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TECHBRAINS INTERVIEW

Investor Brad Slingerlend on Applying Resilience and Optionality to Tech Investing

- **Unconventional approach.** Brad Slingerlend, former portfolio manager of the Janus Tech Fund and now co-founder and investor at NZS Capital, explained his investment philosophy with concrete examples. He views the economy and stock market as complex adaptive systems characterized by power laws rather than normal distributions. Consequently, he doesn't believe in narrow predictions, mean reversion, value vs growth, or competitive moats. He does look for emergent properties in these complex adaptive systems, exemplified by bees and ants, that result in phase shifts from one equilibrium to another.

- **Two portfolios in one.** The three-factor model he uses to arrive at a new definition of competitive advantage (Porter's five forces are passé) is based on quality, growth, and context. Brad prefers companies with cultures of adaptability and long-duration rather than hyper-growth. These filters lead to a portfolio built of names with a combination of resilience and optionality or pure optionality. Resilient companies are stable but able to find new S-curves, allowing for broad predictions. Optionality has a wider range of outcomes, a kind of public venture capital. Resilient/optionality companies include Amphenol, Disney, American Tower, Google, Microchip, and Nvidia. Pure optionality would be Uber and Lyft. Zillow went from optionality to resilience and may be heading back toward pure optionality.

- **Sector views.** Brad is excited about the long-term prospects in semiconductors, believing it is at the beginning of secular growth driven by an explosion of devices. Software has been easy to love though a price-to-sales ratio of 10x is a line in the sand rarely to be crossed. Regulation will make it harder for FAANG names to add S-curves through acquisition, but regulatory capture could be a positive offset.

- **Other contrarian opinions**. In order to limit cognitive bias creeping into the investment process, the staff is encouraged to spend as little time together formulating recommendations before joining up to debate their merit. Brad also discussed why it feels like 2007 in media despite new streaming technologies, how the food chain is being disrupted, why the traditional IPO process still makes sense, and how fewer active managers could revive active management.

Steven Milunovich, CFA
(646) 582-9309
smilunovich@wolferesearch.com

Ryan Krieger
(646) 582-9307
rkrieger@wolferesearch.com

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S. Milunovich: Good afternoon and welcome to this interview with investor Brad Slingerlend. Brad is a co-founder and investor at NZS Capital. Previously, Brad was the portfolio manager of Janus Henderson's Global Technology Products from May 2011 to November 2018. Prior to that he held various roles as an analyst, sector team lead, and portfolio manager at Janus Henderson Investors. He is a CFA, active on Twitter, and writes a weekend newsletter called *Stuff I Thought About Last Week*. Brad graduated from Williams College with a BA in economics and astrophysics.

It's unusual for us to host an investor speaking with other investors, but Brad and his partner, Brinton Johns, had been quite open with their thinking true to their firm's name, Non-Zero Sum. They wrote a fascinating investment philosophy paper that we highlighted in our initiation report, which Brad will discuss today among other topics. In summary, they believe that the combination of resilience and optionality is the new framework for a competitive advantage. Brad, thank you for joining us.

B. Slingerlend: Thanks Steve, I'm excited to do the call. What I want to do today is talk about complex adaptive systems. The world if very complex, things are interrelated, and that has a few consequences. One of those consequences is that things are hard to predict, and it's often better to model complex systems, such as the stock market or the global economy, off of biological evolutionary systems as opposed to traditional capital markets or economic frameworks. Most people think of events distributed as a normal bell curve, where 97% of outcomes happen within three standard deviations of the mean. We think that's a terrible way to look at the world. There's a lot of data that suggests Black Swan or fat tail events are much more common. When you live in a normal bell curve world, you can miss the interesting stuff happening out at the tails.

This creates a different biological way of thinking about markets and companies, and has really important implications to innovation, disruption, and competitive advantage. Increasingly we would argue that this is applicable to every aspect of the global economy because every company is a tech company in some manner. We're now living in the information age and leaving the industrial age behind us.

To be a little bit provocative, I'm going to give you a list of things that we don't believe in at NZS Capital. These are things we root out from our process when looking at an investment or putting a portfolio together. The first one is predicting the future. **We don't think the future's predictable. We simply want to avoid that at all costs**, which as you might imagine can be uncomfortable when sitting down with prospective clients. Second, we don't believe in normal distributions, we instead believe in power laws, which is like an exponential as opposed to a bell curve. This means the fat tail events can and will happen. Also, shorthand around value investing, growth investing, GARP, momentum, and those types of things rarely enter our vocabulary.

We don't believe in mean reversion. We think that anytime something reverts to the mean, that it is most likely luck and not any sort of pattern. Intrinsic value is not a concept we look at. Pattern recognition we think is a dangerous thing to fall into. Expected utility theory and modern portfolio theory are based on those normal distributions. They underlie most of the risk metrics that I imagine investors on this call look at. We just don't believe in the math that comes out of those. Lastly, we don't really believe in competitive moats. We think there's a new framework to analyze competitive advantage. **We think Porter's five forces is a particularly dangerous tool to use to analyze companies** as we go through this transition

from the industrial age to the information age. That's our list of things that we don't believe in, and believe it or not, we do start off our investor conversations this way.

What do we believe in? **We believe in complex adaptive systems**, which demonstrate emergent properties. Emergent property means the whole is greater than the sum of the parts. You have these complex systems working together and something emerges that was not apparent in the building blocks of that system. An image I like to think about is of ants locking their legs together to form a bridge to get from one plant to another or across water. The bridge is an emerging property of ants. That behavior of being able to walk across a bridge of ants is emergent.

Complex systems are unpredictable because very small perturbations in the initial conditions are amplified greatly in the final system. That's traditional chaos theory, where the butterfly flaps its wings in Tokyo and we get a bigger storm across the globe. The point there being that things are unpredictable because of small changes when information is moving quickly. It can spiral quickly and have unpredictable outcomes on the other end.

Instead we're looking for phase shifts moving from one point of equilibrium to another. Often we find that disequilibrium is the actual equilibrium, meaning there's no stable point in the system. The bell curve math, the capital markets theory, all assume stable points of equilibrium, and we tend not to find those in the real world. How do we operate in a world where information is moving faster and we can't simply see into the future?

I want to go through one other property and talk about bees for a little bit. Typically, my co-founder Brinton Johns, who is a beekeeper, would discuss this. He recently had this really interesting thing happen, where he had one of his hives in a sunny spot in his backyard and it was too hot. In the summer when it’s too hot the bees are constantly using their wings to cool down the hive. In this instance it wasn’t cutting it, and the bees actually built the honeycomb inside of the hive in a way that routed air around in a circle. They then sat at the front of the hive, flapping their wings to create a breeze while some other bees went and got water from the fountain in the yard and brought it back. They were actually flapping cold water and aerifying it through the circular comb. These bees had actually created a swamp cooler. This again is a sample of an emergent property that we see in biology.

We find that kind of stuff fascinating. When we get asked the question, "What other investors do you look up to?" we of course say we think Buffet, Munger, and other traditional value investors are really smart, but the reality is we look up to ants and bees because we think that's where the biggest lessons are. Another particularly important part as we go through this hyper-disruption of the information age, is the concept of ergodicity. **Ergodicity is the idea that your path through time matters more than the average over time**. A lot of the traditional ways of looking at risk look at averages as opposed to the fact that you could end up way in the hole or way in the money before you reach your average outcome.

The way we think about this is with a coin flip. When you toss a coin, if you say, "Every time I get heads, I'm going to win $2 and every time I get tails, I'm going to lose $1." Over the course of a million flips you should make on average $1 million, but you might have gone bankrupt on your way there. This is called ergodicity and non-ergodicity. Knowing that if you hit that fat tail event early in your stock investment or the way you construct your portfolio, the averages in these risk metrics are not going to matter. That really informs our portfolio construction.

Let me get into some of the factors we look at. Most of what I'm going through here is in a white paper that we wrote in 2014. It's available on our website, so feel free to download it at NZSCapital.com. **We basically have a three-factor model looking at quality, growth, and context.** These are the characteristics that we think define the new definition of competitive advantage.

The first one is quality, which really comes down to adaptability. **Is a company's culture built around adaptability?** When disruption comes their way, are they organized in a manner that they can react to it and be able to steer the company in the right direction to take advantage of the disruptions as opposed to be broken by it? They've got to be innovative with long-term thinking; they have to be adaptable. There are some hallmarks of that, such as a decentralized organization structure. You can't have a culture of fear. If you have a culture of fear, then when disruption comes knocking, people are going to quit or not tell anybody that disruption is coming. You've got to have real safety and communication built into the culture. That is adaptability, and we believe it is a key element defining competitive advantage going into the next century.

Second, we look for growth. **Here we're looking for really long duration growth, which is a steady curve as opposed to hyper growth**. We tend to like businesses where you have a negative feedback loop. Not growing 50% a year, but something more like 15% a year over very long period of time. Adaptable companies tend to do that. We're also looking for NZS, or non-zero-sum companies. We have another white paper on this on our website. NZS is a way of thinking about win-win. This means creating more value for your customers and your constituents than you create for the company itself. That's a really important element that feeds into growth. We also look for some traditional things like network effects and platform economics, which tend to fall out of the rest of this strategy.

Finally, we look at headwinds and tailwinds, and valuation. We put valuation last because we believe it's the least important thing. That being said, we do spend a lot of time on valuation to make sure that we have it totally covered.

All this leads us to putting a portfolio together that we call **resilience and optionality, which is really two portfolios in one**. Half the portfolio is very concentrated in long duration, low turnover resilient businesses. These are truly growth companies, they just tend to be stable and long term. The other half is in optionality, which tends to be a lot of smaller positions that have higher asymmetry. We can lose more than we win and still do well on the optionality portfolio. You can think about it as public venture capital but in somewhat established companies.

With resilience we have a narrow range of outcomes, which means we can make very broad predictions. The definition of a broad prediction would be, "We think electronics are going to push deeper into the world." That's a really safe broad prediction as opposed to a narrow prediction, which is, "We think everyone's going to sell their house to an iBuyer in the real estate industry and Zillow is going to run the table on that." Resiliency is a narrow range of outcomes and broad predictions. **With optionality, you've got a wide range of outcomes, but very narrow and specific predictions**. Resiliency and optionality are inverted from each other.

Sometimes we come across what we call Rootmo, which is resilience with out of the money optionality. In other words, companies that exemplify both characteristics. An example of that is a company called **Amphenol**, which is in the connector space. These are specialized components in pretty much every electronic device, particularly if you have any kind of analog-to-digital conversion taking place.

This is a good example of a very adaptable and innovative company, with long-duration growth and a negative feedback loop keeping it in check. A decentralized organization structure that incentivizes innovation and reacting to disruption as opposed to running from it. They have a lot of out of the money optionality with respect to their ability to do M&A and a proven track record in terms of rolling up a fragmented market.

We do move positions back and forth. An example of this is **Zillow**, which we owned for a long time from its IPO up until I retired from Janus. It started as an optionality position. Back at the time of the IPO, it wasn't completely clear that people were going to be using Zillow to find homes or that real estate agents would pay them to advertise. As we owned the stock, it turned out that they were starting to create a network effect around both the search funnel and advertising side of the business.

It started to come together in a way where the predictions were becoming broader. As they became broader, we moved it to a resilient position. They then moved into the iBuyer space, which blew up the range of narrow outcomes to something very wide. They could go bankrupt or they could create a business 10x bigger that it was. When the range of outcomes widens, it trends back to an optionality position. Also, if a position is not resilient or optional, or a combination of the two, we are going to avoid it.

I want to touch on two last topics, the first being team. We do a couple things differently on our team, which I think are useful for everyone in the industry. **We actually encourage our team to spend as little time together as possible**. The reason for that is cognitive bias. These mistakes trick our brains and can creep into our investment thesis. When you spend a bunch of time with a team, you start to believe in each other's biases, and that is a problem. If you can go do independent work and then come back and test it against the team, then it's a much better way because it's really difficult to see cognitive bias in yourself. We're always trying to debate. When we operate, we try to create a safe zone where people can argue and raise different opinions, where no one opinion is more important than the next. That's an element we look for in companies because it's an element we use in running our investment team.

Lastly, I want to discuss non-zero sum. A buzzword we hear a lot in the investment industry is ESG regarding sustainable and responsible investing. We like a lot of characteristics of ESG, but our framework of NZS outcomes comes from game theory. It means there's always going to be an optimal outcome in every situation, where both parties are better off than if they hadn't interacted with each other. This is also a characteristic we look for in companies. How can they run their business in such a way that their customers, employees, shareholders, society, and themselves, are better off? The reality is, as we're living in the information age, if you're not running your business in a completely transparent way, then you're going to get called out and it's not going to be good for your market share or growth. We think this idea of win-win is more powerful than ESG. It's a focus in terms of how we run our firm and interact with our clients, employees, and local community, so it's an important philosophy for us.

Transcript of Brad Slingerlend interview transcribed by Rev.

S. Milunovich: Thank you very much, Brad, that was great. You mentioned Amphenol; what are some other examples of companies today that you would consider to be in the resilient with some optionality or the pure optionality boxes?

B. Slingerlend: I'll take one example ripped from the headlines, which would be **Disney**. That's a position we historically have owned with a lot of resilience baked in around theme parks and the studio. I would say there are some questions over the resilience of the cable networks, which they are trying to tackle with Disney+. Of all the content companies next to Netflix, Disney is the one that has the content to build optionality around the business. When the stock was between $90-100, that's when we would consider an out-of-the-money optionality. We were getting the core business with all the risks that came with the core business, which we thought was still resilient, without having to pay for the optionality. Where the stock is today, you are certainly having to pay for some of that optionality, so we wouldn't necessarily classify it as Rootmo, but we would still likely call it resilient. There are a lot of elements baked into Disney's culture that we look for, like decentralized organization structure, adaptability, and innovation.

Another example of a resilient business would be the cell phone tower stocks such as **Crown Castle** and **American Tower**. The definition of a broad prediction would be that connectivity is going to increase over time. Recognizing the fact that there is potential for disruption from small cell companies, technological shifts, or regulatory issues. It's a fairly broad prediction that would allow us to say, "As long as valuation checks our box, then this is a resilient business that we can own."

Another example of a resilient business that some people would consider riskier is **Nvidia**. They have significant network effects around their CUDA programming language. It's possible that an ASIC AI chip is going to come out that does something a little better, or an FPGA, or Intel will get its act together, but there is this sticky ecosystem around Nvidia programming. Typically if you follow the developers, you follow where the money is going, and developers have really been sucked into the gravity of Nvidia. We would consider that to be an optionality position five years ago, that is a resilient position today.

Other examples that are interesting on the optionality side are **Uber** and **Lyft**. They have a very wide range of outcomes for a number of reasons, including regulation, pricing, and the drivers. We do look at it as a very high NZS business but with issues to work through. There are a wide range of outcomes for making some narrow predictions that we're not completely comfortable with, but we'll continue to take in the evidence and adjust our belief up or down. And if we hit a critical point on our credence, we'll say "Yes, these are clearly businesses that are going to stick around in some form." There's probably out-of-the-money optionality for Uber around meal delivery.

Due to the way we build our portfolios, these would be very small positions due to ergodicity and the path through time really mattering. If the position is too big, then you're not investing, you're gambling. We try to match up the range of outcomes with position size, and that gives you a much more fundamental look at risk in the portfolio.

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S. Milunovich: In one of your papers you talk about “stacking S curves” relative to optionality. What do you mean?

B. Slingerlend: Most companies, particularly in technology, follow an S curve, where they have an inflection point in growth. They grow steadily or quickly for a long period of time, and then disruption comes because of bureaucracy, lack of innovation, or poor capital allocation. They can't stack a new S curve to offset the decay in the existing curve.

A great example is **IBM**, who for 20 years failed to stack another S curve, yet through the genius of financial engineering have held the earnings and free cash flow. They've had a lot of assets to bleed off and make that work, but at some point there is no business left outside of the decaying legacy franchise. Whereas **Google** with their Alphabet structure made the successful transition from desktop search, which was one S curve, to mobile search, which was another S curve. I think you can stack an S curve by acquisitions, for example YouTube. Alphabet is the classic resilient core business around search and video advertising, then they are stacking out-of-the-money optionality through Waymo, healthcare initiatives, and other ventures.

S. Milunovich: Semiconductors have been the positive outlier in terms of performance—can it continue? Conversely, Software had been fantastic but has pulled in. How do you think about those sectors?

B. Slingerlend: **Semiconductors is an area we're pretty excited about**, despite the move that the stocks have made. This is with the caveat that we don't exactly know which direction Trump is going to send the market next with respect to the Chinese trade deal. Our assumption is that we will continue to work with China though at a higher cost of doing business, but we don’t think that it will have a big impact on semiconductors over the long-term. The vast majority of the semiconductor IP sits in the United States, Europe, South Korea, and Taiwan. Assuming we don't have a military takeover of Taiwan from China, which we wouldn't completely rule out, the West is holding the cards in semiconductors. That gives us some confidence around the ultimate outcomes for that sector and the trade war.

We went to hundreds of millions of units for PCs, billions of units for cell phones, and we will likely get to trillions of units for Internet of Things connected devices. We have a virtuous circle of connected devices collecting and sending data, analyzing data in the cloud with AI, AI making the connected devices smarter, and repeating the process. We have this really big flywheel going around the IoT and connected devices space that is not even in the first inning. **We'll always have cycles in semiconductors, but we're at the very beginning of a secular growth period**. All the things that drove the tech industry recently like PC servers, consumer electronics, game consoles, DVD players, and so on, are going to be dwarfed by what’s coming in the next 10-20 years.

There are a lot of interesting companies, particularly in the microcontroller space. I would mention **Microchip**, which is an Arizona-based company that we classify as Rootmo: resilience with out-of-the-money optionality. Despite the run and the near-term risks, we think that's a really interesting secular trend. Investors are still treating semiconductors as a cyclical slow growth business, and we think that's generally not true for many of them.

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Software on the other hand, is a trend we have loved for forever, and it has been easy to love. At some point, you do reach valuations where you simply can't make money for a very long period of time. **We've crossed 10x forward sales for a lot of companies**, so that's where we fall back on our valuation catch-all and say, "We love this company, but we're borrowing 5-10 years into the future for performance, so we've got to come out of it and wait."

We've seen some of those valuations come back, maybe not back as far as we'd like, but I think there are definitely some opportunities out there. **Salesforce** is becoming a platform to be reckoned with. **Zendesk** is doing a similar thing in the small and medium-sized business space. Both of those companies have come down meaningfully and are back into a range where you don't get that uncomfortable 10x forward sales. It's not impossible to make money past that range, but it is tricky.

S. Milunovich: How about the FAANG companies and the regulation cloud? Does that make them less resilient than perhaps we all would otherwise think?

B. Slingerlend: **We think it's going to be much harder for the tech companies to stack a new S curve going forward, to move into an adjacent business either organically or through acquisition**. I think you see that with Facebook's attempt to go into crypto or a transactional currency with Libra. It almost immediately gets shut down.

The flip side of that is regulatory capture. What tends to happen when companies get very large, and this happens across all industry that is heavily regulated, the regulation comes in and puts rails around where the company can go in the future, which cements the monopoly of that company. It looks like that's exactly what's going to happen with the big US tech platforms. The government is going to put some rails on them, but in doing so, make it hard for anybody to unseat them from the mountains that they sit on top of right now. They have 1-2 years of underperformance, but then they are almost back on track to where they were. The regulations make it more expensive to operate in the space, but in turn makes it more difficult for a competitor to get in.

S. Milunovich: If I'm sitting as a fly on a wall in one of your one on one meetings with managements, what types of questions am I hearing? How is it that you're trying to get at the longevity, growth, and the culture of the company?

B. Slingerlend: We do try and ask different questions, but I think **the best way to get at that is to try and become an industry participant, meeting employees across the company to the extent you can without gaining insider information**. Understanding company culture as an outsider is very hard. There are a few things you can focus on with management. One of them would be **organizational structure**. Who reports to whom, how do teams across divisions speak? Being thoughtful about organizational structure means that you're probably likely to be more sensitive when disruption comes calling and seeing that happening. Gaining an understanding of centralized versus decentralized structure is important.

You can also discuss **incentives and compensation**. Do they have elements beyond financial mechanisms? An example is **Redfin**, an online real estate brokerage firm. They use Net Promotor Score as a metric in their management's bonus pay, and we find that that is something you are going to find in a company more focused on adaptability and innovation.

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S. Milunovich: How do you think about risk in terms of positioning size, when to enter or exit? Will you trade around positions much?

B. Slingerlend: **We do trade around positions more than we trade in and out of stocks completely. Our turnover is around 25-30%.** Our resilience half of the portfolio turnover is closer to 10% while the optionality side is closer to 50%. This is because we tend to be wrong more in the optionality. We think about risk from a fundamental perspective. We look at all of the metrics everyone looks at and all of our clients ask us to look at. We're cognizant about not making any unforced errors.

Say we have an 8% position in Apple and a 30-basis point position in the Chinese electric car maker BYD. What is the actual fundamental risk to the portfolio of these two positions? Probably about equal. Apple could hurt us a little bit more over the short term, but it's a fairly stable and resilient business. BYD could go to zero or triple, but we're not going to put something that should be an optionality position up in the top of the portfolio. That's the mistake we see, and we've made that mistake plenty ourselves in the past. We're not immune from making it today, but we focus on getting that position to match the range of outcomes, thinking about risk from a fundamental perspective as opposed to a quantitative one.

S. Milunovich: Let's turn to some of the topics that you've addressed in your weekend notes. For example, you've suggested that streaming media is starting to look like 2007, what do you mean by that?

B. Slingerlend: My weekly note is called *Stuff I Thought About Last Week*. You can find that on NZSCapital.com or look me up on Twitter. I view it as a nice addition to my research process by being open about what I'm thinking about. In the media industry, I think we're reaching a point of clarity. We've got a couple studios in Hollywood like Netflix and Disney, who have enough content to build a stand-alone media platform that can exist adjacent to or in replace of the traditional cable bundle.

The rest of them look to be aligning more with AVOD, Advertising Video on Demand, or SVOD, or just continuing to survive in a traditional bundle, which is still the best value proposition. You can often get it from your cable company for free or for very cheap if you're a high-speed Internet customer. You're not paying $80 or $90, you're probably paying $40 or $50. AT&T suggested that HBO Max from Warner Media will be available if you are an HBO subscriber, you don't have to pay additional for that. NBC Universal suggested it's going to be advertising based and available if you're in some sort of bundle that you can authenticate on. The landscape feels similar to 2007 when streaming first became viable.

It feels like 2007 today because the bundle is actually more attractive compared to trying to recreate the bundle. It's also just a huge hassle as a user to have 5-6 different apps with different user interfaces. There's no universal search that works so you're jumping in and out of apps. It looks to me like the streaming platforms are just becoming channels, and it's just apps instead of channels. I think there is going to be a bundle where you have your cake and eat it too scenario for the whole landscape.

Amazon is in it for Prime and Apple is in it for hardware, so I don't think they're big factors. There's been a lot of confusion about whether they're big factors in the outcome going forward. I just don't think they are. In terms of being global, it's Disney and Netflix having the brands and scale to get to 500 million or a billion subscribers. If you look out 5-10 years from

now, I don't think the other platforms can do that. I think we're going to see this survival of the bundle in one form or another.

S. Milunovich: You also said that the disruption in the food chain is going to make retail and media disruption look incremental by comparison. I'm not sure a lot of people think about the food chain, but what are your thoughts there?

B. Slingerlend: This refers to the actual food chain, not the supply chain. We have a white paper out called *The Evolution of a Meal*, and it's looking at the $1 trillion food industry. It's hard to capture all the aspects of it, but from farming to processing and preparation, to grocery and restaurants, including at home delivery. There is huge disruption that is starting.

There's also going to be a lot of changes to the supply chain, for example lab-grown meats or plant-based products. You've got an element of the whole population that's trying to eat healthier—it is certainly not true of everybody, but it's incrementally true. Then you've got delivery coming in. What we've seen over and over when an industry goes from being an industrial age industry to an information age industry, **when data and information becomes more valuable than the capital that you have to invest in physical assets, you tend to see vertical integration**.

We've seen this in retail with Amazon. You're seeing it in housing right now in US home buying with Zillow and Redfin vertically integrating. We've seen it in media with Netflix becoming a studio themselves. **We think this is going to repeat in food with vertically integrated providers**. That can happen in the form of subscriptions. When I was growing up, we had a milkman who delivered milk and other dairy products to our house. If you can get to a point where you're delivering on a scheduled route for food, it just makes so much more sense for a big chunk of the population than going to the grocery store. However, I don't think we're there yet.

It isn't a classic wide range of outcomes scenario. We have no idea who's going to win, how they're going to do it or why, but we're looking for those ways to invest in optionality. Most are still private today. If you're **Grubhub** and you are part of this food chain but don't own restaurants or your own private label brands, it's going to be really hard to insert yourself into the food supply chain without vertical integration of some sort to extract enough economics so that everybody wins. We don't exactly know how it's going to play out, but it's $1 trillion that's up for disruption. It's going to be slow but pretty fascinating to watch it play out.

S. Milunovich: Any thoughts about the private market for tech companies, both venture capital and PE?

B. Slingerlend: We think that the froth is coming out of the bubble, which has been really healthy. We've been moderate participants in the private markets for the last ten years doing several deals at my previous firm, and it just didn't feel right to us what was going on. It's going to take a while to work down that digestion and we're in that digestion period now.

Private companies should not be scared to come public. If you have a path to profitability and can share the metrics with all of us public investors, we want you to be public. We're open for business. We said no to WeWork collectively as an industry of professional investors because it wasn't on the path to understanding what was going on at that business. There are plenty of other companies that are on that path. I think it's important to get out there.

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I also think on the other side of the private markets that **private equity is in clear bubble territory driven by low rates**. If these rates are sustainable or if they go lower, then the private equity bubble can keep going, but it really feels like a dangerous private asset valuation bubble happening, which could create a lot of distressed assets. This isn't really specific to the tech industry, but across a lot of other industries as well. We're a little skeptical of this race to allocate money from pensions and others institutional investors into the illiquid markets because we think they're liquid. When you have a run on the bank of any kind with an illiquid asset class, it's not going to end well. This is something we're a little skeptical of and watching closely to see what ramifications might come out.

S. Milunovich: Related to that, Bill Gurley of Benchmark has been arguing that companies should be taking a direct listing route to market instead of doing the traditional IPO. You have a different view.

B. Slingerlend: This is another topic we have a white paper on, it's called *The Great IPO Debate*. We've got two examples of the direct IPO not working, **Spotify** and **Slack**. I think the expenses of doing an actual direct deal are comparable, but there are a lot of things that can go wrong. I think there's a lot of uncertainty and information asymmetry when everybody can sell on the first day. The only companies that can do a direct listing are the ones who raised a more dilutive round at previously lower prices.

It's not clear that it is a good outcome and going public is really important for the company. **Any company that's gone public in seriousness will tell you that it has made them a better company due to the accountability of public investors**. The pricing of the IPO itself is basically a point of dilution. The number Bill Gurley talked about represents about 1.5% dilution, which is the cost of doing an IPO. That's smaller than most typical annual options grants. I admit that is a real cost to having that IPO, but it's not clear that the cost is any different or materially different in doing a direct listing, because you would have done a more dilutive round at a lower price.

We'd like to see a better managed lock up period and a bunch of other things improved about the banker led IPO. But we don't really have a dog in this fight as an investor, though we would probably do a little bit better ourselves with some of the direct listings because we're now a small firm. I just think that the right thing for the companies to do is to go public when you're ready. Share your metrics, get to know your investors, and start to get that public track record going.

S. Milunovich: Shortly you'll be back managing money. Do you think it's going to be harder than it was when you were at Janus with all the passive investment and quants now? Or is that an advantage for somebody who has a longer time frame and can use time arbitrage to their advantage?

B. Slingerlend: One of the things my co-founder says is that most investors see volatility as risk, but we see volatility as opportunity. It's a really important inversion in the way you think about risk in the portfolio. **If you're focused long term, the quirks in the market around shifts to passives and decreasing liquidity in some cases can present real opportunities**. There are still a lot of smart people managing money, but it feels like we're not seeing more and more smart people managing money. Michael Mauboussin has a book on the paradox of skill; as you get more skilled people doing the same thing, then luck becomes a bigger factor.

Transcript of Brad Slingerlend interview transcribed by Rev.

We're going the direction where we're going to have the same or fewer skilled people in the active investment industry. For those of us who survive that transition, which is still ongoing, I think luck will be less important. Still very important, but skill will really be able to shine through for active stock pickers. I think there's going to be demand long term for active management or else we wouldn't have started this. We think increasingly a lot of managers out there are running too risk averse. They're running too close to the index but still charging. If you can actually be a real active manager, we think there's opportunity out there still. That's my optimism, hopefully not misplaced, about the future of the active management industry.

Transcript of Brad Slingerlend interview transcribed by Rev.

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