

## Commodity Rally Extends Into May

Index supported by supply concerns across oil, forest products and agriculture

The **BMO Capital Markets Commodity Price Index** rose 3.3% last month, with strong gains in energy, forest products and agriculture prices offsetting a slight decline in metals. After a cumulative 13.6% rise since December, May could prove to be the high point for commodities in 2018, as the return of previously withheld supplies of crude oil to the market and moderating global industrial activity subsequently weigh on prices.

The **Oil & Gas Index** increased for the third consecutive month in May, climbing 5.4% on another strong gain in oil. For the first three weeks of the month, rising prices reflected market concerns that supply disruptions would tighten global markets. However, oil prices retreated sharply during the final week of the month as Saudi Arabia and Russia discussed potential output increases to compensate for falling supply in Venezuela and Iran. Meanwhile, Henry Hub remained bound in a tight range of US\$2.65-2.80/mmbtu for the fourth consecutive month, despite U.S. underground storage staying far below its five-year average.

The **Metals & Minerals Index** was mixed in May, slipping 0.8% overall. Gold was knocked back by rising bond yields and the surging U.S. dollar, while zinc declined for a third straight month in a sign that the tide may be starting to turn on that metal (though it did retrace some its losses in early June). At the other end of the spectrum, nickel has been buoyed by declining inventories, with the monthly average price reaching its highest since February 2015 and the rally extending through the beginning of June.

The **Forest Products Index** leapt further into uncharted territory with a 6.9% advance in May. Although gains have been broadly based across wood and paper products, the key factor has been the seemingly unstoppable ascent in framing lumber prices. Spruce-Pine-Fir prices surged US\$82 to average a record \$634/mbf in May, with momentum carrying over to June. Spot prices are now sharply above upcoming futures contracts, unusual for a market typically in contango. However, prices may continue to surprise to the upside amid strong seasonal demand and ongoing transportation delays.

The **Agriculture Index** advanced for a fifth straight month with a 3.2% gain in May. The increase was driven primarily by a sustained rally in wheat, which is flirting with three-year highs as a severe drought continues to degrade the quality of the U.S. winter crop. Hog prices posted a large-but-seasonal advance during the month and remain down from year-ago levels amid rapidly rising supply (*see this month's feature on page 2*).

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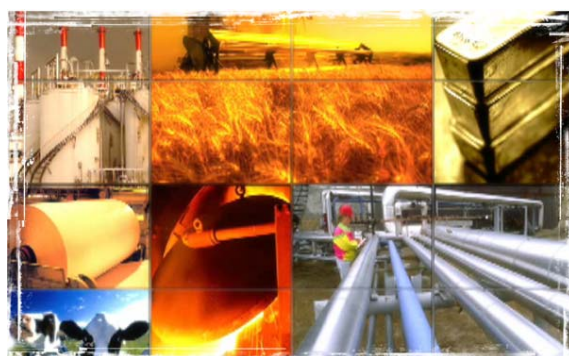
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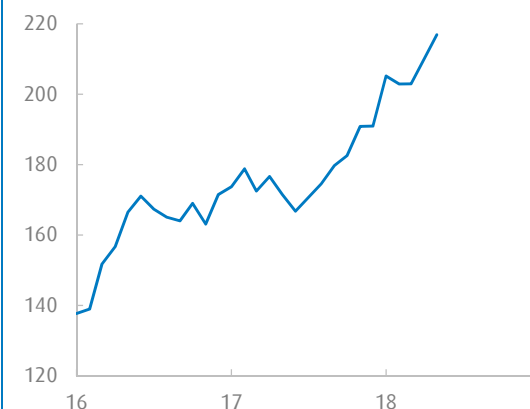
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**BMO CAPITAL MARKETS  
COMMODITY PRICE INDEX  
(2003 = 100)**

### All Commodities Index



	May Level (2003=100)	% Change from Mth. Ago	% Change from Yr. Ago
All Commodities	216.9	3.3	26.5
Oil & Gas	202.6	5.4	41.4
Metals & Minerals	266.4	-0.8	10.3
Forest Products	209.1	6.9	35.9
Agriculture	153.0	3.2	10.3



## Commodity Focus: Livestock

### Cattle Rebalancing Underway; Hog Supply Running Wild

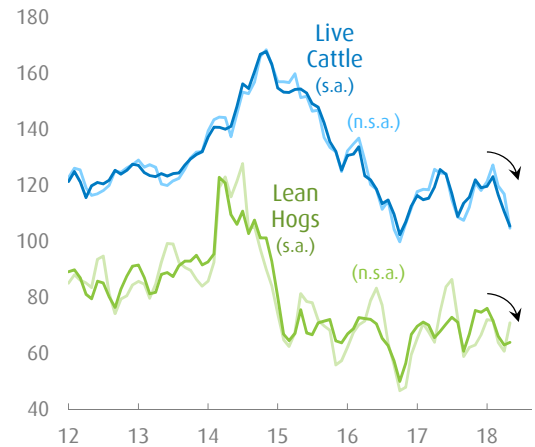
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U.S. livestock prices have come under renewed pressure since the start of 2018. In the hog space, seasonally-adjusted prices declined a hefty 14.4% between December and May, while cattle prices dropped 11.5% over the same period to their lowest level since late 2016 (*Chart 1*). In both segments, market conditions have been adversely affected by faltering domestic demand growth, foreign tariffs targeting President Trump’s rural voter base, and rising per-capita meat supply. But, with the hog and cattle herds now moving in very different directions, there are important differences between the outlooks for the two segments.

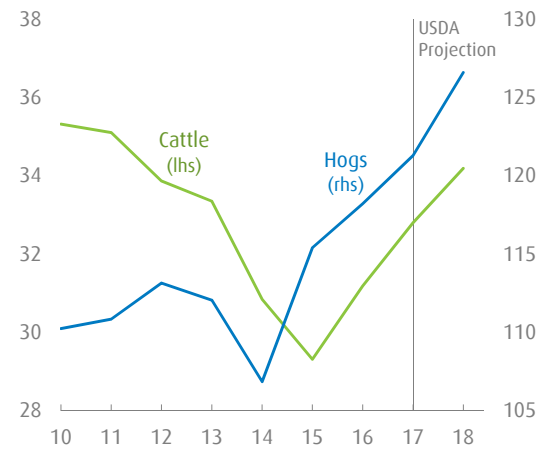
Until recently, U.S. livestock producers enjoyed exceptionally strong growth in domestic food consumption, which supported pricing despite a sustained ramp-up in supply. In 2016 and 2017, real U.S. food spending grew impressively by a cumulative 6.6%—more than the entire previous decade—thanks to lower food prices and expanding household food budgets. Unsurprisingly, that pace has not been sustained. Since the start of 2018, real food spending has moved effectively sideways, removing a crucial support for livestock pricing. At this stage, a meaningful reacceleration in food demand appears unlikely, with food prices edging upward, interest rates moving higher, and growing risks of a trade-war-driven reduction in household purchasing power. In this environment, even modest growth in domestic food demand would be warmly welcome—and a partial retracement of recent gains is a real possibility.

The outlook for external demand has also become shakier amid continued U.S. trade provocations. Over the past few years, international markets have provided a key outlet for expanding U.S. livestock production, with net exports of both beef and pork up impressively despite the elevated U.S. dollar. That may soon change. In response to the Trump administration’s protectionist threats, China has vowed to retaliate with a new 25% tariff on U.S. beef and pork (among other things). While not a particularly large market for U.S. beef (its BSE-related ban was lifted just last year), China is the world’s largest consumer of pork and an important market for U.S. producers, accounting for 8% of exports. If that weren’t enough, Mexico—the largest buyer of U.S. pork, at 31% of total exports and 2.5% of domestic production—has responded to

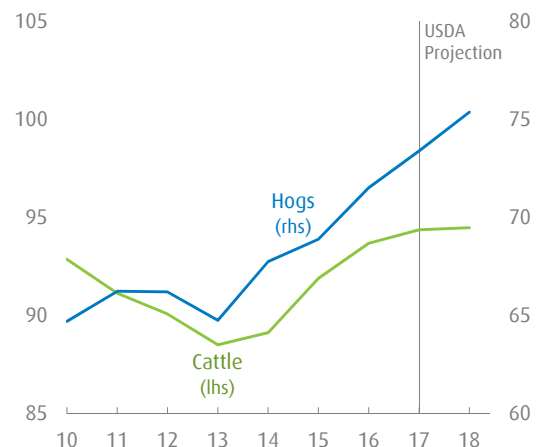
**CHART 1: CME CATTLE AND HOG PRICES**  
Front-month Contract (US\$/cwt)



**CHART 2: U.S. CATTLE AND HOG SLAUGHTER**  
(head count, millions)



**CHART 3: U.S. CATTLE AND HOG HERD**  
(head count, millions)



U.S. steel and aluminum tariffs by imposing an immediate 10% duty on U.S. pork. That number is set to rise to 20% in early July.

Troublingly for producers, the supply of livestock arriving at the slaughterhouse gate has continued to surge even as demand conditions have become less favourable. In the cattle space, the emergence of a severe drought on the U.S. Southern Plains—near the heart of cattle country—has spurred the early placement of animals into feedlots, ramping up supply available for slaughter. National cattle slaughter was up nearly 8% y/y in April and is now expected by the U.S. Department of Agriculture (USDA) to increase 4.2% during 2018 as a whole (*Chart 2 on previous page*). But, while today's culling is weighing noticeably on prices, it is also setting the stage for firmer market conditions ahead. Indeed, the drought has stopped cattle herd expansion in its tracks, with heifer retention in decline and the USDA now expecting little change in the herd headcount this year (*Chart 3 on previous page*). As recently as January, the USDA expected the cattle herd to expand by an additional 1.3 million head in 2018 (or 1.4%). Taken together, these developments have motivated a weaker outlook for cattle prices this year, but a stronger forecast for 2019. **CME cattle prices are now expected to average US\$113/cwt in 2018, down from \$118 in 2017, before recovering to around \$118 in 2019 as drought-driven culling tapers off.** However, prices could face greater near-term pressure if an intensifying drought or an abrupt jump in feed prices were to accelerate herd downsizing.

The supply of animals available for slaughter has also continued to surge in the hog space. Hog slaughter soared 7.7% y/y to an all-time high in April and is expected by the USDA to grow 4.4% in 2018 as a whole. But whereas greater cattle slaughter has been driven by herd rationalization, the jump in hog slaughter is being accompanied by continued herd expansion. The U.S. hog herd, already up more than 10% over the past five years, is now expected by the USDA to increase by nearly 2 million head in 2018 (or 2.7%) despite big slaughter numbers. With hog prices already under pressure, domestic demand growth waning, and sizeable exposure to foreign tariffs, ongoing growth of the hog herd represents a major risk for future pricing and has prompted cuts across the forecast horizon. **CME hog prices are now expected to decline from an average of US\$70/cwt in 2017 to \$66 in 2018 before edging up to \$68 in 2019 as herd expansion wanes.** As in the cattle space, the possibility of a sharper-than-expected increase in crop and feed prices represents a key downside risk for the hog market.

## Energy and Materials

		Crude Oil	Natural Gas		Lumber	Pulp	Newsprint
		(WTI)	(Henry Hub)	(Alta. Empress)			
		US\$/bbl	US\$/mmbtu		US\$/mbf	US\$/tonne	
	2005	56.46	8.81	7.51	347	631	594
	2006	66.10	6.74	5.92	290	713	654
	2007	72.36	6.98	6.32	245	816	588
	2008	99.57	8.86	8.09	215	844	666
	2009	61.69	3.95	3.46	177	707	589
	2010	79.43	4.39	3.59	255	926	583
	2011	95.08	4.00	3.28	255	968	623
	2012	94.20	2.75	2.19	299	862	619
	2013	97.93	3.73	2.98	356	895	601
	2014	93.26	4.39	4.56	349	965	571
	2015	48.69	2.63	2.33	277	946	542
	2016	43.21	2.52	1.68	305	980	561
	2017	50.91	2.99	2.01	401	1103	584
	y-t-d 2018	65.09	2.96	1.99	548	1265	659
<b>2017</b>	June	45.19	2.98	1.87	368	1100	575
	July	46.61	2.98	2.05	403	1100	575
	August	48.05	2.90	1.53	395	1100	575
	September	49.83	2.98	1.68	419	1130	575
	October	51.60	2.88	1.99	446	1160	605
	November	56.66	3.01	2.34	484	1160	605
	December	57.93	2.82	2.45	457	1215	620
<b>2018</b>	January	63.66	3.88	2.84	493	1215	635
	February	62.21	2.67	1.77	523	1240	635
	March	62.76	2.69	1.81	524	1270	655
	April	66.26	2.80	1.83	552	1300	675
	May	69.99	2.80	1.79	634	1300	695
	m-t-d June	65.42	2.90	1.77	655	n.a.	n.a.
<b>Forecast</b>	2018 Avg.	<b>66.00</b> ↓	<b>3.00</b>	<b>2.15</b>	<b>570</b>	<b>1220</b> ↑	<b>680</b> ↑
	2019 Avg.	<b>65.00</b>	<b>3.10</b>	<b>2.45</b>	<b>440</b>	<b>1100</b>	<b>660</b>

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	3.14	1.00	1.49	6.22	1324	16.67
<b>2017</b>						
June	2.59	0.86	1.17	4.05	1261	16.96
July	2.71	0.86	1.26	4.30	1235	16.16
August	2.94	0.92	1.35	4.92	1282	16.90
September	2.99	0.95	1.41	5.09	1317	17.46
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
<b>2018</b>						
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
m-t-d June	3.20	1.05	1.43	6.99	1296	16.54
<b>Forecast</b>						
2018 Avg.	<b>3.10</b> ↑	<b>0.98</b>	<b>1.40</b>	<b>6.00</b> ↑	<b>1310</b>	<b>16.75</b>
2019 Avg.	<b>3.20</b> ↑	<b>0.99</b> ↑	<b>1.36</b>	<b>5.75</b> ↑	<b>1300</b>	<b>17.75</b>

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## 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	4.73	406	117.60	68.32
<b>2017</b>				
June	4.54	385	124.42	84.08
July	5.04	419	115.15	86.65
August	4.29	398	108.94	72.50
September	4.37	399	107.80	59.14
October	4.35	398	112.56	62.39
November	4.22	403	121.21	63.23
December	4.11	390	118.46	66.83
<b>2018</b>				
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
m-t-d June	5.13	407	105.61	77.24
<b>Forecast</b>				
2018 Avg.	<b>4.90</b>	<b>400</b> ↓	<b>113.00</b> ↓	<b>66.00</b> ↓
2019 Avg.	<b>5.20</b>	<b>415</b>	<b>118.00</b> ↑	<b>68.00</b> ↓

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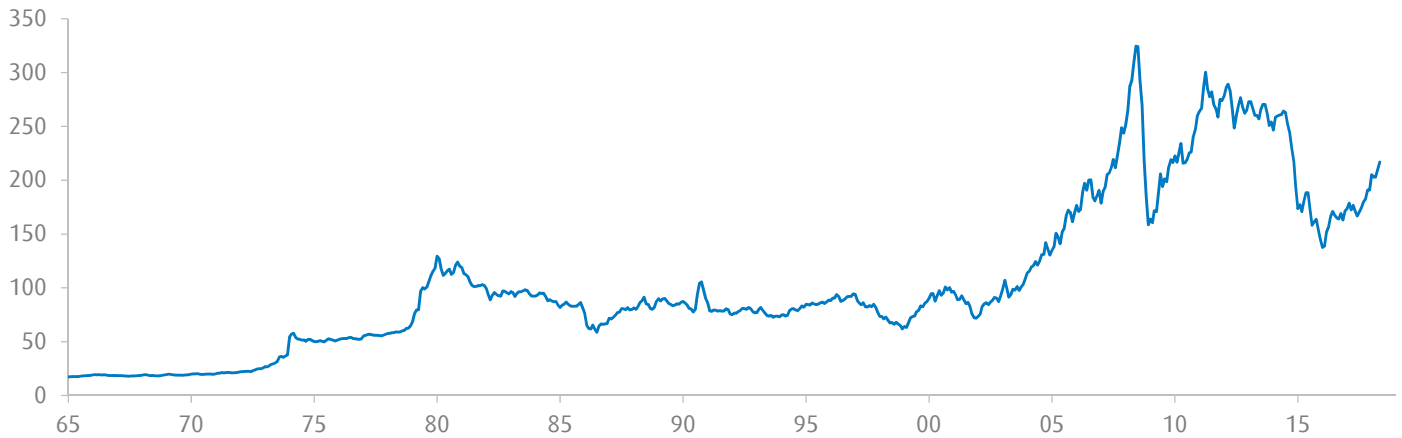
## Commodity Indices and Forecasts

US\$-terms : 2003 = 100		All Commodities	Oil & Gas	Metals & Minerals	Forest Products	Agricultural Products	All Commodities C\$-terms
<b>Annual</b>							
	2009	191.8	182.0	267.1	97.1	145.2	155.5
	2010	229.1	232.7	291.0	122.3	163.4	168.4
	2011	275.5	275.6	364.8	125.6	205.3	194.5
	2012	271.0	270.3	353.8	128.1	216.9	193.3
	2013	263.7	283.0	304.1	139.4	200.1	193.8
	2014	245.8	271.4	270.5	138.8	170.0	193.5
	2015	169.6	142.5	244.8	125.6	151.3	154.3
	2016	160.2	126.9	241.1	133.0	135.9	151.4
	2017	177.4	149.6	249.4	156.8	139.8	164.4
Forecast	2018	<b>208.6</b>	<b>191.9</b>	<b>265.1</b>	<b>192.9</b>	<b>147.9</b>	<b>188.7</b>
	2019	<b>205.2</b>	<b>189.3</b>	<b>268.6</b>	<b>163.5</b>	<b>155.2</b>	<b>180.7</b>
<b>Quarterly</b>							
2016	Q3	165.5	132.4	250.1	137.6	128.7	154.1
	Q4	167.9	144.9	236.0	135.9	130.5	159.9
2017	Q1	175.0	152.2	242.7	142.9	138.0	165.2
	Q2	171.6	142.3	243.6	153.4	139.2	164.9
	Q3	175.0	141.8	252.6	159.1	143.8	156.7
	Q4	188.1	161.9	258.8	171.9	138.0	170.6
Forecast	2018 Q1	203.7	183.3	268.2	184.1	144.2	183.6
	Q2	<b>213.1</b>	<b>195.9</b>	<b>267.5</b>	<b>204.6</b>	<b>151.2</b>	<b>194.6</b>
	Q3	<b>210.4</b>	<b>196.2</b>	<b>261.7</b>	<b>198.2</b>	<b>146.8</b>	<b>190.8</b>
	Q4	<b>207.3</b>	<b>192.1</b>	<b>263.2</b>	<b>184.9</b>	<b>149.6</b>	<b>185.7</b>
	<b>Monthly</b>						
2017	May	171.5	143.2	241.5	153.8	138.7	166.8
	Jun	166.8	133.5	242.3	150.9	143.0	158.6
	Jul	170.6	137.5	242.3	157.4	154.1	154.8
	Aug	174.5	141.3	254.5	157.0	138.4	157.2
	Sep	179.7	146.5	260.9	163.0	138.8	158.1
	Oct	182.5	151.2	258.8	170.3	139.1	163.8
	Nov	190.8	165.7	260.4	174.0	139.2	174.0
	Dec	190.9	168.8	257.2	171.4	135.6	174.0
2018	Jan	205.2	187.3	270.2	177.9	140.2	182.3
	Feb	202.9	180.5	269.5	185.5	145.5	181.4
	Mar	203.0	182.0	264.9	189.0	146.8	187.0
	Apr	210.0	192.1	268.5	195.5	148.2	190.8
	May	216.9	202.6	266.4	209.1	153.0	199.0

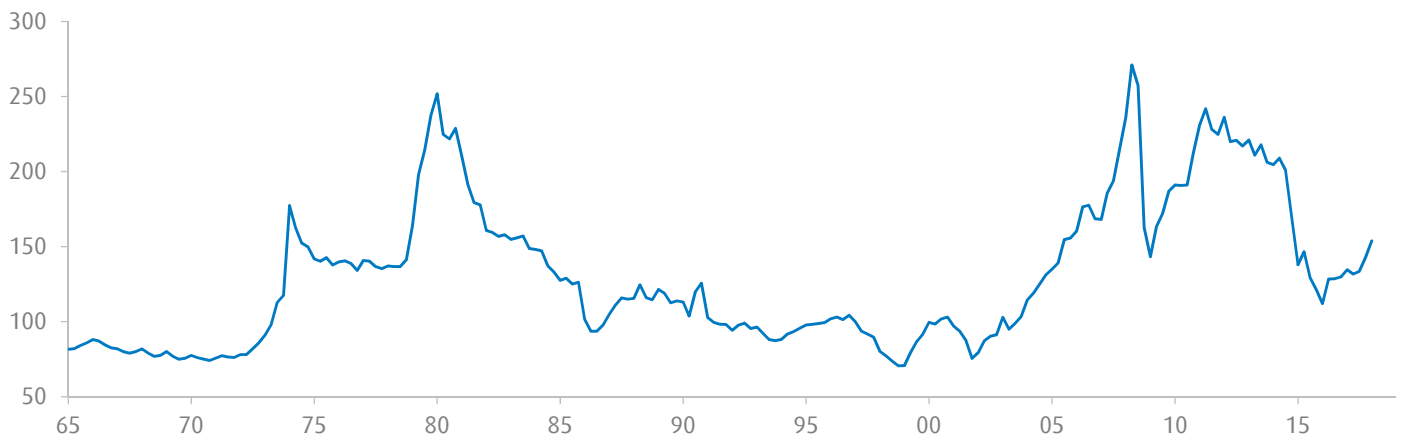
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## Historical Charts: All-Commodity Index

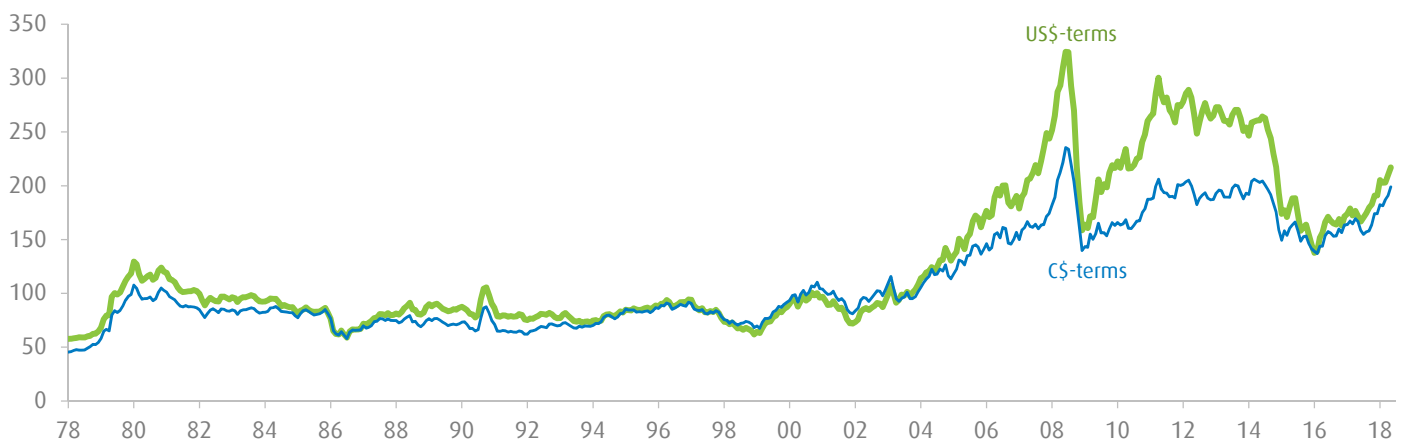
Nominal US\$-Terms (2003 = 100)



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 19 commodities key to Canadian exports. Weights are each commodity's average share of the total value of exports of the 19 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
<b>Metals &amp; Minerals</b>	<b>27.8</b>	<b>100.0</b>	<b>Forest Products</b>	<b>12.6</b>	<b>100.0</b>
Gold	9.9	35.5	Newsprint	1.4	11.5
Silver	1.3	4.6	Market Pulp	3.8	30.5
Aluminum	5.9	21.4	Supercalendered Paper	1.2	9.8
Copper	2.2	7.8	Lumber	5.1	40.6
Nickel	3.0	10.8	OSB	1.0	7.6
Zinc	0.8	3.0			
Uranium	1.2	4.4	<b>Agricultural Products</b>	<b>8.5</b>	<b>100.0</b>
Potash	3.5	12.7	Wheat	4.2	49.5
			Canola	3.1	36.6
<b>Oil and Gas</b>	<b>51.1</b>	<b>100.0</b>	Hogs	0.3	3.0
Crude Oil	44.5	87.2	Beef Cattle	0.9	10.9
Canadian Natural Gas	6.5	12.8			
			<b>All Commodities</b>	<b>100.0</b>	

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

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