

AI Could Turn Software Into “Dumb Data Pipes” | Dom Rizzo

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SUMMARY

The podcast features an in-depth discussion with Dominic Rizzo, portfolio manager of the Global Technology Fund at T. Rowe Price, focusing on the transformative impact of AI on the tech landscape, particularly in semiconductors and software. Rizzo emphasizes the shift towards AI-driven productivity and the importance of capital expenditure (capex) in sustaining growth, while also addressing the challenges faced by traditional software companies.

- AI is reshaping enterprise software, with tools like ChatGPT and Claude potentially becoming central to daily operations, overshadowing traditional applications.*
- The capex boom is expected to continue, driven by the demand for compute power, which Rizzo asserts is directly tied to revenue generation.*
- Rizzo's investment strategy focuses on "lynchpin technologies," which are essential for growth in fast-evolving markets, particularly in semiconductors.*
- The semiconductor sector is thriving, with Nvidia leading due to its innovative systems that integrate CPUs and GPUs effectively.*
- Rizzo is cautious about software stocks, noting that many companies have become complacent and may struggle to adapt to the new AI landscape.*
- Memory chip manufacturers are experiencing a significant boom due to increased demand from AI applications, although this growth may not be sustainable long-term.*
- Upcoming IPOs, particularly in AI, are crucial for the market, with potential implications for valuations and investor sentiment.*
- Rizzo stresses the importance of having a solid investment framework, working hard, and recognizing the role of luck in achieving success.*

I think the software companies frankly got fat and happy. They had this beautiful business model, highly recurring, low churn that allowed them to focus on raising prices and overselling seats, right? And all of a sudden, you have this new technology in AI that not only gives the user a wonderful experience, but could sit on top of the enterprise software stack. I think what will happen over time is chat GBT and claude specifically those two will end up sitting on top of basically the entire enterprise software stack and almost everything else will end up being a dumb data pipe into those two. So you wake up every day and you start your day with chatgbt or claude. You don't start your day in Microsoft Word or Outlook or or any of these other historically really important applications.

The market is debating is the capex boom sustainable and I think that's why this Google event of raising this is the third most profitable company in the world raising equity capital this is not you know some small cap this is

the third most profitable company in the world raising equity capital >> which tells you what >> that the capex boom's continuing >> yeah I think so but I do think we're at this unique period of time where the game theory is who's going to spend the capital and and why why is that the case? Because we've learned time and time again, compute equals revenue.

I'm going to say it again cuz it's so compute equals revenue. Compute equals revenue. Welcome to the Master Investor podcast with me, Wilfred Frost, where we celebrate and learn from the success of the greatest investors, business leaders, and politicians in the world, giving you, our listeners, the edge. The Master Investor podcast is sponsored by Else, Interactive Brokers, the World Gold Council, and BMY Investments. Please do remember the views expressed in this podcast are for general information purposes only. Nothing in the podcast constitutes a financial promotion, investment advice, or a personal recommendation. More on that in the show notes. My guest today is Dominic Rizzo. He's the portfolio manager of the \$ 8.7 billion Global Technology Fund at Tro Price. The ticker is PRGTX.

The performance since he took over leadership of the fund on the 1st of December 2022 has been outstanding. Up 43.6 6% peranom. That's outperforming the benchmark by 5% perom. Uh he also manages their \$300 million TTQ ETF which has strong performance as well since its more recent inception in October 2024. Dom, welcome to the Master Investor podcast. Great to see you.

>> Yeah, great to see you, Will. Thanks for having me. >> Um that performance, I just want to dwell on it as we we kick things off. Um the numbers obviously speak for themselves. Very impressive outperformance. 5% peranom is is you know stuff that people uh dream of delivering but also that the absolute performance has been fantastic which I guess speaks a little bit as well to to good timing uh and the great tech bull run we've had of recent years.

>> Yeah. So so part of it is clearly timing right. So if you think about my start date is December 1st 2022. It's lucky timing. It's the day after chatbt launched. Right. And >> I actually hadn't really realized that when I put the question together. >> Yeah. November 30th, 2022, the day of the CHBT launch. And here I am lucky enough to have covered semiconductors for basically my entire career at Tro, right? 2015 I was given small cap semis because no one wanted to cover them. And then 2018 moved over to Europe, took over our European technology role. And then in 2022 took over the global technology strategy. And that when combined with our framework, which I'm sure we're going to get into, um, led us to be early, right, and insized to the AI and semi-trade. Um, you know, I I love economic history. It's one of my favorite subjects. And it became pretty clear that AI could be this incredible productivity cycle. And productivity cycles come with speculative bubbles inherently, right? Electricity, internet, trains, right? Railroads. um our job is to navigate that responsibly for our clients. So, so fortunately we've been early right and insized now and now the game's still going and we're going to keep trying to navigate that responsibly for our clients. and and just dwelling on the performance a little bit more because I kind of paused I thought 44% peranom and and only 5% ahead because your benchmark is not the QQQ it's it's the MSCI all country world IT which we were just discussing has been quite far ahead of the the US NASDAQ during that period of time.

>> Yeah, I think NASDAQ over that time is up 31% a year or something along those lines. So you're way ahead of that. >> Uh well, so you know I I I think a couple things when when I take a step back I I think we were really early to this concept of parallelism being very important for training in AI and that led to you know um you know a sizable investment in NVIDIA which which in hindsight obviously um was right. I think we've navigated the different trends in AI quite well, whether it's the rise of memory, optics, agentic, CPUs. Um, you know, I we were you were fairly early to the rise of open AI and anthropic as well. You know, you know, when I did the anthropic round last summer and the global technology strategy, they were just doing 5 billion of of uh run rate revenue. Mhm.

>> They've now announced they're doing 47 billion dollars of run rate revenue just nine months later. >> Um, so this has been such an exciting time and I'm just so grateful to be at a platform like Tro where I'm given the resources to to try to consistently outperform to have a great team and then and then I think a lot of it's the framework and that's that's the thing that can help us navigate hopefully the up markets and and the potential down markets along the way.

>> So I want to get into the framework. I want to get in as well later to Anthropic and SpaceX that the sort of big IPOs that are coming because as you mentioned there you do have a private market investment in in one of those in Anthropic but but first let's just do big picture and coming off the back of that performance. Um you know where are we in the AI cycle? I mean clearly you you got ahead of the curve. Are we still early on that curve middle late in your view?

>> Yeah. Well let's let's you know I said I love economic history. I I did a year at the London School of Economics. It's let's kind of put it in economic history terms. I I think AI has the potential to be the biggest productivity enhancer for the global economy since electricity. Okay? And electricity roughly added 1% a year to global GDP growth every year for 32 years. I think AI is already smashing that, right? where you know I think there's a world where we see mid to high single digit growth out of the United States consistently because of AI nominal not real but you know and and why is that there's three factors that drive economic growth you know solo economic growth model there's there's capital there's labor and there's productivity right and so AI is this massive productivity surge productivity surges come with capex cycles right people chase the productivity surge and they get so excited and inevitably they overspend. And the question people always ask me, have they have we overspent yet? Right? Um I don't think we've overspent yet. Uh to use an American analogy, you know, baseball, there's nine innings in a baseball game. I I think in the capex cycle, we may be in inning four or inning five. So, we're not at the beginning of the game. We're not at the end of the game either. Um it's not not quite the beginning of the end, right?

Um but there's a whole another game which will be what happens when the capex cycle corrects and how do we navigate that. Um so so I think this capex cycle can keep keep going and and I actually think we got a pretty strong sign of that this week with Google raising you know \$85 billion or equity or whatever the end number ended up being. So, so I guess you know clearly the AI theme for the public took off you know the day before you took over the fund. You know that GPT >> was what kind of pushed it into the public uh mindset. You said you've been really good at navigating the kind of more recent step ups and as I look at I think you know the the

two big moments in the last sort of few quarters have come from AI companies shifting to serving enterprise much more than those large language models that that in in late 2022 you know consumers became aware of and using. And secondly, shifting to charging for usage.

>> Um, you know, the amount of tokens being used pay pay a lot more rather than just all of us paying 20 pounds a month just to be able to ask whatever question we want on a whim. Is that a fair summary of the the most important themes of of the last few months, the last year? And what what are you looking ahead to to be the next short-term AI theme? >> So, the last few months, you know, um Dan Niles actually talked about this on your pod. I thought he did a wonderful job explaining agentic computing.

>> Mh. >> And what what's the difference between just traditional Gen AI and agentic computing? Gen AI with a chatbot, you know, you just ask questions to chat GPT or Gemini or claude and it it gives you answers back. And that's useful. Um, you know, 20 pounds a month. Um, useful. I think that's roughly how much I think over time there's a huge advertising opportunity there and we should talk about that and why OpenAI specifically is very well positioned for that. 900 million monthly active users. How well they know you? I I think they are going to have a home run advertising uh capability over time. Uh but with Agentic, the big difference is the model can now go do tasks on your behalf.

So it's not just about raw intelligence, but task completion. And the first use case of task completion was writing code, generating code, right? And I remember meeting Daario three years ago in this little San Francisco office. Now they have these big beautiful, you know, but but but and there was a very strong focus on the company on two things. One, chasing the scaling loss and two um understanding code generation because code generation is what unlocks the ability for the model to go do tasks for you agentially and that results in different types of compute that's needed. So in a training world you know the GPU to CPU ratio is 8:1 GPUs for every one CPU.

>> As we go to an agentic world that ratio becomes parody one one if not 2 to1 the other direction two CPUs for every one GPU and you know that's why you know for the you know uh since the beginning of the year our largest bets have been AMD and Intel or there's two of our largest bets. Um so I I think there's different elements that become more important and then what you see in the market is the market chases the bottlenecks >> right where's the next tightness um you want to be careful just chasing the bottlenecks what you really want to do is understand who's going to be able to acrewue economic value over the next 18 to 36 months and that that's where I really focus on trying to find these lynchpin technologies the ones that are mission critical to the success of their customers. So let's touch on that then uh your investment process and and specifically when you are trying to pick a theme or much more importantly the final stock what are the key things you look out for? Yeah. So, there's four things we look for and I I developed this as an analyst. I'm really lucky. I got to cover, you know, hardware, software, payments, US, Europe, Asia, small cap, midcap, large cap, mega cap.

So, you need a framework that could do that, right? And and uh I I ended up developing this by uh by frankly stealing great parts of other people's framework at Tro. And so, so TS Elliott is this great line, good authors borrow, great authors steal. >> I think that's the same way with developing your investment framework. go look around, see smart people around you. Um, and try to, you know, take the good parts that resonate with you.

Um, so so there's four four parts to my framework. Uh, there's lynchpin technologies, looking for companies, that's a mission critical technologies, innovating in secular growth markets, taking share in fast growing and markets. You know, one reason we were so early, right, and in size to AI and semis is we saw AI chips going from \$45 billion in 2023 to a trillion dollars in 2030 because of the chip intensity of of AI, right? Um, third, probably most important for buying and selling is improving fundamentals.

So that's revenue that's accelerating, growing faster than you did over the ne over the next 12 months, than you did the last 12 months. operating margins that are expanding or free cash flow conversion that's improving. And finally, you want to make sure you pay a reasonable valuation. The way the way you get parent in tech, I think, is you pay way too high of a valuation and you can't compound from there. So 2021 software stocks is a great example >> or you buy a broken company and it's way too it's cheap and it's cheap for a reason. So I just want to pay a reasonable valuation.

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So why don't we dwell on software stocks then before getting into semis and and you've been bearish software stocks for for a few years. >> There's pockets that you can play but broadly speaking we've owned far more semis than software. Yeah. >> And and just expand why did you correctly see that? >> Yeah. So so a couple different elements. So, so number one, AI is is a a horizontal technology. And what does what does that mean? That means it's going to apply to every element of every use case. And the area it's going to attack first is zero incremental cost products like software, right? And and I think what's happening in the enterprise is because you've had this magical chat GBT experience, your tolerance for crappy software has gone down, right? How many times have you had this experience with your enterprise software? It's just terrible, right? Um, and I think the software companies frankly got fat and happy. They had this beautiful business model, highly recurring, low churn that allowed them to focus on raising prices and overselling seats, right? And all of a sudden you have this new technology in AI that not only gives the user a wonderful experience but could sit on top of the enterprise software stack. So truly aggregate enterprise software which we haven't had in the enterprise.

We've had it in consumer right? We've had aggregators in consumer uh Google and Meta being the two most famous. But but I I I think what will happen over time is chat GBT and claude specifically those two will end up sitting on top of basically the entire enterprise software stack and almost everything else will end up being a dumb data pipe into those two. So you wake up every day and you start your day with chat GBT or claude.

You don't start your day in Microsoft Word or Outlook or or any of these other historically really important applications. That's really interesting because I I was going to ask, you know, with the the growth area, I guess

the important revenue area being enterprise sales as opposed to individual sales, the ability for companies or the likelihood for companies to switch across in any kind of speedy way. I think of this at Sky, you know, is a and Comcast, the parent company, you know, where I work the day job. It's a Microsoft company. It's a everything's a nightmare logging in on you know it's not going to move anytime soon and then you think of which company we're talking about Microsoft they're pretty innovative you know they've got a bit of runway they're plugged into lots of these AI companies I guess the the push back would be can they not adapt yeah so let's go through Microsoft specifically so so m Microsoft basically you know you can think about it in in two businesses you have you have the cloud business and you have the application software business there there's a lot more underneath it but just just for for ease of use the cloud business. They're very well positioned, right? Microsoft Azure grew 40% year-over-year last quarter. Um they are making this trade-off because they took their foot off the accelerator on the capex budget between their products business, their first party applications business and their cloud business. So where do the GPUs go?

really hard question because they have to defend their core which is what which is co-pilot word excel um teams and they have a lot of really nice applications that if they could get that knowledge graph working together um I think they can provide a good enough solution for most people okay >> and they'll probably deliver that through co-pilot or they have a product called co-work now where they're just white labeling anthropic but but they it will be good enough for most people the issue I think is AI is not a normal technology. What is AI? AI is intelligence, right? And I think in most organizations around the world, you know, 20% of the people probably do 80% of the work already, right? And so what I tell my team all the time, be in that 20%, make sure you know and a and and I think that the returns to intelligence are almost unlimited. I don't think they're unlimited, but they're they're very very high. And so if you give your best people the best tools and you're willing to spend tens of thousands of dollars on them already for travel, you know, our case research, you know, um tools, why would you not be willing to spend tens of thousand dollars on leading edge intelligence? You know, our job is intelligence, right? Effectively. And so I I think that Microsoft has a potential to be a good enough solution for, you know, most people. And that's that's okay. um and their positioning is okay.

But take something like a Salesforce. Salesforce is very different. Or a workday. Um you know, if any salesperson who's been on this call hates interacting with with Salesforce, they absolutely hate it. It's a terrible user experience. And all Salesforce really is at the end is a database of your customer relationship management, right? It's when did you talk to your customer in this last? What did you talk about? Why did you talk about what you did? um that can be delivered through chat EBT and a really nice easy sleek user experience. Every time I meet a client, it can say hey this is the last time you met them. This is what you talked about.

You talked about your semis versus software thesis. So there's this fundamental change that's happening combined with there's a business model change that's happening. You're going from this, you know, uh we we have a PM internally, Dave Eisert, who likes to say if you if you grew up covering semis, you grew up in Sparta. And if you grew up covering software, you grew up in Athens. >> Yeah. >> Right. It's you you live this delicate life nice and nice and easy in software and internet land because you know software is recurring revenue. Recurring revenue is easy, right? You especially if your net retention's high. Um semis you have to fight it out every day.

Well, guess what? Now, it's not just recurring revenue. You have to go fight every day to make sure you're in the token path. >> Make sure that your usage aligns with your revenue. And there's only a few software companies that are already usage base. So, there's a business model change, there's a technology change. And then there's a crowding out effect. So, this is the last bit on software. You know, \$45 billion of recurring um run rate revenue.

That money's coming from somewhere. There's only there's only so much in the IT budget and you know the question going forward is is Salesforce a 7% growth company that's going to three or is it a 7% growth company that's going to 10 right benny off is trying to do everything he can to get it back to 10 you know if you made me wager I'd say it's probably going the growth rate decelerates from here not accelerates >> I mean I always think when things turn 7 to three you know can go the other way altogether but but but I'm not talking about Salesforce specifically by By the way, as a counterpoint to this software thesis in general and on, as it happens, Microsoft and Salesforce, I refer people back to our episode of with Mason Morett, the CEO of Value at Capital um from January or so this year, which uh he's a bull on both of those and made a very good case.

>> Great episode. Great episode. >> Well, thank you. Hi guys, it's Wolf. I hope you're enjoying this episode. Just a quick reminder to please hit follow or subscribe on your podcast or video app so that you never miss an episode. And if you've got time, please do give us a five-star rating and leave us a comment. It really helps other people find the podcast, too. Now, back to the episode. Let's talk about semis because, as you said, you were specifically a semis uh analyst. you grew up in Sparta as you just uh as you just said and obviously have been right and ahead on understanding a lot of the pie would go in that direction. Um, is is Nvidia still the name the number one? It's it's am I right? It's 18% of the fund.

>> Uh, so strategies vary kind of, you know, depending on on around the world, but it but but it's consistently the the largest position. >> And you mentioned there and we discussed this with Dan Niles a few weeks ago, the shift from GPUs being in in the most prominent kind of demand to to CPUs. He kind of framed that, I think, as saying it's not bad for Nvidia, but it doesn't make them, you know, the num the number one in the same way. How do you frame that?

>> So, like you said, first off, I'm so lucky to have covered this space for, you know, the past 10 years. I one of my first meetings with Lisa Sue, AMD was a \$2 billion market cap. >> What is it now? >> You know, almost a trillion. Um, I remember having dinner with Libu when he was CEO of Cadence uh in Barcelona and he was explaining the importance of this technology called Serdes which is probably the most important connectivity technology in the in the world that I you know you know a decade ago. So I'm so grateful to all these >> Lipu now Intel >> Lipu who's now the CEO of Intel who's a a wonderful man uh a mentor but but I think incredible business executive. Um so is Nvidia still the king? Uh yes is is the answer pretty unequivocally. Uh look they have this new system Vera Rubin. Vera being their CPU. Uh and their Vera CPU is built on top of ARM.

You know I think this ARM acquisition had it gone through a few years ago probably would have been the best acquisition of all time in semis. The second the the the current best I would say is probably when Jensen bought Melanox the networking company. Um but they look they have a very strong positioning in CPU with their with their various system. They're going to do very well there. Uh but a lot of traditional software runs on top of

x86 today.

That's the architecture that is used for the CPUs for AMD and Intel. And so I'll give you a personal example. So my agent tool of choice is codecs at work. Um Chad GBD's codecs, open AI's codeex. And the way it works internally is I have all these different agents. I have a lynchpin agent. I have an innovating and secular growth market agent. I have an improving fundamental agent. I have a reasonable valuation agent. I have um you know a an acceleration chart agent.

I have all these different agents internally that sit in codeex. I have two great guys on my data team, Albert and John, constantly building me new tools to throw into my agent and accelerate me. Um, and every time they build me a new tool to go use in in codeex, they throw data in Snowflake, right? Going back to some software that's in the data path, in the token path, they throw it in in Snowflake. Codeex taps in to Snowflake and then the CPU usage starts running. it starts spinning and that CPU usage is usually x86, AMD or Intel. And so that's that's why you see such strong demand for CPUs. I honestly I think the market's going to be so big that they can all do well do well. The the CPU market in the data center has been \$25 billion for a while, you know, and and I think we're going to a world where it's \$125 billion, right? So, um I I I think they can all do well. So that's really interesting. So explain that to me as a layman that so AMD and Intel really well placed in in the CPU space. CPUs are more in demand this year than they were last year and those stocks have taken off. Nvidia because they're so brilliant have pivoted from making the best GPUs to now making also one of the best CPUs. Is that what you're basically saying?

>> Yeah. But what I would say about Nvidia, the way to think about Nvidia is not as a chip company but a systems company. Mhm. Okay. So, it's not just GPUs, it's not just CPUs, it's not just networking, it's how they all work together, right? Jensen in many ways is the most brilliant computer architect in the world. Right? Why was that Melanox acquisition so brilliant is because he figured out the chips need to talk to each other. Okay, who's the best at talking to each other? This this small Israeli company, Melanox. Let's let's go buy them. Mhm.

>> So what Jensen can do with his racks is really create a system and and you know he just bought this this Gro chip as well to have something called LPUs and and and and put it all together and make it work flawlessly. And if you're in this race, right, you're in this race. Who's in the race? Open AI is in the race. Anthropic's in the race. Meta's in the race. Um I don't know if Microsoft's in the race. Google's in the race for leading edge intelligence. Um, XAI is in the race. You want the system to just work.

>> Yeah. >> Right. You want it to work really brilliantly and really quickly and and and incredibly powerfully. Um, and what we've learned from Jensen and team is that they always try to optimize for the leading edge, the the best best performance, right? Uh, token per cost per watt is what they try to optimize for. Um, you know, Google, I would argue, and we, you know, uh, haven't talked about Broadcom too much, but but but Google probably optimized a bit too much for cost relative to performance on their TPU8 and and and potentially their TPU9 as well. So, to all all that to answer your question, yes, basically Jensen's really brilliant and he knows how to bring the the the symphony together of all the different pieces. Um, just dwell on ARM for me for a second because it's funny. I we had Renie Hass on in January. Really loved that episode and I reposted it uh recently

because they just crossed to become the biggest British company \$375 billion mark cap and then by the time two days passed and it's actually like 420 jumped again. Um, so so you know again comfortably the biggest company in the UK and so many people don't know about it. Obviously, it's listed in the US. How brilliant are they in this?

They're a company you own or it has run up aggressively. >> You you could go look. It's public. I've owned I've owned ARM for um a while. Um look, ARM has had an incredible run. So, all of this like let's let's just be very clear about how we're thinking about things. The semiconductor index is up 90% year to date and software is flat. I'm not saying that you can't see a software bounce. And in fact, you're you're probably likely to see some sort of software bounce and trying to make sure that we have enough portfolio construction to make sure that we're well positioned for some sort of bounce.

That's okay. And stocks go up and stocks go down and stocks go up too much. And you got to think about portfolio construction and risk management and be able to trim when stocks go up. All all of that's true. Um but but why is ARM so well positioned? For a few reasons. One, because they were the architecture for smartphones. They really figured out low power low power CPU processing and guess what's one of the most important things to do in the data center? Low power CPU processing. The the second thing is their architecture is very well positioned for this agentic >> being able to do tasks on the behalf of the large using the large language model to do tasks on your behalf and and so I think ARM will have its place in the data center. Um and it'll be a hybrid model. Sometimes, you know, they'll give the IP to they won't give Nvidia will pay for the IP. Uh, and sometimes they'll help someone like Meta design the CPU. Um, which is one of the what the great moves that Renee has made is is changing the business model from just a pure IP royalty to hey, let us help you design this chip. We really understand how this architecture works.

>> Really, he was fantastic when he when he joined us on talking about all of all of those things and refer people back to that episode. Um, as well, this episode is brought to you by Else, the leading global financial markets, infrastructure, data, and analytics provider. To learn more about how Else connects businesses, investors, and markets worldwide, visit elsec.com.

This episode of the Master Investor podcast with Wilfred Frost is sponsored by BMY Investments, a trusted partner for many delivering financial solutions to investors and institutions worldwide. This sponsorship does not constitute financial advice. You mentioned there to to sort of round out some semi stuff the amazing performance here today. Talk to me about memory. Where do you stand in in that and the frankly absurd performance we've seen of late?

>> Yeah. So, so memory I love when people say memory is a commodity. Okay. Uh memory is a commodity in the sense it doesn't matter if you get a Samsung chip, a Highix chip, or a Micron chip. Okay. They're all the same. That's not true for GPUs or CPUs or A6. That that's not a true statement. So you can literally go pull out a Samsung chip, plug in a micron chip and and the system will work perfectly. Okay, this this commodity is the hardest commodity in the world to make. I mean tens of billions of dollars of capex. Only three companies in the world could do it. You know, Samsung used to have this thing called the golden price where they they they

knew the exact price of memory where all their competitors would go out of business. I mean, this is a ruthlessly competitive, difficult business. and and and now you're down to effectively three three people who can make it >> being Samsung Micro.

>> That's right. And and that's on the DRAM side. Uh I don't want to get too technical. There's the NAND side as well. There's more players who could do that and the Chinese are coming quickly and we could we could talk about that. >> Um what what's happened is in an agentic system again this agent being the the big takeoff memory consumption is like 5 to 10x. And so you're writing all this code and guess what? You're you're you're hitting the DRAM a zillion times. And what happened is these companies because 22 was such a weird downturn, they they really slowed down the capex investment.

And and memory is one of those businesses where there's a price of a bit just like there's a price of an oil, you know, there's a price of oil, there's a price of a bit. Mhm. >> And if there's a lot of demand for the bit, prices are going up. >> Mhm. >> And uh so so what you've seen is a market that was way oversupplied go to a market that's way undersupplied with an increasing cost curve and a consolidated industry. And that's why you've seen such incredible performance out of the stocks. But I think it's really because going back to the framework, Lynchpin Technologies, there's only three companies that can do this. That's very essential. Innovating in secular growth markets. Memory continues to proliferate all around the world with improving fundamentals. What happened the past 12 months? You went from 0% growth to 500% growth.

>> Right? And then reasonable valuations. These stocks still trade at four times earnings. Now the tough part today as we sit here, >> they're four times P. >> Uh he and Samsung are four or five. Micron's eight or nine. >> Um because because the market's so smart, right? the the market's this amazing thing. The market's daring you to buy them. That's what's happening. And why why is it daring you to buy it? Because fundamentals are about to decelerate, >> right? I >> was going to say it's not going to be 400% growth forever.

>> It's not it can't. And so going back to the fund so the tension right now on the team and with my framework is three of the four look really good and we have decelerating fundamentals. So, uh, you know, Dave, if you're listening, I'm quoting you again. I'm memory curious. I'm I'm I'm I'm interested. I have some I I I have some positioning in it, but we did just go through this major acceleration and we have to be humble about the fact that pricing probably normalizes and revenue growth has to decelerate mathematically from here.

>> So, just add on to that. I mean, I didn't realize the P's were quite that low, particularly of the Korean names, but add to me how you factor in thinking about this explosion that we've seen in ETFs in Korea, >> 3x levered various, you know, ETCs and ETNs where clearly there is just a technical market dynamic of forced buying that has played into this. >> I think there's a lot of technical market drivers all over the place. I mean, just, you know, the VU is now a trillion dollar ETF.

>> Yeah. Right. Um, what's going to happen with these IPOs, how quickly they get placed into the passive will drive not just demand, but how people think about risk, right? Because your risk is relative to a benchmark. Um, and then you have these levered ETFs. You have higher participation from retail, which I think is net net a good

thing in the world, right? Lower cost, higher participation in capital markets is great. I you know if if if >> one thing you can do to address wealth inequality is make sure everyone's an owner right you want everyone to be an owner >> um all that being said of course there's these technical dynamics but but what what I've found and where where can we be you know the goal is always to be the best in the world right that is the goal you have to have that goal um focus on improving fundamentals f focus on the technology excellence focus on the management teams don't focus on the technical dynamics of the market.

>> But but I guess you don't think that has contributed to the share price performance. I mean you know one of your four factors is obviously the price you're paying. >> Yeah. >> But I guess I mean that comes back to the fact that P is at four. That's mad. >> Well I think well why is the PE at four and why does Nvidia trade at you know 17 times 15 times 14 time it doesn't really matter. The market is debating is the capex boom sustainable and then what percentage of that capex boom goes to memory what percentage goes to GPUs what percentage goes to CPUs what percentage goes to optics and networking and the area that it has more confidence that you're going to take share in the capex boom trade at higher m multiples right now that's optical and networking but at different points it's been GPUs or CPUs or memory um and then you have to you you have to balance that with what's the game theory at the hyperscaler level and I think that's why this Google event of raising this is the third most profitable company in the world raising equity capital this is not this is not you know some small cap this is the third most profitable company in the world raising equity capital >> which tells you what that >> the capex boom's continuing >> yeah I think so >> does it also tell you for a company that's bought back tons of shares that I mean, look, you could argue they've been a good hedge fund. They bought they bought back shares cheap and they're raising capital at an expensive price, but that's also not why we buy shares in them, right? I mean, because I guess the other point look to to pair that with is their trend has been to buy back shares, not to issue shares. and their trend has been to fund either out of cash flow or out of debt. Does the fact that they have to turn to the equity markets warn something else which is the debt markets are drying up or their cash flows already stretched. I spent a lot of time with our fixed income team talking to this. You know, this is the benefit of a Tro, right? I have, you know, Mark Stodd and our fixed income analyst is wonderful. I do not think we're at a point yet where the debt markets have have dried up. Um I I think what it says is the size, scale, and scope of the spend is bigger than people think. And I don't know how much of it was wanting to get in front of pending IPOs. I don't know how much of it was, hey, we're trading at a reasonable valuation now. 27 to 30 times, like you said, they bought back stock lower. Um, but but I do think we're at this unique period at a time where the game theory is who's going to spend the capital? And and why why is that the case? Because we've learned time and time again, compute equals revenue.

I'm going to say it again because it's so important. Compute equals revenue. Compute equals revenue. And it's a was great pod, so I'll reference it again. The the one place I really disagreed with with Dan was that OpenAI was writing checks that I couldn't cash. I think Sarah, Sam, and the entire OpenAI team were very, very thoughtful in locking up compute capacity early. And guess what? Go listen to what CC Way said last night. 26, 27, you know, potentially out to 28. It's very hard to get capacity right now. And compute equals revenue. And if that is the case, I I think it it leads to a more sustained capex boom.

One final question on the Google Capital race. Step back with a perfect benefit of hindsight type world as the fund manager investing in tech companies for what tech companies do. Would it have been more ideal if all of

these companies before even issuing the equity, which obviously is a decent trade as we said based on the prices, but they've all had to issue tons of debt? >> Should they all have not bought back stock for years?

>> I don't know. I think I think the world changes. You have to play the game on the field. And the game on the field three years ago was not capital intense business models, right? Why did the Mag 7 outperform the rest of the market? So, and why did passive gain so much share, right? Why did passive gain share was because Mag 7 outperformed the rest of the market. I think um I think what happened before November 30th, 2022 was that these companies had effectively perfect business models, local dominance, and and we're we're the perfect aggregators, right? They they controlled demand, they commodified supply, and they were free cash flow machines.

Everything changed with AI. >> And why is that? And it's because the scaling laws going back to that original Daario meeting. Um, effectively, you know, people can quibble about the exact relationship, but but if you get if you spend 10x the money, you get 2x the intelligence >> and that that's held. And as long as that holds and you believe that there's a very high demand for leading edge intelligence, it leads you to spend more money and it leads you to compete with your competitors because if you're spending the money, you got to get an ROIC on that. And guess what? Now you have to go into search more if you're Microsoft or um you know defend your turf from from chatbt and and and and Claude. Um few other little areas before we get into the upcoming IPOs that are just coming to mind.

Is everything that we've been discussing based on that thesis that you said that compute equals revenue? I mean I guess I was trying to test therefore that I'm trying to think to throw you the question but I can't. But have you thought about how that could be wrong? Like >> yeah it's it's the it's the that is the central thesis right now today on I keep looking at my watch to find out the date. I don't know what today's date is, but >> June the I don't know, guys. Shout out the date. 10th or something. 4th.

>> June the 4th. June the 4th. 12:30. Uh, British summer time. >> I get mocked at Sky because I think in quarters. I know we're late Q2, but I >> My life is a bunch of quarters back to back in a good way. >> Um, so, so compute equals revenue, right? So, so what what's a great uh counter case? How how would I steel man the argument against compute equals revenue? It's that Dom, you are overestimating the return to leading edge intelligence.

And these N minus one models, the models that are almost as good are dramatically cheaper. And if you have intelligence that's almost as good and 90% cheaper, why wouldn't you use that instead of the leading edge intelligence? And so these are the rise of these open source models in China, which I actually think there's some really interesting ones. Um, every software vendor in the world will tell you this. I've never met a CEO of a software company who doesn't tell you, "Yeah, we we do all of our hard work at the leading edge and then we go to N minus one the second weekend." And they so desperately want this to be true because they don't want to live in a capital intense world. They don't want to move to Sparta, right? They want to live in Athens where there's diminishing, you know, cost. They have high they have very very high marginal profitability. Um, and that's not the type of technology AI is, right? As long as the scaling laws hold and you can keep doubling your

intelligence for every 10x compute, again roughly speaking, um, I think this is the dynamic. And then people say, well, isn't in intelligence enough at some point, right? And and I think if you just think about IQ, that that that may be the case, right? What's the difference between a 160 and a 170 IQ? I I don't I don't know. You don't know. No one knows. If you think about intelligence as task completion, that's that's very different.

>> And and even today, as much as I love my codeex, there's a bunch of tasks it still gets wrong. Um and in six months, it'll be better. And a year from now, it'll be better. >> Yeah. I I guess it still does rest on there there being an ongoing acceleration in terms of the intelligence development and that we might reach the top of that at one point. Another little offset question. I mean, you might be right at the theme as a whole, but clearly there'll be some losers from this.

>> And maybe it won't be winner takes all, but maybe there'll only be one or two winners. And and there's a lot of market cap >> that sits across, you know, whatever it is, 38% of the S&P 500 now >> represented by this sector as a whole. >> Yeah. >> What's the risk that half of that is not profitable like it is today in a few years time? I >> you've got to get the stock selection right as well.

>> You have to get individual stock selection right and that comes down to the framework understand. So lynchpin let's start with the first part of the framework. >> So I so I I get that and I guess my question on that is if half of those stocks have a big correction that is hugely relevant for our listeners. My is my point. I mean I think you're going to see >> the the S&P 500 falls hard in that scenario.

>> Yeah. I look I think that this is the beauty of active management, right? And what is my job? My job is to pick relative winners and relative losers by following the framework. So, so, so another way you're asking the question on my framework is whose lynchpin status is getting stronger and whose is getting weaker? Is AI, you know, positive to your business or is it negative? Great question for Apple right now. Right now, we haven't seen any negative effects to Apple's business at all um because of AI. If anything, they've probably had a modest acceleration. People are probably upgrading their hardware a little bit faster because, you know, their DRM's a little light in their old ones. They don't even know it's light, but but you know, >> um >> going forward, if Apple can't make the shift to agentic operating systems, it's going to be a major problem for them.

And I think we're going to start seeing the first Aentic operating systems come out in 27. Now they're partnering with Google. Let's see what happens there. But but you know, Apple's service line is primarily driven by one one big payment from Google. It's \$25 billion a year or whatever the number is. >> Does that balance a power change as Google provides more AI? These are all the questions we're we're asking ourselves internally right now. Yes, active management really matters right now whose lynchpin status is getting stronger or weaker. And then you better have the revenue to justify the spend. And so one reason I think we've seen such incredible stock performance year to date is because before cloud code people didn't see the revenue, >> right? People didn't see agentic taking off. But claude code and open AI codecs have opened everyone's eyes to oh wow there's a huge enterprise opportunity here.

>> That's really interesting. I mean that clearly clearly that has been one of the big shifts as we we referenced at

the start. Um we're we're getting squeezed on time so we're going to have to drop a couple topics but definitely want to hit these IPOs. Now obviously as you said in the private market you have uh some positions in open AI and in anthropics. So I really want to come at this question via SpaceX >> and a hard one.

>> Yeah. But but we've touched on on you know one of these issues on the technical uh market dynamics and you know as we've discussed on some recent past episodes the indexes rules are changing which is uh you know perhaps an amber flag to some people >> will be forced to buy them quite quickly >> the SpaceX has not had that revenue uplift that anthropic has had. >> I mean we've got the pricing now >> 1.8 8 trillion market cap, 20 billion revenue. Is that mad?

>> Obviously, I'm not going to kind of say what our plan is for a a live deal, right? But but let me go through kind of how I think about the different businesses and the different puts and takes. Um and then how I kind of compare and contrast their positioning in the AI world versus OpenAI, Anthropic, and Gemini. Um so number one, I think launch is an incredible business, right? They're I mean they're the only ones in the world to that can launch launch rockets and land them. My my three-year-old has never lived in a world where we can't catch rockets.

Isn't that ain't that an amazing thing? >> It's a good way of saying it. >> And and he every Saturday we get up and we watch rocket videos. Um so and then there's connectivity, right? Starlink I think uh really interesting questions. What does that mean for you know communications all around the world? um >> Comcast stocks not it's not been great. >> Well, I so I I think it if you had a lot of fixed assets into uh areas that can now be addressed by satellite communication which is really strong. I I think it does kind of beg questions. I don't I don't know the answer >> but it's something we think about.

>> Okay. Then on the XAI side, they have unique data in the form of X. I do think, you know, there's this trope going around the internet now. Elon is the best at at turning um atoms to electrons. I mean, he's really good at building stuff. He's great at building data centers. I think I think that's true. Um and I think it's very interesting this cursor call option they've done, right? Because they need a harness. So, so the model is very important, the intelligence of the model, but the harness that surrounds it is also really important. And actually that's the takeoff in Claude code was he figured out how to harness the model really well. Um and so I think the question is can they create a a strong digital enterprise solution between a leading edge model and a harness and and I don't know the answer but but if they do I know it's a big number but I don't I don't know the answer there. So those are the puts and takes on on on SpaceX.

Compare that and contrast that with open AI and anthropic. So like you said, Anthropic very focused on um enterprise has done a really strong job there. Open AI focused on both 900 million monthly active users, whatever the number is and a very strong enterprise business as well. Um, combined those companies, you know, based on the public reporting look to be on a path to to to something like \$200 billion of run rate revenue by the end of the year. So, so who knows? A lot could change. That's the public numbers.

And combined, they're like \$2 trillion of value, right? Based on the the public numbers. um that doesn't sound

insane to me, you know, by any means. So, I I I think you have to to to think about all these differently and you have to see where the prices come and then you got to play the game on the field. Um the the the the question around SpaceX is can they take a leading edge model positioning which they have a very strong leading edge model in the in in and put a harness around it and and generate strong enterprise revenue. I mean the interesting thing there though is open AI uh and anthropic based on your numbers just there is still 10 times revenue which is a lot fine if you're growing like a weed but it's it's it's not 10 times earnings it's 10 times revenue but to my point SpaceX roughly two trillion >> just below that same valuation but for 20 billion of revenue.

>> Let's see is kind of kind of my answer. Um, I think I think you're raising a really good point and I think the question is is there latent revenue growth in XAI and Kerker and frankly I haven't decided yet so we'll we'll see. >> Yeah. Do you think these IPOs as a whole are the I guess I mean by their size they are but are just unbelievably important for the market as a whole. >> Yeah. I you know I've Yes. U unequivocally. you know, Ray Ray Dalio has been talking a lot recently about what what makes bubbles pop and it's when you need to turn wealth into, you know, equity wealth or assets in into income, right? Um, and effectively the S&P 500 has been buying back stock for a long time as a whole. And now we're in a world where supply is coming on in the form of new securities, in the form of >> um, uh, you know, companies like Google doing equity raises, right?

>> Uh, so I do think they're very important. I think the question for me is how much does this passive dynamic change the typical pop and then plead down that you see? Um, combined with the magnitude of these IPOs being so large, right? I mean, they're they're they're insanely large. What's so interesting though is as as large as these IPOs have been, the capacity for the US companies to raise in the private markets has been as large if not larger.

>> Mhm. Um, and so yes, these IPOs really matter, but I also I also think there's this unique statement on the depth, breadth, and strength of the US capital markets that it's been able to support companies getting this large and and and then to to this phase. I mean, it it it really I think talks a lot about the US system. >> It it does. I mean, the US capital markets are just unbelievably deep, aren't they? Um, and liquid. It's been been highlighted as you say from this is going to be a fascinating couple of weeks with these IPOs. We Dom we really are out of time annoyingly so we have to jump to >> we didn't even talk about valuation.

>> I know to to our to our final topic um which is well dwell on that quickly then for me valuation as a whole but um I guess you know the companies you have you're very comfortable with. >> I'll I'll very quickly because I think it's such an important topic but I wanted to make sure we we hit it. So so first let's just do semiconductors versus software. Both both are trading at like mid20s earnings multiples. The semiconductor sales multiple is now closer to nine times. The software multiple is closer to six times.

Historically, that would be flipped, right? That that that would be the other way. Part of that is the margins have gone up a lot at semis. And and part of that's the questioning around the long-term software business model. What I find so interesting right now is that the mag 7 um actually trade at a cheaper PEG ratio than the rest of the market. So PE to growth, right? So they trade at roughly a PEG ratio of one times, you know, 22 times and

22% earnings growth.

Rest of the market trades at like a 1.25 times PEG. Um, and then so many of these companies we just said, the large semiconductor companies trade at PEG ratios of 04.5 times. So, so you're talking incredible growth, 30, 40, 50% growth, but then you're talking, you know, 15, 20, 30 times earnings. Um, so I I look at valuations today. I think they're fine. Um, that doesn't mean that you can't have momentum reversals, right? We've had a very heavy momentum market year to date just from a factor basis. You probably do have a momentum reversal at some point. Like we said earlier, software is flat. Semi is up 90%. Again, you can totally have a reversal. But if I look at the underlying valuations, I think that they're they're relatively healthy.

>> That's really interesting. And actually Howard Marx also said that the Mag 7 are great companies and justified. It's the other 493 he worries about when he came on with us. Um so final question Don for you uh as as we flag before the conversation we asked everyone this you know what is your closing overriding piece of investment advice for our listeners? >> Yeah. So I don't have one I have three. I I know we're over it. So, so number one is find a framework that that matches your personality. So I I I hope you could you could tell uh through through today I my framework and I are aligned right lynchpin technologies innovating in secular growth markets improving fundamentals reasonable valuations. I once listened to a framework talk where the PM said I'm a really boring guy and I like pouring stocks and I thought that that was a great framework for him and it wouldn't work for me. So so find a framework that makes meets your personality. Number two, work just relentlessly hard. You know, um, one of my mentors once said, "This is a business where people have won Nobel prizes saying what you do for a living is impossible." Right? That's the efficient market hypothesis. This is impossible according to that. So, you have to work relentlessly hard.

>> And and then number three, you got to get a little lucky. You got to get really lucky. Um, you know, the the ro the Romans had this phrase, Felix, and it was a title they would give to people. And so, Sullah was famously solo the fortunate one. Solo the lucky. >> Um, >> and I I it sounds cliché, but I I just feel so lucky. You know, my coverage coming in getting small cap semis in 2015, moving at the right time, um, taking over the strategy the day after Chachi.

You got you have to get lucky. And and and hopefully that extends to personal life, right? lucky in terms of a wonderful wife, kids, parents, sisters. So, um, get get lucky would be would be the great advice at the end. >> Well, it's a lovely way to end it, Dom. It's been a real pleasure. Uh, thank you so much for joining us here on the Master Investor podcast. >> Thanks for having me, Wolf. >> And next week on the Master Investor podcast, we will be joined by my great friend and former colleague, Becky Quick, the legendary CNBC anchor. So, make sure to hit follow or subscribe on your podcast app if you haven't done so already. The Master Investor podcast is sponsored by Lseg, Interactive Brokers, the World Goal Council, and BMY Investments. Please do remember the views expressed in this podcast are for general information purposes only.

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