



The Perch Pod Episode 39 Energy Investing with Chase Taylor

Jacob Shapiro:

You're listening to the Perch Pod from Perch Perspectives. Hello listeners, and welcome to another episode of the Perch Pod. As usual, I'm your host. I'm Jacob Shapiro. I'm also the founder and chief strategist of Perch Perspectives, which is a human-centric business and political consulting firm. A reminder, check us out at perchperspectives.com for more information on the geopolitical risk services that we offer. You can also check us out at latampolitik.com if you want to receive our three times a week newsletter on the geopolitics of Latin America.

Jacob Shapiro:

Joining us on the show today is Chase Taylor. Chase is a macro trader and the global macro strategist and editor at Pinecone Macro Research. You can find more about Chase and his work at pineconemacro.com. There's a lot of synergies between the way that Chase approaches macro strategies and my approach to geopolitics. Aside from his excellent work at Pinecone, Chase started in the Air Force working on B-1 bombers and spent a lot of his career as a geospatial intelligence analyst.

Jacob Shapiro:

So it was really great to get a chance to talk to Chase and hear some of his perspectives on investing going forward, and especially on the energy sector, and probably some narratives and some ideas that you haven't heard out there. At least, that's the hope of bringing interesting guys like Chase on the podcast. Two little housekeeping notes. We recorded this on Friday, August 6th. I think it'll be about three weeks before this comes out. This is largely a macro-focused conversation. But just so you know, that's the context that we were talking from. Okay, enough of that. Let's get to the conversation with Chase. Cheers, you all. All right, Chase, welcome to the podcast. Thanks so much for coming on. It's a pleasure to have you.

Chase Taylor:

Yeah, I appreciate you having me on. It's a tough act to follow after the last show, but I'll do my best.

Jacob Shapiro:

I don't even remember what the last show was. What was the last show?

Chase Taylor:

I think that was Marco, Cousin Marco.



Jacob Shapiro:

Oh, yeah. Cousin Marco. They broke the mold when they made Cousin Marco. They don't really make them like that. But you should be happy to know that... Well, I thought the podcast on Nord Stream 2 is very good. But it's a very wonky podcast. It's actually going to be the one that people hear before you. So, maybe that makes you feel better, I don't know.

Chase Taylor:

Yeah. I look forward to listen to it.

Jacob Shapiro:

But since it is on Nord Stream 2 and since you were just chatting on it before we hit the record button, maybe we should just start there. Natural gas prices have gone through the roof. Wall Street Journal is calling natural gas the commodity of the summer. And you're one of the only people I know who has been talking about this literally for over a year, bullish on natural gas and thinking that prices were going to go higher. So why don't we just start there? What are you seeing right now in natural gas markets and what do you think the prospects are for the next three to six months?

Chase Taylor:

Yeah. So natural gas has been just on my radar for a long time. But when I really got bullish and gotten involved was in March of last year, whenever the oil price war kicked off. It was like finally a catalyst that could help natural gas prices get off the floor, because it's been just a commodity that's steadily leaked lower in prices really as long as I've paid attention. And it needed a major inflection point to happen to change the narrative. And that did happen when the biggest oil producers in the world decided to flood the world with oil as we went into a pandemic, took off a lot of associated production that comes along with shale oil production in the US, which helped clear the market.

Chase Taylor:

And right now, I think what is probably most interesting in the gas market is what's going on in Europe. Part of that is from Russia, not necessarily giving Europe all they want via pipeline. So prices are skyrocketing in Europe. Part of that is low supply, naturally, is going to give you higher prices. But on top of that, carbon pricing adds to that. So electricity in Europe is very expensive right now, which has a lot of political ramifications moving forward.

Chase Taylor:

And for those unfamiliar with natural gas markets, typically in the summertime, it's when you inject a lot of supply and store it. And then in the winter, you draw that down. If you look at a chart of the storage of natural gas, it's like a big sawtooth because of that. So in the summer, you really need to build up a lot of supply for the winter. And it looks like what we could have is globally just less supply going into the winter than we normally have. And I personally think we might have a very cold winter globally. And if that happens, then you can see a crisis when it comes to natural gas supplies.

Jacob Shapiro:

Yeah, before we get to the weather, it seems like it's been one... So you mentioned the oil price war with Russia and Saudi Arabia, particularly ill-timed. But then Asia was having shortages because they had a particularly cold winter this last year, or at least there were a couple of weeks there were things were really short. Latin America where hydro power is really suffering because of drought there, they are now importing LNG at higher rates, whether it's Brazil, Argentina, and now you've got the Europe issue. I'm not conspiratorial about this. I don't think that Russia planned it this way. But, man, if you're Russia, you literally could not have timed any of this stuff better with Nord Stream 2.

Jacob Shapiro:

But the flip side also, and you alluded to this with sort of EU carbon trading schemes and things like that is that long term or at least rhetorically long term, the EU is probably at the forefront of getting away from hydrocarbons completely, to the point that Russia is talking about having to adopt blue hydrogen full scale, which there's still like application for natural gas with blue hydrogen, obviously. So do you think this is a passing moment in time here for the next year or two or do you think that it's the possibility for an extended bull run on natural gas? I mean, you also alluded that natural gas has been in a bear turn since 2014. So, is it an equal and opposite reaction or is it just a one, two-year reprieve here?

Chase Taylor:

I'm personally in the longer term camp. I think this is a structural issue. And that part of that is colored by a view I personally have that renewables will struggle to take the market share that we all have been led to think that it's going to happen. Just from a basic how grids work standpoint, it's difficult to rely too heavily on renewables, especially variable renewables. You can get away with it with hydro, usually, although this year is showing that there's some issues there.

Chase Taylor:

But I just think until we have that battery solution that really can store renewables on a commercial scale at a reasonable cost, which, currently nothing has really been commercialized that makes that work. There has been plenty of innovation lately and a lot of promises made, but I will wait to see that delivered before I change my structural view. And just on that weather thing earlier, I think this winter is going to be bad, but I think it's going to be... And I know this to be controversial but I think we're going to be in a cooler regime for the next really decade or two.

Chase Taylor:

So whenever you look at something like that, obviously no one's pricing that in or really expecting that. And if we do get that, everything we know about supply and demand for natural gas is going to change. And even if we do get a lot of renewables, I think natural gas is last survivor especially for electric grids. Coal, obviously, is having a big renaissance this year. So we haven't really hit peak coal yet. So, of course, we're not going to hit peak natural gas demand in the next two years in my opinion.

Jacob Shapiro:



Yeah. Well, let's sit on the weather thing there for a second, because I don't know a lot of people that are saying that. So I want to hack into that a little bit more. And what are you seeing that makes you think that we're in for cooler winters going forward here for a prolonged period?

Chase Taylor:

So when it comes to weather, I've done a ton of research. I actually wrote a monthly piece like a couple years ago about it. And what originally I started with was just solar cycle stuff, which I think a lot of people realizing, hey, we're going to hit a solar minimum here. And that is going to reduce some pressure on temperatures like that's not controversial at all. But if you overlay that with some other cycles for weather that have more to do with planetary alignments, specifically Neptune and Uranus and Jupiter and Saturn, the way those all line up has significant impacts on sea surface temperatures, because they impact the way our currents work.

Chase Taylor:

What I think a lot of people lose sight of is how much sea surface temperatures impact just our air temperatures. And down at the bottom of the ocean is very cold all the time no matter what regardless of carbon emissions. If something happens, that brings up that cold water towards the surface, you end up with just cooler temperatures, this is this is how that works. And these different cycles of the way planets line up, I know this sounds kooky but that has a lot of impacts on that that will bring cooler sea surface temperatures.

Chase Taylor:

And I'm assuming people listening are at least familiar with La Ninas and El Ninos. And really that's what that is. But on a small cyclical level whereas some of these bigger cycles, Gleissberg cycle, things like this, they're more secular. They're longer term. They're bigger movement. And what we have right now between the solar minimum cycle and a couple of those planetary cycles I was talking about, they overlap in a way they haven't since about 1590. And it was pretty cool back then.

Jacob Shapiro:

Yes, it was super cold back then. And I'll tell you, it does sound a little kooky, but I like a little bit kooky. Usually, when you haven't heard something before, either it's completely crazy or there's something to it. And I can vouch for you that you're not completely crazy. I want to hear more about this. The difference between now, though, and maybe the last time that these cycles converged that you're talking about is that there's a lot more CO2 in the environment than there was then. Sea temperatures are already much warmer than they were then and are getting much warmer, all the trajectories are really bad. So, have you seen any modeling or thought at all about how current conditions are going to interact with these cycles or is that just we have too many variables now to make any firm comments about that?

Chase Taylor:



So I would say the too many variables part. And I would assume, so like NASA looks at this, but they mostly look at solar cycle and they say, hey, yes, this is going to cool us down. But essentially, what you're saying, the basic climate models they're just too hot for that to really have a dramatic impact. But they're not overlaying these different Myrdal oscillations and different long-term weather cycles that all overlap. And I think that's where a lot of people are missing that piece.

Chase Taylor:

But I would say it stands reason to makes sense that this probably won't be like an Ice Age situation where we have just insane plunge in temperatures, because we have this warming that we've created since the Industrial Revolution that should keep it from being quite as bad. Like you mentioned, Asia last winter, and Europe, they had rough winters. And just what those alone did to LNG markets and gas prices in general, I mean, we're still feeling the effects of the supply drawdown from that. And the infrastructure really just is in place to get enough LNG moving to make up for something worse than that. And what I think is coming is going to be worse than that. It obviously has dramatic impacts on agriculture in the future as well.

Jacob Shapiro:

Yeah. And I mean, to your point, the politicization of climate change has really made it very difficult to talk about these things in a way that is in any way rational or coherent. Because when you have one side of the argument that is basically denying that anything is wrong and another side of the argument that says we have to stop everything we're doing in order to avert certain catastrophe and we're all going to die in 30 years, it's really difficult to get a word in in the middle.

Jacob Shapiro:

So, it sounds to me like you're not... And I'm doing this for listeners because you need to calm down for a second here. I don't think what Chase is saying is that climate change isn't real or that this isn't a pressing problem. We're talking about markets right now. And as you alluded to, I mean, even just a particularly cold week can send markets into a complete tizzy. I was in Texas earlier this winter when a cold week in Texas shut down the entire energy grid. Natural gas prices went completely through the roof then.

Jacob Shapiro:

So if we're talking about even small changes compared to what people are expecting the market to be, that might not change the overall trajectory or even the importance of dealing with climate change. But I think what your point is that at a market basis, if you're thinking about what's going to happen in the next two to three years, that can have a tremendous impact if you're not appropriately preparing for those sorts of contingencies. Is that a fair way of summing up what you're saying here?

Chase Taylor:

It is. And honestly, the way I see it is... If I'm right about this stuff, and who knows, but trust me, listeners, I am not in any sort of climate expert. I'm a macro guy, which means my knowledge is a mile



wide and an inch deep and it's less than an inch deep on this. So take it all with a grain of salt and some tequila, but what's scary to me, honestly, is that I assume climate change is real, and everything that we know about it is real.

Chase Taylor:

So, if we do get this cooling and it does last for a while the way it looks like it should base on some of these cycles overlapping, that's scary because if everyone decides, like, oh, that wasn't real, let's just not worry about it. But if this is just natural cycles, the way I see it, then obviously, they go away. You get the hot cycles, they come back again. So if we give up on changing the world say 10 years now, if this looks like it's cooling, like who cares now, that's scary to me. Because then all of a sudden, you just start belching coal again or whatever. And if no one cares about emissions 20 years from now, the next time the cycle turns, we have a problem.

Jacob Shapiro:

Yeah. Well, and that segues nicely into a piece you did that I read this morning about coal, which really threw me for a loop. I mean, you made a very pointed comment here that we haven't even hit peak coal yet. I sort of knew that intuitively. I mean, China obviously still uses a lot of coal. India is one of the largest coal consumers in the world. South Africa is another huge one. It's because it's cheap and it's plentiful there.

Jacob Shapiro:

But you had some statistics in there just about how many people in the world still haven't made the transition to high energy and how there is just going to be basic demand for coal going forward and that you can't from an investment standpoint just leave it behind. So, talk to us a little bit about what you're seeing with coal and why you think even coal, which is probably the redheaded stepchild of all the hydrocarbons, is posed for maybe better performance than people are maybe thinking.

Chase Taylor:

Yeah, it is the redheaded stepchild, and it should be. It's incredibly, I mean, carbon intensive. But at the same time, it is really robust. So, I think people get really hung up on renewables in the grid and they don't realize that you can't depend on them. And that's why you have some grid failures. And we're used to third world countries having those problems. We think about Nigeria where everyone has a generator and things like that, and all of a sudden California just in the last month is saying they're going to pay industry to use generators at certain peak hours because they need the electricity.

Chase Taylor:

And obviously, California has a heavy renewable grid. And obviously, it's a perfect storm at the same time. They're going to have a nuclear plant go offline and they don't really buy a lot of electricity from their neighbors. No one was really expecting to have a drought so bad that you lost hydro production. So it's not as bad as a lot of the climate denier type folks like to say about California. But at the same



time, if you're telling people, please don't plug in your EV and telling a factory please run your backup diesel generator, obviously, there's a grid problem there.

Chase Taylor:

And the point I just want to make is you can't just go 100% renewables on a grid without batteries. That doesn't work unless you have almost all hydro or something like that. And because of that, something that's interesting is natural gas, obviously, is a base load power. You can just always have it on. But at the same time, you can just have a big pile of natural gas sitting there. You have to pipe it in. And that's not that hard to have interruptions with. Whereas coal, you can literally just have a ton of coal sitting by and is waiting.

Chase Taylor:

And so, the robustness of those plants is meaningful. I think even 30 years from now, it would make sense to have backup plants of coal, just because you can turn them on with ease. But obviously, we should get really far away from coal because of the climate impacts. But it's just one aspect, I think, people lose sight of is that robustness. And the fact that you can depend on it in ways you can't depend on almost any other source. But 20 points, if you think about the emerging world, the amount of energy they use, it's just a lot less than us in the west.

Chase Taylor:

So we sit in the west, we're rich, we think we can move to all these new and sometimes more expensive means and a lot of people like to point to how cheap a lot of renewables are today. But if you really think about it, a lot of that is because we haven't begun to mine all the things that go into those at scale yet. And when you do that, the price of nickel and you name it, it goes up, and that all of a sudden all the inputs are expensive, and all of a sudden the electricity is not that cheap anymore. That's something that deserves some thought as we move forward in the transition.

Chase Taylor:

But if you're in Southeast Asia and your population is just starting to hit that wealth S-curve of per capita GDP reaching the point where people want more electricity, there's places in Southeast Asia where 10, 15, 20% of people have air conditioning, I promise you, 100% want it and more and more will get it as they get wealthier. And that requires a lot of electricity and plenty of those plants, there's almost has to be coal because it's just how the math works. So, coal is not going away. The amount of coal being used today is as high as it's ever been. And the funny thing is, is whenever I started the research on coal, I just assumed the usage had gone down globally. So I was actually taken back by the fact that it hasn't moved yet. So, it's definitely interesting. As we move forward, can we actually get away from coal? We have in the west, but globally we haven't.

Jacob Shapiro:

Yeah. It's slightly depressing to hear you say that. But, I mean, I guess that's what reality is. It struck me as you're talking. Until we have a battery that is as cheap and as plentiful and as reliable as a pile of coal,



probably it's going to be hard to get rid of coal, as you said, from a backup standpoint. And like you said, some of these other countries. You were skeptical about China moving away from coal. It seems to me that China is going to have a little bit more of an impetus to move away from coal than some of those other southeastern Asian states, for the simple reason that once the Chinese government decides that it wants to do something, it will generally do something and it wants to get away from coal.

Jacob Shapiro:

But it's hard to argue, I think, with your general macro picture. I mean, even if the European Union and the US and some of these more renewable-focused countries are able to push forward with their plans, unless you can get a bunch of other countries on the same page, coal usage is probably still going to go up. It's just going to go up in different places around the world, and it's still going to be something that is plentiful and cheap for folks to mine.

Chase Taylor:

Yeah. And when it comes to China, one of the reasons I think they might just stick around in cold a little more and longer than folks expect is just the security of supply. They can get almost all the coal they need in country, which is obviously a nice thing to have. You don't have to ship it. In any sort of conflict scenario, you can actually keep the lights on, which I think is a big deal. And that could be just a thing where they mothball plants and just keep it on standby for an emergency and do heavily move away. And I think we all hope they move away, because that's one of the biggest sticking points. There is globally. The US has had significant reductions in emissions and it's almost 100% just tied to moving from coal to natural gas. That's the keystone of our reduction in emissions in the US and in Europe as well.

Jacob Shapiro:

Yeah. Let's move from there to a piece that I read of yours that was in some ways the most interesting for me, because it most dovetailed with my expertise in geopolitics. And it's something that I've been looking at from a different angle as well. And that is copper, in particular. You alluded with that a little bit, because copper is one of these commodities that if you are going to scale renewables, you're going to need a lot of copper and a lot more copper than is being produced at scale. Copper prices have roughly doubled in the last year and they're up about 20% year to date, but they have declined roughly 9 to 10% here, what, in the last quarter or so. So we're recording here on August 6. This won't come out for a couple of weeks. But just from where we sit right now, where do you see copper price is going for the rest of the year, and then maybe give us some of your macro thoughts or macro outlook on where copper is going from here.

Chase Taylor:

So I'm definitely bullish on a secular basis in a big way. When it comes to the rest of the year, I can honestly see it going either way. And a lot of that circles back to Latin American politics. So, folks seem to definitely check out your research product on that, because it's going to be helpful keeping an eye on



what's going on in Chile and Peru as we move forward politically, because as we record this, we don't know what's about to happen with possible strike at the world's biggest copper mine.

Chase Taylor:

So, here's a perfect example of why you have to keep an eye on the politics there. And for anyone that doesn't know, about half of the world's exports for copper come out of the region there. So that's a big deal. And this is one of the things I found really interesting that haven't seen too many people talk about that I wanted to ask you about, specifically, when it comes to Chile. If you think about this global energy transition and the fact that we're going to need a bunch more copper and half of it basically comes from those two countries in Latin America, obviously, they're talking right now about raising taxes or fees and finding new ways to generate income from the copper miners.

Chase Taylor:

And, obviously, the way you have to approach that is trying to get as much money as you can without killing the golden goose. But there's a fine line to have there. But if we get into a situation where production say goes up 50% in those countries in the next 5, 10 years, the amount of money that those two governments can make is significant, especially if they extract the perfect amount of rent from this without ruining production. I just see the possibility to have significant money into the government coffers in Chile and Peru. I want to hear your thoughts about what the implications of that could be. Could you see some sort of really productive renaissance there that could be a big deal for those countries?

Jacob Shapiro:

Yeah. So there's a lot to pull apart there. Let's attack the question. So you alluded to it, I think it's 45 to 50% copper exports in the world come from Chile and Peru. They're also the two top producers in the entire world. China is the number three producer but it doesn't export. China is actually a huge importer even though it's the third largest producer of copper, which is sometimes confusing for folks. And about 60% of Chile's copper exports go straight to China. It's like seven million tons out of 12 million, something like that. We can post some data with the podcast.

Jacob Shapiro:

But then you round out the rest of the major exporters. It's Australia, Canada, Mexico, which when I was prepping for this podcast, I hadn't quite realized how stark that was. But those are all countries that are either in the US alliance network or even solidly in the Western Hemisphere. The only one that isn't there is Australia. And Australia and China have terrible relations right now. You have to go down pretty far down the list till you get to Mongolia, Kazakhstan, the Democratic Republic of Congo as major copper exporters that China can rely on there.

Jacob Shapiro:

And it's not just China. It's also Japan, South Korea importing a lot of the stuff because that's where a lot of the tech is actually being assembled. So there's a lot of interesting issues there. But let's put that



aside for a second. In terms of politics in the region, as you said, it's Friday, August 6th, the biggest copper mine in the world is Escondida. It's in Chile. The workers there said they haven't been able to reach an agreement with BHP. This morning, it seemed like BHP had started to cave a little bit. They have until Monday to come to an agreement. The copper union or the workers union there, they're ready to strike if need be.

Jacob Shapiro:

It looks to me like maybe they're going to get through it. Maybe I'll look stupid a month from now when we post this. But it seems to me like we're trending in the right direction there, but who knows. This is something you have to deal with when you're in Latin America in general. There's just a lot more tradition of worker protests throughout the region. We're seeing this right now with corn futures where just as major Argentine ports are struggling because of drought there on the Parana River.

Jacob Shapiro:

That's when the workers of the alternative ports decided to go on strike. That's just a fact of life here. But to say it succinctly, I'm bullish on Chile and I'm bearish on Peru. That's not to say Chile is going to be stable by any means. I think it's going to be pretty volatile. But when you look at Chile, it's got a solid education system. It's got high GDP per capita. It's really not threatened by anyone geographically because of where it is in the Andes. It is a smaller country. And it is simply easier to deal with resource commodity wealth as a smaller country than as a larger country.

Jacob Shapiro:

It doesn't mean it's always going to work. Really great example is oil in Norway or oil in Libya, both small countries both blessed with oil. Norway did a good job, Libya did a bad job. We could talk about all the reasons that that's the case. Chile, I think, can think about using copper and lithium in the same way that Norway uses oil. That's on the table for them. It's not outside the realm of possibility if they have good policymaking. And honestly, I think they will have good policymaking. This period of adjustment that we're going through right now, it was long overdue.

Jacob Shapiro:

The previous constitution was written by crazy right-wing dictator. I wouldn't want to live under that constitution either. Nothing that's happening in Chile and politics makes me confused. It all makes sense, you can see the moderates coming out, people are voting for political independence. I'm chill with Chile, if you'll forgive the terrible pun. Peru, I was already scared and I'm getting more scared every day based on what Castillo is doing. He made a lot of noise on the campaign trail and then suddenly found himself as a frontrunner.

Jacob Shapiro:

And I took some solace in the fact that as a frontrunner he seemed to want to dial things back. He had been talking about straight up nationalization of mining companies and Peruvian mining assets. He taught he walked a lot of that back. You had senior advisors of him giving interviews in English to



Bloomberg saying, no, we're fine, we're moderate, we're not going to do this sort of stuff. And his first salvos as president here in the in the last week, there have been some indications of moderation.

Jacob Shapiro:

He's going to have a finance minister who's relatively moderate. It doesn't look like he's going to fool around with the Central Bank. But some of the other stuff he's doing insane scares me, and sounds like he's going to try to push forward. The silver lining there, though, and this isn't necessarily a silver lining for Peru in general, but the silver lining about Castillo as a threat is that Peruvian politics is completely screwed up. So he doesn't have a majority in Congress. He's not going to be able to push any of this stuff forward.

Jacob Shapiro:

I think there's a better chance that Castillo is not president in a year than there is that he's going to push forward any of his very ambitious proposals when it comes to mining. But that's bad. I think Peru is in for years of political gridlock. And to your point, if you don't start making policy decisions right now for this future influx of wealth, you're going to lose it or you're not going to be able to capitalize on it in a way that is actually good for your own country, whereas Chile is a country that I think can do that.

Jacob Shapiro:

So, that's a long winded way of saying that I'm bullish on Chile and bearish on Peru. Even in Chile, though, I would say if copper prices are going to double in the next five years, yeah, they're going to want to tax it. They're going to want more money from the mining companies. That's not unreasonable so there's going to have to be some modus vivendi there between them. And I think if you have a stable government that's been able to get through what I expect the Chilean government to get through, there's a prospect for negotiation there in a way that there probably isn't in Peru if it continues on its path.

Chase Taylor:

And that all makes a lot of sense to me. And this is the way I currently read it as well. So, I think Chile is a country that people, especially macro people, investors should take a hard look at in the next couple of years as a place to allocate capital.

Jacob Shapiro:

Yeah. And, I mean, we can talk a little bit about the secular and structural forces undergirding the copper market in general. But we should also point out, I mean, Chile is by far the largest producer and exporter. But Peru is number two. We're talking about 15% of global exports. So if you've got a situation where Peru really went off the deep end and protests that we're disrupting supply chains or export operations in Peru. And it's not crazy, this just happened with Colombian coffee two months ago, and Colombia is in much better shape than Peru is. You're talking about taking 15% of copper on the market off if Peru really goes crazy.



Chase Taylor:

That would be horrible for markets that if you look at supply and demand over the next decade, the projections, it's already a big deficit problem. Despite the fact that we have some big mines coming on, it's still going to be a deficit. So if all of a sudden you even cut in half Peruvian production, this is a major problem for the copper would be incredibly expensive. And along with it, so aluminum would become incredibly expensive as well.

Jacob Shapiro:

Yeah. One of the most eye-opening points that you made for me in one of your reports was... And we'll have links to your website, obviously, so listeners can go there and check it out and we're going to give you a nice intro in the beginning. But when you just look at basic high level reports about copper, it seems like copper reserves are growing, that there's going to be maybe supply to meet demand. But you made the point that we're actually dealing here with fewer reserves of lesser quality, that some of what's happening is that because the price of copper is increasing copper that before it wasn't profitable to mine, it actually is profitable to mine at certain prices, which, okay, that's in the reserves, technically.

Jacob Shapiro:

But if we're moving towards a place where it's fewer reserves, lesser quality, maybe those top-down figures aren't as great. So who knows, maybe somebody will make a huge copper discovery and these things will sort themselves out. That's completely possible. But it seems like if we're on the current track, there was one stat you had in your report, you said we need eight more Escondida mines, this one that we're talking about where the strike might happen, just to meet demand probably out to 2030. And that's probably being relatively conservative, right?

Chase Taylor:

Absolutely. And because I'm a little less excited about the energy transition, at least the speed with which I think it happens. One of the reasons I like investing in copper is if I'm wrong about all that, you have gas and oil aren't going to do what I expect them to do but that means copper will explode. And so, I view copper as a bit of a hedge on my fossil fuel portfolio for that reason.

Jacob Shapiro:

Any other thoughts that listeners should have in general with thinking about copper and where we're going with that particular resource?

Chase Taylor:

The biggest thing is just understanding if this energy transition goes the way people expect, it will be an explosive bull market and, honestly, if it's half of what we expect that will be. But yeah, you hit the nail on the head with the way the producers have hydrated gone after the ore that has the most in it. So I think it's something just in the mining in general that people lose sight of is the economics and the geology of where you're mining. So a lot of times, producers will go get the easy stuff, the cheap stuff



out of the ground. And they're left with the more difficult and expensive to get to later. And that's the stuff that doesn't make it into your basic supply and demand models, but it matters in the end.

Jacob Shapiro:

Yeah. What about lithium? Is lithium another commodity that you're fairly bullish on? It's obviously critical for lithium ion batteries and with electric vehicles. So critical, in fact, that there's a lot of scientific research being done about how to not depend on lithium batteries and trying to find other sources, which makes me think maybe it's a passing fad because they're going to find something maybe that's cheaper or easier to mine at some point. But where are you on lithium which Chile, again, another major exporter, Argentina, all those countries, Bolivia as well, is that a commodity that you're also bullish on or are you a little more skeptical?

Chase Taylor:

I'm bullish but definitely a little more skeptical and essentially for the reasons you outlined. So, I mean, lithium is pretty abundant. It's not like there's not much lithium out there. It's not always easy to mine and process and everything but there's a lot of it out there. So from a pure supply standpoint, I don't think it'll be as big an issue as a lot of people project. But at the same time, it doesn't seem like it's going to be the most effective and dependable source for batteries, I don't know, 20, 30 years from now. I think we'll probably pass it up one way or another. And I'm not smart enough on batteries to know what will win the race there but I just have to assume we will depend on it less in the future. But if that's 20, 30, 40 years from now and we get the timing wrong, then none of that will matter and it'll still have a great bull run. I'm personally just not as up to speed. And I don't feel like I have a grasp of moving all those different variables well enough to have a really firm view.

Jacob Shapiro:

Yeah. It's hard to maintain a grasp, too, because the moment you feel like you know what's going on, I mean, that's how fast the science is moving. If I could go back in time and go back to college, I would change from Middle Eastern studies to trying to get into mechanical engineering or something like that, because you sort of need a crash course in that anyway going forward as a macro thinker, because that's where the real change is happening. And sometimes it feels like it's happening on an even weekly basis with the things that are coming out.

Chase Taylor:

Yeah. And when it comes to innovations, I have experience working at a national lab, military lab but a national lab for rocket research. And so one of my biggest takeaways from my time there is we'd have a company give us a pitch on something they could do. And I'm not a rocket scientist. So I read this pitch and I'm just like, man, that sounds incredible, this is awesome. Look at these drawings. The whole thing is captivating. And then one of the old senior rocket scientists will look at it and tell you why it's all this just mumbo jumbo and technically just garbage, no prayer.

Chase Taylor:



And that's like a really humbling thing for me, I was like, okay, well, I know nothing. So you just naturally realize like, okay, so if I go read some company's pitch about their new grid scale battery or their new EV battery, it's going to sound awesome to me. But when it comes to the technical realities of it, I don't have the training to know if it's good or not. So, I wait and see and let the market tell me if it's real or not. And obviously, that can mean you're too late to capture a trend properly. But I tried to instill that humility that I learned in the rocket community to everything when it comes to technical innovation.

Jacob Shapiro:

Yeah. I hear you. Let's zoom out a little bit. Let's get macro, about your macro thoughts, if you will. It seems to me having followed you for a while and talked to you for a while that at the end of the day, you're really into physical assets. So whether it's real estate, whether it's physical commodities, that's really where the bulk of your focus is, and it seems to be that that's where you think most of the opportunity is. And that also goes against the grain right now, because I think most of our listeners are geopolitics nerds, they're not finance nerds, so they're probably in passive index funds or they're in FANG, and they're putting away and they probably feel good. And that's great. If you've done that you've done really, really well over the course of the past couple of years. But it sounds like you're really preparing for a different kind of world going forward. Is that a fair way of saying it or am I reading too much into it and you're just more interested in the physical stuff and you think there are other opportunities and equities and stuff?

Chase Taylor:

No, it's definitely fair. My entire framework is based on... It's similar to the way Marco sees the world. Speaking of Cousin Marco, we're at the tail end of... So let's talk about the weather cycles. I'm a big cycle person in general, because this is an easy framework to base a lot of things on and it's just true. It's just way humanity works. We tend to do a lot of things in cycles. So there are political cycles and financial cycles, business cycles, inflations, all those things. So the way I see it, we're at the tail end of a lot of the cycles, whether it'd be political the way we divvy up capital and labor, the wealth, the way taxes work, how much we regulate when it comes to antitrust.

Chase Taylor:

All these different things are cyclical and because we tend to go too far in one direction, we have to reverse course. And I think we're in the early innings of that supertanker starting to turn around. And what that equals to me is a lot more fiscal support. And obviously, there's going to be down spots in these cycles. I think a lot of people think we're already there with MMT and things like this. And that's not necessarily the case. There are still plenty of centrists in Congress that care about the budget deficit on both sides of the aisle. But I think structurally, we're moving in that direction.

Chase Taylor:

And as millennials tend to lean left and as millennials are going to be a much bigger part of the voting pie moving forward, that's part of it, too. So, almost everything I see tends to show me more inflation. The more money you give to regular folks, the more they spend, and that actually creates inflation



instead of giving a billionaire or a centimillionaire more money and they don't really spend it. So, all that tends to lead to everything I see is more inflation. If we have more inflation, that upsets the applecart of all the asset allocation that we know for the last 40 years that bonds are shock absorber, when stocks go down, things like that.

Chase Taylor:

These high-flying tech companies that really do well when interest rates are pinned at zero, all of a sudden if interest rates aren't pinned to zero comparatively can struggle versus something like an oil company that's getting stuff out of the ground. So, that's why I have a focus on real assets. But I will say at the same time for me to pick apart the oil market versus Facebook's earnings or something, I just find it a lot easier because, I mean, it's real, it's tangible. They're basic supply and demand numbers that just make sense and almost have to follow some rules versus trying to figure out some cutting-edge gene therapy or something like that. I still don't have a prayer of doing that.

Jacob Shapiro:

Yeah. I think you were a little too kind to the congressmen who say that they care about the deficit. I'm sure they say they care about the deficit.

Chase Taylor:

That's fair.

Jacob Shapiro:

But debt is it like what? I can't even keep track of how many trillion it's going to be. And the whining over 100 billion here or 100 billion there is being somehow now fiscally irresponsible but we need another 50 billion for some new rocket or or better version of a tank that we're never going to actually use, it drives me... I'm particularly ornery this morning. You've probably seen this with the last minute amendments into the infrastructure deal, which has already been sliced to a quarter of what it was supposed to be.

Jacob Shapiro:

And now they're throwing in random amendments about crypto regulation and proof of work versus proof of stake. And it's like, hey, you boomers don't know anything about cryptocurrency. I've talked to some of you guys about it. You have no idea. And even the Biden administration is weighing in about supporting an amendment with the infrastructure bill. It's like it's an infrastructure bill, why are we talking about regulation of crypto, which is really important and we need to-

Chase Taylor:

Pay for it.

Jacob Shapiro:



Sorry, but I went off the deep end there a little bit. But my point there, though, was it seems to me like we're going to have a lot of fiscal stimulus and easy monetary policy for a long time. I don't see anyone on either side of the aisle who's going to have the stomach to raise interest rates anytime soon. Are you feeling a little bit differently about that?

Chase Taylor:

So when it comes to interest rates, I think, say in the next 10, 20 years, it'll go a lot higher. And I know a lot of people say, "Oh, that can't happen, they'll break everything." But interest rates can go higher, no problem, as long as inflation is higher than the interest rates. If interest rates stay deeply negative, you can lift nominal interest rates. If housing prices keep going higher and all of a sudden... Say inflation is 6, 7% and you're getting a 10% raise a year instead of a 2% raise a year. Well, all of a sudden your student loan is pretty easy to pay off, things like that, your house is easy to pay off, so household balance sheets start looking pretty good despite that inflation, and things like that make it just a lot more easy for people to handle interest rates going higher. I think a lot of people freeze one aspect of this as if no one is going to get a raise, and then inflation is going to go higher. Well, yeah, then you can't raise interest rates nominally. But if you're getting a big raise, you can. And I think, organically and through policy, I think you'll see things like wage gains keep up or outpace even inflation.

Jacob Shapiro:

I was also interested to read a recent piece you did about wealth inequality in the United States. I think you wrote it back in January. And it was interesting to me because you made an argument that I've been making for a long time now, which I haven't seen out there a whole heck of a lot, which is namely the last time we got to a similar situation like this just in terms of wealth and equality and where everything is going, it was roughly the 1890s.

Jacob Shapiro:

And what happened after that was this huge transformation in the way that the United States did everything. I mean, this is the progressive revolution in Teddy Roosevelt. And that really extends out through FDR, because it's one major period. And you alluded to that when you were mentioning demographics and the voter patterns of millennials, but I just wanted to give you a chance to riff on that a little bit, if you want.

Chase Taylor:

Yeah. And I think investors, geopolitical people interested just in politics, any of this, I highly recommend people go back and study, well, both Roosevelt era and just what happened, especially Teddy Roosevelt, in my opinion, just as sort of an analogue for what we're going through today, it's just... If you take a look at where we are today and came out what this does to us financially, it just makes sense to try to get that equality back. It's not just for politics but it's for finance and economics.

Chase Taylor:



The economy does better when working folks have money to spend into the economy. So, I think a lot of people just make this purely political. And so just some background for me, I used to be very extremely libertarian. And in some ways, I still am. I grew up in a very Republican Reagan household. So I grew up that way and then I became very libertarian. So I always thought these people like the Roosevelts were just awful.

Chase Taylor:

But then I remember reading about more and more about Teddy... Well, I mean, they both were born as elites with silver spoons in their mouth, very wealthy. So from their perspective, it was actually like if we don't fix this, then it fixes itself in a very ugly way that is bad for everybody, especially us. So I think people think Teddy was just like big government like wanting to stick it to the rich guy. But in the end, he just didn't have a revolution was a big driving factor.

Chase Taylor:

So even the libertarian in me, I was able to look at that and I'm like, I mean, that makes sense. If you get to these extreme points, that's going to break one way or the other, you can manage it or you can just let it break. And obviously, we don't want to let it break. So, I think from a political risk standpoint, you have to start fixing that. And then obviously, from a financial standpoint, you just get less and less money making its way through the economy as is all the money makes its way just at the top. So, it's just an imperative financially, economically, politically for stability. And usually, whenever something is that much of an imperative, it's going to happen.

Jacob Shapiro:

Yeah, I mean, both Teddy Roosevelt and FDR were considered by many of their peers to be class traders. I mean, that was really the way that they were thought of because of the changes that they were making. But to your point, it wasn't like they were out for the little guy. They weren't the little guy. They were out for the stability of the system overall. I will say that it feels to me like we're a little further away from the inflection point than I necessarily thought we were.

Jacob Shapiro:

Biden's victory rolled back the clock a little bit for me, because Biden is not the standard bearer of the Democratic Party if we're at the cusp of a major inflection point. It should have been a Bernie type figure. And the fact that Biden won and won fairly easily tells me that there's probably a lot of room to go yet. Because, I mean, Teddy only comes to power because McKinley gets assassinated. That's what transports him into office in the first place and gives him that power. So it's like that black swan event that gets him there.

Jacob Shapiro:

FDR rides in to save the country from the Great Depression, which, again, is after 10 years of a boom and after World War I, and all of these contingencies and things like that. So, if it is a recap of the roaring '20s or the Gilded Age, it feels to me like we're at the very beginning. It seems to me that the situation is



going to have to get a lot worse and that that's going to get reflected politically in a lot crazier characters that are in there right now. Because to your point, a lot of the level at which the discourse is happening, even in Congress right now, it's all piecemeal, it's all very political, it's all centrist, it's all folks that are outside of the millennial demographic that is getting bigger. It seems to me we're going to see major political shifts before we get to that inflection point. So I've actually pushed out my expectation of when we're going to see some of the changes that you're talking about. Do you feel differently or does that about line up with how you're seeing things as well?

Chase Taylor:

No, it makes sense to me. And I think when Trump was elected, it was a signal for a lot of the stuff. So I assumed the same thing like this polarization, there's no way a centrist is getting elected anytime soon. So I think you're going to get Trump versus a real progressive like a hardcore progressive. So I was surprised by the primary process of South Carolina and everything was like, okay, well, I might be wrong about this. So I totally agree, push that off a little bit. And I think it really comes down to demographics. There's still enough voters that know the system in the last 40 years, and it's what they know is what they like, it's what they're comfortable with.

Chase Taylor:

And it's worked for them, obviously, like baby boomers have had a great time with the political system and the way we chop up the pie in the last 40 years. So, they're not going to vote to overturn that. But every couple years, they become drastically less of the voting population. And as that happens, I think we just naturally move progressive granted as people age, they change their politics, too. So, some of the hardcore socialist fever of young people will probably wane as we move forward as well. But I expect the Democrats to gain more and more power personally, and at some point control all of Washington and be able to actually push through real progressive agenda. That will be, in my opinion, definitely very inflationary but not necessarily in a bad way that everyone assumes inflation has to be.

Jacob Shapiro:

Yeah. I mean, to play devil's advocate, though, I mean, people do get conservative as they get older. But that also assumes that they've done well over time as they get older. And the millennials and those that come after them, they went through the 2008 financial crisis, they now have gone through a global pandemic that is still not over. Wages, especially for lower middle income have been stagnant for a long time. There's less homeownership among these folks.

Jacob Shapiro:

So, I mean, the system has not been as kind to them necessarily as it has been to their predecessors. So, whether there's just a natural calming process and conservative process that comes with age, maybe, but I could also make the flipside argument that some of these folks are going to get radicalized and get more upset as they go over time, because they're going to have less time to make up the difference. It's not just going to be waiting things out to get to the same position that they even saw their parents in.



Chase Taylor:

Definitely. I think the current focus of running the economy hot is what helps calm that stuff down. Whenever the job market is doing well and people can get a job and they can get actual wage gains, that's the stuff that keeps people off the street at the end of the day. And if you look at the government balance sheets, it's awful and it keeps getting worse, but partially because they've basically taken it on the chin for households. Household balance sheets are doing really well, I think, better than the average person would realize whether it's income, net worth, almost any metric you want to look at, the average household, obviously, plenty are still struggling horribly. But the average median household, to be specific, is doing as well as they've done in really a generation. And I think that will have political consequences.

Jacob Shapiro:

Yeah. All right. Chase, anything else that we should have on the top of our minds before we let you go?

Chase Taylor:

The only thing I can think of is keeping an eye on oil. I think oil is going to keep marching higher. I'm essentially bullish on every aspect of the energy markets, whether it's oil and natural gas, uranium, coal. And the biggest thing I want to leave everyone with is keep an eye out for cold winter and colder than you would expect. And that could have some impacts on electricity grids globally that could create significant issues. So yeah, just keep an eye on it.

Jacob Shapiro:

When you say bullish on energy markets in general, does that include solar and wind and renewables? And do you think we need a holistic view of the energy sector and that you're going to need to balance these other portions in order to capture the gains, or is it specifically the hydrocarbon nuclear has been left for debt and shouldn't be, and it's going to come back, and maybe if you're over focused in solar and wind and stuff like that, that's important, but it's probably gone too far and you need to recalibrate? What's a better way of summing up what your position is there?

Chase Taylor:

Yeah. So from a financial perspective, I'm not particularly bullish on renewables, mostly because they're really overvalued in my opinion. They've had a great run. And I participated in that run for a couple years and just got a little too intense for me about six months ago, and got out. And, I mean, the hydrocarbon world has been just totally left for dead. I think people think we can make the entire energy transition in five years. And that's literally impossible mathematically and just from the way the Earth is physically constructed.

Chase Taylor:

So just for me, hydrocarbons are just so cheap because no one wants to give them money. So, if you take about half of the world's assets under management, their professionally managed money, trillions



of dollars, more than half of that literally cannot fund investments in hydrocarbons from mandates. And that's happening more and more. So there's not much capital that can really chase hydrocarbon investments.

Chase Taylor:

And that's part of the reason that they are cheap, also part of the reason they'll probably stay cheaper than they should be. But for me, I like to buy things that have a lot of upside left in them. And I think that's hydrocarbons and not necessarily a lot of the players in renewables. Whoever eventually gets it right on the battery side, probably a private company, but whoever gets that right, there's going to be a lot of money to be made, and whoever gets the grid scale battery right,

Jacob Shapiro:

Yes. I think we would all love to know who's going to get the battery thing and invest in them. But like you said, probably it'll be somebody who we don't even know about yet and probably won't even get to public markets because that's not the way things work, unfortunately.

Chase Taylor:

Well, years later when you have to really pay up for it.

Jacob Shapiro:

Yeah. Oh, well. Well, Chase, thank you so much. We're going to have to do this again. We appreciate your time and we'll talk to you soon. All right, man.

Chase Taylor:

I appreciate it.

Jacob Shapiro:

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