

International Zinc Association's  
“Zinc Market Economics”,  
April 6<sup>th</sup>, 2022 in St. Pete Beach FL.

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Market Intelligence Manager.

# This Is Not Investment Advice, I'm Not That Smart

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Zinc: Its Not Just A Metal  
Anymore, But A Risk Asset

- In The Chart We Can See That Since The COVID Crisis, Zinc Has Traded Like The Stock Market.
- This All Changed With The EU Energy Crisis, And Ukraine War. Zinc Has Since Outperformed The S&P 500

Since The Energy Crisis Started In September Of 2021, The Price Of Zinc Has Outperformed The S&P 500.

Zinc +35% Versus The S&P 500's +7%.....

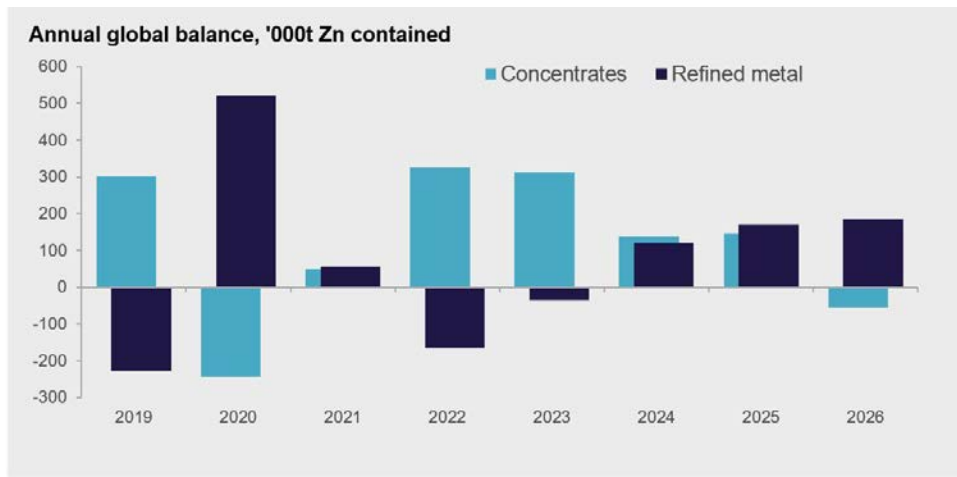


# When Will Supply And Demand Align Again?

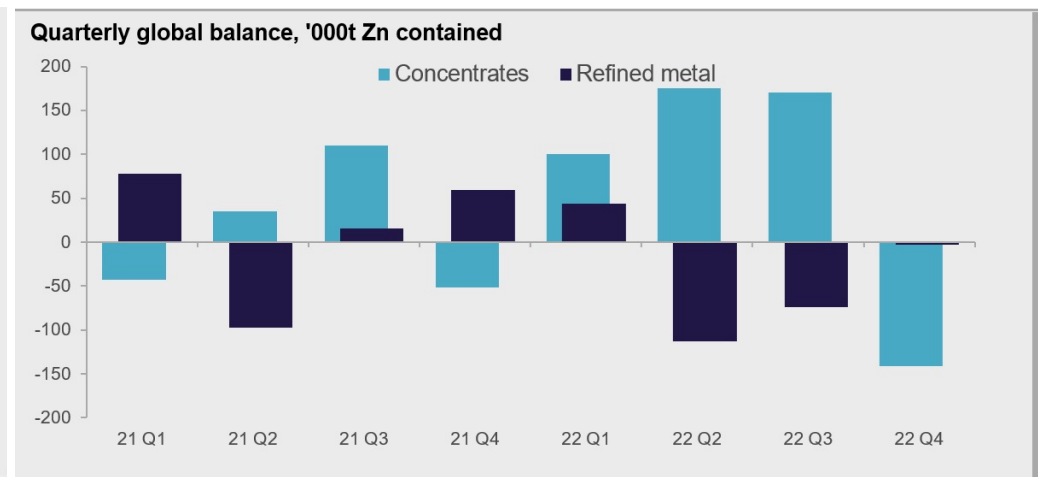
- For The Past 7-Months, Both The Supply And The Demand For Zinc Have Fallen.
- No Ones Estimates Had Anticipated This. So It Has Been Difficult To Predict And Adjust To.
- Supplies Have Been Hindered By Energy Policies In Europe And Asia.
- Demand Has Been Hindered By Auto Sector Supply Chain Problems.

# S&D Estimates Are Guesses

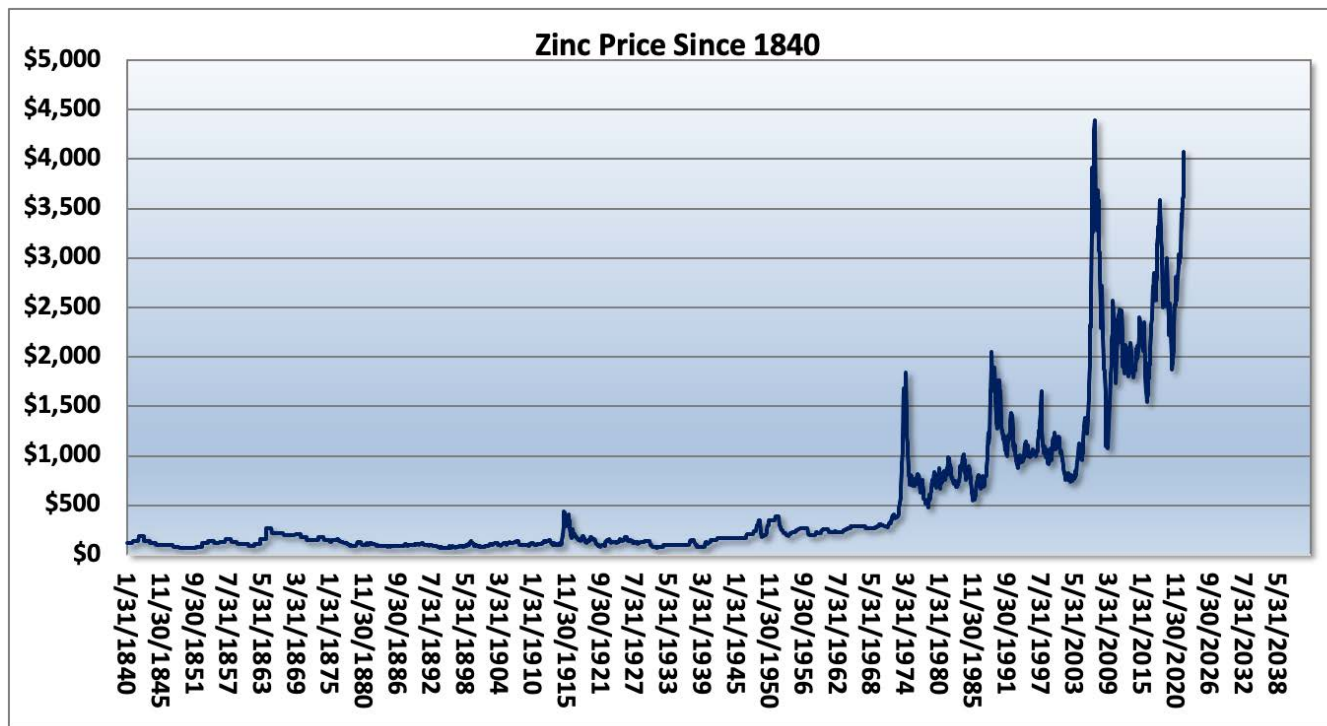
- CRU's Estimates For Global Zinc Supply & Demand Show Deficits For 2022 And 2023. Then A Surplus Starting In 2024.



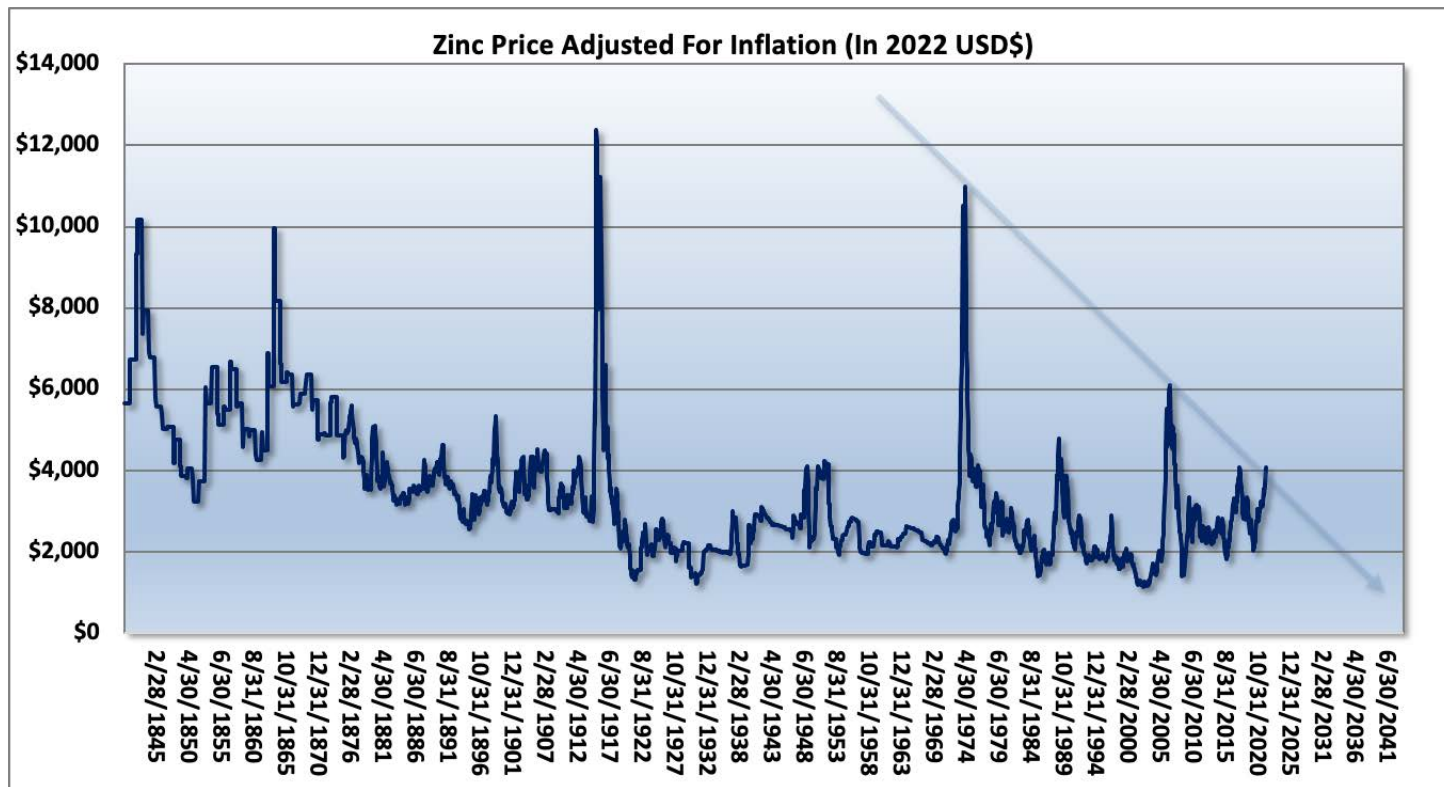
DATA: CRU



## Zinc Price Action: Since 1840



## Zinc Price Action: Inflation Adjusted (“Real Price”)





## Zinc Price Action: Current Break-Out



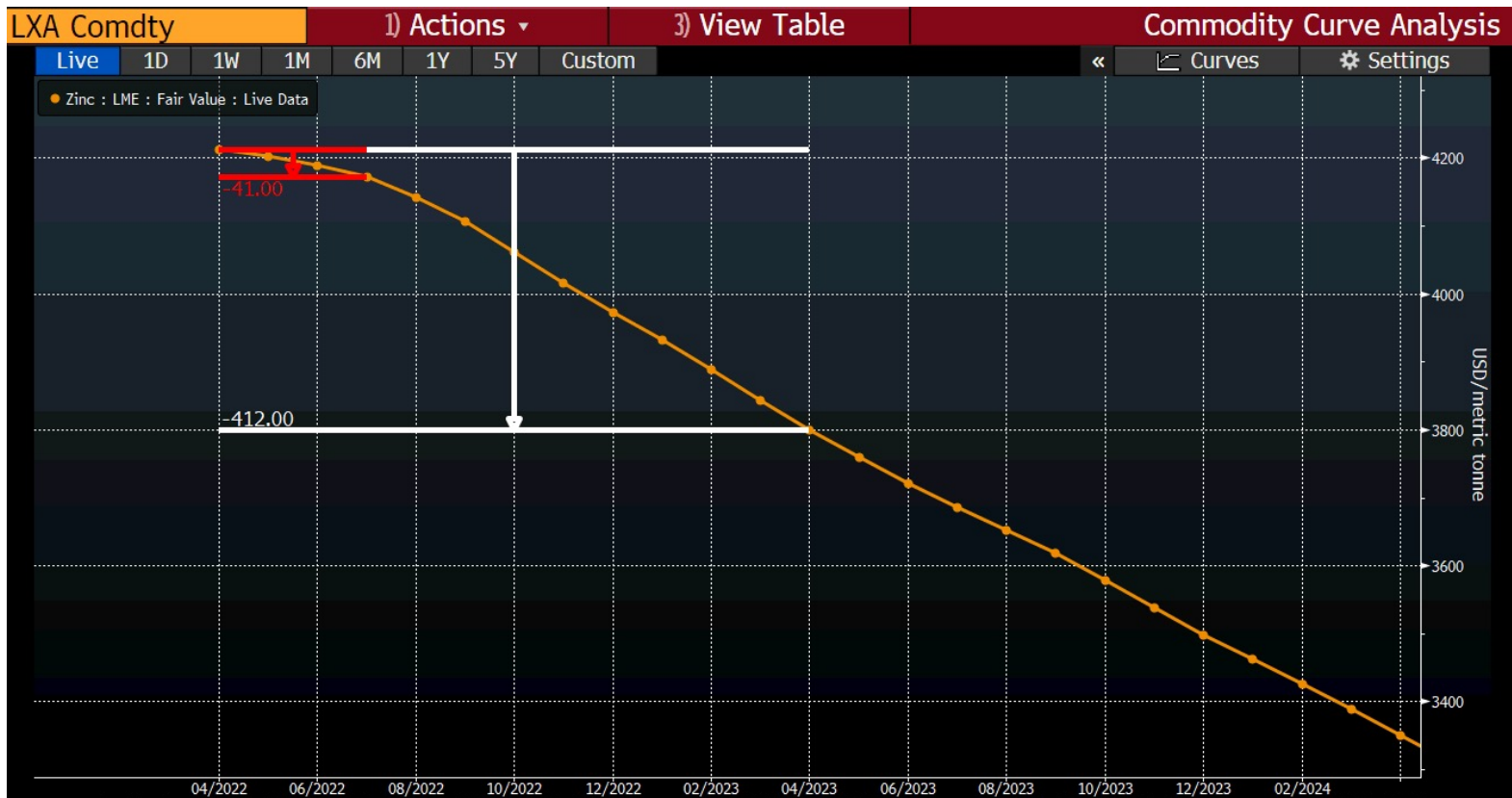
## Zinc Price Action: Typical Bull Market Foot-Print



# Zinc Price Action: Current Market Trend



# Fundamentals Of Futures: Price Curve



# Fundamentals Of Futures: LME Stocks

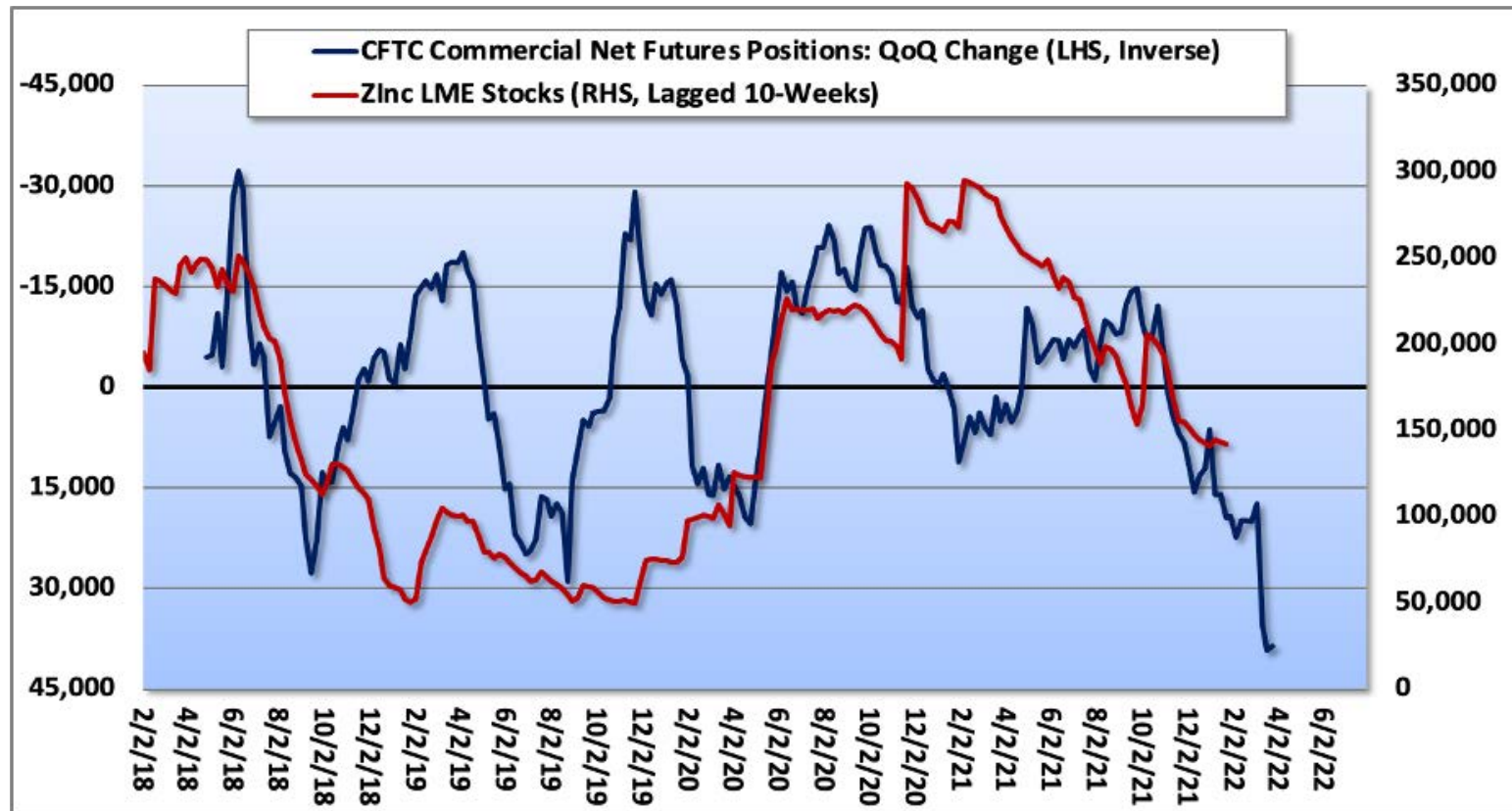




# Fundamentals Of Futures: COT Positioning



# Fundamentals Of Futures: COT Velocity



# Bull Market Signals

- **1). The Trendline. The Trend Is Your Friend**
- **2). 50-Day & 100-Day Moving Averages**
- **3). LME Warehouse Stocks Keep Dropping**
- **4). Commercials Keep Getting Longer, Not Making Physical Delivery To LME Warehouses.**

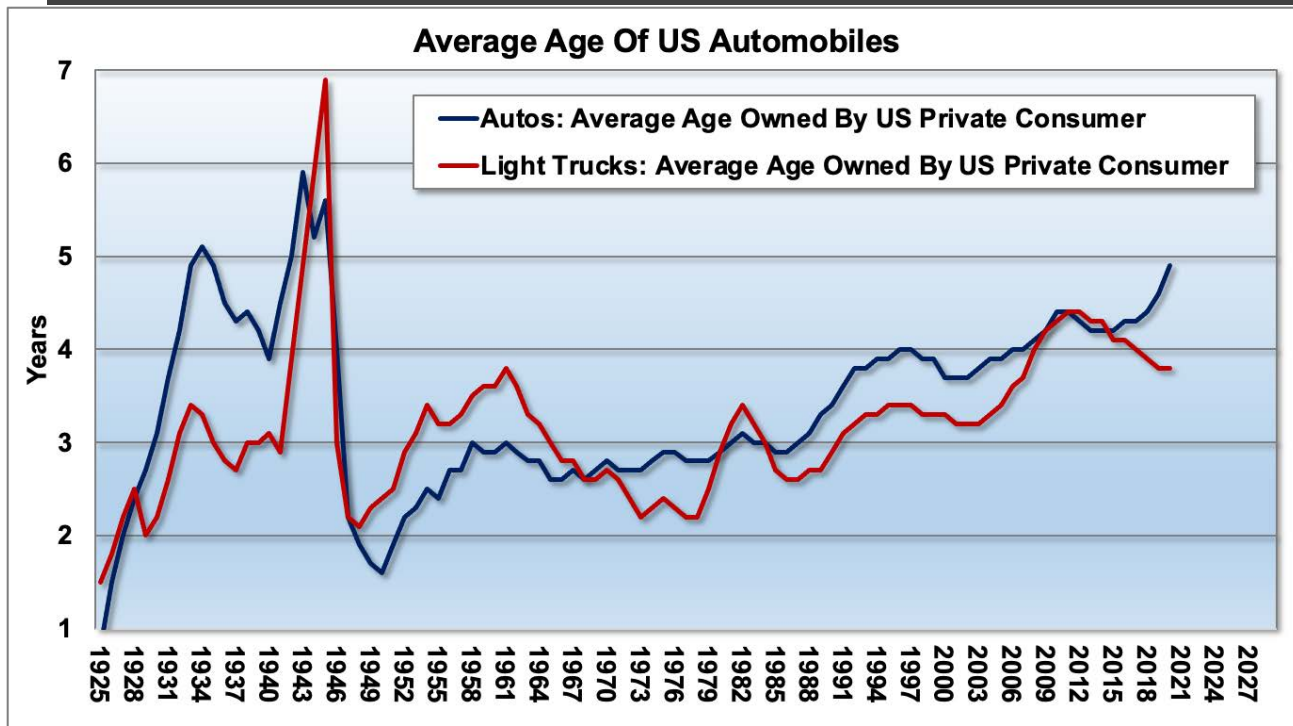


## Secular Pent-Up Demand For Zinc: The Big Picture

- Automotive
- China
- &
- Infrastructure

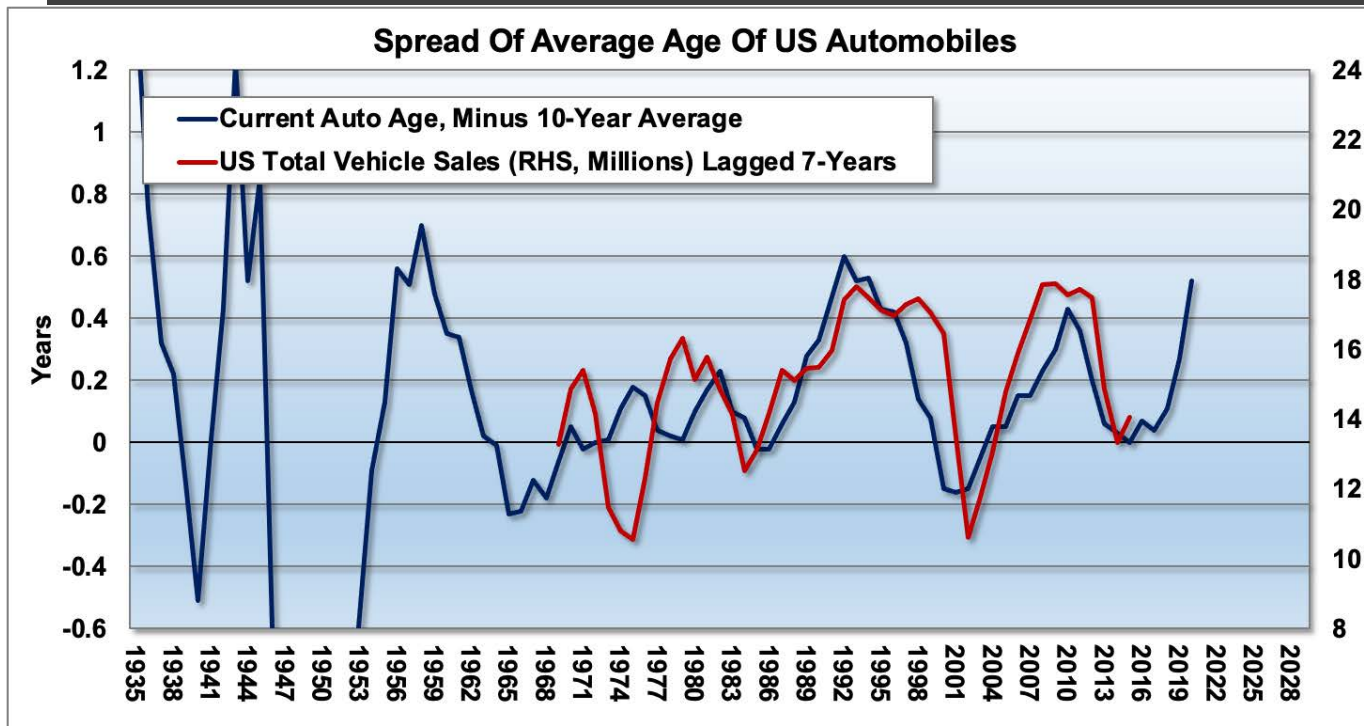


# US Automotive Demand Is Set To Explode



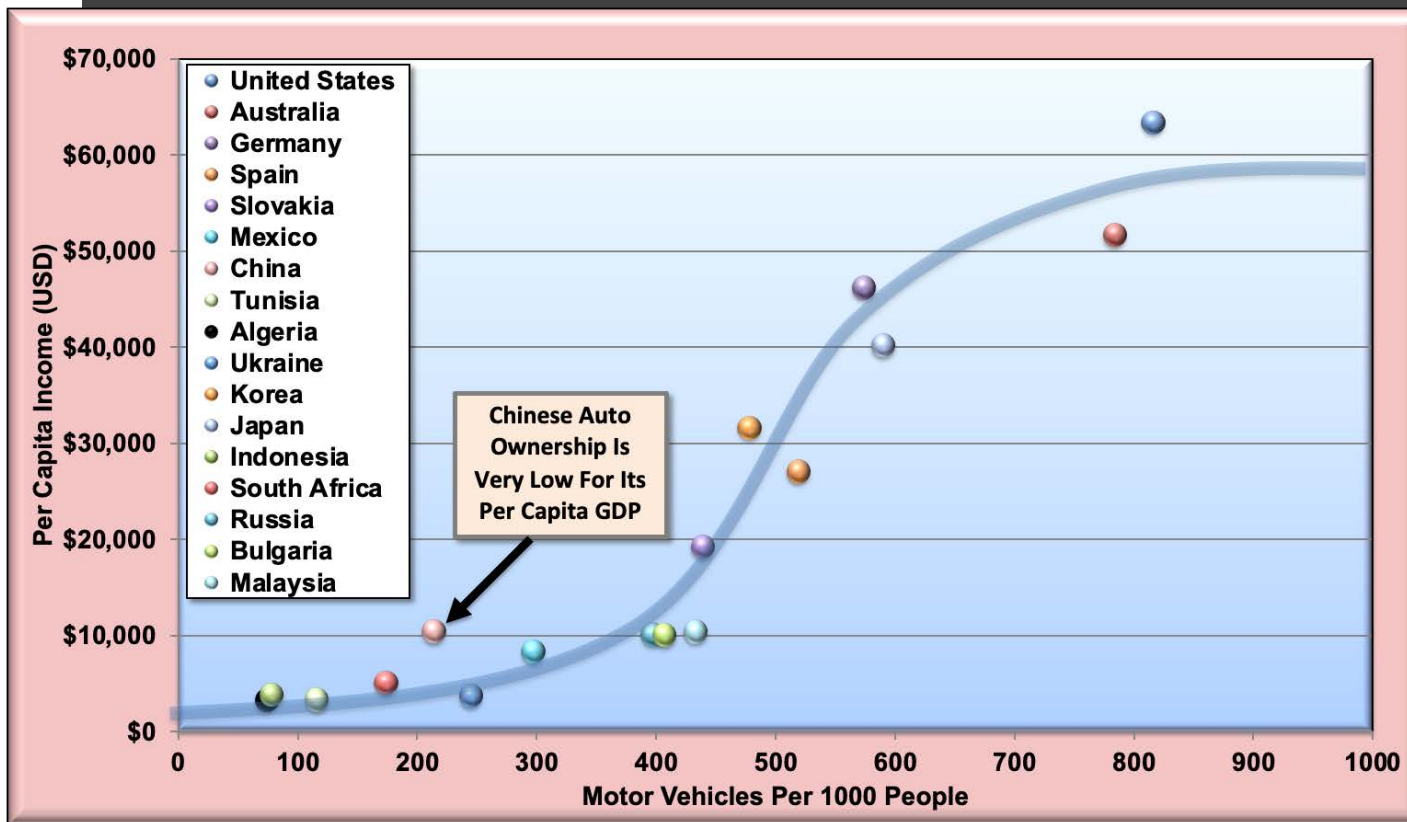
**US Auto Fleet  
Is At Its Oldest  
Since WWII.**

# US Automotive Demand Is Set To Explode



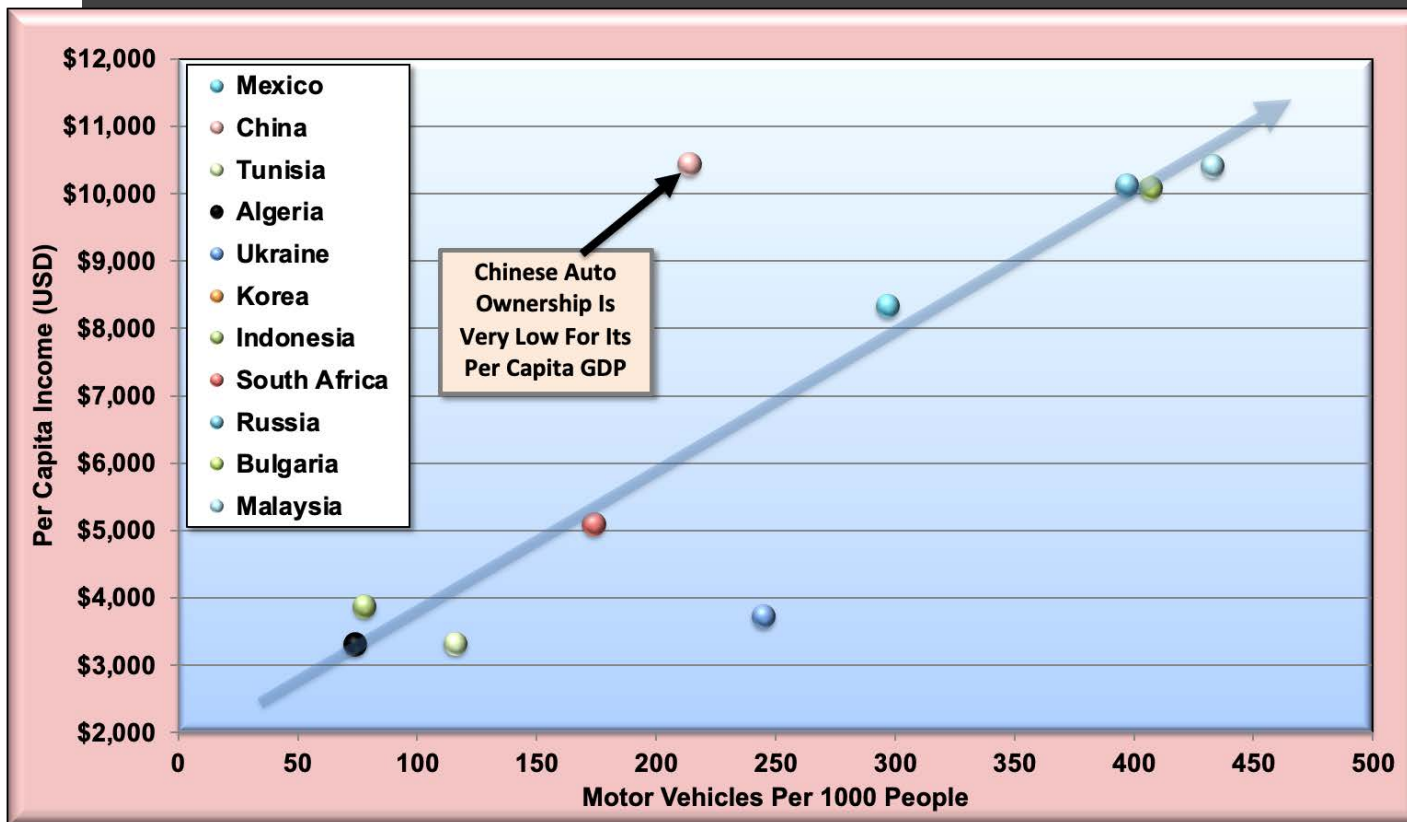
**US Auto  
Demand Is Set  
To Explode  
Higher For  
Next 7-Years.**

# Chinese Automotive Demand Set To Explode



**At A \$10,000 Per Capita Income, China Should Be Driving 2x As Many Cars.**

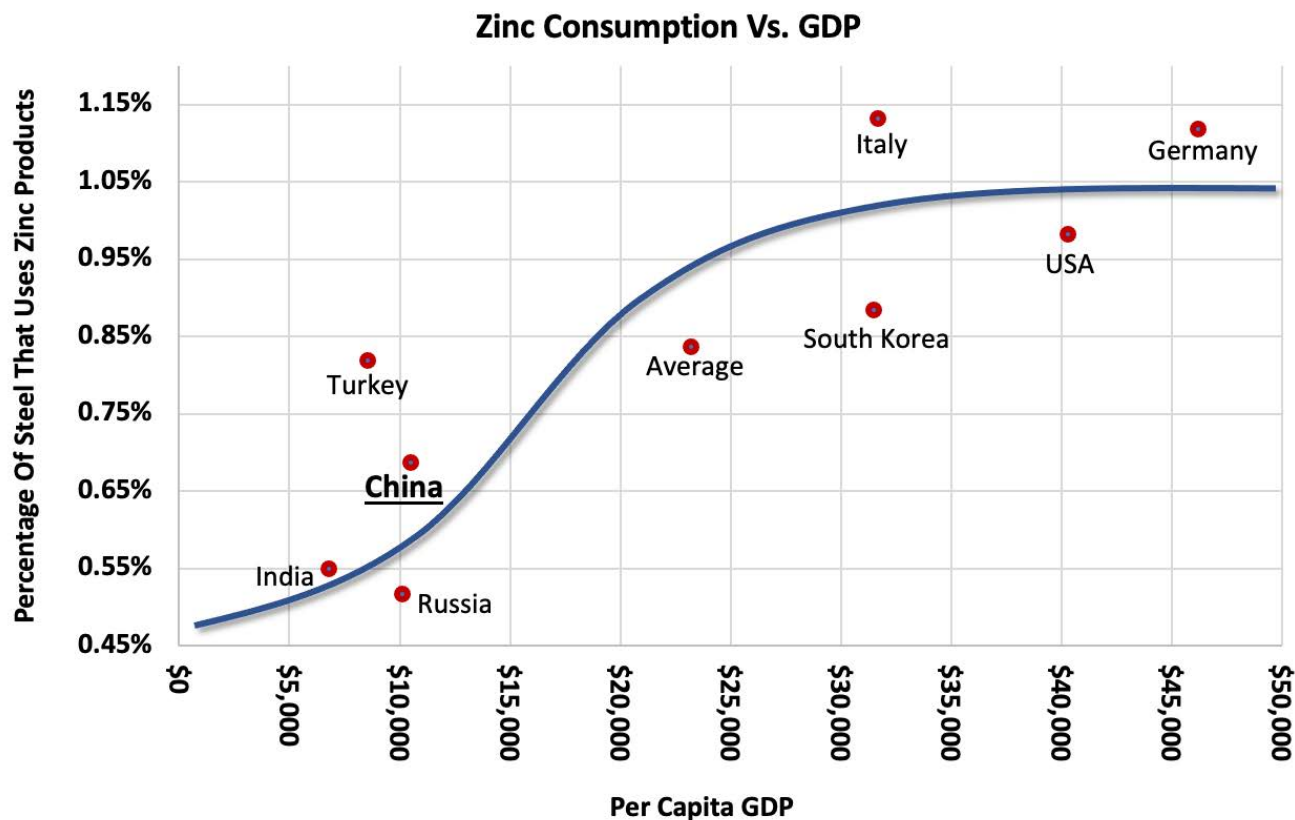
# Chinese Automotive Demand Set To Explode



**Zooming In, It Is  
Clear That China  
Also Has Large  
Pent Up Demand  
For Cars**



# Indian & Chinese Zinc Intensity Set To Rise



**Indian And Chinese Economic Growth Means A Higher Intensity Of Zinc In Their Steel Products.**

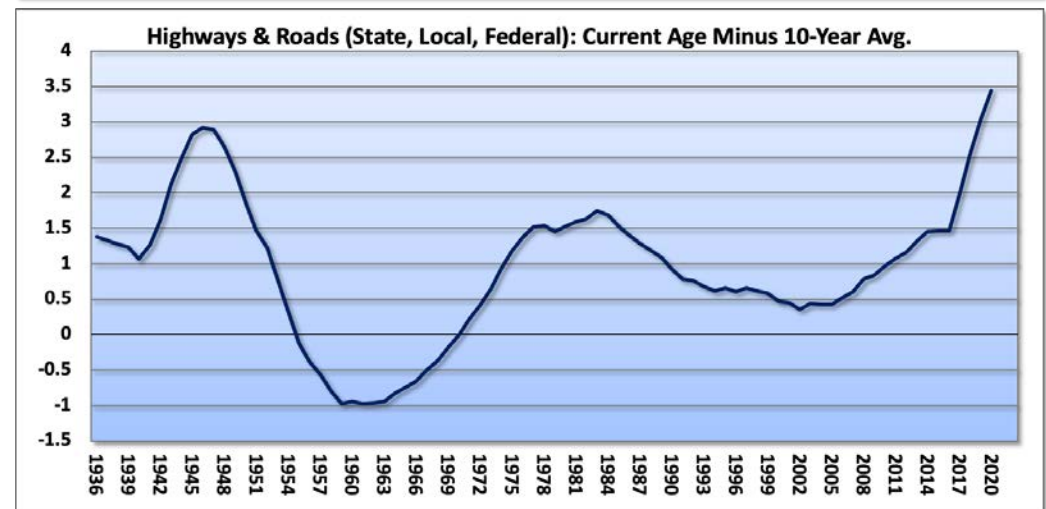
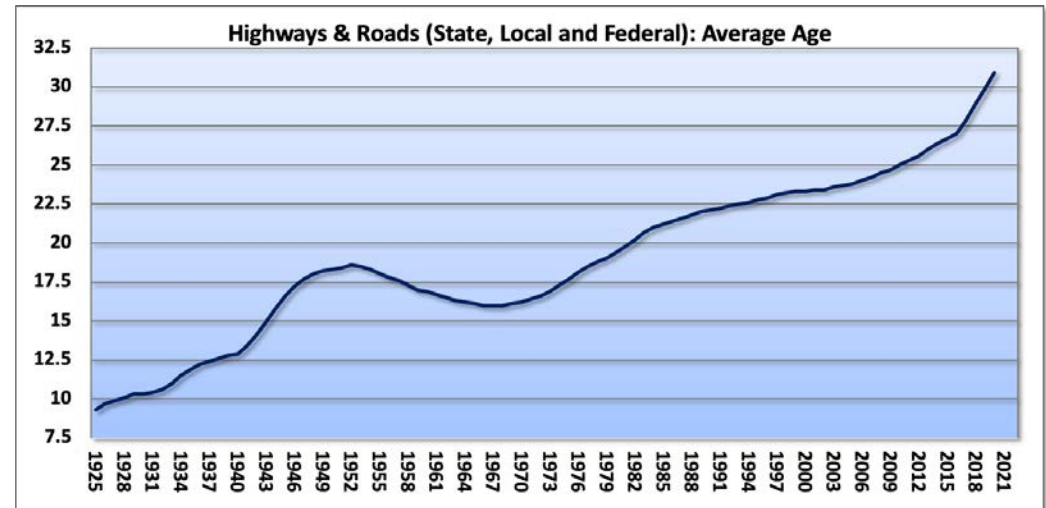


# US Infrastructure Spending Is Set To Rise

- Biden Infrastructure Bill Came Right In Time!
- US Has Aged Infrastructure
- US Government To Spend >\$1,000,000,000,000 (\$1-Trillion)

Highways &  
Roads Are At  
Their Oldest Ever.

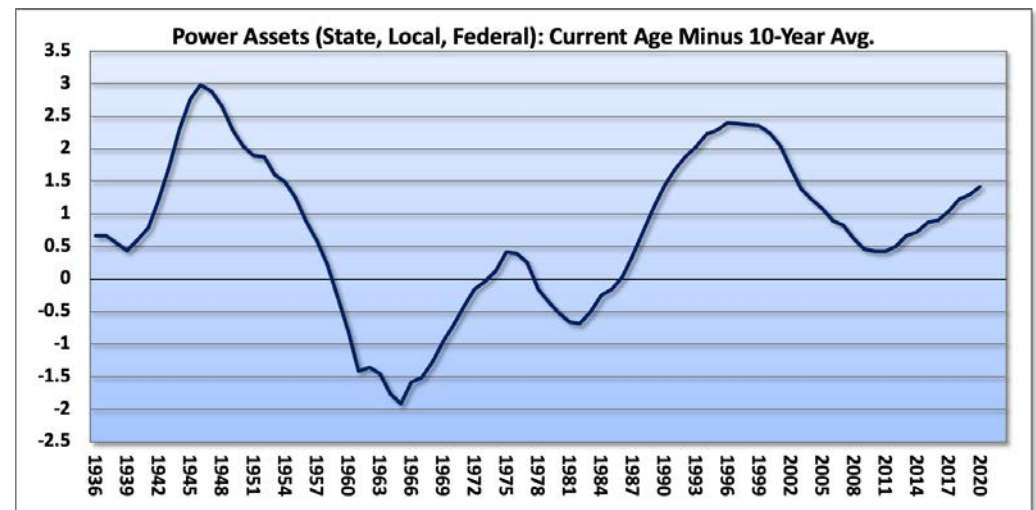
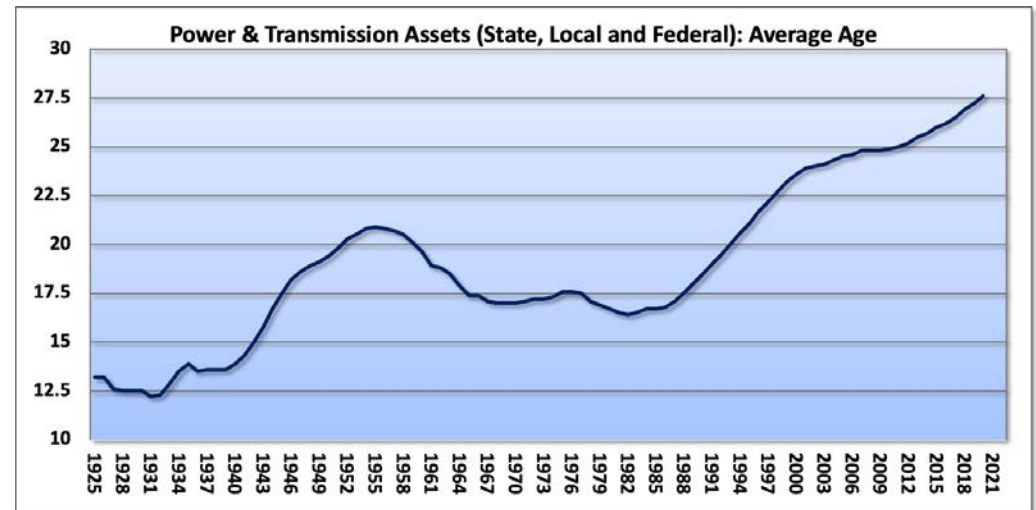
The Last Decade  
Has Seen The  
Lowest Amounts  
Of Investment  
Ever.





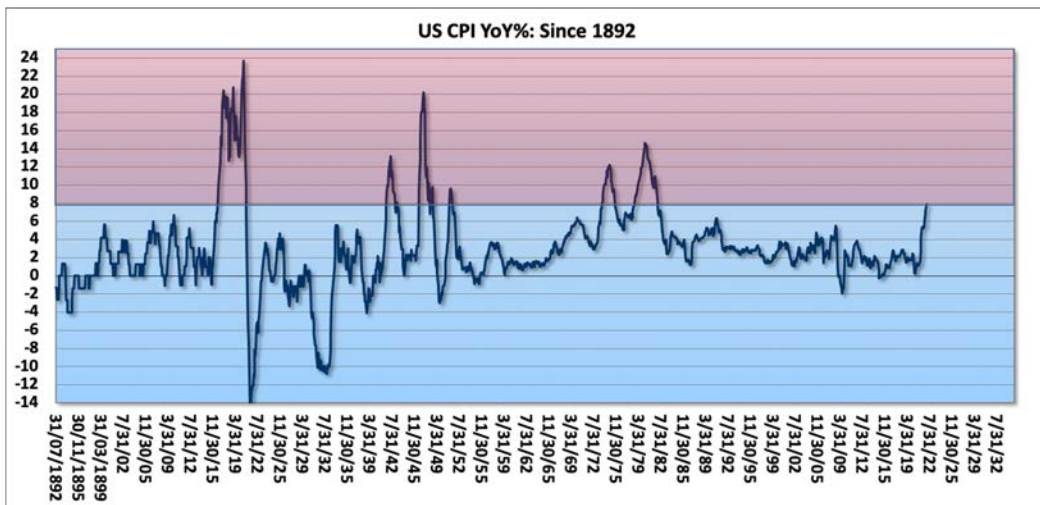
Power &  
Transmission  
Assets Are Also  
Aging.

This Segment Will  
Also Get A Boost  
From The  
Infrastructure Bill.



# Bullish Tailwinds For Zinc

- **While The World Frets Over High Inflation And War, Zinc Has Performed Very Well.**
- **Zinc Tends To Perform Well During Periods Of High Inflation.**
- **The War Dividend Has Helped All Commodities To Get Bid Up On The Back Of High Energy Prices.**



>8% CPI Is A  
Bullish Tailwind  
For Zinc.....

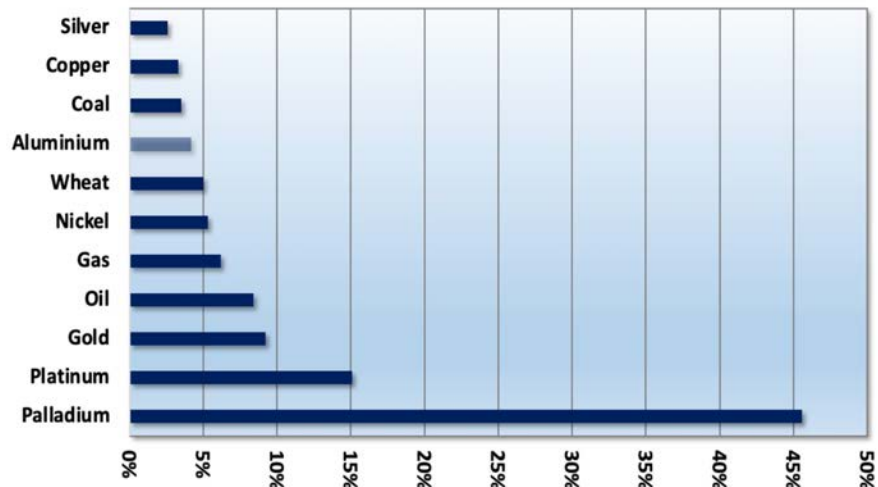
Date That US CPI Rose Above 8%	Zinc Price	Zinc Price Cumulative Change From The Point That Inflation Broke Above +8%									
		Month-1	Month-2	Month-3	Month-6	Month-9	Month-12	Month-18	Month-24	Month-30	Month-36
September Of 1916	182.50	13.7	42.5	4.1	15.1	-1.4	-11.0	-23.3	0.3	-32.1	-23.3
October Of 1941	165.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
July Of 1946	165.00	0.0	0.0	12.1	27.3	27.3	27.3	45.5	81.8	112.1	21.2
February Of 1951	350.00	0.0	0.0	0.0	0.0	11.4	11.4	-20.0	-35.7	-37.1	-47.1
October Of 1973	1182.90	42.4	10.7	6.9	55.8	-5.2	-32.1	-36.0	-37.2	-30.8	-46.7
September Of 1978	672.90	12.6	3.9	7.8	24.9	13.3	19.6	-1.2	22.0	23.4	36.6
Median Returns		6.32	1.94	5.52	19.98	5.71	5.71	-10.59	0.14	-15.38	-11.64
Average Returns		11.47	9.51	5.16	20.50	7.56	2.54	-5.83	5.19	5.92	-9.88
Period Point Change			-1.95	-4.35	15.34	-12.94	-5.02	-8.37	11.02	0.73	-15.81
Probability Of Rise		100.00%	100.00%	100.00%	100.00%	67.00%	67.00%	33.33%	67.00%	50.00%	50.00%

Date That US CPI Rose Above 8%	Zinc To S&P Ratio	Zinc Vs. S&P Cumulative Change From The Point That Inflation Broke Above +8%									
		Month-1	Month-2	Month-3	Month-6	Month-9	Month-12	Month-18	Month-24	Month-30	Month-36
September Of 1916	18.85	10.3	35.1	2.8	19.6	5.6	6.1	3.6	28.9	-18.7	-16.9
October Of 1941	17.35	4.4	9.4	7.9	24.1	11.1	0.9	-18.0	-20.2	-19.9	-25.6
July Of 1946	9.19	7.9	20.0	35.6	46.0	56.7	45.0	77.7	106.1	150.2	44.6
February Of 1951	16.06	1.9	-2.8	1.3	-6.4	6.2	4.4	-30.4	-45.9	-41.3	-56.0
October Of 1973	10.92	60.7	22.9	19.9	86.8	29.4	-0.6	-20.6	-23.7	-26.2	-43.9
September Of 1978	6.56	24.0	12.5	15.0	26.1	12.9	12.2	-0.7	-0.3	-7.0	20.6
Median Returns		9.07	16.26	11.47	25.10	11.97	5.28	-9.35	-10.26	-19.32	-21.27
Average Returns		18.20	16.18	13.77	32.71	20.31	11.35	1.95	7.49	6.18	-12.87
Period Point Change			-2.02	-2.42	18.94	-12.40	-8.95	-9.40	5.53	-1.31	-19.05
Probability Of Rise		100.00%	83.33%	100.00%	83.33%	100.00%	100.00%	50.00%	33.33%	16.67%	33.33%

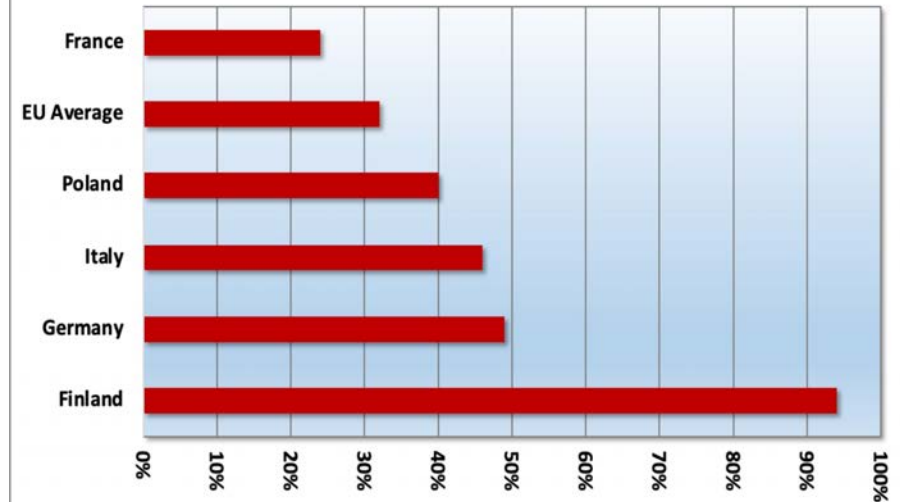
Even Though It  
Is Bearish For  
The Stock  
Market!

# War And Sanctions Are Bullish Zinc

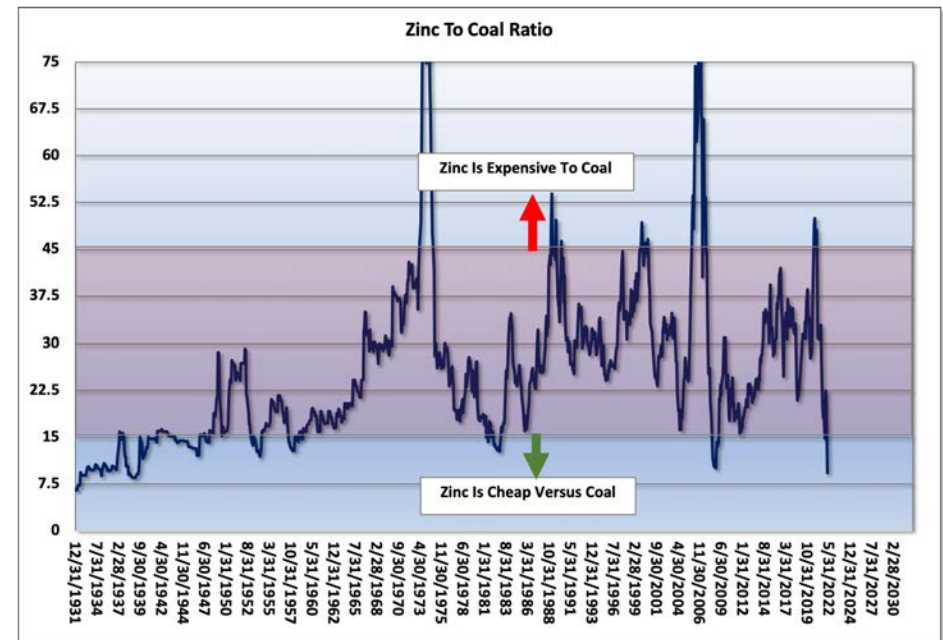
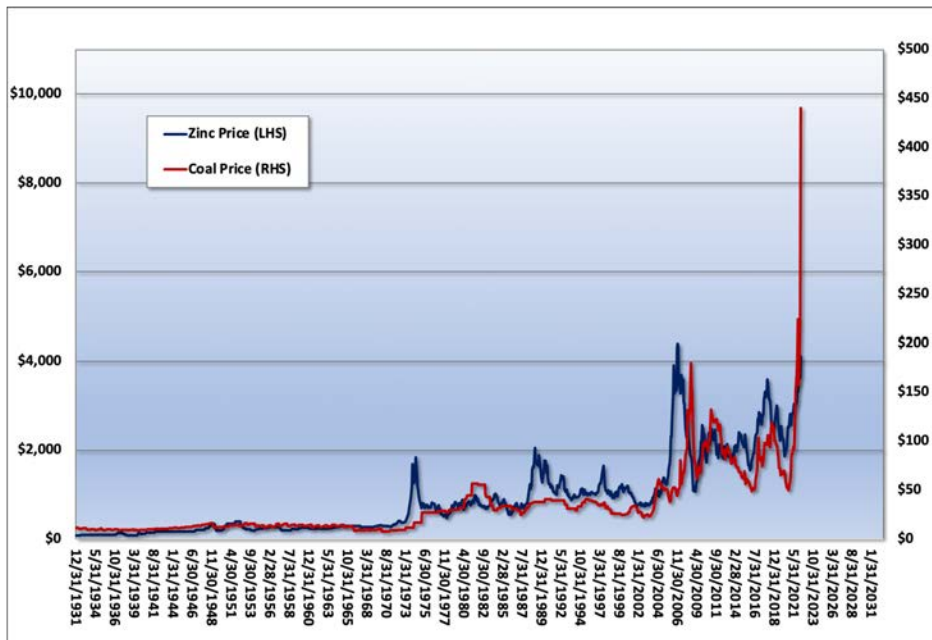
Russian Exports As A % Of Global Production: JPMorgan



Share Of Gas Consumption From Russia: Bloomberg



# War And Sanctions Are Bullish Energy



# Zinc Outperforms Aluminum

Date That The Zinc To Coal Ratio Dropped <15, From >20	Zinc To Aluminum Ratio	Zinc Cumulative Performance Vs. Aluminum After The Zinc to Coal Ratio Drops Below 15											
		Month-1	Month-2	Month-3	Month-4	Month-5	Month-6	Month-7	Month-8	Month-9	Month-10	Month-11	Month-12
January Of 1948	80.00%	0.0	0.0	0.0	0.0	0.0	25.0	25.0	25.0	29.2	45.8	45.8	45.8
April Of 1953	53.66%	0.0	0.0	-4.7	-4.7	-13.3	-13.3	-13.3	-13.3	-17.7	-19.8	-11.2	-11.2
April Of 1954	47.67%	2.4	7.3	7.3	3.9	8.7	8.7	8.7	8.7	4.0	4.0	4.0	8.5
April Of 1958	41.67%	0.0	0.0	0.0	-2.8	-2.8	6.9	11.7	11.7	11.7	6.9	6.9	6.9
October Of 1958	44.53%	4.5	4.5	4.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	9.1	13.6
April Of 1959	44.53%	0.0	0.0	0.0	0.0	9.1	13.6	13.6	8.0	12.3	12.3	12.3	12.3
May Of 1981	57.61%	-7.8	5.7	13.0	5.0	11.4	-3.1	3.2	0.2	-8.8	-12.9	-10.8	-14.5
December Of 1982	45.36%	4.2	-0.7	3.1	6.7	8.8	7.5	15.9	28.6	21.8	36.5	19.4	23.4
March Of 2009	95.61%	-5.9	11.8	1.5	-2.4	1.6	7.4	22.1	14.5	22.0	24.7	7.1	7.4
November Of 2021	125.55%	0.3	-6.5	-9.9	-13.1								
Median Returns		0.0	0.0	1.5	0.0	1.6	7.4	11.7	8.7	11.7	6.9	7.1	8.5
Average Returns		-0.3	3.2	2.8	0.6	2.6	5.8	9.7	9.3	8.3	10.8	9.2	10.2
Period Point Change			3.5	-0.4	-2.1	2.0	3.2	3.8	-0.4	-1.0	2.6	-1.7	1.1
Probability Of Outperformance		77.77%	88.88%	88.88%	66.66%	77.77%	77.77%	88.88%	88.88%	77.77%	77.77%	77.77%	77.77%



# Bulls Vs. Bears: Shift In Sentiment Is Very Close

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*“Even If We Were Bound To Do So, We Should Have Said Nothing About It. The Moment It Is Known That We Have Given Up The Game, Every Man Will Go Over To The Other Side. All Men Worship The Rising Sun”.....*

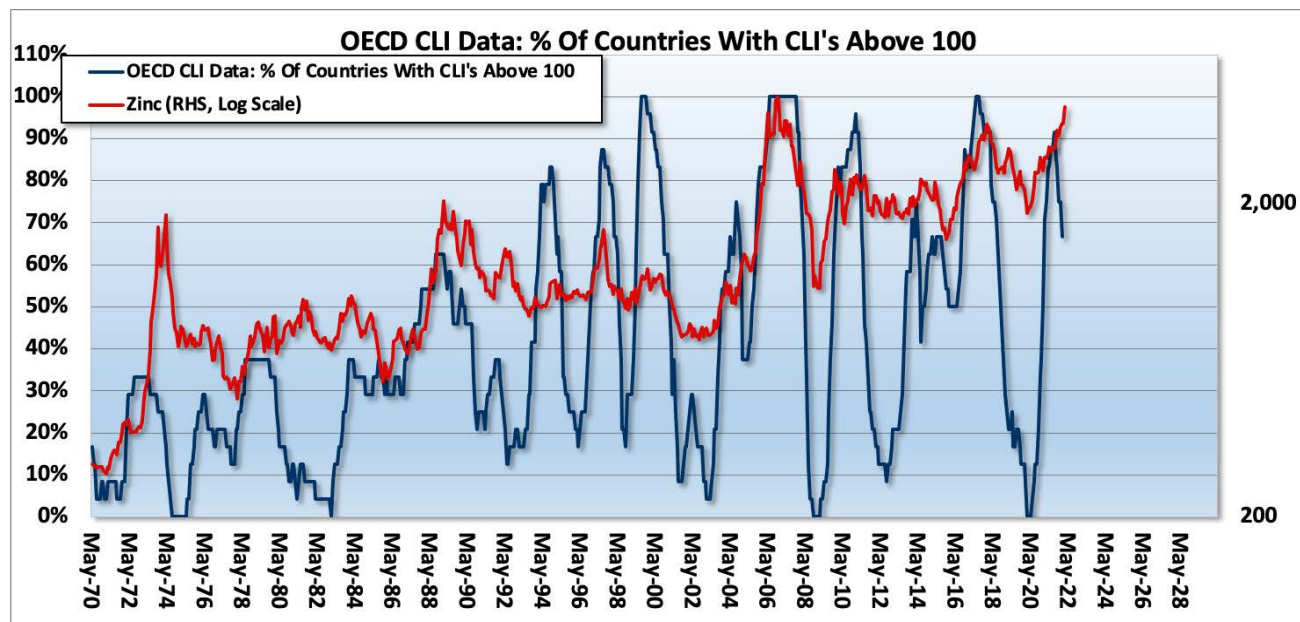
**-Charles Gordon**

January 7<sup>th</sup>, 1884

(British Conqueror Of The Ukraine, China, And The Sudan)



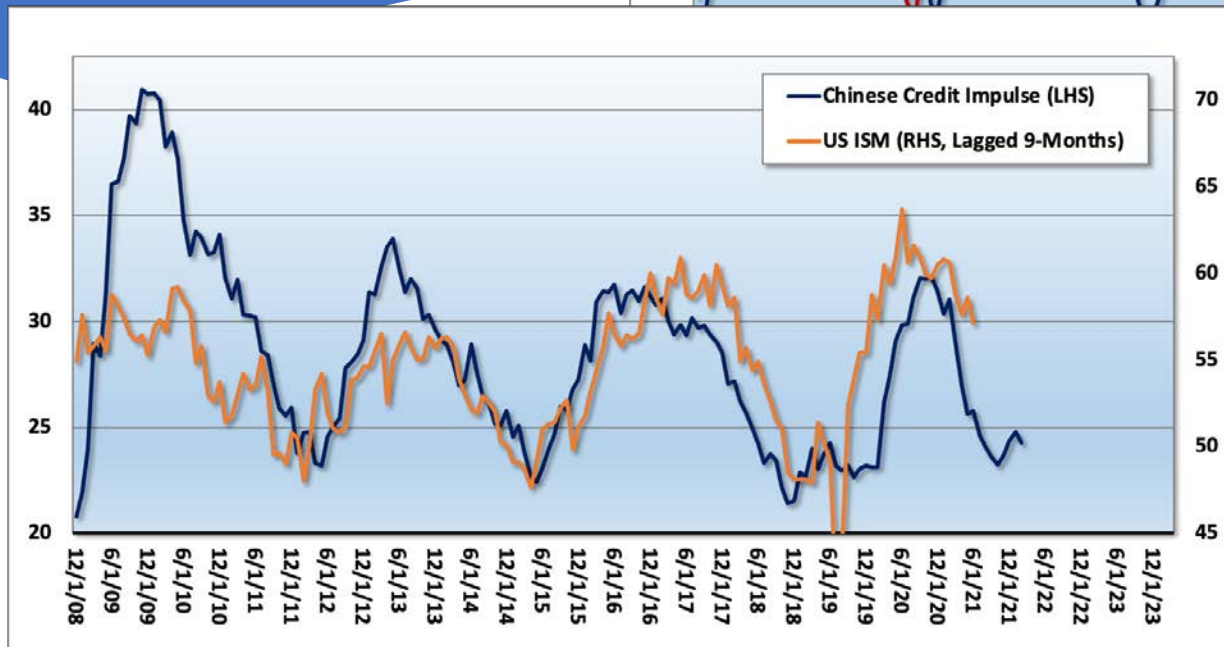
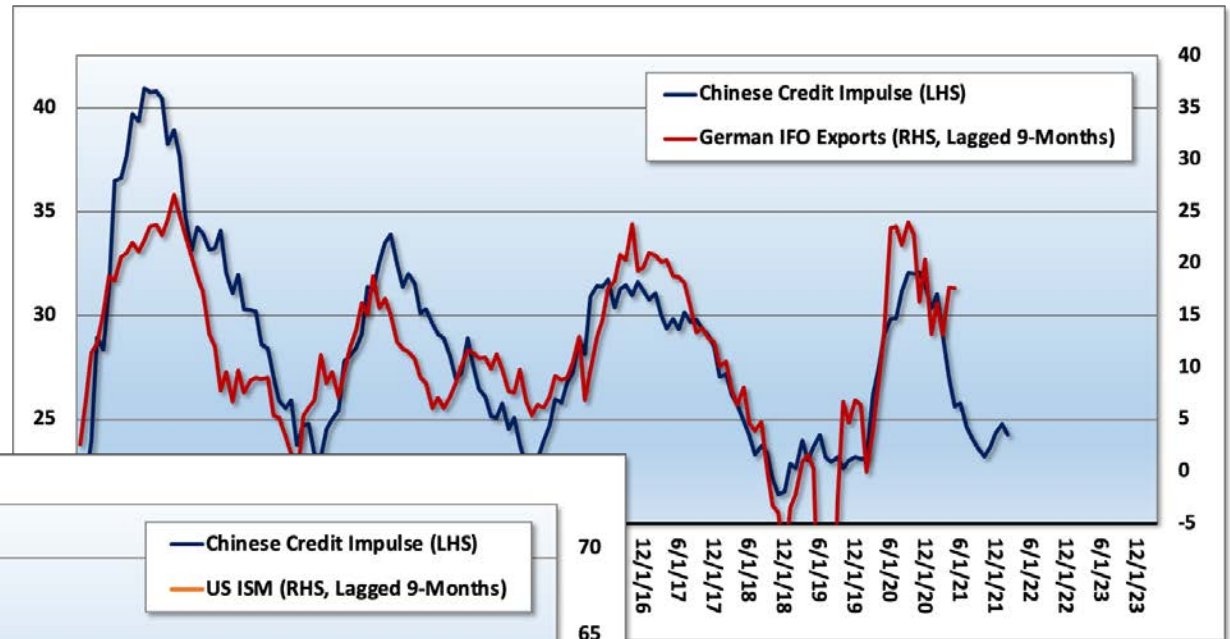
# Bearish Head- Winds. The Slowing Global Economy: OECD



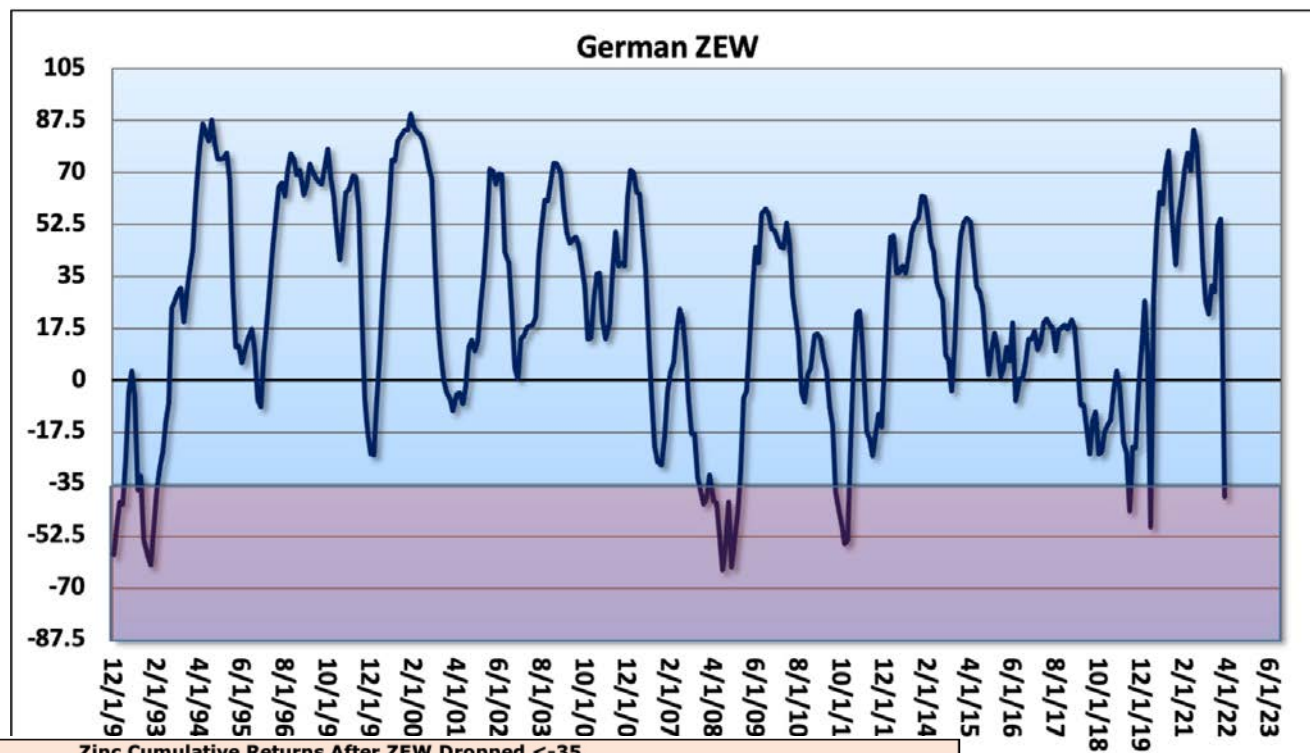
Dates That The OECD LEI Index Went Back Below 70% >100	Zinc Price	Zinc Performance After OECD LEI Went Back Below 70% >100											
		Month-1	Month-2	Month-3	Month-4	Month-5	Month-6	Month-7	Month-8	Month-9	Month-10	Month-11	Month-12
March Of 1995	\$1,043	5.8	-2.1	-2.6	-1.3	-5.5	-2.5	-4.5	-1.9	-4.0	0.6	-0.9	2.2
April Of 1998	\$1,070	-1.5	-7.5	-0.2	-5.6	-9.2	-13.3	-6.7	-14.4	-11.5	-2.3	-7.4	0.4
November Of 2000	\$1,021	2.6	0.0	-4.3	-6.4	-10.4	-14.8	-18.0	-19.3	-23.4	-26.2	-25.4	-24.8
January Of 2005	\$1,303	6.3	3.5	-1.5	-3.9	-6.1	-4.6	4.4	8.3	20.6	31.4	47.0	77.9
May Of 2008	\$1,979	-5.3	-5.9	-8.8	-16.6	-44.9	-40.1	-43.4	-45.6	-45.7	-34.3	-33.4	-23.8
June Of 2011	\$2,315	6.7	-2.4	-17.7	-17.1	-16.1	-21.0	-8.2	-8.2	-13.5	-11.9	-18.0	-20.4
April Of 2014	\$2,054	0.9	7.3	16.8	14.8	11.5	13.7	8.4	5.5	2.8	0.3	1.0	14.7
August Of 2018	\$2,504	2.8	3.4	5.0	0.2	8.6	11.6	19.8	17.2	7.1	3.1	-3.1	-11.4
January Of 2022	\$3,608	0.3	13.6										
Median Returns		2.70	-1.05	-2.09	-4.74	-7.65	-8.94	-5.57	-5.05	-7.72	-1.02	-5.28	-5.50
Average Returns		2.30	-0.46	-1.67	-4.48	-9.01	-8.89	-6.02	-7.30	-8.43	-4.93	-5.02	1.85
Period Point Change		-2.76	-1.21	-2.81	-4.52	0.12	2.87	-1.28	-1.13	3.49	-0.09	6.87	
Probability Of Rise		75.00%	50.00%	25.00%	25.00%	25.00%	25.00%	37.50%	37.50%	37.50%	50.00%	25.00%	50.00%



## Bearish Head- Winds. The Slowing Global Economy: Asia



# Bearish Head- Winds. The Slowing Global Economy: Europe

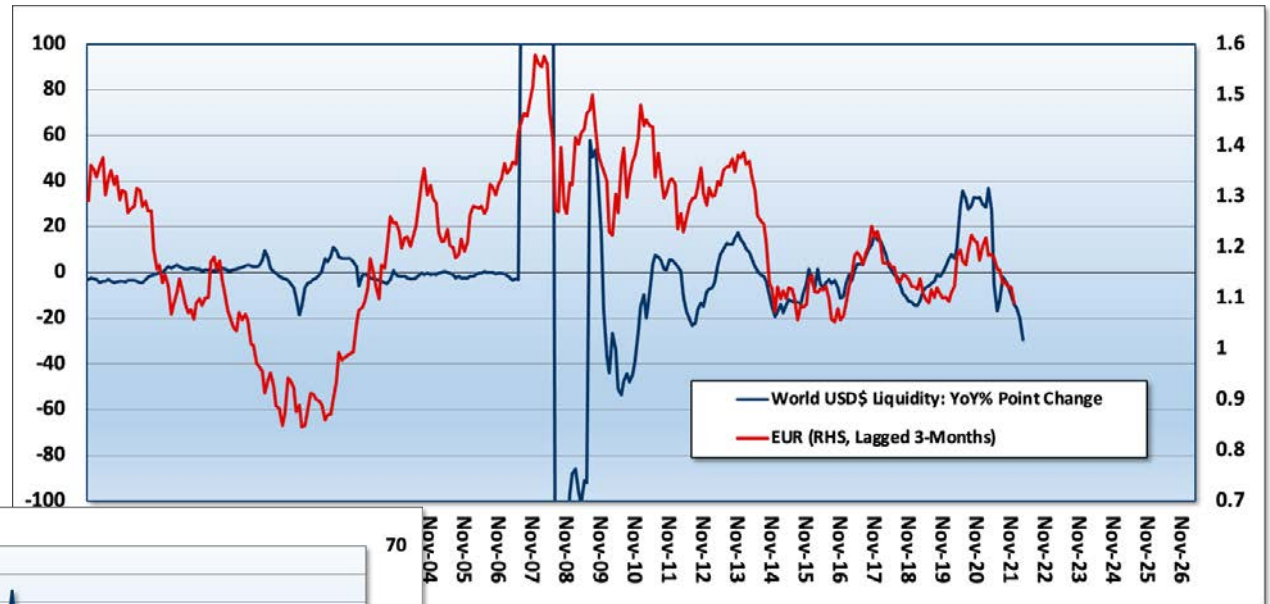


Date That ZEW Dropepd Below - 35	Zinc Price	Zinc Cumulative Returns After ZEW Dropped <-35											
		Month-1	Month-2	Month-3	Month-4	Month-5	Month-6	Month-7	Month-8	Month-9	Month-10	Month-11	Month-12
August Of 1992	1413.00	-8.8	-22.8	-20.2	-25.1	-21.5	-28.2	-30.5	-28.6	-33.0	-34.7	-34.9	-38.0
December Of 2007	2287.50	4.5	18.9	0.7	-4.0	-13.5	-18.0	-18.6	-21.1	-27.9	-52.3	-48.2	-51.0
August Of 2011	2258.50	-15.7	-15.1	-14.0	-19.1	-5.9	-5.9	-11.3	-9.7	-15.9	-18.4	-18.1	-20.1
August Of 2019	2219.00	7.1	14.6	4.2	3.3	0.0	-9.0	-15.8	-13.0	-11.2	-7.3	3.6	14.0
March Of 2020	1867.50	3.3	5.6	10.1	23.1	35.4	34.1	35.2	50.4	45.8	37.3	51.1	49.7
March Of 2022	3802.00												
Median Returns		3.3	5.6	0.7	-4.0	-5.9	-9.0	-15.8	-13.0	-15.9	-18.4	-18.1	-20.1
Average Returns		-1.9	0.3	-3.8	-4.4	-1.1	-5.4	-8.2	-4.4	-8.4	-15.1	-9.3	-9.1
Period Point Change			2.1	-4.1	-0.5	3.3	-4.3	-2.8	3.8	-4.0	-6.7	5.8	0.2
Probability Of Rise		60.00%	60.00%	60.00%	40.00%	40.00%	20.00%	20.00%	20.00%	20.00%	20.00%	40.00%	40.00%

Bearish Head-  
Winds. The  
Slowing Global  
Economy: Europe  
Also Leads U.S.



Bearish Head-  
Winds. The Slowing  
Global Economy: US  
Fed Is Taking Out  
Liquidity, Fast.....



Collapsing World Dollar  
Liquidity Makes The  
Dollar Stronger, And  
Manufacturing Weaker.

The Only Thing That Can  
Save Us From Recession Is  
The Auto Industry.

US And EU Inventories At  
All-Time Lows.

If This Catalyst Fails To Save  
The Global Economy We  
Will Sink Sharply Into  
Recession Soon.



# Summary

- Zinc Prices Are Currently Bullish.
- There Is A High Probability Of A Blow-Off Top Over Next Three Months.
- The Economy Is Turning Down Sharply.
- China And Europe Will Likely Lead The US Into A Short Recession.
- There Is Too Much Pent Up Demand For The Recession To Last Past A Quarter.