Allison Nathan: Commodities were the best-performing asset class in 2022 but have recently taken a hit as recession fears loom. So what's in store for them in 2023?

Jeff Currie: Historically, this is one of the most bullish environments you can create for commodities. This is exactly the setup we saw in 2007.

Allison Nathan: I'm Allison Nathan and this is Exchanges at Goldman Sachs.

In today's episode, I'm sitting down with my colleague Jeff Currie, global head of commodities research in our global investment research division, to discuss his outlook for commodities, the drivers behind recent price declines, and
where we go from here. Jeff, welcome back to the program.

**Jeff Currie:** Thanks for having me.

**Allison Nathan:** Jeff, let’s start with some context. Tell us what drove the strong commodity performance last year and why that positive momentum seemed to shift late in the year.
Jeff Currie: Well, there's an emphasis that this was driven by the invasion by Russia of Ukraine. I want to dismiss this right upfront. The rally that we saw in the first half of 2022 was a continuation of the strength in commodities that started in the middle part of 2020. I mean, you just look at a chart. It's just a line that's fairly linear going up over that time period. I'm not going to say there wasn't a big pop around Russia's invasion of Ukraine because clearly there was, but it wasn't the sole driver of what was occurring.

Let's take a step back and just talk about some of these drivers. One was a much longer lasting underinvestment theme of a lack of capacity to produce these commodities that, when faced against the COVID stimulus demand, exhausted inventories, exhausted spare production capacity across the entire commodity complex, and put all these markets on an upward trend. Clearly, then when you had the invasion of Ukraine by Russia, it took an already bad problem and made it that much worse. And that's what created a spike that continued all the way until June of last year. And that's really where the peak of
commodities took place. We were up 55% at that point, and at that point the outlook still looked positive.

**Allison Nathan:** So what went wrong?

**Jeff Currie:** So first, the situation in China deteriorated rapidly, such that you ended up with rolling lockdowns that took oil demand down another one and a half million barrels per day over that time period. The second factor is you had Russia cut gas supplies to Europe, creating an energy crisis in Europe that created an industrial production contraction in Europe. Again, both negative to the world ex-US, which created strength in the dollar that coupled with rate hikes that extended beyond anybody's expectations. In the net of that was weakness in oil prices driven by weakness in China, weakness in Europe, cost of capital rising in the US, and then a rebound in Russian oil production.

So while commodities were the best-performing asset class in 2022, they ended up the year up 26%, but that doesn't factor in that the second half of the year was really difficult with these negative forces.
**Allison Nathan:** But it feels like a lot of those negative factors are starting to reverse. And so if you think about the commodity outlook for this year, there are a lot of moving parts on both the supply side and the demand side, so let's break some of those down individually. Let's start with China, which of course is the world's biggest commodity consumer and one area where you're particularly positive for 2023. So talk to us a little bit about China.

**Jeff Currie:** There's a lot of fears around recession in the US. From a commodity perspective, that was a recession. When we look at oil demand, at the beginning of 2022, it was running around 15.5 million barrels per day. It dropped down below 14 million barrels per day as of January 1st, so this was a big hit to oil demand. Think about when you have lockdowns around COVID. What is hit the most is oil, but it wasn't just oil. You hit the consumer sectors, services. This led to a drop in everything from agriculture to metals demand. So it's no wonder we saw such a sharp selloff in oil and commodity prices in the second half of last year.
The big event -- and this started to become apparent late November/early December -- was zero-COVID policy being reversed. This is important because it created a big surge in COVID cases, and we ended up with many cities now beginning to potentially achieve herd immunity. And as a result, we're already beginning to see a rebound in transportation measures like traffic congestion, subway readership. And our economists just took up their forecast for GDP in China, driven by these positive events that we're seeing.

But I want to emphasize it's not just zero-COVID policy that's impacting this. Another area is in the property market. They've repealed the three red lines around property development, taking the shackles off of the property market. And again upgraded our estimates of property completions and reflecting in a stronger copper demand. And so there's a growth impulse off the property market combined with the repealing zero-COVID policy.

The net of this, we'd expect oil demand to rebound somewhere between 1.5 and potentially 1.82 million barrels
per day. Now, to put that in perspective for our listeners, think about oil demand globally as around 100 million barrels per day. So that's potentially a 2% increase in global oil demand, so this is a big event for commodities. As you point out, China is the world's largest commodity consumer.

**Allison Nathan:** And so is demand then expected to be back above pre-pandemic levels?

**Jeff Currie:** We were flirting above pre-COVID levels back in 2021, right before China had the lockdowns in Shanghai in March and April of 2022. The rest of the world we've seen continued growth and trending growth. So having China come back is really significant and will push us even above the 2021 levels that were achieved during the summer of 2021. So this is going to be put a lot of stress on the system. And then when you put that in the context of investment being limited or even below to the levels in 2019, before COVID, this is going to put a lot of pressure on the system.

**Allison Nathan:** But on the other side, you have Europe
experiencing one of the warmest winters on record. That's pushed energy prices much lower, natural gas, as well as oil prices. And so ultimately is that an offset to the type of demand rebound we're seeing in China?

**Jeff Currie:** Initially, it's negative. We saw natural gas prices come up sharply, which had a double impact on oil prices. One is what was driving the decline in gas prices was the warm weather, and so you quit consuming as much oil as you normally would for this time of year for heating oil purposes. But there was also gas-to-oil substitution that is also taking out. So it was near-term negative, but the positive benefits of taking the energy shackles off of Europe offset this as we look out into 2023. And they feed off one another. A stronger China helps Germany and Europe through exports of capital goods and luxury items. And a stronger China and a stronger Europe leads to a weaker US dollar, which then acts as a tailwind for commodities.

So the two combined together are very significant. And when we look at it historically, you have a situation in which you have the Federal Reserve taking its foot off the
brake on the US with a modest US growth environment against a China stimulating itself out of a hole. Historically, this is one of the most bullish environments you and create for commodities. This is exactly the setup we saw in 2007.

**Allison Nathan:**  Is it also right to believe that, even though warm weather has somewhat saved Europe right now, the energy crisis isn't over?

**Jeff Currie:**  Excellent question. The answer is: It's not over. The only thing that solves this is investment in production capacity, and we're not there yet. I want to be specific here. It's not just the warm weather that took the shackles of the energy crisis off Europe; it was also energy conservation. The savings from consumers was tremendous. In October of last year, efficiency gains dropped demand for residential and commercial heating by 20%. And even in the depths of the winter in December and January, that number was still 16%. So it's no wonder we have excess supplies of natural gas, and we've seen an absolute collapse in energy prices in Europe.
However, to answer your question specifically, this is not over yet. Our base case is we can make it through this year, but winter of '23-'24 starts to become a problem and prices are likely to escalate again because you've got to give that signal to the market to make these investments.

**Allison Nathan:** Broadly speaking, outside of the China rebound and positive weather news out of Europe, the big concern is that the rest of the world is facing some recessionary risk. Ultimately, what do you make of demand in the rest of the world, given that looming risk of recession?

**Jeff Currie:** As our economists argue is that probability's probably closer to 30%, and their base case is not a recession. I want to go back to 2007, late '06, early '07. Exact same setup. You had a nearly 500 basis points of rate hikes in the system between '05 and early '06. At that point, everybody was talking about a recession. You had a fallback in oil prices from 77 down to 50. OPEC cut production. Everybody was concerned about the ensuing credit-driven recession.
Guess what? It didn't happen in '07. It took well into '08 for it to gain momentum. And during that time period in late '06 and early '07, the rate curve inverted like it did now and everybody was fearful. They de-stocked the commodity supply chains because of the cost of capital. They didn't want to have excess inventory sitting around, and were simply not prepared for what was going to happen for the following 12 months, which was relatively modest growth in the US. You actually had very strong growth in China. This is the perfect concoction for bullish commodity market. The US taking the foot off the brake, and China putting the pedal to the metal. This is what happened in late '06/early '07.

I like to point out oil prices rallied $100 a barrel over those following 14 months. Now, we're not forecasting anything like that because the difference is I think the Fed would be much more aggressive to potential oil price rises this time around, but I think it illustrates a point that we have an environment in which China has spare capacity, Europe has spare capacity in manufacturing. That growth puts weakness in the dollar, acts as a tailwind of commodities. And if you look at what happened in '07, they actually cut
in September of '07, and that's when you saw just the hockey stick in commodity prices.

So the key point here really is the setup is distinctively positive for commodities.

**Allison Nathan:** But let's dig into the supply side a little bit more because you keep coming back to the supply story and ultimately how constrained it is. But if we think of where we've been in the recent period, Russian oil production has held up better than expected. You've had some pretty large OPEC production cuts over the past year that have helped support prices. How are these supply dynamics really going to play out over the coming year? And could they actually be a source of downside pressure?

**Jeff Currie:** We see Russia as being much more of an upside risk factor. And the reason for that is that during December, we saw the ability of the crude market to redirect oil at an unprecedented rate. It was able to redirect the oil supplies before the December 5th deadline to other parts of the world, primarily China and India. December 5th was a crude oil ban. And by the way, crude
oil is much more fungible than products.

**Allison Nathan:** And by “products,” you mean the gasoline, the diesel, the specific types of oil that are actually consumed?

**Jeff Currie:** Exactly. And so you can think about what oil ban and the oil price cap, it first hit the crude oil, the raw material that goes into the refineries, in December 5th of last year. On February 5th of this year, it hits the products. And then if you look at the products, you're not going to be able to find scrap ships. You can't do that same trick. The transportation has far greater difficulty, specialized ships. And we can even say it in the data. There has been no effort by the Russians to redirect those products.

So you have to ask: What happens when we hit that February 5th deadline? It's going to become far more difficult. And our base case is we would expect supply in Russia to drop another 600,000 barrels per day. The IEA this morning put it at 1.5 million barrels per day. The consensus view is this is going to be pretty difficult.
**Allison Nathan:** And then on the OPEC side, we always talk about the power of OPEC in influencing oil prices. Is that still true? And where do you see them coming out in terms of potential prolonged production cuts this year?

**Jeff Currie:** OPEC pricing power is likely the strongest it's ever been in the history of the organization because we have not been investing in supplies in non-OPEC or even in non core OPEC. By “non core OPEC,” I mean the places like Angola, Nigeria, Venezuela, and the rest of the peripheral OPEC countries. So pretty much supplies even in the US are restricted because of underinvestment. Now you even have Russia out of the game. That really leaves core OPEC -- meaning the Gulf countries -- as being the only game in town, which then leaves them with significant market power.

Now, our base case is the market begins to tightening as the Chinese demand returns during the first half of this year. And as we move towards the middle of the year, we expect OPEC to start to bring some of that production capacity back online to accommodate the stronger demand
growth. But I think the key difference here is they are not confronted with competition if they don't bring it back online. If you go back five years ago, ten years ago, if they cut production and prices went up significantly, there was always another producer who could bring on that supply and undercut their market share. Due to the underinvestment across the industry, that capability is severely limited in the current environment.

Allison Nathan: Given how high commodity prices and particularly oil prices were over the past year, why haven't we seen more investment in that supply capacity? Why aren't we seeing that?

Jeff Currie: Well, actually to your point, not only are we not seeing more investment, real CapEx declined sharply last year with the inflation that occurred in the industry. So what little investment, when corrected for inflationary pressures in the sector, was an outright real decline in investment.

There's another factor here that's important, particularly with the fossil fuels, is the share prices for many of these
companies are severely depressed. That's reflected in their high free cash flow. Yeah, you're probably asking, “Didn't the energy sector on the equity side rally 60% last year?” Yes, they did but from very depressed levels. So they're still depressed relative to free cash flow.

Why am I saying this? Because if I'm a company, at this point right now, it's more profitable for me to do share buy backs than it is to put a drill bit in the ground. And so that's part of the reason you're not seeing activity picking up with the higher prices.

And then I think there's the other factor, too. Let's go back to your initial question around recession. With 90% of US CEOs believing we're in a recession, they're acting that way, and they're unwilling to commit the capital required to grow the supply base. So I would say it's a combination of higher volatility. I would also say it's a disbelief in the sustainability of the story. And then there's the factors around decarbonization, ESG, whatever you want to call it, that have also helped to keep the investment lower.

But I want to emphasize, it's not just happening in oil and
gas. It's happening in metals and mining, agriculture. The entire commodity complex is underinvested.

**Allison Nathan:** Let's talk a little bit about the decarbonization because obviously when energy prices were as high as they were, renewables. green energy started looking more attractive on a cost basis, and you have obviously all of the focus on climate change goals and moving towards achieving them. How has that really dented the outlook for the sector?

**Jeff Currie:** Well, when we look at this whole concept of the revenge of the old economy, which is what we call this underinvestment thesis, is that the reality is green technology, when we think of ESG more broadly, it's new economy. And so when we think about how the share prices traded last year, we saw old economy go up substantially at the expense of new economy. By new economy, I mean things like tech, green hydrogen, the FANGS, all of that is the broader new economy.

Green hydrogen, or clean tech, was down similar to what the big tech was down over that time period, anywhere
from 30-50%. And part of the reason for that is the relative returns in the higher interest rate environment for old economy started to look much better.

One way you could think about this is technology is long duration. Old economy is short duration. Digging a mine out of the ground or putting a drill bit in the grounds activity today, short duration. While technology, green tech, all of that is longer duration. And so when investors look at higher interest rate environment, the costs associated around renewables, tech, and green tech start to look less attractive than the old economy. And we saw that play out in the equity market last year with new economy coming down, old economy going up. But we like to argue you're just scratching the surface right now. This has a long ways to go.

**Allison Nathan:** We've also had a lot of legislation. We've had the REPowerEU in Europe. We've had the Inflation Reduction Act in the US. So to what extent is that accelerating some of these shifts you're talking about?

**Jeff Currie:** The IRA was very significant. And the
reason why is it provided incentives to make investments. Like, in some cases for green tech, it would provide 30% of the upfront capital costs to make it very competitive. So REPowerEU came long before the IRA in the US. In fact, the REPowerEU was bigger. It was 4 trillion euros. And you can think about roughly 1.2 trillion of that was for renewables, and then the other 0.8 trillion was for grids and networks. So 2 trillion was already allocated, and then the remaining went to newer technologies. So it was actually really well thought about at the end use level. The problem was there was no incentives.

And I think that what the IRA does, is it earmarked 400 billion for investment in the sector, is that it's forcing the Europeans to create similar incentives. In fact, at Davos last night, the European president, she made the point that they need to be competitive. So the IRA was a game changer.

My hesitancy of the IRA and to a lesser extent of REPowerEU is that they picked the technologies as opposed to letting the market pick the technologies. I don't want to be dismissive of the IRA or REPowerEU because I
think they're very good legislation to get investment going in the sector and help solve the problem. I like to say I prefer policy that's technologically agnostic. There's parts of this on both of them that are technologically agnostic, but for the most part they're choosing the technologies. And I think we're going to see more investment in renewables, more investment in green hydrogen, and it reduces some of the investment in technologies that are unknown right now that could potentially solve these problems.

**Allison Nathan:** Which commodities are most likely to benefit from these technologies that these pieces of legislation support?

**Jeff Currie:** We would say the green metals. Copper, aluminum, nickel, silver, lithium, and cobalt. These are the big six. And copper and aluminum are by far the biggest. Copper, it's the best conductor of electricity. You're not going to electrify the world without substantial amounts of copper. And when you look out on the horizon, the deficit in copper reaches 15% of the market. The amount of copper required to decarbonize the world going
forward is larger than all the copper already produced. So the investment here is significant that needs to occur on upstream copper.

But also, the other factor that it suggests is we need to be thinking about new technologies of copper. But the demand pull is enormous in the green metals. We saw good green CapEx in China in 2022, but 2023 is going to be where we see the very large green CapEx occur.

**Allison Nathan:** And more broadly, if you look at the commodities space right now, which ones have the most value?

**Jeff Currie:** The metals like copper are going to give you the better sharp ratio. They're going to go up, and it's not going to be a painful ride. Oil will probably give you far better returns like it did last year at certain points in time, but it's going to be a painful ride. We started off this year down 8.5%. We're now up 10-plus percent. We're only two weeks into the trading session, and we've already seen gyrations of that magnitude. I'm not going to say it's going to be a smooth ride. I like to say, if you were looking for a
better return, oil will be it, but you better buckle your seatbelt and hold on for the ride. Copper is going to be much smoother, and it's much of a longer term buy-and-hold story than oil.

**Allison Nathan:** So given everything we've discussed, how should investors think about commodities within their portfolios and the inflationary pressures they're likely to contribute?

**Jeff Currie:** I think when we look at inflationary pressures from commodities, they impact headline inflation. The feedback into core inflation is much more difficult. At the core of core inflation, which is what the Fed watches, is far more driven by wage pressures, shelter and housing, and other factors that are not related in commodities.

But when we think about it as a hedge against other asset classes, commodities are the best hedge against inflation. They're the best hedge against pressures that reduce the valuations of, like, the new economy. It goes back to that new economy, old economy. And obviously for hedges
against hostile markets, like what we saw in Ukraine last year, commodities, they provide the best hedge to many of those different events that are negative factors driving the equity markets.

And let me point out, they worked as advertised last year. You were up 26% in commodities holding that, and it was a pretty difficult year in all the other asset classes. And we could very well see another repeat of that year. Our base case is commodities are likely to be up 43% in 2023, which makes them the best-performing asset class if that's realized.

**Allison Nathan:** Jeff, it's always so great to hear your market perspectives. Thanks so much for joining us.

**Jeff Currie:** Thanks for having me, Allison.

**Allison Nathan:** Thanks for listening to another episode of Exchanges at Goldman Sachs, recorded on Wednesday, January 18th, 2023. If you enjoyed this show, we hope you follow on your platform of choice and tune in next week for another episode. Make sure to share and leave a
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