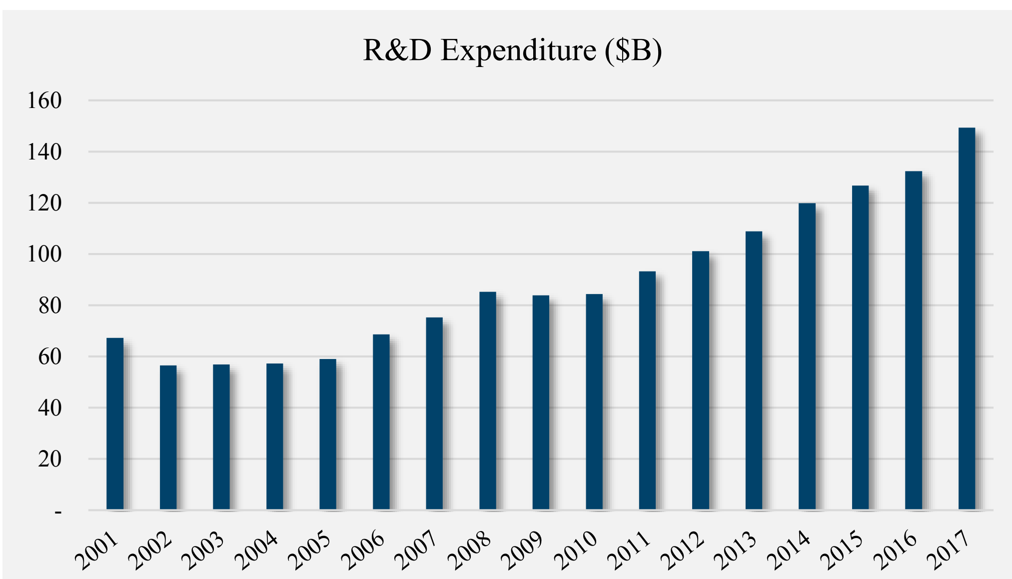
The Price of Innovation: M&A is the New R&D

Technology companies allocate billions of dollars into research in the hope of driving innovation. Over the last two decades the costs have sky-rocketed and companies are accelerating investments to stay ahead of the competition. Many management teams have decided to augment R&D by looking externally and are acquiring pioneering companies. Some investors have pondered whether M&A activity is a cyclical phenomenon which will diminish as the economy enters a later cycle. Our research, analyzing two decades of data and 900 public deals, suggests that M&A in the technology industry is more of a secular than cyclical trend. We believe that M&A is becoming outsourced R&D for firms seeking to augment their business models or product offerings in an increasingly competitive world. Moreover, the Pier 88 Investment Team is anticipating more industry consolidation driven by an abundance of cash on balance sheets, open credit markets, and companies taking advantage of the new repatriation law.

The top 400 technology companies listed on the NASDAQ spent approximately $150bn on R&D in 2017, which amounts to more than double the aggregate amount in 2001.[1] We suspect that it is simply getting more expensive and difficult to bring new ideas to market. We believe the pace of investment to continue as the tech titans battle to win market share. The following graph depicts the pace of R&D spending since 2001.



Source: Bloomberg

[1] Bloomberg as of 4/30/2018

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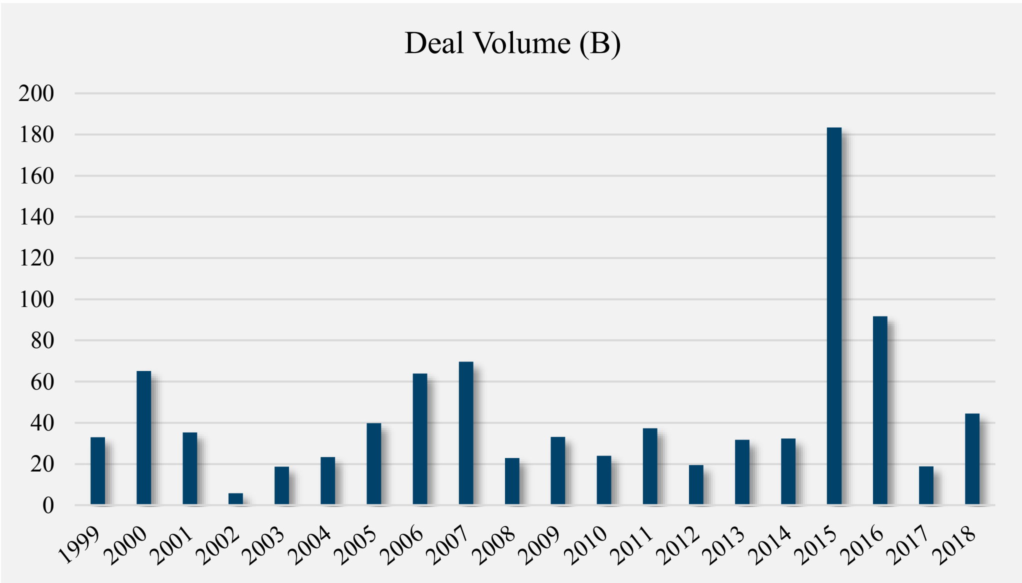
To supplement internal R&D, our research from Silicon Valley suggests that savvy management teams are leveraging their balance sheets by looking externally for innovation to spur growth. Balance sheets are another tool used to increase the velocity of a business. The record amounts of venture capital invested over the last decade seems to have accelerated the development of technology.

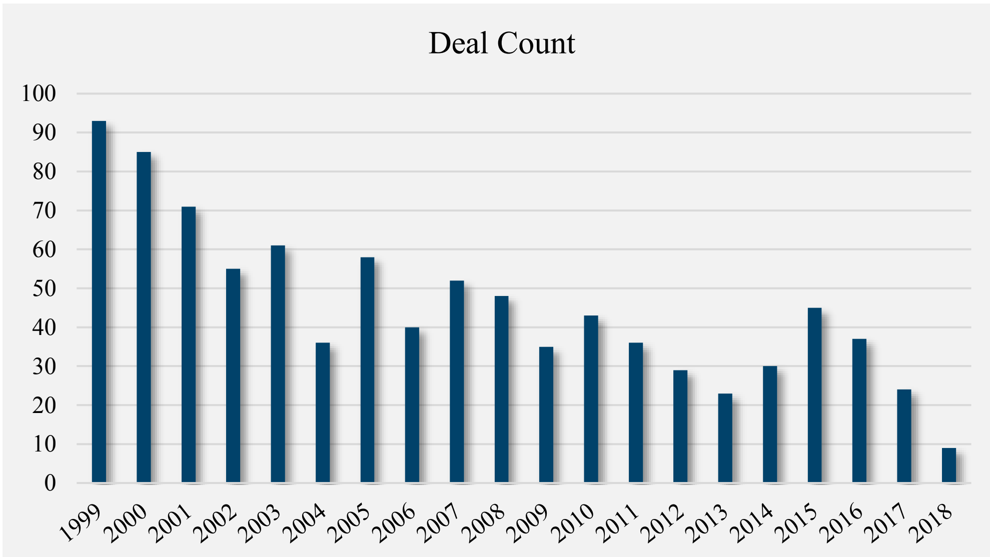
Although the number of total public M&A deals shown below appears to have peaked in 1999 during the Internet Bubble, the total size of deals has grown tremendously and reached a new high in 2015.[2] We attribute the increase in size to healthier balance sheets and larger total market caps for the dominant industry players. The following chart depicts the total volume of deals by aggregate purchase price over the last 20 years. Simply put, Amazon, Apple, Facebook, Google and Microsoft are much more vibrant companies today and have the means to do bigger deals.



Source: Bloomberg

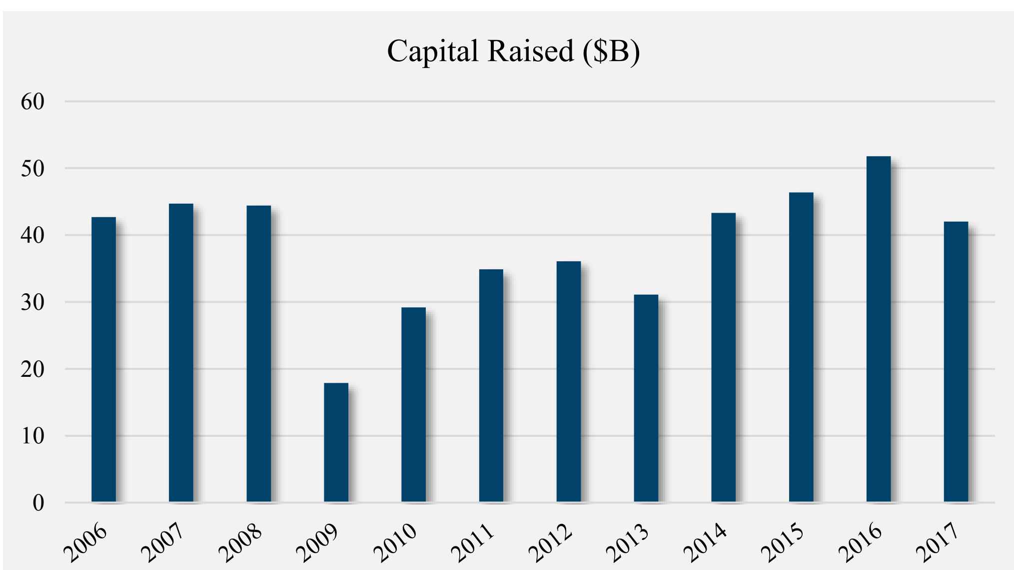
As the following table suggests, since 1999 there is an average of 45 public technology companies acquired every year. This deal count omits the numerous private companies that get purchased as well. The data suggests that the occurrence of M&A is less a cyclical phenomenon than many industry observers suspect. We posit that M&A is the new R&D for many management teams who believe the development of new cutting-edge technologies is not maintaining the necessary speed.

[2] Bloomberg 3/31/2018



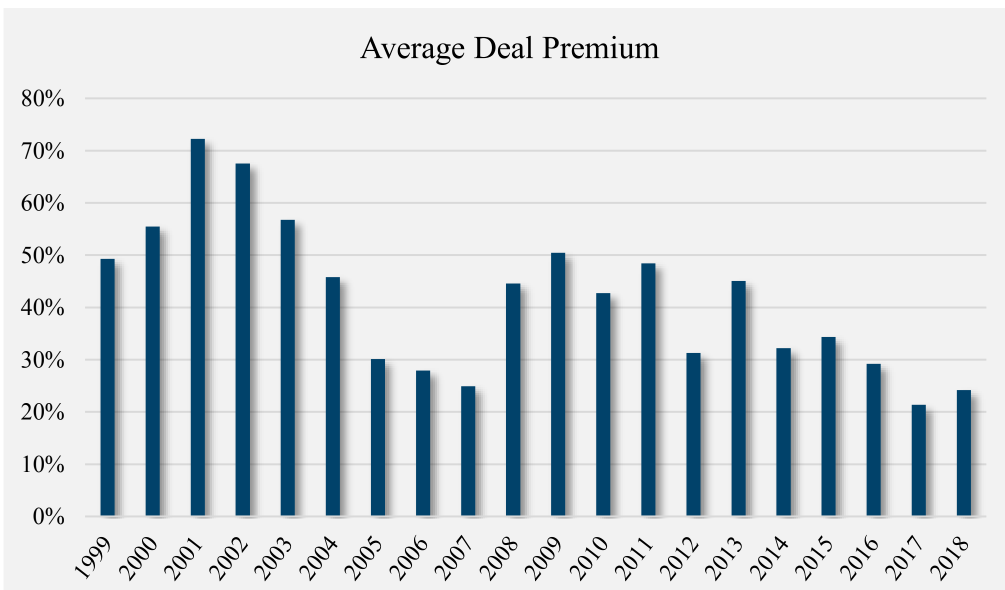
Source: Bloomberg

The technology innovation cycle is fairly well understood in the Silicon Valley Ecosystem – the most talented and ambitious engineers at large companies have ample access to venture capital and can leave anytime to pursue an entrepreneurial dream. Investors chasing returns have poured money into the venture asset class and the industry currently has very healthy coffers to fund new ideas.



Source: Pitchbook PE & VC Fundraising Report 2017

A deal can break down when expectations on one side get out of balance. Fortunately for sellers, the extended bull market has allowed many smaller companies access to public equity and debt markets, and an opportunity to scale businesses much faster. The valuation of a deal is influenced by relative valuations in the public and private markets. Today, the Pier 88 Investment Team's research suggests that public technology companies often trade at a significant discount to similar businesses in the private market. We suspect fund flows into venture, private equity and cross-over strategies have fueled the "Unicorn-effect" in the private technology market. This asset class arbitrage benefits sellers as they can point to higher valued private competitors. Our team does not try to predict how long this valuation disconnect will last. That said, our research does inform us that regardless of the economic or market cycle, buyers need to pay a premium to acquire the assets they deem strategic. The following chart details the average take-out premium in the pubic technology market from 1999 until present.



Simply put, buyers are expected to pay up to get access to the innovation they need to remain competitive. The Pier 88 Investment Team has seen companies engage in acquisitions in order to expand their product offerings into new markets, leverage R&D and core competencies to increase product portfolio, grow to capture market share, and to unlock value through restructuring and flexibility of the private market. Our research suggests continued consolidation across many technology subsectors, including semiconductors, software and Internet.

The following chart details and categorizes the M&A activity our research has identified over the last several years. For categorization purposes, we like to think of CEOs' key objectives for executing an acquisition.

ADJACENCY

Expanding product offerings to enter new markets

- Oracle acquires Responsys
- Endurance International Group acquires Constant Contact
- Expedia acquires HomeAway
- Oracle acquires Opower
- Marvell acquires Cavium
- On Semiconductor acquires Fairchild Semiconductor
- Microchip acquires Microsemi

SCALE

Growing size and reach to capture market share

- Zillow acquires Trulia
- Envestnet acquires Yodlee
- Dialog acquires Atmel
- Nice Systems acquires inContact
- Qualcomm acquires NXP Semiconductors

INNOVATION

Leveraging R&D and core competencies to increase product portfolio

- Intel acquires Mobileye
- Merck acquires Cubist
- Alexion acquires Synageva
- Verizon acquires Fleetmatics
- TDK acquires InvenSense
- Marvell Technology acquires Callidus Software

FINANCIAL

Unlocking value through expertise, restructuring and flexibility of the private market

- Vista Equity Partners acquires TIBCO
- Insight Venture Partners acquires E2Open
- Permira and CPPIB acquire Informatica
- Vista Equity Partners acquires Cvent
- Vista Equity Partners acquires Marketo
- Thoma Bravo acquires Qlik Technologies
- ESW Capital acquires Jive Software

In summary, we strongly believe that M&A is more of a secular phenomenon than a cyclical one in the technology industry. Companies increasingly are embracing external R&D to augment current internal capabilities. Our research suggests that the number of M&A transactions will likely increase in quantity and size across all industry sectors in 2018, with the technology industry experiencing an outsized number of deals. Contributing factors include:

- The constant and continuous need for technology companies to innovate,
- Large amounts of cash on the balance sheets of technology companies,
- Open credit markets,
- Repatriation providing additional dry powder to US technology companies.

The Pier 88 Investment Team believes being based on the ground in Silicon Valley offers a competitive advantage in identifying those subsectors and neighborhoods where the larger technology companies are shopping. Our fundamental approach has allowed us to identify and invest in 25 portfolio companies that have been acquired since our inception in October 2013.[3] We believe now is an ideal time to position ahead of repatriation and gain exposure to the M&A secular trend.

[3] *Not all acquisitions are profitable, the Fund's positions can be acquired at a price that is less than the price at which the Fund purchased its interest. The issuer information is being shown to reflect the manager's ability to select investments that are likely to be acquisition targets and not to reflect any positive investment experience.*

About Pier 88 Investment Partners:

Pier 88 Investment Partners is a boutique asset management firm based in San Francisco with a strategy focused on small and midcap companies. With domain expertise in the technology sector, Founder and CIO Frank Timons has created a pre-event driven strategy that takes a private equity approach to public market investing. The team at Pier 88 seeks to identify disruptive companies with key assets attractive to larger industry players facing the demand for innovation. With 22 portfolio companies acquired since the strategies' inception in October 2013, the Pier 88 Investment Team believes that several market factors including repatriation are aligning to drive M&A activity later this year and into 2018.

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