Allison Nathan: This is Exchanges at Goldman Sachs, where we discuss developments shaping industries, markets, and the global economy. I'm Allison Nathan, a Senior Strategist in Goldman Sachs Research.

Today we're going to talk about the sharp rise in commodity prices, what's driving it, and whether or not it's sustainable. To do that, I'm sitting down with my colleague Jeff Currie, Global Head of Commodities Research in our Global Investment Research Division.

Jeff, welcome back to the program.

Jeff Currie: Great. Thanks for having me. It's a pleasure
to be here.

**Allison Nathan:** For those of you listening who don't know, Jeff and I worked together for a very long time, more than 20 years. My first job at Goldman Sachs was working in the Commodities Research Group with Jeff. So, it's so great to be able to sit and talk about these markets with you that are near and dear to my heart. So, let's get started.

So, if we look at what's going on in commodities right now, economic growth is slowing. We've had another virus hit. We've had a ton of hawkish news from the central banks around the world. Fiscal support is fading as we come out of this pandemic era. But commodity prices, and we're talking oil, metals, grains, they've all surged into the new year. Brent crude oil is above $90 per barrel at this time. I would say that is the first time, Jeff, correct me if I'm wrong, they're at that level since the spectacular collapse in 2014. So, a really interesting environment right now.

So, set the stage for us in terms of what factors are driving the surge in commodity prices, especially against that
economic backdrop.

**Jeff Currie:** Well, let's first point out that commodities are spot assets. They're not anticipatory assets like financial markets, particularly equities. From a spot perspective, all that hawkish talk has yet to lead to actual tightening. If anything, we have an environment where, let's not forget, the US still has their foot on the accelerate as we speak today. And China has just shifted into first gear and is starting to accelerate right now in response to the weak data that came out in the fourth quarter of last year.

Yes, omicron was a dampening factor on that. But we look at all the mobility data, [UNINTEL], airline traffic, all of it, it's a much smaller impact than what we initially anticipated. You know?

And you look at the labor number that came out at the end of last week, it was spectacular. And they even took up the results from previous reports. So, we look at the spot activity today and the levels of activity are getting higher and higher.
So, no wonder when we look across the board on a spot basis, every single one of these markets is in a very critically tight level with high and spiky prices. And they all have what we call backwardation, which is spot prices hitting above forward prices, which is an indication of relatively tight markets.

And in fact, the term that we were using this morning is super backwardation. They're that backwardated. So, very tight markets because the spot activity today is very strong.

**Allison Nathan:** Let me just jump in, Jeff, because they might be tight today. But if we see the slowing environment ahead, and you mentioned China in particular, which is still managing a zero COVID policy. They're still managing stresses in their property sector. Do you think that tightness can persist?

**Jeff Currie:** Well, let's remember commodities, again, they're spot assets. So, they're driven by the level of demand, not the growth rate of demand. Financial markets like equities and bonds are driven by growth rates. Because ultimately, remember, they're driven by expectations. And
if the growth rate is expected to decline, they're going to get hit.

Now, when we think about commodities, because they're driven by the level of demand, so, let's say the growth rate slows due to all the factors that you just listed out, the level of demand is going to keep on climbing. And a higher level of demand against constrained supply is just going to put further upward pressure on prices. Bringing demand down in line with supply would require far greater than just a simple slowing of the growth rate.

Allison Nathan: Let's dig into the supply side a little bit more. Because we do have much higher prices than we've seen in a long time. Aren't there incentives from OPAC and from shale producers had been so much in focus offer the last decade, are we going to see a supply response beyond Iran? And why do you think that's the only place we could get more supply from?

Jeff Currie: Because we have yet to see a surge in capex and, hint [PH], call it green field activity, whether it's drilling or on the mining side. And I think there are several
factors for that. One is you look at the returns in this space going back over the last five to ten years, they are absolutely terrible. And investors, they have memory of this. And take energy in particular, the losses were nothing short than epic. Think about oil prices were negative 22, 21 months ago. That is still ingrained in people's heads.

Then we overly ESG on top of it, it becomes very difficult to attract capital. The point I like to say, you look at the last year, 300 billion dollars went into commodity related investments. 299 of that 300 was to green, ESG, choking off the capital that would have otherwise gone into, call it, old economy carbon-type of investments. And as a result, you have the shortages that we're seeing today.

And even at these price levels, there is no indication we're making any type of improvement in these imbalances. We're not seeing the increases in supply. Nor are we seeing demand damage at these levels. What does that mean? The only cure for those imbalances is higher prices.

**Allison Nathan:** And that's true for OPEC too? Can't OPEC pump some more oil into the market at this point?
Jeff Currie: Very good point. When we look at OPEC, they talk about the 400,000 barrel per day increase month over month that are part of the rebalancing effort. But the reality is those 400 increases are probably closer to 280. Why? There are only a few countries that actually can reach their quotas, mainly the Middle East producers. Outside of that group, even Russia has difficulty hitting their target. We like to emphasis there are really only two producers out there who can produce more today than they could in January 2020 before COVID struck. And that is Saudi Arabia and the UAE. Maybe Iraq falls into that category. But Russia can't. And even like the US, the US is at least 1.5 million barrels per day below the levels today relative to where it was in January 2020.

So, supply is very constrained. And these problems don't just exist on the oil side. You see it in metals. And you can see it in agriculture. In agriculture, the weather in Brazil and Latin America has not been cooperative. And soybeans just spiked in the last day or so.

Allison Nathan: Before we talk about other commodities,
let's just recap where we are in oil here. So, supply is constrained. Demand is growing, even if it's going to grow at a slower pace, I think is the point you make, if economic growth slows. And so, you're ending up with tight markets. What does that mean for oil prices? What's your forecast?

**Jeff Currie:** Our forecast is $105 a barrel in the second half of this year. Obviously, getting pretty close with oil already around 93 right now. But I want to emphasize the risks are very much skewed to the upside, particularly if you don't see any supply increases over that time period. Why? Because we have OPEC pushing to capacity. So, we're likely to hit capacity constraints. The last time since 2004, as we all know, prices went from roughly around $35 a barrel all the way to 147 during that time period because you exhausted that spare capacity.

And so, inventory is very low. Extremely backwardated markets. And you exhaust spare capacity. So, the ability to see spiking prices, similar to what we saw with the European energy crisis in gas and power, have the potential to occur in oil as well.
Allison Nathan: Let me ask you about that, because if we get a big spike, I've been asking you about the implications of slowing growth on oil. But if we got a big spike in prices, could that be actually a risk to growth? Should we be concerned about that?

Jeff Currie: I wonder that myself. We cover 27 commodities that go into the index. Every single one of them is in a deficit. Inventory is declining. Near critical operating levels. And high spiky prices with steep levels of backwardation. Remember, that's that term that talks about spot prices above forward prices, which is an indication you're willing to pay a premium today for that commodity. That is telling you you're out of this stuff.

And when we think about what is the potential here? Can we be out of physical goods that's slows growth well before the rate hikes ever do any reduction in overall activity and the global economy is depending upon the service sector to keep it going? That is an option potentially here because the supply constraints on the physical side are pretty significant.
Now, the one thing if you think about it more on a broader economy perspective, the way you can think about it is in 2020 we had a hit to finished goods. In '21 it was all about logistics constraints. And 2022 will probably be about raw materials.

Now, the question is, as we get rid of those logistic constraints, can growth continue to accelerate, or do we hit bottlenecks and raw materials that create further [UNINTEL]? Because parts of those disappointments in growth you're referring to were those logistic constraints. So, the question is, do these raw material constraints also do the same in 2022?

**Allison Nathan:** Well, the other situation that could be impacting some of the broader commodities that you've begun to mention is, of course, the tensions between the Russia and the Ukraine. Can you talk a little bit about how that feeds into this broader situation, especially when we're thinking about agriculture, natural gases, some of these other commodities that are centered in that part of the world?
Jeff Currie: Well, let's start with energy first. An old timer has told me that the only time you've ever seen energy disrupted between Russia and Western Europe was the day that Hitler invaded Russia in, was it, 1941. In other words, it doesn't happen. It's mutually assured destruction on both sides. It's not in either party's interest to cut those supplies.

So, you know, whether if it's sanctions, whatever it might be, it's very unlikely that you would see supplies disrupted, either from a demand perspective or from a producer perspective, like on Russia. This is part of the reason why Putin is as aggressive as he is over Ukraine because he knows that, call it, mutually assured destruction exists.

Now, when we think about the other markets. Grains. There's a potential for seeing disruptions of grains that are being shipped through, primarily wheat and corn coming out of the Ukraine. But I think in terms of why is the market pricing in a little bit of a premium? Part of that is accidents, you know, the unintended consequences of what's going on in the Ukraine right now. So, it wouldn't be done deliberately. But we could see an accident with a
pipeline event or something like that triggering a disruption. But it's very unlikely there would be energy used as a weapon or anything like that because Russia is too dependent upon the revenues. And Europe is too dependent upon the actual energy, particularly during the winter.

**Allison Nathan:** So, food prices are in focus though from this perspective. We've also seen other issues affecting food supply. Where are your food and agriculture forecasts at this point given all of these considerations?

**Jeff Currie:** Well, at this point the rally that we've seen both in corn as well as in soybean, they're pricing in a pretty significant disruption. So, when we think about our targets, take corn, it's pricing in a little bit above $6 a bushel. We see it somewhere around $7. So, you can see it's priced in a good portion of our price forecast. But I want to, again, emphasize, inventories are low. Weather, just in the last couple of days, has gotten worse in places like Brazil, which means, again, those markets are severely vulnerable to any type of disruption. So, the upside could be well above where our targets are.
We went into this year with really strong views on commodities. But just in the first five weeks of the year, prices have rallied so strongly, our views have diminished in terms of showing substantial upside here.

But I think the main takeaway that I like to suggest here is there is a lot of upside here and potential. It's going to be a very bumpy ride. So, I like to say, get long. Hang on for the ride. Strap your seatbelt on. And you'll see the mile posts when to get out of these markets, such as increased supply, potential demand destruction. At this point, we're not seeing any of that.

**Allison Nathan:** Well, just to round out your thoughts on the complex. Metals. They've been in focus. But I think more structural factors at play. Can you talk us through what you're focused on on that side of things?

**Jeff Currie:** Well, why don't we take a step back and talk about commodities more broadly in the super cycle story and put them in that context? When we think about the super cycle story, it's the supply story that we have briefly
talked about. We like to call that the revenge of the old economy. And then there's a structural demand story.

So, let's start with the supply story and then I'm going to move to the demand story. Allison, you were there when we coined the term The Revenge of the Old Economy in February 2002. What were we observing at that time was the dotcom boom taking capital away from the old economy to allow it to grow its supply base. And when China came into demand growth in the early 2000s, it bumped up against those supply constraints. It's the exact same story. And instead of the dotcom boom, what we have this time is the FANG boom. In fact, each one of those super cycles, the one in the '70s that started in 1968, the one in the 2000s that started in '02, and then let's call it this super cycle that started in, we date it from October 2020 when we first started calling for the super cycle, every single one of those super cycles were preceded by a very frothy equity market. You had the nifty 50 in the 1960s. You had the dotcom boom in the '90s when you and I were coining that term The Revenge of the Old Economy. And you have the exact same story once again.
And when we think about the impact that that's having, is that when you saw the bump in demand from the COVID stimulus, what it did is it exposed just how severe those supply constraints are. It doesn't matter if we're talking about metals, oil, agriculture, they're all under invested. And then you have that ESG overlay.

Now, that's the supply story. It goes all the way back to actually '08/'09 because coming out of that financial crisis there was an emphasis on short cycle capex over long cycle capex. Think about it. iPhone short cycle capex compromising long cycle capex. And so, you didn't get that investment.

Now I'm going to jump over and let's talk about the demand story. The catalyst for the demand story was COVID itself. Why? COVID was a crisis of inequalities. It exposed all the inequalities in society on a global basis at a very raw form such that governments could no longer ignore them. And policies shifted from being focused on macro stability pre COVID, to being focused on social need post COVID. And that's critical. Why? Because lower income groups and the disadvantaged groups that that policy was focused on, are
the primary consumers of commodities in old economy goods. And then if we have policy focused on the lower income groups, that's what's driving that structural rise in demand.

Now, I just want to stop here for a second. One thing I definitely wanted to leave our listeners was is the following point to understand what drives commodity markets. When we think about commodity markets, they're what we call volumetric markets. They're driven by the number of barrels consumed or the number of bushels of corn consumed. Financial markets are dollar markets. They're driven by financial flows. How much money goes into these markets?

Now when we think about the following, what do the world's high income groups control? Dollars through wealth and income. What did the world's low-income groups control? Volume. And this really matters.

So, I like to say, can high income groups create financial inflation? Yes. Can they create GDP growth? Yes. But can they create commodity bull markets and physical good
inflation? No. It's numerically impossible. There is not enough of them.

So, when we think about physical good inflation or commodity inflation, it has to be driven by the lower income groups. Just think about this. Does the high-income group consume that much more corn and sugar and everything than the lower income group? No. So, the only way you get that volumetric demand growth is the lower income groups have to participate.

And I'd like to point this out, is that every commodity bull market in history has been driven by the lower income groups. Think about the '70s. War on poverty. Think about the 2000s. 400 million low income, rural Chinese got new jobs and that's what drove that bull market. And so, when we think about these two stories put together, the revenge of the old economy, and this structural rise in demand, they're really kind of one and the same thing because what happened after '08/'09? We pulled the carpet out from underneath the lower income groups. Their credit was taken away after the subprime crisis. And then we also had QE, which benefited the higher income groups at the
expense of the lower income groups.

And then what happened in March 2020? All of that reversed with COVID. And what we've seen is that structural rise in demand. And there are three policies that we're focused on that we think are going to drive this, not only over the next couple of years and they have been recently, but potentially over the next decade or more. One is income inequality and redistribution policies. Two is the climate change or war on climate change. Call it decarbonization policies. And then we can think about the trade war of deglobalization. All three of these policies are very much tied to one another and are going to likely support commodity demand.

So, I want to bring it back to metals. And when we think about, really, what is at the core of the metal story? At the core of the metal story is the decarbonization. It is the war on climate change. Why? And I'm going to to compare it to the 2000s and China. Is we expect that this decade alone, you're going to see upwards of 16 trillion dollars of additional capex on green investments. That's the equivalent of one China in the 2000s. That's about what
China spent in the 2000s.

The following decade, it's two Chinas. So, one China this decade. Two Chinas next decade. That's really sitting at the core of that metals demand.

And when we think about which commodities are going to be sitting at the center of it, I like to point out copper. It is king to this story. You cannot conduct electricity with copper given the restrictions around the periodic table and the laws of chemistry. So, as a result, we like to say copper is the new oil. It's the strategically most important commodity. And that's the one that you're going to have to spend the most on.

Next in line is aluminum. It's the climate paradox. You produce aluminum, and it creates a lot of emissions. But you can't solve climate change without using a lot of aluminum. So, it's got that paradox component to it, which means they're going to be the ones that really benefit from this large-scale investing.

**Allison Nathan:** So, given everything we've discussed,
Jeff, how should investors think about commodities within their portfolios and the inflationary pressure that they could continue to contribute?

**Jeff Currie:** I am utterly baffled right now of the lack of interest in this space. Whether it’s in the commodity equities, the credit, the actual physical commodities themselves. The only demand that exists in this space is the actual real, physical demand from people who need to use this.

I like to point out what separates commodities from financial markets is in the physical markets you have a captive producer and a captive consumer who can do nothing about the position. They have to buy it. It gets really cold in New York Harbor. They're buying heating oil. In contrast, the paper markets or the financial markets, nobody has to buy an energy equity. There's no forcing mechanism to do that. So, when we think about what are going to be the best hedges for potentially inflationary pressures generated by higher commodity prices, it's going to be the actual commodity itself because there is that forcing mechanism. Somebody has to buy it.
So, when we think about this space and going forward, let's say there are 250 trillion dollars of AUM in the world right now. If only 1 percent of it goes to commodities, that's 2.5 trillion dollars. Do you know what the amount of investment is in right now? It's somewhere around 225 billion. It's just miniscule relative to the potential.

So, I would tend to think a large portion of these asset managers around the world are going to have to turn to physical goods, physical commodities, as a way to hedge that kind of risk as we start to look out further in the risks associated with decarbonization.

**Allison Nathan:** It's always so great to hear you talk about these markets, Jeff. I miss it. Thank you so much for joining us and sharing these insights.

**Jeff Currie:** Great. It's a pleasure to be here.

**Allison Nathan:** That concludes this episode of Exchanges at Goldman Sachs. Thanks for listening. And if you enjoyed this show, we hope you subscribe on Apple
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