PitchBook

Venture Debt a Maturing Market in VC

Loans to startups have grown faster than broader VC industry

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Key takeaways

- Growing at a faster pace than the broader VC market, debt has become a common alternative to equity for companies looking for cheaper financing. Over the past three years, more than $80 billion in loans and other debt products have been originated for VC-backed companies. In 2019, the debt market attained a record value at $28.2 billion across more than 3,000 occurrences. 2020 nearly matched that level, and we believe venture debt will continue to grow over the next few years.

- Tech companies account for the largest proportion of debt issuances to VC-backed startups. The low capital expenditures for many tech startups, coupled with recurring revenue-based business models, make loans a good fit for portions of their growth plan. Although a limited revenue track record can make lending to a young startup risky, often it is the equity investors that help secure the loan, reassuring the lender that future equity rounds will repay the loan if the company's revenues can't.

- Biotech & pharma companies received more than $3 billion in loans during 2020, far and away the highest level this sector has seen in our dataset. The unique characteristics of these companies (capital intensive and little-to-no product revenues for years) can make debt a risky endeavor. We see in the data, however, that these companies tend to exit more quickly than their tech counterparts (IPOs average just over five years), adding a debt repayment outlet if they are successful.

Published on March 22, 2021

Introduction

Over the past decade, venture debt has emerged as a major alternative source of financing for high-growth startups that have traditionally opted to solely finance through equity venture capital. More than $20 billion has been loaned to VC-backed companies in the US during each of the past three years, and the number of debt financings for VC-backed companies has grown at a higher rate than the VC market overall. This growth has seen debt enter every part of the market, reaching every sector and, most interestingly, every stage.

Venture debt remains a lesser-known alternative to equity financing of VC. Taking on debt can be a hazard for young startups without steady cash flows, and missed payments and defaults can lead to a company's downfall. Taking on debt may signal risk to potential investors, who may wonder what caused the need for extra capital or whether current investors aren't fully on board with the company's mission and are therefore unwilling to reinvest. While debt financing risk remains, signaling risks have lessened over the past few years as the benefits of debt as a non-dilutive source of growth or working capital have begun to outweigh the negative perceptions and risks of the past.

We believe venture debt will continue to grow over the next few years, capitalizing on the entrance of new lenders, the continued low-interest-rate environment, and our projection that the strength of the US venture market will endure.

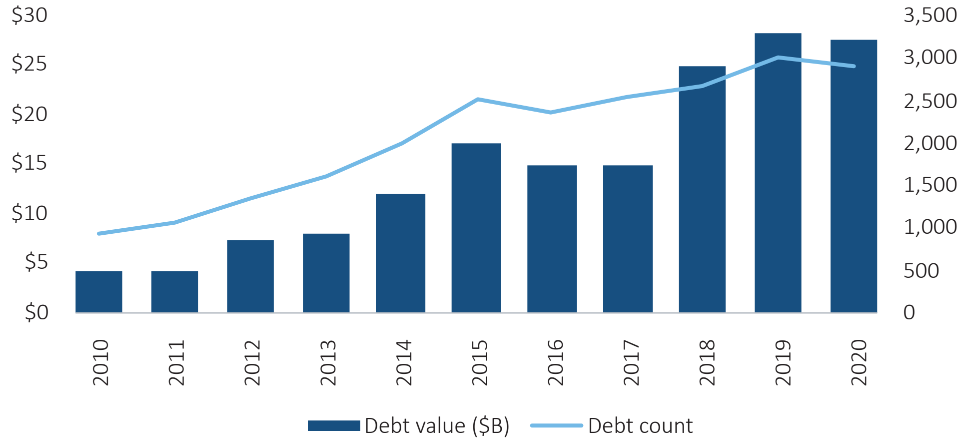
Growth of the venture debt market

It should be noted that venture debt is not always used strictly as an alternative to equity financing. Rather, venture debt is often used in conjunction with equity financing to provide a young company with additional working and/or growth capital, and often for varying reasons.

In 2020, venture-backed companies used debt products on nearly 3,000 different occasions, including in tandem with equity fund raises. These loans included term loans, credit lines, equipment financings, convertible notes, and more—and the many types of debt can be used by companies in an equally variable number of ways. Venture debt is meant for growth in a general sense, and it can be taken on as cash-flow insurance in the near-term, as a source of short-term working capital, or as a means to finance growth projects for the company.

In the past several years, the options of debt products for emerging growth companies have expanded as well. Business credit cards specifically targeted at VC-backed startups have emerged, companies such as Square and Stripe have launched small-business banking and capital solutions, and lenders have developed revenue-based financing options that can lessen the burden of repayments in the case of unstable revenues. Companies can customize their borrowing to maximize their return on the borrowed cash and negotiate flexible terms to protect their business.

Venture debt deal activity



Source: PitchBook | **Geography:** US
*As of December 31, 2020

According to PitchBook's methodology, debt financings—including convertible notes, term loans, revenue-based loans, and equipment financings, among others—provided to companies that are VC-backed at the time of the round are included in venture debt. When investment rounds are a hybrid of debt and equity, if possible, the equity portion will be extracted when calculating venture debt values.

Equity financing is one of the most expensive forms of VC capital for a company. Debt, on the other hand, can be cheap. For startups experiencing growth, selling a 10% stake to investors for $200,000 can cost millions when a company exits. Equity investors expect their capital will result in a company that has grown multitudes larger over the time of their investment. This is, of course, how the venture industry works, and the high potential returns are there to entice investors to pursue the high-risk strategy of funding companies that are likely to go out of business. Ultimately, however, the repayment of equity investments comes at the expense of founders and other investors whose shares have been diluted.

While equity is a claim on the future value of the company, venture debt is only a claim on future cash flows until the debt is paid off. Introducing debt in a capital stack can lessen the dilution of stake holders' shares; however, it is not designed to take the place of equity financing entirely. Loans are generally combined with equity financing to increase the capital available to the startup for growth and to leverage the investment for the equity sponsors. Lines of credit, for instance, can be used to ensure a company has enough capital to realize its growth projections for the next fundraising milestone. In this case, an emergency round of equity financing, even at the company's previous valuation, would dilute the investor base, adding significantly to the overall cost of the capital.

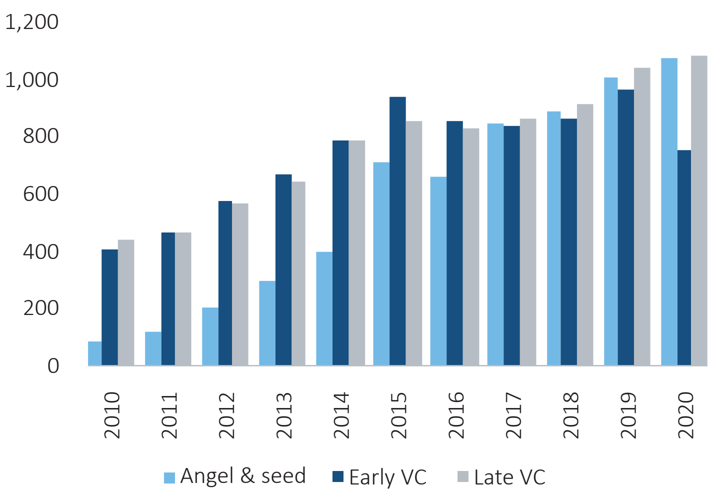
The growth of venture debt has largely coincided with the growth of private markets overall. US VC deal counts have grown from around 5,500 deals in 2010 to 12,250 in 2020 (2.22x). US private equity deal counts expanded from 2,760 in 2010 to 5,300 last year (1.92x). Venture debt has increased faster than both, more than tripling during the same timeframe from 940 loans in 2010 to 2,900 in 2020 (3.10x). It makes sense that the growth of venture debt has outpaced the broader VC market. More companies receiving institutional venture backing equals more potential borrowers for lenders, in many ways making venture debt a dependent variable, at least in terms of our methodology. There are firms that lend to startup companies that lack institutional backing, although these investments do not fall within our definition of venture debt.

As has been the case with the broader venture market, the growth in loan value for venture debt has been driven by large deals. In 2020, just 37 loans accounted for nearly $17 billion in venture debt value, roughly 60.5% of the 2020 market total. These included WeWork's emergency funding from SoftBank as well as loans extended to now-public companies Bumble and DoorDash, among others. It would be easy to discount these rounds from venture debt statistics because the capital may not have been used simply for "growth," but they highlight the varied uses of debt for VC-backed companies as well as the sizes of loans available to top companies.

Growth of venture debt by stage

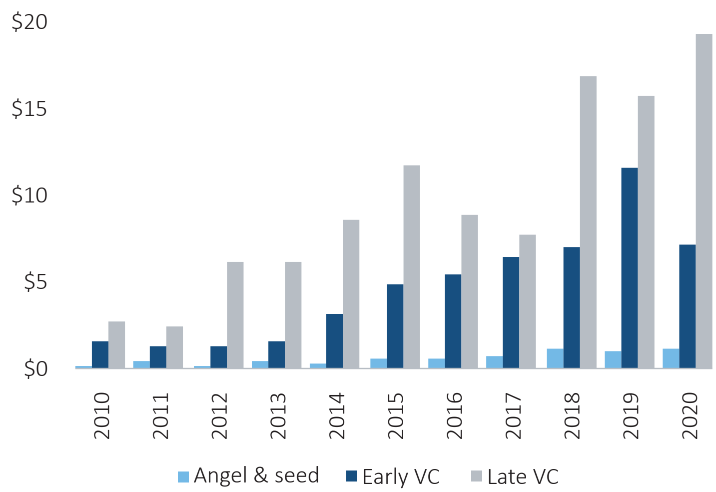
The venture loans that receive the most attention are the large, late-stage loans and pre-IPO instruments, as is the case with their large, late-stage equity counterparts. Before completing its IPO in 2019, Uber raised more than $4 billion across several instruments; Airbnb's $1.0 billion loan from Silver Lake Partners in April garnered considerable attention, not just for its size, but for the post-IPO windfall Silver Lake received from the attached warrants. However, venture debt has been split relatively evenly between early- and late-stage companies for the past decade, at least in terms of financing count. Recently, even seed-stage loans have caught up, largely because of the increased use of convertible notes for these investments. The uses for debt at different stages of the venture lifecycle are distinct, and the risks posed for companies at different stages of growth drive differences in the loans they are offered.

Venture debt deals (#) by stage



Source: PitchBook | **Geography:** US
*As of December 31, 2020

Venture debt deals ($M) by stage



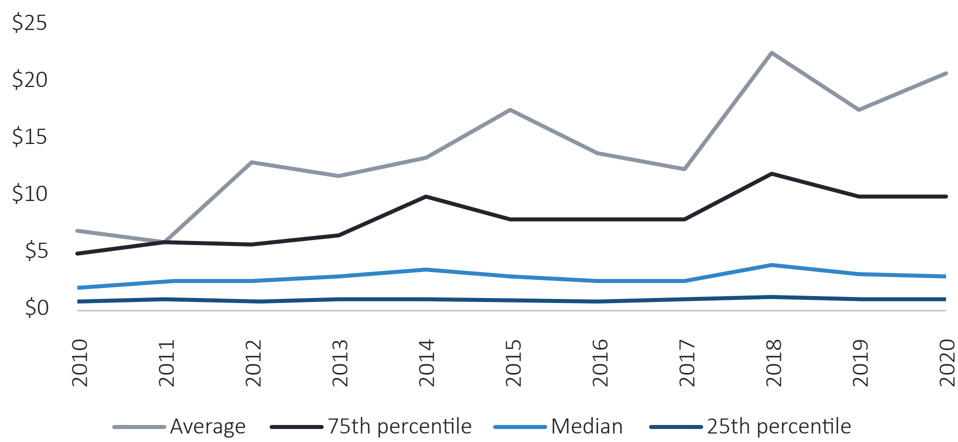
Source: PitchBook | **Geography:** US
*As of December 31, 2020

Late-stage companies

Late-stage equity investments are inherently less risky than early stage or seed investments; likewise, late-stage debt financings carry less risk of default from the company going out of business, and interest rates at the late stage reflect this difference from early-stage companies. Large banks and public business development companies (BDCs) are active in the later stages of the market because of their ability to assess risk on more robust revenue data for each company, whereas earlier debt investments are dominated by debt funds and specialized banks. For banks and BDCs, the opportunity to work with late-stage borrowers can be very tempting, especially for companies about to go public. Although private equity firms (Silver Lake Partners and Sixth Street Partners) participated in the loan, the 2020 debt and equity investment in Airbnb procured an especially high return for the lenders, who took warrants that amounted to a sizeable ownership stake in Airbnb as part of the $1.0 billion financing, resulting in a near $500 million windfall when the IPO was completed—and the company's share price then doubled on the opening trade.

From 2009 through 2020, late-stage venture loans grew more than 2.5x and exploded over that time by nearly $17 billion in annual value. As mentioned above, the surge in loan amounts over the past few years has been heavily boosted by large, late-stage companies raising outsized rounds. In fact, loans of $100 million or larger have become much more common in the past few years. Since 2018, 66 loans of this size have been taken on by late-stage companies. Between 2006 and 2018, just 57 loans had been received by late-stage VC-backed companies.

Venture loans ($M) to late-stage VC-backed companies by quartile



Source: PitchBook | **Geography:** US
*As of December 31, 2020

In 2020, the median venture loan was just $2.9 million, well under the median $10.0 million size of late-stage venture deals. The growth in the median loan size has roughly matched that of the overall late-stage venture financings, however, growing by nearly 50% in the past 10 years, even hitting $4.0 million (100% growth) at the decade's high-water mark in 2018. In comparison, the median late-stage VC deal has grown from $6.0 million in 2010 to $10.0 million in 2020 (66.6%).

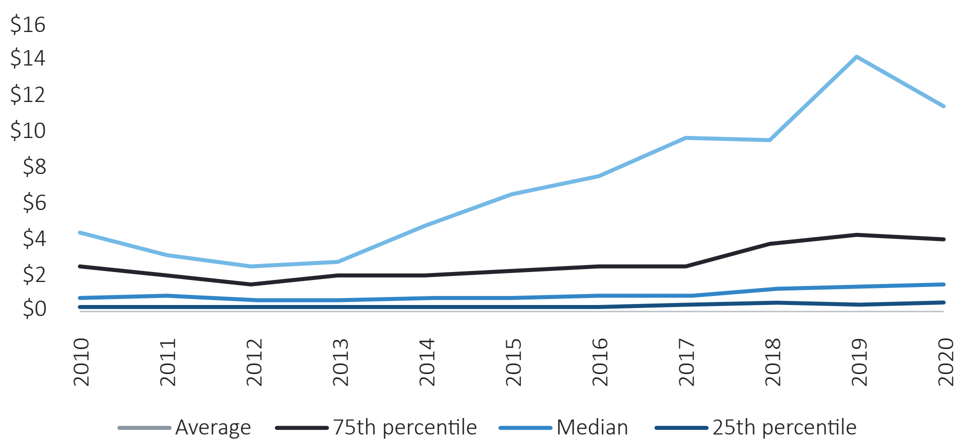
The late stage has expanded considerably over the past decade as companies have prolonged their private development and have entered public markets more highly valued than were companies in the past. Not only are there now more late-stage companies looking for capital, but in general these companies are driving higher revenues that will help them maintain their loan service payback schedule. One of the past arguments against startups taking on debt was that uneven revenue streams and wider gaps between good and bad months could leave a young company without the ability to make its monthly payments. Defaulting on a loan could trigger losses that go beyond extra fees charged, as a large portion of venture loans are backed by the company's intellectual property. Equity investments aren't meant to be kept on the balance sheet to pay loans; they are supposed to be used for growth programs, freeing revenues to service debt. The ability to use robust past revenue metrics protects against downside risk for the lender as well, even beyond the senior secured position that many of these lenders will take.

Early-stage companies

Early-stage companies (generally Series A- and Series B-funded companies) have been major targets of venture debt for some time, as the financing type helps lengthen capital runway so companies can reach growth targets before another equity raise. In 2020, just under 800 early-stage debt financings occurred in the US, a year-over-year decline—although, due to the lag between the announcement and collection of private deals, we expect this figure to increase.

Loan value for early-stage venture debt has increased from an average yearly value of $1.4 billion from 2006 through 2013 to a high-water-mark of $11.5 billion in 2019—and 2020's figure reached $7.1 billion. This top-line growth hasn't necessarily been due to an increase in the core of early-stage venture lending. The median early-stage loan was just $1.5 million in 2020, and while that is double the size of the median a decade ago, the spread between the average and median loan sizes has widened significantly in recent years.

Early-stage venture debt rounds ($M) by quartile



Source: PitchBook | **Geography:** US
*As of December 31, 2020

Large deals in relatively young companies and capital-intensive industries have driven this widening spread. Over the past three years, nine companies have raised debt rounds of $500 million or more. Seven of those operate fintech-based businesses, with several offering credit products of their own in which huge amounts of capital are needed to deploy their business models.

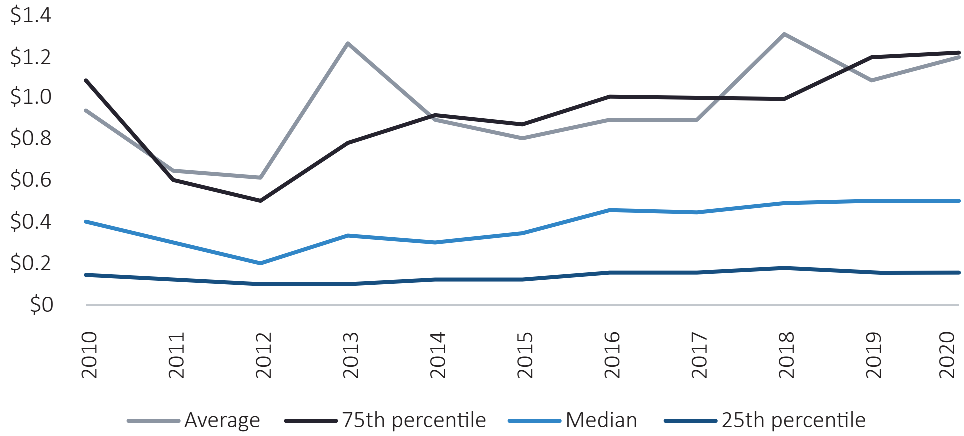
Such capital-intensive business models are not typical for tech startups, but the ability to raise the amount of capital needed to deploy such a strategy enables these smaller companies to compete with large incumbents in more traditional markets such as banking and home buying. While it may have been possible for these companies to raise sufficient capital through equity alone, doing so would have either put a wildly high valuation on the company, caused extreme dilution for the founder and other investors, or both. The cost of capital also comes into play here as well. Bolstering a balance sheet to implement a business model (rather than invest in loss-making business growth) makes the use of debt a much more efficient form of financing. In these instances, venture debt bridged the gap and enabled the companies to develop their business models at a large enough scale to be viable.

Early-stage venture lending leans more heavily on the lender-investor partnership than late-stage loans because of the relatively shorter financial history of the companies. Existing equity investors try to mitigate the higher risk to lenders inherent in early-stage loans by not only vouching for the company's growth prospect but by ensuring the lender that further equity raises are a likely event. Beyond helping the company with further growth, effectively collateralizing the loan helps maintain a strong relationship with the lender, which is good practice because while the market is growing, the number of active lenders is relatively low. Letting a borrowing company default on a loan would likely ruin the lender-investor relationship and make it more difficult for the investor's other portfolio companies to borrow from the same lender.

Angel-backed and seed-stage companies

Convertible notes are common for the angel and seed investments in startups. For such young companies, pricing a round and agreeing on a valuation are difficult because the business may still be an idea in development. Most startups do not have a long track record of growth or financial metrics to project their future growth and market traction. In these cases, a convertible note helps by providing the company with cash it needs while it protects the investor from mispricing the current round or simply allows more knowledgeable investors to price a future investment. Convertible notes are not included in many lenders' definitions of venture debt, but because they are a debt product, we have included them as part of our venture-backed debt dataset.

Angel/seed venture debt rounds ($M) by quartile



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As noted, convertible debt is a relatively easy way for companies starting out to raise capital without the need to haggle with investors over valuation. These securities became even more accessible when Y Combinator and 500 Startups published simple, easy-to-use forms to help angels and founders expedite the process of getting capital where it is needed. Simple Agreement for Future Equity (SAFE) and Keep It Simple Security (KISS), respectively, are the companies' branded forms of convertible securities. They lay out the foundation for quick-and-easy funding rounds that push formal valuation of the company to a later date.

Convertible notes aren't the only way debt is leveraged in angel- and seed-backed companies, however. There are lenders that venture this early in the VC lifecycle, but the risks entail certain downside protections to help cover losses.

Over the past decade, the seed stage has moved later in the venture lifecycle; the median age of companies raising seed has moved from 1.5 years to 3 years in the past decade. While many companies will still lack sufficient financial metrics for a thorough risk assessment, there are a growing number of opportunities for lenders to participate in the stage. More than 400 seed-funded companies have received financing through debt during each of the past three years—roughly 15% of the seed-stage venture financings—and, until last year, debt financings to seed-stage companies had risen each year since 2008. Although it breaks all the rules for traditional lending, most seed-stage loans are secured by the relationship between the lender and the investors in the company. In lieu of revenue-based payback, loans may be secured through the investors, which implies that another round of equity will be raised to pay off the loan.

Small Business Administration loans are possibilities for such young companies, but these loans aren't made to companies with institutional backing and are not included in our VC dataset.

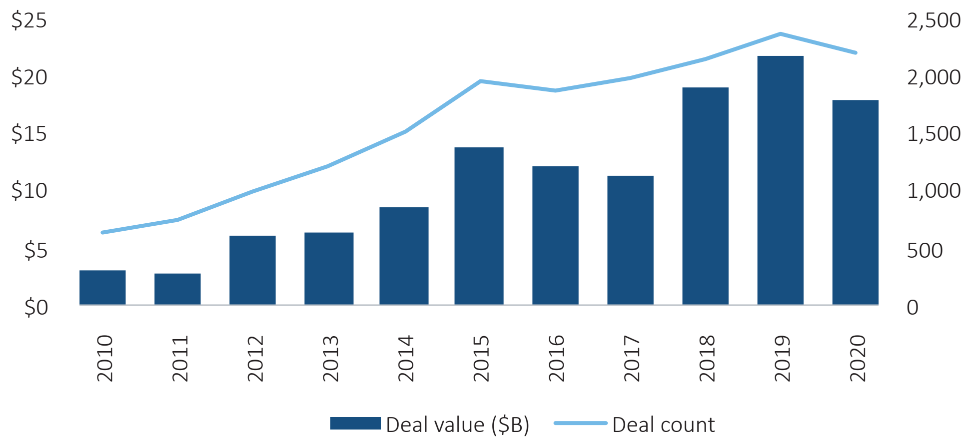
For downside protections, loans to such young companies would likely include warrants or a claim on the company's intellectual property—or both—as collateral. As senior-secured lenders, they are assured the debt will be satisfied if there is a liquidation event.

Growth of venture debt by sector

Tech

Tech and tech-enabled businesses are major targets for venture lending. Tech has become nearly synonymous with venture over the past decade. Similarly, tech companies account for a large majority of venture loans. During 2020, 2,203 (75.4%) of the venture debt offerings went to tech companies, representing nearly $18 billion (64.7%) in credit services. Beyond simply being omnipresent in venture, tech has delivered business models that work well with fixed-return products and provide lenders with metrics that fit into credit models to help with loan diligence.

Tech venture debt activity



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Software as a service (SaaS) has become a model used by many companies, and if SaaS isn't part of a company's offering, it is likely using one or more SaaS products within its corporate structure. What recurring-revenue business models such as SaaS have done is make it easier to model future revenues so lenders can reliably assess risk. Not only can a lender see projected cash inflows, but it can also assess the capital needed to grow a business to a certain level and evaluate the impact the loan being offered will have on the company's underlying business growth. It should also be noted that while startup businesses can have fluctuating revenues, even with recurring-revenue models, the intellectual property securing venture loans can be valuable even if a company fails.

The tech sector has also led the venture industry's growth in terms of deal size and valuation; an ever-growing allocation to the venture strategy has provided ample capital for aggressive growth economics. Debt has been used to manage these valuations and the equity portion of growing deal sizes. At the outset of the COVID-19 pandemic, many investors told portfolio companies to cut costs and lengthen runway because of the uncertain economic outlook. For some companies, this included drawing down lines of credit or entering into new loans, thereby pushing out the dilution an emergency equity raise would entail.

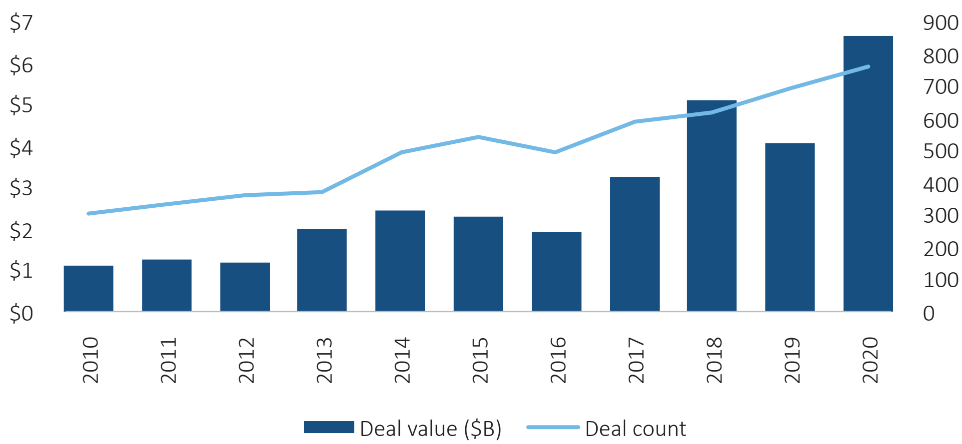
The past several years have proven that tech is more intertwined with business and consumer habits than ever before. The continued adoption of tech will only spur further venture investment into the sector, likely also increasing the adoption and use of venture debt among high-growth startups.

Healthcare

Healthcare startups, more specifically biotech & pharma developers, operate on a much different capital timeline than tech companies. Whereas tech can be relatively cheap to operate, many healthcare companies operate under long and expensive development timelines, with much more government scrutiny and higher barriers to entry. This long-term timeline, coupled with short-term capital needs, has created a unique financing need that the VC industry is set up to provide.

Healthcare VC investment has grown significantly in the past few years, and interest in the sector increased when the pandemic stalled the global economy in 2020. Loans to VC-backed healthcare companies reached a new high last year, tallying $6.7 billion across 765 loans. Although the market for debt in healthcare is much smaller than the debt market for tech, the value of loans extended to healthcare-focused companies have increased sixfold over the past decade, and the count of these financings has more than doubled during that time.

Healthcare venture debt activity



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Overall, venture lending to healthcare-focused companies has been more or less evenly split between biotech & pharma, healthcare devices, and healthcare services industries. In 2020, 285 loans were made to biotech & pharma firms, while devices companies received 263, and services firms 217. Over the past couple of years, however, the proportion of loan value to each sector has tipped further toward biotech & pharma, which received more than $3 billion in venture debt in 2020. Never before had venture loans to biotech & pharma companies surpassed $1.5 billion in a single year. In fact, the $3 billion+ loaned in 2020 was more than 3 times the average annual venture loan value of the previous five years ($910.0 million).

The unique characteristics of biotech & pharma companies can be well suited for lenders who wish to participate in financing this sector. Biotech & pharma can be especially capital intensive, and companies can incur heavy costs before revenues can be generated on a consistent basis. Because of this, loan paybacks rely heavily on future equity raises or completed exits, such as an IPO or acquisition. A good example is Sana Biotechnologies. The company recently completed an IPO at a valuation of $4.6 billion. It had raised nearly $850 million in VC funding; had incurred as of September 30, 2020, a net deficit of $316.0 million since inception; and had generated zero revenue from product sales. This is not uncommon for biotechs and highlights the distinctive characteristics of biotech funding.

One such timing alignment can be during the crossover round or IPO process. The need for large amounts of capital—if financed through equity—can quickly dilute founder and investor stakes, although more importantly, the possibility that a drug being developed may never make it to market and generate revenues, even after a firm completes an IPO, increases the risk of financing a company solely with equity. These factors also make healthcare venture debt risky. First and foremost, as these companies frequently operate without generating product revenues, they may not be able to service the debt for quite some time. The differences between tech venture lifecycles and those of biotech & pharma manifest in the vast differences in time to exit. Biotech & pharma companies complete IPOs on a much faster timeline, averaging an IPO in just over five years. A quicker time to exit provides a release valve for pressure building from the debt. For example, Harmony Biosciences was founded in 2017 and went public in August 2020. Before completing its IPO, the firm refinanced its debt with a single, $200.0 million loan from OrbiMed Advisors, and stated that, in part, proceeds from the IPO would be used to service that debt through 2021.

Venture debt moving forward

The low interest rate environment in which the US has found itself for the past decade has increased debt in nearly every market. Mortgage debt grew by 7% in the US from 2019 to 2020, reaching a record $10.3 trillion.[1] Institutions have piled into corporate debt, a market that surpassed $10.5 trillion in 2020, in search of yield. For the same reason, investors have also found venture debt an attractive investment in recent years. Returns for the venture debt industry have been steady over the past decade, averaging between an estimated 12%–15%, according to Applied Real Intelligence.[2] At a time when 10-year US Treasury Bonds yield 1.29% on average, many other fixed-income-linked investments such as venture debt become enticing.

When looking for market headwinds, interest rates are a likely target. While the Fed has indicated that raising interest rates aren't its current priority—signaling that rates will likely stay low until at least 2023—frothiness in the economy could lead to calls for an increase in rates. We wouldn't expect minor changes to impact the venture debt market significantly, although it is likely that large increases in rates would cause borrowers to pull back from loans due to debt service risks.

1: "Mortgage Debt Sees Record Growth Despite Pandemic," Experian, Stefan Lembo Stolba, February 15, 2021.
2: "Venture Debt: 10 Things to Know," Applied Real Intelligence, ZackEllison, January 22, 2021.

While we believe recent equity fundraising levels will perpetuate the venture market's string of growth, a major factor that could affect the venture-lending market would be a downturn in the amount of capital available for startups overall. Because we see the venture equity and lending markets moving somewhat in tandem, a strong decline in equity financings would both lead to fewer borrowing companies and to a riskier market for lenders. We do not believe a downturn in the equity market is on the near horizon, however, barring any unforeseen global event. 2020 completed the highest year of fundraising in our dataset ($73.6 billion for US-based VC firms), and over the past five years a total of $287.0 billion has been raised by US equity investors.

In the current market, near-term risks for venture lenders are likely to be more idiosyncratic in nature. Several closely timed write-offs on large loans could have a major impact on a lender. However, venture lending has had uncharacteristically low loss rates, so one would expect see lenders that focus on such young businesses. A rise in losses from a venture lending arm could see a parent bank pull back from loans to startups.

Despite this possibility, we believe the venture lending market is in a stronger position than it has ever been. Not only is the venture capital industry continuing to grow and seeing increased allocation from investors and limited partners, but there are an increasing number of lenders active in the startups loan market. The stigmas previously attached to debt for young companies have receded in recent years, providing another tailwind for the market.