Another Hot Start for Commodities in 2022

A Publication of BMO Capital Markets Economic Research • Douglas Porter, CFA, Chief Economist, BMO Financial Group

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Quarterly Forecast Update Edition

Macroeconomic Developments:

- The commodities complex has sprung out of the gates despite the rapid spread of the Omicron variant, intensifying the super-cycle debate, exacerbating global inflation pressures, and complicating matters for central banks.
- At the forefront of the current rally are metals, which, at least in the near-term, are likely to continue benefiting from the combination of strong global goods demand and the growing decarbonization push.
- The oil market has swept aside the threat of Omicron and sporadic lockdowns, with WTI recently breaching US$80/bbl, placing OPEC+ in a more comfortable position to decide on production increases in coming meetings.
- The outlook for global GDP remains bright, with BMO Economics forecasting growth of 4.5% in 2022 and 4.0% in 2023, following an estimated 5.8% rise in 2021.

Commodity Forecast Highlights: [Quarterly Commentary Starting on Page 2]

- The **BMO Capital Markets Commodity Price Index** fell 2.7% in December but is poised to rebound in January.
- **Energy:** The forecast for WTI has been lifted to US$75.00/bbl in 2022 and $77.50 in 2023 reflecting OPEC+'s ability to constrain production and the limited impact of Omicron.
- **Metals:** Upward revisions have been made to the 2022 forecasts for base metals given supply pressures from power shortages and exchange inventory tightness. Prices are expected moderate across the segment next year.
- **Forest Products:** Lumber prices are expected to average US$780/mbf in 2022 (up from $730) before moderating to $650 in 2023 as strong home building and temporary supply pressures accelerated price gains into the New Year.
- **Agriculture:** Inclement growing conditions in South America and sustained drought in North America have lifted the outlook for crop prices. Dry pasture conditions are also weighing on the headcount of the cattle herd, which has raised the forecast for cattle prices.

Commodity Price Outlook

Commodity		2021	2022f	2023f
Energy				
Crude Oil [a]	US$/bbl	67.98	75.00 ↑	77.50
Natural Gas [b]	US$/mmbtu	3.91	4.00	3.50
Agriculture				
Wheat	US$/bushel	7.02	7.20 ↑	6.50
Canola	US$/tonne	694	750 ↑	580
Cattle	US$/cwt	122	135 ↑	135
Hogs	US$/cwt	92	84	82

Commodity		2021	2022f	2023f
Metals				
Gold	US$/oz	1,800	1,700	1,650
Silver	US$/oz	25.16	22.50 ↓	22.00
Aluminum	US$/lb	1.12	1.10 ↑	1.00
Copper	US$/lb	4.23	4.00 ↑	3.25
Nickel	US$/lb	8.38	8.35 ↑	8.00
Zinc	US$/lb	1.36	1.25 ↑	1.10
Forest Products				
Lumber	US$/mbf	883	780 ↑	650

Sources: BMO Economics, Haver Analytics

f = forecast; ↑, ↓ = forecast changes from last month; [a] WTI; [b] Henry Hub

Quarterly Forecast Update

Energy: Crude Oil: The outlook for West Texas Intermediate (WTI) crude remains bright given favourable supply/demand dynamics, namely OPEC+'s ability to limit production and a gradual recovery in global oil demand despite the implementation of various Omicron-driven lockdowns around the world. We have nudged up our forecast for WTI to an average of US$75.00/bbl in 2022 and $77.50 in 2023, compared to $67.98 in 2021. Although prices are likely to remain fairly volatile, the balance of risks is tilted to the upside, especially if Omicron proves to be less severe than previous variants and is successfully brought under control in the next few months.

Chart 1
Crude Oil Prices

(US$/barrel : monthly avg.)

Sources: BMO Economics, Haver Analytics

The big question facing the oil market revolves around OPEC+'s production strategy, specifically the level at which the cartel would be comfortable letting oil prices persist for a sustained period of around one to two years. OPEC+'s willingness to let WTI climb above $80 in recent days and just above $85 in October provide some valuable clues. Thus, the possibility that WTI will remain at similar levels for an extended period is quite likely as OPEC+ appears encouraged by the fact that (1) the non-OPEC supply response has remained weak and (2) the global decarbonization process remains slow.

Investor demand for exploration and production companies, particularly in the U.S., to maintain financial discipline are likely to prevail in the near term even though crude oil prices have reached levels that suggest it would be profitable to increase production capacity. This likely explains why the EIA's projections show U.S. oil production moving up slowly, reaching 12.2 mb/d at end-2022 (vs. 11.6 mb/d at end-2021), still well below the peak of 13.1 mb/d in Q1/20.

Meanwhile, OPEC+ does not yet appear to be overly concerned with the clean energy transition, despite the acceleration in global electrical vehicle (EV) sales. OPEC's latest projections have EVs accounting for roughly 2.5% of global vehicles by 2026 and 5.5% by 2030. In general, OPEC does not expect that the world's existing capital stock that relies on crude oil as an input (such as internal combustion engine automobiles and petrochemical plants) will be quickly abandoned and replaced with new environmentally-friendly alternatives.

The possibility that OPEC+ will attempt to drive WTI above $100 cannot be completely ruled out. However, we wonder if it could remain at such a level for a sustained period, as it would further stoke global inflationary pressures, accelerate the recovery in U.S. crude oil output, and potentially fast-forward the move to renewable energies.

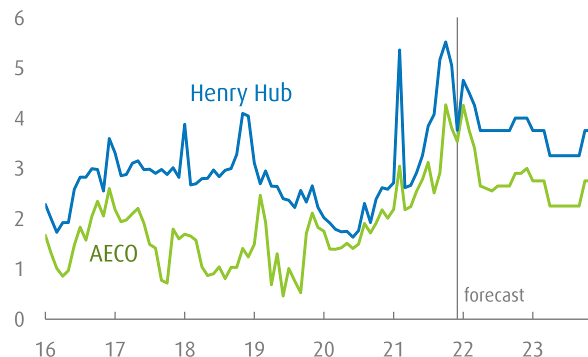
The price of Western Canada Select (WCS)—a blend of heavy oil produced in Alberta—should be able to continue to comfortably piggyback off WTI. The discount of WCS to WTI has narrowed to just over US$12/bbl since the start of the year after widening to nearly $20 in November. The narrower discount can be largely attributed to colder-than-normal temperatures, which are impacting the flow of crude oil through Hardisty, Alberta, the key meeting point of many major pipelines in Western Canada. As temperatures eventually warm, we expect the WTI-WCS differential to hover around $15, which is consistent with its long-run average. The risk of a sudden surge in Canadian production leading to a significant widening in the differential is low. Canadian producers have essentially moved toward smaller incremental expansions and optimization of existing projects rather than large greenfield projects. As such, growth in Canadian production is likely to mirror the expansion in pipeline capacity.

Natural Gas: The outlook for natural gas has improved significantly thanks to its growing role in the energy transition and prices are expected to remain at elevated levels compared to recent years. We are forecasting benchmark Henry Hub to average US$4.00/mmbtu in 2022 and $3.50 in 2023, compared to $3.91 in 2021 and an average of $2.65 in the prior five years.

The price of Henry Hub has descended from recent highs witnessed in October (above $6.00) but should continue to benefit from a combination of domestic and overseas factors. In the U.S., the projected demand/supply balance is expected to only modestly temper prices as supply outpaces demand. The EIA recently projected dry natural gas production to increase by 3.1% to 96.0 bcf/d in 2022 (vs. +2.5% in 2021), while domestic consumption is forecast to decrease 0.2% (vs. -0.4% in 2021). Moreover, North American gas producers should be able to benefit from stronger overseas demand and prices in the next few years due to the completion of new LNG export capacity. The EIA estimates that U.S. nominal peak liquefaction capacity will increase to 13.9 bcf/d by end-2022 from 11.6 bcf/d at present.

Chart 2
Natural Gas Prices

(US$/mmbtu : monthly avg.)



Sources: BMO Economics, Haver Analytics

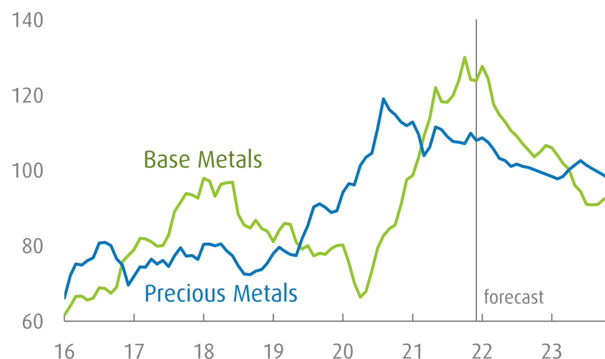
Global LNG prices are expected to remain elevated on account of robust demand in Europe and Asia, restricted supply from Russia and the growing reliance on natural gas to facilitate the clean energy transition. It's become evident that demand from Asia, particularly China, is playing a greater role in supporting global LNG prices. Beyond the impact of a temporary drop in domestic coal supply, demand in China has boomed due to strong pandemic-driven industrial demand for electricity, with the majority of factories operating at maximum capacity. Furthermore, the recent power crisis appears to have prompted Beijing to make greater use of natural gas as a bridging fuel for the energy transition and keep coal-fired power plants as a back-up electricity source.

Strong demand from China has resulted in rising global competition for LNG, and this may persist in the short term. We suspect that Chinese demand may have contributed to Russia's inability/unwillingness to ramp up supply to Europe as it sought to pressure Germany to approve the recently completed Nord Stream 2 pipeline. European LNG demand should remain steady from a medium-term perspective, supported by the planned retirement of several coal and nuclear power generation plants.

The price of AECO—Western Canada's natural gas benchmark— has surged since the start of the year, on some days trading at a slight premium to Henry Hub as opposed to a discount, which is typically the case. Colder-than-normal weather in Alberta has altered the supply/demand dynamics, temporarily boosting domestic consumption, reducing production and depleting inventories. As weather conditions normalize, we expect AECO to cool. We are projecting AECO to average US$3.00/mmbtu in 2022 and $2.50 in 2023, compared to $2.90 in 2021. This implies that we are expecting the Henry Hub-AECO differential to return to US$1.00/mmbtu in both 2022 and 2023, which effectively accounts for the cost of transporting natural gas to the U.S. from Canada.

Metals: The outlook for metals in 2022-23 remains positive overall but prices are expected to average lower than in 2021 as the post-lockdown boom in industrial demand tapers off, mine production accelerates, and monetary and fiscal stimulus is unwound.Yet, even with a less supportive backdrop, prices for most metals will remain above pre-virus and long-run trend levels. Many of the biggest themes in metals markets in 2021 will continue to play out over the next few years, including decarbonization, power shortages, Chinese property sector woes and, of course, COVID. Material progress on emissions reduction – assuming the bold pledges of COP26 are given legislative teeth – requires massive long-term investments in mine supply for the metals that are critical to the green transition, such as copper and nickel. But, quickly ramping up supply that is sufficiently 'clean' to not offset lower end-use emissions will be costly. As such, metals prices need to be sufficiently high over a sustained period to incentivize the needed investment.

Chart 3
Metal Prices



Sources: BMO Economics, Haver Analytics

In the near term, decelerating manufacturing and housing trends in China will weigh on industrial metals demand and pricing even as the government works to cushion the fallout from the Evergrande crisis through state housing investment. At the same time, with the continued spread of Omicron, China's strict zero-COVID strategy is leading to renewed lockdowns and transportation logjams and injecting fresh volatility into commodity markets. Other supply chain disruptions, for instance stemming from continued energy shortages, extreme weather (e.g., La Niña) or labour/geopolitical unrest, could further strain tight metal inventories and exacerbate inflationary pressures. Persistent, above-target inflation has already prompted central banks in several countries to initiate monetary tightening earlier than previously anticipated, and that group that will soon include the U.S. and Canada. An environment of ebbing – albeit, still above-trend – global growth, higher real interest rates and persistent U.S. dollar strength constitutes an additional headwind for metals prices, especially precious metals.

Power shortages and surging energy prices linked to the shift away from coal are having a pronounced impact across commodity markets, particularly on **aluminum**, given the relatively large amount of energy used in its smelting. Several European smelters have announced closures or curtailments due to high energy prices in recent weeks, some for up to two years. This follows even greater energy strains last year in China, the world's largest aluminum producer (and now a net importer). The result is increased global competition for primary aluminum supplies, which is why prices are currently rallying. Power rationing can be expected to remain a factor as the decarbonization push moves ahead. However, after strong growth in 2021, demand is set to take a step back this year alongside softer construction activity and manufacturing destocking in China. On balance, we expect aluminum prices to fade from an average of US$1.12/lb in 2021 to $1.10 in 2022 and $1.00 in 2023.

Zinc prices have also received a boost from power-related smelter shutdowns after coming off a 14-year high in October. Compared with aluminum, however, visible zinc inventories were already fairly tight. Although the metal may not have a starring role to play in the energy transition, demand for galvanized steel (its primary use) should remain sturdy over the next few years, albeit well down from 2021. Meanwhile, smelter production growth will be subdued even as mine supply picks up, in large part due to China's credit discipline and environmental crackdown, which will keep refined stocks relatively low. Given the strong start to the year, we have raised our annual zinc forecast to US$1.25/lb in 2022 (vs $1.10 previously) but continue to expect prices to drift lower to $1.10 in 2023.

When it comes to inventory availability, the most acute tightness has been in **copper** stocks, but the situation is set to improve in coming months. Mine supply additions (ramp-ups and new projects) coupled with fewer expected production disruptions due to COVID, protests/strikes and power shortages will shift the market balance to surplus by 2023. From a longer-term perspective, the demand potential from decarbonization is massive and there is nowhere near enough capex in the pipeline to satisfy the impending surge. However, relative to last year's stimulus-backed rebound (fueled by ex-China demand), consumption growth will likely slow in 2022. In all, supply is set to outpace demand for the red metal over the next two years, resulting in lower prices before the situation reverses further along the forecast horizon. Thus, we project the average copper price to decline from 2021's record high US$4.23/lb to $4.00 this year and $3.25 in 2023, and subsequently rise as the market returns to deficit.

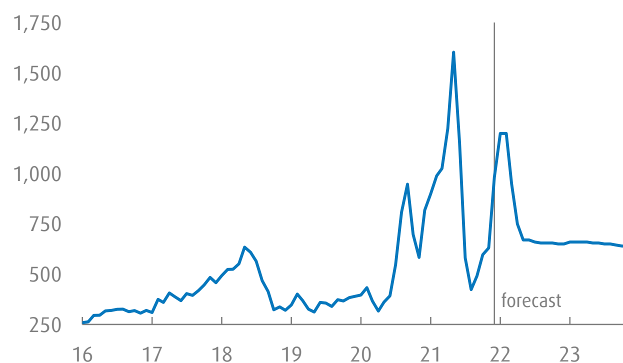
Like copper, long-term prospects for **nickel** are strong thanks to its centrality in the green transition, namely in EV batteries. While batteries still account for a relatively small portion of demand (and battery chemistry is constantly evolving), the market will continue to see healthy demand for stainless steel, sustaining double-digit growth in global nickel consumption this year. On the supply side, more nickel pig iron will be forthcoming from new operations in Indonesia, but there is a wide range of uncertainty over the amount due to the potential for supply disruptions and government policy shifts. In any case, after logging a record deficit in 2021, the market is set to move to a balanced position this year (or a much smaller deficit), preventing further significant inventory draw and thereby removing a key price support of late. We forecast nickel prices to step back from current elevated levels (well above US$9.00/lb) to average $8.35 in 2022 (not far off the 2021 average) and $8.00 in 2023.

Precious metals are also expected to follow a generally downward path in 2022-23 as central banks withdraw monetary accommodation in earnest. Although it did notch a new record in nominal average price terms, **gold's** performance in 2021 was not as strong as one might have expected amid surging inflation. Gold was range-bound for most of the year and increased 1.7% on an annual basis, far less than the 22.7% rise in silver and average gains of ~40% across base metals. The reason was a marked rotation away from gold in macro asset allocation, manifested in large net ETF outflows that broadly offset the strong rebound in physical demand from traditional buyers (i.e., jewelry, bars and coins). With similar dynamics at play in 2022 against a backdrop of rising real interest rates and U.S. dollar strength, the average gold price is projected to fall to an annual average of US$1,700/oz (from $1,800 in 2021). Assuming rate hikes effectively contain inflation, prices will soften further to $1,650 in 2023. Even with distributed solar installations poised to grow rapidly in 2022 and strong potential demand from EVs and 5G infrastructure, investment interest in **silver** remains somewhat muted. For one, silver doesn't receive the same inflation dividend as gold, but this could also reflect concerns that silver thrifting in solar panels is offsetting some of the growth in installed capacity. We forecast average silver prices of US$22.50/oz this year (vs. $25.16 in 2021) and $22.00 in 2023.

Forest Products: Lumber market volatility has become the norm since the onset of the pandemic and the last few months have been no exception, with prices rocketing higher to start the year. Notably, the price of benchmark Western spruce-pine-fir (SPF) has spiked to over US$1200/mbf in recent weeks, up from roughly $600 just two short months ago. A major driver of the recent tightness in the lumber market was the fallout from the devastating BC floods in November, which slowed sawmill operations and disrupted key rail linkages. While rail lines were brought back online weeks later, the result was tighter-than-expected inventories across lumber channels that sent some buyers scrambling for product during the typically light holiday break.

Chart 4
Spruce-Pine-Fir Prices

(US$/mbf : monthly avg.)



Sources: BMO Economics, Haver Analytics

Meantime, the Biden Administration followed through on its proposal to double lumber import tariffs, adding upward pricing pressure.

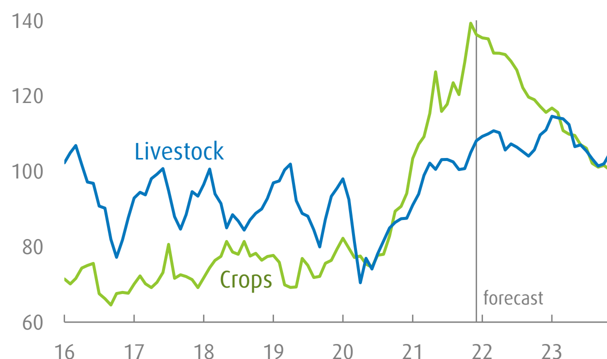
It's also important to keep an eye on U.S. homebuilding, as it remains a major driver of North American lumber demand. Most recently, U.S. housing starts picked up sharply in November to 1.68 mln units (annualized), compared to an average of 1.57 mln units in the first ten months of the year. However, continued shortages of labour and materials are likely to restrain any further upswing in home building activity, with housing starts expected to moderate throughout the year.

Repair and renovation spending, another key pillar of lumber demand, is expected to slow this year as the pandemic-driven surge in home improvement spending ebbs and price-sensitive DIY projects are deferred or scrapped. Meantime, lumber production is expected to get a boost from capacity additions and the modernization of existing facilities. While we cannot rule out further near-term strength, we expect lumber prices to moderate throughout the year. As a result, we are projecting Western SPF prices will average $780/mbf in 2022, before moderating to $650 in 2023 as the market moves toward a more sustainable equilibrium price.

Agriculture: Major crop prices jumped sharply in 2021, driven primarily by challenging growing conditions in North America, where farmers grappled with the worst drought in a decade. Although Midwest corn and soybean production held up well, the drought parched wheat and canola fields across the plains and put broad upward pressure on benchmark prices. Unfortunately, weather woes have persisted through the turn of the year. In the Southern Hemisphere, hopes for a solid corn and soybean crop have been dashed by weather that has been varyingly either too dry or too wet. Meantime, precipitation in North America has remained sparse. In the United States, dry conditions have actually become more widespread, with more than 70% of the country rated abnormally dry, up from around 60% in September. North of the border, around 75% of agricultural land remained abnormally dry at the end of November. Unless the weather turns, low ground moisture levels could result in another poor harvest this year.

Chart 5
Agricultural Prices

(January 2012 = 100 : monthly avg.)



Sources: BMO Economics, Haver Analytics

With supply prospects looking dim, demand running strong, and overall inflation flaring, crop prices are likely to remain elevated in the near term. In the **wheat** space, benchmark prices are expected to increase from an already-high average of US$7.02/bushel in 2021 to $7.20 in 2022. With North American stockpiles running low, wheat prices will likely remain elevated at around $6.50 in 2023, even under the assumption of historically average crop yields ahead. The **canola** market is likely to remain even tighter, as a large share of global production has been affected by the drought in Canada. Overall, canola prices are expected to increase from an average of US$694/tonne in 2021 to $750 in 2022. Although more normal growing conditions could be expected to lower canola prices to $580 in 2023, that's still about 50% higher than the average between 2015 and 2020.

The dry weather is also having a major impact in the **cattle** space. With feed prices soaring and pastures parched all the way from Alberta to Texas, cattle producers have significantly reduced the size of their herds. Last year, the North American cattle herd posted its third straight annual decline, and with demand running hot, this has led to a significant increase in prices. This year, with drought still widespread, the U.S. Department of Agriculture is forecasting

further herd reductions and the segment's long gestation and development cycle means that supply will recover only slowly once conditions improve. As a result, cattle prices are expected to increase from an average of US$122/cwt in 2021 to $135 in 2022 and are likely to remain around $135 in 2023.

In contrast to the cattle segment, production in the **hog** space has held up relatively well, which has helped keep prices contained. Although the pandemic initially caused North American hog producers to shrink the size of the herd, this occurred after years of rapid expansion, so hog prices fluctuated in a moderate range through most of 2021. Since the hog segment is not particularly sensitive to inclement weather, the herd is likely to expand this year, which should prevent a run-up in prices amid generally strong demand. Overall, hog prices are expected to decline from an average of US$92/cwt in 2021 to $84 in 2022, which is fairly close to current levels. Prices will likely ease somewhat further to around $82 in 2023 amid continued herd expansion.

Energy, Materials and Agriculture

		Crude Oil (US$/bbl)	Natural Gas Henry Hub (US$/mmbtu)	Natural Gas AECO (US$/mmbtu)	Lumber (US$/mbf)	Wheat (US$/bushel)	Canola (US$/tonne)	Cattle (US$/cwt)	Hogs (US$/cwt)
	2009	61.69	3.95	3.51	177	5.30	371	83.85	58.11
	2010	79.43	4.39	3.89	255	5.81	429	94.95	75.60
	2011	95.08	4.00	3.67	255	7.10	566	114.54	90.34
	2012	94.20	2.75	2.39	299	7.50	601	122.65	84.93
	2013	97.93	3.73	3.08	356	6.84	545	126.40	89.33
	2014	93.26	4.39	4.08	349	5.88	400	151.50	105.83
	2015	48.69	2.63	2.12	277	5.08	371	146.49	69.40
	2016	43.21	2.52	1.64	305	4.36	366	118.61	65.60
	2017	50.91	2.99	1.67	401	4.36	393	117.90	69.87
	2018	64.84	3.17	1.19	480	4.95	389	114.64	65.26
	2019	56.99	2.57	1.36	360	4.94	344	115.84	69.92
	2020	39.27	2.03	1.67	556	5.50	372	105.54	59.83
	2021	67.98	3.91	2.93	883	7.02	694	122.43	91.74
	y-t-d 2022	77.42	3.80	3.70	1083	7.61	818	137.93	81.27
2021	Jan	52.07	2.71	2.18	899	6.55	526	114.39	69.06
	Feb	59.06	5.35	3.04	989	6.52	583	115.93	78.96
	Mar	62.34	2.62	2.18	1025	6.36	632	119.31	93.07
	Apr	61.72	2.66	2.24	1224	6.68	672	120.61	105.71
	May	65.17	2.91	2.54	1604	7.10	766	116.30	112.40
	Jun	71.38	3.26	2.78	1153	6.67	682	119.74	113.66
	Jul	72.47	3.84	3.12	581	6.65	711	121.32	108.29
	Aug	67.72	4.07	2.51	423	7.26	706	123.19	97.94
	Sep	71.50	5.16	2.91	491	7.04	693	123.38	86.53
	Oct	81.44	5.51	4.26	597	7.46	752	124.96	82.22
	Nov	79.17	5.05	3.80	630	8.06	814	133.06	75.28
	Dec	71.71	3.76	3.53	981	7.88	797	136.98	77.74
2022	m-t-d Jan	77.84	3.80	3.74	1120	7.59	823	137.74	81.23
Forecast	2022 avg.	75.00 ↑	4.00	3.00 ↑	780 ↑	7.20 ↑	750 ↑	135.00 ↑	84.00
	2023 avg.	77.50	3.50	2.50	650	6.50	580	135.00	82.00

Commodity price forecasts are by BMO 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)	
	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
	2018	2.96	0.96	1.33	5.95	1270	15.71
	2019	2.72	0.81	1.16	6.31	1393	16.20
	2020	2.80	0.77	1.03	6.25	1770	20.51
	2021	4.23	1.12	1.36	8.38	1800	25.16
	y-t-d 2022	4.38	1.30	1.64	9.41	1809	22.76
2021	Jan	3.62	0.91	1.23	8.10	1870	25.90
	Feb	3.84	0.94	1.24	8.42	1814	27.37
	Mar	4.08	0.99	1.27	7.47	1722	25.62
	Apr	4.23	1.05	1.28	7.48	1759	25.64
	May	4.62	1.10	1.35	7.99	1848	27.48
	Jun	4.36	1.11	1.34	8.14	1836	26.96
	Jul	4.28	1.13	1.33	8.54	1806	25.77
	Aug	4.24	1.18	1.36	8.69	1784	24.01
	Sep	4.23	1.29	1.38	8.80	1781	23.23
	Oct	4.44	1.34	1.53	8.81	1775	23.29
	Nov	4.43	1.20	1.50	9.05	1820	24.17
	Dec	4.33	1.22	1.55	9.10	1789	22.47
2022	m-t-d Jan	4.38	1.31	1.64	9.39	1806	22.65
Forecast	2022 avg.	4.00 ↑	1.10 ↑	1.25 ↑	8.35 ↑	1700	22.50 ↓
	2023 avg.	3.25	1.00	1.10	8.00	1650	22.00

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

↑ and ↓ indicate annual forecast changes from last month

Commodity Indices and Forecasts (US$-terms : 2003 = 100)

			All Commodities	Oil & Gas	Metals & Minerals	Forest Products	Agricultural Products	All Commodities (C$-terms)
	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
	2018		204.3	189.0	257.5	169.5	147.2	188.8
	2019		191.0	165.6	267.4	124.4	141.3	180.9
	2020		179.8	114.7	303.7	198.2	151.3	171.5
	2021		253.1	199.5	345.8	320.8	223.2	226.4
Forecast	**2022**		**259.0**	**219.4**	**334.2**	**279.9**	**235.0**	**231.6**
	2023		**250.9**	**225.2**	**316.8**	**235.7**	**200.7**	**222.7**
	2020	Q2	150.8	81.9	285.9	126.5	139.5	149.0
		Q3	192.2	119.2	322.5	271.1	147.8	182.6
		Q4	197.7	125.0	327.2	255.5	168.9	184.0
	2021	Q1	232.8	170.3	332.5	349.8	197.8	210.4
		Q2	259.2	192.0	345.0	482.4	222.5	227.0
		Q3	250.1	207.8	348.4	190.7	224.3	224.7
		Q4	270.5	228.0	357.4	260.1	248.3	243.3
Forecast	**2022**	**Q1**	**270.0**	**213.5**	**353.3**	**391.7**	**249.0**	**244.1**
		Q2	**257.6**	**218.8**	**334.4**	**252.6**	**242.9**	**231.2**
		Q3	**253.2**	**218.8**	**326.7**	**238.9**	**228.9**	**225.5**
	2020	Dec	208.8	137.8	331.4	292.5	174.2	191.2
	2021	Jan	221.4	152.2	335.7	322.4	190.4	201.2
		Feb	238.3	177.9	335.4	355.6	198.6	216.0
		Mar	238.7	180.7	326.5	371.5	204.3	214.2
		Apr	245.7	179.1	334.1	441.9	215.5	219.4
		May	266.8	189.3	352.0	571.5	234.8	230.9
		Jun	265.2	207.5	348.8	433.8	217.3	230.7
		Jul	254.3	211.9	345.8	238.4	220.9	227.0
		Aug	242.8	199.2	346.0	155.3	228.8	218.3
		Sep	253.1	212.3	353.4	178.5	223.1	228.8
		Oct	273.8	240.9	358.1	213.8	237.5	243.8
		Nov	272.5	233.5	359.6	224.8	256.0	244.0
		Dec	265.2	209.6	354.5	341.6	251.5	242.1

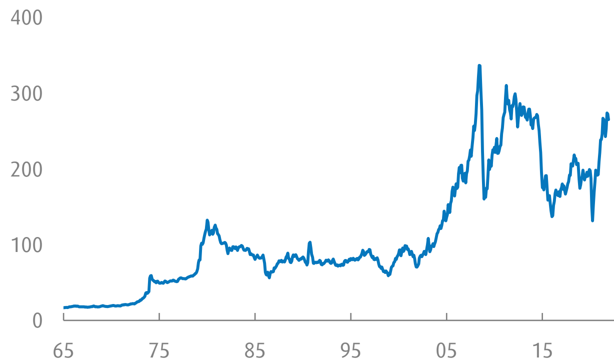
Commodity price indices and forecasts are by BMO Capital Markets Economics
Forecasts are independent of those used by BMO Capital Markets Equity Research

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

All-Commodity Index
Nominal US$-Terms

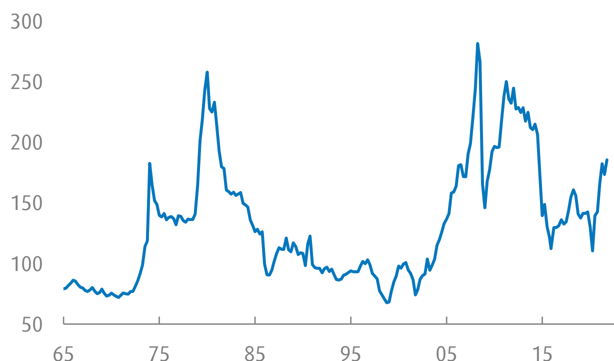
(2003 = 100)



Source: BMO Economics

All-Commodity Index
Real US$-Terms

(2003 = 100)



Source: BMO Economics

All-Commodity Index
Nominal

(2003 = 100)

Source: BMO Economics

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

Source: BMO Economics

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

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