Tian Yang: When the Recession Becomes Obvious

May 18th, 2023

Erik: Joining me now is Tian Yang, CEO of Variant Perception. Tian prepared a terrific slide deck to accompany this week's interview. Variant Perception is very well known for excellent graphs and charts so you're definitely going to want to download this one, folks. You'll find the download link in your research roundup email. If you're not yet registered and don't have a research roundup email, just go to our website macrovoices.com and click the red button above Tian's picture that says looking for the downloads. Tian, it's great to get you back. It's been way too long. Why don't we dive into the slide deck and start with this US recession that so many people have been anticipating for so long that hasn't happened quite when everybody expected it? Is it finally time?

Tian: Yeah well firstly, great to be back. And yeah, I think this is a very good time to review a lot of the leading indicators for the US economy. I think when we talk about recessions, you know, definitions are important. And a lot of times, there's a lot of focus on what we will consider coincident or lagging data. So people look at the employment and nonfarm payrolls, retail sales, GDP. Generally speaking, these are coincident indicators that by the time you see it, is usually kind of too late. And a lot of the underlying recessionary dynamics have already kicked in. So I think the way we think about recessions is to really focus on the leading data. And broadly speaking if you consider, you know kind of classic lead indicators of the business cycle, you know, building permits, ISM manufacturing, and so forth. A lot of them have obviously been signaling stressful while and the kind of final missing piece has been the initial claims, and the continuing claims data. Normally it takes kind of a 20% rally off the lows for these indicators to align with recession. And, you know, given the Big Data revisions that occurred last month, it it's now pretty unequivocal that the labor market data in terms of the leading parts are all signaling kind of stress picking up. And that usually is where you expect to see as the kind of final piece that confirms the recession. So it does from the data kind of modeling side, it does look a lot more recessionary now.

Erik: And how does that translate to an equity market outlook? Is it time for this market to finally roll back over? Is the bear market rally finally done?

Tian: Yeah so obviously, at this point, we're kind of quite a long way into that the start of the bear market. So you know, it's not going to be easy from here. I think it's important to kind of differentiate kind of what will happen versus the positioning and playing the game part. So I think in terms of what will happen, we would expect the coincident data to keep deteriorating from here. And normally, the final leg of the kind of the sell off or the final flush happens when the unemployment and the employment data both deteriorate. Right so it's more when the labor market stress hits is pretty unequivocal at that point, that it's a recession. But, you know, before we get to that point, the market tends to just do what it's doing. Right, it tends to be resilient, trade sideways a lot. You know, people over-position and can't hold on to the position. So I think we're going to be getting there. And from our point of view, we're still kind of waiting for that kind of final employment deterioration to really, you know, make it obvious there's a recession, and that usually is the final flush. And then from there, you kind of have the usual, you know federal cuts, and you know, the kind of liquidity conditions start improving with a lag. And then obviously that sets up for kind of the next cycle.

Erik: Tian, let's talk about the scope and extent of that next move down. Some of our guests have said okay look that $3,500 bottom was not the bottom, we're definitely headed lower. Other people are saying that was probably the bottom, but we might go back down, maybe, you know, retest a double bottom or something like that. Do you see this as a new leg to lower lows or do you see it differently?

Tian: Yeah, so obviously these things have a path dependence in terms of how we sell off. So the kind of more empirical way we've tried to approach it is we've had this market bottom checklists that we use to help guide us in terms of the timing. And so essentially, what we did was revisited most of the bear market lows in the post-war period, and try to infer what are some of the common patterns you see. And so if you look at today, the kind of main missing piece is a kind of Fed monetary policy easing, so not just going on hold but usually Fed cuts. And you'll also typically see lead indicators start to rally at the bottom. So those are usually the signs that will give you kind of the absolute kind of total conviction the bottom is in. And I think the problem right now is those things are not quite there yet. So, you know, I think we're still pretty concerned that it's not necessarily in the all clear, and that, you know, it's important to be positioned in a risk off way. What I will say also though, is that underneath the hood, there's obviously been a lot of talk about the narrowness of the market. So if you start to look at small caps, international, EM equities are kind of more single stock level. There's kind of a lot more stocks trading at much lower valuations. It's just more than the headline indices are hiding kind of the damage that underneath the surface. So to us, it's probably already interesting to start rotating away from kind of the US large cap exposure to some of those pockets of value that would be aligned with kind of the longer term capital cycle. I think that's kind of already underway. But yeah in terms of overall risk, we're still probably more leaning towards, you know, being cautious on equities and letting the market bottom checklists just play out. And until we have all the kind of all clear signs there, we probably won't want to take a structurally long positioning equities.

Erik: Obviously, it's impossible to get the exact timing of this. But what's your best guess as to how much time we have left until that final flush of the major indices? Is it weeks away? Months away?

Tian: Yeah so I think this is actually probably going to be when the Fed actually cuts rates. So the really interesting thing is there's obviously a lot of debate right now about whether when the Fed cuts is going to be bullish or bearish for equities. I think there's a very good historical analog to today, which is kind of the 1969 to 70 recession, which was kind of a inflationary recession. So I at the start of the recession, inflation is still reasonably far above target. And so usually, with this kind of setup, there's limited scope for the Fed to act preemptively, because just the political risks. So normally, as we saw back in 69-70 and we think likely to play out this time as well, the Fed will probably err on the side of cutting later than earlier, just to make sure that the hard economic data justifies them cutting. And I think that's going to be the problem this time where if the Fed doesn't act preemptively and waits and only cuts after the hard data is very bad, then presumably, the recessionary kind of feedback loops are already well underway. So you have kind of another leg down in people's concerns about revenues, which then feeds through to the bottom line because of operating leverage. Inherent these companies right and so you get a kind of a final leg down in earnings that as well. So I think that's kind of the real risk. So I think timing wise, we're probably looking for when the Fed cuts, but they're probably going to cut later rather than earlier. And I think that's kind of the big gap between kind of market pricing right now and the 69-70 analogy to how to trade today.

Erik: How long did that take to play out in 69 to 70 and what other lessons could be learned? That was a situation where you had going into that setup, people were saying okay all these people talking recession doesn't make any sense. There's still inflation, you can't have inflation and recession at the same time. It doesn't make sense and of course, it did make sense. They just weren't ready for it. So what else can we learn from that experience and apply to this market?

Tian: Yeah if you actually look at the lead up into it, there's so many similarities. You know, you had the massive fiscal stimulus ahead of time that caused the inflation. So obviously, we had COVID stimulus this time. Back then you had the great society, Vietnam War, you know, you have similar setup where inflation was high going into it, but leading indicators already collapse, the labor market was super tight, the Fed had been tightening for a while, or sort of similar magnitude 450 to 500 bit, that kind of range of tightening. You know, inverted yield curves. So that there's so many setups, right that was similar right, including, by the way equities drawing down ahead of the recession, and then trading sideways at the start of the recession. And then kind of the final flush, only coming in kind of deep into the recession when the Fed cut rates. Well what actually happened back then was the Fed cut, once the hard data, the labor market data deteriorated. But then because inflation wasn't quite under control yet, they then had to hike again very quickly. And that's what really freaked the market out. Because I think if the Fed cuts and quickly has to hike, that's kind of the worse situation and certainly something they don't want to be in. So you will have to imagine today, they probably learned that lesson from these historical episodes where, you know, they really need to be sure before they cut. And so you can be fairly sure if they do cut, it's because the underlying conditions are really bad. In which case, that's probably what drives kind of the final leg down. And also by the way, if they cut that does at least help to complete the market bottom checklist that we talked about.

Erik: Let's go a little deeper on this subject of if they cut, it might not actually be good for equities. Historically, at least in recent history usually when the Fed cuts the market has interpreted that as a positive signal for equities. What's the explanation or the backstory for why this time might be different?

Tian: So I think it's more the broadly inflationary backdrop that we have. So I agree for most of the past 20-30 years, right like it would have it would have been better but inflation hasn't really been as big a problem in that entire period. So normally, the Fed cuts have usually been a lot more preemptive as well. So it stops a lot of the positive feedback loops. We talked about that normally happens in recessions. If the Fed cuts early enough, they stop that happening. The danger this time is the Fed waits too long. And you have kind of, you know, the credit market tightness, lending tightness, feeding through into job losses, which in turn that feeds into kind of revenues going down. They in turn obviously, that feeds more into kind of, you know, banks being reluctant to lend, right? The danger is that in a recession, a lot of these cyclical feedback loops have already kicked in before the Fed cuts. And so if that's the case, when the Fed cuts, it's not very easy to break these feedback loops, because there's obviously a self reinforcing mechanism in place. And I think that's the real danger this time around. And we would argue you're kind of already seen it already where activity essentially peaked in January since then, you know, the kind of very slow rumble of kind of the unwinds already starting in terms of economic activity. And so, that will be why right? If inflation is high, the Fed cuts are not like preemptive. They are reactionary and if they are reactionary, why are they reacting to? Almost certainly kind of bad labor market data. And if the labor market data is bad, and labor market data is typically kind of the most lagging piece in terms of the economic data set, then by the time you see it, things are probably already pretty bad.

Erik: So we've been talking about the recession cycle where we've still got the final leg or the final move down hasn't happened quite yet. We've translated that to an equity market outlook. Let's talk about what it means for fixed income. Moving on to page seven of the slide deck. How do we translate this outlook to what comes next in in rate markets? Where are we headed? Is the final terminal yield in on the US 10 year Treasury or what happens next?

Tian: Yeah, so I think for bonds, this is also a quite tricky setup today. So I think a lot of times when we do analysis, we try to be explicit on kind of the time horizon. So on the cyclical kind of six to 12 months business cycle horizon then yes a recession is normally obviously good for bonds, it suggests kind of curve steepening as well. But on the kind of two to three year structural basis, I think we're still pretty concerned that we're moving to a decade of kind of structurally higher inflation, higher yields. And I think that's what's going to complicate the bond performance this time. And indeed if you use the 69-70 analogy back then, yields do come off but not that much, right? It takes until the recession is over, like well into the depths of the recession before bonds stop performing. And I think there's an element of that concern, this time around as well. So I think yeah, bonds should do okay. Everyone knows the next move is going to be a steepener but that's basically been priced into the market already. The forwards are already inverted right if you look at two stance forward. So actually, I think fixed income is one where people are going to expect it to help you give you the portfolio protection but actually probably won't give you that much this time around. And I think that's going to be pretty painful for people as this recession really kicks in.

Erik: Moving on to page eight, something I expected and frankly, a whole lot of other people did too was we all thought okay, the big event is China's economy reopening. That's where the floodgates open. That's what's going to change everything and I thought that's really what's going to unleash the next wave of inflation. That all didn't work out at all as I expected it would. What what's going on and what do you see happening next?

Tian: Yes so our China recession model actually only switched off in April. So I think at the beginning of the year, there was very little in our models and data that suggested, you know, China's activity was actually picking up. Maybe this was linked to kind of the political environment and the two sessions, you know, needing to get kind of all the political kind of hierarchy align first before they can act. But now, it's really April onwards that the data does start to confirm that things have bottomed. You know January going from very bad to bad. And that's kind of a positive, kind of cyclical shift. And against that backdrop, you've actually had Chinese assets in the equities obviously underperform since peaking in January. So it's actually turning into quite a nice contrarian setup and actually sets up for quite a nice kind of long China versus short US IV trade that was very crowded at the beginning of the year. But now it's kind of being unwound it's actually looking increasingly attractive now and it's somewhat justified by the data.

Erik: So it sounds like you think the herd got the basic message right but the timing wrong and put this trade on the market essentially priced in China reopening changing everything before it was ready to happen. Is that the gist of it?

Tian: Yeah, at least in our models that's what it looks like. Whereas now if you know there's a bunch of indicators that show activities bottom in China. It's not necessarily Bonanza booming, but I think compared to kind of how bearish the market price action has been and sentiment on China has been, it feels like a pretty nice contrarian kind of setup.

Erik: Moving on to slide nine, let's broaden the discussion beyond China to emerging markets generally. What's the outlook?

Tian: So yeah, I think we're still on the kind of long Brazilian debt trade. So from a top down point of view, usually we don't think taking risks in EM makes sense when the global excess liquidity environment is poor. And as of right now, the Global excess liquidity environment in our models are still quite poor. So within EM, I think we only prefer select pockets of risk. The kind of major outlier, the standout in the midst of Brazil inflation leading indicators like been collapsing to kind of probably historical lows on the models. So, you know, they basically favor very strongly that, you know, Brazil is going to have a easing cycle. And obviously, the long Brazil bond trade started working in the past month. But you know, that has a long way to go if Brazil goes through easing cycle as well. So those are like the pockets where you're gonna get a lot of carry, you know, a lot of upside, and they make sense. But broadly speaking for EM, I would frame it as cyclically. You know, I think the liquidity headwinds are still there for now. We'll see how much China does pick up and maybe that shifts it. As of right now, not quite. But structurally, what's interesting is that there has been a shift. So on kind of the longer term, three to five years structural capital cycle models, emerging markets are kind of finally, capital scarce versus kind of the US right? And that really only happened from the beginning of this year. So that kind of suggests on the kind of three to five year outlook basis that EM is finally set up for outperformance. So, I think our mindset is a little bit out. Ultimately, we know we need to start allocating to but we just want the cyclical to set up. But for now, you know, things like Brazilian bonds are still very very attractive as long.

Erik: Let's move on to the US dollar on page 10. Let's start with the big picture here of where are we in this story. You know, we had that big rally up to 116 on the DXY. Blow off top almost and everybody thought it was all downhill now we're bouncing. Is this a dead cat bounce? Are we gonna take out 100 to the downside on the DXY or are we seeing a reversal here? What's the big picture of where the dollar is headed, and give us the general outlook.

Tian: So I think the main issue on having a high conviction view and I know Druckenmiller came out short the dollar, right. But like at least in our models, there's kind of two big counteracting forces right now. So firstly, as you mentioned, you know, this dollar framework, the idea that in a recession dollar out performs, that's one factor that's potentially being cited a lot for dollar performing. But the flip side of that is the commodity financing demands have collapse versus last year. And usually that's been a very good predictor of dollar as well. So the problem this time around is the acting opposite direction. So actually, it's not particularly clean view on the dollar trade right now. So I think our mindset a little bit is, right now, it's not high conviction on the dollar. And we prefer to wait, wait for the kind of US recession to become obvious in the data. And at that point, that kind of dollar smile thing will fade and the underlying kind of weaker dollar trends actually kick in. So we're probably waiting for that to actually time when to short the dollar again. And in the meantime, it's actually, you know, we're probably just holding off and not having that strong view. I mean, one piece that is interesting is still probably long USD/CNH. That's what trade that's been working well for a few months, you know, it's broken above seven today. We think that actually aligns well with kind of our China models as well, where as China starts to ease more, you'll get kind of a QE like effect in China as well. So you know, as China try ease to try to pump liquidity in, the liquidity actually can't really be accepted by the private sector economy as much. So actually, that has kind of this effect of boosting Chinese asset prices, but also actually putting downward pressure on the currency. So long USD/CNH, these trades still probably do make sense. But over on the dollar, I think yeah, it's tricky on our models to make a big call right now.

Erik: I love the title of slide 11. US high yield still complacent. Boy, that's got to be the understatement of the century. The thing is, I think it's been pretty clear that US high yield was complacent for years now, and it never seems to stop being complacent. What's the trade here?

Tian: Yeah, I think one of the interesting things that we've been highlighting is potentially looking at ways to gain exposure to shorting leveraged loans as kind of the the higher beat of version of this that's more likely to go wrong. Obviously, broadly speaking, we know that spreads have been relatively contained, but the yield has picked up just because of where risk-free is but it does feel like if we get a NPL cycle, you know our recession models are correct, that there is kind of deterioration coming then obviously, the credit complex in terms of high yield will be hurt, but the most vulnerable parts actually in the leveraged loan space, because it's been companies that haven't been able to to issue bonds into the market, right? i've had to take on these leveraged loans that particularly vulnerable, and you know, we've done some work there and in particularly if you look at some software companies tech leveraged loans, you know, they generally have pretty weak covenants. And if there's a recession and revenues get hurt, and you make a leverage loan to software company that does now even have any assets to recover, that business is broken. So yeah, that's probably the piece that's actually very cute too short. But obviously, we all know the credit spreads haven't quite moved yet. I think we're waiting for the NPL cycle. We're waiting for the evidence recession to kick in. And we think that's actually pretty imminent. So yeah, surely an average long seems like a very clean expression.

Erik: John, a lot of us, myself included believe that a new commodity supercycle is upon us to the upside so bullish commodities. You're describing on page 12, a commodity, supercycle intermission. What's the supercycle intermission and how long is it going to be ongoing for?

Tian: Yeah, so I think the back end 2020, we did the podcasts on commodity supercycle back then.

Erik: You nailed the call, by the way.

Tian: Thank you uhm, I think back then a lot of the models actually did point to kind of the cyclical and structural and tactical all aligning on commodities. So it was kind of a, you know, all clear, all green lights kind of set up. And I think from actually when we spoke last year in May, right. That's basically when we talked about the supercycle intermission starting. So I will say the three year cyclical capital cycle model capital scarcity models, they all still valid, right? I think we're all in agreement. Like it's a very, very good setup. There's a lack of CapEx and supply constraints, and so forth. But the problem has been that we want the cyclical headwinds to kind of play out. We kind of need the tactical trade, tactical indicators to clean up a little bit. And I think we're almost there. You know, obviously, we talked about China recession, potentially ending, you know, I think the US recession will become obvious soon. So from then, the cyclical kind of will bottom out, and certainly in terms of flows and positioning is much, much cleaner of a trade now. So I will still say kind of structurally we're bullish. But because of the kind of cyclical headwinds, we're still say the intermission is kind of ongoing. We're not quite there, but it feels like there'll be opportunity in the second half to kind of get back in on the kind of commodity supercycle trade again.

Erik: And finally, on page 13, you're describing gold as being in an LPPL bubble that might be ending. For the benefit of any listeners not familiar with LPPL? Please start by describing that indicator, and then tell us more about what's going on with gold.

Tian: Yeah, so I think LPPL is one of the most important tactical trading indicators we have in those various critical fast in terms of market timing. And essentially, it stands for log periodic power law. Originally popularized by Didier Sornette and the idea is that it's trying to pick up on inherent kind of crowding and herding behavior in markets. As you know, it's basic computation is pretty intensive and normally, the models are not very stable. We've basically been spending a lot of time or optimizing it to be more stable. And essentially, what it's really cute about the indicators, compared to kind of normal buy/sell signals, where you just get kind of, it actually can fit the current price pattern and predict kind of end dates of moves. So it's not just a reversal signal. So I think gold was like, the price action has been a very, very classic kind of bubble-like price action, where as we see on the chart, I think we first detected kind of the final leg of this bubble, April 25. So normally, it suggests you kind of have one final upside leg. But the model is very cute, because it gives you like a predicted end date for when the move ends. Generally speaking, you can calculate the end date by cutting off the pattern, right? Ultimately, it's like, it's what you say, it's like an asymptotic fit. So the blue line at the end will obviously go vertical and go to infinity. Go to infinity basically, right? We just cut it off, but essentially gives you an end date for when a bubble ends. And so that becomes very, very good to help with structuring trades. So, essentially, the way you interpret that right now is, you know, gold from a structural and cyclical point of view has made sense, right. It's been kind of our core allocation since beginning of the year. But from the price action point of view, it's, you know, especially last week is felt like sucking in the very last kind of speculative buyers. The buyers got increasingly disorderly as people got desperate to get on the trade. And so that's why the LPPL kind of bubble triggered. It kind of predicted to end on Friday. So from here, there's probably a decent risk of a pretty big tactical flush, just because of the position is probably very extreme in terms of speculative buying. But ultimately, I think if we do get flush, right, we're kind of waiting for that and then we'll look to re-establish long gold trades. But yeah, it feels like we could be in some pretty decent tactical flush.

Erik: What you're saying definitely resonates for me because I am long gold and throughout this rally, I've just been feeling like okay, this is a little bit too easy here. Feels like we need to see some kind of move to shake the weak hands out of the market. So when you say this could be a substantial shakeout or leg down. How substantial are we talking about? Looks to me like the most obvious downside target from here would be the 100-day moving average and it's at $1,931 or so. Are we talking about that kind of down leg or are we talking about much deeper than that?

Tian: Well, I think certainly that's the initial target, obviously again, there's going to be a path dependence to potentially triggering losses. So I think we rely on some of our kind of speculative flow proxies to kind of give a better sense of the downside. But yeah, I think you know 5% plus is probably not unreasonable. Like GDX also looks particularly vulnerable as well. Because on GDX, you can at least use the underlying stocks to proxy for kind of actual equity flows and get a cleaner number. And that also looks pretty extreme. It was like a 10%. potential downside to start with. So yeah, I don't know the exact amount. But certainly, I think we're just positioned to capture kind of a tactical downside well that's on the speculative flow data tell us when it kind of reverses. But obviously, this is more of a tactical view, right, like next one to three months. I think we'll still pretty aligned if you talk kind of two to three years out. You know, we have a scarcity thesis, right. Obviously, we talked about structurally high inflation environment, and those kinds of things. So still ultimately, I think gold's a good investment but it's just this rush could be done. It's just too crowded right now. It feels like there could be a decent flush.

Erik: I definitely agree with you there. I've been waiting for some kind of significant correction to occur and seems like maybe it's starting. And Tian that covers the slide deck. So let's move on to the banking crisis that everybody's talking about. Some people say it's already over, some people say it's just getting started. How do you guys see this? What's driving it and what should we expect?

Tian: Well, I guess from the macro point of view. When we think about the credit cycle, it's generally got some pretty well behaved leading lagging relationships. So typically, what we expect will be that the main long term lead for the credit cycles is actually the yield curve. So typically, you get kind of yield curve flattening inversion, about 18 months before credit standards start tightening. And then once credit lending standards start tightening takes about six months to flow through to kind of actual underlying loans and loan demand as well. So from that point of view, it's kind of been coming for a while, right yield curves inverted kind of 18-24 months. Already they have flattened and inverted and lending standards already been tightening before the kind of SVB end things kicked off. So I think the reality is the credit availability has been bad for a while. But usually, when these things happen, we tend to think of is like a proximate cause versus a fundamental cause. So a lot of times it's easy to focus attention on kind of the proximate catalyst and lose sight of what's being the fundamental setup. So I think fundamentally, you know, our capital cycle models have been saying banks have been capital abundant from pretty much Q4 of ‘22.

Last year, it's just been too easy to ride for banks for too long, that they've just had to, you know, there's just not being kind of enough incentive for banks to run kind of efficient business model, right? They basically have, it's been an environment where the capital cycle suggested that it's been very capital abundant. They've had to take on more risks to make money. And so I think the fact that something happened in the banks is probably not surprising. Obviously, we did not predict the bank run and it's hard to know exactly what specific issue comes out. But fundamentally, I think banks were set off on the performance this year anyway. What is particularly interesting, I guess from a trade going back to trading and from a dislocation point of view is certainly this latest lag of the sell off is causing some very very extreme price action where you know if you look at out the money puts in the implied vol on the banks even see the KRE ETF is going up to like 50-60 implied vol. But at the same time, a lot of the kind of, usually very correlated assets have not seen kind of the same surge. So it actually sets up for a lot of very interesting kind of, you know, relative vol plays.

Obviously banks today as we're recording has been a pretty big rally. But if you just go back to the end of last week, and if we get another flush, you should be pricing up see like a 30 strike put on KRE just to get a sense of the premium. Because you know, that will take you back to kind of a COVID lows. And with the premium, you can basically buy a lot of very interesting option plays in related assets. So, you know, one of the trades we liked, and the last week being in this week is that you put a switch where you can basically get four times notional and kind of EuroStoxx puts for one KRE puts right? So there's these kind of very interesting vol dislocation for switch trades that are setting up right now that can give you kind of a very interesting tail risk trades. Other than that, obviously, there's been some dislocation as well in terms of credit space. So with the banking crisis, you are starting to get some investment grade, kind of financial debt started to offer higher and higher yields. I think that's worth sifting through to pick up some pockets of value. But yeah, that's probably how I would frame it right now.

Erik: Well, Tian I can't thank you enough for a terrific interview. I always enjoy variant perceptions graphs and charts. Before I let you go though Tian, I want to talk a little more about what you do at Variant Perception and how our listeners can find out more about it. You guys have been known for a long time as one of the best research firms in the business. When it comes to leading indicators, you guys use some of the well known leading market indicators, you also have designed your own leading indicators which you use in your research. We investors only get to see those on variant perception slide decks, there's no way to use those indicators directly as an investor, or at least there didn't used to be. What's going on? What's changed? What are you guys working on?

Tian: Yeah so we hear you, and I think the issue usually has been that, yeah, for clients, how do you build confidence in our lead indicators? You know, what if we don't show one this month, and we show next month? So I think to address that, we've essentially built a new investment portal for clients to essentially interact with all our different models. So you know, in a way the research becomes how we interpret the models. But if you want to see the underlying models yourself now you can. You know, from kind of the market timing, tactical trading tools, you know, LPPL these kind of systems, through to the lead indicators of growth, liquidity, recessions. Also some of the kind of longer term capital cycle models to help us pick stocks and sectors as well. So I think it just attempt to kind of add more transparency and let clients play with with the models a bit themselves, rather than just rely on us to interpret it basically.

Erik: That sounds really exciting. Tell me more about who gets access. Is it just the institutional adviser client base or is there a retail platform as well? Who can get this and how much does it cost?

Tian: Yeah so if we break down the investment process is essentially, you know, collect data right? Step one, process that data, step two, and then, you know, ultimately interpret it to make an investment decision. So I think we've tried to streamline what we do a little bit more to address each of those steps. So kind of the traditional research is still like an institutional product, right? Where essentially, you want us to collect the data, build the models, and interpret it. But the idea now is we can move it kind of up one step where, you know, maybe you don't like how we interpret it. You want to take the models and feed into your own process in which case you can just access the port or play with the models yourself. Or even if you want to go one level higher, you can get the API and feed the data feed in directly. So I think it depends a little bit on the level of service, and interaction you need. But broadly speaking, I think we still basically position ourselves as probably more for kind of institutional investors just because ultimately, there's a lot of models here. And I think we just want it to be plugged into the right pieces. But I think certainly we try and put out a lot of free content as well, especially educational type things on Twitter and on our blogs. So you know, that's definitely going to continue.

Erik: Okay so if I'm an institutional investor, I previously had the opportunity to use your indicators without really getting too close to them. Now I have the opportunity to both use your research advice but also get, you know, roll up my sleeves and play directly with these indicators back-test them and so forth. And if I want to do something in the area of algorithmic trading, all I have to do is hire a programmer to use your API and there's a programmatic access to these indicators as well. Is that the gist of it?

Tian: Yeah, I couldn't have described it better myself. So yeah thanks.

Erik: Fantastic. Well Tian, I can't thank you enough for a terrific interview. Patrick Ceresna, Nick Galarnyk, and I will be back as MacroVoices continues right here at macrovoices.com.