

American Copper Council

50th Anniversary Celebration

Spring 2025 Meeting

April 22 – 25, 2025

The Joseph Hotel

Nashville, Tennessee

Copper Outlook Presentation

John E Gross

But First, Full Disclosure . . .



155 HYSTER

XL2

SALES & SERVICE
BY
HYSTER
NEW
ENGLAND
SALES
SERVICE
RENTALS

Copper

**The Oldest, Newest And
Most Versatile Metal
Known To Man**



Wherever Electric Current Flows
NOTHING SERVES LIKE COPPER

NO OTHER FORCE in modern living plays so large a part as electricity... a force controlled, delivered and made usable by copper. It lights our way, eases household work, refrigerates our food. Through radio it brings us news and entertainment.

But even more than that, electric power in industry enriches everyone with the bounty of

mass production. It is the force that has made it possible for millions to own automobiles, refrigerators, vacuum cleaners and a host of other conveniences... it is responsible for much of the American way of life.

Electrical equipment, from the generators in the power plant to the motors in factories and in home appliances, has since its inception depended on the high electrical conductivity, corrosion resistance, workability, strength and spring properties of copper and its alloys.

Because of these valuable properties, copper, brass, bronze and nickel silver must be reserved for war needs. But when the time comes, The American Brass Company, largest fabricator of copper alloys, will again devote its facilities and its century of experience to the peacetime needs of industry.

THE AMERICAN BRASS COMPANY

General Offices: Waterbury 88, Connecticut
 Subsidiary of Anaconda Copper Mining Company
 In Canada: ANACONDA AMERICAN BRASS LTD., New Toronto, Ont.

EVERDUR*, the tough, non-magnetic, corrosion-resistant copper-silicon alloy of The American Brass Company, serves many industrial purposes. An important but little known use is for millions of the bolts, connectors, and other pole line hardware accessories required to hold securely the transmission lines which carry the nation's electrical power.

*Reg. U. S. Pat. Off.



Anaconda Copper & Brass

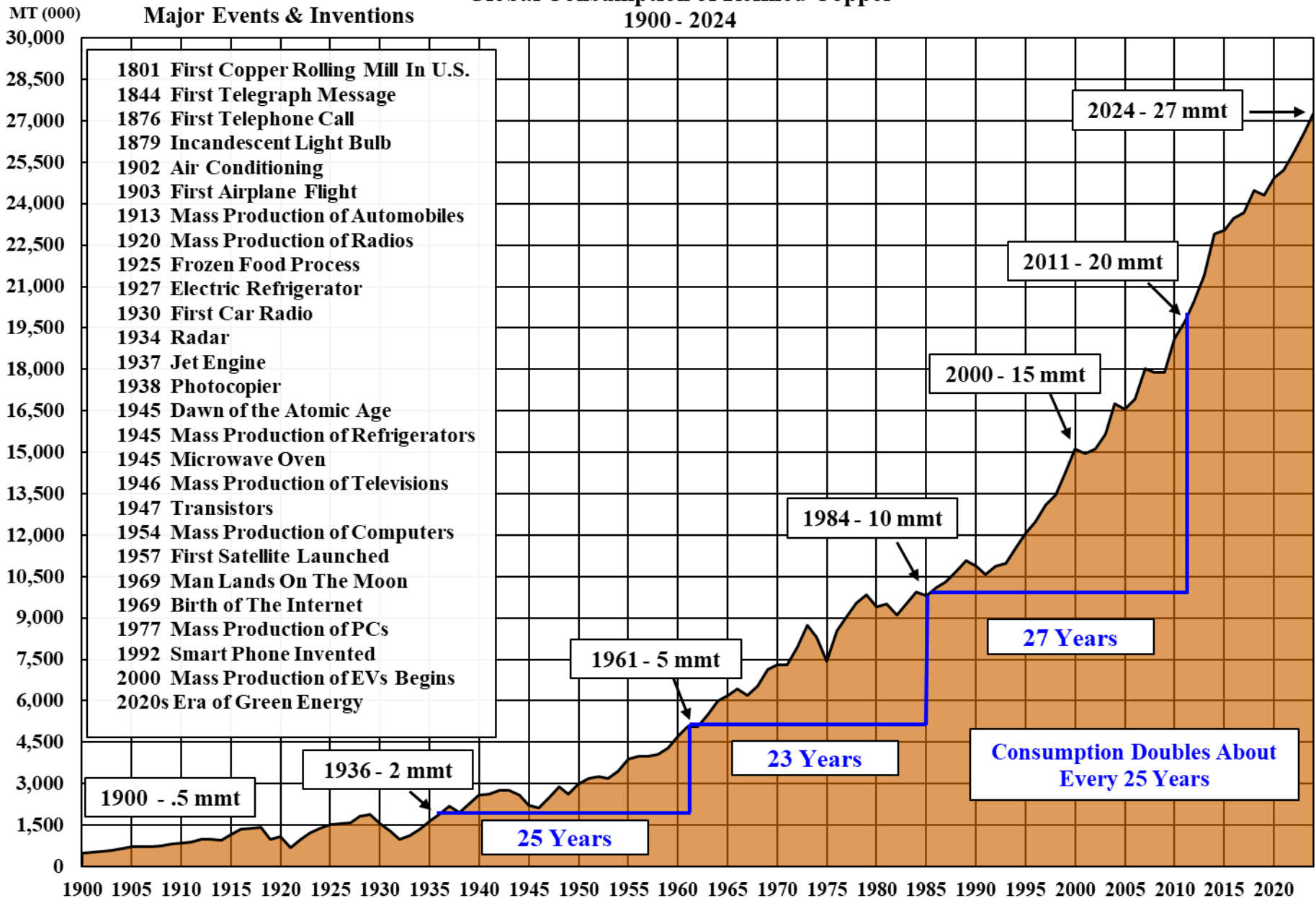
BUY WAR BONDS... Keep on buying them... buy them for keeps

Copper – Key Issues

- **Tariffs, Tariffs, & Tariffs = Uncertainty**
- **Dollar Declines Against Major Currencies**
- **Price Climbs To Record High**
- **Comex / LME Arbitrage Distorted**
- **Global Production & Consumption At Record Highs**
- **Market In Minor Surplus Position**
- **Global Market Very Unbalanced**
- **Dangerous Price Volatility**

The Copper Journal

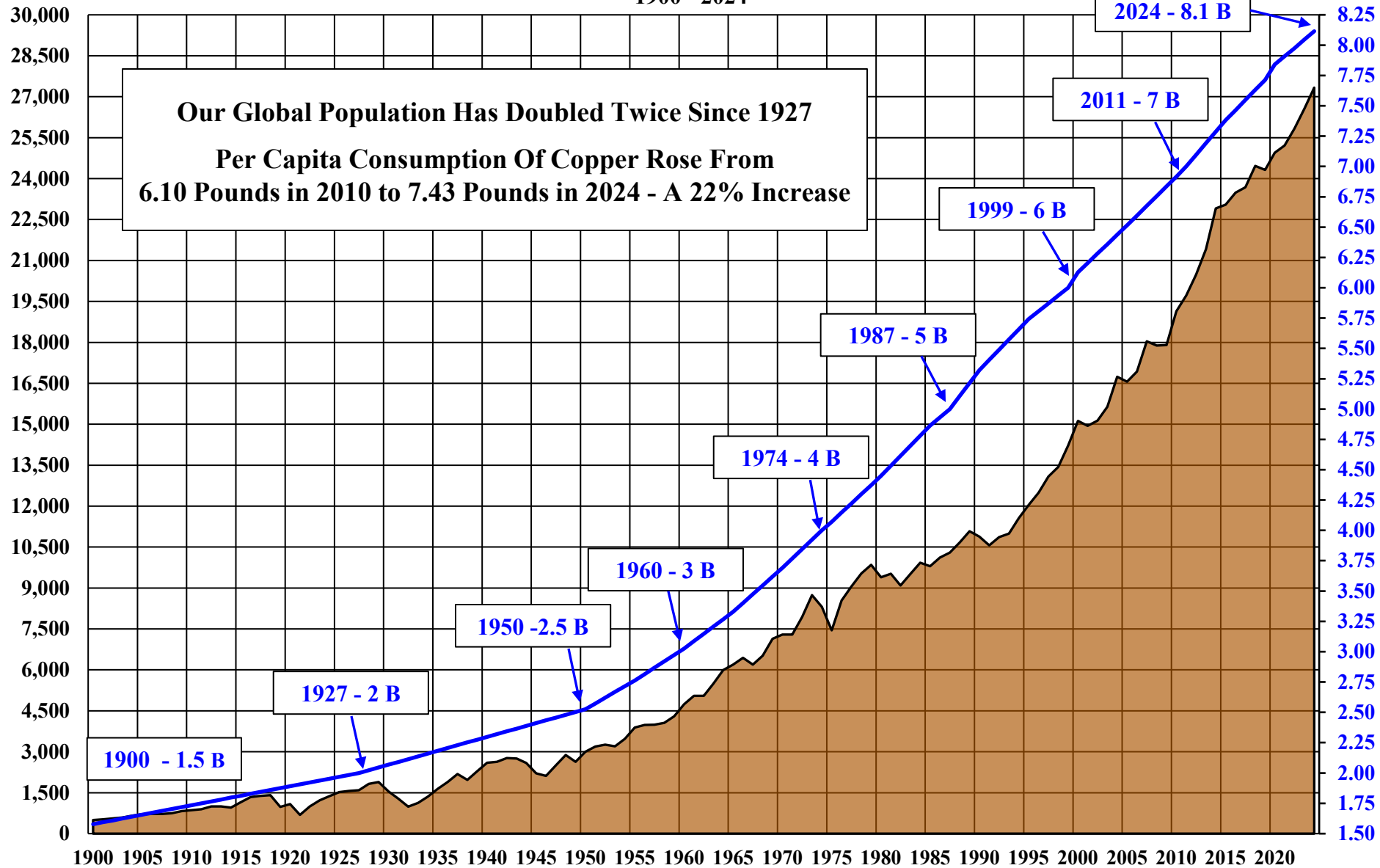
Global Consumption of Refined Copper 1900 - 2024



The Copper Journal

Global Consumption of Refined Copper & Population Growth 1900 - 2024

MT (000)



Source: ICSG / JEG

Consumption Of Refined Copper Global Population - Billions

www.copperjournal.com

The Copper Journal

Global Production & Consumption Of Refined Copper

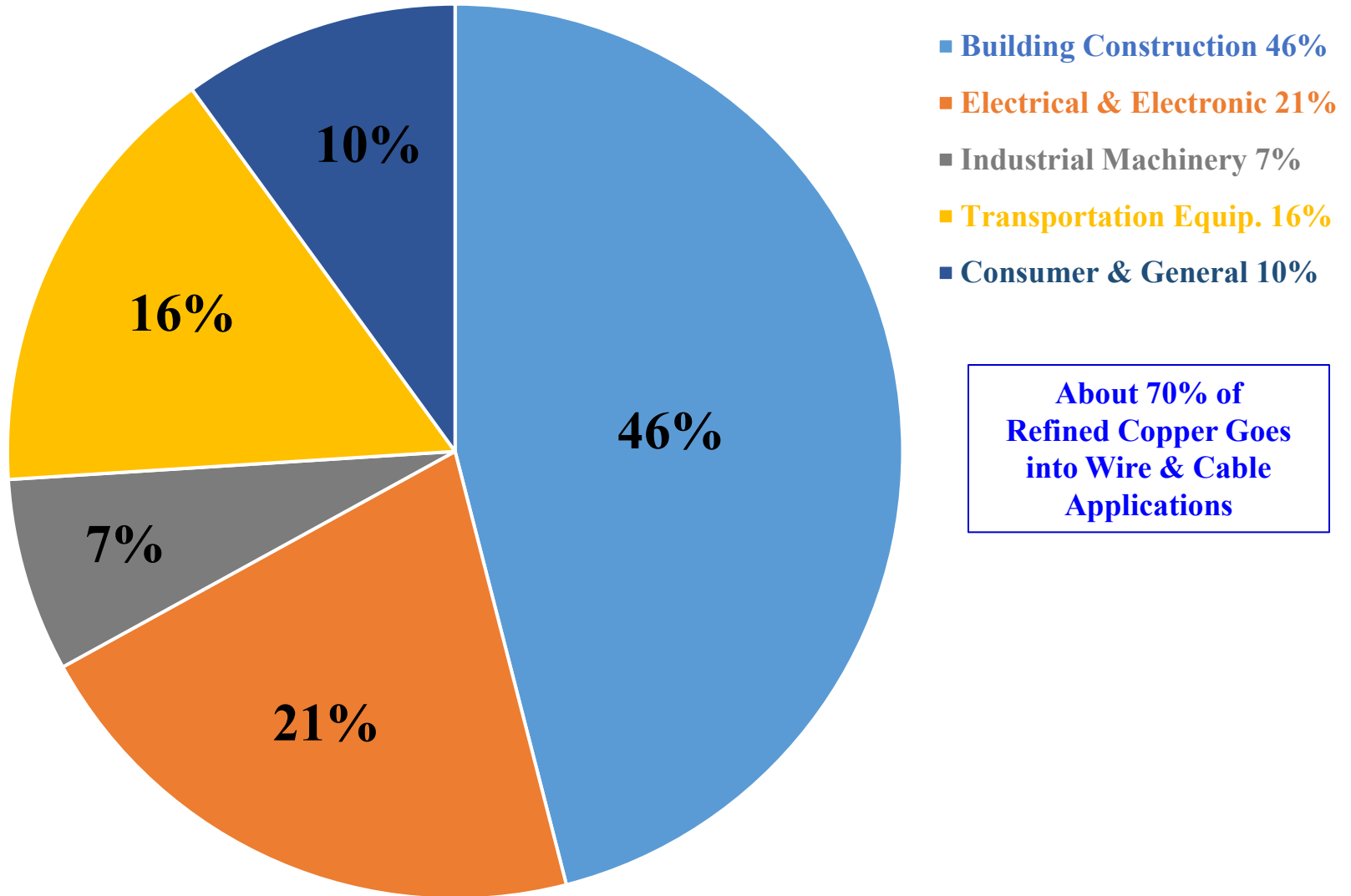
	2020	2021	2022	2023	2024F	2025F
Production	24,621	24,900	25,273	26,503	27,633	28,068
Yr/Yr Chg		279	373	1230	1130	435
% Chg		1.1%	1.5%	4.9%	4.3%	1.6%
Consumption	24,948	25,211	25,830	26,556	27,332	27,875
Yr/Yr Chg		263	619	726	776	543
% Chg		1.1%	2.5%	2.8%	2.9%	2.0%
Net	(327)	(311)	(557)	(53)	301	193

Source: ICSG

Thousands Of Metric Tonnes

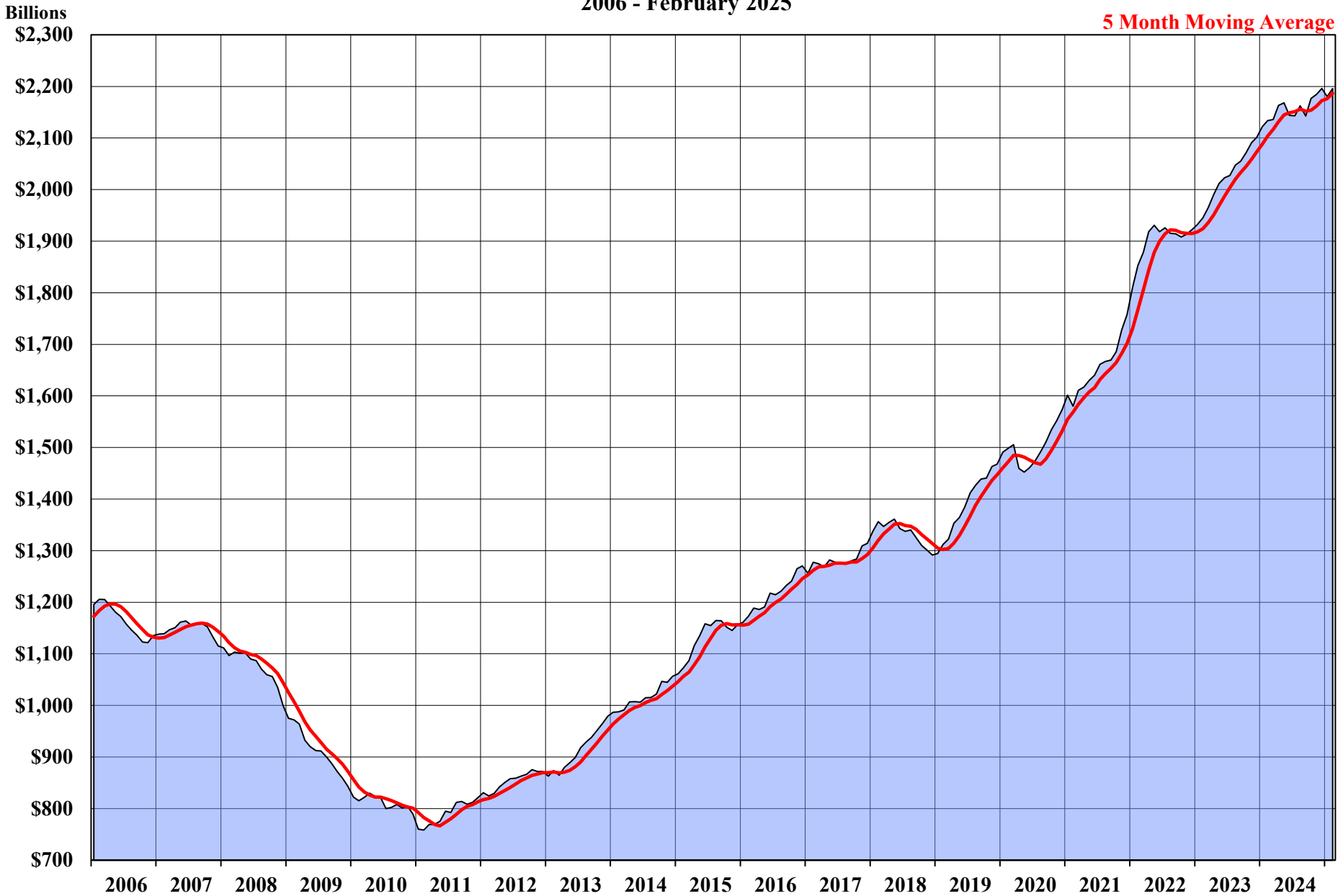
www.copperjournal.com

Consumption Of Copper In End Use Markets

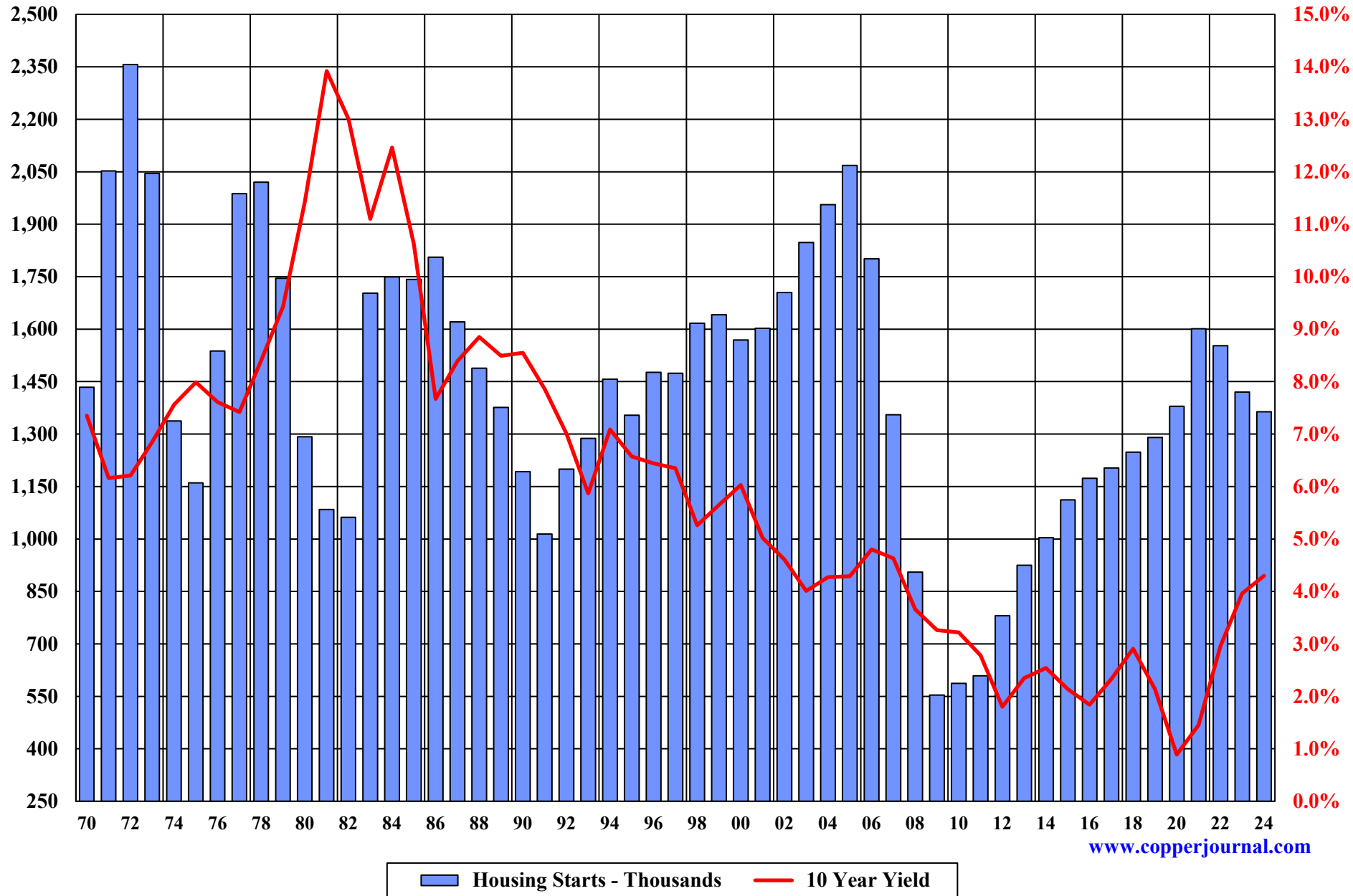


The Copper Journal Construction Spending 2006 - February 2025

5 Month Moving Average



The Copper Journal
U. S. Housing Starts Vs 10 Year Treasury Yield
1970 - 2024



The Copper Journal

Global Mine & Smelter Production of Copper 2024

Thousands of Metric Tonnes

Mine Production			
1	Chile	5,507	24%
2	DR Congo	3,125	14%
3	Peru	2,736	12%
4	China	1,843	8%
5	Indonesia	1,062	5%
6	United States	1,056	5%
7	Russia	881	4%
8	Australia	774	3%
9	Kazakhstan	764	3%
10	Zambia	756	3%
	Others	4,407	19%
	Total	22,911	100%

81%

Smelter Production			
1	China	11,967	51%
2	Japan	1,622	7%
3	Chile	995	4%
4	Russia	982	4%
5	South Korea	705	3%
6	Zambia	696	3%
7	India	588	3%
8	Poland	562	2%
9	Germany	469	2%
10	United States	444	2%
	Others	4,467	19%
	Total	23,497	100%

81%

The Copper Journal

Global Production & Consumption of Refined Copper 2024

Thousands of Metric Tonnes

Refined Production

1	China	12,429	45%	
2	DR Congo	2,558	9%	
3	Chile	1,942	7%	
4	Japan	1,567	6%	
5	Russia	953	3%	
6	United States	903	3%	
7	India	725	3%	
8	South Korea	625	2%	
9	Germany	597	2%	
10	Poland	589	2%	83%
	Others	4,746	17%	
	Total	27,634	100%	

Refined Consumption

1	China	15,990	59%	
2	United States	1,593	6%	
3	Germany	967	4%	
4	Japan	815	3%	
5	South Korea	670	2%	
6	India	632	2%	
7	Turkey	550	2%	
8	Italy	501	2%	
9	Mexico	410	2%	
10	Spain	410	2%	82%
	Others	4,794	18%	
	Total	27,332	100%	

The Copper Journal

Imports & Exports of Refined Copper

2024

Thousands of Metric Tonnes

Importers				Exporters			
1	China	4,042	40%	1	DR Congo	2,055	22%
2	United States	908	9%	2	Chile	1,892	20%
3	Italy	566	6%	3	Japan	741	8%
4	Taiwan	541	5%	4	Kazakhstan	474	5%
5	Germany	435	4%	5	China	458	5%
6	Turkey	368	4%	6	Australia	394	4%
7	Thailand	341	3%	7	Poland	297	3%
8	Malaysia	305	3%	8	Peru	280	3%
9	India	304	3%	9	Indonesia	226	2%
10	Brazil	282	3%	10	Bulgaria	200	2%
	Others	1,989	20%		Others	2,451	26%
	Total	10,081	100%		Total	9,468	100%

The Copper Journal

Imports & Exports of Copper Scrap 2024

Thousands of Metric Tonnes

Importers				Exporters			
1	China	2,250	40%	1	United States	959	18%
2	Germany	460	8%	2	Germany	394	7%
3	India	328	6%	3	Japan	341	6%
4	South Korea	299	5%	4	UK	280	5%
5	Belgium	296	5%	5	France	280	5%
6	Japan	241	4%	6	Italy	195	4%
7	Spain	179	3%	7	Netherlands	185	4%
8	Italy	159	3%	8	Thailand	184	3%
9	Poland	152	3%	9	Mexico	175	3%
10	United States	138	2%	10	Spain	171	3%
	Others	1,171	21%		Others	2,107	40%
	Total	5,673	100%		Total	5,271	100%

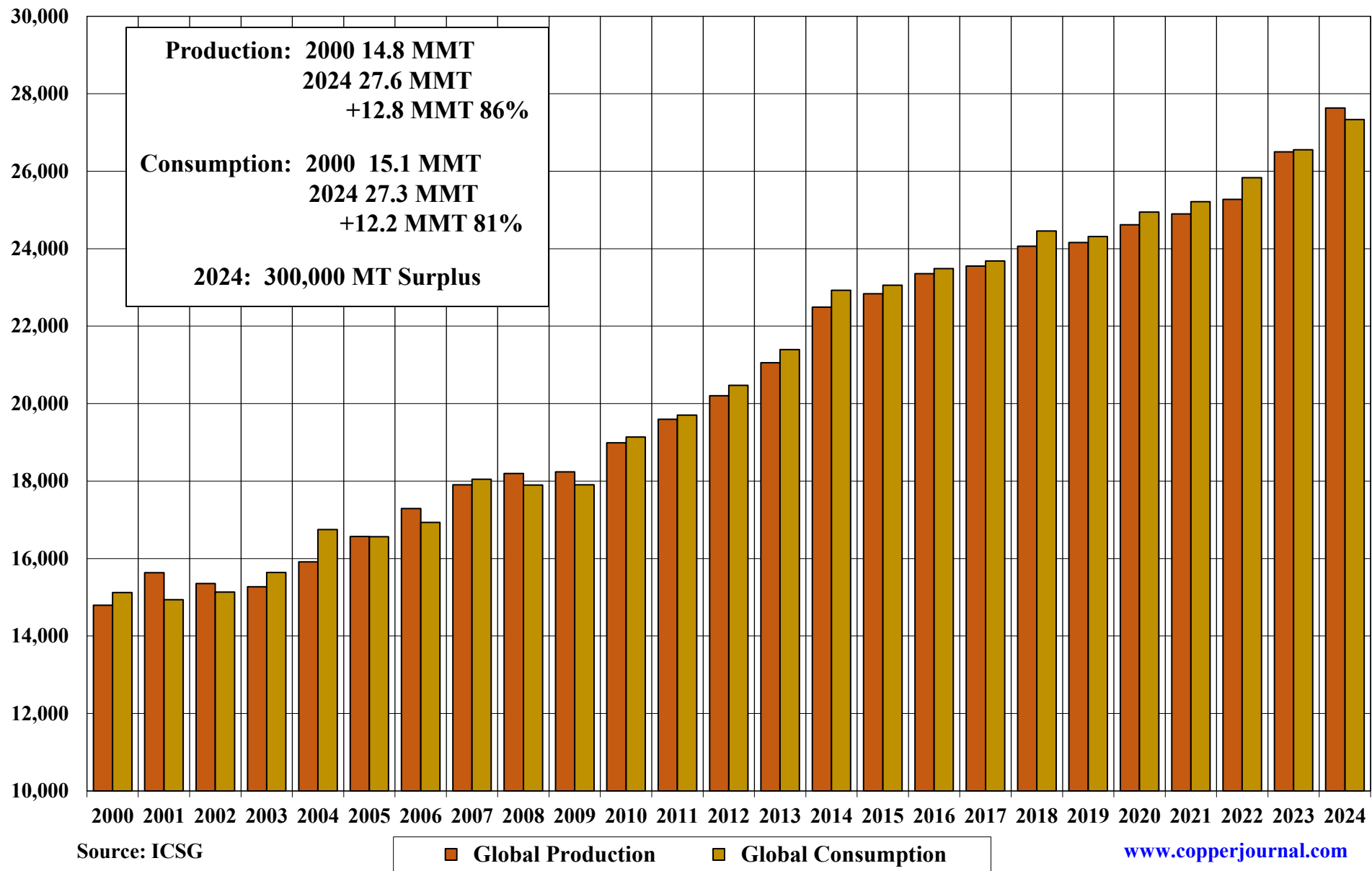
79%

60%

The Copper Journal

Global Production & Consumption Of Refined Copper

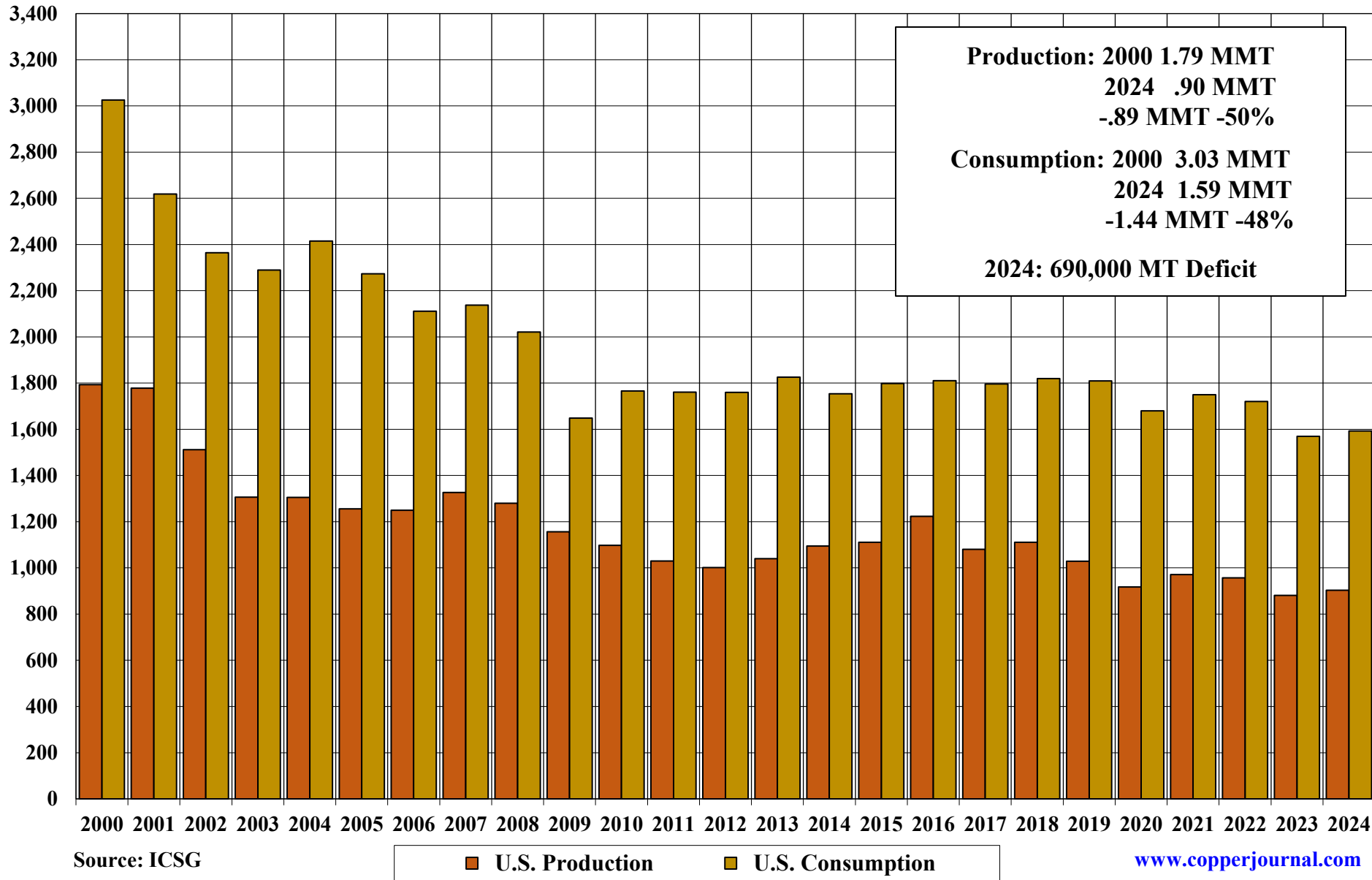
Thousands Of Metric Tonnes



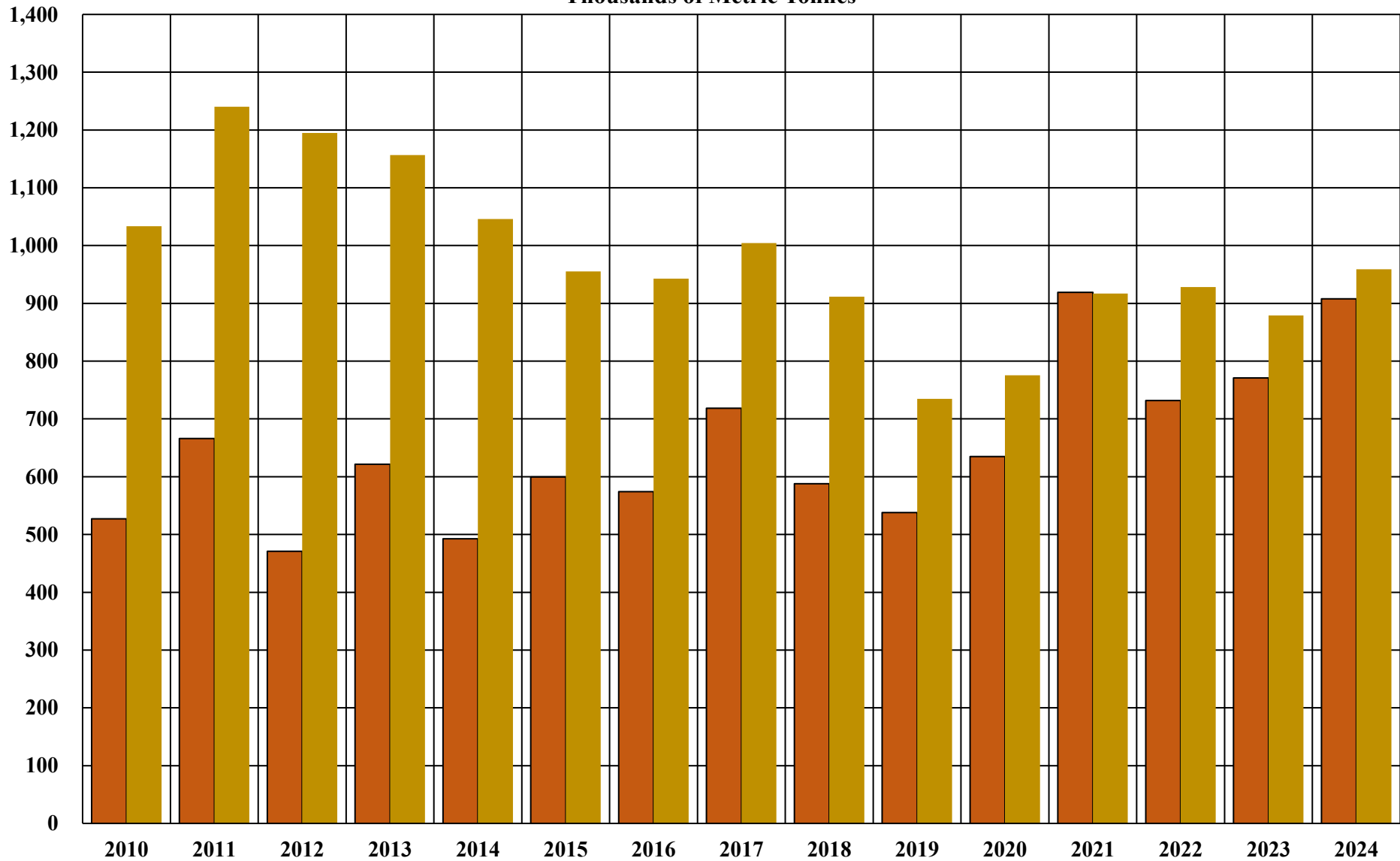
The Copper Journal

U.S. Production & Consumption Of Refined Copper

Thousands Of Metric Tonnes



The Copper Journal
U.S. Imports of Refined Copper
& Exports Of Copper Scrap
Thousands of Metric Tonnes

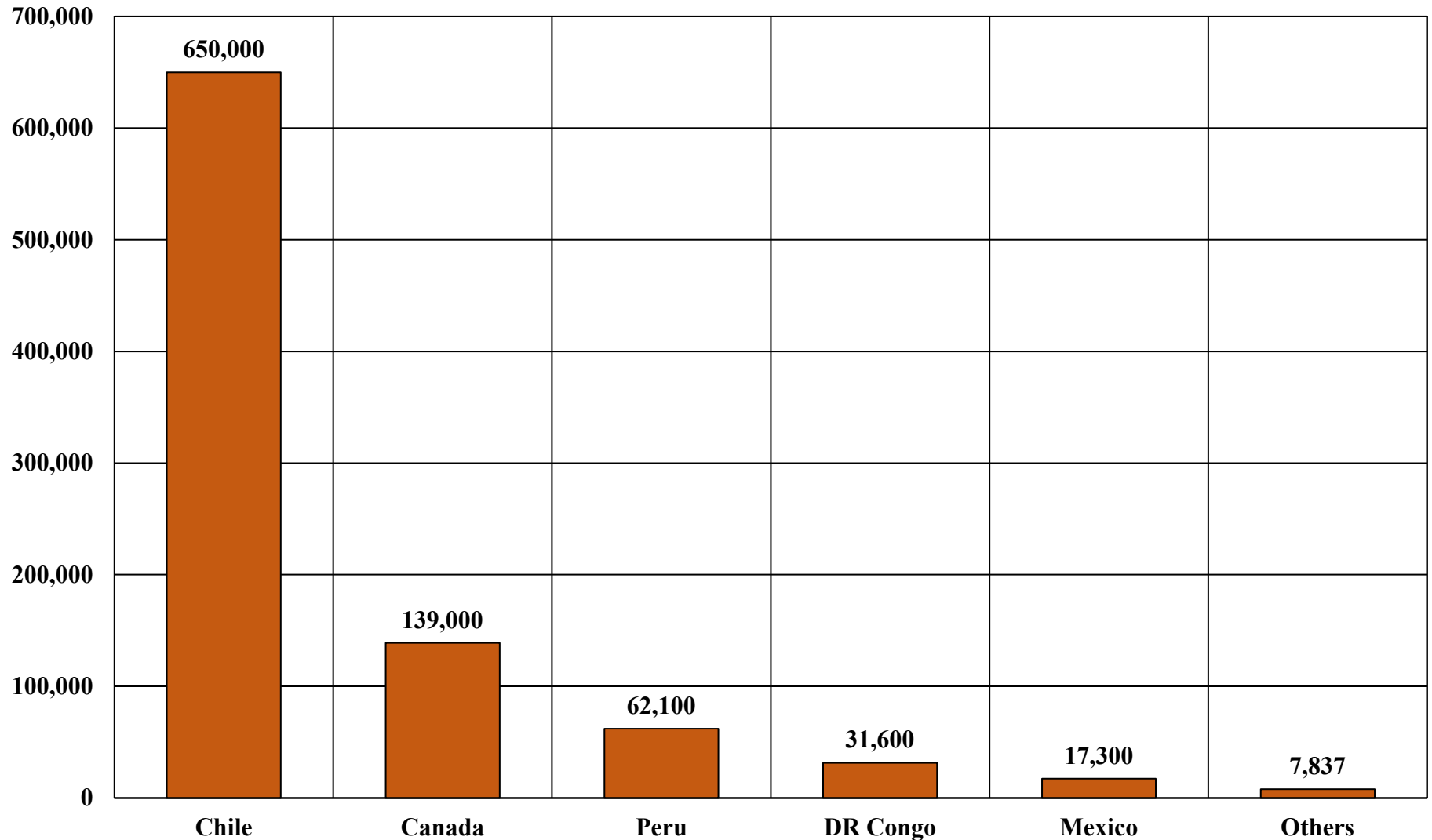


Source: CDA

Imports of Refined Copper Exports of Copper Scrap

www.copperjournal.com

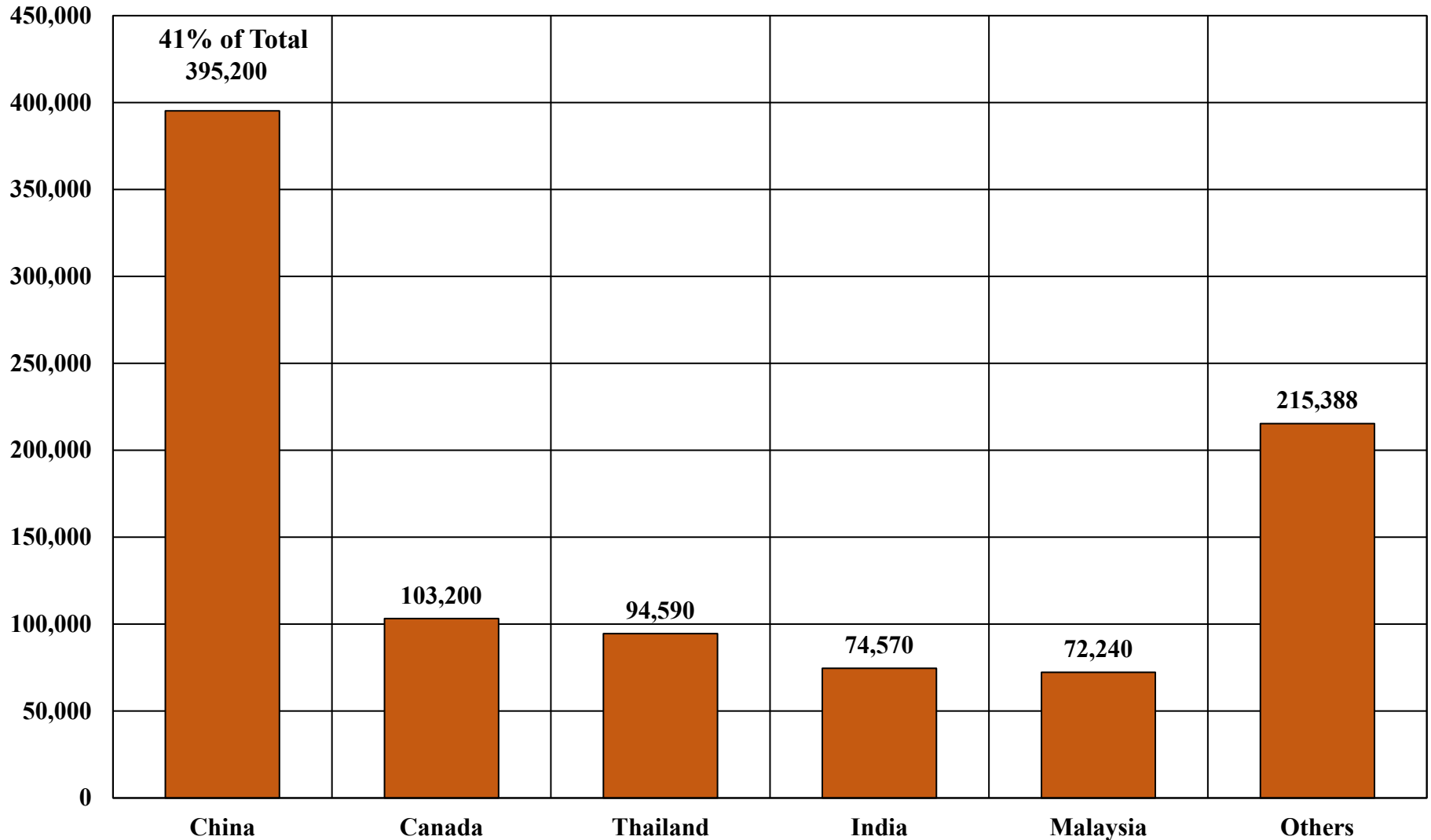
The Copper Journal
Imports Of Refined Copper
2024



Thousands of Metric Tonnes

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The Copper Journal
Exports Of Copper Scrap
2024



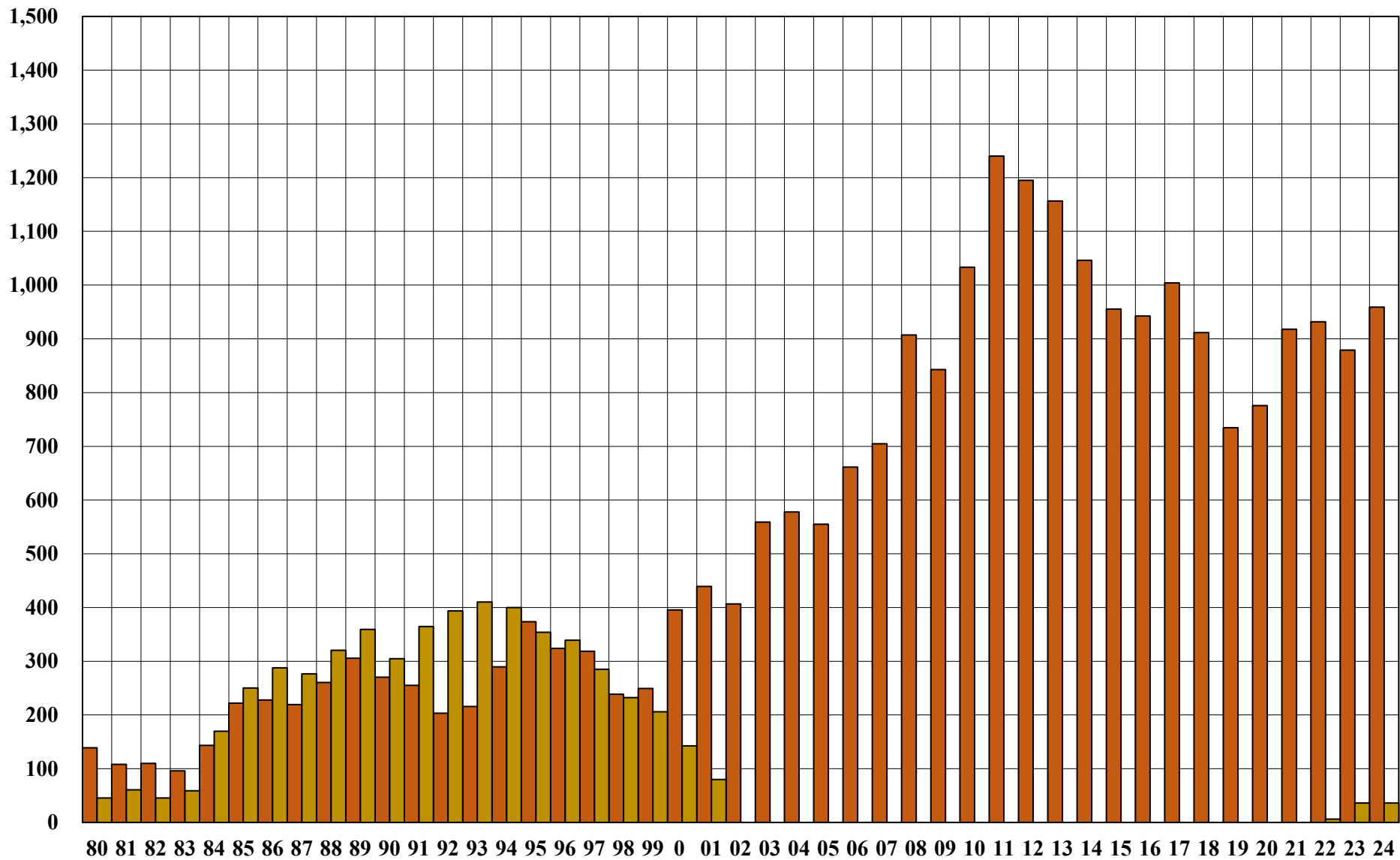
Thousands of Metric Tonnes

www.copperjournal.com

The Copper Journal

U.S. Smelter Production of Copper Scrap Vs Exports of Copper Scrap

Thousands of Metric Tonnes



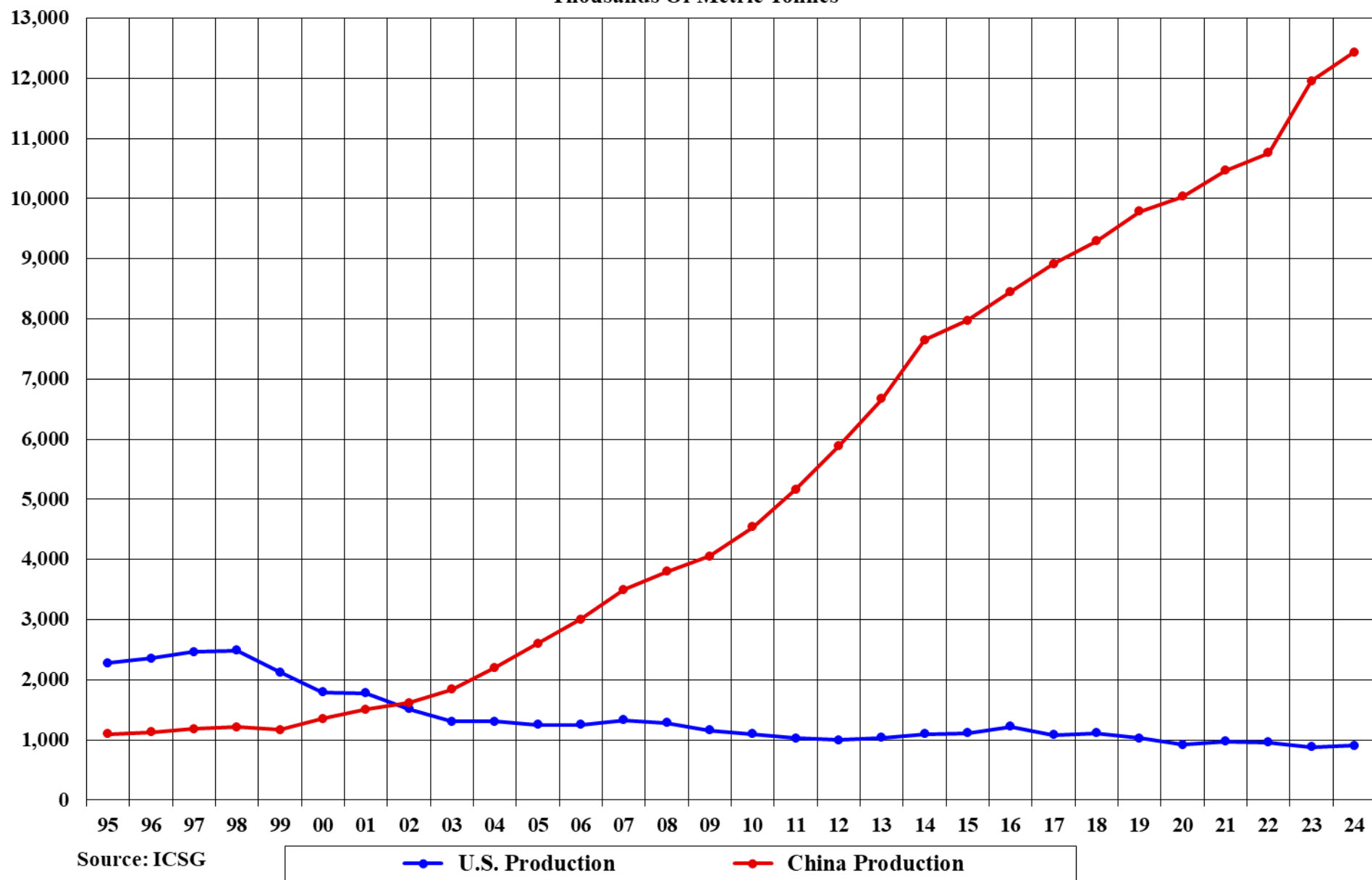
Source: CDA / ICSG

Exports Of Copper Scrap

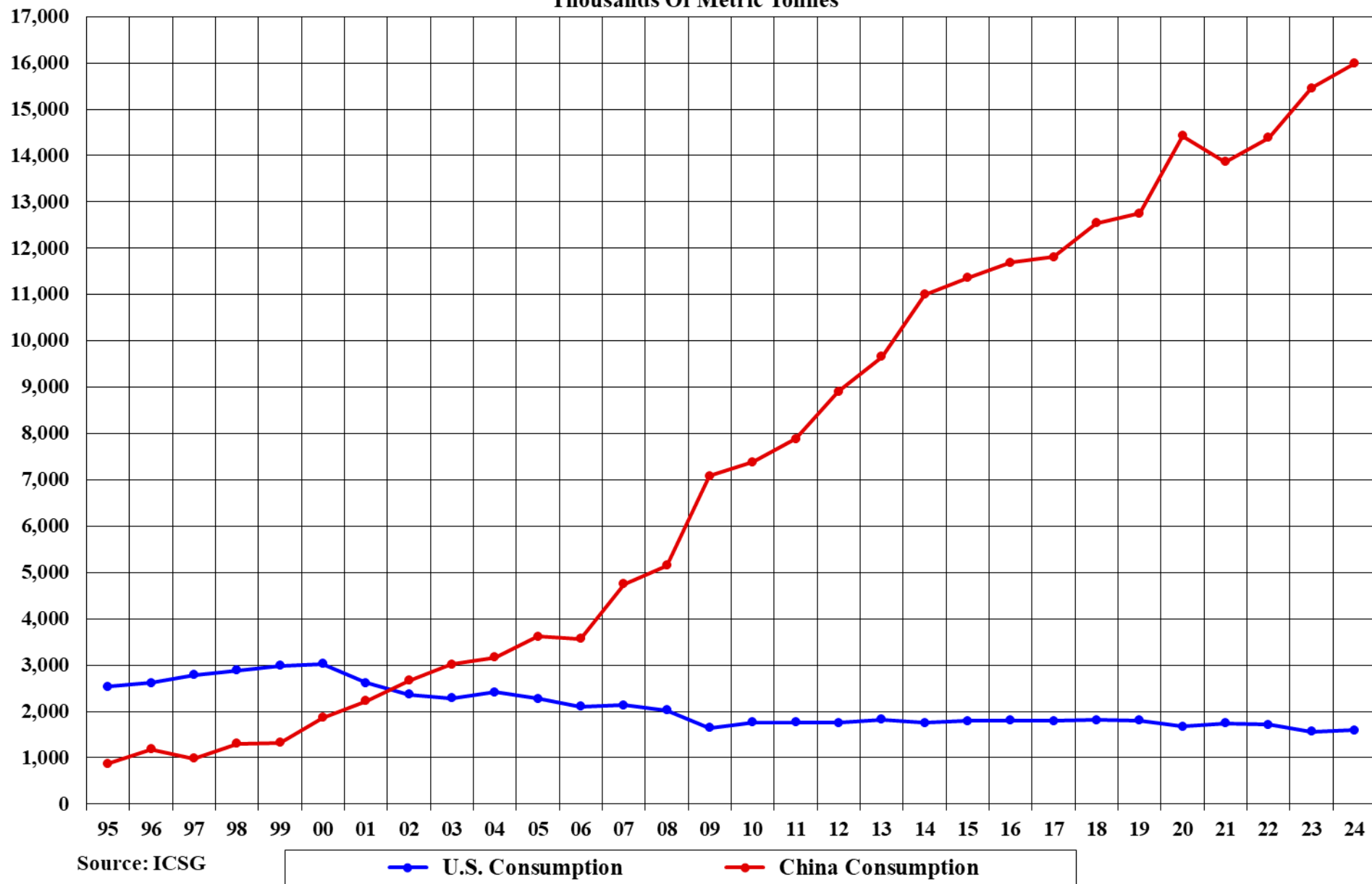
Smelter Production of Scrap Copper

www.copperjournal.com

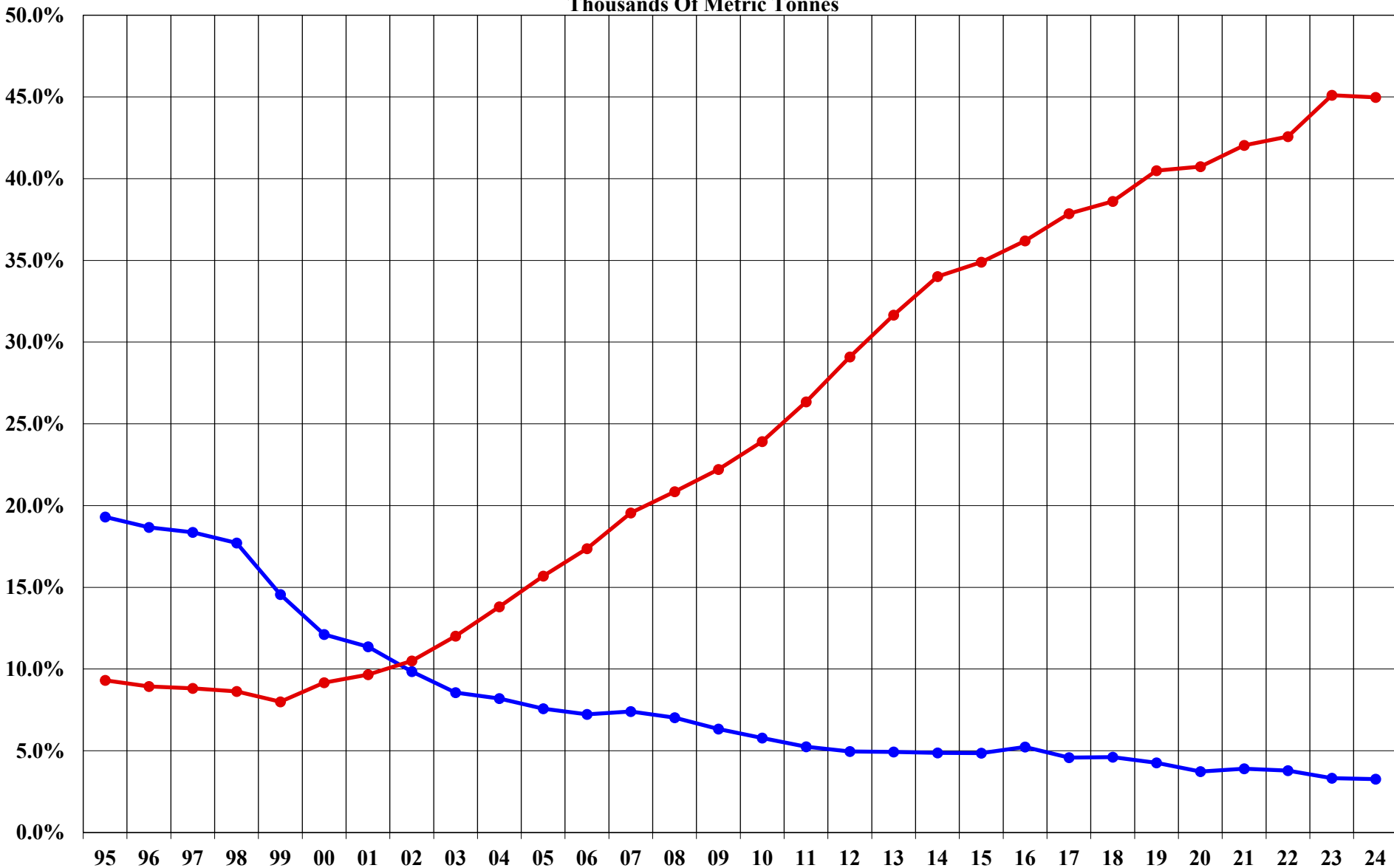
The Copper Journal
Production Of Refined Copper
United States Vs China
Thousands Of Metric Tonnes



The Copper Journal
Consumption Of Refined Copper
United States Vs China
Thousands Of Metric Tonnes



The Copper Journal
Percent Of Global Production Of Refined Copper
United States Vs China
Thousands Of Metric Tonnes

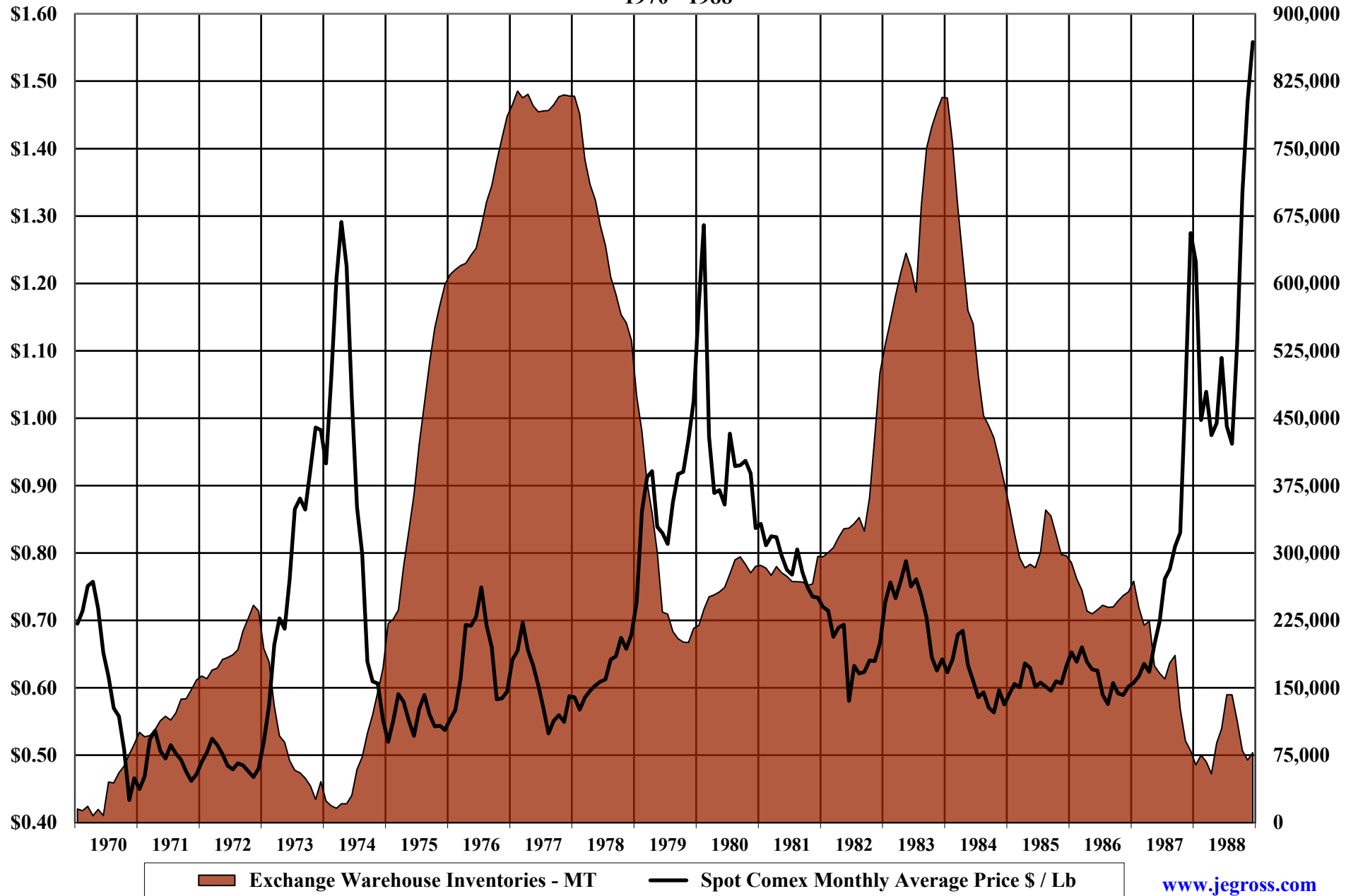


Source:

—●— U.S. % of Global Production —●— China % of Global Production

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The Copper Journal
Copper Price & Inventory Comparison
1970 - 1988

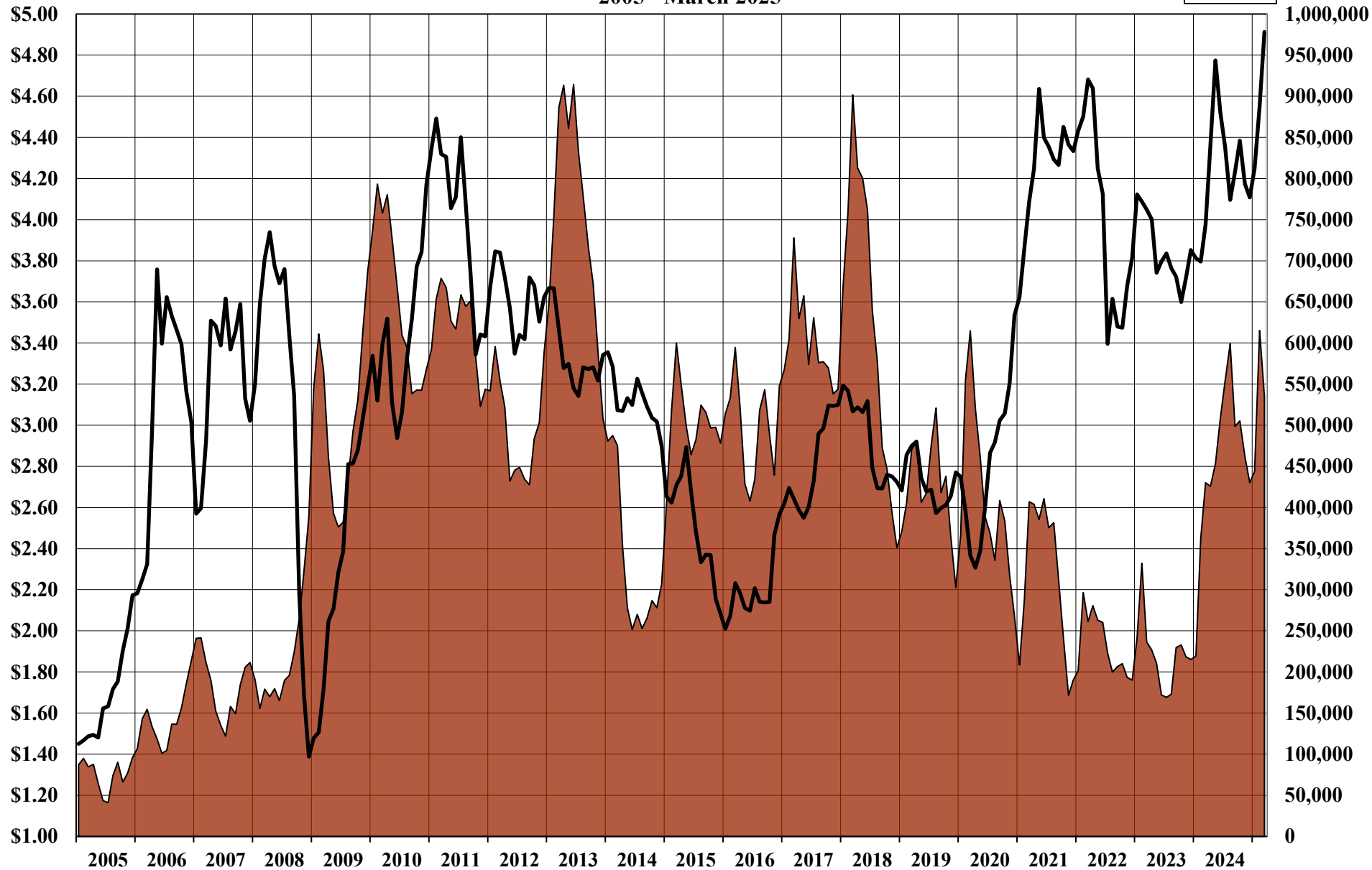


The Copper Journal

Copper Price & Inventory Comparison

2005 - March 2025

\$4.91



Exchange Warehouse Inventories - MT Spot Comex Monthly Average Price \$ / Lb

www.copperjournal.com

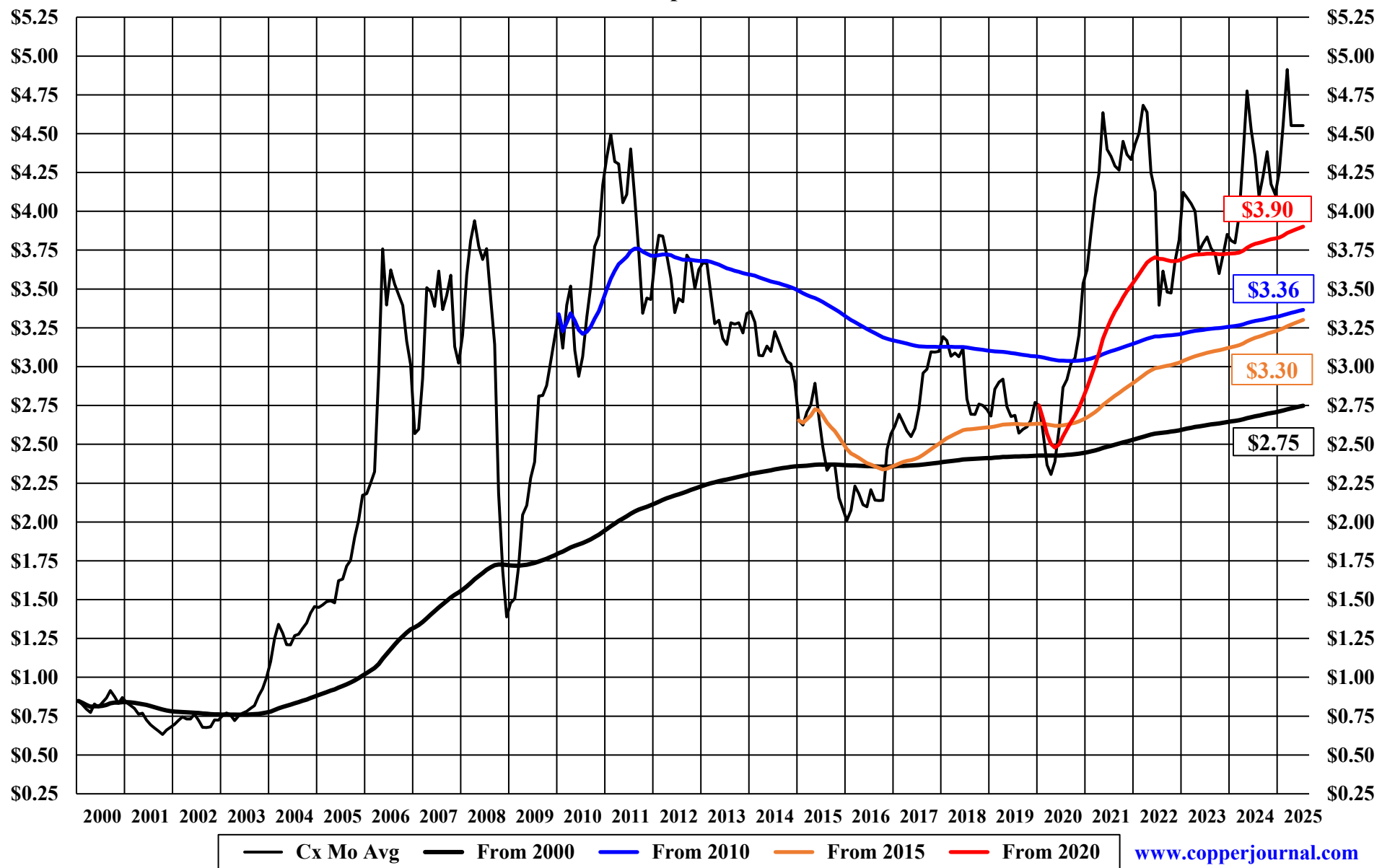
Elliott Wave Theory: 5 Wave Pattern 3 Waves In Direction Of Main Trend 2 Counter Or Corrective Waves

The Copper Journal
Comex Spot Copper Weekly
At Close 4/18/2025



The Copper Journal
Comex Copper
Regression To The Mean
2000 - April 17, 2025

Regression Looks Back -
Pivot Points Look Ahead -
Neither One Tells Us
When They Will Be Hit



The Copper Journal

Comex Spot Copper

Pivot Points

Objective	Wk Ending	Up	Down		Close	High	Low
412	1/3/25				40395	41010	39670
	1/10/25	2350	0	2350	42745	43305	40240
423	1/17/25	630	0	630	43375	44390	42435
	1/24/25	0	(475)	(475)	42900	43580	42065
	1/31/25	0	(280)	(280)	42620	43260	41795
464	2/7/25	3195	0	3195	45815	46005	41720
456	2/14/25	750	0	750	46565	48285	45345
	2/21/25	0	(965)	(965)	45600	46320	45325
513	2/28/25	0	(455)	(455)	45145	47050	44745
	3/7/25	1685	0	1685	46830	48230	44895
	3/14/25	1865	0	1865	48695	49310	46000
	3/21/25	2180	0	2180	50875	51215	48495
499	3/28/25	250	0	250	51125	53470	50445
	4/4/25	0	(7280)	(7280)	43845	51320	43545
489	4/11/25	1230	0	1230	45075	45495	40130
	4/18/25	2240	0	2240	47315	47430	45025

Objective
Achieved

Phantom

At Close of 4/18/2025

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Low 40130
Plus High 53470
Minus Low 44745
= Objective 48900

High 53470
Plus Low 44745
Minus High 48285
= Objective 49900

The Copper Journal

Comex Copper

Pivot Points Weekly

At Close 4/18/2025

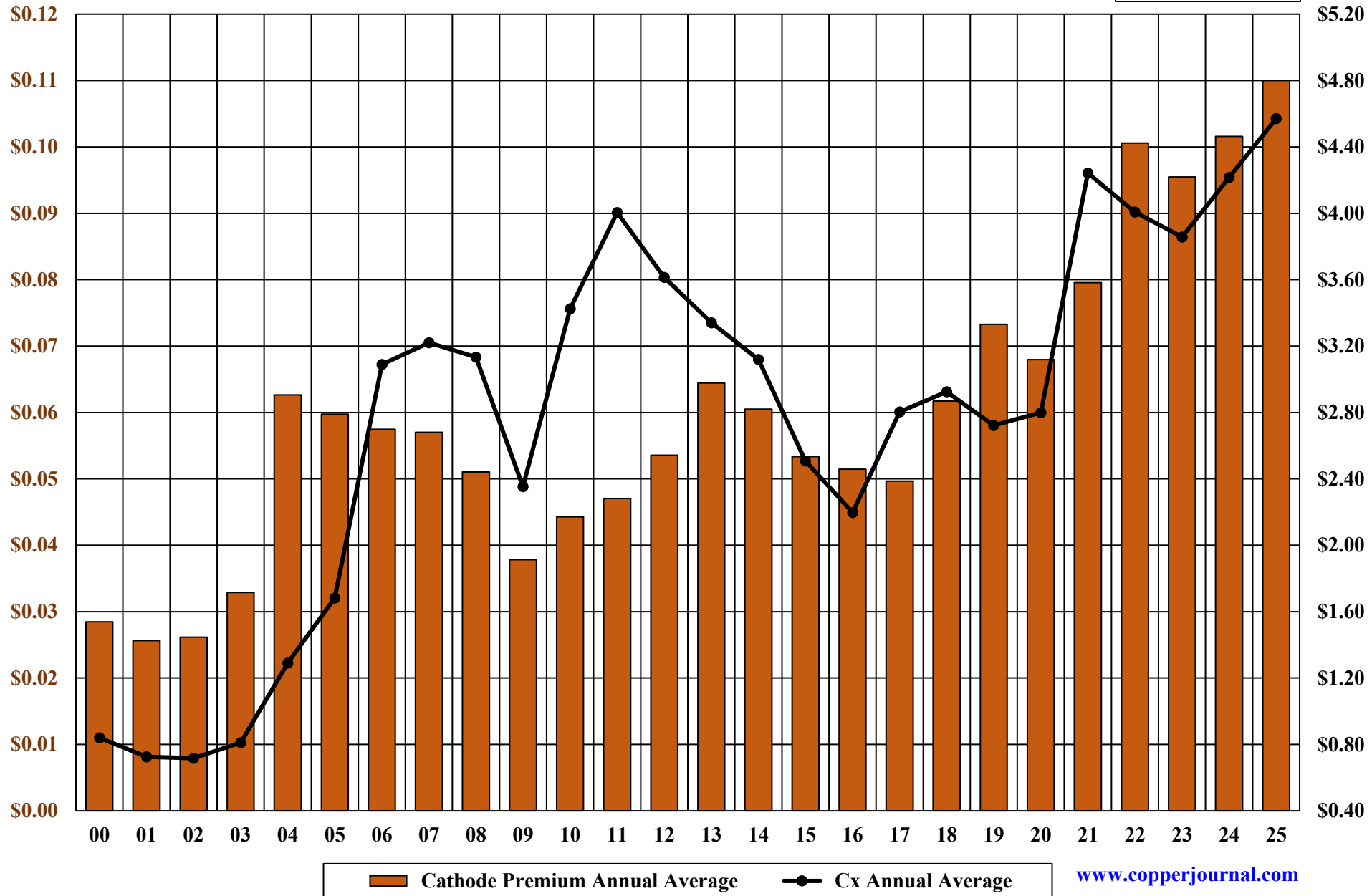
Wk Close	Date	Up Target	Wk Filled	Wk Close	Date	Down Target	Wk Filled
\$4.30	6/25/21	\$5.13	5/17/24	\$3.68	8/12/22	\$2.31	
\$4.35	11/5/21	\$5.05	5/17/24	\$3.41	10/7/22	\$3.17	
\$4.73	3/18/22	\$5.07	5/17/24	\$3.95	11/11/22	\$3.45	
\$3.91	1/6/23	\$4.42	4/19/24	\$3.76	12/16/22	\$3.48	
\$4.03	2/10/23	\$4.64	5/3/24	\$3.80	6/23/23	\$3.50	
\$3.91	3/17/23	\$4.48	4/19/24	\$3.84	8/4/23	\$3.35	
\$4.03	4/7/23	\$4.26	4/12/24	\$3.81	9/1/23	\$3.48	
\$3.87	4/28/23	\$4.04	3/15/24	\$3.88	12/29/23	\$3.45	
\$3.74	6/30/23	\$4.08	3/15/24	\$3.82	2/2/24	\$3.70	2/9/24
\$3.63	10/27/23	\$3.97	3/15/24	\$3.88	2/23/24	\$3.61	
\$3.79	1/19/24	\$3.96	3/15/24	\$4.49	6/21/24	\$3.86	
\$3.68	2/9/24	\$3.88	2/23/24	\$4.66	7/5/24	\$4.38	7/19/24
\$3.68	2/9/24	\$4.11	3/15/24	\$4.66	7/5/24	\$3.80	
\$4.00	3/22/24	\$4.05	4/5/24	\$4.15	8/30/24	\$3.44	
\$4.00	3/28/24	\$4.30	4/12/24	\$4.29	11/8/24	\$3.98	
\$4.78	5/24/24	\$5.02	3/21/25	\$4.15	12/13/24	\$3.99	
\$4.78	5/24/24	\$4.91	5/31/24	\$4.15	12/13/25	\$3.55	
\$4.55	6/14/24	\$5.69		\$4.52	10/4/24	\$3.93	
\$4.39	6/28/24	\$4.49	7/5/24	\$4.52	10/4/24	\$4.46	10/11/24
\$3.98	8/9/24	\$4.30	9/20/24	\$4.34	1/17/25	\$4.23	1/24/25
\$3.98	8/9/24	\$5.45		\$4.65	2/14/25	\$4.56	2/21/25
\$4.01	9/6/24	\$4.32	9/20/24	\$5.11	3/28/25	\$4.99	4/4/25
\$4.35	10/18/24	\$5.00	3/21/25				
\$4.05	11/15/24	\$4.21	12/13/24				
\$4.05	11/15/24	\$4.82	2/14/25				
\$4.08	11/29/24	\$4.34	1/17/25				
\$4.04	12/20/24	\$4.27	1/10/25				
\$4.04	1/3/25	\$4.12	1/10/25				
\$4.04	1/3/25	\$4.25	1/10/25				
\$4.58	2/7/25	\$4.64	2/14/25				
\$4.51	2/28/25	\$5.13	3/28/25				
\$4.73	4/11/25	\$4.89					

> \$5.00

www.copperjournal.com

The Copper Journal
Spot Comex Copper & Cathode Premium
2000 - March 2025

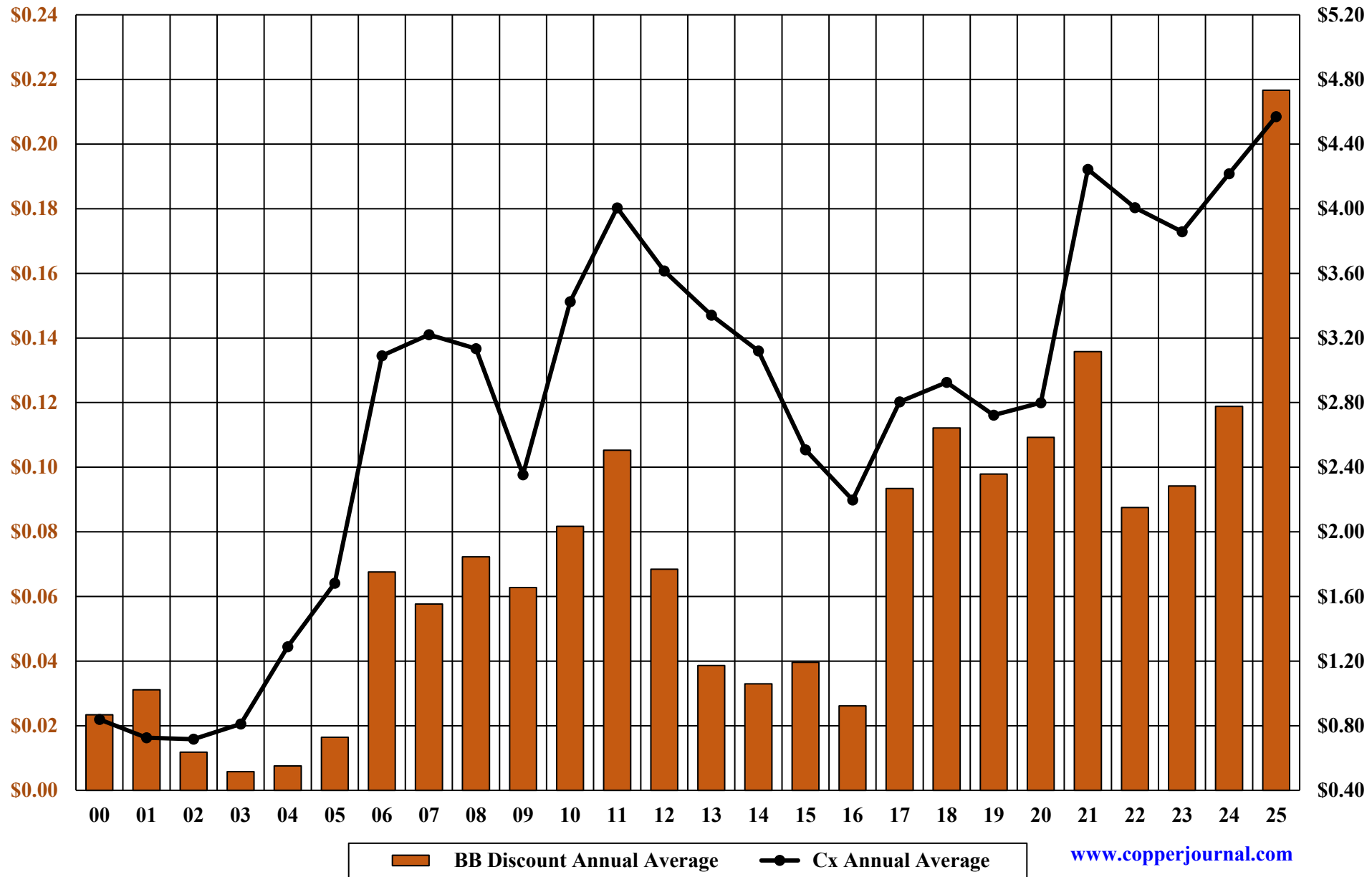
\$4.57 YTD AVG



The Copper Journal

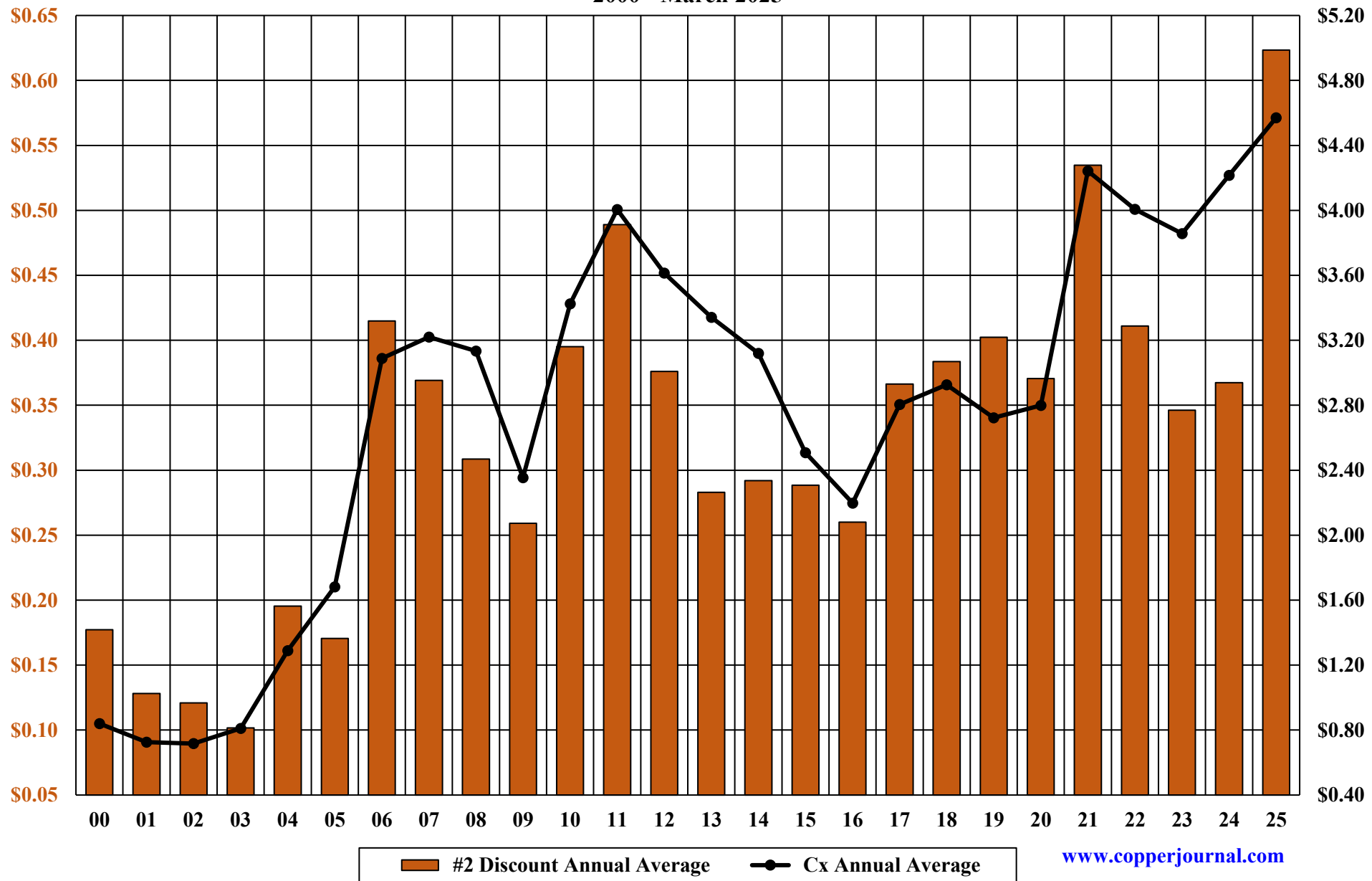
Spot Comex Copper & Bare Bright Scrap Discount From Comex

2000 - March 2025

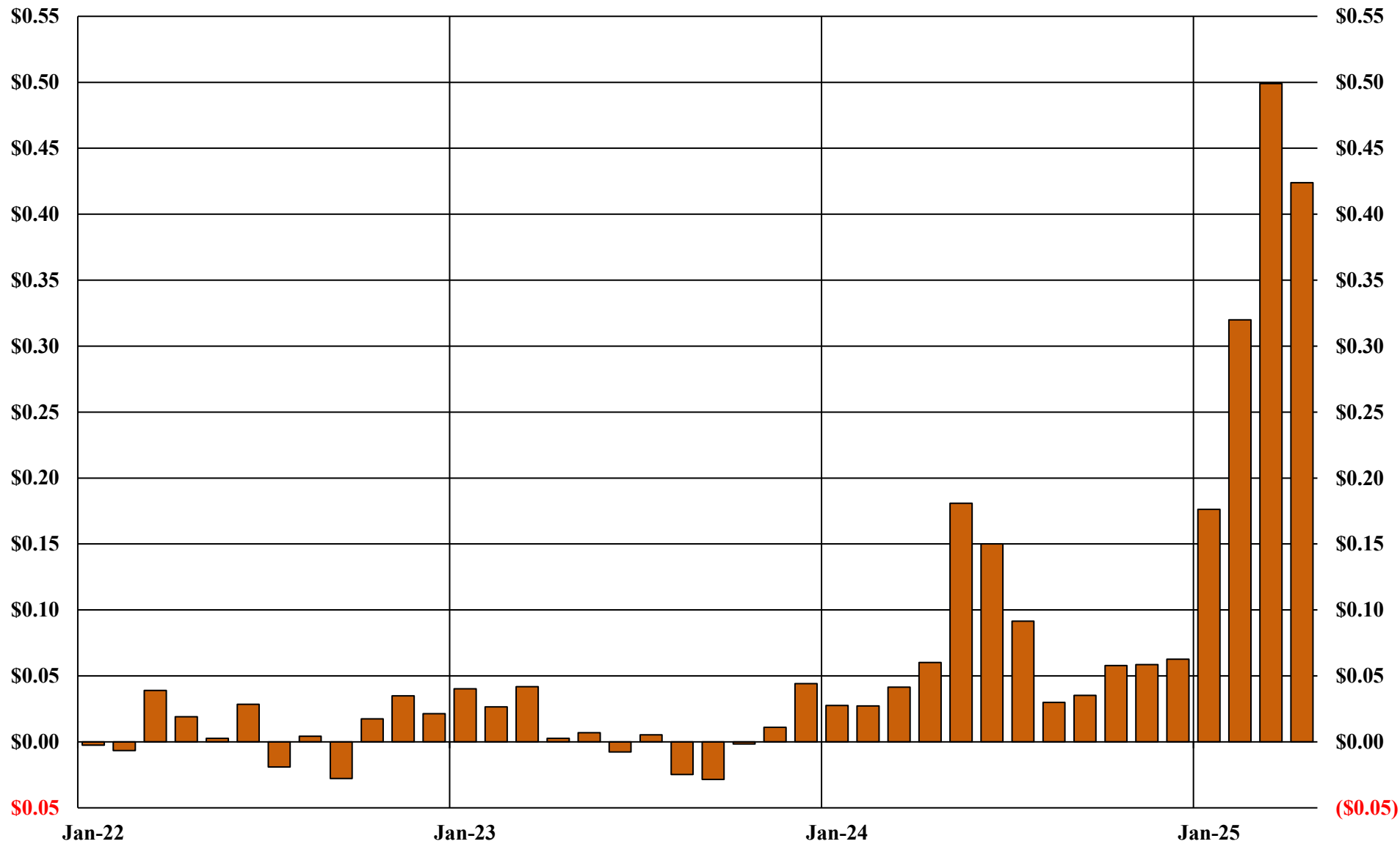


The Copper Journal

Comex Copper & No. 2 Scrap Discount From Comex 2000 - March 2025

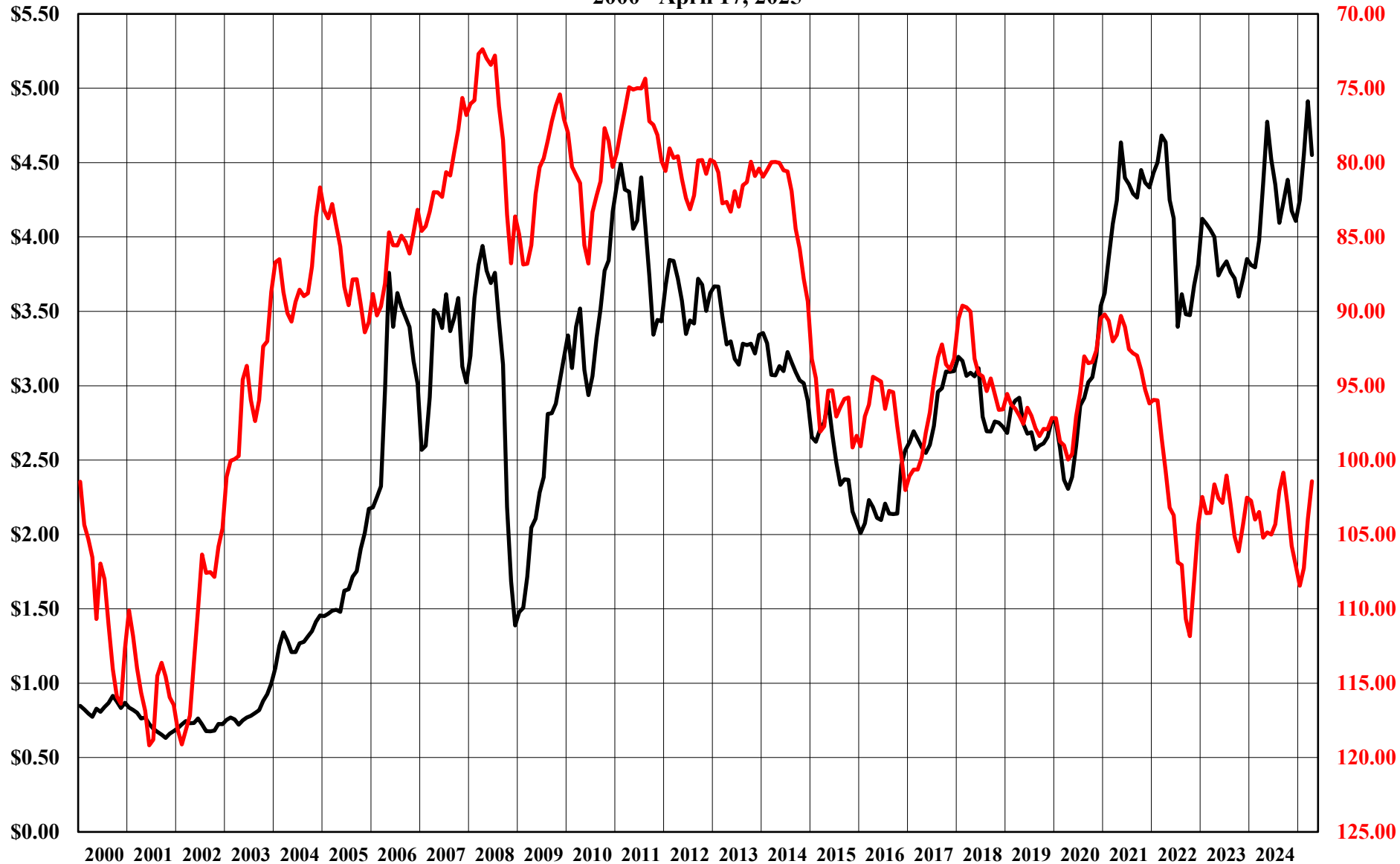


The Copper Journal
Comex Spot Copper > LME Cash Copper
Monthly Average
At Close 4/17/2025



■ Cx > LME \$/Lb.

The Copper Journal
Comex Spot Copper Vs ICE U.S. \$ Index
Monthly Average Price
2000 - April 17, 2025



— Copper \$/Lb — ICE U.S. \$ Index

The Copper Journal
Comex Spot Copper
Annual Average Price

2024 Average \$4.22
2025 Forecast \$4.25 - \$4.60



American Copper Council

50th Anniversary Celebration

Spring 2025 Meeting

April 22 – 25, 2025

The Joseph Hotel

Nashville, Tennessee

Copper Outlook Presentation

John E Gross