reached an all-time high of more than \$50/bbl under WTI in early October as the ramp-up of necessary oil-by-rail capacity clearly fell below demand for non-pipeline egress out of Western Canada and demand for Canadian heavy crude was temporarily depressed by steeper-than-average refinery maintenance in the US Midwest. The narrowing heavy discount in the US gulf coast—measured by the difference between Mexican Maya and Louisiana Sweet crude benchmarks (chart 2)—makes it all the more clear that the latest blow-out is due almost entirely to transportation-related challenges. And while pipeline bottlenecks are most visible in Western Canadian Select (WCS) heavy oil discounts, Canadian light crude benchmarks like Mixed Sweet (MSW) and Synthetic Crude (SCO) also saw differentials rise to more than \$30/bbl relative to trading nearly at par with WTI in more normal times, reflecting the fact that increasingly tight takeaway capacity is impacting realized pricing across all crude grades.

Canadian oil-by-rail shipments-which jumped to set a new all-time high of 230 kbpd in July—are expected to reach 300–400 kbpd by early 2019, but the ramp up is clearly underperforming demands on rail services needed to get around nowchronic pipeline bottlenecks en route to export markets. In the meantime, much of the stranded crude is being flushed into provincial storage tanks and Alberta crude inventories reached a record of 75 Mbbl in August, a jump of 28% over the same period last year. The steepest maintenance cycle in more than a decade for Midwest refineries-major consumers of Canadian crude-added to the pressure on Canadian oil benchmarks, though the worst of that refinery downtime is now behind us (chart 3). We expect that the end of Midwest refinery turnarounds through November will alleviate the worst of the current discount blowout and that continued gains in oil-by-rail throughput will allow differentials to fall back toward the mid-\$20s, a level supporting now-necessary oil-by-rail economics that is well above "natural" discounts but thankfully below the crisis levels reached earlier this month. However, it is important to stress that we are operating with a very thin egress margin out of Western Canada through the course of next year and Canadian crude discounts are likely to be unforgiving if any unforeseen events-e.g. pipeline outages, slower than anticipated rail ramp-up, unexpected refinery maintenance, etc.-tighten takeaway capacity once again, particularly given the lack of a material regional inventory capacity cushion.

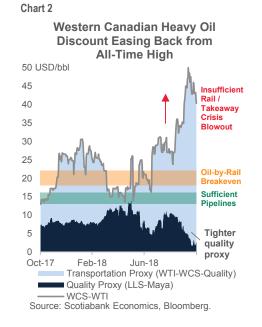
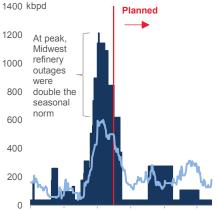


Chart 3

Steep Midwest Refinery Outages to Ease Quickly Through November





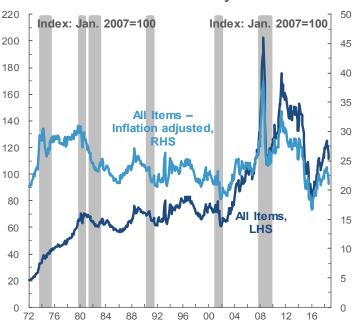
October 31, 2018

Price Outlook Oil & Gas		Monthly Avg. Low	2000–2016 Period Avg.	Monthly Avg. High	2017	2018ytd	2018F	2019F
Crude Oils					1			
West Texas Intermediate North Sea Brent Blend WCS - WTI Discount*	USD/bbl USD/bbl USD/bbl	19.40 19.06 -42.50	62.70 65.53 -16.85	134.02 134.56 -5.50	50.85 54.75 -12.74	67.24 73.57 -25.93	68 74 -27	72 80 -24
	030/001	-42.50	-10.00	-5.50	-12.74	-20.95	-21	-24
Natural Gas								
Nymex Henry Hub	USD/MMBtu	1.81	4.94	13.46	3.02	2.89	2.93	2.93
Metals & Minerals								
Base Metals								
Copper	USD/lb	0.62	2.35	4.48	2.80	2.99	2.99	3.00
Nickel	USD/lb	2.19	7.26	23.67	4.72	6.14	6.15	6.50
Zinc	USD/lb	0.34	0.81	2.00	1.31	1.35	1.33	1.30
Aluminium	USD/lb	0.58	0.86	1.39	0.89	0.97	0.95	1.00
Bulk Commodities								
Iron Ore	USD/t	27	108	302	72	69	65	65
Metallurgical Coal	USD/t	39	127	330	188	205	205	175
Precious Metals								
Gold	USD/toz	261	869	1,772	1,257	1,276	1,262	1,300
* 2008-16 average.								

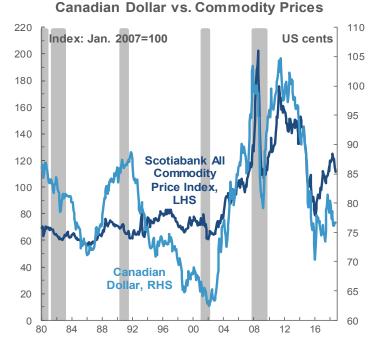


GLOBAL ECONOMICS

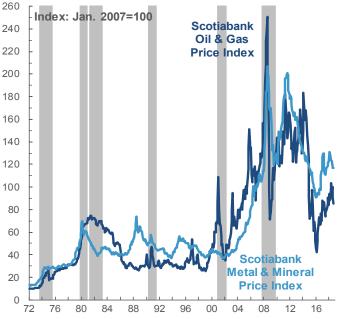
October 31, 2018



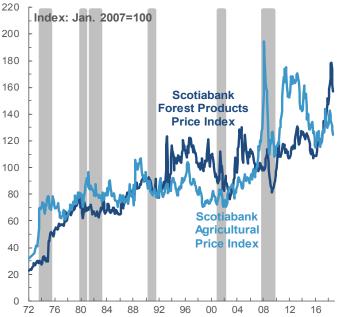
Scotiabank All Commodity Price Index



Scotiabank Oil & Gas and Metal & Mineral Indices



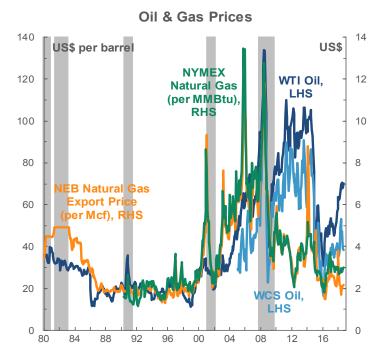


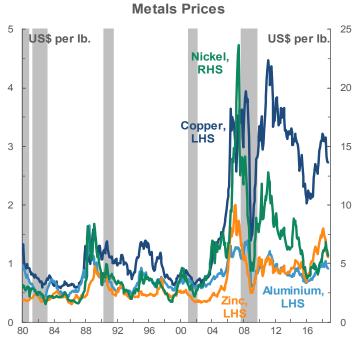




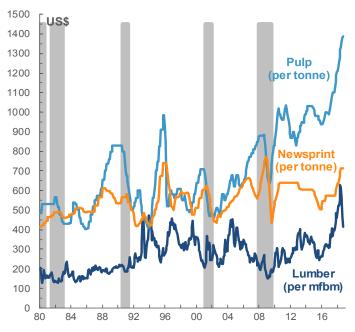


October 31, 2018

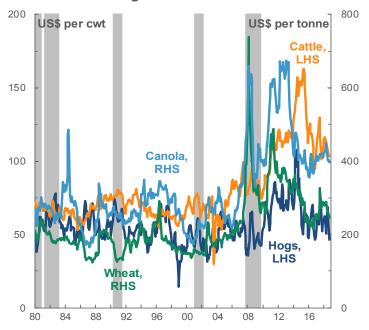




Forest Products Prices



Agricultural Prices





October 31, 2018

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) U₃O₈ 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	Net Export Value In 2010	Index Weight				
Components	(millions of dollars)	(per cent)				
OIL & GAS INDEX Crude Oil & Refined Products Natural Gas & LNG NGLs METAL & MINERAL INDEX Copper Zinc Lead Aluminium Nickel Gold Coal Iron Ore Potash Sulphur Uranium	46,537 33,231 11,741 1,565 35,109 3,160 1,255 579 6,045 4,246 4,678 4,246 4,678 4,757 3,346 5,161 457 891	39.90 28.49 10.07 1.34 30.10 2.71 1.08 0.50 5.18 3.64 4.01 4.08 2.87 4.42 0.39 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				



October 31, 2018

This report has been prepared by Scotiabank Economics as a resource for the clients of Scotiabank. Opinions, estimates and projections contained herein are our own as of the date hereof and are subject to change without notice. The information and opinions contained herein have been compiled or arrived at from sources believed reliable but no representation or warranty, express or implied, is made as to their accuracy or completeness. Neither Scotiabank nor any of its officers, directors, partners, employees or affiliates accepts any liability whatsoever for any direct or consequential loss arising from any use of this report or its contents.

These reports are provided to you for informational purposes only. This report is not, and is not constructed as, an offer to sell or solicitation of any offer to buy any financial instrument, nor shall this report be construed as an opinion as to whether you should enter into any swap or trading strategy involving a swap or any other transaction. The information contained in this report is not intended to be, and does not constitute, a recommendation of a swap or trading strategy involving a swap within the meaning of U.S. Commodity Futures Trading Commission Regulation 23.434 and Appendix A thereto. This material is not intended to be individually tailored to your needs or characteristics and should not be viewed as a "call to action" or suggestion that you enter into a swap or trading strategy involving a swap or trading the process of acquiring or disposing of positions, referred to in this report.

Scotiabank, its affiliates and any of their respective officers, directors and employees may from time to time take positions in currencies, act as managers, co-managers or underwriters of a public offering or act as principals or agents, deal in, own or act as market makers or advisors, brokers or commercial and/or investment bankers in relation to securities or related derivatives. As a result of these actions, Scotiabank may receive remuneration. All Scotiabank products and services are subject to the terms of applicable agreements and local regulations. Officers, directors and employees of Scotiabank and its affiliates may serve as directors of corporations.

Any securities discussed in this report may not be suitable for all investors. Scotiabank recommends that investors independently evaluate any issuer and security discussed in this report, and consult with any advisors they deem necessary prior to making any investment.

This report and all information, opinions and conclusions contained in it are protected by copyright. This information may not be reproduced without the prior express written consent of Scotiabank.

™ Trademark of The Bank of Nova Scotia. Used under license, where applicable.

Scotiabank, together with "Global Banking and Markets", is a marketing name for the global corporate and investment banking and capital markets businesses of The Bank of Nova Scotia and certain of its affiliates in the countries where they operate, including, Scotiabanc Inc.; Citadel Hill Advisors L.L.C.; The Bank of Nova Scotia Trust Company of New York; Scotiabank Europe plc; Scotiabank (Ireland) Limited; Scotiabank Inverlat S.A., Institución de Banca Múltiple, Scotia Inverlat Casa de Bolsa S.A. de C.V., Scotia Inverlat Derivados S.A. de C.V. – all members of the Scotiabank group and authorized users of the Scotiabank mark. The Bank of Nova Scotia is incorporated in Canada with limited liability and is authorised and regulated by the Office of the Superintendent of Financial Institutions Canada. The Bank of Nova Scotia is authorised by the UK Prudential Regulation Authority and is subject to regulation by the UK Financial Conduct Authority and limited regulation by the UK Prudential Regulation Authority. Details about the extent of The Bank of Nova Scotia's regulation by the UK Prudential Regulation Authority and regulated by the

Scotiabank Inverlat, S.A., Scotia Inverlat Casa de Bolsa, S.A. de C.V., and Scotia Derivados, S.A. de C.V., are each authorized and regulated by the Mexican financial authorities.

Not all products and services are offered in all jurisdictions. Services described are available in jurisdictions where permitted by law.