

Mike: 00:01:38 All right.

Rodrigo: 00:01:40 You caught me drinking.

Mike: 00:01:41 Welcome family to a -- what a Friday. Welcome to this Friday.

Rodrigo: 00:01:47 That's right. This is a Friday.

Mike: 00:01:49 Welcome, Darius.

Adam: 00:01:50 Not our favorite Friday but better than last Friday. Am I right?

Rodrigo: 00:01:53 Yeah, better than last Friday. Adam, you drinking a La Croix? What's going on buddy?

Adam: 00:01:56 Yeah, I have to officiate at a swim meet again tonight. So, they don't like it when I show up half cut.

Mike: 00:02:03 They prefer you fully cut.

Adam: 00:02:06 That's right. Yeah, exactly. Either not cut or all the way.

Rodrigo: 00:02:09 What's everybody else drinking?

Mike: 00:02:12 I'm having -- it's a Scotch kind of Friday. So, I needed something with a little hammer to it, for me.

Darius: 00:02:19 Yeah, I have a 2018 Napa Cab. I apologize wholeheartedly to the market huddle, the market huddle team, Lena and everybody. I'm supposed to be drinking Rosé. Ran out of Rosé so I'm on to my 2018 Napa Cab. Don't fix what ain't broke.

Mike: 00:02:34 You drank all the Rosé yesterday?

Rodrigo: 00:02:35 I'm drinking this straight out of the bottle. Straight out. Anybody have a straw?

Adam: 00:02:43 Show them your IV Rodrigo.

Rodrigo: 00:02:44 That's right.

Adam: 00:02:45 Show them the drip, bro.

Mike: 00:02:47 All right. So, hey, it's actually great to have you on, Darius. And just as a reminder, for everybody watching today that this is for education and information purposes, not investment advice. If you're getting investment advice on YouTube from four dudes on Friday afternoon, having a drink, then well, I don't know, maybe that's the wisdom, but maybe not. But I leave that to everyone to make their own investment decisions. But we do have with us, joining us today Darius Dale from 42 Macro. And they're over there democratizing the world of financial information for broader audiences and doing a hell of a job at that.

And so Darius is going to join us today, I think, in what is an opportune time to be chatting, because there's a lot of shifts going on, and the regimes going on. And there's impacts for inflation and growth that are having the follow-on effects of the asset price changes. And a lot of this is quite structural and predictable. So, it's very interesting and really going to enjoy having Darius on to chat with us about all these things. And just a slight change in the format, we're going to share some insights of what we have observed over the last week as well, to start the show off as well. So, Adam, maybe I'll kick it over to you to –

Inflation Volatility

Adam: 00:04:06 Sure. Yeah. And I'm looking forward to people's comments and questions as well as we go through this. So, please chime in and engage. And Darius, looking forward to your thoughts on what we've seen over the last week or so. I know we were chatting before the show, and there seems to be at least a growing consensus that we may be in some kind of regime change here. We are seeing a variety of signs.

One thing that I've really picked up on over the last two or three weeks is we are in one of the most reflexive markets that I've ever seen in my career going back over 20 years, where you've got sort of the confluence of extreme retail investor speculation and participation in the markets. I mean, just looking at the volume of odd lot call premiums for example. The amount of gamma in the market on some of the highest price names, thinking sort of the Tesla's of this world. And at the same time, you've got a Fed president that's been reconfirmed or Fed chair, rather, that's been reconfirmed.

And I think it is often the case that when we have a new confirmation in our new Fed chair, they often like to come out of the gate, signaling that they're not going

to be the same as the previous chair, and or you know, that they have their eye on the ball. And so it seems like there was a dramatic shift in tenor in the market really, since the Powell reappointment. So, I think that's an important thing to notice. We've had some other really interesting market-oriented signals like what's going on in the Euro dollar market. I know the guys over at ... have been remarking on the fact that we've had an inversion further out in the Euro dollar curve, which has often indicated a risk towards the deflationary camp.

And so is that complicating views on the trajectory that the Fed might take? And I know a large group of macro commentators have been calling for this dynamic where we may get this sort of huge energy led uptick in inflation expectations. And that may then cause a reaction from the Biden administration. And some governments, they've been sort of signaling that they won't let this inflation get to control or they won't allow it to dent the economy, and their willingness to add to fiscal stimulus here. And so you've got this sort of inflation shock may actually lead to an exacerbation of the same dynamics that have led to this inflation shock. And at the same time, you've got signals that certainly the bond market and the Euro dollar market are positioning for deflation.

So, I think what we're really observing is a market that is right for inflation volatility, right. And so I don't think investors necessarily want to be concentratedly positioned towards the inflation camp or towards the disinflationary camp. I think you want to be positioned for inflation volatility. And there's a different type of trading dynamic that lends itself to that view. So, I'll stop there, and maybe you guys can react to that. And then I want to share a couple of charts that we thought were really interesting from last week.

Rodrigo: **00:07:58**

Yeah. I think we've been talking about inflation volatility quite a bit, right. Everybody, I'm particularly sensitive to the inflation discussion because of my formative years in Peru. A lot of people think they understand inflation, but they don't. I mean, inflation is such a broad series of events that don't happen all at once. Canadians especially love to talk about inflation protection as their gold position, right? It may work, gold may be there, and it will be there in certain ways. But depending -- we're looking at quarter to quarter. The different ways inflation manifests in different asset classes, in different commodity complexes is wide and varied. Right. Gold has been flatlining this whole year, yet, energy is going up. You had grains at times, we're short the grains at times, we're long the grains like recently, now we're back to being short energies after what happened last Friday.

And so when people ask me, is it going to be persistent and pervasive over the next decade or is it going to be a transitory inflation? The answer is yes. The

answer is that inflation decades are what you said Adam, it's a decade of inflation volatility. Thrusts upwards of massive volatility spikes with deflationary busts and another round of inflation, deflationary bust and from point to point a decade of the 70s, you know, energies or not energy, commodities generally were up 800% for the decade. So, you use this concept of like, look, energies are great, not energy, commodities are great to hedge that decade. The problem is the average investor, the average advisor, the average allocator will be fired or just have weak hands in those moments of downfall. So, I think inflation, unlike growth, requires a much -- a bit of a Midas touch. You need to be active in order to protect and manage that volatility of inflation, rather than just thinking a single passive position in your portfolio is going to do it.

Mike: **00:09:56** Are we also in a place where the sort of Fed put is, previously, all news was good news. If it was weak, we're going to get liquidity. If it was strong, we were going to get liquidity. And it feels like now that those players are backed into certain corners, both somewhat politically, as well as fiscally, as well as monetarily, where now it's starting to be like, it's all bad news. The economy's really strong. Oh, we're going to taper more. We need to raise rates more. So, you'll get news that typically may have been good news in previous types of cycles, which is now potentially has some other implications to be sort of negative news. And so you can get this cycle where the news is just, it doesn't matter what it is. It's all kind of temperate and creating that volatility you're talking about.

Darius: **00:10:57** Yeah. I would add just the news today, in our opinion, certainly added to a lot of that volatility. If you look at the jobs report, obviously, the headline number was a pretty soft figure. But the second, you take a step back or step through the headline numbers and into the data, as we tend to do is it's a pretty hawkish report. And we saw some pretty broad-based improvement with respect to unemployment rates of ethnic cohorts that had been previously left behind, namely, African-Americans and Hispanics. We saw a massive improvement in unemployment rates or unemployment for folks who don't have a high school diploma or folks who just barely graduated high school.

And so in terms of the Fed's maximum inclusive employment mandate, this jobs report took it a major step forward beyond the original -- underneath the headline figures. And I think that does put the Fed on a preset course to accelerating the taper on the 15th of this month, and ultimately getting themselves into a place where they can hike interest rates in the first half of next year, likely at the June meeting. They'll probably get another rate hike at the September meeting. And the reality is that the fact that that's -- we're sort of on a -- I think markets are pushing us towards a preset course for that, if only because the Fed has been so lagged with respect to the yield curve, it's been behind the curve for quite a while now.

As a function of that, you kind of have a scenario in asset markets where the Fed is going to be automatically tightening into a slowdown for an extended period of time. And that is a very different market environment than the one we just exited, or the one we're either currently in or certainly in the process of exiting. So, I think that does require ...

- Rodrigo:** 00:12:33 When did that jobs report come out?
- Darius:** 00:12:34 Yeah. Jobs report, oh, this morning at 08:30, the November jobs report.
- Rodrigo:** 00:12:39 All right. And in terms of news, what do you think was the catalyst for last Thursday, Thursday-Friday?
- Darius:** 00:12:45 Oh, last Friday? Well, I do believe Omicron was an issue. But I mean, it's -- all these dynamics, it's, you don't necessarily need the catalyst, in my opinion. You need to understand how asset markets are pricing it in, in regime terms. And what happened going into the beginning of last week, prior to last Friday's smackdown is that we sort of concluded the end of the mini-reflation trade that we saw, basically, from mid-September through that time period. And we transitioned into something that looked more like stagflation or inflation, as we call it at 42 Macro. And so that was confirming the markets are pricing in a negative growth dynamic relative to the prior regime.
- Well, fast forward to this week, what's happening is now we're starting to price in a negative inflation dynamic as well. And historically, whenever you had both growth, and inflation impulses are negative in the economy, or the market's pricing that in, that's obviously something that catalyzes more volatility, more drawdowns in risk assets and a lot more sort of investors running for cash.
- Adam:** 00:13:41 Yeah, I mean, that's a -- I definitely want to zero in on the volatility in risk assets. Because I'm not sure that people who are mostly focused on equities understand just how large some of the moves were across many markets last Friday, and then again, on Tuesday, this week. Like if you're only looking at the S&P, I think there's a lot, A, that went on under the surface for the S&P. Obviously, the equal weight index, the Russell, were down in the sort of 4% range, so obviously, a substantial move there. A lot of European markets also had major moves, thinking the IBEX, etc. So, I just wanted to sort of show a chart that put some of these moves in perspective. So, let me just go ahead on that. You let me know when you can see my screen. You can, yeah?
- Darius:** 00:14:36 Yeah.

Adam: 00:14:37

Yeah. So, this is from last Friday. So, you know, a week from today. And all I did was, I analyzed the size of the loss in terms of the empirical distribution. In other words, all of the other returns that we've observed throughout the entire history since inception across 85 different futures markets, and I zeroed in on the ones that had the most extreme moves. And you can see that, for example, the Crude contract, Brent, in fact, the entire energy complex, experienced a downside move that exceeded what we have seen historically in all but about 20 out of every 10,000 trading days, right. So, I mean that's a pretty substantial var shock. And a lot of systematic funds, especially were relatively highly weighted in the Crude complex, because it has been such a strongly trending market. It has been symbolic of this stagflationary regime. And it was a bit of a market darling, it had done very, very well, strong trend across a wide variety of tenors. So, a pretty --

The other thing to notice was that the volatility observed in those markets coming into last Friday, was such that the move was even more extreme when you adjusted for the volatility estimates, right. So, in this plot, all we've done is scaled Friday's move as a multiple of the expected volatility of those markets. And again, this is the number of occasions per 10,000 trading days, that we might expect to see a move of that magnitude in a wide variety of markets. You can see that on a vol adjusted basis, a much wider variety of markets experienced quite a substantial move, right? So, worse than we might expect in all by 20 days out of 10,000. Right.

Rodrigo: 00:16:38

So, for the listeners out there, we're looking at a bunch of graphs with a number on top across these markets. And I'm looking at, I would just say an average here a median number of like, maybe five days for every 10,000 trading days, we've seen moves like this, across 15 to 20 different contracts, or markets.

Adam: 00:16:59

Yeah, yeah. So, this is what was going on under the surface, right, that you didn't see if you're primarily focused on a US balanced portfolio, or the S&P or the NASDAQ. And then the 30th, which was just past Tuesday, was actually another really interesting day, but it impacted even more esoteric markets, right. So, just looking at Tuesday, the grains complex and some of the softs also had a really tough day. So, bean oil, mill wheat, cotton, palm oil, wheat, canola, all experienced that extremely negative day.

The grain complex was at or very near an all time high, the vol was relatively low, and yet, we can sort of hypothesize that some of the de-risking, that some of the systematic funds were undergoing as a function of the var shock that they'd experienced on Friday, then sort of migrated over into some of the other complexes where there was fairly heavy concentration. We know by observation, the grain sector was one of those. And as a result, we saw another

really rough day for that complex. And again, on a risk adjusted basis, we see the same sort of thing in the grain complex, just a really, really tough day. So, I think it's really illustrative to think about markets other than the S&P in terms of what's going on under the surface and the type of risks that can manifest, especially for sort of alternative strategies.

Rodrigo: **00:18:40**

And it just so happens that it came at a time, like, everything that Darius spoke about it was clearly building up toward that, right. But what was interesting in terms of news is that we were talking about this on Thursday. Remember, Adam, you're like, oh, this Omicron thing is coming in hot. I wonder how this is going to affect the market given the weaknesses we're already seeing. You were talking about the deflation trade, like you were very much into, like, we need to see how it's going to turn out.

And certainly, Omicron, I thought it was that the *guardians of the narrative* were all eating turkey dinner on Friday, right? Because I was looking at -- you remember that Slack exchange? I was like, this is nonsense. Like, this is one of 20 variants. What are they talking about? Like, there's no data to back anything that the UK was doing. Whatever, it's probably not going to be a big deal. But when you don't have the guardians at the gate, right? When you have people, rational people that know about this, taking the other side, and you have all these dynamics in the background, and you're in one of the worst, the least liquid days in the year, it just created this Armageddon, right, like it was astounding to see how you never know what narrative is going to create this catalyst.

Mike: **00:19:55**

I think it's just -- one last point I want -- because I think it's going to dovetail well with your concepts, Darius and 42 Macro's thinking. We have those two dynamics of inflation and growth that create those sort of four quadrants, right? What was heartening, to some degree, is if you were diversified and prioritized some preparation rather than prediction, our risk parity mandates were relatively unscathed through all of this. Because you've got risk balances across the different domains that we're talking about. And some of them benefited from the regime shift and some of them were hurt. And so that's, for us, always a great starting place.

And then obviously, the layer on top of that is to think about, okay, prediction, and how do we inform that via some of the quantitative models you've got, Darius, that help people slant and skew the portfolio to these different areas. We wouldn't advise anyone take 100% off the table in any area, but certainly slanting and tilting the portfolio makes a lot of sense. But you'll leave that to the

individual investor to do. But thinking about it in your *quads concepts*, and all that sort of stuff, how did you see things roll out?

42 Macro

Rodrigo: 00:21:03 And maybe doing intro 42 Macro before you get into it and what you do, and then go forward and answer my question.

Darius: 00:21:09 Yeah, absolutely. It may help to sort of explain the grid concept, if you will. So, let me share my screen if you don't mind. Yeah. So, I'll take a step back and kind of address something Rodrigo said earlier about the kind of the guardians of the gate being missing. And I do believe that was certainly a factor. Can you guys see my slides? Yeah, you can see. So, I do believe that was certainly a factor. But I also think it's fundamental as well. I mean, you think about what we learned from ... up there in, I think it's MIT he taught us that. Markets is this dynamic nonlinear ecosystem.

It could have been Omicron, it could have been a squirrel getting hit by a bus, it could have been Powell saying the wrong thing at the Senate testimony this past week. And the reality is, we're heading into a *Sea of D's*. And what those D's mean, or these implies that the whole global economy is going to be experiencing negative impulses on growth and inflation for an extended period of time, starting in roughly Q1 of next year, for the most part. And so we look at something in terms of how our market regime nowcasting process absorbs that information, or really, what it's doing is it's actually sort of asking every market in the world, all the major markets in the world across asset classes, hey, what's happening with your price and volume volatility signals.

And in the context of summarizing all that stuff, we're effectively nowcasting what regime the market is in based on all those liquid asset markets. And what we've seen is really, since the beginning of November, we've seen a massive move higher in both inflation and deflation. Inflation because that's the highest probability macro regime right now. We're currently in the month of December, a lot of economies are in inflation, which is what most folks would call stagflation. That's where growth is decelerating, inflation is accelerating. But the reality is, if you look closely back at this chart, deflation is not far behind.

Rodrigo: 00:23:00 Can you just stop at this chart for one second, Darius? I'm not sure I fully comprehend what's going on here. Maybe walk me through what I'm supposed to be seeing here.

Darius: 00:23:07 Yeah, absolutely. So, it's a three step process or a two-step process. So, each of these markets in this table here, we're scoring through the lens of what we call our volatility adjusted momentum signal. And so if it's green, it's got a checkmark that's bullish, red's bearish, orange is neutral. And so if something's bullish in this table, for instance, or something, let's use the first signal, MSCI. So, that's the MSCI Emerging Market Index that's got a red X that's bearish.

Historically, based on the back test, if you look at how we back tested asset markets through the context of those regimes, if the MSCI Emerging Market Index is bearish, that means both inflation and deflation are getting a point from that market. And we're iterating that process all the way across the table, obviously at every interval, and every trading day in the market. So, we have a time series effectively of, okay, which regimes is the market pricing in, according to how the asset markets have historically behaved in each regime.

And right now, we went from a scenario where reflation a few weeks ago was up there around 20, sort of had a lower high relative to where it peaked out in June at around 20 and it was the dominant regime, as you can see at the top of this chart. But since then, we've seen the number of markets that are either breaking down with red X's, or just breaking into neutral from bullish previously, that those signals don't contribute. So, you're effectively taking away signals from reflation and either giving them to nobody or giving them to deflation and inflation.

And so that's what's happened in the last few weeks, which is asset markets themselves are now concerned that we're transitioning into what we always thought they would transition to all along. We're just having the price in a very different economic environment than the one we just left. This is a very positive economic environment and the fact that we were getting record fiscal stimulus and record monetary easing associated with that very positive economic environment. The R stand for reflation, that's where growth and inflation are trending.

Rodrigo: 00:24:56 And that was from July 2020 to basically October 2021, yeah.

Darius: 00:25:03 Yeah. So, I think that's the market saying, hey, we're done pricing in all the good stuff, we're now starting to price in the bad stuff. And what degree to which the market's pricing the bad stuff in our opinion is a function of monetary policy that

the kind of expected path for monetary policy which in our opinion is kind of getting scary. I mean, so we're seeing effect that -- so, this chart here shows the Eurodollar Futures Curve. 2022 is the blue line -- the Eurodollar calendar spread rather, red line is the 2023, black line is 2024. And the five-year, 30-year Treasury yield curve is the pink line. We're still holding around three rate hikes into 2022 and a couple more, two to three more in 2023.

But what's happened is the market has said effectively, hey, look, you're going to tighten us into a recession as a function of that. And so the bond, the yield curve is pancaking and kind of the last thing in on this, we held in with the 10's-2's spread. We knew all the other yield curves are flattening 10's-30's, 5's-30's, things like that. But the 10's-2's are holding in because we had this positive growth dynamics associated with, you know, coming out of Delta. And you know there's positive fiscal, for a moment, there was positive tailwinds with respect to fiscal policy as well. But a lot of that stuff has kind of gone awry in the last few weeks.

And now you're seeing this collapse in the 10's-2's spread to kind of catch down to where the rest of the yield curves are coming in. To me, that's new. This breakdown in the 30-year treasury is new, this kind of the fact that the 10 year didn't hold 140, where it held in kind of early November, is new. And so to me, that newness of it all is something that we need to be paying attention to. Lastly, going back to the original side, which is this.

- Rodrigo:** 00:26:50 Got it.
- Mike:** 00:26:52 And then what are the implications then for bonds in sort of this deflationary outlook, but also with sort of a rising rates backdrop? Like what wins in that?
- Darius:** 00:27:10 They're flat.
- Mike:** 00:27:11 You're muted, Adam.
- Adam:** 00:27:12 Yeah, pricing in inflation and pricing in deflation seems like a really interesting story. Like, how often do we see that historically? And what does that market environment typically look like in terms of where stocks and bonds go?
- Darius:** 00:27:25 Yeah. So, the difference between inflation and deflation is not much in terms of asset market performance. Like, if you look at, so we back tested everything through the lens of those grid regimes, and the reality is, when you, you know, you're on the right side of the chart. That means growth's decelerating on the

left side of the chart that means growth's accelerating. And you sort of look at, like what happens in you know, equity style factor terms, it's pretty much the same. Same thing with fixed income. The only thing you kind of -- the only big pivots in fixed income is like, okay, I'm going to be long something like MBS, as opposed to TIPS, or I'm going to be long so I can actually get long the short end of the curve, as opposed to IG credit or something like that. And so the reality is, so inflation.

Now, a lot of folks associate, you know, it's kind of stagflation with, okay, I gotta go buy every commodity in sight, or I gotta go buy this. But there's a reality to it that you typically only get paid in energy and food when you're in a growth slowing environment and inflation accelerating. This is the inflation environment that gets you paid in everything, commodities, everything, crypto, every inflation trade or inflation narrative that you want to put out there. When you cross this Rubicon of growth, things start to get weird. And the reason they get weird is because you're slowing. And the slowdown of growth sort of reduces investors willingness to take risk, reduces business's willingness to take risk.

And obviously, it creates a much more higher volatility environment. If you look at something like our back tests with S&P, for example. You look at the volatility is around 11 or 12, when you're in Goldilocks inflation. But you're somewhere between 15 to 20, on average, when you're in inflation and deflation, and that's pretty consistent across all risk assets.

Mike: **00:29:00** I imagine if you add in the balanced portfolio, sort of the 60/40 is the predominant way that investors would view that, it's not much better. Does the correlation between sort of the government bonds and equities rise a little bit in that scenario or not?

Darius: **00:29:20** Yeah, the inverse correlation tends to pick up whenever you have growth slowing. So, that typically is what -- I mean, that's obviously what's happened in the last week or so, last week, week over week. I mean, bonds have had a massive move higher as a function of these dynamics and our opinion changing. I mean, it's all reflexive, right, bonds having a massive move higher is contributing to the nowcast for inflation and deflation rising. And the only reason that inflation and deflation are -- they're all rising as a function of risk assets selling off, but the fact that you still have some latent bullish signals in commodity space, are keeping inflation well bid for now as a market regime. But you know, certainly if we continue down this path that'll be very, that'll end pretty quickly.

Adam: **00:30:02** How often do you measure it?

- Darius:** 00:30:03 Every day.
- Adam:** 00:30:05 How often do you update? Oh, okay. So, have you not observed a meaningful shift in some of those inflation dynamics over the last -- I mean, even over the last week? ... the energy sector. Yeah.
- Darius:** 00:30:15 Yeah, certainly, initially, crude oil's bearish from the perspective we're out already. Let me go back to the table just so I'm not speaking out of turn. But so yeah, we got broke down. So, crude broke down, copper broke down, silver broke down, nat gas broke to neutral. Yeah, so you had a lot of breakdowns this week, obviously. MSCI Emerging Market Index breakdown. We had a lot of stuff break down to neutral already. And so we're on a path towards going to deflation. And that's typically what happens, right? Like, if you look at this chart, it's very much akin to the business cycle.
- Like, you bottom here in a recession, then you grow while inflation's still decelerating, that's kind of the early cycle phase of the recovery. Then you go entirely to the early to mid-cycle phase of recovery. You got inflation picking up now. There's a little bit more pricing power in the economy and then overly you start to overheat. That's your gross decelerating late cycle and inflation still accelerating, and then boom, you have a recession, right? That's kind of like -- this is designed to help investors manage risk on a kind of three to six to nine month forward basis. But the reality is, it very much rhymes with how the business cycle itself works and rate of change terms.
- Rodrigo:** 00:31:24 Yeah, you got the cyclical changes, what you just described, there's also a secular regime, that tends to be much, much longer, right, but you're dealing in the cyclical. So, what type of visibility do you give your clients? Are you predicting what's going to happen over the next 12 months, six months, two months, one week, all of the above?
- Darius:** 00:31:45 Yeah, 12 months. So, our forecasts are live and rolling at every interval. So, we maintain nowcast and forecast models for both growth and inflation for every economy, going back to that table on slide five. So, it's all the same kind of metric processes, but obviously, different data sets for different economies. So, we do have at every interval, we have a 12 month forward view on what the modal outcome is from a regime perspective. Now, that's not to say that every modal outcome dot in this first row of the table is as strong of a signal as the others. You know, for example, when you're in reflation from July, all the way through kind of from July to July, these were very strong reflation signals. Your distance from the origin was very great. And as you can see, the conditional probability

of being in deflation throughout that time period was very high, again, as a function of the distance from that of the origin.

Now you're kind of in this hodgepodge of this starting in September of this year, really all the way through kind of the end of this year, the distance from the origin for some of these dots it's just not that far. And so the market, in my opinion, going back to the market regime nowcasting process, like, this is why I draw the dotted line. It's like, the market has had a tough time figuring out what regime to price in because the economy itself has had a tough time of declaring the regime, if you know what I mean, but actually declaring the regime. But we think as we go further into 2022 as a function of our growth forecast, this is pretty consistent deceleration in growth, pretty consistent deceleration in inflation. The further we go into 2022, the more likely it is the market can figure out what to price in, and maybe that process has already started.

Adam: 00:33:25 So, how do you trade with a 12-month forecast? Like, or how do you recommend investors manifest these views and portfolios?

Darius: 00:33:34 Yeah, absolutely. So, what we're trying to do is orient our portfolio construction in accordance with the next three to six months from a conditional probability perspective. So, right now, mostly the next three months because what we found, I mean, I've been doing this for over a dozen years now. And anecdotally, the asset markets tend to start to price in the new regime somewhere between one to three months, not further.

Jim Leitner who runs Falcon -- I forget the -- Falcon something, but he wrote *Inside the House of Money*, this is back in 08, a book in 08, and he was talking about regime segmentation process and effectively how you don't get paid to front run the regime. You typically want to be kind of within the first couple months of the regime. And so that's understanding that learning, understanding just kind of watching this process play out anecdotally over a long period of time.

Rodrigo: 00:34:28 That's an interesting concept. So, just so that I understand it -- you don't get paid for being too early, right?

Darius: 00:34:35 Yeah, of course.

Rodrigo: 00:34:36 This is kind of like, you know, how many people before 08 were like in 2005, I was hearing for the real estate, the housing market collapse. I mean, most of the people in the big short were big shorting years before they should have. And they became ostracized, like lost their families, lost their like ...

Darius: 00:34:53 Well you think that, my former boss got fired for shorting too big and I wouldn't have had a job had he not gotten fired. So, knock on wood that was a good thing.

Rodrigo: 00:35:00 Druckemiller shorting too early. Like, it's an interesting concept. So, you're better off actually taking the first hit along with everybody else. You're not going to get fired if you're taking the first hit with everybody else. You just, from then, don't be paralyzed, start making some moves.

Darius: 00:35:14 Exactly. So, just waiting for the market to tell you, hey, we're starting to price it in. That's what this whole process is about. I know, based on the econometric side of this is easy, or easy enough for someone who's been doing it for as long as I have. The hard part is this variable kind of dynamic with which the market starts to price it all in. The market can start pricing in like coincidentally, like Q4 of 18 when we transitioned to deflation then and the market effectively was like on the day, on the screws. Or could kind of start to price it in ahead of time. This is like, you look at January of 2020, a couple months ahead of time before we actually observed and experienced the deflation. So, the reality is you kind of want to live in this next three to six month view, but really the three month view.

And so our portfolio construction, I'll give you guys a quick glance at it, because I don't want -- we've got to keep our ETF exposures out of the public view just for respect of our paying subscribers who are paying for that information. But the portfolio construction, the bets we're taking in the portfolio construction from a pie chart allocation perspective, represent the grid regimes, the size of the grid regimes in this probability table. So, right now as you might imagine, inflation had been the largest one, but we actually just made some sales today. So, we're a little bit more balanced with the deflation now in cash.

Rodrigo: 00:36:30 So, I'm not clear as to what you recommend, like what instruments you recommend. Would it be equities, just ...

Darius: 00:36:38 No, everything. Yeah. So, we back tested everything through the lens of those grid regime processes through the lens of the delta's impulses and growth and inflation, what the policy rate's doing, what the balance sheet's doing, what fiscal policies doing, what the rest of the world is doing and we blend it all together through the lens of volatile or expected returns, percent positive ratios, volatility covariance. So, volatility covariance are on the X axis here, percent positive ratios and annualized expected return on the Y axis.

And what we're trying to do is help investors visualize according to our forecasts, what's happening over the next three to six months, in the econometric side of things, visualize the kind of exposures they should be long and short. So, if you

draw like a slope of one here, obviously, those would be the longs, these would be the shorts, high risk, low reward, low risk, high reward. And so we do this across every asset class; US equities, global equities, commodities, fixed income foreign exchange, and then we ultimately help investors kind of shrink that whole discussion into, okay, these are the types of exposures I should be picking from on the long side. to fit myself into one of those pies, right.

And so that's how the whole process works. It's understanding the conditional probability over the next three to six months of realizing something in the economy, allowing the market to say, hey, it's actually starting to price that in, and then making sure the bets we're making in our portfolio construction correspond to the size of the pies or the size of the probabilities in that distribution.

- Mike:** 00:38:04 I think that's a really important point to emphasize in that you've got a pie there. And it's unlikely that you're going to take any one of those quartiles to zero. Like, you're still going, based on the conditional probability...
- Adam:** 00:38:19 Or a hundred presumably too.
- Mike:** 00:38:20 Correct, correct.
- Darius:** 00:38:21 Yeah, exactly.
- Mike:** 00:38:22 And so based on the probabilities you're seeing, you're weighting the allocations to those various regimes based on those probabilities, because you would never have a zero or 100 probability in any case.
- Darius:** 00:38:38 Yeah. And so right now, Goldilocks is a 10% probability over the next three months in terms of realizing that economically. I took it down to zero. That's to be, so I just don't just experience ...
- Rodrigo:** 00:38:49 -- threshold by which you just go to zero.
- Darius:** 00:38:52 There's a subjective element to it as well. The subjective element is certainly less than a quarter of the whole process, but it is a function -- there's a subjective element to it. I mean, the pivot we made in early November to start taking down our exposure to pure reflation exposure, we sold a lot of commodity exposures. We were long commodities coming into November, big time. And we sold a lot of that stuff at the beginning of, or November 11th. Saying, hey, look, I'm starting to see the market transition to something that's not positive.

Like, we're coming out of deflation, it might be inflation first, but ultimately, we're going to be going to deflation, if you go back to that probability table, and I don't like these signals. I gotta get rid of all this stuff. So, I effectively use my own intuition and kind of my own expectations to front run the pricing end of that. And knock on wood that was obviously a really good call because a lot of those markets have crashed in the last few weeks.

Rodrigo: 00:39:44

That's an interesting concept that we often talk about internally as systematic managers, Darius. You know, how do you weigh the -- what you do as a quantitative investor is you try to minimize your own behavioral flaws, and maximize the understanding of the structural inefficiencies that created your models that you believe are going to exist long-term, versus the intuition that you create and garner over decades of being in the market, right, that blind spot that a lot of these, like you just -- there's two or three things that have happened. I kind of know that my intuition tells me this, I've seen this enough. And you are -- it's an interesting thing, because you are both quantitative, but you will unapologetically nudge something using your intuition. Have you thought about that in any deep way where you can articulate it and kind of really hone in on when and why? Or are you just kind of playing the game and your intuition kind of kicks in? Like, where are you at with articulating that?

Darius: 00:40:55

I'd say five years ago, I was just playing the game. As I've gotten more experience and built out the process better and more robustly, I have ancillary tools that give me quantitative signals that allow me to, essentially front run the main line components of the process. So, for example, thinking back to the deck, just one slide, I'll share with you in that regard. You know, so when we were making those pivots in early November, this dispersion table, one thing we track is month on month Sharpe ratio dispersion across 50 US equity sectors and style factors. The reason we look at the upper quintile, relative to the lower quintile, what we're trying to find is the composition of the upper quintile and lower quintile, specifically if it's procyclical or defensive.

And the reason we do that on a daily basis is to identify, hey, what side of the table is the market maker on? Because what typically happens, and Stan Druckenmiller taught us all this, going back to the 70s and 80s, like the style factor leadership in the stock market, is the world's best predictor. You know, it's the world's best predictor of what's happening on a go-forward basis economically. It's the world's best predictor of future changes in monetary and fiscal policy.

And so understanding -- having this burned in and like the back of my brain like okay, what leads, what lags in a pro- growth or negative growth regime? When

you start to see this table, so this table got very defensive in June. Like the upper quintile was dominated by things like low beta, mega cap growth, etc., etc. That was kind of the end of that ...

Rodrigo: 00:42:23 That was in June you said?

Darius: 00:42:25 Yeah, that was the end of that first reflation wave going back to slide nine, like the peak of that reflation wave came, and then it crashed because sector and style factor leadership in the equity market sort of front ran that saying, hey, look, we're done pricing in pure reflation for now. And it got procyclical began in mid-September. And that was one of the things we used to say, hey, like, look, the market is not currently pricing in inflation from a dominant market regime perspective. But this dispersion table is telling me that it's going to be at some point in the next few weeks. And the converse is true in early November. After having been procyclical from basically mid-September all the way through early November, it started to get defensive again.

And to me, I was like, hey, man, this is the same analysis, I used to front round the pivot back to reflation in September. Now it's telling me to pivot out of reflation and into something more defensive. And you know, the same analysis I showed with the S&P 500, it's the same with most commodities and everything else. Commodities want good demand growth. They want to be in Goldilocks reflation, they can, you can get paid in energy and food and inflation, but your volatility on that, those exposures is going to be much higher. And so knowing ...

Rodrigo: 00:43:32 I want to zero in on this, this is like, this is less about, like, I get where you're at, because we always -- again, internally, we have these conversations, and we're like, oh, I see this pattern. And then we're like, well, let's just go ahead and put that into the system. You know what I mean? Like, at some point, you've had two occasions in which you front ran the system. You gotta be like, I'm going to create a system around this, right?

Darius: 00:44:01 Yeah, it's not just front running the system, because I feel like it. It's front running the system with this in mind.

Rodrigo: 00:44:05 No, but this is my point. You have, your eyeballs are telling you some stuff. And now you've discovered a pattern from your intuition. The question is, are you going to then quantify that and embed it into the system? And is that the evolution of all quantitative models at the end of the day?

Darius: 00:44:25 Absolutely.

- Rodrigo:** 00:44:26 Or is it always going to be like your intuition, because maybe there's something that you, with regard to these two phase shifts that you front ran, that aren't -- they don't happen often enough for you to create a model? But anyway, I just find it is a very interesting thing.
- Darius:** 00:44:44 I do believe there's a model to be created now that you ask that question. So, that's something we'll do some work on that. I do believe -- so, the whole point, as you guys know, with quantitative analysis, you got to create time series, that way you can back test it and actually forecast it and ultimately use it in real time. And so right now I'm effectively using something that is not time series-based even though it's quantitative. It's quantitative based on the back test and all the learnings and understandings that hey, look, when the market goes from defensive to procyclical or procyclical to defensive, it's swapping on that, that you're going from left to right on that big table we're talking about.
- And so to me, seeing that change in early November, was saying, hey, look, I don't want to stick around waiting on this actual pivot, because there's a lot of stuff that can happen in this month in particular. And I said this when it happened, the June CPI report was one of the biggest catalysts of the year. Or not the June CPI report, sorry. Idiot. The October CPI report. Not only did the October CPI report sort of put the Fed on a path of accelerating tapering and acknowledging that it has to tighten next year.
- But it also in my opinion, is taking out the wind of the sails with respect to the Biden administration's agenda. I don't think they're going to be able to get 1.75 trillion past the Senate. That could be 1 trillion. If that's 1 trillion, what are we talking about in fiscal drag terms next year? We could be talking about a recession next year? I don't think that's the base case scenario. But I don't think anybody's talking about that in terms of what I see in the bond market in the yield curve. And what I see on FinTwit, everybody's levered long inflation. I'm like, that's a weird setup to me.
- Rodrigo:** 00:46:18 Yeah, it's not matching expectations. Doesn't matter if it's a billion or a trillion.
- Darius:** 00:46:23 I'm going to side with the bond market every time, not FinTwit, trust me.
- Rodrigo:** 00:46:28 Whoa, whoa, whoa. Careful.
- Adam:** 00:46:31 So, tell me a little bit about your, you keep using the word back test. I'm curious what you mean by that, because it doesn't seem to be exactly the same as the way we typically think about back test. I think it's, you're identifying a certain condition. So, whatever, three months skew is X. When three months skew has

been X previously, the forward return over the next three months or six months or whatever has been on average Y. Is that generally how you're approaching it?

Darius: 00:47:08

No, no. It's actually -- Can you see my screen?

Adam: 00:47:11

No.

Rodrigo: 00:47:12

No, sorry.

Darius: 00:47:13

There we go. So, no, what we're trying to do is, is we're back testing observations in the regime on a time series basis. And so what we're looking at is annualized expected return for the 71 observations over the last 25 years when the S&P 500 is in Goldilocks. When the economy is in Goldilocks, this is the annualized expected return based on those 71 observations over the last 25 years.

Adam: 00:47:38

So, you're using the ensemble of, you're using an ensemble of all of your different indicators. So, you've got that ensemble, you can identify where the regime that that ensemble was signaling that you were in back through time. And then you can just sort of pull out those months where the regime was in that state And what was the average return when the regime was in that state back over the past 25 years. That's the ... and it's either in that regime, or it isn't, tight. It's like a probability of that being in that regime, it's like it is in that regime, or it isn't.

Darius: 00:48:18

Yeah, exactly. And this -- So, to address that point, that's the sub back test. So, each back -- so the overall back test is obviously the whole sample, but then we have different categories of back tests. So, hey, what does it mean when growth's slowing very quickly, or we call it minus two sigma growth delta? So, the size of the delta on the deceleration is at minus two sigma relative to the trailing three-year sample of deltas. And so you know, you typically get a bigger drawdown in stocks when growth is slowing at accelerated pace, and inflation or deflation, those are the --- when growth is decelerating. Or something like this, when growth is accelerating pretty rapidly, plus one sigma plus two sigma, if you're in a Goldilocks reflation, you typically get a more positive market response. And so we're categorizing all those different back tests.

So, in terms of understanding -- because it's all just historical data, right. We're just relating the historical data to the price changes in the markets. And then ultimately creating the statistics associated with that so we can understand. And the goal of that entire process is to create this table, so understand how asset markets generally behave. And then the secondary goal, the real goal is to make

money, right, and to help myself make money, help the folks who subscribe to our process make money.

And so we use all that secondary information alongside the primary back tests to effectively create these scatterplots, the visualization of it all and say, hey, if I think we're transitioning from this to this, you don't want to be long things that only work in this, but that might not work in this, you know what I mean? You want to be long things that work in both. And so that's how we really help investors understand these regime pivots. We started the show by saying, hey, we could potentially be in a market regime transition. Our bread and butter is helping investors, A, understand what the current regime is, and B, how to position for that change?

- Adam:** 00:50:09 Can you just flesh out what you mean by covariance ranking?
- Darius:** 00:50:14 Yes. Sorry. Go back to go back to the slide. So, this is...
- Rodrigo:** 00:50:20 You see that Mike, you see -- by the way, I just want to point something out. Mike always gives me shit for having too many slides in my deck, 131 slides, Mike, 131 slides. I'm actually averaging around 60. All right, just see. That's what you call a kitchen sink presentation right there.
- Darius:** 00:50:37 Yeah, so I do one of these decks every month. I don't know why the hell I decided to do that to myself, but it's actually been good. It forces me to interact with all the data more rigorously.
- Rodrigo:** 00:50:49 I agree. I think Adam is a winner here though. I've seen on average like 100 slide decks coming out of Adam's -- Within a day he'll come up with 100 slides
- Adam:** 00:51:00 Parenthetically, dude. You know, the number of slides is really just how big you want the fucking charts to be on the on the page right? You can put four charts on a page and take 120 slide presentation down to a 30 slide presentation very easily.
- Rodrigo:** 00:51:14 If that's what you need to do to live with yourself...
- Mike:** 00:51:22 That's a great way to side swipe the conversation. I was following along great. I don't know what we're talking about now. Can we get back to ...
- Rodrigo:** 00:51:33 Mike was super focused. Your Ritalin is like in full effect.

- Mike:** 00:51:37 I'm focused in, I'm following the story...
- Rodrigo:** 00:51:40 Go ahead. I'm sorry, I'm sorry. We just totally threw off Mike's flow. I was trying to get some levity to the conversation, Mike, just you know. That's normally your job, by the way. Get going.
- Darius:** 00:51:55 Watching this at 05:00 PM on a Friday like man, this is boring stuff.
- Rodrigo:** 00:51:59 No, man, we got great engagement. We got amazing engagement. Nobody's asking any questions. Don't be shy.
- Mike:** 00:52:05 We love this. We love nerding out. It's awesome. Just loving it. And it's also I'm assuming, in this case, you're not a registered individual who has to get everything through the registration process too. So, there's some differences. But let's carry on, I want to get you in the meat. Give me the meat.
- Darius:** 00:52:22 ... discussion too. I just want to answer Adam's question on covariance. So, in the same way, they were calculating the annualized expected returns at percent positive ratios of volatility, we're also calculating covariance with US equity beta in the regimes. And so taking the same time, the time periods of those, of each exposure that we back tested, we back tested literally everything that ticks. And so for example, you're looking at bonds, this is the Bloomberg Barclays 25 Year Total Return Index. You know, the further you, as I said earlier, the further you get into inflation/deflation, that inverse covariance picks up with the S&P 500.
- Adam:** 00:52:59 So, it's beta to SPOOS, essentially.
- Darius:** 00:53:01 Yeah, exactly. And so when you see that ranking on these scatter plots, we're taking this table here, we're trying to blend it all together to -- there's a proprietary process. And I'm not saying it's perfect, but I think it's pretty good in terms of blending all these back tests together, and then we just rank them. And so the ranking allows us to calculate a mean value for them. And the mean value allows us to plot them on the scatterplot. And so we got a mean value for covariance volatility on the X axis, and a mean value for the expected return of percent positive ratio on the Y axis.
- Adam:** 00:53:33 Yeah, I'm loving it. So, help me understand how you translate that scatterplot to a portfolio. You don't need to actually show me the portfolio. I know that's proprietary, but I'm just keen to know how that works on your end.

- Darius:** 00:53:45 Yeah. So, going back to the pie chart allocation, so the size of the slices of the pie correspond to the percentage, the probability of realizing the regime over the next three to six months, mostly next three months. And so if let's say, I need just to fill up 50% of the portfolio with deflation exposures, for example, I'm going to go to the deflation back tests and those scatter plots, and go pick dots from the top left of the scatterplot. You know, the top left ...
- Adam:** 00:54:12 So, which you talk to you pick and then how do you size them?
- Darius:** 00:54:14 Yeah, for example, so for now, I mean I've experimented and failed with mean variance in terms of sizing. So, right now we're just sizing them up equal weights. But so for example, in fixed income, we're trying to, let's say we need to add fixed income dots in the pie chart, let's go find things in fixed income that have a high reward score and a low risk score. So, that's the short term treasury TIPS, MBS, you know, kind of treasury belly or that's seven to 10 year this is ag, TLT ADV. It's kind of the usual suspects, exactly what you would expect. It's obviously not things like you know, BDCs high yield, convertible bonds, bank loans, emerging market debt, EM local currency. So, these scatterplots help me fill out that slice of the pie. And so if I'm using equal weighted exposures and I need to get to 50, for example, that's going to be a little bit more -- that's going to be 12 different slices or 12 different dots. So, I'm obviously going to run out of dots in this particular back test. So, I got to go find them from other asset classes that kind of mimic that exposure, because income would be the closest one in terms of volatility.
- Rodrigo:** 00:55:22 And all these recommendations are non-levered?
- Darius:** 00:55:24 Yeah, no. I don't believe in leverage, man. That's how you blow yourself up.
- Rodrigo:** 00:55:28 Whoa. Okay. Well, we're going to -- We have how much time left? We have 35 minutes left to talk about that.
- Adam:** 00:55:36 Yeah. So, I think I'm understanding. I mean, it's interesting to me that, like EDV with a duration of like 30, is equally weighted in there with a duration of like, two, right. And then so I guess at the -- there's at least two steps to this. There's the asset class allocation, which is informed by the regime probabilities, right? And then, so that you've got that sort of pie weighting. And then within each of those asset classes, you've got a list of exposures that are expected to perform well in that regime, and you just sort of take some mix of those exposures and kind of equal weight them is kind of the general portfolio construction concept.

- Darius:** 00:56:32 That is correct. Yep. And well, it's not -- There's one more layer. There's the slice of the pie that corresponds to what we expect to realize in the economy. Because what we expect to realize in the economy we believe, we infer that the asset markets are going to try to price that in, in the market regime sense. And so the slice of the pie corresponds to that part of the process. What actually, what asset classes I'm using to fill up the slice of the pie corresponds to the back test. Okay. So, in inflation and deflation I know I need more fixed income exposures, because they have a higher expected value than equity and commodity exposures. However, in reflation or Goldilocks, that's the opposite is true. I want less bonds and more risk assets. And so that's that part of the process that's inferred of that not depicted here. But it's sort of automatically inferred.
- Adam:** 00:57:20 Okay, and then how do you incorporate the beta?
- Darius:** 00:57:22 What do you mean? I'm not sure I follow you.
- Adam:** 00:57:25 So, I'm just thinking about, you've got your chart, you've got all of these markets that do well, in a -- you want to be in fixed income and these are the markets that are, or let's say you want to be in equities. How does the beta ranking kick in in terms of the assets that you want to hold in the portfolio? I mean, I understand it's sort of, like, above that line, but it seems like by just using that line, you're actually eliminating that covariance that or like market beta dimension entirely. So, I'm just wondering kind of how that feeds into the process, or how you think about that.
- Darius:** 00:58:03 Yeah. So, that's exactly the point. So, if I don't have the reflation of Goldilocks scatterplots in here. Rodrigo, let me share one more time.
- Rodrigo:** 00:58:10 Yeah. Go for it. I'm on it.
- Darius:** 00:58:12 So, looking at equities, in particular, so you want more beta in Goldilocks and reflation. So, for example, if I'm in equities, if this was Goldilocks, for example, there'll be a lot of dots scattered up here. You know what I mean? You know, it'd be like high beta, the Qs, tech, industrials, energy, financials, you actually want that beta, because it's going to give you that. Beta, that volatility, is actually a positive feature in that regime. You're getting more return for per unit of your risk. However, as you notice all the highest dots in these two risk-off regimes and the regimes where growth is decelerating, all the highest dots are where you take the least amount of risk.

And so that, to your point, Adam, that's a great question. It's like how do you know how much beta to take or where to get the beta from? It's a function of what regime you're in. When you're in inflation and deflation, you want to be congregated to the upper left. Generally, you want to be congregating to the upper left in general most of the time. But the reality is, there are no free lunches in markets. You're not always going to get a lot of dots in the upper left, right. Typically, what you're going to see is dots up here and dots down here. The risk tends to correlate with the reward. But what this process allows investors to do I think, at a really high level, is understand the anomalies in terms of the risk and reward you're taking. Both to the upside, obviously, for something like healthcare, but also to the downside for something like high beta.

- Adam:** 00:59:34 Okay. So, these plots are meant to be sort of a visual to help investors to understand that by virtue of being in a deflationary regime, all of the assets that you want to emphasize tend to be lower beta. So, the beta is not really -- you're not really using that to select the asset so much as to illustrate that we want to be in low beta assets and we're selecting these assets.
- Darius:** 01:00:01 Yeah, exactly. Now, if all -- like this circle that I'm circling here, if this circle was transposed down here that would not be true. Right?
- Adam:** 01:00:08 Yeah. Because they would have low expectancy.
- Darius:** 01:00:09 It would have low reward. Exactly.
- Rodrigo:** 01:00:13 Like you said, I mean, the Sharpe ratios of any one of these strategies, any one of these securities change over time. Right now the highest Sharpe ratio is in the top left here, right.
- Darius:** 01:00:24 Yeah, exactly.
- Rodrigo:** 01:00:25 And that may not be the case, even though you might be selecting more volatile asset classes, the return might be so much higher that the Sharpe ratio for that moment is expected to be higher. And that's how you manage that.
- Darius:** 01:00:35 You're spot on. That's exactly it.
- Rodrigo:** 01:00:38 Very interesting. No, it's a different way to think about it.
- Darius:** 001:00:42 Say what?

Adam: **01:00:43** How often do the regimes transition? Like have you seen high confidence in one regime this month, and then it shifts next month to high confidence in like, the polar opposite regime? Or does it tend to be more gradual? I'm just curious about your experience with it.

Darius: **01:01:00** Yeah. So, on, I mean, quantitatively, or empirically, there's two transitions on average per year of going from what I would consider to be risk-off or risk-on, which is Goldilocks and reflation to a risk-off regime, i.e., crossing that Rubicon here. Two of these a year. So, you have to go from one of these two to one of these two. Because it's very easy to manage, if you go for one hit one or the other, very easy to manage if you go from one other. It's really just a matter of how much risk you're taking in the types of exposures you're exposed to.

But when you go from one side of the table to the other side of the table, you have to take different types of risk. And so on average per year, at least going back to the start of 1998, there's two of those to risk manage. But as you know, there's nothing average about financial markets. So, I think that's the scariest word in our business is average, is mean. As you can see, this is a whole year of do nothing, you know what I mean? Now we're likely to have a whole year the opposite, do nothing. And so ...

Rodrigo: **01:01:56** How dare you charge a fee. How dare you. What am I paying you for?

Adam: **01:02:01** Can you go back to your macro indicator's page just for a quick second? I just want to have a look. How do you select those macro indicators? And then how do you weight them? Like, do they all have the same predictive power, I guess, by implication that you're assuming they all have sort of the same amount of predictive power in terms of their ability to inform your regime model?

Darius: **01:02:28** Yeah. It's not that I assume that -- the assumption is not that they have the same amount of predictive power. The assumption is that at any given time, any one of these markets could be the signal. So, for example, going into COVID crash last year, when we went into a big sharp deflation market regime, it wasn't like -- the S&P 500 was like the last thing to break down. Now what broke down, like the Mexican peso started breaking down in January, Brazilian real started of breaking down. It's like, so the assumption in the model is not that these are equal weighted, but that you might get different signals from different markets at different points of time, based on the various policy dynamics or whatever, that could also be impacting asset markets.

So, I've looked at this going into all the different deflation and inflation regimes that we've seen across time. And the reality is, there's no consistency to what

leads and what lags. And that's a learning in and of itself. I think a lot of investors -- I think one of the things we all do as investors is sort of, and this is, again, this is all behavioral, Kahneman taught us this, we try to shortcut everything. So, we say, oh, well credit spreads, right, credit spreads, look at credit spreads ...

Rodrigo: 01:03:37

The signal, that's the signal, it's over.

Darius: 01:03:40

That's the signal. And we all agree to agree that credit spreads is a signal and it absolutely is. But it might not be in terms of the speed in terms of helping you reorient your risk management, it might not be the signal that gets you out soon enough. It could be the Mexican peso two weeks before, you know what I mean. It could be something like that. So, that's why they're equal weighted. In terms of why this stuff's in there. There's no rhyme or reason other than that these are the most important asset markets in the world, at least according to Darius Dale's view. I mean, these are certainly the most liquid market exposures in the world and the most trafficked in market exposure in the role, maybe with the exception of something like European triple C's is less likely, or crypto. I would argue crypto's an important market indicator at this point now, but some people might not agree with that. So, yeah, no, it's -- there are 12 asset classes represented in this table. And so there's enough in there, from the perspective of having a robust set of tools that gives you a signal ahead of time. Like, what we're trying to do, the number one thing we're trying to do with all these 100 slide presentations, and all the presentations I put out every week, is help investors not lose money. I think -- Yeah, go ahead.

Rodrigo: 01:04:49

Sorry. Because I want to pull on that behavioral string, and I pull on your client base, because I'm sure you have a lot of data on the strategy. I'm curious whether you have a lot of data on your subscribers, because what you are presenting right now is absolutely the way that everybody should be thinking about investing, which is you want to be adaptive, you want to try to make money in good and bad markets. This whole idea of like, you got to be investing in the S&P 500 Mr. Berkshire Hathaway, and that's the only thing you need to do and just grit your teeth when it's shit and then celebrate when it's up, never made any sense to me.

What you actually want to do is be very different from that single market and try to make money most years, right. And while that seems rational, and in any newsletter, that's what people are offering, I would imagine that it's very different than the S&P. Whatever your P&L ends up being, or whatever people, you know, I'm sure people have a variety of choices. You're showing them a map, and they're going to travel their own path. It's got to be very different than the status quo. And generally speaking, behavioral economics would tell you

that not being part of a tribe is a bad thing, and you're not going to be able to stick to it. Do you have any data on the turnover of subscribers based on tracking error?

Darius: 01:06:08

No. We're a seven-month-old firm. So, we've only grown every month.

Rodrigo: 01:06:12

You actually, you actually got to start pulling that data and analyze it later. But start pulling the data because I mean, this is what I've been preaching from day one of my career 15 years ago. And it makes absolute sense. Theoretically, everybody buys in, and the moment you have a big dispersion from there, whatever market is their benchmark, it's when they quit. So, I don't think anybody here or you are promising that you're going to beat the S&P 500 every day, every month, every year. What you're promising or you're attempting to create is a better risk managed portfolio that does well over time, regardless of what the S&P does.

Darius: 01:07:00

Well, beyond that, what you're trying to do is particularly for folks who are at or near retirement, you're trying to eliminate downside capture in the portfolio. Like, I don't -- this is an absolute return strategy. So, your benchmark should not be the S&P 500. Over time, you want to have S&P 500 like returns, otherwise, you're not worth your shirt as an active manager. You're wasting your own time and resources. But the reality is you don't beat the market when it's going up. You know what I mean? Like, that's hard to do. You beat the market by not suffering a 20 to 30% drawdown, because you're long bonds, your long cash because of a process like this tells you to do that ahead of time.

Rodrigo: 01:07:40

Exactly. I think that's a long process, that is a tough thing to stick to. Because ...

Mike: 01:07:45

On that point, where are you seeing the largest dispersion between sort of what you would observe, I'm going to say the average investor or, you know, you're only six months old, yeah, the average FinTwitter. As your onboarding these new subscribers and clients, where are they versus where should they be? And what are the largest gaps that you're seeing?

Darius: 01:08:14

Yeah, that's a great question. I think this most recent couple of weeks, we're about as closely aligned, as we have been throughout the entire process. I think because the markets were generally buoyant up until kind of September -- up until September, really, investors felt the need to take more risk in their portfolio, generally speaking, than kind of I would, the process would suggest you should be taking. And I think now, especially over the last couple of weeks, and the pivots we've made, I think most investors are saying, hey, I think I kind of get the process now. You know, it's telling me to take down risk.

And let's be honest here, like whether or not you bought stocks in March of 2020, November of 2020, or April of this year, you've probably made a decent amount of money, right? Like, it's this concept of like, oh, my God, I need to be in it to win it after 130% move off the lows in S&P 500. I think it's a ridiculous -- I don't think there's a lot of people out there that feel like they need to do that. I just think there's so much narrative driven investing around inflation dynamics and crypto halving cycles and all this stuff that like there are people who have these massive positions on, that refuse to give up the ghost until it's probably too late.

Rodrigo: 01:09:26

Amen.

Mike: 01:09:28

So, this keeps you in front of that. And then on that note, that it's sort of all those asset classes that you would see in your portfolio that you're adding, the reduction of risk, you're adding more bonds back or you're adding sort of the risk-off assets, more than say the typical investor or investment advisor at the moment who sort of stayed the course through thick and thin with they're 60/40 and benefited from that probably fairly substantially over the, certainly the Goldilocks period. And so now there's the potential for significantly more differentiation in the approach that you're ascribing, and the adaptation that you're ascribing.

Darius: 01:10:11

Yeah, 50% of -- that pie chart I'm talking about, 56% of that pie chart is in bonds, currencies, gold and cash, 56%. And those are two very recent pivots. Most of the portfolios and high beta type commodity exposures heading into the beginning of the month, or heading in the beginning of November. And so that was a very important pivot to start getting out of that stuff and rotating into more defensive exposures. Not to say we nailed it or anything. That's not the point that ...

Mike: 01:10:39

Well, it's a process.

Darius: 01:10:40

... change and start doing something different. You know, even the -- going back to Rodrigo's discussion, like even the leading edge of the process, like before the full process confirmed was telling me to start doing something different. And so having kind of this human experience that I've had over the last dozen plus years of doing this, it's like, hey, maybe I don't want to wait for everyone else to have to sell their overweight, inflation, commodity story -- narrative-based investing for positions. I said it, there's a bubble of narratives. And a lot of people are going to lose a lot of money in the next kind of six to nine months, in my opinion, as a function of their inability to change their mind on something like inflation.

- Mike:** **01:11:17** How much time do you need for an asset class to contribute? Like you mentioned Bitcoin, as an example. Does that have enough time to have a data series that can make a contribution to your models? Or how long do you need?
- Darius:** **01:11:35** I don't think there's a right answer to that. But I mean, it's got to be in there. I think the answer is, it's got to be in there. I don't know if we have a good enough time series yet to see it -- Because we haven't really seen it go through too many recessions and things like that. I think you typically need to see tightening, multiple tightening cycles, multiple economic cycles to have a real true back test. That's why I keep it at 25 years on a trailing basis because you're going to get a lot of that stuff in there.
- And so you're absolutely right, Mike. That's a great question. Like, Bitcoin does not have that time series component to it. Moreover, it's -- a lot of the time series that it does have since 2009, it's just an adoption story. It's not a macro thing. It's an adoption story. I would argue and we actually, we start our Bitcoin back test at the beginning of 2017 because I do believe that's kind of the year where it became a real asset class as opposed to an adoption story. So that's my ...
- Rodrigo: 01:12:26** Yeah, and when you look at that, the narrative that Bitcoin is non-correlated, is true. A lot of things are non-correlated until the shit hits the fan. And then there are those things that are very correlated, and massive drawdowns and there are those things that are negatively correlated. And now you know, right. Like, has Bitcoin ever been a massive protector during a massive deflationary cycle? No, I don't think we've seen any of that. We've seen bonds continue to do that. We've seen gold do that once in a while. Bitcoin continues to go down drastically when liquidity dries up. So, I think we need to think about the diversification benefit of Bitcoin, most of the time, but you have to recognize that it will suffer in a growth shock.
- Darius:** **01:13:12** Yeah, of course. It's shocking to me that people don't acknowledge that, because ...
- Rodrigo:** **01:13:17** Yeah, they don't, no. No, it's so not correlated, right?
- Darius:** **01:13:19** It makes a ton of sense when we talk about this with stocks, right, like stocks and credit. Like, oh, yeah, we have a growth shock to the downside that's going to catalyze negative expected returns in the equity market. But for whatever, and again, it goes back to the bubble of narratives. Like, Bitcoin is a narrative driven investment vehicle, and it's increasingly less a narrative driven

investment vehicle as more people like us adopt the asset class and start to find ways to put it into a balanced portfolio.

But until that's a -- that process will be ongoing for the next decade. And until that process concludes, i.e., it's just part of the investment universe that we're all kind of dealing with. You're going to have, still, a real big kind of narrative driven component of the asset class. And this is why a lot of people, they buy the high of the Bitcoin chart, and they're underwater for three and a half years. That's happened a few times before, in the last 12 years or so.

Rodrigo: **01:14:08** It's just so intuitive. It's so intuitive. I mean, like, do people really fly to safety towards Bitcoin? When you think about -- Just, like, this is the art side of investing, right? Like...

Darius: **01:14:19** Within the crypto ecosystem.

Mike: **01:14:22** Yeah.

Rodrigo: **01:14:23** What's that, within the crypto ecosystem maybe - Bitcoin versus other. Yeah. But what's interesting is, this is the art versus the science, right? You don't have data, enough data to know what Bitcoin is going to do over many cycles. But if you just intuit, okay, what is like just your -- what does your gut tell you about flight to safety in liquidity events? That continues to be the US dollar, continues to be sovereign bonds. Maybe there'll be a shift between US dollar not being the flight to safety and treasuries and sovereign bonds, German bunds, Canadian sovereign bonds not being flight to safety. For now that continues to be the case. Right? Bitcoin continues to be a hundred vol strategy that will absolutely make you money in a positive growth shock environment. I'm not so sure it's going to do that on the defensive side.

Mike: **01:15:13** I mean, as Bitcoin evolves over the next 15 years of its life, it may evolve into an actual currency like instrument.

Rodrigo: **01:15:21** That digital gold that everybody wants...

Mike: **01:15:24** Potentially that's what it could do, and it could develop markets around it. But at the moment it's not that. I think you have to be open minded. That is one of the reasons I asked about how long do you need. And any new asset class presents some interesting contemplation with respect to that.

Rodrigo: **01:15:41** Didn't the new NFT ETF just launch? What quadrant are we putting that one in?

- Darius:** 01:15:46 Oh, my God. Yeah. That's the kind of stuff you see at the top, though, right? I don't make big market prognostications like, oh, stock market's going to crash, look at margin debt. I mean, that stuff's a dime a dozen in our industry. But I mean, you want to talk about like bubble activity. Like, that's the kind of stuff you look for, and that's the kind of stuff that they write chapters in books around, 5-10 years later. And so if you want to talk about -- I got one last slide to show you guys. I hate that I dominated the conversation with the slide.
- Mike:** 01:16:16 Oh, no.
- Rodrigo:** 01:16:17 You should, man ...
- Adam:** 01:16:17 That's the whole point.
- Darius:** 01:16:18 Yeah.
- Mike:** 01:16:18 That's why you're here.
- Rodrigo:** 01:16:20 By the way, you can end this whenever you want. And you can keep it as long as you want.
- Mike:** 01:16:23 Yeah. We'll wrap after this.

When Expensive Markets and High Inflation Collide

- Darius:** 01:16:26 Well, this, here we go. Slide 78. People have seen this chart before because it's part of the ... packet. You know, but anyway, so this chart shows the S&P 500 real earnings yield as deflated by the headline CPI, the blue line, and six times this has gone negative in the past, I don't know, 50 plus years.
- Rodrigo:** 01:16:44 Sorry. Can you describe this? There's a lot happening here.
- Darius:** 01:16:47 Sorry, this is -- the blue line and the S&P 500 earnings yield the real earnings yield deflated by realized headline CPI. So, the earnings yield minus headline CPI, the blue line. Whenever the earnings yield to the stock market, so it's an inverse way of looking at the price earnings multiple. So, whenever the earnings yield, so that's another way of looking at valuation. Whenever the market has been this expensive as a function, relative to inflation, this expensive relative to inflation, we've seen massive drawdowns. The minimum drawdown is 15% in this back test. It's six out of six back tests, and it's a minimum drawdown of 15%.

There's a couple 50 percenters in there or three 50 percenters in there. And so to me, like, this is the all time low in this real earnings yield. Like, this is, again, I'm not trying to ...

- Rodrigo:** 01:17:35 This is like the 15th like bearish chart I've seen this week.
- Darius:** 01:17:38 And go back to where we started the conversation. Asset markets are very buoyant, risky assets in particular. The Fed is on a what -- it increasingly feels like a train track towards tightening policy, even though we're heading into this. That's exactly how you get a big market...
- Rodrigo:** 01:17:57 Powell did this in 2018 as well, right?
- Darius:** 01:17:59 Yeah, exactly.
- Mike:** 01:18:00 And it brings up the idea that, you know, a lot of these large corrections are caused by policy mistakes, where the misinterpretation of the data creates a situation.
- Darius:** 01:18:11 I think they're mostly caused by policy mistakes. Or like guns going off somewhere, but like, yeah, policy mistakes, is it. Yeah, totally.
- Mike:** 01:18:19 Hard to model.
- Darius:** 01:18:21 Their framework is -- and now I've had a full glass of wine now.
- Rodrigo:** 01:18:25 Yeah, this is where it starts getting interesting. We all make all the mistakes and we ...
- Darius:** 01:18:30 It is a deliberate policy mistake with their framework by saying, hey, we're only targeting this kind of maximum inclusive employment shortfall objective, and we're going to actually change our inflation policy as a function, or to facilitate getting to that objective is a deliberate policy mistake. They're effectively trying to ignore impulses in the economy in real time, to say, we're going to ignore that to get us back to the promised land. That is, some people would argue if you just got a job and you haven't been able to get a job, that's a policy success. But if you're talking about, you know, the asset markets, it's probably a policy error because you're going to be behind the curve.

Rodrigo: 01:19:11

Yeah, I think when I look at a pure quant model, a pure trend model and look at their worst possible drawdowns, that has come at the hands of policy changes that were completely unexpected. Like, the 1994 bond massacre had to do with Greenspan completely unexpectedly just raising rates in a manner that we hadn't seen in decades, right. And he didn't project, he didn't explain it to the market. He just went ahead and did it. We saw it again in 2004, we saw it again in 2006. We saw it in 2018 twice when Powell came into power, right. We saw it in January, and then we saw it in August, right. Every single time and then they have to about face within months, right. Like it's ...

Adam: 01:19:57

I think that's what's different though about the current Fed that they've demonstrated a capacity to about face very quickly. And when they do, the policies that they enact are orders of magnitude larger than what the market is prepared for and what we'd ever seen before, right. And that trajectory keeps accelerating, right? I mean, they rolled out the same set of tools that they used in the 2008 crisis. It took them 18 months to roll all those out in 2008-09, it took them about 18 days to roll it out in 2020, right. So, this is what I mean by this sort of reflexive nature of this market, right?

I mean, you've got a massive amount of speculative fervor, narrative fervor to your point, Darius. You've got negative dealer gamma across all the major indices at the moment. Like, we are primed to be in a critical state. So, a minor shock can nudge the market in one direction or another, to a much larger magnitude than people are used to. And the government's and the Fed's reaction function is if you're using the recent past as a guide, a massive unknown in both directions, right.

So, these are the reflective dynamics that investors need to navigate here. And it's, I think, this makes this market one of the hardest markets to navigate that we've ever seen from a risk management standpoint. So, and what's great about this, Darius, and to Rodrigo's point too, all of us on this call are positioned for dispersion against the common indices at the moment, right, certainly our portfolios are as well. That's very exciting. I mean, we are going to experience dispersion in one direction or another, right. But that is how you differentiate in this business. And this is how you demonstrate the long-term value that you're going to bring to investors.

So, these are pretty exciting times. I really like the framework you've delineated. It's amazing to observe the amount of commonality actually, from an ensemble standpoint, in terms of like the ensemble of signals that you're using, the humility of using all of them. We don't quite use them all in equal weight, but just acknowledging the error term and the strength of any one signal to signal

the market state that you're in at any given time, and the market positioning that we're beginning to observe in our models and your models. There's a lot of overlap there, and it's exciting. I'm looking forward to some dispersion for change.

- Darius:** **01:22:41** Thank you.
- Mike:** **01:22:43** Let everybody know where they can find you and all that stuff. Let's remind everybody of all of that. Thank you very much for your time. I know that you wanted to keep it a little shorter, but tough break. We wanted to jump in some other stuff.
- Darius:** **01:22:55** No, no. This was outstanding, man. To be able to geek out with some fellow geeks, man, I really appreciate it, man. So, yeah ...
- Mike:** **01:23:04** We'll be sure to have you back on too.
- Darius:** **01:23:05** Oh, of course. Yeah, no, definitely. I appreciate it. I'd love to be.
- Mike:** **01:23:08** Let them know where -- Yeah.
- Adam:** **01:23:10** Where can they find you, man?
- Darius:** **01:23:11** Oh, yes. So, I'm at 42Macro.com is our website. Come check us out there. I'm on Twitter at 42MacroDDale, D-D-A-L-E. I'm pretty active, I guess, to some degree. Thank you guys. I appreciate it. This was a hell of a discussion. Hope you guys ...
- Rodrigo:** **01:23:25** This was great, Darius. And everybody listening, don't forget to like, to subscribe, to share this podcast. One of my personal favorites, I can tell you right now, and you know, follow Darius on Twitter, follow Adam on Twitter at @GestaltU, as in Gestalt University. The whole is greater than the sum of their parts @ GestaltU. Mike, what's yours? Yours is your -- Mike99. MikePhilbrick99. I'm RodGordilloP at Twitter. And you can find us at InvestResolve.com. So, do follow. And we'll have Darius back. I love this. Maybe once a quarter we can geek out on Macro stuff and see what's going on.
- Darius:** **01:24:06** Absolutely, man. That'd be cool.
- Adam:** **01:24:07** Fantastic. Love it. Enjoy the weekend.

Darius: **01:24:11** Yeah, cheers.

Rodrigo: **01:24:12** All right, guys. See you in a bit.