Commodities Outlook for September 2023

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

Energy, Materials and Agriculture

			Natura	al Gas							
		Crude Oil (US\$/bbl)	Henry Hub (US\$/m	AECO	Lumber (US\$/mbf)	Canola (US\$/t)	Wheat	Corn — (US\$/bı	Soybeans	Cattle	Hogs /cwt)
	2010		4.39	3.89	255	429	5.81	4.27	10.48	94.95	75.60
	2011		4.00	3.67	255	566	7.10	6.79	13.18	114.54	90.34
	2012	94.20	2.75	2.39	299	601	7.50	6.94	14.64	122.65	84.93
	2013	97.93	3.73	3.08	356	545	6.84	5.80	14.08	126.40	89.33
	2014	93.26	4.39	4.08	349	400	5.88	4.16	12.46	151.50	105.83
	2015	48.69	2.63	2.12	277	371	5.08	3.77	9.45	146.49	69.40
	2016	43.21	2.52	1.64	305	366	4.36	3.58	9.87	118.61	65.60
	2017	50.91	2.99	1.67	401	393	4.36	3.59	9.77	117.90	69.87
	2018	64.84	3.17	1.19	480	389	4.95	3.68	9.32	114.64	65.26
	2019	56.99	2.57	1.36	360	344	4.94	3.83	8.90	115.84	69.92
	2020	39.27	2.03	1.67	556	372	5.50	3.63	9.52	105.54	59.83
	2021	67.98	3.91	2.90	883	694	7.02	5.82	13.75	122.43	91.74
	2022	94.60	6.42	4.18	781	749	9.00	6.94	15.50	141.89	97.75
	y-t-d 2023	75.88	2.45	2.07	385	580	6.75	6.07	14.63	169.92	84.62
2022	Sep	84.04	7.88	3.44	501	607	8.56	6.82	14.61	144.63	92.64
	Oct	87.37	5.66	2.42	453	642	8.70	6.86	13.81	147.77	89.27
	Nov	84.37	5.45	4.56	420	649	8.12	6.68	14.42	152.47	84.16
	Dec	76.61	5.53	4.56	357	635	7.48	6.51	14.74	154.71	84.95
2023	Jan	78.16	3.27	2.84	364	621	7.45	6.70	15.10	157.36	78.70
	Feb	76.85	2.38	2.10	433	619	7.52	6.71	15.28	162.55	80.49
	Mar	73.34	2.31	2.22	361	572	6.87	6.37	14.89	164.24	81.01
	Apr	79.44	2.16	1.86	346	569	6.67	6.55	14.88	173.31	75.28
	May	71.59	2.15	1.73	349	540	6.20	6.09	13.86	164.64	79.82
	Jun	70.27	2.18	1.84	380	532	6.60	6.15	14.31	178.27	90.48
	Jul	76.05	2.55	1.87	441	605	6.78	5.49	15.08	178.32	100.72
	Aug	81.37	2.58	2.03	409	589	6.13	4.76	13.88	179.49	89.79
	m-t-d Sep	85.55	2.70	2.00	420	597	5.68	4.65	13.56	180.15	83.05
Forecast	2023 avg.	79.00 ↑	2.75	2.25	390	560	6.80	6.10	14.30	175.00	83.00
	2024 avg.	82.50 †	3.25	2.25	450	560	7.00	5.70	12.80	175.00	92.00

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

		Gold (US\$	Silver (/oz)	Copper	Aluminum ———— (US:	Zinc \$/lb) ————	Nickel	Iron Ore (US\$/t)
	2010	1,225	20.16	3.42	0.99	0.98	9.89	147
	2011	1,570	35.11	4.00	1.09	0.99	10.38	169
	2012	1,668	31.15	3.61	0.92	0.88	7.96	130
	2013	1,411	23.83	3.32	0.84	0.87	6.81	135
	2014	1,266	19.08	3.11	0.85	0.98	7.65	97
	2015	1,160	15.70	2.50	0.75	0.88	5.37	56
	2016	1,248	17.10	2.21	0.73	0.95	4.35	58
	2017	1,258	17.06	2.80	0.89	1.31	4.72	71
	2018	1,270	15.71	2.96	0.96	1.33	5.95	69
	2019	1,393	16.20	2.72	0.81	1.16	6.31	93
	2020	1,770	20.51	2.80	0.77	1.03	6.25	108
	2021	1,800	25.16	4.23	1.12	1.36	8.38	159
	2022	1,802	21.75	4.00	1.23	1.58	11.71	120
	y-t-d 2023	1,933	23.44	3.91	1.03	1.23	10.55	116
2022	Sep	1,685	18.82	3.51	1.01	1.42	10.28	98
	0ct	1,666	19.41	3.46	1.02	1.34	9.94	92
	Nov	1,725	21.00	3.64	1.06	1.33	11.45	92
	Dec	1,794	23.23	3.80	1.09	1.42	13.08	110
2023	Jan	1,898	23.80	4.08	1.13	1.49	12.80	121
	Feb	1,858	21.98	4.06	1.10	1.43	12.10	126
	Mar	1,909	21.93	4.01	1.04	1.34	10.56	127
	Apr	1,999	25.01	4.00	1.06	1.26	10.77	117
	May	1,993	24.14	3.73	1.03	1.12	10.08	104
	Jun	1,944	23.43	3.80	0.99	1.07	9.61	112
	Jul	1,950	24.05	3.83	0.98	1.09	9.48	113
	Aug	1,921	23.44	3.79	0.97	1.09	9.29	108
	m-t-d Sep	1,943	24.25	3.84	0.98	1.11	9.30	118
Forecas	st 2023 avg.	1,920 🕇	23.00 🕇	3.90	1.00	1.20	10.20	112 🕈
	2024 avg.	1,800 🕇	22.00 🕇	3.65	1.05	1.20	8.75	100

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

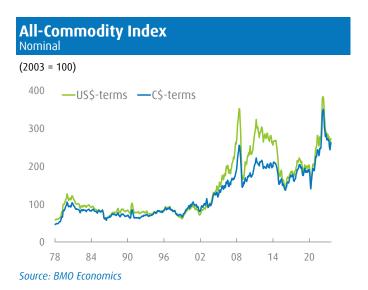
Commodity Indices and Forecasts (US\$-terms : 2003 = 100)

		All Commoditie	Oil & es Gas	Metals & Minerals	Forest Products	Agricultural Products	All Commodities
							(C\$-terms)
	201	4 25	50.6 273.	7 265.5	120.0	173.4	197.4
	201	5 17	70.1 143.	6 229.3	97.5	150.6	154.8
	201	6 16	54.6 127.	9 237.2	109.7	138.9	155.6
	201	7 18	34.7 150.	7 255.6	144.1	142.0	171.2
	201	8 21	0.1 190.	5 265.8	168.1	147.4	194.2
	201	9 19	96.7 167.	0 271.4	122.9	141.5	186.4
	202	20 18	37.4 115.	6 301.7	196.9	151.4	178.9
	202	26	52.9 201.	0 354.1	319.5	224.1	235.2
	202	22 32	28.3 281.	9 426.4	276.4	262.6	313.9
Forecast	202	27	3.5 229.	8 382.6	141.7	211.5	260.9
	202	4 26	6.7 240.	8 342.0		210.7	245.1
			4.6 229.			242.5	247.2
2	022)1 33	37.3 277.	6 420.8	455.6	272.2	305.4
	C)2 37	77.4 323.			303.7	343.8
	C	35	323.	2 453.4	257.7	280.9	329.3
		•	35.8 246.			236.0	277.2
2	023)1 28	31.1 221.		132.7	223.5	271.3
			54.4 213.				253.9
Forecast			3.1 235.			208.7	260.3
			5.4 248.			207.7	258.1
			5.3 248.			214.2	254.8
2	022 Au	-	8.0 282.				293.0
	Se	•	22.9 255.				278.2
			1.8 259.			242.3	285.7
	No		38.0 250.			237.4	276.7
	De		7.5 229.			228.4	269.2
2			34.7 228.			227.3	273.2
	Fe		34.0 222.				272.5
	М		4.6 212.				268.2
	A		78.0 229.			212.1	267.8
	Ma	•	59.3 207.				
	Ju		55.9 203.				243.6
	•		58.3 221.			218.9	253.3
	Aι	ıg 27	'3.1 236 .	1 370.9	156.2	205.2	262.4

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

All-Commodity Index Nominal US\$-Terms (2003 = 100) 400 200 100 65 75 85 95 05 15 Source: BMO Economics

All-Commodity Index Real US\$-Terms (2003 = 100) 350 300 250 200 150 100 65 75 85 95 05 15 Source: BMO Economics



Technical Note

The BMO Capital Markets Commodity Price Index is a fixed-weight, export-based index that encompasses the price movement of 20 commodities key to Canadian exports. Weights are each commodity's average share of the total value of exports of the 20 commodities during the period 2012-21. Similarly, weights of subindex 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	Weight in
All-Commo	dities Index	Sub-Index
Metals & Minerals	33.7	100.0
Gold	9.9	29.5
Silver	0.9	2.8
Aluminum	6.3	18.7
Copper	2.3	6.7
Nickel	2.6	7.6
Zinc	0.9	2.8
Iron Ore	3.0	9.0
Metallurgical Coal	3.2	9.6
Uranium	1.1	3.2
Potash	3.4	10.1
Oil and Gas	49.7	100.0
Crude Oil	43.8	88.3
Cdn. Natural Gas	5.8	11.7
Forest Products	6.8	100.0
Lumber	5.5	81.7
OSB	1.2	18.3
Agricultural Products	9.9	100.0
Wheat	4.1	41.7
Canola	3.1	31.6
Corn	0.2	2.4
Soybeans	1.4	14.0
Hogs	0.3	2.6
Beef Cattle	0.8	7.8
All Commodities	100.0	_
Source: BMO Economics		

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

Commodities Outlook | Commodities Outlook for September 2023

General Disclosures

BMO Capital Markets is a trade name used by BMO Financial Group for the wholesale banking businesses of Bank of Montreal, BMO Bank N.A. (member FDIC), Bank of Montreal Europe p.I.c, and Bank of Montreal (China) Co. Ltd, the institutional broker dealer business of BMO Capital Markets Corp. (Member FINRA and SIPC) and the agency broker dealer business of Clearpool Execution Services, LLC (Member FINRA and SIPC) in the U.S., and the institutional broker dealer businesses of BMO Nesbitit Burns Inc. (Member Investment Industry Regulatory Organization of Canada and Member Canadian Investor Protection For Financial Canada and Asia, Bank of Montreal Europe p.I.c. (authorised and regulated by the Central Bank of Ireland) in Europe and BMO Capital Markets Limited (authorised and regulated by the Financial Conduct Authority) in the U.K and Australia. BMO does not represent that this document may be lawfully distributed, or that any financial products may be lawfully offered or dealt with, in compliance with any regulatory requirements in other uprisdictions, or pursuant to an exemption available thereunder. This document is directed only at entities or persons in jurisdictions or countries where access to and use of the information is not contrary to local laws or regulations. Their contents have not been reviewed by any regulatory authority. Bank of Montreal or its subsidiaries ("BMO Financial Group") has lending arrangements with, or provide other remunerated services to, many issuers covered by BMO Capital Markets. The opinions, estimates and projections contained in this report are those of BMO Capital Markets as of the date of this report and are subject to change without notice. BMO Capital Markets endeavours to ensure that the contents have been complied or derived from sources that we believe are reliable and contain information and opinions that are accurate and complete. However, BMO Capital Markets makes no representation or warranty, express or implied, in respect thereof, takes no responsibility for any error

Dissemination of Economic Publications: Our publications are disseminated via email and may also be available via our web site https://economics.bmo.com. Please contact your BMO Financial Group Representative for more information.

Additional Matters

This report is directed only at entities or persons in jurisdictions or countries where access to and use of the information is not contrary to local laws or regulations. Its contents have not been reviewed by any regulatory authority. BMO Capital Markets does not represent that this report may be lawfully distributed or that any financial products may be lawfully offered or dealt with, in compliance with regulatory requirements in other jurisdictions, or pursuant to an exemption available thereunder.

To Australian residents: BMO Capital Markets Limited and Bank of Montreal are exempt from the requirement to hold an Australian financial services licence under the Corporations Act in respect of financial services they provide to wholesale investors (as defined in the Corporations Act). BMO Capital Markets Limited is regulated by the UK Financial Conduct Authority under UK laws, and Bank of Montreal in Hong Kong is regulated by the Hong Kong Monetary Authority and the Securities and Futures Commission which differ from Australian laws. This document is only intended for wholesale clients (as defined in the Corporations Act 2001), Eligible Counterparties or Professional Clients (as defined in Annex II to MiFID II) and Professional Investors (as defined in the Securities and Futures Ordinance and Futures Ordinance of Hong Kong).

To Canadian Residents: BMO Nesbitt Burns Inc. furnishes this report to Canadian residents and accepts responsibility for the contents herein subject to the terms set out above. Any Canadian person wishing to effect transactions in any of the securities included in this report should do so through BMO Nesbitt Burns Inc.

To E.U. Residents: In an E.U. Member State this document is issued and distributed by Bank of Montreal Europe plc which is authorised and regulated in Ireland and operates in the E.U. on a passported basis. This document is only intended for Eligible Counterparties or Professional Clients, as defined in Annex II to "Markets in Financial Instruments Directive" 2014/65/EU ("MiFID II").

To U.K. Residents: In the UK this document is published by BMO Capital Markets Limited which is authorised and regulated by the Financial Conduct Authority. The contents hereof are intended solely for the use of, and may only be issued or passed on to, (I) persons who have professional experience in matters relating to investments falling within Article 19(5) of the Financial Services and Markets Act 2000 (Financial Promotion) Order 2005 (the "Order") or (II) high net worth entities falling within Article 49(2)(a) to (d) of the Order (all such persons together referred to as "relevant persons"). The contents hereof are not intended for the use of and may not be issued or passed on to retail clients.

To Hong Kong Residents: In Hong Kong, this report is published and distributed by Bank of Montreal. Bank of Montreal (incorporated in Canada with limited liability) is an authorized institution under the Banking Ordinance and a registered institution with the Securities and Futures Commission (CE No. AAK809) to carry on Type 1 (dealing in securities) and Type 4 (advising in securities) regulated activities under the Securities and Futures Ordinance (Cap 571 of the Laws of Hong Kong). This report has not been reviewed or approved by any regulatory authority in Hong Kong. Accordingly this report must not be issued, circulated or distributed in Hong Kong other than (a) to professional investors as defined in the Securities and Futures Ordinance and the Securities and Futures (Professional Investor) Rules under the Securities and Futures Ordinance of Hong Kong, or (b) in circumstances which do not result in or constitute an offer to the public in Hong Kong.

To Israeli residents: BMO Capital Markets is not licensed under the Israeli Law for the Regulation of Investment Advice, Investment Marketing and Portfolio Management of 1995 (the "Advice Law") nor does it carry insurance as required thereunder. This document is to be distributed solely to persons that are qualified clients (as defined under the Advice Law) and qualified investors under the Israeli Securities Law of 1968. This document represents the analysis of the analyst but there is no assurance that any assumption or estimation will materialize.

To Korean Residents: This report has been provided to you without charge for your convenience only. All information contained in this report is factual information and does not reflect any opinion or judgement of BMO Capital Markets. The information contained in this report should not be construed as offer, marketing, solicitation or investment advice with respect to financial investment products in this report.

To Japan Residents: This report has not been reviewed by any regulatory authority in Japan. This report is provided for information purposes only and it should not be construed as an offer to sell, a solicitation to buy, or a recommendation for any security, or as an offer to provide investment management or advisory or other services in Japan. Securities may not be offered or sold in Japan by means of this report or any other document other than to Qualified Financial Institutions within the meaning of item (i) of Article 17-3 of the Government Ordinance to enforce the Financial Instruments and Exchange Act (Kinyu Shohin Torihiki Ho Sekou Rei). Unless specified otherwise, the securities that may be offered to you are not and will not be registered in Japan pursuant to the Financial Instruments and Exchange Acts.

To Taiwanese Residents: This report is not intended to constitute investment advice nor a public offer for any investment products to investors in Taiwan. This report should only be accessed by investors in Taiwan that are qualified to invest in investment products pursuant to relevant Taiwanese laws and regulations, and subject to sales restrictions as set forth in the relevant Taiwanese laws and regulations. BMO Capital Markets has not and will not secure the required licenses in Taiwan for the offer of securities and investment services. Any offer of securities has not been and will not be registered or filed with or approved by the Financial Commission of Taiwan and/or other regulatory authority pursuant to relevant securities laws and regulations of Taiwan, and may not be issued, offered or sold within Taiwan through a public offering or in circumstances which constitute an offer that requires a registration, filing or approval of the Financial Supervisory Commission of Taiwan and/or other regulatory authority in Taiwan under relevant securities laws and regulations of Taiwan. No person or entity in Taiwan has been authorized to offer or sell the securities in Taiwan.

To PRC Residents: This material does not constitute an offer to sell or the solicitation of an offer to buy any financial products in the People's Republic of China (excluding Hong Kong, Macau and Taiwan, the "PRC"). BMO and its affiliates do not represent that this material may be lawfully distributed, or that any financial products may be lawfully offered, in compliance with any applicable registration or other requirements in the PRC, or pursuant to an exemption available thereunder, or assume any responsibility for facilitating any such distribution or offering. This material may not be distributed or published in the PRC, except under circumstances that will result in compliance with any applicable laws and regulations.

To Singapore Residents: This report is intended for general circulation and does not and is not intended to constitute the provision of financial advisory services, whether directly or indirectly, to persons in Singapore. You should seek advice from a financial advisor regarding the suitability of the investment products, taking into account your specific investment objectives, financial situation or particular needs before you make a commitment to purchase the investment product. This report has not been registered as a prospectus with the Monetary Authority of Singapore. Accordingly, it should not be circulated or distributed, nor may the securities described herein be offered or sold, or be made the subject of an invitation for subscription or purchase, whether directly or indirectly, to persons in Singapore other than (a) to an institutional investor or a relevant person as defined in and pursuant to and in accordance with the conditions of, any other applicable provision of the SFA.

To Thai Residents: The contents hereof are intended solely for the use of persons qualified as Institutional Investors according to Notification of the Securities and Exchange Commission No. GorKor. 11/2547 Re: Characteristics of Advice which are not deemed as Conducting Derivatives Advisory Services dated 23 January 2004 (as amended). BMO and its affiliates do not represent that the material may be lawfully distributed, or that any financial products may be lawfully offered, in compliance with any regulatory requirements in Thailand, or pursuant to an exemption available under any applicable laws and regulations.

To U.S. Residents: BMO Capital Markets Corp. furnishes this report to U.S. residents and accepts responsibility for the contents herein, except to the extent that it refers to securities of Bank of Montreal

These documents are provided to you on the express understanding that they must be held in complete confidence and not republished, retransmitted, distributed, disclosed, or otherwise made available, in whole or in part, directly or indirectly, in hard or soft copy, through any means, to any person, except with the prior written consent of BMO Capital Markets.

ADDITIONAL INFORMATION IS AVAILABLE UPON REQUEST

BMO Financial Group (NYSE, TSX: BMO) is an integrated financial services provider offering a range of retail banking, wealth management, and investment and corporate banking products. BMO serves Canadian retail clients through BMO Bank of Montreal and BMO Nesbitt Burns. In the United States, personal and commercial banking clients are served by BMO Bank N.A., (Member FDIC). Investment and corporate banking services are provided in Canada and the US through BMO Capital Markets.

® Registered trademark of Bank of Montreal in the United States, Canada and elsewhere. ™ Trademark Bank of Montreal in the United States and Canada. © COPYRIGHT 2023 BMO CAPITAL MARKETS CORP. A member of BMO Financial Group