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A monthly commodity watch

October 2018

Oil Lifts Commodity Index in September

Persistent global trade tensions holding back further near-term gains

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The **BMO Capital Markets Commodity Price Index** rose 0.5% in September. The energy sector provided much of the lift as crude prices rebounded strongly from the August lows before losing steam in mid-October. Each of the other sub-indices posted declines in the month, with forest product prices undercut by slower building activity, while trade tensions continued to weigh on base metal prices. Meantime, precious metals have stabilized, buoyed by waning U.S. dollar strength and rising safe-haven demand.

The **Oil & Gas Index** advanced 3.2% in September, with momentum provided by both fuels. West Texas Intermediate trended sharply upward throughout the month, reaching almost US$76.50 on October 3rd, on market concerns that Saudi Arabia's cushion of excess productive capacity might not be sufficient to offset falling exports from Iran and Venezuela. The murder of Jamal Khashoggi initially exacerbated these concerns, though Saudi reassurances that it would meet market demand and evidence of rising Russian output caused WTI to fall toward the US$69 mark by October 23rd.

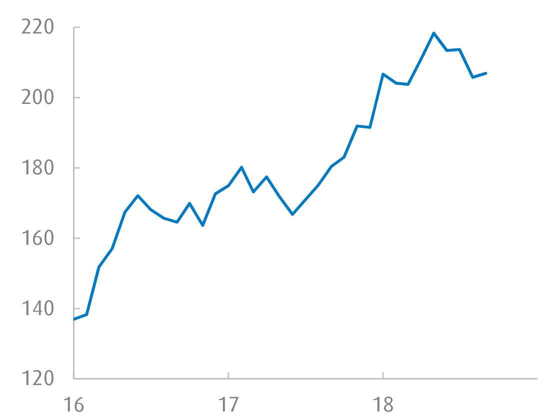
The **Metals & Minerals Index** fell 0.9% in September, marking its fifth consecutive monthly decline. Base metal prices were broadly weaker, with nickel and zinc underperforming, as trade tensions continued to dampen global growth prospects, though China's renewed stimulus pledge could provide near-term support. Meantime, gold prices stabilized in the month and rose in October as increased equity market volatility supported a pick-up in safe-haven demand.

The **Forest Products Index** slumped a further 10.5% in September, its second-worst market shake-out on record, only exceeded by that in 1993 in terms of speed and severity. Poor weather conditions due to Hurricane Florence dampened building activity in the South just as prices were coming off their summer boil. Spruce-Pine-Fir sank a further US$54 to average $414/mbf for the month, though prices were well below the $400 mark by the final week. Oriented Strand Board markets were more balanced, having already undergone an adjustment in the previous two months.

The **Agriculture Index** dropped 3.6% in September on a mixed result across crop and livestock products. In the crop space, the wheat market posted a 6.4% reversal after rallying more than 30% this year, driven by a sharp drop in global acreage and poor growing conditions in Europe, the Black Sea region, and Australia. Canola prices declined 1.7% to the lowest level of the year on signs of a solid U.S. soybean crop, which weighed on the oilseed space more broadly. *(For further details see this month's feature on page 2.)*

BMO CAPITAL MARKETS COMMODITY PRICE INDEX
(2003 = 100)

All Commodities Index



	Sep. Level (2003=100)	% Change from Mth. Ago	% Change from Yr. Ago
All Commodities	206.9	0.5	14.7
Oil & Gas	203.6	3.2	39.0
Metals & Minerals	244.4	-0.9	-6.3
Forest Products	148.3	-10.5	-4.2
Agriculture	146.2	-3.6	5.3

Commodity Focus: Crops

Excess supply still weighing heavily on crop prices

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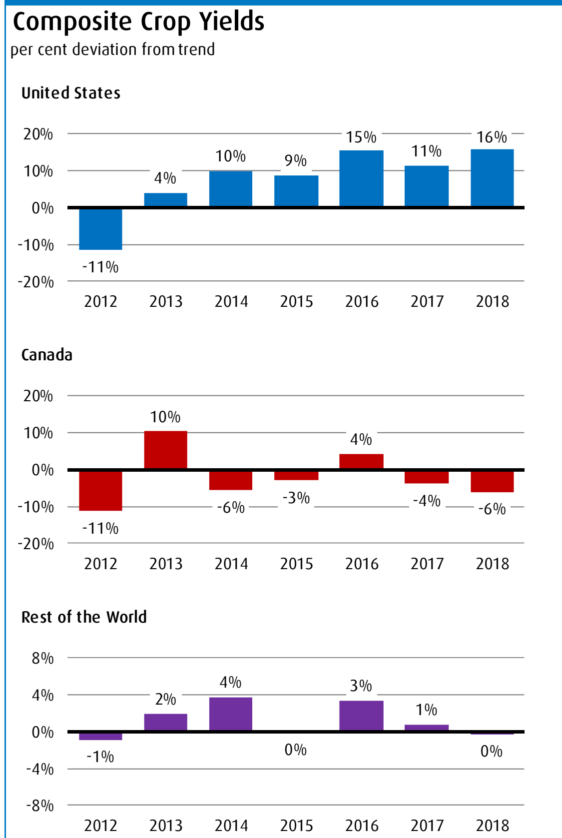
Crop markets look set to remain oversupplied in the near term, as generally supportive growing conditions and increasingly sophisticated farm technologies have yielded yet another large global harvest in 2018. As a result, most key crop prices remain near decade-lows, with ongoing trade hostilities adding to the pressure. In the United States, half a decade of depressed pricing has taken a significant toll on crop farmers, though the impact in Canada has been mitigated by a well-timed drop in the loonie.

Another big harvest in the United States; tougher year for Canada

In the **United States**, composite crop yields are set to come in well above trend for a sixth straight season—this year by an impressive 16% (*Chart 1*). According to estimates by the U.S. Department of Agriculture (USDA), both soybean and corn yields are likely to reach record highs this year, while wheat yields are shaping up to be the second-strongest on record despite dry conditions in parts of the plains. Given the rotation of acreage into soybeans over the past few years, this should result in the biggest soybean crop ever—a towering 40% larger than just five years ago. In the corn space, acreage has edged somewhat lower over the past few years, but solid growing conditions in the Midwest should make up much of the difference, resulting in the second-largest crop on record (just 2% smaller than the record set in 2016). In contrast, wheat production is expected to remain muted for a second straight year, as depressed prices have kept acreage near 125-year lows. Overall, this year's U.S. grain and oilseed crop looks to be one of the largest ever—though much of it remains in the field, where rainy conditions are delaying the harvest and could yet temper yields in some areas.

CHART 1: PRODIGIOUS PRODUCTION IN THE UNITED STATES

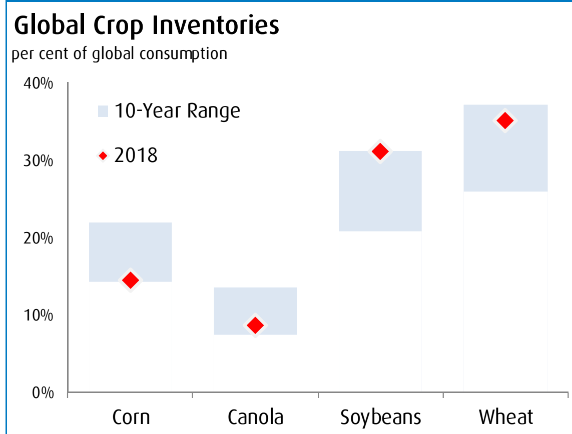


Notes: Marketing years. Composite includes yields for corn, soybeans, wheat, and canola. Changes in individual crop yields are weighted by farm receipts for Canada and the United States and by acreage for the rest of the world. Trend taken from 2000 through 2012. Data for 2018 are USDA estimates.

Canadian farmers have had a tougher go this year, with composite yields estimated around 6% below trend—a second straight lacklustre crop. Growing conditions have been most challenging on the prairies, where hot, dry weather parched wheat and canola fields in the spring. Although the drought gave way to more favourable conditions in some areas by mid-summer, this was too late to prevent a negative impact on yields. As a result, Canadian canola production is expected to take a step back this year amid lacklustre yields and a modest reduction in planting, while wheat production will likely edge higher thanks to a meaningful jump in acreage. Unfortunately, wet and snowy conditions have impeded the prairie harvest, which could further erode crop yields and quality. In contrast, growing conditions have been broadly supportive in Ontario this year. On a national basis, that should result in the largest corn crop on record and, given reduced planting, the second-largest soybean crop. Frustratingly, a recent stretch of heavy rain is delaying the harvest in parts of Ontario as well.

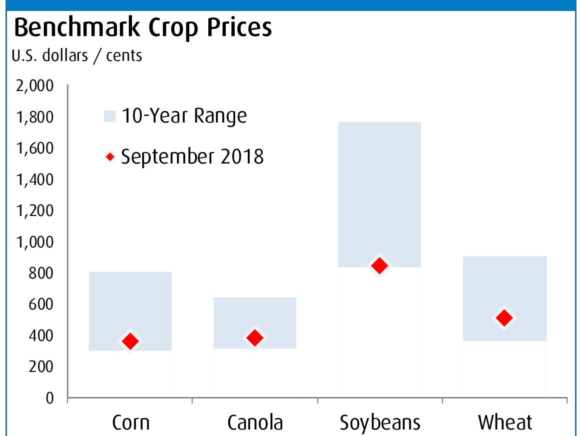
Outside North America, middling growing conditions have left composite yields roughly on-trend this year, though conditions have varied widely across regions and crops. On the positive side of the ledger, overseas soybean production should reach a new high this year despite unexceptional yields, reflecting a major increase in acreage. In the corn space, yields and production are on track to roughly match records set in 2016. Both corn and soybeans have benefitted from generally solid yields and production in South America, despite a severe drought in Argentina. In the wheat space, however, overseas yields and production have been restrained by dry conditions across a number of key producing regions, including Europe, the Black Sea region, and Australia (where the drought is now in its sixth year).

CHART 2: MARKET BALANCE VARIES—ON THE SURFACE



Note: Marketing years. Data for 2018 are USDA estimates.

CHART 3: PRICES REMAIN UNIVERSALLY LOW



Note: Corn, soybeans, and wheat are measured in cents per bushel; canola is measured in dollars per tonne. Monthly basis.

Market balance varies, but prices remain universally low

Over the past half-decade, generally solid global growing conditions and the continued roll-out of impressive new farm technologies have resulted in large stockpiles of most key crops. U.S. crop prices have also been weighed down by ongoing trade hostilities, which have made some crop products more expensive for foreign buyers. China and the European Union both have retaliatory tariffs in place on U.S. food and agricultural products—as do Canada and Mexico, in response to U.S. steel and aluminum tariffs that were not resolved as part of the USMCA.

In the **soybean** space, respectable pricing last year—at least, relative to depressed corn and wheat markets—spurred a major rotation of acreage into the crop. Together with strong yields, this is expected to push the global stocks-to-use ratio to an all-time high this year, despite a 4.8% surge in consumption (*Chart 2*). As a result, soybeans are the only major crop to have seen additional market pressure this year, with prices down more than 10% year-to-date after flirting with decade-lows this summer (*Chart 3*). U.S. soybean prices have also been hit hard by a 25% tariff in China, which typically purchases nearly one-third of the U.S. crop. Given the large weight of soybeans in the global oilseed space, weakness in that market has also weighed on **canola** prices, which, despite relatively lean stocks, have lost around 3% year-to-date (in U.S. dollar terms) from already-lacklustre levels at the start of the year.

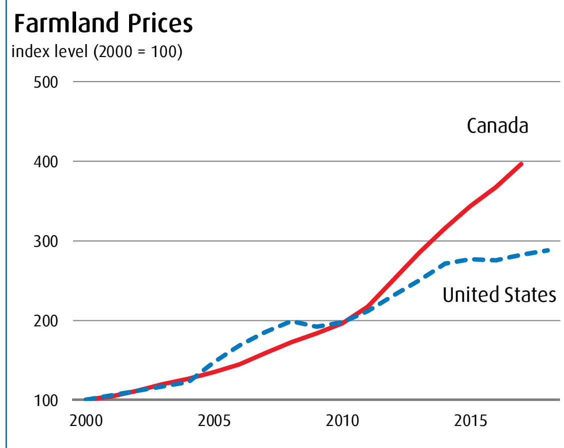
In the **wheat** segment, where prices have been extremely weak over the past few years, another drop in global acreage and poor growing conditions in key regions look to have brought production to a four-year low. The decline in production is expected to lower the stocks-to-use ratio for the first time in five years—an important milestone, even though the ratio remains high by historical norms due to last year's massive carry-out stocks. With market balance now moving in the right direction, wheat is the one major crop to have seen a meaningful improvement in prices this year. Indeed, wheat prices are up nearly 20% year-to-date and reached a three-year high over the summer. Prices are by no means strong in historical terms, but the improvement has been warmly welcomed by producers.

In the **corn** space, the global stocks-to-use ratio is now flashing a tight market despite solid production this year. Unfortunately, that signal is misleading and corn prices remain very low. At this point, the corn market is being cleared by a dramatic upturn in consumption (up more than one-quarter on a global basis over the past six years), which would likely pull back relatively quickly if prices trended stronger—especially given the current abundance in other crops. In absolute terms, global corn stockpiles remain elevated and the corn market is probably some distance from being able to sustain meaningfully higher prices. Continued trade turmoil hasn't helped either, though the announcement of the USMCA has removed an important risk from the table (Mexico is an important net importer of U.S. corn).

Major challenges for U.S. farmers; loonie a saving grace in Canada

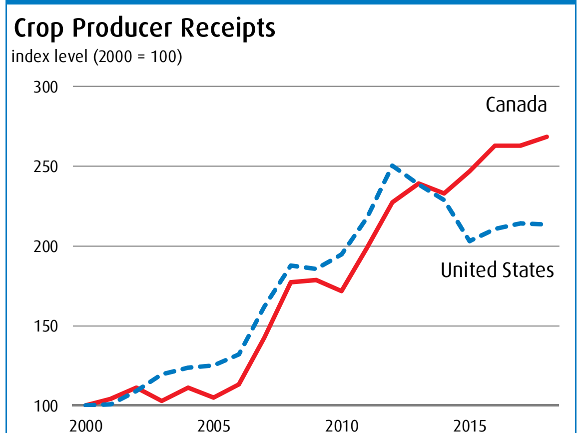
In the **United States**, half a decade of low crop prices has taken a serious toll on farmers, especially smaller, higher-cost operators. Since peaking in 2012, aggregate crop revenue has declined 14% and is expected to edge lower in 2018 (*Chart 4*). Meantime, interest, wage, fertilizer, and fuel costs are rising, applying financial pressure from the cost side. Although the Administration has offered up to $12 billion to compensate farmers for the impact of foreign tariffs, this will be directed mainly at soybean producers and, even there, it won't be enough to offset the financial drag of continued oversupply. Farmland prices, after rising nearly three-fold since 2000, have moved more-or-less sideways over the past few years and are at risk of turning lower if farm income remains under pressure, especially in the rising-rate environment (*Chart 5*).

CHART 4: LOW LOONIE A SAVING GRACE IN CANADA



Note: Measured in countries' respective currencies.

CHART 5: CANADIAN LAND RUSH CONTINUES



Note: Measured in countries' respective currencies. Observation for 2018 is the USDA's forecast for the United States and BMO Economics' forecast for Canada.

In **Canada**, where key crop prices are anchored to U.S. benchmarks, a well-timed drop in the Canadian dollar has spared farmers the type of distress seen south of the border. Even with the decline in U.S. pricing, crop revenue in Canada has increased 16% since 2012, reflecting a 23% drop in the loonie over the same period. This year, crop revenue should edge even higher thanks to the upturn in wheat prices. Although stronger wage growth and rising fuel and fertilizer costs are headwinds in Canada, interest rates have risen more gradually than in the United States, providing a modest cost advantage. And, while Canadian crop prices have become collateral damage amid the United States' various trade entanglements, producers also have an opportunity to increase sales to overseas buyers seeking to diversify away from U.S. products (on that front, grain sales to Europe have surged this year). Farmland prices have continued to increase briskly in Canada, buoyed by the crop sector's comparatively strong performance, but could be vulnerable to a reversal as interest rates trend higher.

What next for the crop sector?

The current challenges being faced by crop producers have resulted mainly from abundant supply and trade policy challenges, whereas **demand** growth has been relatively strong. At the broadest level, global economic growth accelerated to a five-year high last year and is expected to hold up well this year and in 2019. In the all-important U.S. market, volume food spending has soared nearly 12% since the end of 2014 thanks to the strong macroeconomic backdrop and a step down in food prices in 2016 (domestic food demand normally grows more closely in line with the population, which expanded less than 3% over the same period). The North American livestock herd is also expanding, albeit at a more moderate pace than in recent years. And, on the regulatory front, a U.S. rule permitting the sale of higher-ethanol E15 gasoline throughout the year should add to corn demand once implemented (higher-ethanol fuels are currently banned during the summer due to smog concerns). Overall, while rising interest rates will likely temper U.S. and global growth over the next few years, the macroeconomic and demand outlook is broadly encouraging.

Supply, however, remains a major headwind for pricing—and absent a major crop failure, today's excessive stockpiles will take time to work down. The recovery in most crop markets is therefore likely to be subdued, despite the firm demand backdrop. Meantime, producers on both sides of the border will continue to be squeezed by gradually rising costs. With the U.S. and Canadian economies operating at capacity, rising interest rates and faster wage growth will continue to weigh on profitability. Fortunately for farmers, the increase in oil prices is now believed to have run its course, though the market remains vulnerable to adverse geopolitical developments.

Of course, there are **risks** to the outlook. An obvious one is the possibility of continued strong global crop production, which is difficult to discount after six straight solid harvests. On the demand side, continued tariff escalation would have the potential to weigh further on U.S. crop prices, especially in the soybean space. A downturn in global economic prospects, while not a baseline expectation, would also weigh on demand and pricing across all segments. On the other side of the ledger, an important risk has been taken off the table with the announcement of the USMCA. Under the agreement, crop products that traded freely under NAFTA will continue to trade freely, giving North American farmers renewed confidence in their ability to sell products across the bloc. In Canada, the resurrection of the Trans Pacific Partnership after last year's U.S. withdrawal represents another positive for market access and crop demand, especially now that Canadian farmers will have an edge over their U.S. competitors in TPP markets.

Energy and Materials

		Crude Oil (WTI)		Natural Gas (Henry Hub)		Natural Gas (Alta. Empress)		Lumber	
		US$/bbl		US$/mmbtu		US$/mmbtu		US$/mbf	
	2005	56.46		8.81		7.51		347	
	2006	66.10		6.74		5.92		290	
	2007	72.36		6.98		6.32		245	
	2008	99.57		8.86		8.09		215	
	2009	61.69		3.95		3.46		177	
	2010	79.43		4.39		3.59		255	
	2011	95.08		4.00		3.28		255	
	2012	94.20		2.75		2.19		299	
	2013	97.93		3.73		2.98		356	
	2014	93.26		4.39		4.56		349	
	2015	48.69		2.63		2.33		277	
	2016	43.21		2.52		1.68		305	
	2017	50.91		2.99		2.01		401	
	y-t-d 2018	67.24		2.96		2.04		518	
2017	October	51.60		2.88		1.99		446	
	November	56.66		3.01		2.34		484	
	December	57.93		2.82		2.45		457	
2018	January	63.66		3.88		2.84		493	
	February	62.21		2.67		1.77		523	
	March	62.76		2.69		1.81		524	
	April	66.26		2.80		1.83		552	
	May	69.99		2.80		1.79		634	
	June	67.33		2.97		1.86		609	
	July	70.97		2.83		2.01		564	
	August	67.99		2.96		2.27		468	
	September	70.20		3.00		2.21		414	
	m-t-d October	73.82		3.26		2.34		331	
Forecast	2018 Avg.	**67.75**	↑	**3.00**	↑	**2.15**	↑	**479**	↓
	2019 Avg.	**65.00**		**3.10**		**2.45**		**345**	↓

Commodity price forecasts are by BMO Capital Markets Economics and are independent of those used by BMO Capital Markets Equity Research.
↑ and ↓ indicate annual forecast changes from last month.

Base and Precious Metals

		Copper	Aluminum	Zinc	Nickel	Gold	Silver
			US$/lb			US$/oz	
	2005	1.67	0.86	0.63	6.69	445	7.31
	2006	3.05	1.17	1.48	11.00	605	11.58
	2007	3.23	1.20	1.47	16.89	697	13.40
	2008	3.15	1.17	0.85	9.57	872	15.01
	2009	2.34	0.75	0.75	6.64	973	14.67
	2010	3.42	0.99	0.98	9.89	1225	20.16
	2011	4.00	1.09	0.99	10.38	1570	35.11
	2012	3.61	0.92	0.88	7.96	1668	31.15
	2013	3.32	0.84	0.87	6.81	1411	23.83
	2014	3.11	0.85	0.98	7.65	1266	19.08
	2015	2.50	0.75	0.88	5.37	1160	15.70
	2016	2.21	0.73	0.95	4.35	1248	17.10
	2017	2.80	0.89	1.31	4.72	1258	17.06
	y-t-d 2018	3.00	0.98	1.36	6.17	1278	16.01
2017	October	3.08	0.97	1.48	5.13	1281	16.94
	November	3.10	0.95	1.47	5.44	1283	17.02
	December	3.08	0.94	1.45	5.17	1266	16.16
2018	January	3.21	1.00	1.56	5.84	1333	17.19
	February	3.18	0.99	1.61	6.16	1334	16.65
	March	3.08	0.94	1.49	6.08	1326	16.47
	April	3.10	1.02	1.45	6.32	1334	16.60
	May	3.09	1.04	1.39	6.51	1304	16.45
	June	3.15	1.02	1.40	6.85	1282	16.51
	July	2.83	0.95	1.21	6.25	1238	15.71
	August	2.74	0.93	1.14	6.09	1202	15.00
	September	2.73	0.92	1.10	5.68	1199	14.27
	m-t-d October	2.83	0.94	1.21	5.69	1200	14.56
Forecast	2018 Avg.	**2.95** ↓	**0.98** ↓	**1.35**	**6.15**	**1280**	**16.10**
	2019 Avg.	**3.15** ↓	**1.00**	**1.35**	**5.90**	**1300**	**17.50**

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↑ and ↓ indicate annual forecast changes from last month.

Agriculture

		Wheat	Canola	Cattle	Hogs
		US$/bushel	US$/tonne	US$/cwt	
	2005	3.19	224	87.34	68.58
	2006	4.02	257	86.23	64.08
	2007	6.38	378	93.92	65.56
	2008	7.98	527	93.60	66.05
	2009	5.30	371	83.85	58.11
	2010	5.81	429	94.95	75.60
	2011	7.10	566	114.54	90.34
	2012	7.50	601	122.65	84.93
	2013	6.84	545	126.40	89.33
	2014	5.88	400	151.50	105.83
	2015	5.08	371	146.49	69.40
	2016	4.36	366	118.61	65.60
	2017	4.36	393	117.90	69.87
	y-t-d 2018	4.92	396	113.80	67.24
2017	October	4.35	398	112.56	62.39
	November	4.22	403	121.21	63.23
	December	4.11	390	118.46	66.83
2018	January	4.32	395	121.53	72.26
	February	4.56	403	127.54	71.99
	March	4.75	402	120.05	64.16
	April	4.75	416	117.21	61.01
	May	5.17	414	104.96	71.13
	June	5.01	398	107.63	80.01
	July	5.07	379	107.13	72.90
	August	5.38	384	108.63	54.74
	September	5.04	378	111.77	57.80
	m-t-d October	5.16	385	113.29	66.75
Forecast	2018 Avg.	**4.95** ↓	**395**	**114.00** ↑	**65.00** ↑
	2019 Avg.	**5.20**	**415**	**118.00**	**68.00**

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↑ and ↓ indicate annual forecast changes from last month.

Commodity Indices and Forecasts[2]

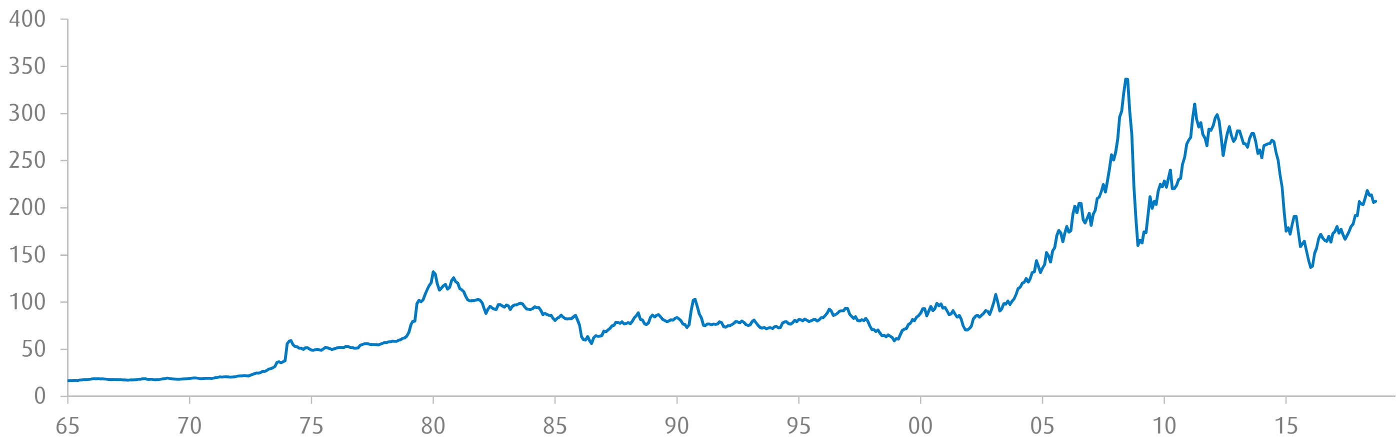
US$-terms : 2003 = 100			All Commodities	Oil & Gas	Metals & Minerals	Forest Products	Agricultural Products	All Commodities C$-terms
	Annual							
		2009	196.3	182.0	267.1	64.3	145.2	159.1
		2010	234.6	232.7	291.1	92.0	163.4	172.5
		2011	283.7	275.6	364.8	90.1	205.3	200.3
		2012	279.7	270.2	353.8	108.4	216.9	199.5
		2013	271.7	283.0	304.1	128.6	200.1	199.6
		2014	252.1	271.4	270.5	121.3	170.0	198.4
		2015	170.9	142.5	244.8	98.3	151.3	155.5
		2016	160.7	126.9	241.1	110.3	135.9	151.8
		2017	178.1	149.6	249.4	144.8	139.8	165.0
Forecast		2018	**209.4**	**196.7**	**260.1**	**170.2**	**148.0**	**192.3**
		2019	**205.6**	**189.3**	**268.6**	**123.9**	**155.2**	**185.1**
	Quarterly							
	2017	Q1	176.1	152.2	242.7	124.9	138.0	166.2
		Q2	172.0	142.3	243.6	139.4	139.2	165.3
		Q3	175.5	141.8	252.6	149.3	143.8	157.1
		Q4	188.8	161.9	258.8	165.5	138.0	171.2
	2018	Q1	204.9	183.3	268.2	180.9	144.2	184.6
		Q2	214.3	196.7	266.9	210.7	150.1	197.2
		Q3	208.8	202.1	247.9	170.9	148.3	194.9
Forecast		Q4	**209.9**	**204.9**	**257.4**	**118.4**	**149.5**	**192.4**
	2019	Q1	**210.8**	**200.7**	**267.5**	**117.1**	**153.1**	**191.2**
		Q2	**206.4**	**192.0**	**264.6**	**127.6**	**159.3**	**186.3**
	Monthly							
	2017	Sep	180.4	146.5	260.9	154.9	138.8	158.7
		Oct	183.0	151.2	258.8	164.5	139.1	164.3
		Nov	191.9	165.7	260.5	172.2	139.2	174.9
		Dec	191.5	168.8	257.2	159.7	135.6	174.5
	2018	Jan	206.7	187.3	270.2	171.7	140.2	183.6
		Feb	204.1	180.5	269.5	184.6	145.5	182.5
		Mar	203.8	182.0	264.9	186.3	146.8	187.8
		Apr	211.0	192.1	268.5	195.0	148.2	191.7
		May	218.3	202.6	266.4	222.2	153.0	200.3
		Jun	213.4	195.5	265.6	214.9	149.2	199.6
		Jul	213.7	205.4	252.6	198.8	147.1	200.4
		Aug	205.8	197.3	246.7	165.6	151.6	191.6
		Sep	206.9	203.6	244.4	148.3	146.2	192.7

Commodity price indices and forecasts are by BMO Capital Markets Economics.
Forecasts are independent of those used by BMO Capital Markets Equity Research.

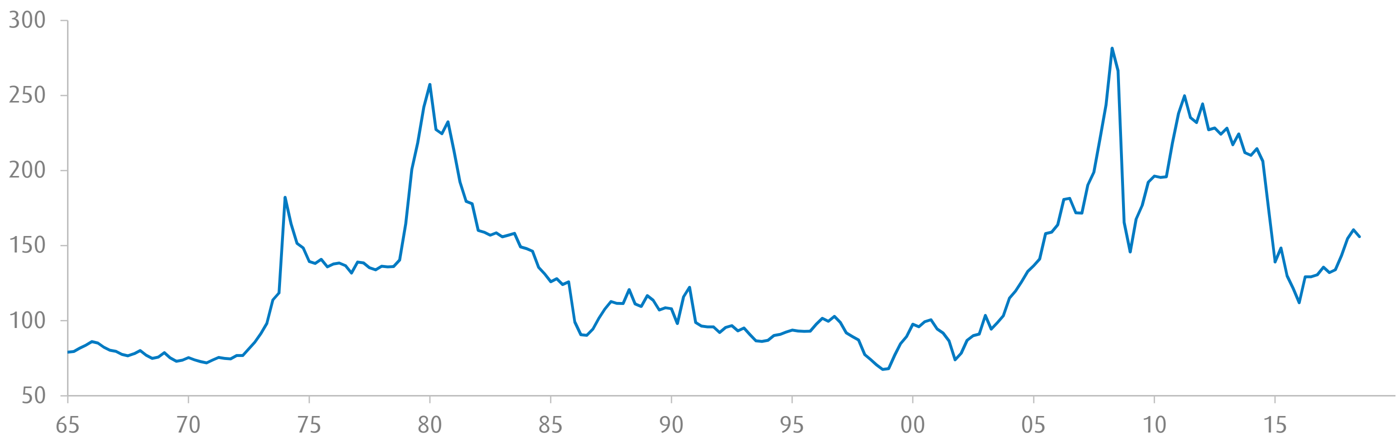
[2] Due to data availability issues, the following series have been removed from the Forest Products and All Commodities Indices: newsprint, market pulp, supercalendered paper.

Historical Charts: All-Commodity Index

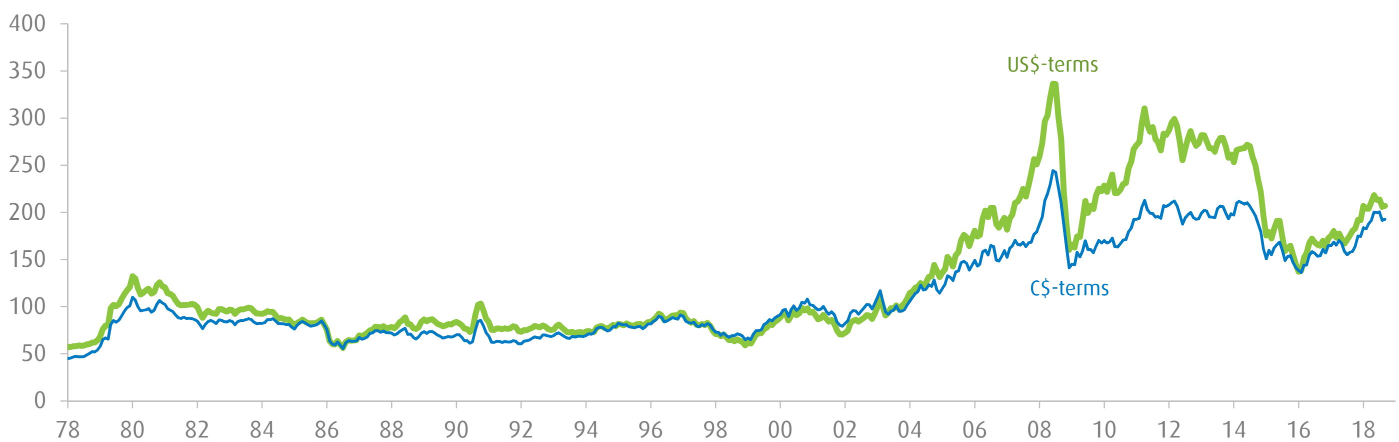
Nominal US$-Terms (2003 = 100)



Real US$-Terms (2003 = 100)



Nominal (2003 = 100)



Technical Note

The BMO Capital Markets Commodity Price Index is a fixed-weight, export-based index that encompasses the price movement of 16 commodities key to Canadian exports. Weights are each commodity's average share of the total value of exports of the 16 commodities during the period 2012-16. Similarly, weights of sub-index components reflect the relative importance of commodities within their respective product group.

The all-commodities index and sub-indices consist of the following:

Percent	Weight in All-Commodities Index	Weight in Sub-Index		Weight in All-Commodities Index	Weight in Sub-Index
Metals & Minerals	**29.8**	**100.0**	**Forest Products**	**6.5**	**100.0**
Gold	10.6	35.4	Lumber	5.5	84.1
Silver	1.4	4.6	OSB	1.0	15.9
Aluminum	6.4	21.4			
Copper	2.3	7.8	**Agricultural Products**	**9.1**	**100.0**
Nickel	3.2	10.8	Wheat	4.5	49.5
Zinc	0.9	3.0	Canola	3.3	36.6
Uranium	1.3	4.4	Hogs	0.3	3.0
Potash	3.8	12.6	Beef Cattle	1.0	10.9
Oil and Gas	**54.6**	**100.0**	**All Commodities**	**100.0**	
Crude Oil	47.6	87.2			
Canadian Natural Gas	7.0	12.8			

Unless otherwise specified, all indices reported in this publication correspond to prices in U.S. dollars.