Adam:	**00:01:46**	I was picturing Cem going into these small spasms as he heard words, consistent volatility and stable returns.
Cem:	**00:02:02**	It's not easy
Adam:	**00:02:03**	I know, right? Mike, you want to do your spiel?
Mike:	**00:02:06**	Oh, yeah, right. Sorry. Yeah, this is not investment advice. By God, don't get investment advice at YouTube on four o'clock on a Friday, especially an expiration Friday. So, …
Richard:	**00:02:18**	Even if it is from Cem.
Mike:	**00:02:19**	Yeah, yeah.
Cem:	**00:02:21**	This isn't advice. I don't give advice.
Mike:	**00:02:23**	Yeah, precisely. No advice. Just entertainment.
Cem:	**00:02:27**	That's right.

Where We Are Right Now

Adam:	**00:02:31**	Okay. I'm going to lead off this time before Richard jumps in here, because I want to sort of set the table with an agenda, right. So, what I'd love to do, actually, today is kind of talking about where we are right now. Like, what has happened over the last few months? It's been a really weird, choppy kind of market environment. I think it was, for many of us, a lot clearer what was happening earlier in the year, and the last three, four months, has been a grind, a chop up and down. And so I have a feeling that a lot of that might be due to microstructure effects, as the macro picture has become a little bit more ambiguous, right. So, I'd love to sort of get your perspective on, what are you seeing kind of right now, where are the pressures building right now, in the short term? How would you interpret the behavior that we've seen in markets over the last three, four months, this sort of what I kind of characterize as a consolidation period? And then maybe we can look forward, we can use the crystal ball a little bit and get into your broader macro framework, which I've heard a couple of times. I know you've added to it over time, so I'm definitely keen to explore that. But let's deal with the short term first. So, what are you seeing right now?
Cem:	**00:03:52**	Yeah. So, the word seasonality for -- makes people feel differently, right? Some people are thinking, like, how could something be that simple? How could just a calendar changing have any correlation to what the market should do and the

reality is, I'm here to tell you that it matters. And it doesn't matter just for the reason just because it's time on a map. It's because we have different amount of time, calendar days, actually, volume weighted time is very different during different times of the year. And what I mean by volume weighted time is around the holidays. There's just not a lot of people trading, so there's just not as much volume.

So, when you have less time that means option premia decays faster. When you have less liquidity, sitting on the other side of flows that are consistently the same size if not growing, right, there's an imbalance in markets. And these lead to structural affects during calendar periods. There's other parts to seasonality as well, that's not all of it. But that is an important piece of that equation. And so here we are in a very seasonally powerful time, and those vanna and charm flows you hear me talk so much about are accelerated during this period. They're also accentuated because we're on a higher vol. So, if you're sitting on a 30 vol, there's a lot more potential energy sitting behind that. There's a lot of short interest out there, right, which we all know about.

And so we talked about it very vocally, a week and a half, two weeks ago on several platforms, but you know, a dangerous time to be short, very, very high potential energy for upside move. And as we all know, as things start to get going there's a chase, right, people can't underperform into an up market and that only makes things worse. So, to see this kind of move on a Friday in this window, not a surprise. So, on top of that, there's another important effect is that we're going into midterms, where we have a Fed meeting coming up in a couple of days. We have a CPI meeting, a CPI outcome coming again here in a short period of time. And all of that's clustered around a very small window of time.

And so if you were to go look at the SPX options, and look at where the implied vols are for those events relative to things around it, you will see there's a massive event vol priced in for that period. Event vol itself is potential energy, right? That means dealers are short a higher vol and in those, they bought lower vols around it to kind of offset it and to give them some risk protection. But that's where their short interest is. So, as that comes down, that's more potential energy upside. We've seen this, you've heard me probably talk about it, Brexit, at the 2016 Trump election, at the 2020 contested election. All three of those were major event vols. All three of them had the worst case scenario, what the market was most feared about happen. Right? Whether you agree that it should have been a risk, … not about the macro. Like all three of those were the worst case scenario for the expected risk. And all of them resulted in a powerful move to the upside, a relief rally. That's event vol work. That's the vanna and charm flows that come from that impulse at work.

Richard:	**00:07:41**	And largely, is that from the market makers, kind of, because the participants were already largely hedged for those events, the realization of those events forces a lot of these dealers to impose their own gravitational force in markets?
Cem:	**00:07:59**	That's a way to put it. I would put it in slightly different, a different form. Not that that's incorrect. It's just a slightly different perspective. When the vol goes high enough because people are buying, that makes the hurdle higher and higher for the move that needs to happen in order for those dealers who are short those and hedged against them, takes the hurdle higher for what has to happen. And so when that worst case doesn't happen, then that forces a buyback. It's kind of a game of chicken, but that bar is so high, the odds are very low, no matter how bad the event is. Like we pointed to the worst case events happening yet the bar was so high that when it didn't -- that when the market didn't make that move to the extreme that, that would have necessitated a kind of a gamma squeeze to the downside, the result is an opposite. Once that gets going, it just feeds on itself. So, yes, nuance similar to what you're saying, but a little different.
Adam:	**00:09:01**	So, two questions then to follow up. When does this sort of stronger seasonality period flip typically? And second, going into Brexit, Trump, 2020 election, maybe less the 2020 election but certainly Brexit, Trump type events, I think the positioning by hedgers was strongly to the downside, right? Everyone was hedging for downside risk. Coming into the midterms, are you seeing people hedging and into the November CPI, are you see people hedging upward vol, downward vol or both? And where could the squeezes happen there?
Cem:	**00:09:46**	Yeah. So, fairly well documented that skew is in the zeroth percentile in the equity indexes right now. So, there is less *put hedging*, broadly. But that said, institutions almost exclusively, right, buy protection to the downside. They're fairly -- yes, they'll spec -- like, there are entities that will speculate and buy calls to speculate. But hedging activity, structured products, long vol hedges are to the downside. And so that vanna term effect is almost always on an index level, structured buyback as vol comes down. It's maybe a bit diminished in this environment, because as we mentioned, there's maybe less *put skew* demand recently, because of the underperformance of those hedges, etc. But there's still hedges particularly for that window relative to the stuff around it.
Adam:	**00:10:56**	So, okay, and just let's address the, if you don't mind the seasonality flip as well before we -- because I have a couple …
Cem:	**00:11:03**	I apologize. That's right. Yeah. So, there are several other aspects of seasonality in a normal year. That's why it's a bit more nuanced, right? In an up year, there's just reinvestment of returns. If you think about US equities are about 40 trillion, global equity is about 80 trillion or so, global long assets, somewhere around 400 trillion, including commodities, real estate, bonds, etc. All of these assets in years that the

assets go up, which is most years, let's say assets go up 20% in a year, or 10%, let's say. That's $40 trillion that needs to go to work. And in a world that 100 billion is the kind of the incremental amount that moves markets. It's a massive amount.

Now that doesn't all come in Jan one, right. It's incremental throughout the year, but Jan one has an important date. And a lot of this Santa Claus Rally and January effect, the two, that month is the most bullish month of the year by far. So, those effects into an up market are generally a market worth assets in general, increase in value and generate cash flow. And it creates a new -- a bit of a push at the end of the year. We're in a bit different scenario this year, right? Markets are down, assets are not largely up. So, that part of the seasonality will be less pronounced. And you could argue even potentially have a bit of a negative effect this year, as you get back into late December, early January.

But the current -- but yet those vanna-charm flows is going to be a bit more accentuated as we mentioned. So, there's a bit as you get towards the back half of the year, you know, it remains to be seen here. What I mean back half, I mean, the back half of December, I apologize, into January, is a bit more muddy. So, we're going to say we'll see. But I would say up until mid-December, really up until that December OpEx, really, maybe that Wednesday before the VIXpiration of these OpEx, there would be largely kind of, in our mind, the minimum kind of timeframe with which we'd expect this to accelerate.

Now, obviously, these are flows. This is not the whole story. If the nuclear bomb goes off in New York City, China invades Taiwan, whatever it is, right, that stuff matters. And I'm not sitting here saying that this is all that matters. This is -- you can just map it out, this is what's going to happen, right? These flows interact with the real world, and what else is going on, what changes in that world in terms of flows and other factors. But in terms of pure flows, and structural effects, all things created equal that would be kind of the most positive timeframe in this window, in my opinion.

Adam: **00:14:02** In terms of the positioning around the CPI events the last few months, it's been a really consistent pattern where market seems to sort of rally into the CPI, people kind of get excited about the prospects of a more dovish number. Maybe the day before CPI, if they begin to sort of sell off a little bit, CPI hits and then they crater, right. And so I'm just wondering, are we observing, are you observing sort of a -- more of a positioning effect where there's still a lot of bullish underlying say, retail sentiment that are positioning in maybe individual positions, coming into these more sort of FOMO sentiment oriented flows, speculating on a V recovery at some point when CPI begins to roll over? And so are we sort of see the opposite effect of what we saw historically during the sort of Brexit and Trump type events, right, where people were, like speculatively overly bullish, and then we went the other direction?

Cem: **00:15:25**

Yeah. No, that's, I think, a very astute point. Yeah, I think you can't underestimate the importance, and this has been true for a couple of years now, of retail and speculative activity in this market. One day to expiration options have completely exploded in the S&P 500. They are now the majority of the volume in those products on most days, not all days, but on most days. And that's all speculative directional trades, that has secondary effects, as many people know, gamma, feedback loops, etc., that can become self-fulfilling prophecies, right, in these markets.

On top of that, what's driving that, the same thing that drove it in 2020, people -- everybody thinks -- we actually had a little exchange today on Twitter about this, Meb Faber and I. But the reality is that your average median person has much more money in their balance sheets, despite markets not performing well. You know, people are getting inflows, because they're getting, wages are going up, they're getting some type of, whether it's debt forgiveness or other things, are getting support from government. And so a lot of that money is going into speculative activity still in the markets.

And now add to that, that markets are down and yields are up, there's a perceived, this is a good opportunity to kind of put money back to work much better than it was a year ago. And you get significant inflows from retail. If you draw a graph against drawdowns in the market for the last 40 years and you look at flows for retail, right, they're usually at this point dramatically negative, they're going out the door. And that's quite the opposite in this market. We're actually seeing consistent positive inflows, significant, right, from retail and broadly, mom and pop. And again, that's demand side economics at work. We haven't seen that for 40 years. That's what led to kind of that speculative, kind of the meme craze and the blow off top, we kind of saw up to 4800 the last couple years. But it's still alive and well underneath this market.

And so if it wasn't for that, I think there'd be a lot worse, kind of flows and things would have -- had much bigger problems. So, important to note that, that is playing a significant role in these kind of spikes up, the squeezing of the shorts, which are -- tend to be hedge funds with retail still kind of piling in. And not just retail, meaning mom and pop, but also speculative entities that are riding on the back of some of these flows as well. So, that's definitely playing a significant role. And part of why realized vol has been much higher to the upside of the downside, and why not surprisingly, skew is flattening, because guess what? Calls are really where you want the vol exposure in this market.

And to your final point, we kind of refer to this briefly, but when skew is flatter and people are more broadly into calls than puts then some of this decay, right, at least in parts of the market, these vanna-charm effects can actually go the other way. My personal opinion is those vanna-charm flows on a structural index level are still consistently positive. But given a bad piece of news, which CPI has broadly been bad every single time so far, given a balance of power that's much more balanced, that can lead to the opposite effect as you mentioned.

Adam: **00:19:24** Yeah. I mean, there's still $1.5 trillion in excess savings. You know, there was $2.7 trillion in excess savings about a year ago from just government's fire hosing money directly into bank accounts, $1.5 trillion. And so that's still a lot of excess spending power. And as you say, some of that is definitely finding its way into speculation. And do you think that some of this at least is just a conditioning of the *buy the dip* mentality that retail has -- was pounded into them through experience over the last kind of decade, it's just going to take a while for that knee-jerk reaction behavior to play itself out?

Cem: **00:20:09** Yeah, I think people, as you say to your average person, I don't know if it's a knee-jerk reaction as much. I mean, you could call it that. But you say to your average person, how do you invest? Invest, the word invest means you buy assets to people. That's just this passive thing that everybody's been taught. And that's what investing is, you buy assets? That wasn't the case …

Richard: **00:20:35** You mean equities.

Cem: **00:20:36** Equities, primarily, yeah. But like, yes, I agree. I agree. This idea of active management or relative value is much more nuanced and what broadly worked from 68 to 82 when the market went nowhere, for example, prior to this period, when we're in a demand-push economy, which again, this is now the bigger broad picture, conversation that you referenced before. But that type of a market, which can be a very strong economy, you know, passive investment doesn't work. Just putting your money, set it and forget it, dollar cost averaging, right, buy the dip, that stuff does not work. And that broadly is confusing to people who grew up in the last 40 years. It's not just this last 10-20 years. It's just what investing has become and what people believe it to be.

Mike: **00:21:33** Well, don't you think there's also the -- we have to remember the last 10 years has been sort of accentuated by a zero savings rate. And I think that has set up this habit where they are, I think, generally, investors who would, let's call them the retail side, have been conditioned to buy the dip constantly because there's no other option, at least I don't think they're perceiving. I don't think there's a broad adoption of hey, you can get four plus percent in risk free assets. I don't quite think that that has penetrated the general zeitgeist of the average investor. They're not -- I don't think they're pausing at the moment and saying, actually, you can compound your money at sort of 4% a year. I think they're still in the hypnotized state.

Yeah, the sort of the TINA, the BTFD, bottom hunting, it's worked. All the recessions have been short, the corrections have been even 08, 09, although severe was a V-bottom. We haven't had the fulsome experience of a real bear market with the 70s, again, I look at the 70 s and say, well, yeah, oh, look delta average goes up and down. But you have to factor in the inflation and the real returns that were going on in that time as well.

Cem: **00:22:54** … percent over 14 years.

Mike: **00:22:56** Correct. And that's where people I don't think understand. And the 30s experience was the opposite. There was a deflation that offset asset price decline. So, when you look at the real, real rates of decline in the 30s, versus the 70s, they're almost about the same. And so I think investors are still sort of, they've been conditioned, and the conditioning will take some time, it took a lot of time to get this conditioning embedded in the markets. And I think it'll take some time to get it unconditioned, to be … Go ahead.

Cem: **00:23:31** Yeah. No, I think that's absolutely right. I think add to that, that your average millennial on down, millennials are at about 40% of where the baby boomers were in terms of wealth, and household formation. You know, they have a ton of catch up to do in their minds. They're trying to buy homes that are out of reach, they are falling behind. This is what's driven this -- all of the fiscal stimulus we've had. It's what's driven the ideas of crypto and fairness and equity and equality that we all talk about. It's all a function of a working class, a labor class, which was the millennials on down not having assets, not benefiting from this massive rally we've seen for 40 years, and then not seeing wage growth throughout that process either. So, speculation is almost necessary for this cohort, right? And they see it as a means for catching up. That's why crypto in my mind exists.

We've talked about this, I think, in passing but crypto is a confluence of three things, this idea of hey, the system's not fair, right, so we're going to create something that's more fair. It's an idea that technology can solve all of our problems because guess what, for 40 years, we throw money hand over fist into growth and that's created a technological revolution. And this generation has grown up with that. And then lastly, it's a desire to buy more convex assets and be speculative because they have to in order to get convex kind of returns. And that's what YOLO-ing calls is about. That's what crypto is about. That's what a lot of this kind of continuing to buy the dip is about, and I think all those things are related.

Adam: **00:25:20** Yeah, there was, for the boomers and for the early Xers anyway, I think there was a general perception that you could afford the American dream or the typical kind of middle class lifestyle by saving labor income. That was sufficient for a down payment on a home, to fund a family to send your kids to school. And I think the millennials, quite rightly, unless something very materially shifts over the next five or 10 years, are perceiving that you probably can't afford a middle class lifestyle, and to start a family in many sort of urban, desirable urban centers on labor income alone, right? You need some kind of speculative win in order to subsidize that, to get you to a lifestyle that maybe growing up your parents and you kind of took for granted, that every new generation sort of got that automatically. And so I think you're right, I think that's driving a lot of this behavior, is just kind of a general kind of fear or terror, like when do I get my shot, right? When do I get to start my family? And when do I get my shot at the dream that my parents lived? Right? So, it's …

Richard: **00:26:41** Which probably, to some extent, explains the move towards populism on both sides of the aisle, right? Both Democrats and Republicans have moved towards fiscal expansionary policies with a different veneer, whether you're on the left or on the right. But essentially what they're saying is to the largest cohort of voters that are coming up, which is the millennials, as the boomers retire and start to pass away, they now have to cater to these people that can't afford assets, and primarily homes, right, which is the quintessential aspect of the American dream.

Cem: **00:27:15** 100%. I mean …

Mike: **00:27:16** What do you guys think about -- So, the -- yeah, the concept of -- so, if you go through the 70s and the 80s, the 60s as well where boomers and early Xers were saving up for homes and whatnot, they also had to be prudent budgeters to some degree. They saved for the home down payment, interest rates were high, you had to make choices about consumption. I don't know. I've just heard from so many of us, sort of before the last sort of six months or a year that you don't ever need to pay up front. Right? You're going to own a home and you're going to own a mortgage forever because that's free interest. And to some degree, there's been a lack of prudence to some degree. What do you guys think about that? Is that imaginary for me?

Cem: **00:28:06** No, it's not imaginary. You know, just like anything, it's I think people are doing the best they can. Again, at 40% of where the baby boomers are, I think it's just a matter of haves and have nots more than it is, you know, whether or not the younger cohort is more or less spendthrift, right? I think, yeah, I don't know. I don't think there's a -- there may be a certain amount of 60s -- 30s, 40s, 50,s 60s, you had more kind of maybe new immigrants, new kind of third world mentality of saving, and there may be a certain level of the children of those immigrants, maybe not having those same ideals to some extent, but I don't think that's the main story. I really don't.

I think you have a cohort that really is having a hard time moving out of mom and dad's basement because their wages just haven't been going up. And I don't think anybody wants that shame or that -- everybody wants to have their own, put their own mark in and wants to, again, go back to Donald Trump's rusted out cities in middle America. I mean, there's this feeling that I'm doing worse than my father, and he did worse than his father. And it's been two generations. And I think that's just enough to cause enough shame for people to say enough is enough. And I think that's really more of what it is whether you're, again, an immigrant in Chicago, or a working class white male in West Virginia, it's the same reality.

Adam: **00:29:47** Yeah.

Richard: **00:29:48** We've largely focused on equities, and I know that your primary focus on the vol side is on equities. But what are you seeing on some of the other major asset classes? Obviously the vol we've seen so far this year in treasuries, gilts, I mean, the whole sovereign bond complex has been pretty remarkable. We haven't seen something like that for some of them for like 30 years. It's been, I mean, historically, we've never seen anything like that. So, what are you seeing, and perhaps some of the things that might be flying under the radar of most investors from a market structure vol perspective?

Cem: **00:30:21** Yeah, the 10,000 pound gorilla in the vol space has always been equity vol. And hedging broadly, kind of has been in that area. And so this is part of why dispersion works so well this year, this vol dispersion. A lot of people are talking about it and kind of trying to understand why we were out -- being very vocal that look, people are hedging the equity vol space and the S&P 500, for example. But single name equities are not where the hedge is. You're going to get much more -- much less reflexive pinning in the single names and much more reflexive pinning in the index itself. So, you're seeing things kind of flying around on the exterior, while the index itself is actually kind of not moving as much or at least earlier this year that was the case. And the same thing applies cross-asset, right?

So, we were very vocal about a year and a half ago, you know, I think it was on The Derivative podcast. What is the best way to hedge this, and the answer was interest rate vol, right, or FX vol. And sure enough, those are the two things that have absolutely gone bonkers, right, haywire FX vol actually, in particular interest rate vol as well. And the answer, the reason we said that is again, because that's where people A, weren't hedged and B, that's where the most cross, international cross border kind of risks exists. If the dollar continues to go up, that's where things break as well. So, it's been, I still believe that those are the places where things are most likely to continue to break. FX vol, I think, is a great place to be after being a pretty quiet sleepy place for a long time. So, yeah, I mean, those have been great secular trades.

Now, I will say, people are now -- we were talking about a year and a half ago, people are now kind of a little bit more wise to this, and are hedging less in the indexes, as we already referenced, and they're finding other ways to try and find hedges, whether it's through single name hedges, through FX or interest rate, vol, etc. And so, as that happens, now, you begin to unpin, maybe, kind of where the, kind of the quarks in the damn, right, you start to -- that thing starts to loosen a bit. And we've been talking about this more actively lately on the back half of this -- back end of the seasonality, this market still has a lot of risk.

And the higher we go, the more potential energy we have in terms of realized vol, given kind of all the macro things in place. And the less we're seeing these hedges on the downside are not coming back. And so we do believe that ironically, the new hedges, the one that didn't work, which is actually equity, I think vol, is actually going to have a big 2023. And again, I'll reference this podcast in a year when we talk about that.

Mike:	**00:33:21**	So, Cem I've heard you, just a quick point in there. I've heard you reference this too, that it had been a tough year for long vol managers. When you say that, are you referencing specifically those or just the --
Cem:	**00:33:30**	Equity long vol.
Mike:	**00:33:33**	-- equity side, right? So, these guys are specialized, or the guys and gals are specialized, it's equity vol, and they haven't been trading the other areas of opportunity?
Cem:	**00:33:41**	Correct. Absolutely.
Mike:	**00:33:42**	Got it.
Richard:	**00:33:44**	You left a cliffhanger –
Adam:	**00:33:47**	I just want to make sure that you explain what you mean by dispersion trades too, because there may be lots of people on --
Cem:	**00:33:52**	No, yeah, no good point. So, when we talk about dispersion, we mean playing implied correlation. What does that mean? That means, a great example would be just selling S&P 500 vol, buying the vol in the individual constituents of the S&P 500. So, you don't necessarily have to buy all 500. But in an arbitrage case, that would be the case. In that case, really, you make money if those underlying stocks are moving in opposite directions, if implied -- if correlation actually decreases, right? You know, and you could do the opposite as well.

But broadly, what's worked is buying constituent vol for some time now, and selling index vol. Because again, the index itself has been pinned, which is forcing, you know, and you still have idiosyncratic risk, one name will have to go one direction, which forces ultimately, some other name in that constituency if the index is pinned to go the opposite direction. So, there's a reflexive effect that's actually causing more breakdown in correlation due to the amount of hedging that's been going on for the last year.

Adam: **00:34:50** Yeah, very interesting. Sorry, Richard, go ahead.

Richard: **00:34:53** No, no, that's fine. I just wanted to pull on the thread. He left a cliffhanger there. I don't want to wait till next season. Why are you seeing -- what is your thesis behind this idea that the volatility in equities is probably going to move stepwise higher in 2023?

Cem: **00:35:10** Yeah. So, when people think vol in the equity land, your average person, I think, first thing they think of is the VIX, right? Most investors, again, we've kind of talked about this bias, think of things in terms of up or down. You either buy things or you sell them, very simple two dimensions, right? The reality is, the VIX is a complicated calculation of a distribution of 30 day vol, all the different options in the S&P 500, averaged out to 30 days, right? And so options represent different points of a distribution and they all have different vols. There's a skew to markets, there's --

Why do I mention all this? Well, if you're buying a put, at this point, you're basically buying almost on a flat skew. So, the vol you're buying that downside put is almost the same vol, slightly higher depending on where you're talking about to the at the money that is, again, historically low. So, potential energy at this point, you like buying things low, right, is incredibly significant there. And imagine a situation, the range let's say is one multiplier and oversimplifying to one and a half on a one standard deviation put, right? Imagine it's at one and you're at the money vol is 30 and so your vol is 30. Normally, it would be on a 45 Vol. Huge difference if all of a sudden that skew just reverts to the higher end of that range, just the skew, never mind the vol itself, right. We've been sliding flat and vol has been coming down to the downside and going up to the upside.

Now imagine, all of a sudden, actually that slide, that path actually goes up under a scenario where people are not as well hedged. So, the potential energy, just from an implied vol perspective is dramatic. So, that's one. Two, the higher we go here, given the macro risks that are out there, the more realized potential energy we have for a decline back to the low. Now imagine we rally back to 4,200 in the S&P here, which I think is very possible, maybe higher in the next couple of months. And then you go into a Jan-Feb scenario where, who knows, China invades Taiwan or inflation starts ticking higher, the 10-year accelerates, despite the Fed pivoting, the 10-year now goes to five. Like what --

Now let's say the market drops from 42 to 3,000, right. That's a 1,200 point drop, which is almost 30%. So, the realized potential the further we rally, gets higher, the skew is flat, the vol is flat, and people are not as well hedged, which can lead to everybody trying to run out the door at the same time. So, that's the thesis, we'll see.

The Longer-term Macro View

Adam: **00:38:01** Interesting. And so I'd also love to talk about sort of your longer term macro view, right. So, I've heard you state for many months, and on many platforms, your view that the next decade is going to look very different than the last three or four decades probably. And I think you've got a really tight framework for how to think through those differences, and so why don't I sort of open the floor to you and you can kind of take it from whatever part of your broader thesis makes sense?

Cem: **00:38:42** Yeah, this is a long one. I'm getting ready for this. Here we go. No… yeah. This is, I mean, this could be a multi-hour thing. So, I don't want to maybe start from the very beginning, and it'll go all the way through. We've talked about some of this on the previous conversation as well. But I'll say from 30,000 feet, and I've been, I want to be clear on this, I'm not a Johnny-come-lately on this. We've been talking about this for years. It's because of populism. Right? It kind of starts with populism. We have a cohort which is coming to political power, these millennials on down, right, who believe that it's the median outcome, right, is more important than the mean outcome. That sounds like a very subtle difference.

But if we start no longer maximizing for GDP, right, but start maximizing for median wealth, right, that is a dramatic change for outcomes for markets and outcomes for the economy. The way you do that after record inequality, which we sit at, as regard -- well, it's improving in the last year or so but up until two years ago, we sat at record inequality here in the US based on the Gini coefficient. You know, the way you do that is you start doing helicopter money. You spend money from the government to individuals. You start sending dollars to people at the bottom, the median person, and you stop sending money to capital, right? And that's *a demand side economics* that's going to drive because the people at the bottom when they get money, what do they do? They all of a sudden, they couldn't buy that house, now they can buy the house, they go buy a house. They couldn't buy that car, or they were driving a used car, they're going to upgrade, etc., right? And so that drives inflation, right?

You send money, helicopter money, the velocity of that is one, right? What we were doing for 40 years is not that. We were not sending money to people on the bottom, we were sending money to people on the top. We were sending money, we were using monetary policy, which is lowering interest rates, and doing QE, which is sending money to capital markets or lending money to people who can borrow it. And the overwhelming majority of the people, when I say people, mostly corporations, and asset holders of those corporations are the ones synthetically borrowing that money. And so we have been on this wheel, this hamster wheel of continually sending money to capital.

And I've used this analogy before I'll use it again, Planet Palo Alto. We've been sending money to Planet Palo Alto, this wonderful planet, out in the distance, this shining purple light in the sky, where they produce amazing technological innovations, right. And that money has been going, been sent out there, not into our economy, but out to the economy of Planet Palo Alto. And Planet Palo Alto sends back these wonderful, wonderful technologies. They are Ubers and Amazons and Tesla's and all kinds of things that are ultimately not only not money for demand, right, but they are supply. Right? And so that's been very deflationary for 40 years.

When we started doing record, you know, monetary policy in the 1990 -- 1996, Greenspan realized that the natural state of unemployment was actually, could be much lower, and it wouldn't cause inflation. And this seemed like a free trick, right? You just keep doing it. And it's one of only two mandates, price stability and maximum employment. Why not just keep doing more monetary policy, sending more money to capital, if you ultimately cause deflation, and more maximum employment. Then you just keep doing more and more and more and more, and that's what we did, because it's a free look, right? The incentive structure was the federal had two mandates. They were following their two incentive mandates and that met unlimited monetary policy.

Adam: **00:43:07** It's a free lunch as long as your objective, as you say, is to maximize the growth and GDP, and you don't mind sacrificing the wealth distribution.

Cem: **00:43:15** Correct. Correct. And so …

Richard: **00:43:17** We're actually maximizing the well-being of a certain cohort. Or another way to look at this is a generational divide, a regulatory and policy environment that is geared towards favoring boomers, boomers in power, favoring boomers holders of the assets. And now there's a bit of a tussle and a struggle for power there.

Cem: **00:43:37** In fact, that's true. I will say, though, I hate laying it out in those terms, because I don't think the Federal Reserve, personally, I don't think the Federal Reserve was sitting there saying we're, we're really doing this for the wealthy people. I think they had a mandate to maximize GDP. And I think as far as they're concerned, dealing with inequality is not their job. That's government's job. And government wasn't doing their job. And so whenever there's a crisis, they came in, and they did their job, which was to continue to stabilize the economy and whatnot. Right? So, I don't think it's as nefarious as your tone implies. I do think there are some structural things in place that, power begets power, and on the margin that does happen, right? But who knows, right? I don't want to -- that's broadly my --

Richard: **00:44:31** That's fair enough.

Cem:	**00:44:32**	And I like keeping it apolitical as well. So, essentially, the Fed was the only game in town. You know, I think I'm going to back up here for two seconds, and I think this is important. The Fed was created to smooth out the business cycle, right? It was created because democracy at its core, it was created in order to not pass laws easily, right? They didn't want absolute power to corrupt the system, our founding fathers didn't. They made it hard to pass laws, they made it checks and balances, and very difficult. But that led to lots of booms and busts. And eventually, as a people, we said, hey, we don't like booms and busts, we're going to smooth this out. We're going to create an extra governmental entity that helps deal with things quicker. Well, our founding fathers would probably be turning in their graves, because ultimately what that did is that short circuited the crisis and crisis itself is a critical ingredient to change. So, by taking out crisis, we've eliminated government's ability to get the mandate to cause change. And so the Federal Reserve was the only game in town because it kept coming back and quickly resolving problems and so we never made changes. So, again, I don't think it's a conspiracy, per se. It's just we were trying to solve one problem, not thinking about the big picture and dealing with short term problems, because government ultimately gets reelected in short-term cycles. And everybody cares about the short-term, nobody thinks about big long-term structural effects. So, here we are, no major crisis. I mean, yes, we had 08, yes, we had the tech bubble. But those are all resolved. We had COVID, guess what? Resolved in a snap, right, was a V-bottom. But we didn't actually fix the core issue, which is we got more and more unequal, internally, we became more and more combative, because everything's unfair, and things aren't working. And here we are heading into a bigger crisis.
Mike:	**00:46:42**	So, what's the crisis that drives the necessity to force the change?
Cem:	**00:46:47**	Inequality itself, right? That inequality and addressing it, now puts the Fed in a box, because the Fed now has to address like, now, government has actually acted, right? COVID was the spark. We talked about this already, but Trump brought the left, the right left, right, he's a marketer, he saw the potential votes in the rusted out cities of middle America, the left and Bernie Sanders and AOC, pushed the left, left, right, because they saw the same thing. And this created a political. now *coming together*. That is the crisis, right. And COVID was the spark that led to a massive fiscal stimulus. By most measures, I think most of you know this, at this point, an eight to $9 trillion of fiscal stimulus has been passed, right, which is an order of magnitude bigger than our response to the GFC, in real terms. In real terms, it's an order of magnitude bigger than the new deal. Obviously, adjusted to the size of the economy, it's about the same. So, in those terms, but

this isn't Great Depression, this isn't like look around you, like that is a massive fiscal response, and that is inflationary. And that means higher interest rates, which means the Fed now has a problem, because now they have a dual mandate, where they have to deal with that. And that opens up a coming likely crisis that opens up other issues as well. Once that becomes the case, and the Fed is no longer in control, now, other entities, we go to -- money's flowing to labor and not capital, and now capital becomes more scarce. And we get into a geopolitical competition game, which is what we've seen during other periods of inflation.

This is not a surprise. In the 60s and 70s, we had an OPEC oil crisis, we also had a Vietnam War that lasted kind of 15 years. These things happen when there's resource scarcity. And when money is going to corporations, you have trade between countries, you have globalization, everybody's happy, rising tide lifts all ships. But when people start getting money, and it's about the people in that country that are now competing for those resources, and we become more nationalistic, we become more protectionist, and these are all things that ultimately lead to geopolitical strife as well. So, again, people point to those things as all independent things that caused inflation in the 60s and 70s. It's really strange. We're seeing the exact same mix this time, not a coincidence.

Mike: **00:49:21** I also find in that the sort of the steps the government was emboldened to take moved through a progression of the amount of money that they would be able to spend without anybody sort of questioning it. Like you think back to Greenspan in 87 and he gets the ball rolling on intervention and then you just see it continue in long-term capital, and then a little bit more intervention. And then we get into the great financial crisis. Oh, hey, this actually works. And so you're much more emboldened as a government body to actually take the steps. You look back, you point back and say, well, it worked there. Why wouldn't it work here? Everyone's sort of used to it. And you can just slowly dial that up through the decades as you implement it. And it appears to work with obviously some consequences in the longer term.

Cem: **00:50:18** Yeah. I mean, the reality is, look, at the core of all of this is, Greenspan is not here anymore, right? Bernanke is not here anymore. You know, all the other presidents along the way aren't here anymore, right? It's all about short-term solutions in a democracy. And that's why crises matter so it kind of course corrects, and that causes us to solve the problems. But then you remove the crisis from the equation for 40 years, right, and you just don't course-correct for 40 years, and that just builds more and more pressure. And yeah, you're not really removing the business cycle, you're just making it bigger and more dramatic along the way.

Adam: **00:50:59** It's the forest fire metaphor.

Mike: **00:51:01** A lot of tinder at the bottom of the forest. Yeah.

Cem:	**00:51:03**	That's exactly right.
Richard:	**00:51:04**	Cem, I want to bring in the variable of demographics here. I mean, if you listen to guys like Peter Zeihan, and some other analysts speak about this, they're talking about a demographic collapse in major Western countries, China, Russia, and some might say that that has even been the reason why Russia has launched this invasion in Ukraine now, and also that has been used as sort of an explanation as to why, I've heard you talk about this a little bit, maybe the timeline for a Taiwan invasion, maybe sooner than a lot of people think because they see this as a window of opportunity that they have. And so I wonder if you might speak to that demographic variable, the inversion of the demographic pyramid, too many retirees, not enough people of working age. What does that do for the system itself? And how does that factor into some of your prognosis?
Cem:	**00:51:56**	Yeah. No, that's an incredibly important point. And we kind of touched on this a little bit, but let's be more direct. So, demographics are destiny. You've heard that before, right? It's critical to understanding the whole picture. And this is important on several levels. You mentioned the Zeihan comments, I'll reference -- I'll talk about those first. Those are primarily as it relates to China and Russia. Both of them are in dramatic demographic decline. You know, we talked about resource scarcity in these periods, right? But resources are several things. Resources are capital, everybody thinks commodities first, but they're capital and they're labor, right, as well. And so, China, which is a primarily -- has benefited from their labor, right, over the last 40 years, right? They have been the labor for the world and they have seen themselves become kind of this manufacturing powerhouse. On the back of that they are due to their one child policy now going to see their population likely decreased from 1.4 trillion to about 750 million in the next 20 to 25 years. That is a dramatic change, right? They cannot provide their own consumption for their own products and they are dependent on outside entities to buy their stuff to continue to grow. On top of that, you have a demographic issue in Russia, right. Russia has been in dramatic demographic decline throughout the last 20-25 years. They are currently about half of the population they were 20 years ago. Part of that is because of emigration, people leaving. Part of that is just birth rates are dramatically low in Russia. And so they themselves have similar issues, right. If you were the US and the US had that problem. And we have, to some extent, a similar issue, we can fill that void via immigration now. Our immigration policy is a bit messed up at the moment. But the reality is, throughout history, we have filled that void, very successfully. And if we so need to, we can, again. People come to America still because of the obvious freedom and rule of law and opportunity and the other things that exist here. China cannot do that. Russia cannot do that. And so they are in a massive structural problem. They have no solution to this problem they've created.

When you go into a higher interest rate environment and resource scarcity, and we go through periods of protectionism and competition like we are entering now, the entities that tend to lash out are the ones that are weak, or the ones that feel threatened. Right?

Richard:	**00:55:02**	Existentially.
Cem:	**00:55:03**	Existentially. And that's understandable, right? They feel threatened. And generally, Russia and China are very proud cultures, old cultures with a long history of different empires along the way, right?
Richard:	**00:55:20**	And if I may add -- no, if I may just add China with the aggravating factor that they feel they lived through a century of humiliation, and they now are on a course to rectify that and put themselves as they see it in their rightful place on the global pecking order. So, I think that is a strong variable, consider here.
Cem:	**00:55:44**	Yeah. And doesn't that narrative sound familiar? Right. I mean, I think we've heard that throughout history. I mean, I think Germany might have a few things to say about that, right? So, it's true, it's scary, but that's the reality of the world. They feel threatened, they feel hemmed in, that's what Putin is vocally saying. You tried to hem us in, you didn't allow us to thrive. But there's much bigger things underneath the surface, right, that is really driving their existential problems. It's not just the being hemmed in by the world around them. They haven't been able to fight back, right, they haven't been able to thrive for several other reasons. So, demographics is critical. Now, to relate that piece to Taiwan. If you think about China, if you know you're going to lose 40% of your population in the next 25 years, and you rely on production and efficiency to sell to the whole rest of the world, you need to replace that labor through technological advancement in some way. You need those inputs to -- a substitute for labor is technology. And without control of that you're in big trouble. You're in existential threat.
Richard:	**00:57:00**	…
Cem:	**00:57:02**	It's incredibly important. On top of that, China is dependent on, they don't have all their own commodities. So, they're incredibly dependent on importing commodities. And Taiwan represents the middle of the inner island chain, the first island chain, which is a means of controlling if necessary, right, the import of oil and energy and other things that are critical to China's success in the long run. So, they see Taiwan as an existential need for them on multiple levels. That's why they've also partnered with Russia because of the commodity equation, right? So, it's a natural, once you start backing up and looking from 30,000 feet, this is a natural alliance, it's a natural for a cohort that feels threatened, existentially so. And the more they feel threatened, and the more they get surrounded, and the

further they go, the more the noose tightens, and the more they're going to struggle, right?

So, I don't know what the solution is. I want to be clear that there's no easy solution to what is happening here. But it does seem somewhat inevitable -- yes, the more they kind of lash out, the more we try and control the situation, the worse it gets. And that's kind of the cycle that we're in. And the more that accelerates the timeline for somebody like China, because the more, you know, the longer they wait, the less probability they have of success. Anyway, so that demographic piece as it relates to Zeihan thoughts to my kind of nuances tied to it in China and Russia. Now demographics. Yeah, sorry. Go ahead.

Richard: **00:58:50** Yeah, no, before you jump in, I was just going to say, with the recent move by the US to ban the export of chip manufacturing or any technological export to China right now seems to be forcing their hand, which would kind of play into your thesis that the timeline for a Taiwan invasion is more accelerated than most of us might care to consider.

Cem: **00:59:16** Yes, 100%. Again, though, the more we encircle and put pressure on them, this is an existential threat as they see it. There's a lot of other things wrapped up in this as we talked about. Obviously, Chiang Kai-shek, this is still an ongoing civil war as far as they're concerned. So, yes, absolutely, I think this is inevitable. I'm not the first person to say this. Niall Ferguson said without predicting November of this year, about a year and a half ago before anybody was talking about this. I mean, we've been out there talking about it for about a year, but he was way out in front of this. And here we go, right. We're hearing it from you know, Blinken, the head of the Navy, that that timeline is much closer than people probably realize. So, I think that makes sense. Again, just going based on incentives here, right? It's not like I know any more than anybody else. Right. But the incentives tend to lead to the outcomes. That's generally the best route for predicting …

Richard: **01:00:17** The game theory of it all.

Mike: **01:00:18** The game theory, yeah.

Cem: **01:00:20** Absolutely. Absolutely. So, and at the very least on a probability basis, right, the probabilities that are priced into the market relative to, I mean, I don't think we have to dive into how bad a thing that would be. Right? I think it's easy to underestimate how big a deal that is, if China and the US go to war. I mean, Russia is child's play and we're talking about the bifurcation of the number one and number two economies in the world. The number one consumer and the number one producer in the world. You think we have inflation now, you ain't seen nothing yet. And if the probabilities of that are one in three in the next year and a half, which is what I think at a minimum it is at this point, markets are, you know, talk about potential energy and going back to the flows and everything we were talking about before, and house low skew is and how little hedging is working, well, the window there for something bigger is, that could definitely be the spark that drives it.

Richard: **01:01:27** And these binary events are inherently difficult to position for, right? It's not like you can do a probability weighted average of outcomes and just kind of shoot for the middle, that's not how that works for those types of events. So, how do you think about portfolio position? I know we're taking a tangent from geopolitical realm into portfolio construction, but I'm just curious as to how you would attack that problem?

Cem: **01:01:53** Yeah. I've been pretty vocal about the fact that we live in an incredibly leptokurtic distribution. Fat tails, is really what the distribution should look like. There is a point where you just don't sell nickels, you don't sell 20 centers, they're just undervalued for the probability of what's out there. We just have a saying on the trading floor, sell a cab, drive a cab. So, a cab is a cabinet, it's a nickel. So, you just don't -- you don't do those things in this type of a distribution. You own as many as you can because ultimately, you may not -- if you're short sighted, you'll think oh, those are a loser every time.

But if you look at the 100 occurrences, this is probably more like one in 50 as opposed to one in 100. And that stuff has a probably a positive expectancy at this point. So, I think you just have to think about it in distributional terms. That's what we do as options traders. I think this is why vol markets are incredibly useful and powerful in the type of market that we are currently living in, because you can really bet on the distribution. You don't have to buy or sell, you don't want to be long or short, you can just be long the tails, and short, something that's less *tail-y*, less times, right. And ultimately arb, in a sense the distribution of what you think the reality is versus what the market may be pricing. And I think that's an important kind of outlook to have when you're investing your money in this type of environment.

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Adam: **01:03:18** Notwithstanding the potential for a few of these major tail events, which are increasingly moving towards the center of the distribution in terms of probability. But I mean, even just a base case if we manage to navigate through some of these macroeconomic and geopolitical landmines over the next few years, it seems like you're aligned with the view that due to a scarcity of labor, a political climate that is motivated to reorient the wealth distribution and potentially a restricted flow or cost of capital, that there's just a lot of general scarcity out there relative to the potential for further demand shocks, whether it's just because we've got a lot of money in the bank from past fiscal largesse, or the fact that there's going to be more and more fiscal largesse over subsequent years, not just in the US, but in in most kind of developed foreign economies as well.

So, I mean, notwithstanding the potential for major tail events, how would you or how are you advocating for investors to position here? Like, what does the strategic asset allocation look like in this environment, and what are some adjunct strategies that you think might be highly complementary, especially over the next decade?

Cem: **01:05:06** So, we go through cycles where, as a people, we see capital markets as the most efficient allocator of capital. And then we go through periods like we are now, whether people kind of realize it or not, where we start to say, hey, capital markets aren't fair. Free market economics doesn't necessarily work for everybody. And we choose for government to be a more fair or efficient allocator of capital as we choose it to be. And if we're prioritizing the median outcome where government is going to have to be very involved. So, I think it's fair to say that government is going to be sitting at the spout of where money is flowing, for the foreseeable future. That was the case during the Great Society Program of the 60s and 70s. That was the case for the New Deal during the 1930s. And so I think that's the case now. And again, about a year ago after the first fiscal wave started, everybody said, oh, we won't make that mistake anymore. And then came the Inflation Protection Act, and the, you know, right, which itself was fiscal stimulus, and or forgiveness of debt, etc.

So, we are going to continue, and this again, going back to the 60s and 70s, Nixon was the probably most laissez faire Republican on the stump and broadly thought of as such. But he actually did more than Lyndon B. Johnson did in terms of fiscal stimulus when the rubber hits the road, because that's what the populist zeitgeist at the time demanded. Right? He's the one that instituted price controls. Price controls themselves are fiscal stimulus, right. And so I think we're going to continue, and I think that's the biggest trend you can expect, is continue to see policies that help defer the cost of inflation on people through some type of fiscal stimulus, whether that's price controls, or first time homebuyer tax credits, or free health care or student loan forgiveness, right, whether you're right or left, I think that's popular, and we've seen that to date, and I think that'll continue.

So, if you take that as an assumption then you want to sit next to government. You want to sit at the mouth of the river, and drink from the mouth of the river. So, the mouth of that river, you know, go look at the budget of the US government, line by line. And go look at whether it's Housing and Urban Development or infrastructure, health care, I think healthcare is an underappreciated opportunity in the next decade, given its need for technological innovation and our ability to kind of -- to solve some of those problems through government. You know, defense …

Richard: **00:07:51** Defense spending.

Cem: **01:07:52**

I was just, you took the words out of my mouth. We live in an increasingly hostile competition world. Guess what, probably a good time to invest in defense. And so all of these trends we've been talking about for years, and they've all been incredible trends. But resource scarcity, that means commodities, right? I think that's well documented at this point where energy is about three and a half percent of the S&P 500. In 1982, it was 30% or so. Those are extremes. I'm not saying we're going straight to 30%. It's up from 1.75%. It's a double, right? But we've been talking about that as it's doubling and I think this is just the beginning, so I think you're in a secular trend there. So, there's a few - labor scarcity we talked about, okay, so you're going to have to rotate away from China. It's probably pretty good for Mexico, it's probably good for onshoring domestic manufacturing. You know, energy is a lot cheaper here than it is in Europe. You know, one way you close that gap is you just move operations from Europe to the US. So, there's a lot of structural trends in place.

And these are, to be clear, when you -- everybody's like burying their head in the sand and saying woe is me. I can't buy the dip and dollar cost average indexes. There are massive opportunities in this market, right? We're on the turn here. And the key is just not to be -- bt's not about beta. It's actually let's go think about what's happening in this world and let's actively manage a portfolio. Active management has withered on the vine of last 40 years, because it's too expensive. And it's much easier to just close your eyes buy an index and watch it go up 15% a year, and close your eyes when it goes down, and dollar cost average. Well, guess what, when that stops working, it's worth paying 2% or whatever, to an active manager who knows what they're doing, who can generate returns.

So, I think there's a massive move to active management from passive. I think passive, which is compounded for 40 years and has created some trillion dollar investment entities that all they do is 60/40 investment, I think that stuff goes the way of the dodo. Now, I don't think passive investment in the sense of simplified products is going away. I think there's a secular trend in that, but I think you're going to see a lot more liquid alternatives. I think you're going to see a lot more passive vehicles that are non-correlated opportunities as well.

Adam: **01:10:08**

I think there's still a hope among many investors that they can continue to sort of stay within the US equity ecosystem, allocate to active maybe on the margin, allocate to more active type of strategies there and continue to generate the returns that they require in order to meet their liabilities. And one of the studies that I like to go back to as an example of why maybe we shouldn't be so confident that strong stock picking will help to overcome that negative drift of just not being in the right environment for that particular asset class. We did a study a few years ago of, I think it was the 10 year returns of US equity mutual funds, developed foreign market mutual funds and emerging market mutual funds. And we compare the performance of the fifth percentile, US equity mutual fund, against the 95th percentile, emerging market, mutual fund.

And the fifth percentile, US equity mutual fund completely obliterated the 95th percentile emerging market mutual fund over the last whatever it was five or 10 years, right? Just emphasizing the fact that you can't stock pick your way out of an over allocation to the wrong asset class. Right? So, you're really, I think, going to need investors to think more deeply about all of the broad global opportunity set and think more broadly about diversification in general, over the next decade in order to be successful.

Cem: **01:12:01** Absolutely. I think if you're, and we're seeing that this year, right? I mean, the last year, year and change, actually, the last year and a half, really, since February of 2021, when tech started kind of imploding. But China's down now 75%, it's high.

Adam: **01:12:17** Well, we haven't seen yet the divergence, right, the positive divergence of other economies, you haven't in isolation. For example, Brazil is has done relatively well, over the last -- like there's a couple of sort of standouts. But certainly there's not yet nearly a recognition that there is huge potential for ex- US markets and other asset classes to completely dominate, largely because of potentially currency effects, but also just sector composition, right. As you say, three and a half percent in energy in the US right now, if you're buying the cap weighted index, versus I don't know what it is in Canada, but I'm going to estimate, it's probably 15 or 20%, right. And it'll be higher in certain other jurisdictions, so those types of things will matter.

Cem: **01:13:05** I want to hammer on one very, very, very important point. In 68 to 82, I keep referencing that, because it's an easy period where the market went nowhere for 14 years. But during that period, the economy in real terms grew above trend. Think about that. The market went nowhere in nominal terms, and in real terms lost 67% of its value for 14 years, during a period where the economy, adjusted for inflation that was really high, grew above trend.

Mike: **01:13:43** The initial conditions.

Cem: **01:13:45** Correct. The market is not the economy. People take those two things to be, every single person, I think, a retail investor you go talk to them, we're going to have above trend economic growth. They'd be like, well gotta go buy stocks. That's not how this system works. Okay. And that's why fundamentals are not a good predictor of equity market returns. What is a good predictor of equity market returns is the amount of money in investors' hands, the amount of money on corporate balance sheets to buy right stocks, and that is more a function of liquidity than it is a function of earnings.

I sat down with a friend of mine who's a partner at Vista Equity Partners, big private equity firm. Their businesses are booming. They're in the technology space too. Technology stocks are in the gutter. But guess what? Their portfolio companies are crushing it. You know, their cash on cash returns are increasing and adjusted for inflation even more so. So, the talk is consistently about, are we going into recession? Are we not, you know, as it relates to the market?

Adam: **01:15:05** I know it's comical.

Cem: **01:15:06** It has nothing to do with what's important here. What's important here is, again, I think demand will continue to be more resilient than people expect. We're running a demand side economy. We're sending money to people and that's driving higher GDP. But guess what? We've been in record price-to-sales valuations, right, for some time and record margins for some time, right? Those things are going to normalize, and they're going to normalize because interest rates are going higher. So, the resources are more expensive, right? Resources, whether it's labor via globalization or technological advancement, or -- they've all been cheap, money has been cheap, labor has been cheap, commodities have been cheap. Well, when that starts to change, margins compress, price-tossales, sales may increase, but that doesn't mean earnings are going to be better across the whole economy, right. And that definitely means as interest rates go higher, not only do you have less money chasing assets in general, but you have because of the reverse TINA effect, now money flowing to bonds, and there's just less demand so multiples contract.

So, that combination of margin compression, multiple contraction, can be very, very powerful during what might otherwise be a relatively good economic period. And particularly for the median outcome, might be actually a very strong outcome, right, maybe very positive. So, I just think it's important to get your head around that. Everybody plays this, what's the economy going to do? Let's invest in good businesses, right. Go buy good cash flow, discounted cash flows, which have not mattered really, for 20 years, or at least for the most part, like current cash hasn't mattered, right, at least adjusted, for a long term, cost of money haven't mattered, but that's going to matter a lot more.

So, this whole value growth rotation that we saw for 40 years, growth just dramatically killed value. And every value manager has been either liquidated or long since given up the, guess what, that's going to work again, it's going to matter because cash is more valuable. And if you can generate cash when others can't, and others can't borrow money anymore, you get to buy those companies when that investment gets liquidated, you get to reinvest in you're buying your own stock and doing other things when other companies can't. And so, I think that's another major trend to be focused on.

Mike:	**01:17:33**	That's a huge -- I mean, earnings growth of the S&P was actually almost identical in the two periods from that 65 to 81 period and the 81 to 99 period, the earnings growth of the S&P was 7% in both cases. The challenge was the initial conditions, in both cases was very different and the inflationary experience, right, you started 82 conditions where PE multiple of nine and inflation was at 10%. You know, and the other is 65, starts at 23, multiple, and inflation at 2%. Any of this ringing any bells for anybody? Should we ding, ding, ding right here?
Cem:	**01:18:13**	Yeah, this is why the Shiller PE works, right, this is why people have been kind of, again, we extended that cycle because of again monetary policy, and it took a while for it for this kind of -- the pressures of normalizing interest rates to take hold. But, yeah, you can't fight gravity at the end of the day, forever.
Richard:	**01:18:36**	What's interesting is in the 1970s, you didn't have the level of financialization that we have, currently, right, and sort of -- yeah, or leverage. So, I would argue that the causal effect is actually reversed, right? When you have a decline in the S&P or in broad equities, you have a negative wealth effect, which then impacts the real economy to some degree, not to mention the fact that executives in large corporations have become stewards of the price of their stocks more than anything else. And that tends to affect labor, because of hiring freezes and even layoffs once the margin compression starts to come in, and people have to lay off and cut costs. So, I wonder if that negative wealth effect that might come if we are to experience a broad decline in equities and that negative wealth effect that would come from it, does that perhaps force the hand of fiscal policy even further, right? They have to perhaps fill in that gap, which then leads and feeds inflation even more so. I don't know if that's a bit of a reach but …
Cem:	**01:19:47**	No, not at all. We actually did our last newsletter about kind of inflation and the historical context and how it's different now. So, I'll touch on a couple of those things. And I actually tend to think the Fed is, it's complicated, right? It's not just black and white. But I do think on the whole, the Fed is actually making structural inflation worse by trying to deal with it in cyclical means. And I'll kind of get to that in a second. But it's important to note that the Fed has always tried to hem in inflation via, by basically three channels, right. When they raise interest rates, there are three effects that feed through to the real economy, right, historically. One, via real estate, right? You know, if you raise the cost to borrow, right, there's less demand for properties, it becomes more expensive, and you slow the economy construction and issues that way. Two labor, right? So, there's a trickle down, it's supply side economics. But if you take money from corporations, the theory is they hire less people, they pay people less, and that means less demand. And then three, the wealth effect, as you

mentioned, right? They bring down capital markets, people have less money to spend.

Historically, I'd argue that all three of those don't work nearly as well, as even the 60s and 70s, as well as they would hope, right? One, because it's trickled down on labor. Right? So, it takes a while, there's a lag, you're taking more money from wealthy people than you are from people who spend in general. Two, in terms of real estate, if you raise the price of borrowing to buy houses, yeah, you're going to have less people buying houses, but people still have to live in homes, and that just means rents go up. And then three, the wealth effect, if most people don't own stocks, and it's just the wealthy people, how much are you curtailing demand, right? So, that was always the case in the 60s and 70s.

But we live in a particularly different type of economy now, right? Most labor for corporations, a lot of it's abroad. Right? So, it's not like you take money from corporations, all of a sudden, you see, as much massive layoffs as you would hope to slow the economy, right. Yeah, you see some. But as we've seen recently, we've taken rates from zero to four and a half in terms of expectations right at the long end of the curve, or four and a quarter and haven't seen wages go down. If anything, wages are continuing to go up, and they're going up domestically. And that's the important part. Like we don't care about wages abroad. We're talking about wages here. We're actually seeing wages here go up more because of this competition game that's going on and the protectionism and everything that's going on otherwise. Yeah.

So, for the labor like it doesn't -- we're not as labor intensive an economy as we used to be because of globalization. Real Estate, everybody had bought a home in the last 40 years, because rates were zero. If you didn't, you didn't lock in 30 year mortgages, like shame on you. Most people did, right, and they did several times on the way down in yield. And so yeah, if you're a new buyer, rents are going up but it's not like people are getting hurt if you already bought a home. You may be getting stuck in the home that you're in, or something along those lines. But the fact there has been significantly less because we have low interest rates for a really long time and everybody already bought a home that could. It's just the incremental buyers that are being kind of hurt here. And then lastly, wealth effect due to massive inequality. It's almost all the people at the top that own stocks. So, again, it's back to that effect. It's even more dramatic in terms of those effects that I've been talking about.

Adam: **01:23:48** And adjunct to the housing thing, though, too, is that you've got an ossification of labor mobility, right. So, you sort of alluded to it, but I just want to make sure we punctuate that point, right, where, obviously, higher labor mobility means that there's more people competing for the right kinds of jobs in different regions of the economy. And if people are kind of, are locked into their homes, because they are locked in at very low rates, and if they were to go buy a home somewhere else, then they'd have to lock in at a much higher rate. That's a strong disincentive to move. Right?

Cem: **01:24:26** Yeah, that's a very astute point. I completely agree with that as well. On top of that, we talked about Planet Palo Alto, but from 30,000 feet, right, we're taking money away from supply. All of this for 40 years, don't forget, we had not inflation, but deflation when we had an historic monetary policy. Why in the world do we think by taking monetary policy out of the system that we're going to cause you know, deflation? If anything, we're removing money from supply. You need supply to meet demand. We're driving demand through fiscal policy. But now we're moving corporations' ability to provide supply. So, like, yes, in the short-term, you can lower the amount of money in the system and you know, through brute force bring down cyclical inflation. But for more structural longer term perspective, you're actually hurting supply in a time when you're feeding demand. And it's structurally driving probably more inflation.

Richard: **01:25:31** And it's not sustainable to curtail demand to that extent, because you're going to create civil unrest to a degree where they're going to elect people into power that are going to just give the people what they want. So, that's a band aid for much larger problem.

Cem: **01:25:49** And that was my last of many points in this paper. Again, I recommend people go take a look at, it's on our website, you can subscribe to it. But the last point**,** yes, *False Prophets*, exactly. Yep. But that's like one of the final points is that, look, by bringing down cyclical inflation by bringing down -- driving a recession in a populist environment, what do you think the response is going to be? You think we're going to do more monetary policy and send that to wealthy people and solve the economy again? Or are we probably going to get, crisis will drive more fiscal stimulus? That's what drove a secular inflation in the 60s and 70s. That's what drove price control, the recessions that we drove, ultimately led to more fiscal policy. And so we're in this, on this flywheel and like we're causing more stress and crisis along the way, which is just going to drive more structural fiscal …

Adam: **01:26:47** It's a bit of a doom loop.

Cem: **01:26:48** Yeah. So, again, I would argue that the Fed doesn't have a choice. They're a political entity, at the end of the day. If they don't act, then they lose their credibility and everybody says, you get all this for all these years and drove all this money to the rich. But now you have inflation, you're not dealing with inflation, that's the kind of the zeitgeist but the reality is, I don't think the Fed is actually doing what's good for the economy, what's good for, you know, at what cost?

We're going to cause a recession, we're going to keep going and maybe cause something worse, and we're not ultimately going to make inflation better structurally, we're actually going to probably make it -- we're not going to make it better, we're going to make it worse.

Adam: **01:27:35** Aren't they providing cover for what they know is going to be a continued sort of onslaught of fiscal largesse, right?

Cem: **01:27:42** Yeah, if anything they need to be providing more lower interest rates, a supply of money, right, to government, to help along the way. So, yeah, this is …the Fed's focused on the wrong thing, if you ask me. I think they're going about it completely opposite to how they should.

Richard: **01:28:05** In addition to the monetary tightening, which, in a broad sense, keeps companies from being able to invest and offer additional supply, you have regulations that have been particularly hostile to certain industries, namely, energy, right. You have the forced upon, this idea of greening the energy grid has been forced upon the Western world. And there's merit to that from the standpoint of protecting climate and all that. The problem is, you have to build a bridge between here and where we want to get. And now the problem is, the US should be self-sufficient in energy, and it is no longer because of all the hostility towards them. So, it's not just the monetary aspect of it, but it really is micro regulation. And so I wonder, other than energy, are there other regulatory aspects that I may be missing here in this example, and what do you think about those?

Cem: **01:29:09** Yeah. I mean, so we've been talking a lot about energy, the last six months. We actually did a couple of podcasts on *Top Traders Unplugged*, which had been co-hosting with Adam Rosensweig, who is a kind of a thought leader in the space, a big commodity guy. And through that process have done a pretty deep dive and there's a metric and you guys may have heard about this, maybe not, but you know, energy on energy efficiency, EOEI, the amount of energy in it takes to produce energy out, right. And if you look at those numbers historically, we started at kind of three to one with firewood and other simple metrics. And throughout history, from the time of Rome to Beijing, the biggest -- 1700 years, the biggest city was a million people because we could not get, create enough resources in the area around, given the distance that needed to travel to make a bigger city than that.

Then we discovered kind of coal, we discovered other means of fossil fuel production, eventually oil. And that led to an increase all the way to six to 10 to 12 EOEI. And it has led to a major boom, right, throughout that period of growth of cities, growth of production, growth of worldwide population, it's a major, major driver, right? You know, you don't have the resources, you can't thrive. I kind of liken it to the Mesozoic era, right. Like, there were just a lot of oxygen, so dinosaurs got really big, and there were a lot of them. And then that kind of changed and the population suddenly shrunk and everything got smaller. Resources helped determine the size that we can grow. And the problem is, we could do that without, and there was an externality, which is pollution, which we didn't feel in the short-term.

And now all of a sudden, we're saying, okay, we have to take into account that externality. And in order to deal with that, we are going to go back from 13 to six or seven EOEI. You know, you can't do that overnight, you have to create more efficient forms of getting that. You have to use forms like nuclear, which is more like 30 to one, by the way, to solve those problems, at least along the way. And so the policy has been completely devoid of that conversation or kind of being thoughtful about how we approach dealing with this externality, this is pollution, which I agree is potentially existential to us as a world.

But we have to solve those problems thoughtful of those numbers. And the biggest, again, I don't want to go on my soapbox for nuclear, but the fact that nuclear hasn't been a major, major part of environmental policy throughout the last 20-30 years. My dad is a PhD structural engineer, designs offshore oil platforms from the day I was 10, you know, about 35 years ago, I remember him talking about how nuclear is the answer, like why aren't we using more nuclear, right? And he's a petroleum engineer. It's been there in plain sight for all of us to see forever. But it's been a political nightmare throughout different periods because when you have an issue environmentally, it's all at once, and it's, you know, they're just kind of not my backyard mentality.

But there are solutions to our problems, I think that's important to note. They take time and as we mentioned before, sometimes you need crises to solve problems. And here we go, here comes a crisis, expect an energy crisis, it's coming. The supply is so inelastic and it takes so long to build supply that there really is no solution in the short-term, meaning in the next five years, to solving these problems without investment. And demand has been low because of China shutting down their economy, because of other factors. It doesn't take much incremental demand or realization that demand is actually there and not going away, that we're not entering a deep recession, which we already talked about for some of these things to go parabolic.

Adam: 01:33:29 It's astonishing, actually, that we're sustaining such high energy prices and such low global inventories, given that the Chinese economy has been effectively shut for going on two and a half, three years.

Cem: 01:33:43 Especially given how inelastic that supply curve is. It does not take much. And actually, I would argue that the demand assumptions are actually too low as is, given kind of outlooks. We've talked about in terms of we're in a demand push economy, and probably secularly.

Adam: **01:34:01** I agree. Cem, just to close the loop, because you sort of -- there was a bit of a dangling lead there on the fact that you think the Fed is doing, is implementing the exact wrong policy. So, I just -- like, how should -- I know that -- Well …

Cem: **01:34:19** Are you …

Adam: **01:34:21** Yeah, yeah. Sure. You're chairman for a day, what do you do and why? But my sense is that you're …

Cem: **01:34:26** Oh my God. I don't know that I want that job.

Adam: **01:34:29** But my sense is that high rates are constraining supply, right, when fiscal large is producing surging demand, which I -- so I get that argument. So --

Cem: **01:34:41** You want a quick fix. You want the Fed to come through and fix the problems.

Adam: **01:34:46** What is it? How do you – They're doing the wrong thing? What is the right thing?

Cem: **01:34:49** You can't cause what -- you can't do what you've done for 40 years and then choose to address 40 years of growing inequality overnight, which is what we're trying to do, and not have negative effects.

Adam: **01:35:05** Will the political … solution?

Cem: **01:35:08** Yeah, they're better solutions, but they don't happen overnight. You know, you need to -- we took a shortcut for 40 years and we kind of ignored that it was an issue. And now we're going to address that issue, and we're looking for another shortcut. There's no shortcut you have to have good policy. There is good policy, believe it or not. I can get into kind of details, but it's not the Fed's, you know, the Fed's not going to be able to get us out of this. They got us there, but they're not going to be able to get us out. You know, it's going to take good policy for some time to rebalance things, and we're going to have to muddle through. Now, this conversation seems incredibly negative, I want to leave it on a positive note. And I do think …

Mike: **01:35:58** Negative? I'm excited.

Cem: **01:36:01** There's a lot of opportunity …

Mike: **01:36:04** You've just told us nuclear's going through the roof, energy's going through the roof.

Cem: **01:36:07** No, I agree with you. There's tons of opportunity. Knowledge is power in this environment, more than ever, but I do want to leave it on a more macro positive note. You know, 1930s and 40s was the big Great Depression and World War Two, right? If you talk to the greatest generation, those were incredibly difficult times. They don't know how they made it through. If you think about the 90s and 60s and 70s, JFK was assassinated, MLK was assassinated, race riots, the world -- you talk to people then, it felt like the world was coming apart at the seams. Both of these periods happened in the last 80-90 years. This is not hundreds of years ago. And I would argue we would not be in the place we are on many levels, societally, economically, in terms of freedom and advancement, and all the other beautiful things that we have, if we did not go through those two periods.

Crisis, I want to reiterate, is essential to drive change and advancement. We have tried to avoid crisis at all costs in the short-term. We are having and we will go through some form of crisis in the next decade to 15 years. But it will drive us together, it will drive change, and it will, in my opinion, as long as we don't break, fall apart, which I don't think we will, it will put us in a better place when we look forward in 20-30 years, and it will be a pivotal time in our history. But these things are important. And again, there's no quick, easy fix, right? World War Two was not an easy fix. The 60s and 70s and race riots were not an easy fix. They forced dialogue, they forced change. And I believe we're going through a period of change and it won't be easy. But I think it is a positive in the long run that we're going through it now and not in 40 more years from now, because that can be existential.

Richard: **01:38:12** …could not have said it better himself.

Adam: **01:38:15** I wrote -- I think I'm probably, I don't know, seven to 10 years older than you, and I wrote a piece back in 2009 called *Sirens in the Distance*, which effectively made the same points, right, thinking that that crisis was going to be the catalyst that led to, you know, what we're sort of observing here now, right? And was obviously gravely mistaken, right, like 10 years on, but making the same points about the fact that you know, what's going to drive us back to what's important. We're going to have the crises that will drive us to make better decision making for the long-term. Like all those major positives, I agree, and I'm rooting for this one to be the one that does drive us in those productive directions. Absolutely.

Cem: **01:39:02** It's a process even 2000, 2008, they drove, I mean, don't forget Occupy Wall Street and the Tea Party. Like populism started a while ago, it just took a while. It took Donald Trump and Bernie Sanders and it took kind of a process here domestically and internationally to kind of -- it took COVID ultimately, the spark to kind of -- to set off kind of this fire, but we're still early in that process.

Richard:	**01:39:31**	Change happens slowly, and then all of a sudden, right? You have to arrive at a tipping point and then there's a phase shift. And I think we're probably going through that phase shift, where you want to call it a paradigm shift or people, some people like to quote Neil Howe and *The Fourth Turning*, those kinds of, yeah, those kinds of frameworks are useful to kind of wrap your head around. But yeah, I definitely see the silver lining. It's just that we have to get through the period. And there's probably going to be some amount of pain along the way.
Cem:	**01:40:00**	We need leadership. But I think it's an opportunity. And I think -- I'm hopeful that that will come.
Adam:	**01:40:07**	Agree, and a great place to leave it. Cem, thank you so much.
Cem:	**01:40:11**	Thank you guys.
Mike:	**01:40:11**	Wait, wait, wait. Just let everyone -- I'm sure everyone knows where they can find you, Cem. Let's make sure they know where to find you because I'm sure there's one or two listeners.
Cem:	**01:40:21**	No, I appreciate that. Kaivolatility.com is our website. You can request, you know, we run a family of hedge funds. We like to put out regular kind of commentary about both market microstructure and macrostructure as we kind of discussed here. So, you can subscribe to our kind of newsletters and media that we do through there. So, please reach out that way. Otherwise, @jam_croissant on Twitter. I go through periods where I'm pretty active and then periods where I'm a little busy, but definitely a good place to kind of hear my thoughts and engage with me.
Mike:	**01:40:59**	That's awesome. The Boomers are outraged in the comments, but that's fine.
Cem:	**01:41:06**	We love the Boomers too.
Adam:	**01:41:07**	I don't think we want to go after the boomers. All right. Thanks, guys.
Cem:	**01:41:12**	Thank you guys. That was wonderful. Talk to you soon.
Richard:	**01:41:14**	Alright, guys. Thank you.
Cem:	**01:41:15**	You too. Bye-bye.