Irreplaceable Acquisitions: Proposed Platform Legislation and Venture Capital

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Abstract

Three bills in the House and one in the Senate seek to block or discourage the acquisition of small tech companies by large ones. The bills envision that most of these small tech companies are venture-funded startups, and they are. Here I assess the exits of venture-funded companies from August, 2002 through the end of 2020Q1 and quantify the acquisitions the bills would have prohibited. During this period, 4 percent of the exiting companies did an IPO, 61 percent were acquired (42 percent of these at money-losing values), and 36 percent failed completely. Of the 7,247 companies that were acquired, 82% were too small or too unprofitable to consider an IPO.

The bills target several large "platform" companies—Google, Apple, Facebook, Amazon, and Microsoft (the GAFAMs). Prohibiting these companies from acquiring venture-funded startups would have blocked 3 percent of acquisitions, but more importantly, 13 percent of the money spent on acquisitions. Extending this analysis to 18 companies that are likely candidates for being designated as platforms, the bills would have blocked 5 percent of the acquisitions and 21 percent of the money.

The bills envision a "kill zone", in which competition from large tech firms discourages the formation of smaller companies and inhibits investment in startups. The idea is that the big companies would kill potential competitors, making investments in them fail. I present the data on several measures of startup success, but most important is the trend of overall deals done and money invested. The number of deals rose 3.4-fold from 2006 to 2020, and the dollars invested rose 5.5-fold. 2021 is set to be double both deals and dollars from 2020. It is difficult to imagine what "but-for" conditions would have led to even more startups receiving even more funding. There appears to be no "Kill Zone" discouraging investment at present, though the bills themselves are likely to discourage investment.

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Several bills aimed at restricting commerce on online platforms and more generally at hobbling large tech companies were introduced in the House in June, 2021, and a Senate companion bill in October, 2021. The bills focus on businesses that operate search engines and websites/apps where users can generate or interact with content that can be viewed by other users or buy a variety of items from numerous different sellers. The legislation calls these businesses "online platforms." Standards for a platform operator to be "covered" by the House bills include an assortment of criteria such as a market cap of at least $600 billion, or annual revenues of at least $600 billion, 50 million active monthly users or 100 thousand monthly active business users, and the ability to impede a business user's access to either its customers or a tool used to serve its customers. The Senate companion bill changes the $600 billion threshold to $550 billion but uses otherwise similar definitions.

The three House bills have distinct but related goals. The *Platform Competition and Opportunity Act* (PCOA) restricts the acquisition of small startup tech companies by large ones. The *Ending Platform Monopolies Act* (EPMA) aims to introduce line-of-business restrictions and structural separation requirements. The *American Choice and Innovation Online Act* (ACIOA) would establish common carrier requirements. The Senate companion bill to ACIOA was introduced with similar provisions. Collectively, the House and Senate bills would prevent almost any startup acquisition by a firm designated as a covered platform operator. The other requirements are costly too. The chilling effect of the legislation will come from direct effects on companies already within the designation, but also on companies who are near the designation. Companies will avoid acquisitions that could push them closer to the thresholds that could ensnare them as designated.

These four bills appear to have been drafted without much familiarity with startup investing and its outcomes. The sponsors and cosponsors seem aware that many of the acquired companies are venture-funded. Some discussions envision that instead of being acquired, many startups instead could go public and operate as independent companies. This is an uninformed view. My goal here is to lay out the workings of venture capital investing and to offer data on the number, types, and values of the exits (IPOs, acquisitions, and shutdowns) of venture-funded companies from the effective date of Sarbanes-Oxley (August 1, 2002) through 2020q1. These data answer questions such as:

How many venture startups are acquired, by whom, and for what values?

Which startups do an IPO? How many? At what values?

Which companies can survive and thrive as public companies?

What fraction of companies fail totally?

Could some companies do IPOs instead of being acquired?

Overall, actual venture outcomes suggest the provisions in the legislation would discourage startup investing by inhibiting or shutting out the best customers for venture startups.

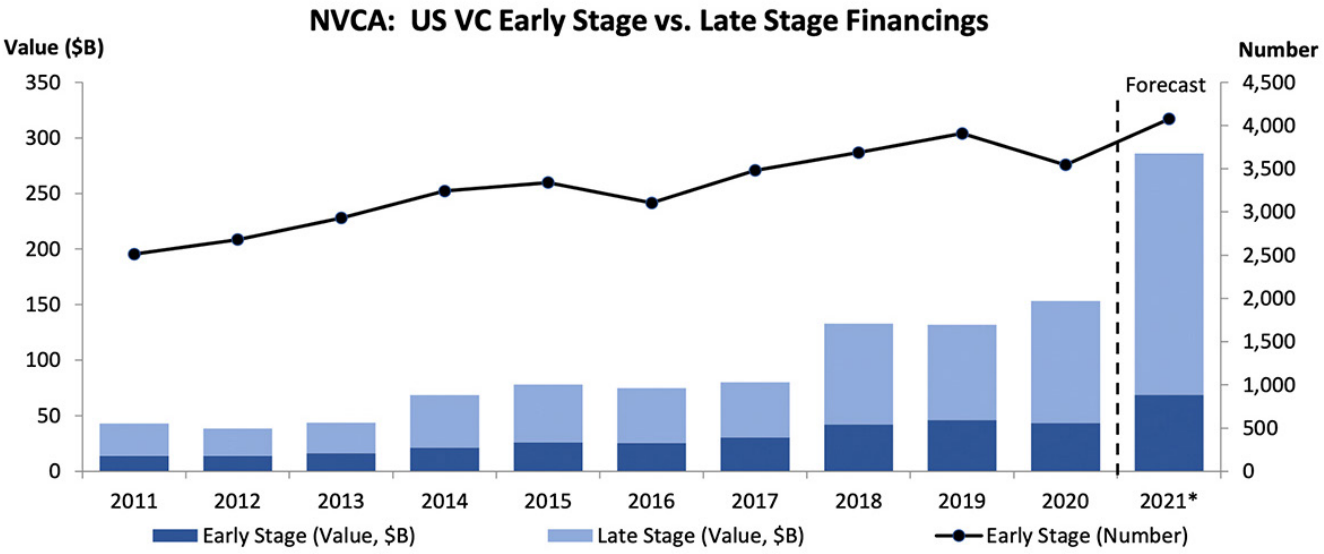
About 12,000 venture-funded companies exited in the interval from August 2002, the effective date of Sarbanes-Oxley, to 2020q1, not including biotech companies, which are not included in this analysis.

The House and Senate Bills Are Solutions to a Nonexistent "Kill Zone" Problem

PCOA and the other House and Senate bills are legislative proposals to address a purported "Kill Zone" in tech. The "Kill Zone" view predicts that the acquisition activities of large online platform operators harm competition by discouraging VCs from funding tech startups. This theory is easy to test, so we ask: In the present venture market, are there any signs that the concerns reflected in the proposed legislation are inhibiting or discouraging tech startup or VC activity?

The data on deals done and amounts invested offer a resounding NO. Through the mid-2000s, annual venture investments rose from $29 billion in 2006 to $80 billion in 2017, with the number of deals going from about 3,000 to 5,850. Then 2018 saw a little explosion in funding and deals that was not slowed by the pandemic. Preliminary figures for 2021 are even more dramatic, with total funding for the first six months nearly equal to all of 2020. For the third quarter of 2021, venture funding continues with the same enthusiasm as in the first half of the year. Funding for the quarter is roughly $80 billion, across 1,500 deals. It is hard to imagine what kill zone "but-for" would give us venture activity even higher than this. There are no signs of discouragement. VCs are providing increasing numbers of tech startups with early stage financing and are supplying increasing amounts of capital to both early stage and late stage startups.

Figure 1: VCs Provide Increasing Numbers of Startups with Increasing Amounts of Capital



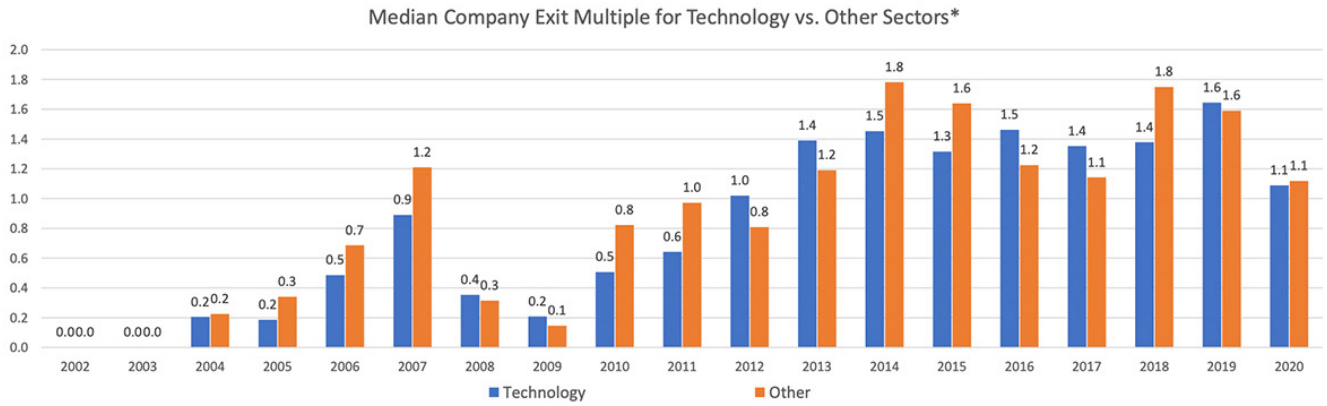
** Values for 2021 represent a forecast generated by doubling the reported values for January through June 2021.*

Source: Venture Monitor, Q2 2021 (Pitchbook/NVCA).

These large and rising amounts of investment in venture startups show no sign of any discouragement via a "Kill Zone" in venture-funded entrepreneurial activity.

The exit multiple for a company, a popular measure of startup success, is the company exit value divided by how much money it raised while private. This time series of median exit multiples by exit year for both tech and "other" companies would not be discouraging to investors. The "Kill Zone" view predicts a relative decline in the performance of tech startups relative to all other venture capital-backed startups, and no such decline is observed.

Figure 2: Annual Median Exit Multiple

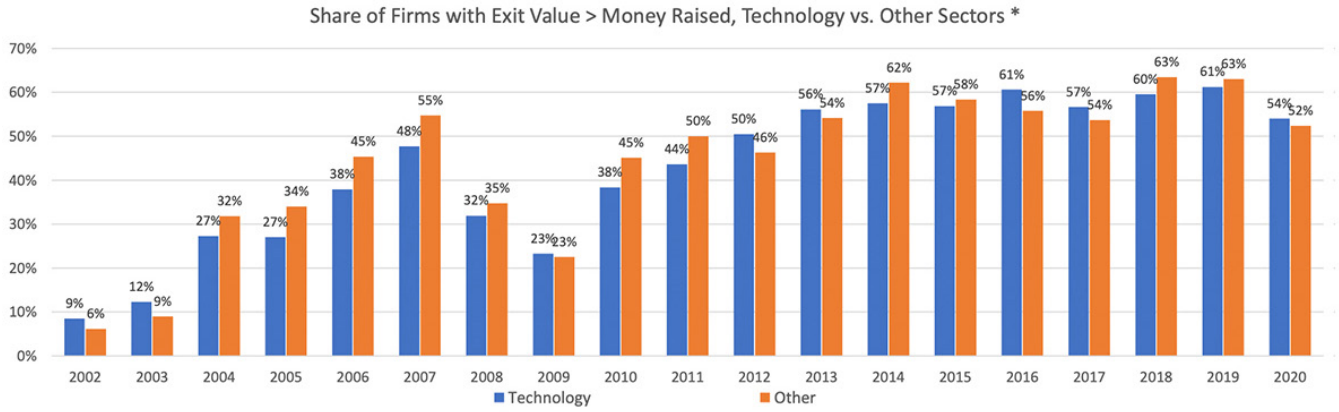


* Excludes biotech companies. Data for 2002 includes August through December, and data for 2020 includes exits from January through March only.

Note the median exit multiples roughly track the level of the stock market.

In addition, the share of startups who were worth more than the amounts invested in them (had an exit multiple larger than one) has also been encouraging for investors, in both the tech and "other" sectors. Here are figures for successful exits, for both tech and "other", from 2002 to 2020. Note that contrary to the predictions of the "Kill Zone" view, there is no observed decline in the performance of tech startups relative to all other venture capital-backed startups.

Figure 3: Annual Share of Exiting Companies with Exit Multiples Larger than One



** Excludes biotech companies. Data for 2002 includes August through December, and data for 2020 includes exits from January through March only.*

Again, figures roughly track the stock market.

In an appendix, we also offer charts on additional success measures, also very encouraging. Discouraging words, and numbers, are seldom heard or seen, and when heard, they are an echo of the stock market.

How Venture Capital Investing Works

Venture capital investing is organized through venture capital funds. Investors, such as pension funds, endowments, and rich people, rarely invest in startup companies directly. Instead, they invest in the funds. The investors are referred to as "limited partners." The fund managers, the "general partners," choose the startups. These are somewhat like mutual funds in that the investors choose the fund, and the fund manager chooses the investments. An important difference is that neither the assets in the fund—the startup companies—nor the funds themselves are assets that are traded in any public market, and information about them is non-public and difficult to come by. Another important difference is that the funds are organized to have a fixed horizon, usually ten years. The limited partners expect the general partner to choose investments and to sell them either through an IPO or an acquisition within that time, thereby returning money to investors.

The venture funds (general partners) are compensated through an annual charge to investors of a fraction of the money they have raised, typically two percent per year, and also a fraction of any money made on startups that prove profitable, typically 20 percent of the value of the company less the amount invested in it. The profit on the company exit is called "carry." The typical deal is described as 2% on "assets under management" and 20% "carry," or more briefly, "two and twenty." Some funds have fees that are higher or lower than these typical terms. In each round of venture funding, typically several venture funds invest in the startup.

Startups approach the venture funds seeking money to develop their ideas. At the time they are founded and begin seeking money, they typically do not have a product, nor customers, nor revenues, but just ideas. They make presentations and pitches to the venture funds. Those found promising (expected to eventually be profitable) by the venture funds are selected to receive money from them.

The venture funds rarely give the startups enough money to get to the point of independence. Instead, they give them some, then wait and see what they accomplish, and later decide whether to make an additional investment. The typical startup does three or four rounds of funding before exiting.

"Exits" consist of initial public offerings—IPOs—, acquisitions, and shutdowns. Here is the quick summary of the 12,000 exits we summarize here:

IPOs	4%
Shutdowns	35%
Acquisitions	61%

And we can further separate the acquisitions into

Profitable acquisitions	35% of exits, 58% of acquisitions
Unprofitable acquisitions	26% of exits, 42% of acquisitions

An acquisition is profitable if the sale price of the company is more than the total money the company raised in its startup phase. In an unprofitable acquisition, the company is acquired for less than the total money raised. When an acquisition is unprofitable, the investors get some of their investment back but are not made whole, the general partners have their management fees from the period before the acquisition, but receive no carry, and the founders get nothing.

Founders may have earned a salary during the startup phase, but they have no profits on the exit. Adding the shutdowns and unprofitable acquisitions together, **founders walked away from 61 percent of their startups with nothing**. This finding is similar to that in Hall and Woodward, AER, 2010, that almost three-quarters of founders make nothing on their startups. H&W uses similar data from 1987 through 2008q1.

Startups that are failing but not totally worthless can avoid a total loss by being acquired. They cannot raise more money (they have already tried), they do not have enough revenue to survive on their own, and they are too small and too unprofitable to go public. Acquisition is the only available loss mitigation strategy for their investors. To the extent that acquisitions are reduced by PCOA, EPMA, and ACIOA, it would be more difficult for venture capital investors to salvage something on failing startups. Exit values will be lower and underwriting/funding standards must be tougher to compensate.

In an IPO, the company has typically reached a point where it has a product, customers, and revenues, but perhaps not profits. Of course investors expect that eventually there will be profits. To do an IPO, the company must prepare its financial reports and file these and other materials about the details of its organization with the Securities and Exchange Commission (SEC). Then the company can be listed on a stock exchange, and investors can place orders to buy and sell stock in the company.

The burdens of being a public company are substantial. The company must continue to file regular financial reports with the SEC and to disclose details about its organization, including operating management, the board of directors, trading by insiders, and more. Generally speaking, only large companies can afford the overhead of being a public company.

Venture shutdowns are usually just that—shutdowns. Venture-funded companies rarely go bankrupt. Instead, they reach a point where they are unable to raise more money, but do not yet have a viable business, and so they cease operations, pay off remaining bills, and close up. The companies rarely have debt, and the general partners, concerned for their own reputations, seldom allow them to get into a situation where they declare bankruptcy and involve a court in the disposition of their assets.

There is another tiny category of exits known as “reverse mergers.” These transactions have become somewhat fashionable recently and been re-christened SPACs for Special Purpose Acquisition Companies. There are only 53 of these among the 12,000 exits from Sarbanes-Oxley to 2020q1.

In a reverse merger, the company wanting to go public merges with a company that is already public but very small, usually because it is failing, and usually not traded on the stock exchanges like Nasdaq or the NYSE. Instead, if stock trades, it is in the unlisted, restricted part of the market, often called the “over-the-counter” market or “the pink sheets.” The new merged company files its new combined financial statements and becomes properly registered and hopes to become listed. The stock begins trading, and if the company generates sufficient trading interest, it moves to the regular stock market.

The outcomes of reverse mergers are mainly a sorry tale. First, of the 53 companies announcing reverse mergers, 3 were never consummated. After the announcement, one counterparty backed out, and the two other companies never registered. One was acquired for a low value. Another 27 failed after listing. Some went bankrupt, some were unable to generate trading interest and were then delisted for lack of trading volume or a price too low. Some were deregistered by the SEC for failure to file regular financial statements. Another 6 were acquired, 2 losing money and 4 making some. A few reverse mergers used the wreckage of previous reverse mergers as their merger shell. There are 17 of the 53 companies now listed and trading. Nine are traded on foreign exchanges. Only one is worth more than $1 billion—Nikola, whose founder was recently charged with securities fraud. Total money raised by these companies while private is about $2.5 billion, averaging $46 million each.

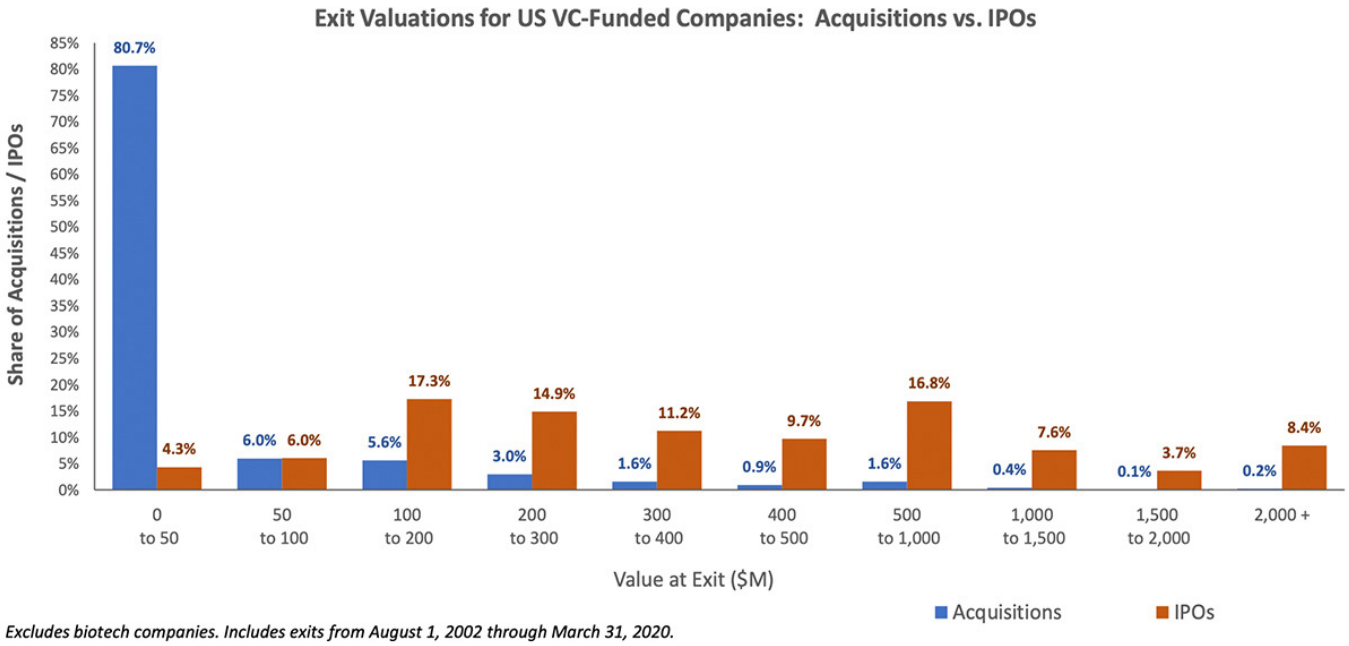
Acquisition and IPO Values of Venture-funded Companies

There are 7,247 companies who were acquired during the period we study. The average company had raised $29 million, and the median raised $14 million during the startup phase. The average acquisition value was $67 million, and the median $13 million. Of these, 58% were bought for a sum greater than the total raised, and 42% for less than the company had raised.

The acquirers are other companies and private equity funds. Slightly more than half were acquired by a public company, and 15 percent by foreign companies, two-thirds of which are public, and all of which are large organizations. Those acquired by public companies are far, far more valuable at exit than those acquired by private (non-public) companies. Private equity funds acquired 6 percent of the acquired companies. Being acquired by a private equity fund is a disappointment for most venture startups. It means they are not "done yet," but will still have general partners to answer to, who will likely exert more control over them than did their venture general partners.

The size distributions of acquisitions and IPOs differ sharply. More than 80 percent of startups are acquired for less than $50 million. By contrast, more than 80 percent of IPOs are valued at more than $150 million (all values are pre-money, that is, before adding any money raised in the IPO), the median startup IPO is $361 million, and the average is a bit above $1.2 billion. Figure 4 shows the distributions of exit values for venture startups acquired and going public:

Figure 4: Summary of Acquisitions and IPOs by Value at Exit



Excludes biotech companies. Includes exits from August 1, 2002 through March 31, 2020.

Going public at a low value courts failure. Among all companies doing an IPO in this set, 7 percent have failed since their IPO. But among the companies who went public at values under $50 million (pre-money), 40 percent have failed. Among those worth less than $100 million, 31 percent have failed. A statistical analysis incorporating time elapsed post-IPO confirms that companies are more likely to fail in the early years post-IPO, but still, low-value IPOs are much more likely to fail.

These statistics are key to understanding why more startups cannot be expected to go public. Most are simply not valuable enough to sustain the burdens of a public company. The median startup IPO has more than 25 times the value of the median acquisition at the time of exit. An acquirer only needs to have a useful purpose for the assets of the startup to justify a transaction, such as adding value to an existing operation. By contrast, IPO investors must have confidence that a startup is or will someday be capable of self-sustaining operation, a higher threshold than most startups can ever meet. IPOs are rarely appropriate for either small or unprofitable companies, whereas acquisitions make sense for companies that are too small to be public or are overall unprofitable but have an asset useful to a larger company. Even among these venture startups that did an IPO, more than half are no longer public: 7 percent have failed completely, and 45 percent have been acquired.

Nonetheless, the value created by venture startups that do go public and thrive is staggering. The IPO companies from Sarbanes-Oxley to 2020q1 raised **$84 billion** while private. They went public at a total value of **$563 billion**, and now have a value of more than **$5.6 trillion**. This is the sum of the current market caps (as of late June 2021) of companies still public plus the acquisition values ($326 billion) of those acquired after their IPO. Venture outcomes are highly unequal. A huge fraction of the value created comes from a tiny fraction of the companies.

The disparate fortunes of acquired vs IPO companies is reflected in the share of transactions that occur at values below the total capital raised. More than 42 percent of acquired companies are worth less than the money they raised, a sign that they are failing as independent enterprises. Even a few IPOs, but only a few, 4%, went public for less than they raised while private. The table below shows a breakout by value quintile.

Figure 5: Percent of Companies with Exit Values Less than Money Raised

Quintiles by Exit Value	Acquisitions		IPOs	
	Quintile Range	Percent	Quintile Range	Percent
First Quintile	$0.0 to 5.6 M	49%	$3.9 to 156.5 M	13%
Second Quintile	$5.6 to 9.9 M	51%	$156.5 to 276.3 M	3%
Third Quintile	$9.9 to 17.2 M	54%	$276.3 to 462.2 M	4%
Fourth Quintile	$17.2 to 46.3 M	52%	$462.2 to 992.7 M	1%
Fifth Quintile	Greater than $46.3 M	6%	Greater than $992.7 M	0%
Overall		**42%**		**4%**
US VC-funded companies, excluding biotech companies, with exits from August 1, 2002, through March 31, 2020.				

Who are the acquirers of venture startups? There are about 4,500 unique acquirers for the set of more than seven thousand acquired companies. As described earlier, more than half of the acquirers are public companies, and 15 percent are foreign companies, two-thirds of which are public.

During the period studied here, about $500 billion was spent on the acquired startups. Some acquirers are much more active and spend more than others. A set of 18 companies, who are plausible candidates to be designated as "covered platform operators" under PCOA, EPMA, and ACIOA or large enough to be close, has acquired 5 percent of the acquired startups. More interesting is that they have spent 21 percent of the total money spent on venture startups. The reader is also surely interested in the acquisitions by Google, Apple, Facebook, Amazon and Microsoft, the firms explicitly targeted by the bills. These five companies have bought 3 percent of the companies, and spent 13 percent of the money.

An amendment to PCOA would, in principle, allow acquisitions valued under $50 million by covered platform operators, though if EPMA and ACIOA were also enacted, the line of business restrictions/structural separation requirements of EPMA and the common carrier requirements of ACIOA would continue to effectively prohibit most acquisitions under $50 million by covered platform operators. These 18 firms have bought 10 percent of the companies worth $50 million or more, and spent 23 percent of total expenditures on these. For the five explicitly targeted companies, the figures are 5 percent of the companies, 15 percent of the expenditures.

Figure 6: Summary of Acquisitions

	Number			Value ($M)		
Acquirers	**< $50M**	**≥ $50M**	**Total**	**< $50M**	**≥ $50M**	**Total**
Google, Apple, Facebook, Amazon, Microsoft	178	72	250	2,736	61,157	63,893
18 Candidate Companies *	254	140	394	4,169	95,871	100,040
All Acquisitions	5,846	1,401	7,247	75,850	409,843	485,693
Google, Apple, Facebook, Amazon, Microsoft Share	3%	5%	3%	4%	15%	13%
18 Candidate Companies' Share	4%	10%	5%	5%	23%	21%
*Candidate Companies include the following: Google, Apple, Facebook, Amazon, Microsoft, Cisco, Walmart/WalmartLabs, Paypal, Walt Disney, Comcast, VISA, JPMorgan Chase, Mastercard, Home Depot, Bank of America, Berkshire Hathaway, Netflix, and AT&T.						

It is not reasonable to expect that many of the acquired startups could have gone public. Approximately 82 percent were acquired for under $50 million or were money-losing acquisitions for their investors. They were not candidates for an IPO. Even among those who are very valuable, many were created with a single purpose, and developed a single asset, such as security, authentication, data management, streaming technology, and many other functions that are not themselves a standalone business, but a working part within a business.

Blocking 21 percent of the expenditure sources from participation in the acquisition market for venture-funded startups would have a profound effect on venture values. The returns on the 394 companies acquired by the 18 candidate companies represent a sizable fraction of the total return to all venture capital. The legislation would inhibit activity among companies not yet among the designated "covered platform operators," but large enough to be close. Less total expenditure available, as well as fewer bidders, will lower valuations at exit. If the values of startups are lower as a result of shutting out 18 of the biggest startup buyers and those who are close, venture capital overall is less valuable. Investment can only go down, and startup formation only decline.

Appendix 1

Estimated Values for Acquisitions

About half of the acquisitions values we use in this analysis are known. The other half are estimated. Among the known values, some were learned with much more effort than others. As a general matter, the lower the value of an acquired company, the more effort is made to conceal it.

When venture-funded companies are acquired, a value for the acquired company is shared a bit less than half of the time. "Sharing" can take many forms. The easiest values to learn are those that come in press releases, which then sometimes become headlines. We call these Category 1: "We acquired Digits.com for $500 million". There are few values above $500 million that cannot be found in an easily-accessed press release. Then there is Category 2, which has a bit of friction: the press release reports "We acquired Digits.com", but gives no value. If the acquirer is a public company, one can look at the acquirer's SEC filing, 10-k or 10-q, and sometimes find the acquisition and a phrase like "We acquired Digits.com for $27 million". Now Category 3: Same press release, and a public acquirer, but the phrase in the filing is "In the fourth quarter we acquired Digits.com", with no value in the text. After some rummaging around the filing, the analyst sees no other acquisitions for the quarter, and checks the cash flow table, which shows $22 million for business acquisitions. Category 4 is harder—the acquirer has acquired several companies, the cash flow table gives a total figure, which allows us to put a ceiling on the acquisition value. Our research on these categories shows that the harder we have to work to find an acquisition value, the lower it is.

Acquisition values are systematically related to many company and deal features. Most important is how much money the company raised in its venture phase. Also very important is whether or not the acquiring company was a public company. In addition, it matters how much time has passed since the company's original round of funding, how much time since the most recent round of funding, the company's industry category, number of employees (if known), the level of the stock market, and very important is whether the company was in the middle of a bridge round when the acquisition happened. A bridge round is a partial fund raising, in which the company must return the money to prospective investors if the planned total fundraising is not raised. An acquisition in the middle of a bridge round is evidence that the company was trying to raise money and remain private a little longer, but was unable, and was acquired instead.

In estimating acquisition values, we use all of the above fields plus a correction for selection bias (shared vs not shared) that we derive from comparing disclosed acquisition data to data that we have which is not public.

Appendix 2

Venture Capital vs Private Equity

Formally speaking, venture capital is a form of private equity. In practice, what is called a "private equity fund" or "buyout fund" (we regard "PE fund and "buyout fund" as perfect synonyms) is not venture capital. Both are organized as partnerships with a general partner and limited partners, both typically have specified fund lifetimes of 10 years. Investments in both are restricted to institutions and "qualified" (rich) individual investors.

Venture capital investments are made by Venture Capital partnerships, nearly always together with other VC partnerships, in startup companies. The startups are always companies with the potential to become big and valuable, but unable to do so on self-generated revenues. At the first round of fund raising, the company will often have only an idea, but no product, no customers, and no revenues. In exchange for their money, the partnerships receive a security known as *"convertible preferred"* stock, not common stock. The point of *convertible* and *preferred* is that if the company still looks promising and still needs money to grow after it has spent its first round of funding, another round of funding will be done, and the investors in the second round will also get *"convertible preferred"* stock, but with a different *preferenc*e for purposes of liquidation. Typically first rounds are called "Series A" and the second, "Series B", and so on. The preference takes the form of who gets her money first if the company is ultimately worth less than what all the investors put into it. Generally the Series B investors get all of their money back before the Series A gets any. All outside investors (A and B) get their money back before the founders (who have common stock) get anything. If the company ends up very valuable, all *convertible preferre*d stock converts to common stock.

Nearly all venture capital investments can be classified in a few industries: ***software***, ***hardware***, ***biotech***, and ***retail*** (retail consistently runs under 5% of total funding), and even the retail will have tech-y features. Generally these companies will have no debt, and if the company fails worthless, there are no debt-holders to pay off save perhaps some payables. The total failure rate (no investor gets any money back) for venture companies is close to 50 percent. Besides the high total failure rate, the systematic risk (beta) of venture capital is on the order of 1.5 to 2.5.

By contrast, the companies bought in **buyout** deals are mature. They have a product, customers, revenues, and nearly always, positive cash flow. The buyout fund typically buys the entire company and receives common stock as its claim. It is rare to see a buyout deal that is syndicated (has multiple funds investing). A single fund buys the entire company, and a single general partner is in charge. The general partner usually gets very involved in running the company. The initial investment (the buyout) cannot be characterized as a "round of funding", it is simply an acquisition. There are no follow-on rounds of funding anticipated. The goal of the private equity investor is to buy the company, make it more valuable, and sell it. The actions to "make it more valuable" might be to make operations changes, assemble a group of companies to create a chain, re-arrange of the balance sheet, sell off some parts of the company, or reduce expenses. The deals are often called "leveraged buyouts" because the placement of debt on the balance sheet figures large in the deal.

Buyout "exits" can take the form of an IPO (sell the company to public investors) or selling the company either whole, or in parts, to another organization, usually an operating corporation, but sometimes another buyout fund. In terms of the records in commercial data sets, one sees as the first event an acquisition (fund buys company), then either another acquisition (fund sells to an operating company) or IPO (fund sells company to public investors). There are no fundraising events in between. When the buyout investors sell off parts or put debt on the balance sheet, this cash flow is usually recorded as a dividend to the buyout fund. Yes, the debt becomes an obligation of the company, but the buyout investors get the cash. The systematic risk of buyout funds, (beta) is much lower than that of venture, even a bit lower than the overall stock market, typically about 0.8 or 0.9. Total failures, situations where a

company expires worthless, are rare. Even in a case like ToysRUs, which did go bankrupt, the buyout investors had a cash payment when they sold the debt they put on the ToysRUs balance sheet, so there was a partial recovery for the buyout investors prior to the bankruptcy.

The industries in buyouts are mainly the old, old thing. The industries most represented in buyout deals are hospitality—restaurant chains and hotel/motel chains. Sometimes the buyout fund will buy individual companies and roll them up into a branded chain (eg, pizza shops, extended-stay hotels, convenience stores, tire stores). Even nursing homes, a growing low-tech industry, are subject to buyouts. There were many deals in the early 2000s in which individual nursing homes and even publicly traded chains of nursing homes were bought up by private equity organizations and re-arranged. In these deals, the buyout fund sold real estate owned by the home, leased it back to the home, and thus isolated the real estate from any liability of the operating company. Occasionally there is a large deal for a single company, such as Dell, which was taken private by a buyout fund, which then went public again. From our work measuring risk for buyout funds, we have come to think of them as S&P 500-like exposure that is liberated from marking-to-market.

Sometimes we see acquisitions of venture-funded companies by buyout funds. The acquisition represents the exit from a venture fund, and an exit for the venture investors, sometimes for the founders too, but the entry of a new company to the portfolio of the buyout fund. At this point, the venture company always has products and revenues. Venture investors and founders are seldom happy for a company to be sold to a buyout fund. It is a sign that the highest bidders are not passive investors like public shareholders, who will now let management run things, but a bossy buyout general partner.

The potential for confusion between venture and buyout deals is great. First, both are held in funds that have the same limited partner/general partner structure. Second, both types of funds are equity holders in their portfolio companies. Third, both types own interests in and exercise control over private companies. Fourth, only accredited investors (rich people) and institutional investors (pension funds, endowments), can invest in venture and buyout funds, because their securities are not registered and they are not periodic reporters to the SEC. In both types, the securities do not trade. The funds now must make some SEC filings, but the reporting obligations are *de minimis* compared to those of public corporations and mutual funds.

Buyouts in aggregate are larger than venture capital. *Sand Hill Econometrics* estimates the total current value of still-private, venture-funded companies at $2.5 trillion. Industry estimates of the total value of companies in buyout portfolios globally is more than $5 trillion. Venture capital gets more attention because its most successful outcomes are more spectacular and the industries are more exciting. Buyouts often masquerade as venture, because venture is more sexy.

Here is a convenient table of the features of Venture and Buyout funds:

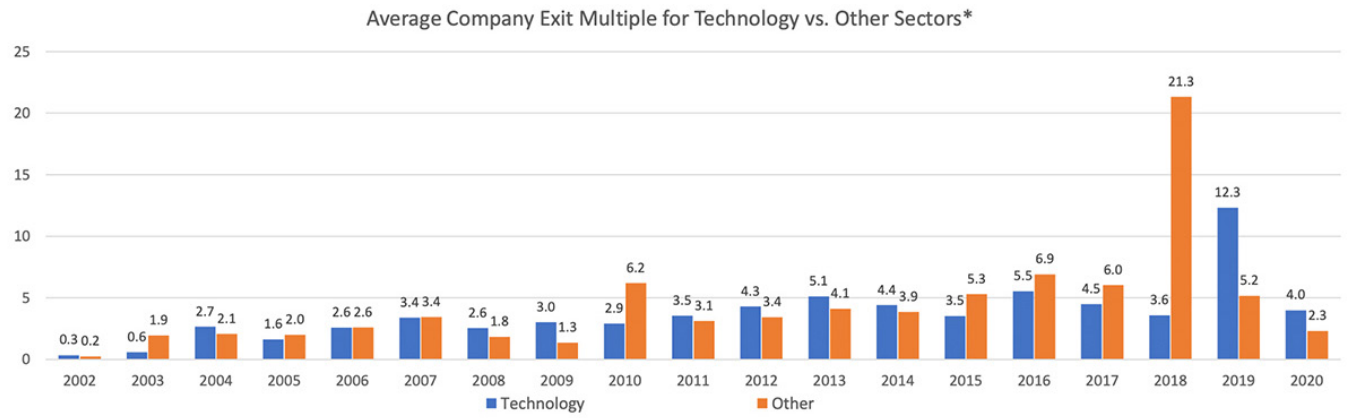
Figure 7: Venture vs. Buyouts

	Venture	Buyouts
Industry	new	not-so-new
Stage	startup	mature
Revenues?	no	yes
Income?	no	yes
Multiple Investors?	nearly always	rarely
Multiple rounds of funding?	yes	no
Security bought	convertible preferred	common stock
Debt?	rare	common
Total failure rate	40%	<5%
Beta	1.5 to 2.5	0.8 to 0.9

Appendix 3

Here we offer two more measures of the success of venture investing. Both measures give stronger weight to particularly large and successful exits than the measures presented earlier. The first is the average (not the same as the median, presented earlier) exit multiple by exit year, for tech and "other." This measures calculates an exit multiple for each company, and takes an average across those who exited in a given year.

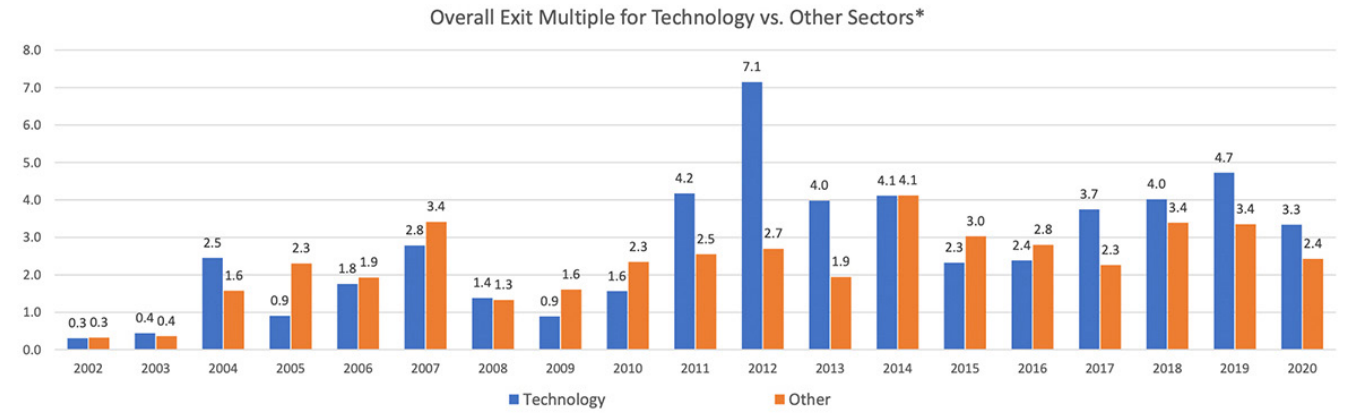
Figure 8: Annual Average Exit Multiple



** Excludes biotech companies. Data for 2002 includes August through December, and data for 2020 includes exits from January through March only.*

Next, we offer the overall exit multiple. This is the total exit value for the year divided by the total money raised by the same companies.

Figure 9: Annual Overall Exit Multiples



** Excludes biotech companies. Data for 2002 includes August through December, and data for 2020 includes exits from January through March only.*

Note the spike in the overall tech exit multiple for 2012, which reflects the IPO for Facebook.