# Tech-tonic Shifts: A Deep Dive on "Technology" Sector Funds

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Jefferies

# Tech-tonic Shifts

## A DEEP DIVE ON "TECHNOLOGY" SECTOR FUNDS

"Technology" has become everyone's favorite word.

No one really seems to know what it means.

We asked more than 50 industry-leading allocators how they define Technology—nearly half use the words "anything" or "everything."

Endless articles have claimed tech has a place in almost every allocator's portfolio, focusing on its growth over the past two years, and the fact that on any given day it can sometimes account for over half of the stock market's performance. But most oversimplify, using the ubiquitous acronym "FAANG" (Facebook, Apple, Amazon, Netflix, Google) interchangeably with "technology."

At a time when everyone from the GICS classification to CIOs at the world's biggest pensions are trying to more precisely and accurately define "technology," we conducted a deep dive with 50 leading alternatives investors to precisely understand *why and how they have allocated to the space in the last few years*.

Over 40% of the Jefferies Capital Intelligence team's open mandates are for specialist, niche or opportunistic funds – making it even more critical for managers and allocators alike to understand the landscape and squarely where they fit in. Many Equity Long/Short strategies have been bleeding money for most of the last eight quarters, but specialist funds – particularly Technology and Healthcare - have seen net inflows.

> At this pivotal moment, when the very definition of "Technology" is shifting, the Jefferies Capital Intelligence team is releasing **Tech-tonic Shifts: A Deep Dive on "Technology" Specialist Funds**. We surveyed over 50 allocators with active investments to Technology sector funds to gauge interest, appetite and views on the future.

We hope that *The Tech-tonic Shift*, our second specialist-focused deep dive, joining our April 2018 piece on Healthcare,[1] sheds light on the complexities and opportunity set associated with Technology going forward. **We delineate what technology means to investors *right now*, and what it means for portfolios in the years ahead, as they look to make allocations in the next 24 to 36 months.** We are at a turning point—the landscape formerly known as Technology is shifting beneath us, and we hope this paper provokes a discussion about how to more broadly and accurately define what it means to invest in technology.

Contacts


**Leor Shapiro**
LShapiro@jefferies.com
+1 (212) 336.6267
Global Head, Jefferies Capital Intelligence

**Shannon Murphy**
Shannon.Murphy@jefferies.com
+1 (212) 336.1139
Prime Services Strategic Content

**Lily Calcagnini**
LCalcagnini@jefferies.com
+1 (212) 323.7596
Prime Services Strategic Content

## Let's Get Tech-nical:
## Tech Can Be Anything, But It Isn't Everything. Is It?

The New York Times, a newspaper founded decades before the creator of the internet was born, now attributes over three quarters of its subscriptions to digital-only customers.[2]

Domino's Pizza, started thirty years before the internet became publicly available, now employs more computer scientists than it does pizza chefs. They have spent millions on building out their tech infrastructure, and now 65% of their revenue comes from customers leveraging their digital offering.

*Domino's Pizza now employs more computer scientists than it does pizza chefs.*

Novartis, the pharmaceutical provider, has all but re-branded itself a data analytics company in order to remain competitive in the disease treatment landscape.

As the winners in every industry from ecommerce to communication to healthcare become **data-driven and technology-enabled**, the universe of Technology stocks and potential investments is expanding. We surveyed 50 leading alternatives allocators to understand this saturated space to learn what Technology means for their portfolios and how they are planning ahead.

At the broadest level, ask an allocator what tech investing means to their portfolio and you'll get answers ranging from "Industrials" to "software" to "Canada" to "everything."

*Quite soon, we may very well hear Technology specialists pitch investing across the "tech stack" the way multi-strategy funds currently speak of investing across the capital structure.*

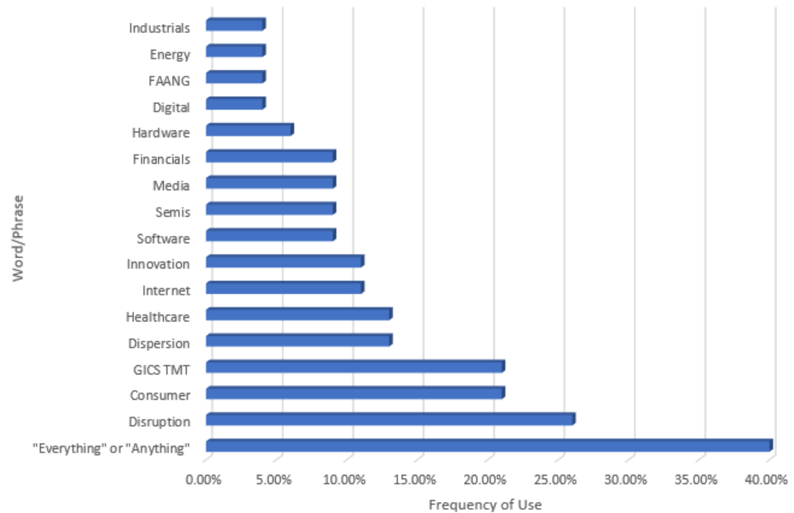
As the lines blur between tech and everything else, the implications will be felt across *all* portfolios. One allocator we spoke to predicted that "most companies will be tech over time," and another was even more explicit: "Technology will eventually become every sector and subsector." Quite soon, we may very well hear Technology specialists talk about investing across the "tech stack" in a similar way that multi-strategy funds currently discuss investing across the capital structure.

No two conversations were exactly the same, but **there was near consensus on one point: the definition of Technology from a sector perspective should be broad—broader than any other sector, as allocators look to identify and capture a paradigm shift not seen since the Industrial Revolution.** As such, **there is much less concern about mission creep from an investible universe perspective.** Allocators remain squarely focused on the specifics around gross/net exposures, risk management and capacity – but from an investment standpoint, are much more willing to give managers a free hand as to what constitutes "technology." For many, hardware, software, internet, and electronics are merely the core enterprises that sit at the center of a much broader opportunity set that might be simply defined as "**Tech+**"—that is, technology and all the industries it is upending. What this means for performance expectations, exposure preferences, manager expertise, private investments, and fund capacity is massive.

When allocators describe the ideal mandate of a Technology sector manager, they similarly gravitate towards thematic, cross-sector language and strategic positioning. They search for managers that invest in innovation, change, and disruption in

*ONE CONSENSUS POINT:*
*The definition of Technology from a sector perspective should be overly broad — broader than any other sector, as allocators look to identify and capture a paradigm shift not seen since the industrial revolution.*

virtually every industry—certainly technology, media, and telecommunications, but also consumer, healthcare, financials, industrials, and energy. They also express interest in certain trends that operate across multiple sectors—namely, Software as a Service (SaaS), enterprise services, Artificial Intelligence (AI), and autonomous vehicles.



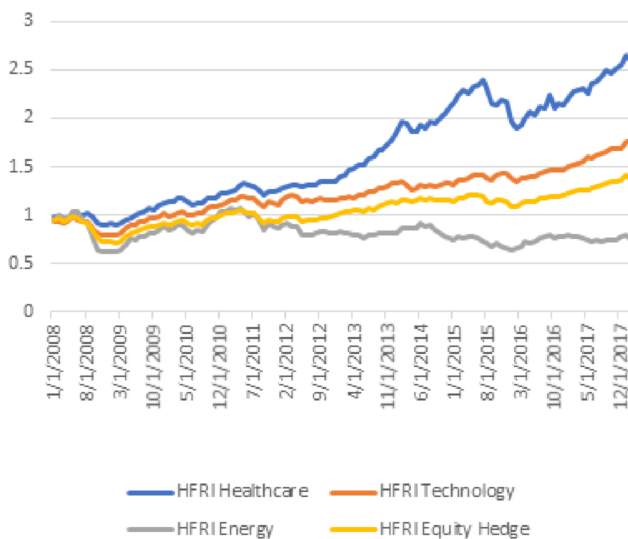

**Too narrow a definition of Technology could mean missing out on the next Facebook, the next Amazon, the next breakthrough—and its ripple effects on all other corners of the global economy.**

It's nearly impossible to predict the next blockbuster success. As recently as 2009, only two FAANG names appeared in the S&P Tech ETF – Apple and Google (Alphabet).[3] By 2009, Netflix had IPO'd in 2002, and Amazon in 1997. And yet neither had found its way into the world's largest and most liquid tech index, despite catapulting to FAANG success shortly thereafter. Meanwhile, Mastercard, a company commonly considered to be a financials business, has been a member of the same ETF (XLK) for the last decade. The shifting sands of what constitutes the definition of a "tech stock" – and indeed, what will be the FAANG of the future – means that investors who try to get exposure to technology passively could be missing considerable upside.

## TECHNOLOGY SPECIALISTS: WHAT ALLOCATORS WANT

*Motivation: From Interest to Allocation*

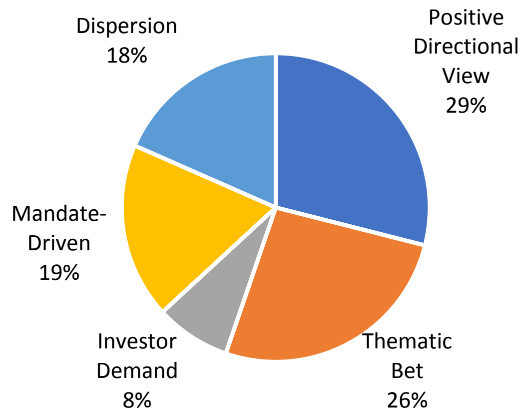
Given that technology has at times been responsible for over 50% of market growth in the past two years, performance is an obvious driver of interest in the space.[4] It is in part what has allowed Technology and Healthcare sector funds to welcome six straight quarters of inflows—the only sub-strategy besides Quantitative Directional to do so.




**But the reality is far more complex. While an overwhelming majority of allocators explain that their initial motivation to invest in Technology was either a positive directional view on the sector or a particular bet on a specific sub-theme, almost 20% of allocators cite dispersion as their primary motivation for seeking exposure to the space.**

Virtually every allocator we spoke with has put dollars to work in Technology investments, but the factors that drove them to deploy capital and the ways that they think about the future are surprisingly diverse.

Predictably, many express interest in Technology growth stories. More than a quarter of allocators interviewed made this directional bet on the sector, citing beliefs that "data is changing everything" and "most companies will be tech over time." Allocators who may have missed out on the early innings of the sector's impressive climb ultimately were driven to allocate by "tech FOMO" (Fear Of Missing Out).




That said, almost twice as many respondents are focused on thematic bets or desires to capitalize on dispersion. **For many, Technology is *not* purely a growth strategy**.

Allocators are also focused on the ability of sector specialists to truly unlock returns in the public market *across cycles*. A number of allocators really drilled into this point – that Technology investing, even while long term directional over time, *requires managing market cycles over the short to medium term*. Numerous allocators cited examples where some Technology investors claimed to be long/short funds – only to be exposed as strongly long-biased during market corrections or periods of acute stress.

Allocators are also on the lookout for managers who:

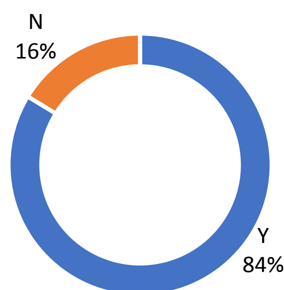
- Play in small- and mid-cap Technology names
- Maintain low net or market neutral exposure,
- Run capacity-constrained strategies, or
- Pursue a variety of idiosyncratic avenues for unlocking the value of technology

Though plenty of money has been made via buy-and-hold strategies, allocators are happy to report that their tech specialists have also identified pockets of dislocation that sector generalist managers might miss.

### *Net Exposure*

More than 80% of allocators interviewed have a preference for a specific net exposure profile when looking to allocate to a Technology specialist fund. The few allocators who did not target a range for net exposure were exposure-agnostic across their entire public portfolio, both to specialists in other sectors and generalists overall.

Do you have a net exposure preference?

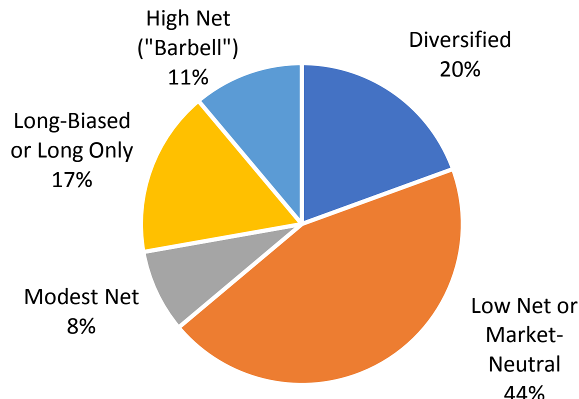



Surprisingly, amongst those who prefer a specific net exposure in their tech managers, almost half of those interviewed report seeking managers with low net or equity market neutral exposure to the space. This seems dichotomous given that over half of allocators polled also cited positive sector or thematic views as a motivation for investing in Technology. **Even though this is the case, only 17% of allocators explicitly desire long-biased or long-only strategies.** Today's most popular tech trade is not to simply buy and hold as much growth as possible.

More than 10% of respondents seek both high- and low-net managers to achieve a "barbell" like distribution across exposures. Meanwhile, 20% of allocators prefer to make evenly distributed allocations across the net exposure spectrum and only 8% of allocators want managers who run a book with net exposure targeted between 30% and 60%.

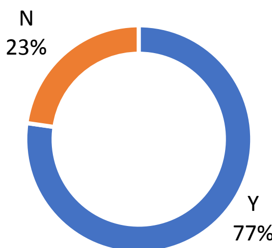
Allocators want to profit off stories that kindergarteners can not tell – including how a nascent technology nearly no one has heard of will upend the traditional supply chain management in the next decade.

Increasingly, allocators are looking for their tech specialists—and to an extent, all of their sector specialists— to play a longer, all-weather-proof game. They want funds that will do well in any market environment, and are able to dodge periods of acute stress in their sector in ways generalists may miss. Being able to point to this ability over cycles is a strong differentiator for many allocators.



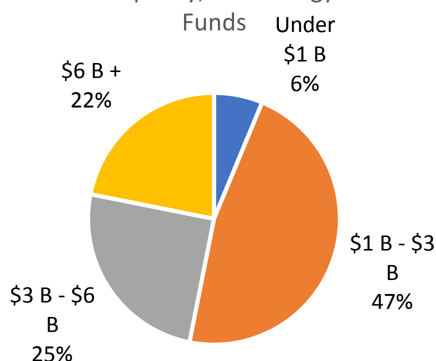

*Capacity*

An overwhelming majority of allocators express opinions on manager size as an important factor in the search process for Technology specialists, especially those looking to add a second or third manager to their portfolio. **Over three quarters of the allocators that we spoke to care about the AuM of self-described Tech funds as they go through the vetting process during a manager search, and those with opinions are even able to express a numerical threshold at which they might lose interest in a manager based on fund size.**




In our Healthcare deep dive, we heard the same. There is something about sector specialization and this point in our industry's maturity that drives allocators to prefer capacity-constrained strategies, at least to an extent.

Amongst allocators who have an opinion about fund size, the general sentiment is that smaller is better, but what constitutes "small" for investors who invest in a huge, liquid, and growing industry varies. Though many concede that they avoid large hedge funds in general, or are full up on their larger and more mature allocations, they are particularly cognizant of the issue regarding Technology specialists, since many well-known, old guard funds have grown to mammoth size.




Some of the most successful Technology specialist funds are huge, and their returns have been consistently robust. In these situations, most allocators agree that **sudden growth in assets would not raise a red flag on its own; however, if coupled with weakening performance, it would certainly provoke conversations and initial thoughts about redeeming, given potential questions around asset gathering.**

Most allocators do not view size as a trade-off, and report being happily invested in the larger, more mature names. **But when we asked allocators initiating new tickets about their searches over the past 24 months, we heard a different story: now, size is a determining factor when allocators look to write tickets to Technology specialist funds.**

This is a noticeable dichotomy given that many allocators are initially drawn to the space at least in part for its sensational growth—as we show above, over 50% of allocators cited positive views on either the sector overall or a specific theme within it as the reason they initially sought exposure to Technology.

That over 75% of allocators care about manager size—and prefer it to be constrained—speaks to concerns about the evergreen quality of the technology momentum thesis. Many raised concerns about valuations and expressed a preference for measured growth. Allocators were careful to qualify their comments, noting that no threshold is hard and that there are always exceptions to their rules.

**That said, more than half of the allocators we spoke to prefer their more recent allocations to tech managers to keep AuM below $3 billion.** A quarter of allocators express comfort with funds up to $6 billion, and less than a quarter would entertain the idea of allocating to a fund larger than $6 billion.

Even allocators who do not expressly prefer capacity-constrained strategies agree that ballooning AuM is a negative signifier if coupled with deficient performance. A number of allocators agreed that fund growth alone might not raise a red flag; but when coupled with waning performance, it might ultimately lead to a decision to redeem.

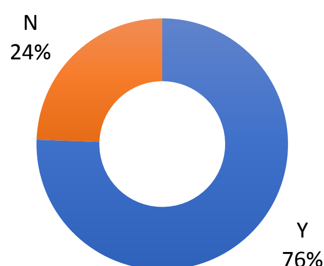
*Regional Exposure*

Forward-thinking investors are looking globally as they construct their portfolios, on both the private and public sides of their books. Over three quarters of allocators we spoke to care about maintaining technology exposure to certain geographies in their public and private investments.

**Amongst investors with a regional preference, over 90% seek exposure at least to both the United States and China, and more than a third explicitly want global exposure.**

Allocators commonly express that they already have exposure via hedge funds to the United States, as this has been a priority in tech investing in the past. But on a forward-looking basis, these allocators are building out their exposure to China with urgency and look there for early growth. “Shanghai is the new Silicon Valley,” one allocator declared.

Do you have a regional exposure preference for Technology sector funds?




The vast majority of respondents prioritize exposure to US-listed names across the Technology spectrum and China-listed internet stocks. Even allocators whose initial motivation for investing in China was driven by regional- rather than sector-specific opinions now find that most of their China exposure can be classified as technology. Beyond this, allocators with a preference for global public exposure named the United States, Asia, Israel and Europe as targeted regions, in that order.

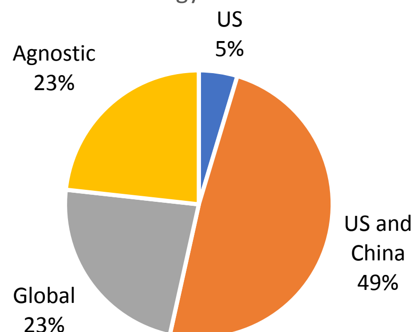
The United States has dominated growth in Technology over the past several years. When looking for what's next, allocators are framing their portfolios in a "US & x" structure.

Common combinations include:

- US & China
- US & Japan
- US & Portugal
- US & Canada
- US & Taiwan
- US & Israel

Asia remains on allocators’ radars to varying extents. Given that the technology supply chain is global, several allocators expect growth in the Chinese, Japanese, and Korean markets. Until now, investor interest has centered on internet names given the huge population of users and recent increased visibility into the population’s data—but investors are exploring beyond this trade in other sectors of the technology market in Asia. Further, they anticipate growth eventually in India, Indonesia, and Taiwan, but would not expect those regions to regularly make their way into portfolios for quite some time.

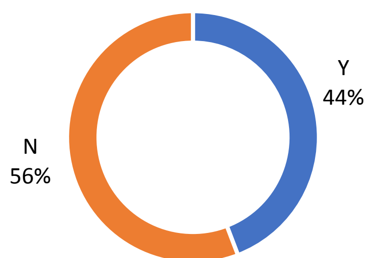
An interesting theme to emerge is how crucial allocators feel it is to be plugged into the network of private investors and companies. **In conversations about private investments, allocators were specific about their global interests in the United States, China, and Israel, speaking about private deals in country- and city-specific terms.** Multiple referenced knowledge of deals in cities throughout Portugal and Canada. As an overriding trend, the cities that are home to private deals today might likely be the hotspots for public activity in the future. In this way, staying abreast of the happenings in the global private market is an important part of making informed decisions about regional exposure.

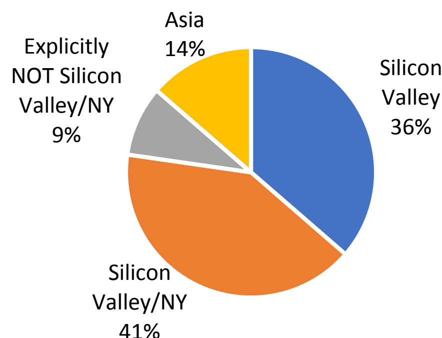



### *Manager Location*

Allocators are almost evenly divided on whether or not they prefer where their tech specialist managers are located. Currently, slightly more than half of allocators do not have a preference for manager location. These allocators reason that some of their most successful technology investments have been to specialist funds outside of the focused tech hubs in the United States. But amongst those who do have a preference, opinions are strong.

For allocators with a preference for manager location, the majority believes that operating in Silicon Valley or New York City gives an edge. Particularly with respect to private investing, allocators view a presence in Silicon Valley as an advantage—if not a necessity—because it affords near constant social and professional access to the pulse of the startup industry.




Many allocators, 14%, articulated a preference for managers investing in Asia to have boots on the ground there—in Shanghai, Shenzhen, or across China more broadly. Finally, a minority prefer that their tech specialists be located anywhere *but* the geographical hubs of activity in America. In their view, the benefits of avoiding strong groupthink much outweigh the drawbacks of being removed from the private investing circuit in the Valley. These allocators still hope to see occasional manager visits to Silicon Valley in order to meet with companies' management teams around earnings seasons and other pivotal events.

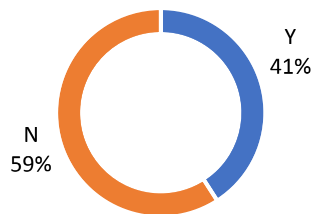
### *Employing Specialists*

Allocators were almost evenly split on their opinions about the value of expertise, engineering, and coding knowledge in the scheme of investing and decision making in the technology space. The majority of allocators interviewed, 60%, opined that having a software developer, engineer, or computer science major employed at a tech specialist fund did not render the firm a more attractive investment.

Allocators who shared this view believe that the challenge to investing in technology companies is not to understand the mechanism behind hardware or the code behind software so much as it is to unlock whether the company's product is desirable and their business model profitable. These allocators much prefer to see an investment team rife with investing, modeling, and risk management experience in order to keep up with the fast pace of change in the DNA of data-driven, tech-enabled companies.

On the other end of the spectrum, some allocators think that a fund is best positioned to succeed if it employs either an engineer, a data scientist, or ex-founder of a tech startup. These allocators believe that you need to be able to research and understand the details of the companies in this universe in order to invest effectively, and this often requires extensive knowledge of hardware, software, coding, or some combination of the three.

Do you have a preference around Technology managers employing engineers, software developers, or other expertise?




Sometimes, certain trading strategies lend themselves more to benefiting from the skills that an engineer or computer scientist can offer. As one allocator noted, “Those with short term holdings and more portfolio turnover are more likely to have a data scientist or engineer on board, and the guys who buy and hold are less likely to have an engineer on the team.”

Allocators concede that experts may be more helpful to certain fundamental strategies than others as well. For example, in hardware, where there tends to be significant capital expenditure on research and development, an expert would likely be able to gauge whether these spends were justified better than a layperson would. Similarly, the knowledge of an ex-startup founder, who has lived the process of creating a tech business from the ground up, might be have valuable insight, especially when considering private deals.

### *Benchmarking Technology Hedge Funds*

However difficult it is to define a technology manager today, some argue it is even harder to benchmark one. Many leverage one set of indices for correlation and an entire other set for performance.

One allocator believes that Technology Long/Short hedge funds should have no difficulty beating the general Equity Long/Short performance benchmark, but that they have a similar risk profile to long-only public equity portfolios.

Allocators struggle to find a happy medium, arguing that benchmarking against general indices is useless, but comparing a tech fund to pure momentum index is also unfair, especially if the manager has been expressly selected to invest in smaller and mid-cap sized names.

Some allocators have taken the approach of creating bespoke benchmarks for the Technology managers they are vetting, stripping out or adding names to pre-existing indices like HFRI Tech or MSCI World IT in order to approximate the growth or value bent of the manager in question.

### *Risks: Regulation, Valuation, and FOMO*

As in any other sector, there are myriad risks to consider in the Technology space, some of which affect investors unilaterally and others that only concern those with a certain view on the space.

Since investing in Technology increasingly means investing in **data-driven, tech-enabled** companies, investors should take regulatory concerns seriously. Though companies have been leveraging data for industry- and consumer-level insights ever since John D. Rockefeller founded Standard Oil in 1870, today’s data landscape in many ways resembles the Wild West. Given the increasing eye regulators are turning to the data, privacy, piracy and other legal and compliance issues, the future of regulation came up frequently in discussions.

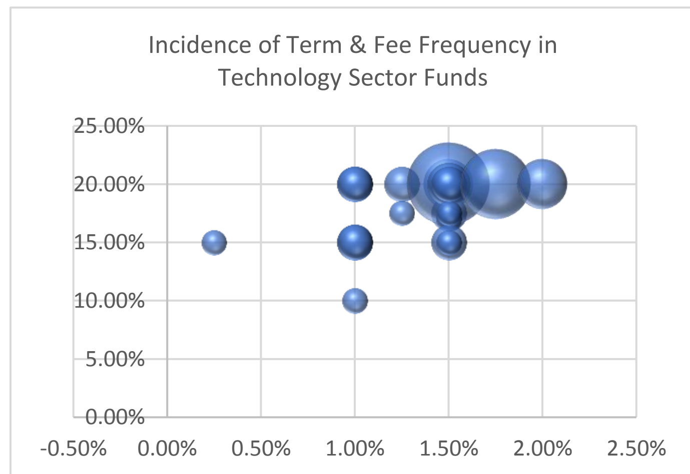
In a similar vein, “headline risk” was also a concern for allocators – given the public presence many tech company leaders have in social media. Technology stocks represent some of the most secularly sensationalized companies in the world. More than in most other sectors, TMTC constituents are routinely affected when they receive bad press, when their competitors receive good press, and even when their leaders take to Twitter.

Whether or not allocators are worried about a valuation bubble, many express that perhaps the biggest tech-related risk of all is not being invested.

Beyond these broad, secular risks, investors should consider market-specific dynamics as they build their portfolios and think about risk management. Top of mind for many allocators are the intertwined issues of momentum and crowding. Many fear that the current environment—where investors all hold the same small group of high-performing, blue-chip names —is a recipe for disaster. To some, valuations seem high, and in the event of a slowdown in growth or momentum reversal, even one fund's decision to exit a crowded name could lead to widespread panic. Similar panic could ensue if a tech-focused pod within a larger hedge fund must unwind its book. "It is dangerous anytime anyone is in the same stocks," as one allocator put it.

Allocators consistently revisit the drawing board as they consider their net exposure to Technology. While some manage risk by maintaining low net or market-neutral exposure, some still believe that it is too early to remove long exposure now, tempting as it may be to walk away with the sizeable earnings that have already been realized.

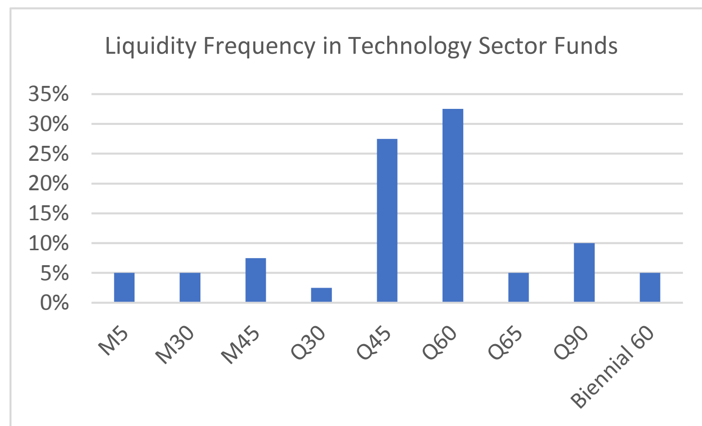
But sometimes, ideas are crowded because they are *good* ideas, and the winners differentiate themselves by being experts at timing and sizing. So whether or not allocators are worried about a valuation bubble, many express that perhaps the biggest Tech-related risk of all is not being invested. The few allocators who have deployed no capital in the space regret it. Those who are invested cannot imagine completely redeeming and setting their sights on another sector. With tech "becoming ingrained in every sector and industry," even so little as defining technology too narrowly can lead to missing opportunities on both the long and the short side.




*Terms, Fees, and Liquidity*

Regarding Technology sector funds specifically, interesting commentary emerged around a willingness to pay higher fees for quality performance – similar to our Healthcare findings. Allocators often had appetite to pay more for strategies that think outside of the pure growth mindset. One explanation that allocators gave was that they would not mind paying higher fees if it meant that the fund would not continually feel compelled to raise more money.

These preferences are reflected in the average terms and fees of the Technology sector funds in the Jefferies Capital Intelligence dataset. A review of our data revealed that most management fees are somewhat rangebound, and fall between 1.25% and 1.75%, while performance fees remain on the higher end of the scale, mostly around 20%.




Other allocators similarly expressed that excellent returns—such as outperforming benchmarks, capturing superior alpha in popular names, or successfully executing a beta-neutral strategy—could merit higher fees, such as a more traditional 2% management and 20% incentive fee structure.

Preferences around liquidity were less surprising—most allocators expected quarterly liquidity from Technology specialist hedge funds. Given that most of these funds are trading in and around some of the market's most liquid names, this comes as no surprise. That said, there is some variety amongst the liquidity terms of Technology sector specialist

sector funds. A review of Jefferies Capital Intelligence data reveals that while the majority of funds offer quarterly liquidity with 45 or 60 days' notice, 10% require 3 months' notice while many others promise monthly liquidity.

*Private Companies and their Relevance to the Ecosystem*

The private ecosystem conversation came up frequently in our discussions about investing in technology. While the private market was less relevant to allocators looking to write tickets to healthcare specialists, allocators broadly agree that effective technology investing involves participation in—or, at the very least, extensive knowledge of—the private market.

This is for several reasons. First, technology startups are born every day and wait longer to go public than ever before. There are **currently 260 unicorns (private companies valued at $1 billion or more) globally, collectively worth $840 billion in valuation. The largest share of the unicorn companies are internet software & services companies** (15%), followed by e-commerce (14%) and fintech (12%).[5] Since 2010, it takes on average almost twice as long for these companies to go public than it did in the 1990s, which means that when they do, they are larger, more sophisticated, and have more global reach. And some never IPO at all. A refrain we heard was "fewer quality companies IPO now – if they were *really good*, one of the FAANGs would've bought them."

Opting to sit out private equity or venture capital deals could mean less exposure to a vast pool of information and a profitable universe of deals in technology. 2018 is set for nearly $12.4 billion in total deal value, which would surpass every year since 2008 (except 2012, an outlier due to Facebook's IPO that year). This year has already surpassed 2017's totals in deal value and IPO count.[6]

*Opting to sit out private equity or venture capital deals means passing up access to a vast pool of information and a profitable universe in Technology.*

Additionally, allocators believe the intelligence gleaned from being plugged into the private side of the market to be nearly invaluable. In conversations, we witnessed a broad belief that private-side activity can materially shape the public markets.[7] In this light, many allocators felt that being less aware of the vicissitudes in the private market may mean operating at a severe disadvantage in the stock market.

Many public market Tech allocators maintain a robust internal portfolio of private investments, and many prioritize their efforts to source private deals over public allocations. Their reasoning is twofold. First, as tech startups increasingly delay IPOs, allocators feel the potential return on investment is much greater in privates than in the public market. They also provide a window into the future.

Those who invest in privates—especially in venture capital deals—say that it is the source of their best returns. By and large, those who do not put dollars to work in the private space blame liquidity—though they understand the appeal of privates, their mandates require more liquidity than privates can offer.

How allocators participate in private deals varies. Some take a thematic approach, investing in venture capital deals around themes like autonomous driving, disruptive technology, business development, Software as a Service (SaaS), or biotechnology. Other strategies source certain deal types, such as early-stage venture capital, venture debt, or late-stage private credit deals.

**One theme to emerge from conversations about private investments was that their global view is much broader than that of the public investments.** While most Technology hedge funds invest in the United States and Asia predominantly, private investments cover the globe, with compelling venture capital deals cropping up in Australia, Canada, Israel, and even Portugal.

Accordingly, when vetting Technology specialist hedge funds, allocators duly seek out managers who demonstrate knowledge of the private landscape and connections to operators within it. In many cases, this is a prerequisite for being considered for an allocation. For allocators who do not maintain their own private portfolio internally, the opportunity to opt into co-investments via a hedge fund is extremely attractive.

There is some lack of communication between allocators and managers on this front. Though most allocators value a manager with inroads into the private space, few hedge fund managers mention this in their pitches even if they can boast expertise in this field. Allocators are finding that they must probe managers on this topic to get information.

## How Jefferies Can Help

The Jefferies Capital Intelligence team can help Technology specialists more accurately understand the competitive landscape and identify emerging themes and trends that could impact a manager's ability to raise, retain and grow their capital base. We capitalize on the expertise of the Jefferies Technology franchise across investment banking, capital markets and our trading desk, led by Michael Toomey, to holistically understand the sector and help managers understand where they stand in relation to their competitors and within the broader landscape.

In this time of information overload, understanding where a manager sits in the Technology landscape can save time and inform conversations with potential and longstanding LPs. Taking the time to understand what has converted interest into activity, particularly given the complex nature of the space and specific drivers of allocation, can facilitate more effective targeting and engagement of potential investors.

We welcome your questions and look forward to engaging with you.

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