Allison Nathan: Against a backdrop of sky-high inflation, rising rates, and growing recession concerns, the S&P 500 has had an undeniably grim start to the year, with the tech heavy NASDAQ and unprofitable growth companies performing even more dismally. But are these moves just a rates story? After all, the Fed continues to increase rates at a pace that seemed unimaginable only a few months ago. And the higher rates go, the bigger the discount you might expect for tech companies who are only expected to make earnings far into the future. Or are the equity markets in the midst of a more lasting paradigm shift? These questions are top of mind.
Allison Nathan: I'm Allison Nathan and this is Exchanges at Goldman Sachs. On this special episode of Exchanges at Goldman Sachs, we're breaking down my most recent Top of Mind report. Amid the sharp sale off in equities, we turned to perspectives from three long-term market heavy weights: Cathie Wood of ARK Invest, Cliff Asness of AQR Capital Management, and our chief US equity strategist, David Kostin.

Cathie Wood, who's closely followed ARK ETF of innovative, high growth companies, has plummeted this year, argues that this sell off is mostly due to the rates move. But that the era of growth equity leadership is far from over in large part because inflationary headwinds are starting to ease.

Cathie Wood: We have been saying for some time that the inflation we're seeing now is a one-shot shock to the system. And it lasted a lot longer than we expected. I've never seen supply chain issues take this long, almost two years to work out. And we never expected Russia to invade Ukraine. So, those extended the shock to the system.
What we believe is happening now is the cyclical inflation and the supply chain related inflation is beginning to unravel. We're seeing this in shipping rates around the world. And we don't see it in oil prices yet. That's the most visible. And that's why we don't think a lot of people are talking about this.

But if you talk to Walmart, Target, Kohl's, Lululemon, their inventories are at record breaking rates in terms of year over year increases. So, I think cyclically we're going to start seeing deflation as they clear their shelves. I don't think many people will believe it or really focus on it until we get a CPI and so forth while oil prices are up. But I do believe that we are on the other side of the inflation problem.

I can also point to long rates as another indicator that maybe we're right here. We've had long rates move up to more than 3 percent. But think about that. This is a ten-year treasury yield. It's telling us that GDP growth, nominal GDP growth will be, for the next ten years, on average 3 to 4 percent. Well, if inflation were 6 percent plus, then that would mean for the next ten years we have negative real growth.
So, I have been surprised that more investors in the market have not looked at that long-term interest rate to take some comfort away that inflation is not out of control here.

**Allison Nathan:** And what makes the case that the current period is quite distinct from the tech bubble bust of the early 2000s? Because the technologies have themselves have gone from a dream to reality. So, she believes that selling these innovation companies will prove just as wrong as buying them was during the dotcom bubble.

**Cathie Wood:** This comparison to the NASDAQ circa 2000 to 2003 has already been discounted completely by the market in a much shorter period of time. Our peak to trough drop was as big as that during the tech and telecom bust. Now, there are two differences. One is if you look at what happened in the late '90s and 2000, you saw that a lot of companies were chasing a dream. And most companies back then, chasing a dream should not have existed. Too much capital. Chasing too few opportunities, too soon. The technologies weren't ready. AI didn't have its big breakthrough until 2012. Deep learning. And if they were somewhat ready, the costs were prohibitive. DNA
sequencing, to sequence one whole human genome, $2.7 billion. We weren't ready for prime time. Today, that is down to $500 and is going down to $100. And AI is here. Cloud is here. Gene editing is here. The dream back then is a reality right now.

Now, in terms of hard numbers, and I know a lot of people have denigrated our strategies as profitless tech, concept capital, tech wreck. And that's from a psychological point of view a beautiful thing. You didn't hear any of that during the bubble, tech and telecom bubble. You hear it all now which means there's a lot of negative news priced in.

What do we see in terms of actual numbers? Well, if we were in the tech and telecom bubble replay, our portfolios would be showing negative growth right now in terms of revenues. Our revenue growth, even consensus estimate for this year, next, and the following year is in the 25 to 27 percent range. Those are consensus estimates. And we've got a negative dynamic in terms of psychology out there.

The second thing is, if you look at out gross margins, what you will find is they are moving up. And at this time in the tech and telecom bust, they were moving down.
We look at gross margins to give us a sense of underlying profitability of companies. Our gross margins on average right now are higher than the NASDAQs and they're moving up, not down. But investors are running for the hills. They're benchmarks. And we think that decision will prove to be as wrong as racing towards the dream was in the late '90s, early 2000s.

**Allison Nathan:** But even if the technologies are more certain today, are the still overpriced? Wood doesn't think so. Despite ARK's reputation for buying innovation at any price, she argues that the valuations of these companies are not unreasonable if you look at them as they do, over a five-year horizon.

There are people in the market that are arguing that the valuations that some of these tech companies, especially the unprofitable ones, really just got bid up way too far. What do you make of that argument?

**Cathie Wood:** Our valuation is very much focused on a five-year investment time horizon. That's a luxury in this market. Most people are looking at this year. And I think if
you analyze our portfolios based on EV, enterprise value to EBITDA on this year's earnings, you will find our portfolios close to 70 times on that metric versus 16 - 17 times for the S&P 500.

If you go five years out and you use our forecasts for cost declines, unit growth explosions, what you will find is that our portfolios selling at roughly today's market multiple, roughly 17 times enterprise value to EBITDA. So, if you think about it, what we are assuming as a given is that our valuations face a 20 percent compound annual rate of headwinds over the next five years. Because we assume that in five years our portfolios will be selling at market multiples.

Do we really believe that will be the case? No, we don't. We don't because many of these companies will still be in very early stages of our S-curve cycles, right? But we focus on market multiple to make sure that the companies in the portfolio have growth dynamics, revenue growth, gross margins, and ultimately, EBITDA growth that will pass the test of time.

Allison Nathan: But Cliff Asness of AQR believes that the
equity market moves are undergoing a more fundamental shift and that the long period of growth stock dominance since the global financial crisis is likely giving way to a period of sustained value leadership.

**Cliff Asness:** I don't know if there is a technical definition of a paradigm shift. But if the paradigm since the GFC has been interest rates low and falling and value doing some degree of poorly depending upon your version of value, with both of those, particularly value, exploding to the downside in '18 through '20, anyone who cared about price to a fundamental did not enjoy '18 through '20. Did not enjoy being an underestimate.

So, if the paradigm before was low and falling interest rates and inflation and growth stocks winning, yeah, almost by definition we've seen a pretty extreme paradigm shift.

I think of it as coming from two things. I think of it as coming from some pretty crazy starting valuations. More so for the value versus growth side than the market as a whole. The market was quite expensive going into this. But not tech bubble levels. Shiller CAPE was in the low 30s, not the mid 40s like then, which is, again, quite high versus
history, but not off the charts. The value spread, now you know I'm obsessed with the value spread and have been since 1999 when we created it, that surpassed tech bubble records somewhere between a year, year and a half ago.

So, we came into this period with extremely stretched valuations. Then I'm somewhat schizophrenic when it comes to interest rates. On the one hand, I don't think low rates fully justified the difference between expensive and cheap. I get the logic, of course. Longer dated cash flows. Lower rates. They could be worth more. But one of the main problems is a lot of the reason value spreads have worked long term is people seem to over extrapolate and overestimate how long growth companies can grow for.

Also, if you look back the last five to ten years, there certainly has been an interest rate correlation. When rates have gone up, it's been better for value and vice versa. If you look older than that, not at all. There was never a correlation. And the tech bubble took place in the shadow of fairly high interest rates.

With all of that, not thinking that interest rates really justified where we were, the market clearly did. The market
does what it wants. But if the world thinks value is an interest rate trade, it's not going to affect your medium to long-term returns. But it's going to affect your short-term returns. You are hostage to that.

So, for us, the way we define value, a comeback started almost a year and a half ago now. And the first half of that was before the big rises in inflation and interest rates that we've seen. But clearly, even though I don't think the effects should be this big, I think it's pretty clear that the interest rate moves this year in particular have been the catalysts that have kicked this into high gear.

Now, the way I like to put it is if you're going to hold this trade from here for three to five years, meaning you think valuations are ridiculous. One day they have to come back, but you don't know when. You're not necessarily going to be right, but you're going to be right or wrong based on whether they really were ridiculous. Or whether you missed something.

A catalyst like interest rates, to me, changes when you make your money, but not that you make your money. That you make your money is a function of being right and
sticking with it.

**Allison Nathan:** David Kostin of Goldman Sachs Research comes down somewhere between Wood and Asness. He argues that the moves have largely been a rate story. But thinks this is ended the trend of get big fast, with profitability, not just revenue growth, an increasingly important consideration for investors.

**David Kostin:** Rather than a paradigm shift specifically, I would say the interest rate environment, which of course is affected by many other things, inflation, you know, economic outlook, but it's been the adjustment which has been really remarkable how swift and both the pace and the magnitude of the repricing of rates which has affected equities. So, I would say it's not so much a paradigm shift as an interest rate wholesale shift, which has then had its consequences for the equity market and different parts of the equity market. That's how I think about it.

The valuation of companies today is basically where we were before the pandemic in that unusual period of 2020, for the beginning part of the pandemic, and that lasted largely initial 2021 when rates were staying pretty close to
zero, that created an environment where the cost of capital was extraordinarily low. So, I think if you think about it in that context, the cost of capital from a corporate finance point of view is extraordinarily low. And companies were never penalized for having this growth, growth, growth that was way into the future in terms of the path to profitability. And the idea of get big fast, which was a terminology used in the late '90s, you wanted to don't focus so much on the profitability of the business, just grow the revenues. Try to get your market share as much as you can so you can get big enough. And eventually, you could then, you know, maybe adjust your prices and become profitable. But you should prioritize the growth as opposed to the profits.

And I think that was largely an issue that came to the fore during the pandemic, which is grow the market share as much as you can. There were different industries, verticals that companies were going after. And that was, I believe, the story of the extreme revaluation. So, when you think about it, put some numbers around this. So, companies prior to the pandemic were trading at fast growing companies. So, they're a cohort of companies all expected, prospectively forecasted to grow their sales really rapidly. They traded, we'll call that five - four, five, six times
enterprise value to sales as a multiple. And during the pandemic, February of 2021, so 12 months into the pandemic, these same companies that were trading, were trading 13 to 15 times.

Today, they're actually back to kind of three, four, five times. So, they're kind of back. And then even derated even further. And those are groups of stocks that are fast growing. Some are profitable. Some are not profitable. You can call it a bubble. You can call it a benefit of low interest rates. You can call it a factor that people were stuck at home in the pandemic, and they were, you know, availing themselves of certain businesses and companies that were in a position to deliver on that.

But now the rates have changed. I think it's a big rates story, personally. And that has forced investors to kind of reassess the valuation of some of those shares.

**Allison Nathan:** So, how should investors position from here? Kostin thinks equity portfolios should mirror risks in the economy today, with the majority and faster growing, highly profitable companies, but some allocation to companies whose valuations still look compelling even in
the event of a recession. Here he is again.

**David Kostin:** I think about our strategy is designed around what are the distribution of economic outcomes? Our economics team have described a one in three probability to a recession over the next two years. So, I should be thinking about having a third of my portfolio prepared for that eventuality. And so, companies with a margin of safety, companies with a high stability, low amplitude of growth, that is part of the portfolio designed for the event of a recession.

There's a group of stocks, we can think of it as a margin of safety, that take the earnings, you cut it by 20 percent. And you see what is attractively valued. Because we know historically that in a recession, earnings come down by 13 percent. A second way of thinking about it would be basically low amplitude or low variability of growth. And the idea there is that other investors will pay a premium for earnings stability.

So, we know quantitatively that investors are paying a greater premium for companies that have earnings stability as compared with the importance they ascribed to that
variable in a normal environment. In the two third camp, I can own growth companies that are profitable. And those companies are buying back a lot of stock. Owning high dividend paying stocks is another approach.

And so, if we think about the dividend market, arguably it's the most misvalued part of the equity market today. Right now, we're forecasting dividend growth across the S&P 500 of 10 percent growth this year, 9 percent the next year, 2023. And about 7 percent in 2024.

The market is pricing today as though dividends are going to be cut in 2023 and 2024. And so, that mis-valuation is extraordinary. We're talking, like, 25 percent gap in terms of our forecast for dividends in 2024 and the futures market.

**Allison Nathan:** In this portfolio that you've outlined that's consistent with the macro risks, there is no room for unprofitable growth companies.

**David Kostin:** No, not unless there's a path to profitability. So, you're losing money. You've got to raise that capital from somewhere else because you can't keep
growing if you're losing money. You either have to avail yourself of more equity capital, i.e., more equity that's dilutive. Option two, the high yield market. Very, very expensive. When rates were low, they had a lot of capital, and they could keep raising equity prices. And then they did another equity offering and another equity offering. Their growth was incumbent upon successfully higher equity offerings and higher prices. But you can lose money for only so long. The question is, how far in the future are investors going to suspend their disbelief that there's a path to profitability? Is it year five? Is it year four? Is it year ten? So, I think it's very difficult for them to get rerated higher, especially because being in the public markets, yeah, they've already gotten some valuation up until now.

Allison Nathan: But Wood believes investors should use profits from value strategies to pivot back towards growth, arguing that these innovation companies are set to upend industries and change the world.

Cathie Wood: We believe that the disruptive innovation associated with genomic sequencing, adaptive robotics, energy storage, artificial intelligence, and blockchain technology is going to cut across every sector, every
industry, and almost every company. And what does that mean? The traditional world order is going to be disintermediated, disturbed, disrupted, or destroyed. And that tends to mean value.

The value stocks tend to be in that inflationary world. Innovation is a highly deflationary phenomenon. And just to give you some examples of that. For every cumulative doubling in the number of electric vehicles produced and sold, the cost of the battery part of the system should drop by 28 percent. And what that tells us is EVs, which I guess we sold 4.8 million last year, we think we'll sell 40 million in 2026. Approaching nearly half of all cars sold. That is a dagger in the heart of the oil industry because transportation broadly defined accounts for 60 percent of oil consumption. And so, we believe that value is actually in harm's way based on the five platforms that we see evolving very, very quickly right now.

And then only that, they are evolving and converging. So, if you think of autonomous taxi platforms, that involves three of these major platforms: robotics, autonomous vehicles are robots. Energy storage. They will be electric. And artificial intelligence. They'll be powered by artificial
intelligence. So, those are three S curves feeding one another. And we believe will cause explosive growth.

And at the heart of all of this is artificial intelligence. And it is going to spread so rapidly. We're seeing massive breakthroughs right now. I think the kind of growth that we're going to see from these platforms is going to shock people.

So, I would definitely be taking profits from value and moving into growth. But you have to be careful with growth too because some of the disruptors of the last decades: Netflix and Meta platforms, Amazon, they are being disrupted today by some of the newcomers. So, you have to be careful with growth. We don't own the FANGS, for example, in most of our portfolios.

**Allison Nathan:** And what's one of Wood's biggest worries amid the sell off? Not that these companies won't perform. But that they'll be scooped up at bargain basement prices by other companies, turning temporary losses in her funds into permanent ones.

**Cathie Wood:** Our biggest risk right now is that these
bear companies are going to take out our companies. That's our biggest risk. Because we've suffered with these declines. And we will be out there fighting hard, tooth and nail, against these companies if they try and pluck these companies up for their superior assets, mostly data assets.

**Allison Nathan:** Asness, however, beats the drum for value, which he thinks will continue to outperform following its recent rally.

There was a stretch of underperformance for value since the global financial crisis. So, what gives you confidence that the returns in value can be sustained going forward?

**Cliff Asness:** We have some basic things we believe in. We like cheap price and fundamental momentum. Good high-quality profits. Low risk. We are now sitting at valuation spreads that are near record. The very strong run this year reduced the disparity some what. But we're still at just about tech bubble levels, which we used to think was the craziest thing we'd ever see in our lifetimes. Our value spread is 95th percentile versus history. And about 90 percent of the way towards its tech bubble high in magnitude.
And the other thing that I started my career on, momentum, is at our backs. We don't get to see a lot of periods like '99/2000 or the last few years. As investors, that's probably a good thing because they age us. And I'm not sure I could survive any more in my career. As statisticians, it's disappointing. As a statistician, you'd love to see 1,000 times value went crazy. And then how often were the next three years great? And how reliable was that? We don't get that.

I'm fond of saying what we get here is scenario analysis, not statistics. We get to look at a couple of times that kind of rhymed. But when you look at those times, they kept going for quite a while.

So, I think momentum is at our backs. Quality in low beta is green with value in our kind of multi factor world more than it normally does. And last time we've ever seen this, it went on for quite a while. So, I think the odds are on value side.

**Allison Nathan:** So, where do you think investors should be positioned?
Cliff Asness: We take, for us, a reasonably large value tilt right now in our multi factor portfolios. Trend following, had a rough multiple years because there was both whip saws and some crazy markets like March of 2020. And also, very little need for diversification benefit in a market that even with those whip saws was largely just going gang busters for long periods.

It's come into its own this year. We'd always have a little bit of trend following in a broad portfolio. We think it on average makes money in downturns. We take very little market directional risk outside of pure trend following products, which do take a market direction. When it comes to value and momentum, we take a little where we're allowed to.

And equities, we look at them on their own. But we also look at them versus bonds. So, the higher bond yield makes that comparison worse. Even though equity prices are down, our preference for risk parity over 60/40 stocks bonds, that stays the same. That's not a tactical preference. We would be slightly underweight both stocks and bonds where we're given our druthers. But not one
more than the other, meaning the gain from diversification should still be there. Even if stocks and bonds move to positively correlated, which they very well might if inflation continues to be the problem.

Your crisis world, you see high negative correlations for stocks and bonds. But if the crisis is inflation, it's a little bit different. But even there, we're not going to see one correlation. We'd still get a diversification benefit, and we'd still prefer a portfolio that made its money from stocks, bonds, and commodities, not just stocks. But that is not about the current environment. That is longstanding.

Trend and value are things that we'd probably recommend a little stronger than normal now, particularly value.

**Allison Nathan:** With questions about where equities are headed sure to remain in focus amid the ongoing sell off, we'll continue of the closely watch markets from here.

I'll leave it there for now. If you enjoyed this show, we hope you follow on your platform of choice and tune in later this week for another episode of Exchanges at Goldman Sachs. Make sure to like, share, and leave a comment on Apple
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