Damped Spring Chigrl Commodities Report
Inaugural edition 12/31/2023

Our mission here at DSChigrl will be to provide investors with a detailed synthesis of what's going on in the world relating to, major commodity markets, commodity rich emerging market countries, and commodity producers. Our work will provide independent thinking from Chigrl but will also lever insights and frameworks of our macro partners at Damped Spring. We will also provide specific trade ideas and a commodity based alpha portfolio levering the team's deep experience in commodities, macro, and market timing.

2024 COMMODITIES PREVIEW

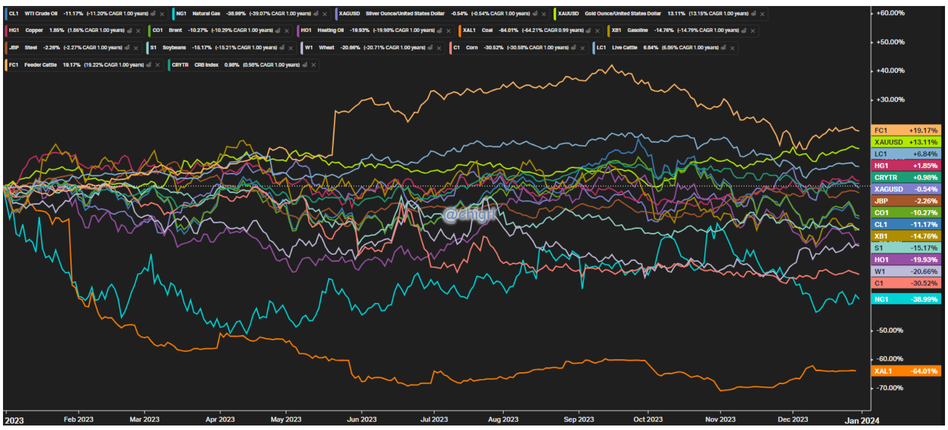
In order to understand the 2024 outlook, we start by reviewing 2023.

2023 was a mixed year for the commodities sector, with fears of recession weighing heavily on many markets, global rate hikes (which make financing and storing commodities expensive), and China under-performance/property sector implosion. Across the globe macro conditions were out of sync based on the way that each set of domestic policymakers responded to the pandemic. The Americas saw strong growth and high inflation which has now begun to return to target as central banks tightened aggressively. Europe and the UK dealt with the pandemic less aggressively but were particularly hard hit by the impact of the Ukraine war on energy. Their growth spurt has faded into potentially recessionary conditions. In the East, China and Japan offered little fiscal or monetary stimulus and continue to struggle with weak growth but also limited inflation. As these out of sync economies shifted throughout 2023 commodities were quite volatile.

So, what should we be looking at in the year ahead? This depends on a lot of factors, but we will breakdown three markets as a preview. Of course, many others will be addressed throughout the year.

Select commodities performance in 2023 plus the broader CRB index.

The CRB index finished almost exactly where it started. Energy was down, Industrial metals were mixed, and precious metals were up.



2024 SELECT COMMODITY MARKETS

CRUDE OIL

Higher for longer is the key theme for next year.

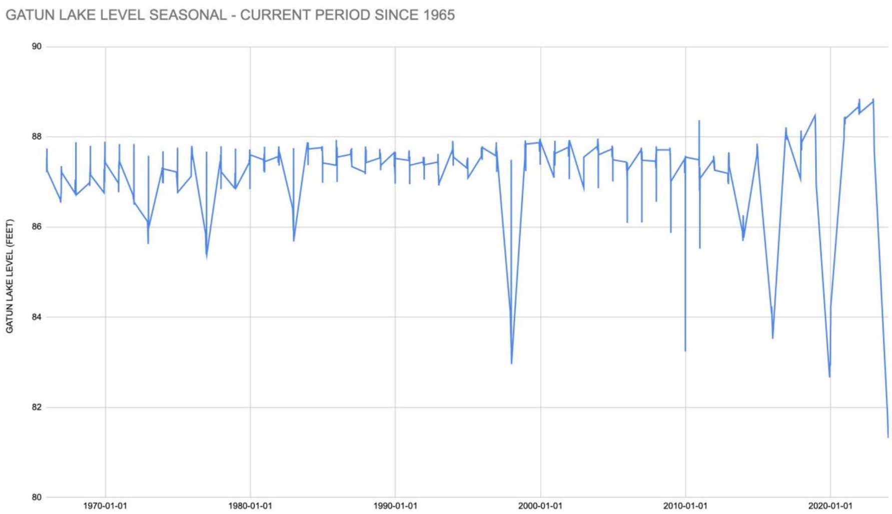
Taking into account that oil at $70 is well above historical norms and we expect this trend to continue in the next year. That said this market could remain rather range bound $70-$95 for both Brent and WTI, but this is a wide enough range for plenty of opportunities throughout the year. We do think there could be a possible spike higher into $100, but that kind of move would likely not be sustainable for any length of time. Damped Spring macro has expected higher growth and inflation than expectations and vs what is priced into consensus forecasts based on continued strong conditions in the Americas, extremely pessimistic outlooks in Europe and expectations that the Chinese and Japanese economies require stimulus and will likely see stimulus in 2024.

Risks for higher oil prices

Panama Canal

Panama Canal is still suffering from a drought, and it seems to have been getting worse since the Panama Canal expansion completion in 2016. This means that lower water levels are limiting the number of ships that can pass through. If this trend continues, we do not see much supply movement relief.

Gatan Lake Level Seasonal



In turn, ships are facing painful choices: either wait in line for days or weeks or send their ships around the Southern tips of Africa and South America, or through the Suez Canal, adding up to 25 days of travel. All of these are adding to global supply chain stress and an increase in fuel consumption (added nautical miles) and costs (fuel and time). This affects 5% of global trade.

This leads us to…..

Suez Canal

Recent attacks from the Houthi’s in response to the Israel-Gaza war have now redirected ships around the Cape of Africa. A trip that adds 10-14 days, depending on the vessel.

So far, a total of 15 companies have redirected ships (we are including Maersk in this list as they halted ships through the Suez Canal again this weekend due to an attack on a vessel).

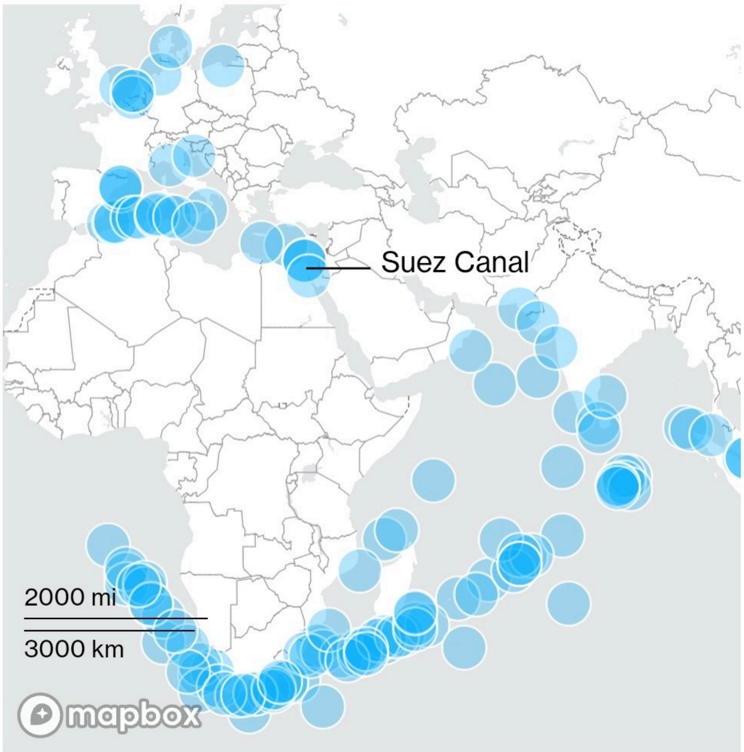
The tally compiled by Flexport Inc. shows 299 vessels with a combined capacity to carry 4.3 million containers have either changed course or plan to *so far*, equating to about 18% of global capacity (much larger than the Panama Canal).

Our rough estimate says between The Suez Canal and the Panama Canal redirects, this is an added 713K barrels a day in extra bunker fuel consumption.

Suez Disruptions

Vessels assigned to transit the Suez Canal are diverting to other routes

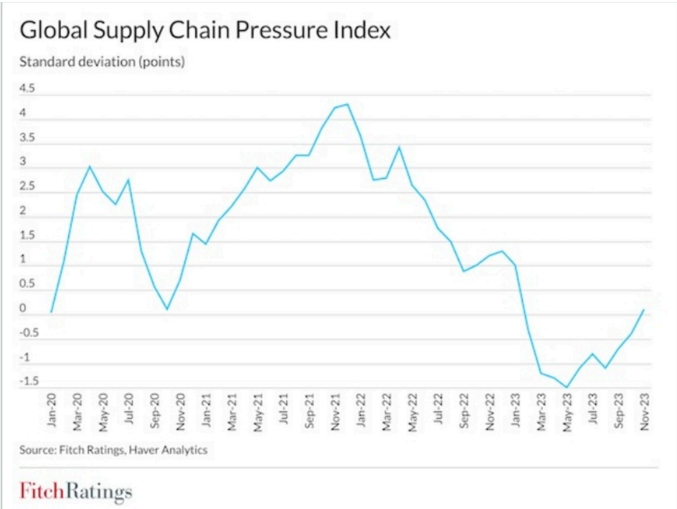
Vessel position as of Dec. 27



Source: Flexport
Note: Map shows last seen locations of vessels as of 1PM ET on Dec. 27 that have diverted, are currently diverting, and/or will divert as of 1PM ET on Dec. 26.

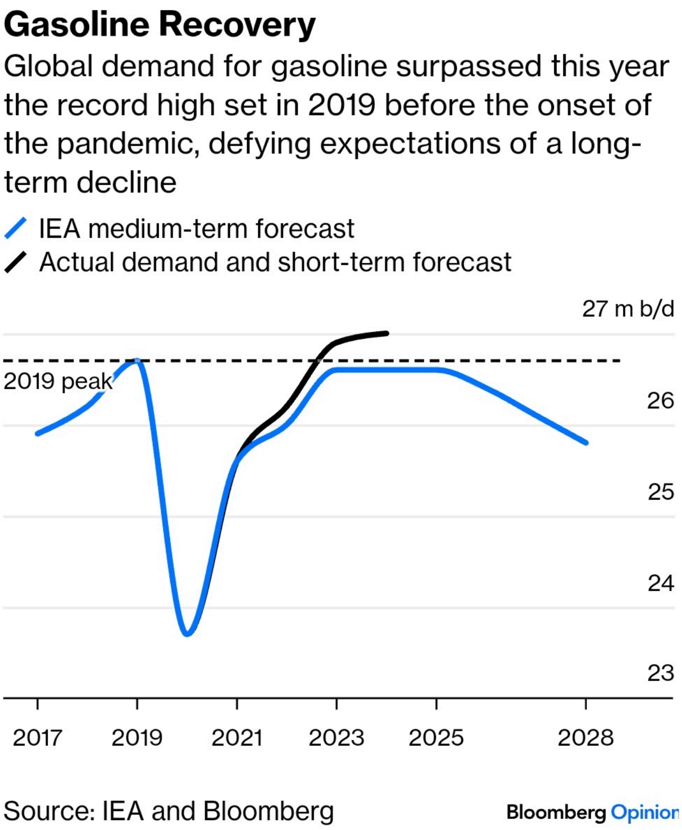
Bloomberg

We do not think the market has priced in a prolonged redirect and its implication for extra fuel consumption, supply chain stress, and cost of goods. In fact, we are already seeing and uptick in global supply chain stress, and December is not even factored in yet.



Global Gasoline Demand

Defying all forecasts, global gasoline demand continues to the upside despite projected trends and push in EV's.



In addition, from the October 2023 EIA report, projection of light duty vehicle sales to 2050. EV's equate to 12%, gasoline 81%, other 5%.

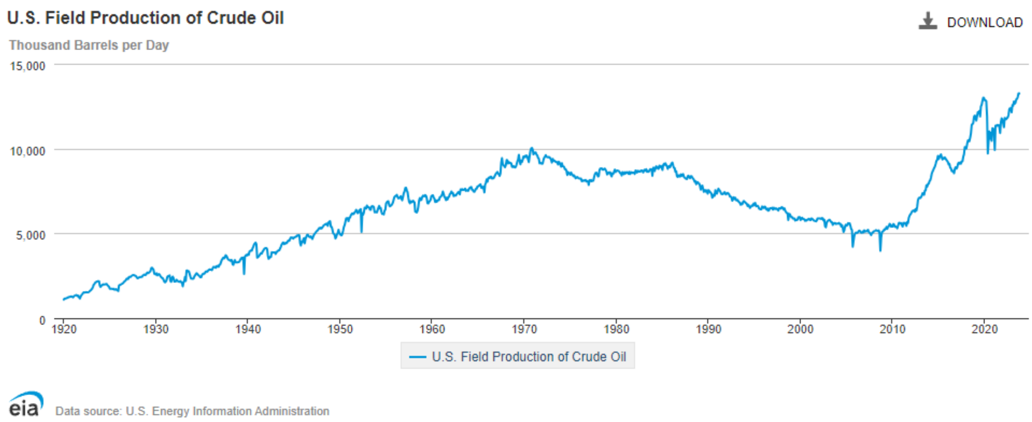
International Energy Outlook 2023
Release date: October 2023

Table L9. New light duty vehicle sales by technology, Reference case
thousand vehicles

Region and technology	2022	2025	2030	2035	2040	2045	2050
Americas							
Electric	850.8	1,234.3	2,170.7	2,524.5	2,765.4	2,947.6	3,262.7
Hydrogen	2.5	2.0	3.1	3.7	3.8	3.5	3.8
Liquefied petroleum gas	4.0	2.4	2.2	2.1	2.1	2.2	2.4
Natural gas	258.6	211.8	192.1	155.7	102.6	80.0	65.6
Diesel	445.2	506.1	622.6	592.9	574.7	597.8	651.8
Motor gasoline	19,745.9	19,651.3	19,024.8	18,723.2	18,804.9	19,310.4	19,992.8
Plug-in hybrid	213.8	450.9	769.0	1,222.6	1,540.6	1,819.5	1,863.7
Other	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total	**21,520.8**	**22,058.8**	**22,784.5**	**23,224.7**	**23,794.2**	**24,761.0**	**25,843.0**
United States							
Electric	725.7	989.6	1,755.0	2,025.0	2,151.0	2,217.4	2,386.5
Hydrogen	2.5	2.0	3.1	3.7	3.8	3.5	3.8
Liquefied petroleum gas	0.5	0.9	0.9	1.0	1.2	1.4	1.9
Natural gas	0.5	0.6	0.5	0.5	0.5	0.6	0.6
Diesel	83.8	110.2	119.4	114.8	127.8	134.6	147.3
Motor gasoline	13,225.6	13,763.8	12,675.8	12,284.0	12,742.4	12,969.1	13,228.8
Plug-in hybrid	190.6	360.4	518.7	588.8	625.0	657.0	695.5
Other	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total	**14,229.2**	**15,227.5**	**15,073.4**	**15,017.7**	**15,651.7**	**15,983.6**	**16,464.4**

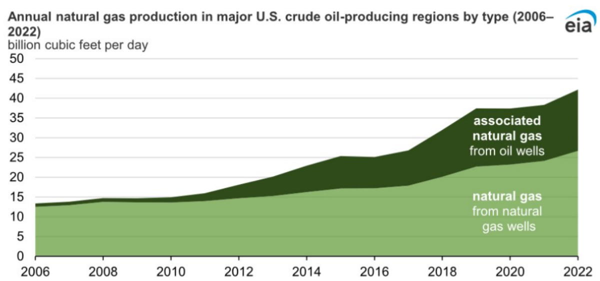
US Production

Everyone likes to pull out this chart.



But we will argue in future reports that this cannot last for a host of reasons. In fact, oil production fell in October for the first time since April. Here are the big two issues.

1. Oil wells are getting gassier and gassier.



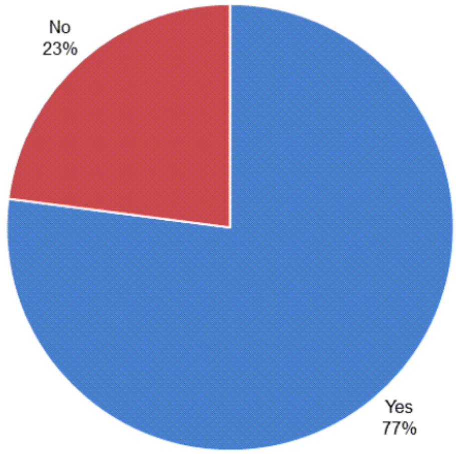
Data source: Enverus DrillingInfo
Note: Major crude oil-producing regions include the Permian, Bakken, Eagle Ford, Niobrara, and Anadarko regions, which make up almost all U.S. associated natural gas production; information on EIA's classification of oil and natural gas wells is available in our *Drilling Productivity Report Supplement*.

2. Smaller producers are trying to crank out as much as they can right now, in order to get bought up by the majors (big deals going on right now), oil majors are not planning increases in production, they are buying it.

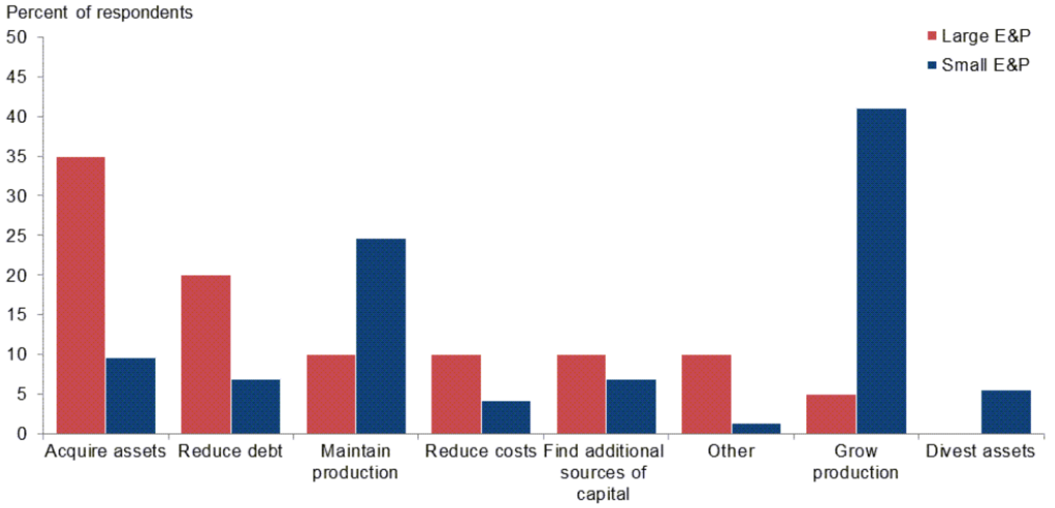
These two charts tell it all.

In October 2023, acquisitions of two E&P companies valued at $50 billion or more were announced. Do you expect more deals of this size to occur in the next two years?

Of the executives responding, 77 percent said they expect more acquisitions of $50 billion or more to occur in the next two years. The remaining 23 percent don't anticipate such transactions.



NOTE: Executives from 122 oil and gas firms answered this question during the survey collection period, Dec. 6–14, 2023.
SOURCE: Federal Reserve Bank of Dallas.



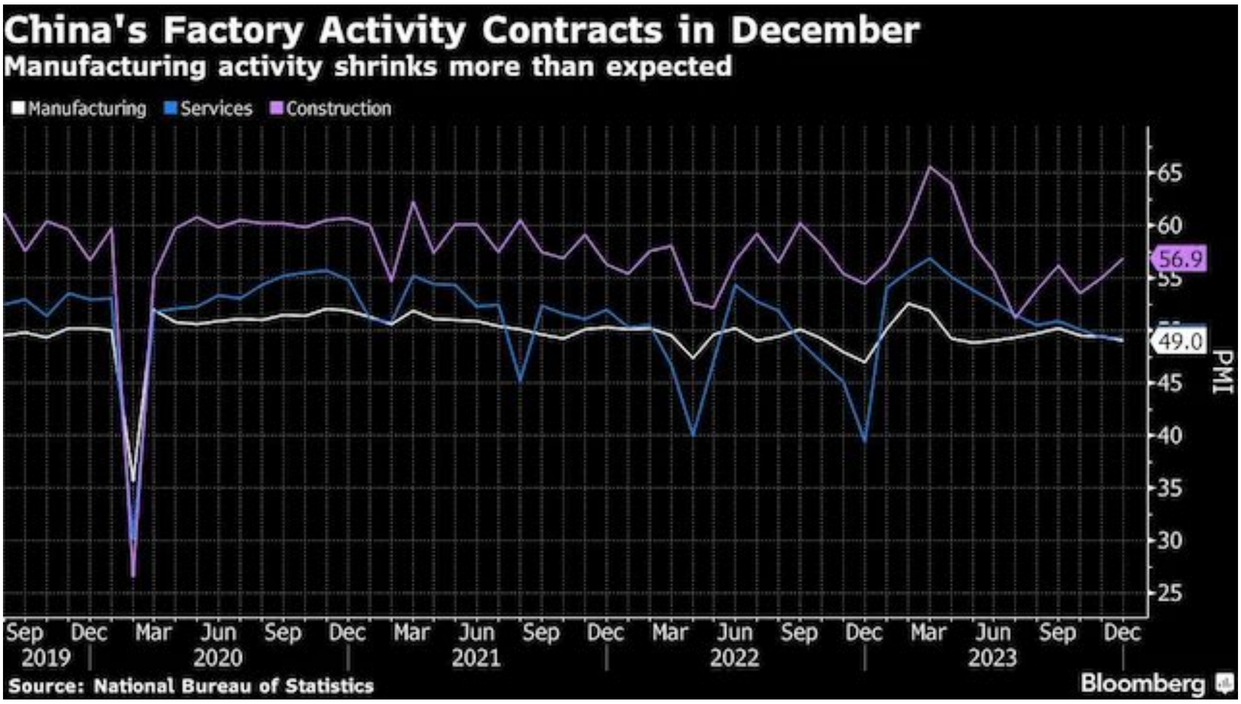
NOTES: Executives from 93 exploration and production (E&P) firms answered this question during the survey collection period, Dec. 6–14, 2023. Small firms produced less than 10,000 barrels of oil per day in fourth quarter 2023, while large firms produced 10,000 b/d or more. Responses came from 73 small firms and 20 large firms.
SOURCE: Federal Reserve Bank of Dallas.

Risks for downside

China

China demand for most commodities continues to be tepid throughout 2024. It’s too early to conclude that the property sector is out of the woods, nor is Chinas small stimulus efforts adequate to offset slowing growth. China continues to be in a controlled demolition and it’s not over yet.

China manufacturing activity is still on the decline, although construction is picking up some.



SPR

We have been saying this for two years and we continue to believe that the Biden Administration has no intent to meaningfully refill the SPR, especially not this year, heading into an election and risking higher oil/gasoline prices. We have a token 3M fill this March, we see MAYBE one more solicitation this year for a similar amount, just to placate calls for a refill. In other words, do not factor a refill into any kind of bullish scenario.

Hard landing scenario

The Fed causes a major recession. As mentioned in Damped Spring’s Script we are unsure if the Fed alone actually cause a slowdown and may need help from Treasury. Treasury may have other priorities given the election.

URANIUM

We think uranium will continue to perform well in 2024. But We think it is SELECT miners that will really outperform**.**

Uranium prices had a banner year.
Spot Uranium price

We also saw a HUGE shift toward nuclear at COP 28 this year, particularly from the West that had largely shunned nuclear after Fukishima. One only has to look at Germany actions all year as an example of reticence. In the middle of an energy crisis after the Russian-Ukrainian war, they opted to literally shut down their remaining nuclear plants in April of 2023, while increasing their reliance on coal.

For the first time since the annual climate summits commenced in 1995, the 198 signatory countries to the UN Framework Convention on Climate Change (UNFCCC) officially called for accelerating the deployment of low-emission technologies including nuclear energy to help achieve deep and rapid decarbonization, particularly in hard-to-abate sectors such as industry and through the low carbon production of hydrogen, per the IAEA.

In addition, 28 countries signed an agreement to triple the amount of nuclear capacity globally by 2050. although this goal is unrealistic for many reasons, it does mark a noted change. This is important.

Nuclear reactors planned and proposed (Source: World Nuclear Association)

COUNTRY (Click name for Country Profile)	REACTORS UNDER CONSTRUCTION Nov 2023		REACTORS PLANNED Nov 2023		REACTORS PROPOSED Nov 2023	
	No.	MWe gross	No.	MWe gross	No.	MWe gross
Argentina	1	29	1	1150	2	1350
Armenia	0	0	0	0	1	1060
Bangladesh	2	2400	0	0	2	2400
Belarus	0	0	0	0	2	2400
Brazil	1	1405	0	0	4	4000
Bulgaria	0	0	1	1000	3	3000
Canada	0	0	11	6100	0	0
China	25	28,481	43	47,360	154	175,250
Czech Republic	0	0	1	1200	3	3600
Egypt	3	3600	1	1200	0	0
France	1	1650	0	0	6	9900
Hungary	0	0	2	2400	0	0
India	8	6700	12	8400	28	32,000
Iran	1	1057	1	1057	5	2760
Japan †	2	2756	1	1385	8	11,562
Jordan	0	0	0	0	1	100
Kazakhstan	0	0	0	0	2	600
Korea RO (South)	3	4200	0	0	6	8400
Lithuania	0	0	0	0	2	2700
Mexico	0	0	0	0	3	3000
Netherlands	0	0	0	0	2	2000
Pakistan	0	0	1	1170	0	0
Poland	0	0	3	3750	3	3000
Romania	0	0	2	1440	1	720
Russia	3	2810	25	23,525	21	20,100
Saudi Arabia	0	0	0	0	2	2900
Slovakia	1	471	0	0	1	1200
Slovenia	0	0	0	0	1	1000
South Africa	0	0	0	0	8	9600
Turkey	4	4800	0	0	8	9600
Ukraine †	2	1900	0	0	9	11,250
UAE	1	1400	0	0	0	0
United Kingdom	2	3440	2	3340	10	17,000
USA	1	1250	3	2550	18	8000
Uzbekistan	0	0	2	2400	2	2400
Total	61	68,349	112	109,427	318	352,852

Back to why Uranium price is important for miners in particular.

Many miners were waiting for prices to get high enough to justify new drills. That break even seems to be consensually about $70. Miners positioned for this, meaning already sourced, verified, permitted, and initial mine results completed will do very well. Yes, rate cuts, will help new projects immensely as far as financing is concerned but permitting alone takes up to 10 years in Western countries (again I will delve into this deeper over the next months).

Hard landing scenario

Likely little effect.

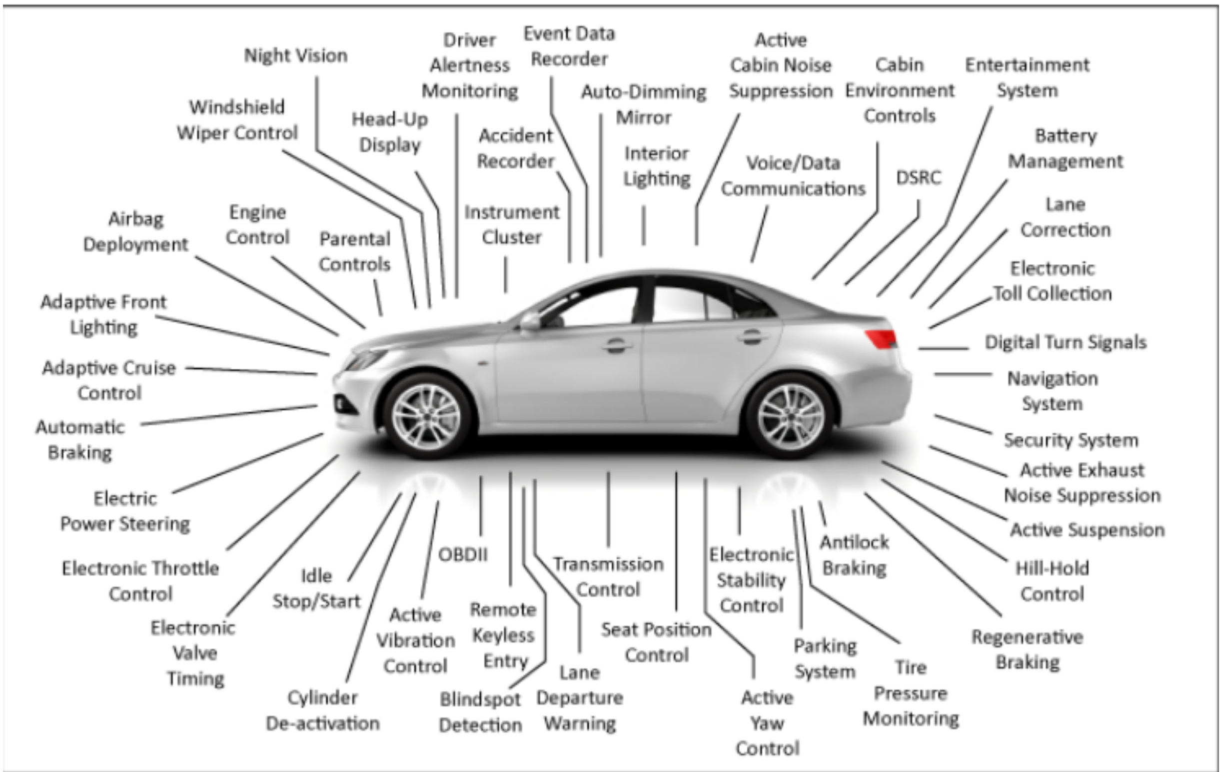
SILVER

The wild child…but we like it.

Our motor vehicles are becoming more and more computerized, and silver plays a vital role in their operation. Over 60 million ounces of silver are used annually in motor vehicles. Every electrical connection in a modern car is activated with silver-coated contacts. Automakers today are increasingly relying on silver to enable the vast technological advances incorporated into modern vehicles (increasingly so with hybrids and EV's). This has resulted in another powerful demand center for silver, with projections of nearly 90 million ounces (Moz) of silver absorbed annually in the automotive industry by 2025. (Silver Institute)

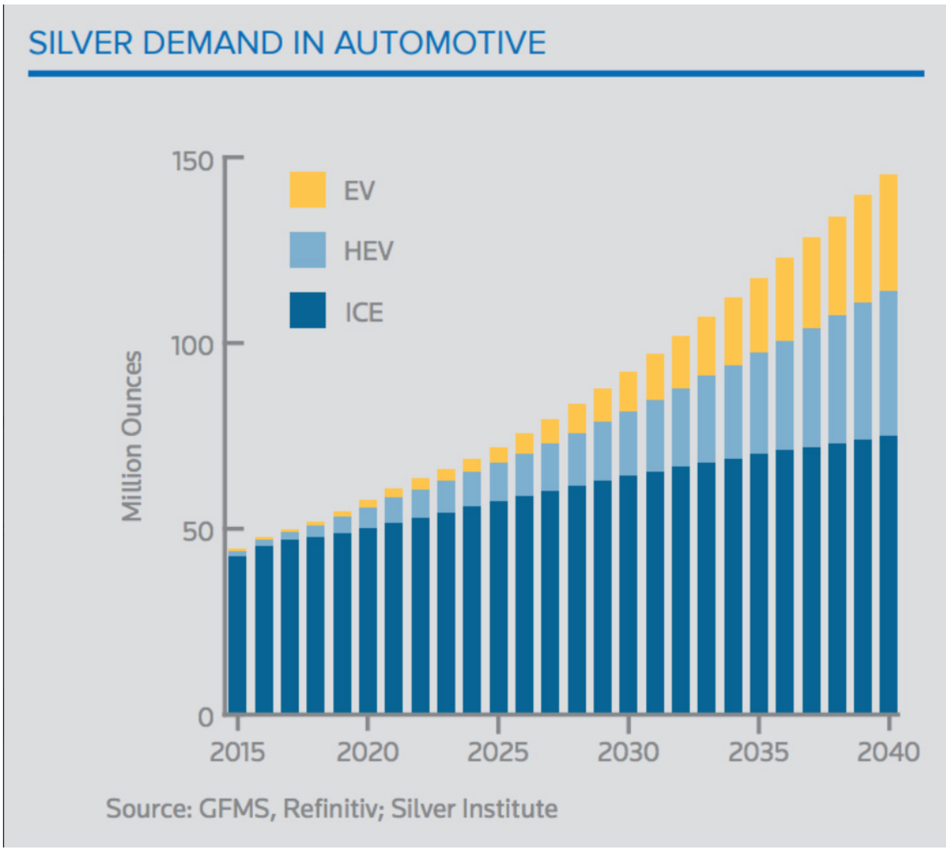
For the visual, here is just a glance at Selected Automotive Electrical & Electronic Components

Selected Automotive Electrical & Electronic Components

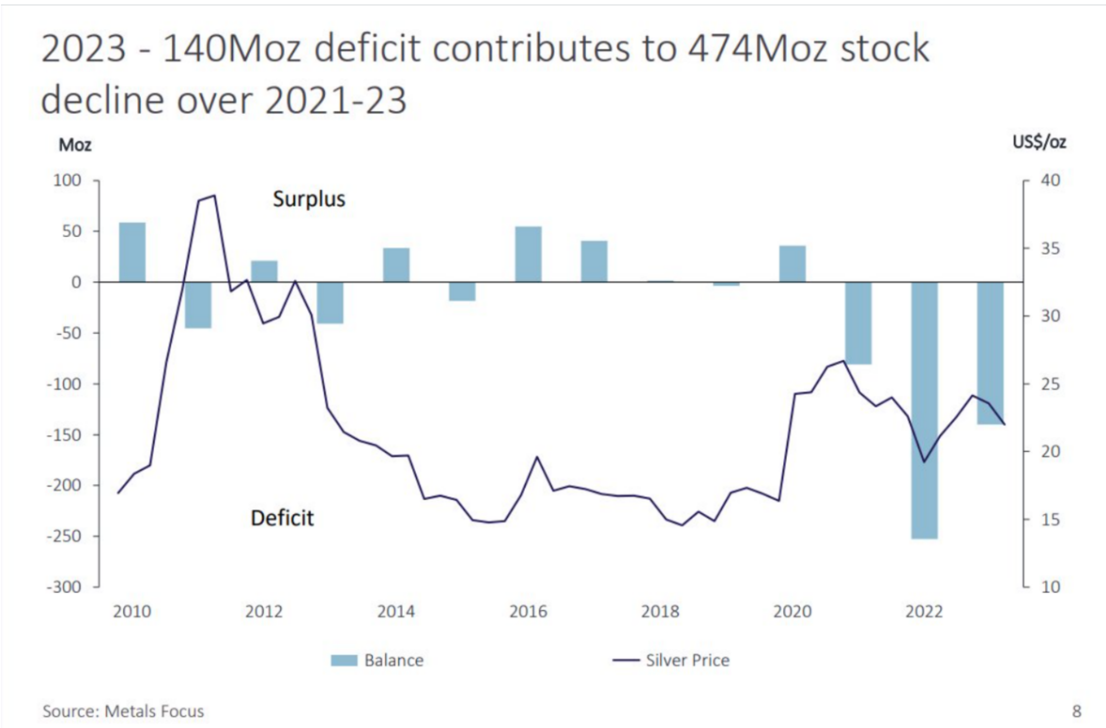


Source: The Clemson University Vehicular Electronics Laboratory

All forms of autos have seen growth in silver usage.

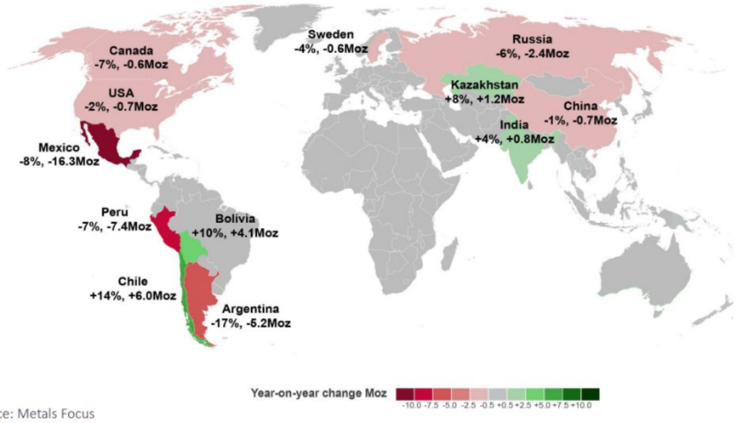


Silver Production



Mined silver production to fall by 18Moz y/y in 2023

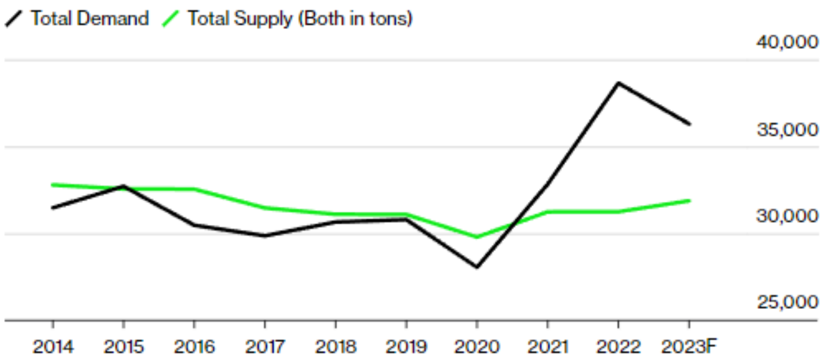
This year global output is expected to decrease by 2% y/y to 820Moz due to lower production from Mexico, Peru and Argentina. Higher production from existing mines in Bolivia and Chile will mitigate the fall to a certain extent.



Source: Metals Focus

Silver Demand Is Growing Faster than Supply

Limited organic growth, project delays and disruptions have held back supply

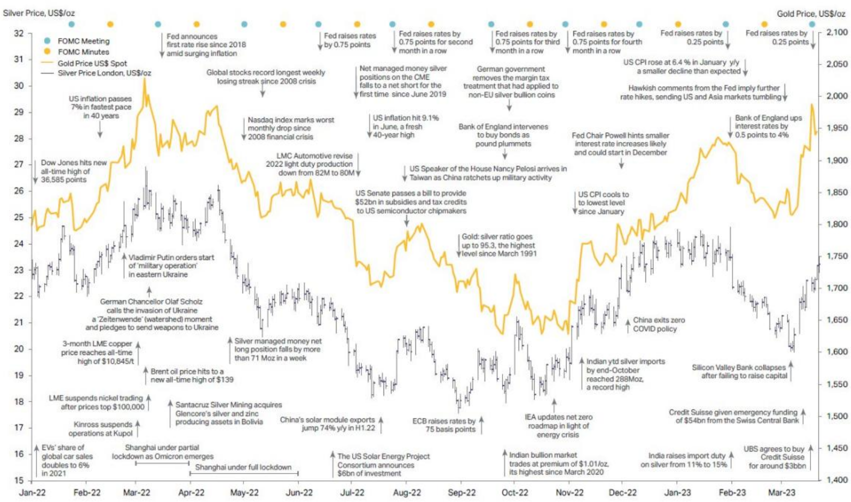


Source: The Silver Institute, World Silver Survey 2023

Silver vs Gold Price (London, $/oz) and Key Events in 2022- 2023

Silver vs Gold Price (London, $/oz) and Key Events in 2022- 2023

Chapter 1: Summary

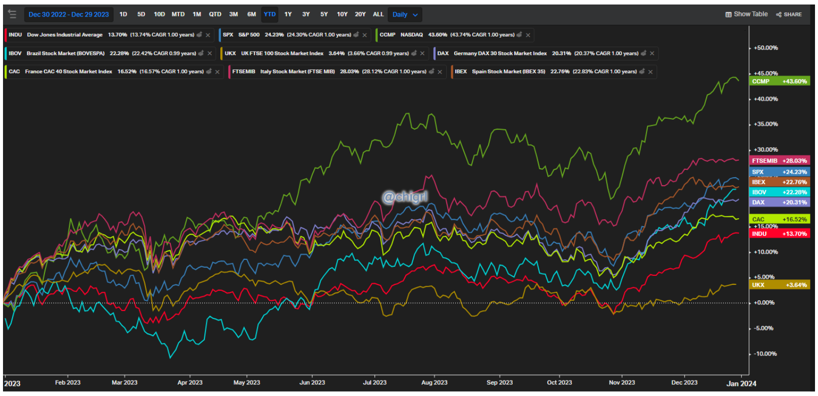


World Silver Survey 2023

2024 COUNTRIES TO KEEP AN EYE ON

BRAZIL

Brazil outperformed the SPX, DAX, CAC, and FTSE this year.



Brazil is rich in natural resources. We believe this market is one to keep an eye on over the next few years. We will dive deeper into this market in subsequent issues as We see a lot of opportunity here.

ARGENTINA

We know, politically, this is a highly charged country with the newly elected President Javier Millei, but so far, we are seeing some positive changes. That said, we are only viewing this though the lens of commodity opportunity. This market could surprise to the upside in the commodity space.

INDIA

I believe this country is poised for a commodities consumption boom over the next decade. In addition, does India leave BRICS in either 24 or 25? We think this is a distinct possibility and will have great implications for commodities. This will also be discussed in further issues.

IN SUM

We believe this coming year will be another exciting year for commodities. We believe that growth and inflation will surprise vs expectations supporting a continuation of a bull market cycle, 2023 CRB index was flat we expect better performance is we are right about the global and regional economies. Along the way we expect dispersion across the commodity space. For example, precious metals do very well in a rate cutting cycle, if you believe the CBs are going to cut rates as much as the markets are factoring in (We do not, but that is another story). If you believe that markets have not priced in supply chain issues and inflation comes back rearing its ugly head with Fed cuts and Yellen on the offensive to try and stave off a recession, energy markets (oil in particular) perform very well.

Happy New Year…and I hope to see you all in 2024!