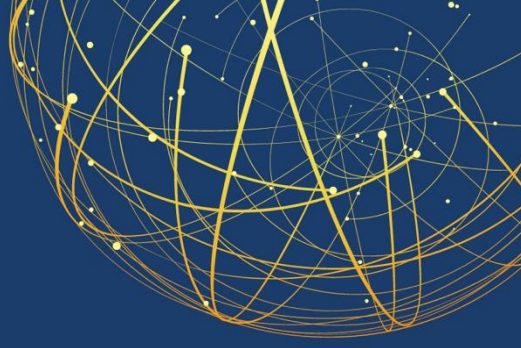

PART 2: THE AI INVESTMENT CYCLE: PLATFORMS, INFRASTRUCTURE, AND MARKETS

Yun-Hee Kim 00:02

Thank you, everyone, for joining this session on technology shaping our global future. For part two of this discussion, we're going to delve into the AI investment landscape and the outlook. I want to first introduce our expert panelists. Starting from my left is Tony Kim, managing director of fundamental equities, the global technology team at BlackRock. Next to him is Dennis Gada, executive vice president, global head of banking and financial services at Infosys. And from the Solana Foundation, we have President Lily Liu. And last but not least, Scott Rubner, head of equity and equity derivative strategy at Citadel Securities. Thank you so much for joining us today.

So let's dive in. Both the Nasdaq and the S&P 500 hit records last week, and there's a big question hanging over Wall Street right now about whether the AI trade is back and whether the rally is sustainable given geopolitical uncertainty. Tony, I'll start with you. BlackRock argues for continued strength in the AI trade. Tell us why.

Tony Kim 01:10

Yes. Well, this is the fourth year, and it sounds like a broken record, but it's never linear, perfect, but the trade continues because this is the equivalent of 10 Manhattan Projects going off at the same time. Because you have roughly five foundation labs in the US and five in Asia, in China, and each one is the equivalent of a Manhattan Project. We're in the fourth year, and I would frame it in a couple of ways. One is if you look at the global GDP of $110 trillion, if you add up all the CapEx this year, including the neoclouds and the big four hyperscaler, that's a trillion. And in the next five years, you'll probably add another $7 or $8 trillion of CapEx, because that one will probably go to two in the next five years. And just four years ago, that was a fraction of what it is today. So still in the very early phases. So as a percentage

of GDP, it is driving a huge percentage of the incremental GDP growth. If you say GDP grows at three percent, that's adding $3 trillion a year. You're adding a trillion from AI, and that's not even including the services on top of the CapEx. So that trend, I think, will continue. It's like the broken record. The last four years, the next four years, this continues. It's only getting bigger. I think people just need to get over it, that this is the new reality. That's one. Two, when you look at the AI stack, if you will, I would say if you were to frame that in three buckets. There is the bottom of the stack. It's everything to do with the compute. Here, it's the chips, the data centers, the power, the cloud. And that's the physical layer of AI. That's where that trillion dollars is going. And this is also where a lot of the market cap has been created. Nine of the 10 biggest companies in the world build chips. The only one that doesn't is Aramco. The other nine all build chips. So a lot of the value has instantiated itself in this layer of the stack. And the reality is, the economy is transitioning to a token economy. The generation of tokens—which is the output of AI—is instead driving this incremental GDP growth. Tokens are revenue. And to build the token economy, you need to build these token factories. So that's that bottom layer of the economy. The second layer is the intelligence layer or the model layer, and you're seeing that also generate a tremendous value being instantiated. You have three foundation labs—SpaceX is now a foundation lab—Anthropic, OpenAI, and others. They're a trillion dollars each or more. So, a lot of that value is being created in the intelligence layer. And then at the top, which is the two-thirds of the global GDP, is services and applications. And there the jury is out. And I was just looking at this year—year to date—$8 trillion of value have been added to both the foundation model layer and to the compute layer of incremental market cap has been added either in the public and private markets combined. The vast majority is at that bottom layer. The top layer has lost $1 or $2 trillion of market cap. So you're seeing the market also rewire itself to this stack. And so why does this continue? Because it is the refactoring of the global economy to what I call this AI token economy. And many of the truths that we held before AI are being questioned. And then you're seeing that manifest in the public market, and in the private market. And so these 10 Manhattan Projects that are kicked off in China and the US—and this is going to continue for the next five years, at least from what I see. And I don't see no abatement. Yes, there are periods where things go up and down, and there are constant fears. And I would say the fear of last year was the CapEx and the bubble. That ain't the fear this year.

Yun-Hee Kim 06:01

I want to go to Scott. Yeah. I'm kind of wondering whether you agree. We had really strong earnings reports out of the Magnificent Seven last week. Do you think that there is continued momentum in terms of corporate performance and stocks in the technology sector?

Scott Rubner 06:09

Yeah. So, I agree with Tony's analysis, and I would argue that the AI trade was never gone. So we got some very interesting data last week, as 66 percent of the S&P market cap has reported Q1 earnings thus far, and they really needed to deliver both top-line and bottom-line growth given the high expectations of earnings prints. So, I would say that from a fundamental basis, the valuations remain attractive from here. If I look at the Nasdaq, for example, valuations on the five-year and ten-year averages are currently below those averages, and on the last one year, it's in the tenth percentile. So both valuations are attractive and

earnings power remains really robust. We saw the large market cap report exceedingly beat expectations. And just when you allocate money to the US equity market, just think where it's going. If you allocate a dollar into the SPY ETF, 35 cents goes into the Mag Seven—Tony mentioned that—40 cents goes into the top 10, and 45 percent go into anything AI related. So we're seeing corporates cite dispersion among their AI strategies. So, I think what was previously a tech-only trade, we're seeing this widely spread out among sectors and asset classes, particularly as we look at earnings valuation and growth for the next quarter.

Yun-Hee Kim 07:47

And Dennis, you mentioned to me when we were talking backstage that this industry is now moving from experimentation to real execution. What does that mean for the AI trade?

Dennis Gada 08:00

Yeah. I think the main shift that we see, working with large enterprises around the world—yes, the AI trade has always been there and will continue to expand further—but the inflection point really is of how to make it real in terms of adoption in these enterprises. Because the entire trade is based on the assumption that the future demand for tokens will continue to grow exponentially. And, finally, that depends upon how different industries and companies around the world are actually going to adopt AI. I say this many times, it is no longer a technology problem. Technology is already way ahead, but the adoption or the execution is still catching up, and it's different in different industries and different parts of the world. So what we see is a lot of industries and companies really accelerating the adoption of AI. Instead of doing 100 POCs that may not work, focus on 10, 15 things and really make it production grade and tie it to business outcomes. And those could be of different types. And I think when that starts happening, when the diffusion and the adoption of the technology, in enterprises but also in the personal world, starts happening, that's where the trade will continue to expand even further.

Yun-Hee Kim 09:23

And Lily, the Solana Foundation is laying the groundwork for a future where economic transactions can be done by AI. Give us an example of how this works, and why should we believe into a future with this technology?

Lily Liu 09:37

[Inaudible]

Yun-Hee Kim 09:41

We can't hear. I think Lily's mic is not working. Maybe you can—

Lily Liu 09:47

[Inaudible]

Yun-Hee Kim 09:57

Maybe you could speak up, Lily, a little bit while we try to fix your mic.

Lily Liu 10:01

Sure. So with AI agents, you essentially have a machine economy that you've never had before, and therefore—

Lily Liu 10:11

One second. Okay. All right. Oh, this works better. With AI agents, which has clearly been one of the explosive trends over the last couple of months, you have a machine economy that you don't have payment rails for. And so, the payment rails that we have today, that we're all very familiar with, are built around humans. And I would even argue the internet over the last 25 years has been compensating for the lack of digitally native economic models and financial rails to actually serve that. So, for example, you can't actually do a peer-to-peer micro payment online today, which is why everything has been bundled through SaaS and also been bundled through, effectively, advertising as an intermediate way of aggregating what is a lot of micro transactions. And that's something that we've become accustomed to—the advertising models, the views, the clicks—bundled into things that you can swipe a card for. And it's been, obviously, a very robust economy. But that's the type of thing you can't really have a workaround for when both counterparties in a financial transaction are machines or agents. And so I think—going back to what Tony was saying about the three different layers of the AI stack—if there is the compute layer, I think there are opportunities there when it comes to the need for global financial rails, which fundamentally is what blockchain is here to do, in terms of providing internet capital markets to actually be able to raise global capital for those parts of humanity and those parts of the global economy that do not happen to be the United States and do not happen to be China, that already have massive capital formation engines. So I think that's one place where—there's a lot of buzzwords around blockchain and AI and how these things intersect, but I think very tangibly that is how a blockchain relates to the AI compute layer. When it comes to the model layer, I think that there are well-placed concerns as to the intelligence of 7, 8 billion people being reduced into 10 models controlled by between two to four governments. And there are, I think, very

legitimate concerns as to whether that should be done in a more open source, in a more truly open way. And that is, I think, something that these decentralized networks are inherently there to incentivize and to enable. And then lastly, with AI agents, which is a little bit more at the apps and the services layer, what you're seeing is these SaaS models, which is really a huge part of the last 20, 25 years of software technology development and all of the value creation that came through that. We're moving to this world of agents and radically customized, almost like DIY apps. I'm sure we've all been experimenting with that. And so, the ability to monetize that requires the ability to monetize a much longer tail of applications, of actors, of counterparties. And the only way to really do that natively is to have native financial rails. And so, I actually really see blockchain and payments, financial rails, internet capital markets, as being the economic enabler for many of these innovations to actually be directly monetized, and therefore for all of this CapEx to ultimately be able to sustainably create realizable economic opportunity.

Yun-Hee Kim 13:58

You raise an interesting point about AI agents versus SaaS, and I'm sure all of you have heard the term SaaSpocalypse, but we saw the software SaaS companies' valuations really lose a lot of value in February. It was about $285 billion wiped out in the span of 48 hours. There's a lot of concerns about AI replacing software. Tony, is software dead?

Tony Kim 14:01

Software is both dead and we'll have more software than ever. What do I mean by that? In a way, the prior 20 years of SaaS—that era ended in 2023. It's like BC, AD. And in the world of post-AI, so the last three or four years, we'll have more software created now than ever in all humanity. In fact, we'll probably have more software created—if we're 24/7, the generation of tokens and code will be near infinite because you'll have billions and billions of agents that generate code, and every single one of you in the audience will be writing code. And so you will have—if you studied Econ 101, an asymmetric, nonlinear explosion of code. So, we'll have more software than ever before. In fact, they'll be generated nonstop. It'll be continual code generation. And so, if you have the supply of something growing infinite, what happens to the price of that thing? And so, the price of that thing will collapse. And so what SaaS is, is not code itself. It's just a business model. It is a business model that was built when there was a finite supply of code because only a few developers can write the code. And so the business model of SaaS is dead. The case for code is going to be near infinite. And so that requires companies that were built during the Ice Age, built on a premise of a business model that needs to be completely changed. And Lily mentioned that. And that's what we're seeing. We are seeing the market adjudicate. They call it moats. There's another talk. What's the moat? And it's not just the moat of software. It is a moat of basically every industry in the S&P 500. It started in software, but it's like what you thought was perceived moats and duration and quality and all of these things are being questioned because if you have a world where there is infinite code, DIY, customization, et cetera, then where is your moat? And so that is also what I call this rewiring of the business model itself. It's going to change, and it's going to change across every aspect of every vertical in the S&P, not just software. And that's what you're seeing this year in particular. It started really last year, but it really hit true to four. So, the SaaSpocalypse—so both conditions are true. SaaS is dead, but yet software will be more prevalent than ever.

Dennis Gada 17:12

If I can add to that, especially on the point around software growing exponentially, I read this somewhere and validated it. In the year 2000, there were about one million software developers in the world. And if you look it up today, there are 30 million software developers in the world. So it's grown 30x in the last 25 years. And it's not that in the last 25 years software development has become a lot more difficult, for which we need so many more developers. But it's become easier and automated to some extent. But the volume of software development has grown already 30 times in the last 25 years. I think to Tony's point, and we agree with that, that in the next 20 years, it will grow even more exponentially. So what that means is, yes, a lot more software will be written, it will be easy to write it, and it will be easy to customize it and so on. And hence, while that skill will continue to be required, there'll be other skills around that that will also be very important. Understanding of the business, the context, the engineering, and so on. So software development is not dead.

Yun-Hee Kim 18:29

Scott, what does it mean for software jobs?

Scott Rubner 18:32

To hit home Tony's point, we have a very interesting basket that is AI adopters versus AI at risk. So it is sector-neutral. It is market neutral. It's up 70 percent year to date on a pair. On a factor-wise, that's a big move. So how we think about it is it's actually changing all industries and all subgroups, not solely related to software. So our clients—and we execute about 24 percent of all US shares in the equity market—we're seeing pro-momentum, pro-growth strategies, optical, nuclear, robotics, thematics around these trends and trades that I think we're seeing a lot of client interest, especially among our retail community. But when you look at the index and the broad-based indices are not telling the true story of the reflection of what's going on in the AI market. So we're just seeing it disperse among individual baskets as a primary way to trade this.

Yun-Hee Kim 19:36

We talked a little bit about the AI stack and the value within that chain. Where is an area where there's a missed opportunity right now that investors should be looking at?

Scott Rubner 19:48

I think we're going to be talking about this in a few minutes, but when I think about the IPOs that Tony mentioned coming to market, it is really a change in market structure dynamic. It's a change in capital

markets. Two reasons. Number one, retail participation in IPOs directly for the first time will change how the markets trade, how we think about risk, who gets allocated deals. And number two is these companies will be so large that they will result in fast-track inclusion into the large indices right away. And when you think about target date rebalancing strategies, it's buying a lot of the passive ETFs. So one that is a large company gets larger as a result of market cap creation. It's really pro-growth, pro-US, pro-momentum.

Yun-Hee Kim 20:48

Lily, where do you see value in the AI stack, and are there any risks that you're concerned about?

Lily Liu 20:48

Certainly. I think that the monetization layer, which is having these digital financial rails, is something that is overlooked at the moment. And part of the reason is because near term, there are these massive IPOs coming on the horizon, so of course, that is going to be a huge kind of suck of liquidity, and that is going to gain a lot of attention. But the question still remains, which is: If you're adding on to the human economy, this machine economy, where you're going to have counterparties that are machine to machine, how are they going to—they don't have credit cards. How are they going to transact with one another? And the only way they can transact with one another is digitally native financial rails and being able to do that with fractions of a cent to more in the dollars, hundreds, or whatever the scale transaction size it might be. And so I think that is something which is a bit underappreciated now, but I think that is going to be very much on the horizon in a couple of years once we get through this kind of liquidity cycle around the compute layer, and also the model layer. And we think how is this actually going to be adopted, used in everyday life, and actually get monetized. And so that brings me back to many of the things that we've been working on, as there are these very volatile cycles where clearly blockchain is a very volatile cycle in itself, and probably in a little bit of bear market right now. But when you think about the only available way that this economy can directly monetize itself, machine-to-machine economy, it's got to be on blockchain. And that's the part that I think we're pretty excited about. And some of the things that we've been contributing to X402, which is to actually take a longstanding 30+ year part of HTTP protocol. You've all seen 404 before when you try to go to a website that doesn't exist. But built into the internet originally was 402, where if you tried to access a website and you had to pay for it, that error code has already existed in being able to wrap that, which is literally everywhere on every website that you would ever use, and using that as wrapping as an endpoint for payments in order to actually make this machine economy be able to exist.

Yun-Hee Kim 23:10

We're going to go to audience questions in a minute, so you can submit your questions online and we can get to those quickly. I want to turn over to talk a little bit more about the future outlook. We mentioned the IPOs coming online. And I'm specifically following the OpenAI and Anthropic IPOs that are likely to hit the market later this year. There are reports out there that OpenAI's pre-market valuation could near $1

trillion, which seems really high. Do you think this kind of valuation is justified given concerns about revenue and profitability at some of these AI companies? Dennis, do you want to take that on?

Dennis Gada 23:53

Yeah, I think Tony and Scott are more qualified to talk about the valuations of these companies. But maybe there's a lot of focus on impact of AI and the growth and the valuations of these model companies and companies around that. But if you take a little bit of a different view, finally, these companies will be valuable if, again, coming back to enterprises and consumers use their technology stack. And there's a lot of discussion mainly around productivity, of how these companies, these models will improve productivity with AI. But there is a world beyond that. How will enterprises use AI to grow the business, to solve problems that have never been solved before, to improve customer service and become the best in class? And those companies, they could be a financial services company that will make the best use of AI to provide the best products and services, or a healthcare company that will provide solutions to diseases that have not been solved before. And I think those companies will also see the benefits of AI, not just on productivity, but on growth and how their value goes up. The model companies, I would leave it to the equity analysts to talk about that.

Yun-Hee Kim 25:12

Tony, any thoughts?

Tony Kim 25:14

Well, I'm a firm believer in what I call power laws. And the history of Silicon Valley and tech, and in fact, the markets itself exhibit power law. You notice that Scott was talking about the Mag Seven, the Mag 10, S&P concentration. It's gotten ever more concentrated. And now we have 10 companies at a trillion dollars or more. And three of those now are going to be added to that because those are the three trillion-dollar unicorns. So this is what I call power law in full force. And those that achieve that kind of scale will basically suck the market cap out of all others. And so my view is that value is accruing to those that exhibit these power law winners, and it is coming at the expense of those that cannot. And I think you are going to see more and more dispersion here and between, in every industry, not just these 10 and these three trillion-dollar unicorns. And so that's number one. And number two—and I'm looking at the tech pipeline right now—I'll say, I count at least 50. Forty of them are in Asia, China in particular. And in the US, it's these three trillion-dollar companies, potentially multi-trillion-dollar companies, and then a bunch of other stuff, but not that much. But what is also not discussed is there's a backlog of a thousand unicorns that were built in the pre-AI era that will never exit.

Scott Rubner 27:09

Just to jump in on Tony's point, our clients are demonstrating both a sword and shield behavior. A shield is you're playing defense with the highest free cash flow companies, the Mag 7, the passive indices, and S&P and Nasdaq. But sword, it's also finding value in correctly calling the right stock. So dispersion is increasing, and our clients are finding alpha in the little ones as well as the big ones. So it's a barbell approach among our client base.

Yun-Hee Kim 27:44

We have lots of questions coming in from the audience, so I'm going to ask one question. How will the government deploy sovereign AI with data sensitivity since AI is controlled by a handful of tech giants?

Tony Kim 28:01

I have my opinion on—well, the data sensitivity, to me, it's independent of boundary. It's just data. It's electronic. My interpretation of the question, maybe I'll put it this way: Let's separate the model, the foundation model, which is China and the US. So those two companies will endeavor to build the sovereign intelligence, and everybody else won't be able to do it. It's just those two. Then there is what I call the compute, the physical layer. And here, every sovereign country can participate in that because they will need to build these token factories, which is data centers, effectively. And so, while the data itself is going to be open domain, I don't think data and privacy have no boundary. It doesn't matter to AI and to cybercriminals. And then where the creation of the intelligent models are in these foundation labs, but you can call it the compute layer itself, where those data centers sit. That's a sovereign decision. It will be in Malaysia, it'll be in Philippines, it'll be in Spain, it'll be in the Middle East. You can then choose to build those factories or not. And so I would separate decisions of sovereign governments that can participate in this AI, and then those that are the two super giants that are participating in trying to control the creation of the foundation labs. And then, of course, then there's a security layer that sits agnostic to sovereign. Just because you have Chinese security or US security, it's security, and I don't think AI and criminals know no geographic bounds.

Yun-Hee Kim 30:03

We have another question. How will AI affect the personality and cognitive abilities of future generations, like social media affected the current ones?

Dennis Gada 30:14

Well, maybe I'll use a personal example, but in a different context. And I'm sure many of you do that, but I

use a full self-driving car, FSD car. And I've been using it for the last three years or so. Almost 95 percent of my driving is full FSD. It is very good, and I heard in one of the earlier sessions today that those are 95 percent safer in terms of accidents. But then over the weekend, when I have to actually drive a regular family car, a van, it's a little difficult, because you feel that it should turn on its own or it will brake on its own, and it doesn't. And maybe it's a different example, but something similar will happen. If you rely a lot on AI to do the day-to-day activities, just the muscle memory of doing it yourself will go away. And I do think, and at least at Infosys, we also make sure that there is always, in everything that is done, there is human in the loop, human in the lead, and the ability of people to still be able to do those tasks as and when required continues. And that's why as a company, we even continue to hire significantly at the entry level because we do believe that we need that talent feeder into the organization, and we need people with the understanding of the domain and technology to do more with AI. So it can potentially impact, but if you manage it in a more conscious way, then you can avoid some of those impacts. Like I try to drive without FSD once in a while so that I don't forget how to drive.

Yun-Hee Kim 31:55

So AI won't wipe out entry-level jobs. Well, we have just time for one last question, and you all have the very difficult job of predicting what's ahead in the future. If there is one buzzword that we'll all be talking about in the next year, what would it be? And let's start with Scott.

Scott Rubner 32:17

For me, it's this paradigm shift that we're seeing take place in the equity market, and the actors and rules-based strategies are one that is being developed and traded in the market pretty aggressively with 24/7 or same-day expiry options. So, for me, it's all about equity technicals.

Yun-Hee Kim 32:35

Lily?

Lily Liu 32:36

I think there's going to be more discussion around UBI—universal basic income. And I think the counterpoint to that we would like to introduce is a concept of UBO—universal basic ownership and universal basic opportunity. And so I always try to be on the optimistic side of things rather than the pessimistic. But I think that the pessimistic view that we are on a forever downward spiral into an economy of entitlement is not preordained. It will be if we choose to go that route. But alternatively, I think we're facing a social choice right now, whether we want to take this kind of K-shaped view that there's going to be castles on a hill, entry-level jobs are done, our kids have AI brain slop going forward,

and the only route to that is to tax and spend, and tax and spend. Or we can take a more optimistic view that we have to retool our economies, our education, and create opportunities that now you have direct availability of opportunity for people that have access to these tools and the ability to actually participate in the ability to create and also own a part of that future. So I think there's going to be quite a debate around UBI, which is longstanding. But I think that we should have that debate in terms of UBI versus UBO, and one is a pessimistic path, one is an optimistic path.

Dennis Gada 34:03

I think the focus on security will be a key thing for the future. There'll be lots more software, lots more data, lots more agents, but all of that will create more exposure to vulnerabilities. And as we saw recently with Anthropic's Mythos, it really created shockwaves around the world of how everybody can be exposed instantly. So I think a lot of effort will go into protecting the enterprises, making them more secure, and using AI to solve AI security problems.

Yun-Hee Kim 34:36

So security. Tony, final word.

Tony Kim 34:39

I think there will be a period of both—radical—there is, in my opinion—call it the near term, or a misunderstanding—or nonacknowledgement of an order of magnitude change that is potentially coming to our jobs and our economy. Which I think there could be an interim period of highly charged, potentially not turmoil, but uncertainty. But on the other hand, as we try to grapple with the changes that are coming that I think are unanticipated, and then let the economy rewire itself and the people rewire themselves for the new reality, could come—the art of the possible is not being truly dreamt of. A lot of people are working on longevity. People are working on space. People are working on curing many of the diseases. These are the art of the possible, which are the positive impacts of what all of this development can come to. That's post, maybe, end of this decade and beyond, but there could be a more transitory period.

Yun-Hee Kim 36:19

On that note, thank you so much for your insightful conversation.

All Speakers 36:22

Thank you.

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