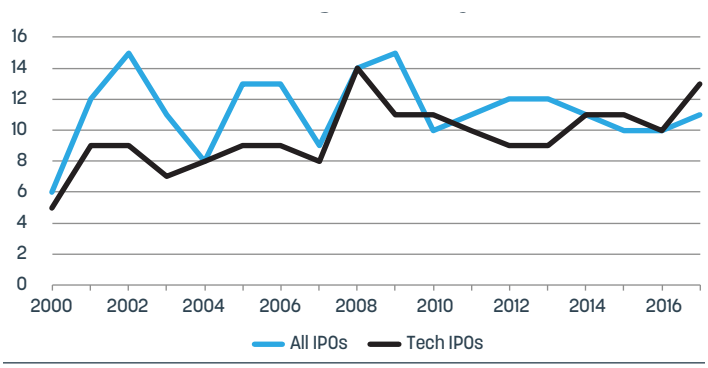
iCapital

AGE REALLY DOES MATTER WHEN IT COMES TO UNICORNS

The most under-appreciated fact about a unicorn company going public today might just be its age. While there are many key factors to consider in evaluating any investment, age can reveal a lot about a unicorn – and, mostly these days, this metric is flashing a yellow light to which investors should pay close attention.

Despite the accelerating speed at which technology companies are scaling, and the fact that a record number are reaching unicorn status ($1 billion in enterprise value) within three years, the median age of tech companies that are listing on the U.S. public markets has increased to just over 11 years old compared to 8 years in the early and mid-2000s. While this may seem counterintuitive on its surface, given how fast these unicorns are scaling, it should come as no surprise.

Median Age of IPOs by Year



Data Source: Jay Ritter, Cordell Professor of Finance, University of Florida[1]

The entrepreneurs behind these unicorns have enjoyed access to abundant sources of private capital, allowing them to avoid the regulatory and disclosure hassles of the public markets, which used to be the only way they could secure the financing necessary to scale their businesses. In particular, the last five years have seen a massive amount of new capital enter the late-stage venture market. Initially, this came from sovereign wealth funds and traditional long-only participants such as Fidelity, T. Rowe Price, and Baillie Gifford that invested in late-stage "momentum rounds" leading up to an IPO. In late 2016, Softbank became the largest and most newsworthy entrant into late-stage funding through the launch of its $100 billion Vision Fund, with CEO Masayoshi Son declaring, "We are unicorn hunters."[2] To put the size of the Vision Fund in context, the total amount of U.S. VC deal activity averaged $80 billion per annum in the three years surrounding the Vision Fund's launch.[3]

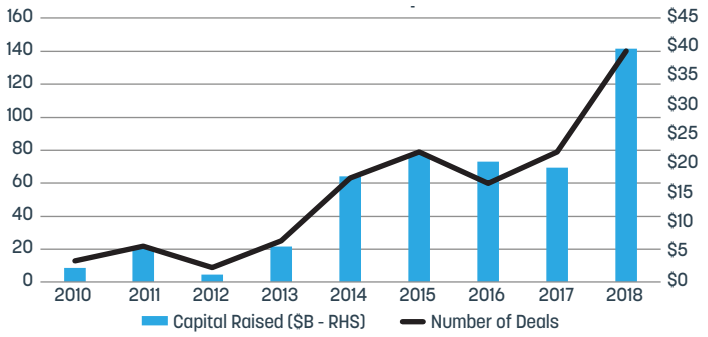
So, when a unicorn files for an IPO, investors should naturally wonder whether most of the magic has worn off. Why else would these sophisticated private investors, who are constantly evaluating the growth potential of existing unicorns and scouring the private company landscape for the next ones, let such opportunities escape their grasp too soon?

This is where investors need to consider the accelerating pace of change. Advances in cloud computing and open source software combined with the global adoption of web-enabled services have enabled tech companies to rapidly scale and achieve critical mass in ever shorter timeframes. If you think in terms of "tech years," a 5-year-old unicorn today could be further along in its growth trajectory – as measured by enterprise value, revenue, and/or market share – than a 10-year-old tech company would have been a decade or two ago.

Indeed, more than 50 companies have reached unicorn status in just three years or less, and the number of private tech companies that are sprinting to $100+ million in revenues in a few short years is unprecedented. By comparison, the most spectacular tech companies born in prior generations — Amazon, eBay, Salesforce — did not reach unicorn status until after they went public; an exception being Google, which was founded in 1998 and surpassed a billion-dollar valuation in 2001. Perhaps more important, these companies went public when they were much younger: 3 years old in the case of both Amazon and eBay, 5 years old in the case of Salesforce, and 6 years old for Google, leaving tremendous upside for public investors. Today's best-known unicorns are already well past that age: Uber, which is expected to IPO in the $80 – $90 billion valuation range, is 10 years old; Airbnb ($35 billion) is 11 years old; the We Company (formerly known as WeWork, $47 billion) is 9 years old; and Slack ($7 billion) is 10 years old. Lyft went public on March 29, almost 7 years after it was founded, with an enterprise valuation of $23 billion, followed by Zoom, which went public on April 17 at age 8, and Pinterest, which went public the next day at age 9.

In helping to create hundreds of unicorns and fueling their continued growth, the private capital markets have eclipsed the public markets and shifted most of the value accretion to private investors. The number of IPOs is running at half the levels of the 1980s and 90s, while the average age of a public company has increased from 12 years in 1996 to about 20 years today.[4] The reduced need for public market capital is clearly visible in the number of mega-rounds ($100+ million) raised for private companies. These rounds are intended to accelerate growth and they often prioritize speed over efficiency, enabling companies to scale at a furious pace (known as "blitzscaling) without a clear path to profitability. In 2018, there were over 140 U.S.-based software mega-rounds, including 20 deals in which over $300 million was raised, which would have been hard to fathom twenty years ago.[5]

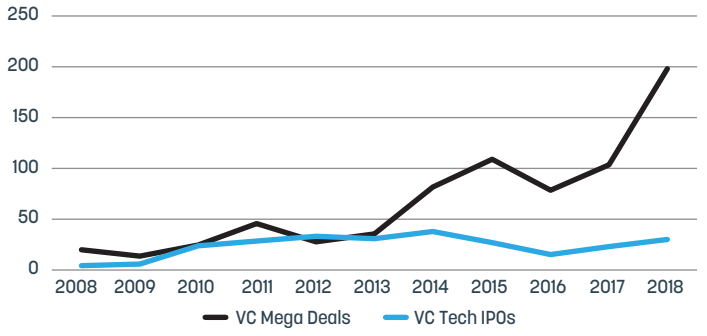
U.S. Software: Number of $100mn+ Deals & Capital Raised



Source: Pitchbook, as of 2018 year-end.

The impact of these large inflows of private capital is visible in the following chart, which shows the increase of mega-rounds (across all tech-enabled companies, not just software) in recent years relative to the number of venture-backed IPOs. As a growing number of unicorns receive these late stage infusions of capital in the private markets, it seems inevitable that the number of unicorns seeking a public offering will rise, assuming, of course, that the markets remain buoyant. After all, the venture capital firms and other providers of late stage financing need to return cash to their investors, and many unicorns have become so large they are no longer viable acquisition targets, leaving a public offering as the only logical liquidity path.

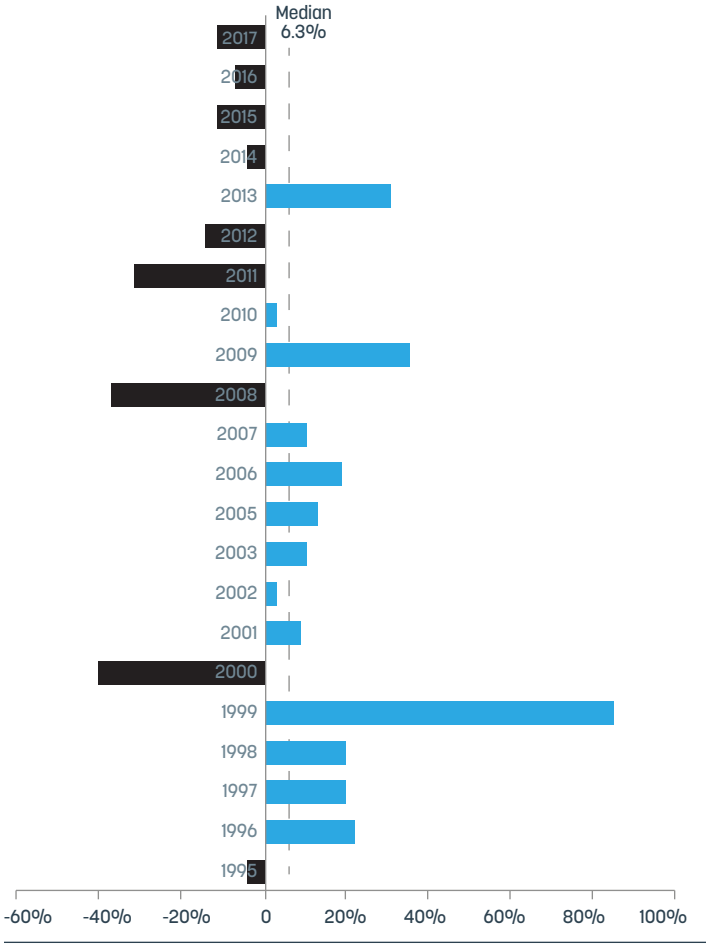
Number of U.S. Mega VC Rounds vs. Number of VC Backed IPOs in the U.S.



Source: Pitchbook and Jay Ritter, Cordell Professor of Finance, University of Florida

The correlation between this tremendous influx of private capital and the performance of companies post-IPO is hard to ignore. Since 2011, only one IPO vintage (2013) has generated a positive average return for investors 12 months after public offerings.

Average Market Cap Gains One Year After IPO



Source: FactSet, Goldman Sachs Global Investment Research[6]

The chart on the next page shows the growth, through various fundraising rounds, of six unicorns that are projected to IPO during 2019 or have already gone public. In each case, the companies' valuations continued to grow strongly, often at a more heightened pace, after reaching unicorn status. Twenty years ago, these later phases of growth would have almost certainly occurred in the public markets.

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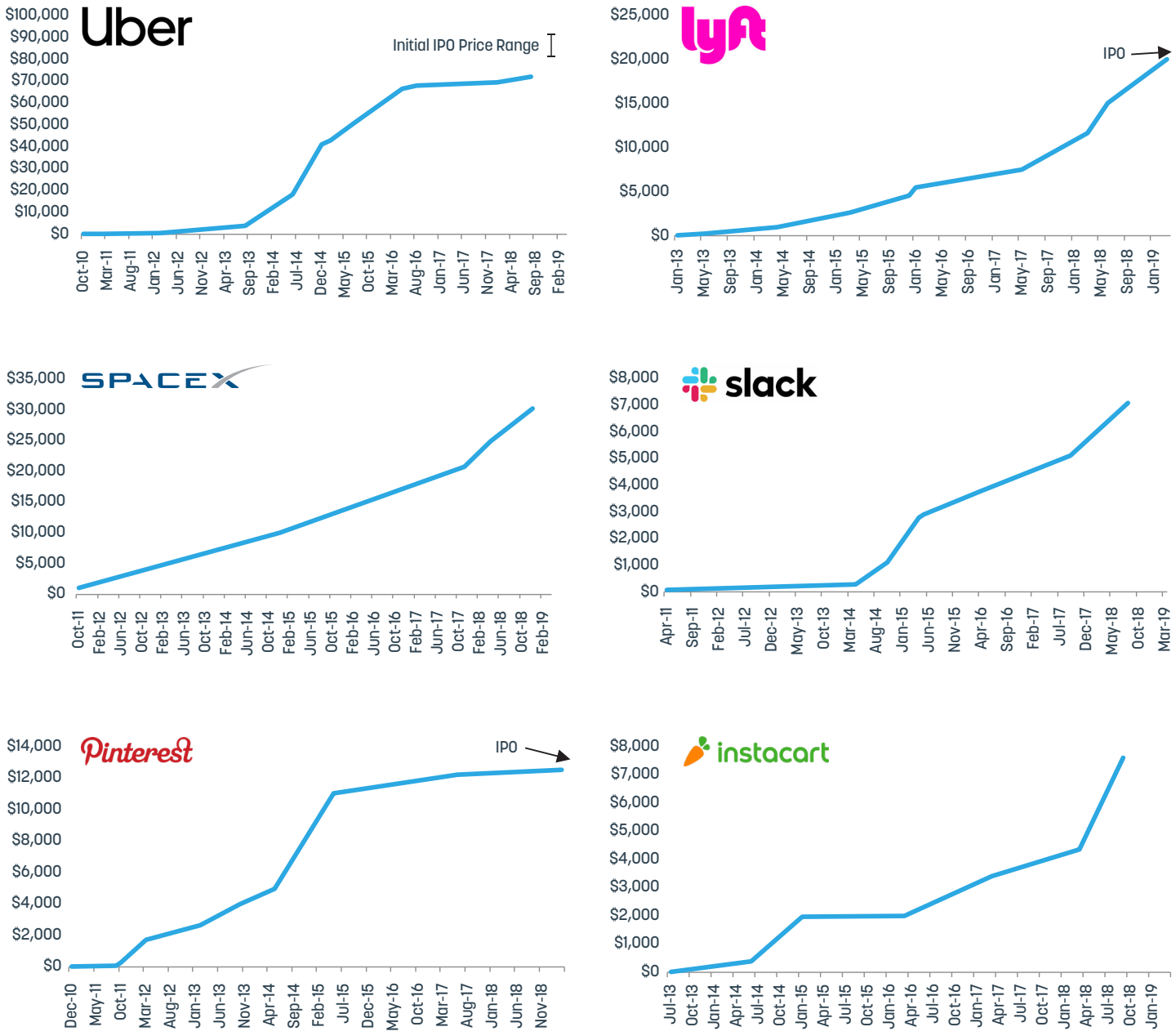
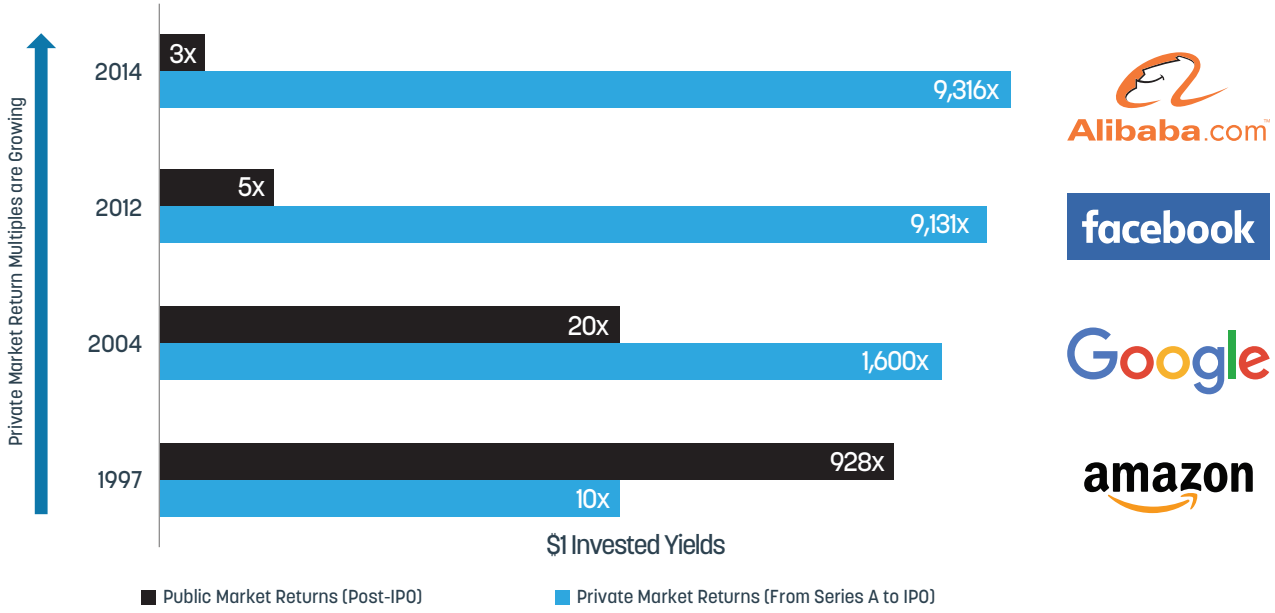


Source: Pitchbook and Crunchbase. Valuations in millions of dollars. IPO/Projected IPO valuations based on company S-1 filings with the SEC.

No one should expect Lyft or any of today's well-known unicorns to match the public shareholder returns of Amazon (a dollar invested in its 1997 IPO is worth over $1,200 today[7]) or even Google ($1 in its 2004 IPO is worth around $25 today). But is it reasonable to expect a return comparable to what Facebook has generated? Facebook, which reached unicorn status in just two years, went public in 2012 at age 8 with a valuation of $110 billion. It has since increased fivefold to approximately $510 billion today, and the stock has appreciated more or less proportionally. For investors who bought into Lyft's IPO to make 5 times their money, Lyft would have to grow to about $100 billion in value. Certainly not impossible, but it's worth noting that fewer than 125 public companies globally have valuations of $100 billion or greater.[8] One might naturally conclude that the risk-reward trade-off for Lyft – and, specifically, the lack of visibility around when it might become profitable – was no longer appealing enough for its private capital investors who took the opportunity to gain liquidity through an IPO. Public market investors have greeted the stock skeptically, with Lyft falling 15% from its IPO-price in its first month of trading.

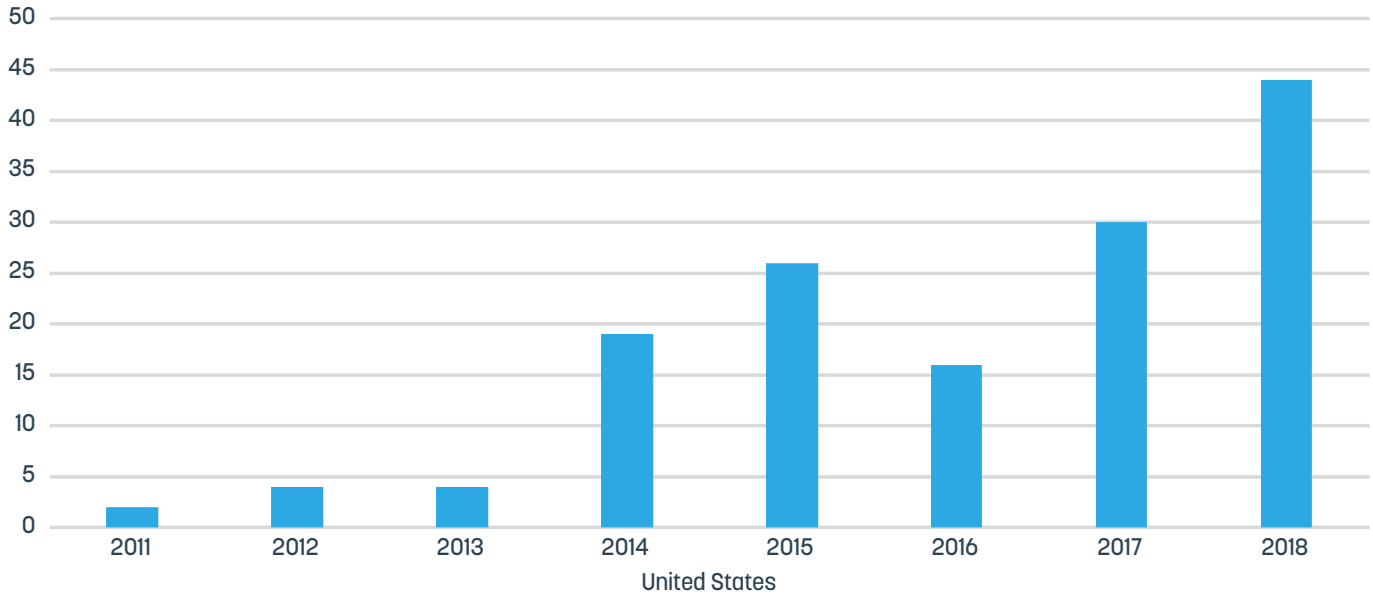
Tech Companies Pre and Post IPO Returns



Note: Private multiple is from Series A to opening price upon IPO; Public Multiple is from IPO to April 18th, 2019.
Sources: Equiam, S-1 and other regulatory filings, Yahoo Finance

With unicorns disrupting traditional businesses in almost every corner of the economy (there are 145 unicorns in the U.S. and over 300 globally) and a wave of well-known unicorns planning to go public in 2019, there is mounting concern that many unicorns might be creating "profitless prosperity". These companies generate substantial revenue, but many have an uncertain path toward sustainable profitability. The percentage of companies pursuing an IPO that have yet to generate a profit has increased to 84% compared to just 33% ten years ago.[9] For individual investors this poses meaningful questions about whether to invest in these names in the public or private markets and how best to do so.

Number of Unicorns Created



Source: CB Insights, as of 2018 year-end[10]

BUSINESS MODELS ARE KEY: THE DIFFERENCE BETWEEN B2B AND B2C

Over the last decade, the world has transitioned online, driven by computing power, cloud storage, and the rise of mobile usage, which has increased accessibility and vastly reduced distribution costs (i.e., an internet download, or app). This has provided a secular tailwind for technology companies, allowing them to scale revenues rapidly and become entrenched in customers' lives and businesses. However, there are meaningful differences in the business models depending on whether the end-client is the consumer (B2C) or a business (B2B).

Take, for example, the recent IPOs of Zoom, a B2B model, and Pinterest, a B2C company. While Zoom generates less than half the revenues of Pinterest, it now has a higher public valuation than Pinterest because it is profitable and 74% of its revenues last year were from annual and multi-year subscriptions. Zoom ended its first day of trading with a fully diluted market capitalization north of $18 billion, giving investors who participated in its last private round of financing a huge windfall (that round took place in January 2017 at a reported $1 billion valuation). Pinterest, in contrast, is still losing money and priced its IPO just slightly above its last private round of financing (June 2018). Still, both companies enjoyed positive market debuts: Zoom's shares were up 72% after its first day of trading, while Pinterest shares were up 28%. On the back of this warm reception, Zoom immediately became the most expensive stock in the U.S. based on an enterprise value-to-revenue ratio. It ended its first day of trading valued at 49 times its trailing 12-month revenues and around 31 times the consensus forecast for the next 12 months. Even Zoom's founder and CEO, Eric Yuan, seemed astonished, offering a caveat emptor reminder on Bloomberg that "the price is too high."[11]

Business-to-Business

Enterprise software companies have leveraged the cloud to adapt their business model from a perpetual licensing one to a subscription model, commonly known as software-as-a-service, or "SaaS". The SaaS model sees the company receive a smaller, but more frequent fee rather than a larger upfront licensing fee. This has proven beneficial as it has led to consistent recurring revenues, and to higher retention rates as clients must make the proactive decision to turn off a subscription rather than re-up a larger licensing contract. Furthermore, the smaller regular subscription cost increases the size of the potential market and helps normalize margins. The margin improvement reflects that software has a high upfront cost to develop, but that the marginal cost of providing it to a new customer approaches 0%[12] as a company grows. This combination of the recurring nature of the revenue, a larger target market and the high flow-through of each incremental dollar of revenue to the bottom line creates a highly valuable business which commands a premium to software's historical multiples.

In helping to create hundreds of unicorns and fueling their continued growth, the private capital markets have eclipsed the public markets and shifted most of the value accretion to private investors.

When considering the risks of the SaaS model, investors should be aware that its prevalence has risen since the Global Financial Crisis, and thus it is largely untested during a recession. While it should offer greater resilience than the traditional licensing model, this has yet to be proven out. The transition to smaller more frequent payments places significant importance on a company's customer acquisition costs and retention (or "churn"). By understanding the degree of the churn, investors can better gauge the lifetime value ("LTV") of a customer.[13] This can be compared against the customer acquisition cost, with a 3:1 ratio viewed as healthy. One downside of the SaaS model is that there is often a cash squeeze when the company is seeking growth and acquiring customers, as the acquisition costs are paid upfront and the lifetime value is earned over time. The faster a company tries to grow, the larger this cash squeeze. This is where the influx of private market capital has proven particularly valuable, as long-term investors have been willing to fund the companies through these hyper-growth periods with the expectation of increased future returns.

Not surprisingly, the private equity industry was quick to identify the enormous potential of the SaaS movement and, as a result, raised vast amounts of capital to fuel it. The firms that initially specialized in later stage technology investments and SaaS businesses (notably Silver Lake, Thoma Bravo, and Vista Equity) have built deep expertise within the space, with each raising new funds well in excess of $10 billion in recent years. Technology, in general, has become the largest target market for PE firms, accounting for over $235 billion of global buyout deals in 2017 and 2018.[14] SaaS companies have also found a receptive audience in the public markets; just under half of U.S.-based SaaS unicorns trade publicly, and the BVP Nasdaq Emerging Cloud Index of 50 cloud software names is up more than 250% over the last three years.[15]

Business-to-Consumer

On the consumer side, while there are many subscription models (for example, Netflix and Peloton) that operate similarly to the SaaS model, there are also business models that are reliant on selling advertising (for example, Google, Facebook, and Pinterest) or on delivering a physical product or service to a customer (for example, Amazon, Uber, or Lyft). The commonality of these business models is that they have removed friction from the historical distribution of their product or service.

The advertising-driven business model is largely well understood due to the success of Facebook and Google. These two companies represent about 60% of digital ad spending, and the total spending on digital advertising is expected to surpass traditional media advertising spending in 2019.[16] This business model benefits from user engagement, and the rapid scaling has often been driven by network effects, where each additional user increases the value of the product for the other users. These network effects have helped the market-leading companies create a defensible moat for their businesses and earn substantial profits. The challenge for competitors to Google and Facebook is the difficulty in both building the engagement and network effects, and then in monetizing the business model in order to turn revenue into profitability. It is likely that many of these competitor firms will be unable to do this or will succeed but only in niche or more specialized ways, and thus focusing on smaller addressable markets. While they may prove to be strong and healthy businesses, these firms are unlikely to garner premium valuations due to their smaller markets and likely lower margins.

Technology companies focused on delivering a physical product or service have changed the customer-supplier relationship by providing a two-sided market (e.g. passengers and Uber drivers) where the technology company, though acting as an intermediary, owns the distribution and the customer relationship. Many of these firms have focused on blitzscaling to quickly capture market share and sharply increase revenues in the hope of building network effects. During the hyper-growth phase this has largely not translated into profitability, though the expectation is that as these firms will solidify dominant market share and subsequently earn healthy margins and profits.

The concern for investors is that while some of these B2C firms may be truly disruptive companies that will eventually earn substantial profits, many others are not. Instead they are adding smart marketing and superficial technology elements (e.g. an app) to an existing industry's business model and gaining market share by underpricing their products. Though this is good for consumers who benefit from less expensive products or services and has driven dramatic increases in scale and revenue for the companies, it is unlikely to create network effects or transform the profit dynamics of its industry over the long term. In the interim, the "growth at all costs" strategy and the resultant losses, which can be extraordinary, are being funded using capital raised in the private markets. If this assessment is correct, many of these companies are creating "profitless prosperity" for their private market shareholders and will likely struggle to generate the levels of profitability required to justify their valuations. In some cases, such as Blue Apron (-90% since 2017 IPO), this is happening after the company has moved to the public markets.

With a wave of well-known unicorns planning to go public in 2019, there is mounting concern that many might be creating 'profitless prosperity'.

DO THE VALUATIONS OF THESE UNICORNS MAKE SENSE?

"At 10 times revenues, to give you a 10-year payback, I have to pay you 100% of revenues for 10 straight years in dividends. That assumes I can get that by my shareholders. That assumes I have zero cost of goods sold, which is very hard for a computer company. That assumes zero expenses, which is really hard with 39,000 employees. That assumes I pay no taxes, which is very hard. And that assumes you pay no taxes on your dividends, which is kind of illegal. And that assumes with zero R&D for the next 10 years, I can maintain the current revenue run rate. Now, having done that, would any of you like to buy my stock at $64? Do you realize how ridiculous those basic assumptions are? You don't need any transparency. You don't need any footnotes. What were you thinking?" – Scott McNealy, CEO of Sun Microsystems in 2002[17]

The 10x revenue multiple is one that is notable in public markets because of the dotcom crash when almost 15% of the Russell 3000 stocks traded above this multiple. In the intervening years, the companies that have been awarded this multiple are typically:

i) Great oligopolistic businesses, that are seeing double-digit revenue growth, have recurring revenue, high margins and some type of customer lock-in or network effect.

For example, currently Adobe, Visa, and Mastercard trade at greater than 10x revenue though all have significant profit margins and trade at ~30x 2019's earnings. Facebook also traded at this level prior to the Cambridge Analytica scandal;

ii) Companies that are growing exceptionally quickly and that investors expect to become the above type of businesses. These companies are primarily in the technology (especially software as a service, "SaaS") and healthcare (especially biotech) sectors. For example, SaaS names that currently trade above 10x revenue include Atlassian, Shopify, ServiceNow, WorkDay, and Zendesk.[18]

If you think in terms of "tech years," a 5-year-old unicorn today could be further along in its development than a 10-year-old tech company would have been a decade ago.

Over the last five years, the transition to a SaaS model within technology coupled with increasing valuations has seen the number of companies trading at 10x revenue increase to levels only seen before in 2000, which is somewhat daunting.[19]

At the end of March 2019, the Bessemer Venture Partners Nasdaq Emerging Cloud Index, which covers 50 publicly listed software companies, traded for over 11x 2018 revenues.[20]

HOW DO PRIVATE MARKET VALUES COMPARE?

There is an exceptionally wide range of valuations in the private markets, with the technological components of a business being a primary differentiator between the valuations. However, at a surface level, the valuations for some private unicorns[21] look reasonable when compared to the public markets. Many, on the other hand, have valuations that seem to already factor in the next phase of growth.

UNICORN	DEAL DATE	VALUATION ($BN)	EST 2018 REV ($BN)	MULTIPLE
Flexport	Feb-19	$3.2	$0.4	7.3x
The We Company	Jan-19	$47.0	$1.8	25.8x
Tanium	Oct-18	$6.5	$0.3	21.7x
Compass	Sep-18	$4.4	$1.0	4.4x
Slack	Aug-18	$7.1	$0.4	17.8x
Peleton	Aug-18	$4.2	$0.7	6.0x
Instacart	Jul-18	$7.6	$2.0	3.8x
Magic Leap	Mar-18	$6.4	$0.0	-

Some further valuation considerations include:

- Rising interest rates: While most unicorns are valued on a multiple of revenue basis, rather than on discounted cash flows, the impact of a rise in rates should not be overlooked. As interest rates increase, future growth becomes less valuable due to the higher discounting rate, and if rates normalize then it would be reasonable to expect revenue multiples to contract (vs. the last 10-years).

- Private vs. public market valuations: With Lyft, Pinterest, and Zoom now all public, and SEC form S-1s[22] filed by Uber and expected from Slack and Airbnb amongst others, there will be a large number of highly visible public unicorns. These companies will provide liquid benchmarks for private unicorns and offer an alternate measure of valuation and price discovery to the current private market fundraising process.

As individual investors consider how to participate in the unicorn phenomena there are numerous elements for them to consider. These elements – the unicorn's age and size, the amount of private capital it has raised, size of the addressable market, its business model and path to profitability – are all inter-related and there is no simple checkbox or definitive answer. Instead, investors should focus on the key questions and try to determine whether the company has already gone through its hyper-growth phase in revenue and valuation? Did it use the capital raised to enhance its business model, or merely to acquire scale? Will the company generate its revenue through subscriptions, advertising, or facilitating the provision of a good/service? Are the revenues recurring, what is the sustainable growth rate without burning tremendous amounts of cash, and how will it become profitable?

These questions will help the investor decide at what stage they are comfortable investing and whether they should invest directly or in partnership with a trusted expert. The earlier in the process – such as the provision of growth equity to future unicorns – and the more concentrated the approach, the wider the range of potential outcomes and the greater the importance of sourcing. These both increase the value of a specialist partner's expertise and network. For those investors who have conviction in making the business and valuation determinations themselves, the public markets can offer some upside with the benefit of liquidity and ability to change one's mind, though it requires a rigorous analysis and comes with daily mark-to-market volatility. But with the private capital markets capturing more and more of the upside in these unicorns and effectively monopolizing the later phases of growth that used to occur in the public markets, investing post-IPO has become a lot trickier.

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Aref Jessani
Senior Vice President, Research & Due Diligence

END NOTES

[1] All IPO-related information is based on data made available through the Professor Ritter's site at the University of Florida, Warrington College of Business.
[2] 'We are unicorn hunters,' says Masayoshi Son – Nikkei Asian Review. June 20th, 2018
[3] Average of $80.0 billion based on U.S. VC deal activity in 2015, 2016 and 2017. Data from Pitchbook-NVCA Venture Monitor & "The state of U.S. venture capital in 15 charts" – Pitchbook, October 29th, 2018
[4] Based on IPO data made available through the Professor Ritter's site at the University of Florida, Warrington College of Business.
[5] Source: Pitchbook
[6] In %-terms; companies included by year of IPO. Excludes 2004 due to outsized gain of 699%.
[7] Current market values based on Bloomberg market close data as of 18th April 2019. IPO value based as of IPO-date.
[8] Source: MSCI Inc., as of end of 1st quarter 2019.
[9] All IPO-related information is based on data made available through the Professor Ritter's site at the University of Florida, Warrington College of Business.
[10] Source: CB Insights, as of 2018 year-end
[11] Zoom Video CEO Wishes Shares Didn't Soar Quite so High in Debut – Bloomberg, April 18th, 2019 https://www.bloomberg.com/news/articles/2019-04-18/zoom-video-soars-to-16-billion-valuation-in-u-s-trading-debut
[12] For example, it costs Adobe Creative Cloud and Netflix (almost) nothing to add an extra customer. There are no shipping costs and the cloud-based product (Photoshop and streaming video on demand) is infinitely divisible (i.e. if I'm editing my holiday photos or watching "House of Cards" it doesn't affect your usage of the product in any way).
[13] For example, if a product costs $100 per month and customers churn every 2 years then the LTV is $2,400. The calculation is $100 per month * 24 months as a client = $2,400 lifetime value.
[14] Preqin as of 12/31/18
[15] As of March 31st, 2019. Based on BVP Nasdaq Emerging Cloud Index (EMCLOUD) data from Nasdaq.
[16] "Digital advertising in the U.S. is finally bigger than print and television" – Recode, February 20th, 2019
[17] "A Talk with Scott McNealy" – Bloomberg on April 1st, 2002
[18] Data from Koyfin as of April 3rd, 2019
[19] The Felder Report, September 2018 https://thefelderreport.com/2018/09/27/yes-the-stock-market-is-just-as-stupid-bat-hit-crazy-expensive-today-as-it-was-at-the-peak-of-the-dotcom-mania/
[20] Source: Bessemer Venture Partners. The Bessemer index has traded as low as 4.0x revenue, during the first quarter of 2016.
[21] The valuation and revenue numbers for Unicorns are based on company results or forecasts, or analyst estimates.
[22] SEC Form S-1 is the initial registration form for new securities required by the SEC for public companies based in the U.S. A company must have an S-1 filing before its shares can be listed on a national exchange, so companies usually file S-1s in anticipation of their initial public offering (IPO).

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