PitchBook Data, Inc.

John Gabbert Founder, CEO

Nizar Tarhuni Vice President, Institutional Research and Editorial

Dylan Cox, CFA Head of Private Markets Research

Institutional Research Group

Analysis

Kyle Stanford, CAIA
Senior Analyst, US Venture Lead
kyle.stanford@pitchbook.com

Kaidi Gao
Associate Analyst, Venture Capital
kaidi.gao@pitchbook.com

Data

Susan Hu
Senior Data Analyst

pbinstitutionalresearch@pitchbook.com

Publishing

Designed by **Jenna O'Malley**

Published on March 9, 2023

Contents

Venture Debt as the Market Turns

US VC-backed startups exploring nondilutive loan options to further extend runway

PitchBook is a Morningstar company providing the most comprehensive, most accurate, and hard-to-find data for professionals doing business in the private markets.

Key takeaways

- **Venture debt, similar to the broader VC market, benefited from the cheap capital of the past decade, with spreads passed on to borrowers added onto very low reference rates.** The macro shifts of the past year, along with inflation, interest rate hikes, and geopolitical tension, have created a market where capital is no longer as cheap, and that includes venture debt. Venture debt has quickly become more expensive at a time when the venture market needs capital because of the quick retreats by investors exercising greater caution.

- Our data illustrates a general upward trend for venture debt over the past 10 years. The venture lending landscape naturally expanded as the private credit asset class evolved. Not only are we seeing larger loan package sizes, but regulatory filings from publicly traded lenders also show an ascending trajectory for the total debt originated to venture-backed businesses over the past few years. With more VC-backed startups exploring loan options and more LPs expressing interest in allocating to the space, **we expect the venture debt market to grow further with strong momentum.**

- Just like other financing options, debt offers a unique set of advantages but also has downsides. Amid the ongoing market volatility and interest rate hikes, **venture lending presents opportunities and challenges for both borrowing companies and lenders.** Startups are often attracted to the nondilutive nature and flexible structure of venture debt but should be prudent when planning debt repayment or refinancing to avoid cash flow disruptions. On the lender side, using a floating rate effectively passes on risks of additional costs from rising interest rates to borrowing entities. With increasingly fierce competition among startups to secure loans, lenders are also able to choose from the highest-quality borrowers to mitigate risks of default at a time when anecdotes predict a rising startup mortality rate.

Previously, we included convertible debt in analyst notes on venture debt.[1] Starting from this note, we will exclude convertible debt when analyzing venture debt due to the inherent differences in nature between those two forms of financing. Whereas the end goal of convertible debt is to be turned into equity and become a part of the permanent capital stack of a company, debt is borrowed capital designed to be paid back eventually. When a company with venture loans on its balance sheet raises a subsequent equity round, the company could repay debt ahead of schedule, which typically results in a penalty fee; use some of the equity financing proceeds to pay down the loan; or use some of the proceeds to refinance it.

Introduction

More founders have started to explore debt financing options amid the ongoing macroeconomic headwinds that have been plaguing the private market sphere, including dwindling capital supply, slashed valuation multiples, and frozen avenues to exit. Venture-backed startups have been slowly adjusting to the "new reality" devoid of lofty valuations and exuberant capital supply while thinking creatively about cutting expenditures—layoffs being a prime example—and padding their balance sheets. Seeking to further extend runway while avoiding the risk of significant dilution from raising a flat or down round, more companies have started to look into the possibility of taking on venture debt.

In the current market environment, venture debt is growing in popularity as an alternative means of fundraising for startups across all stages of development. It is true that borrowing in a venture context has never been cheap. Lenders, especially nonbank debt funds, charge higher rates to compensate for the high risks that they assume in lending to typically pre-profit startups, as well as for the structural flexibility of loan packages that include few to no covenants. At the same time, equity financing has become more costly. With the private market tilting toward being investor friendly, equity deal terms have become more onerous. We also saw a crunch in capital availability during a time of liquidity stress. In addition, the wretched state of valuation multiples translates into potentially significant share dilution for founders, the existing equity syndicate, as well as employees holding restricted stock units, as outside investors are no longer willing to pour in capital at the inflated valuation levels seen during the 2021 market boom. Taking all factors into perspective, more VC-backed startups began considering the option of taking out loans when financing costs surged across the board.

In this note, we analyze the trends in venture debt dealmaking amid rising interest rates and market contractions.

Macro market shifts

The macro market shifts have been well documented. Inflation soared to highs the US had not seen since the 1980s, stock markets declined precipitously, and tech layoffs have populated every news cycle. Geopolitical situations have also become acutely more challenging. Not only has the war between Ukraine and Russia gone on for more than a calendar year, but tensions between China and the US, largely stemming from data security and spying, have also led to legislation aimed at restricting capital flows between the countries.

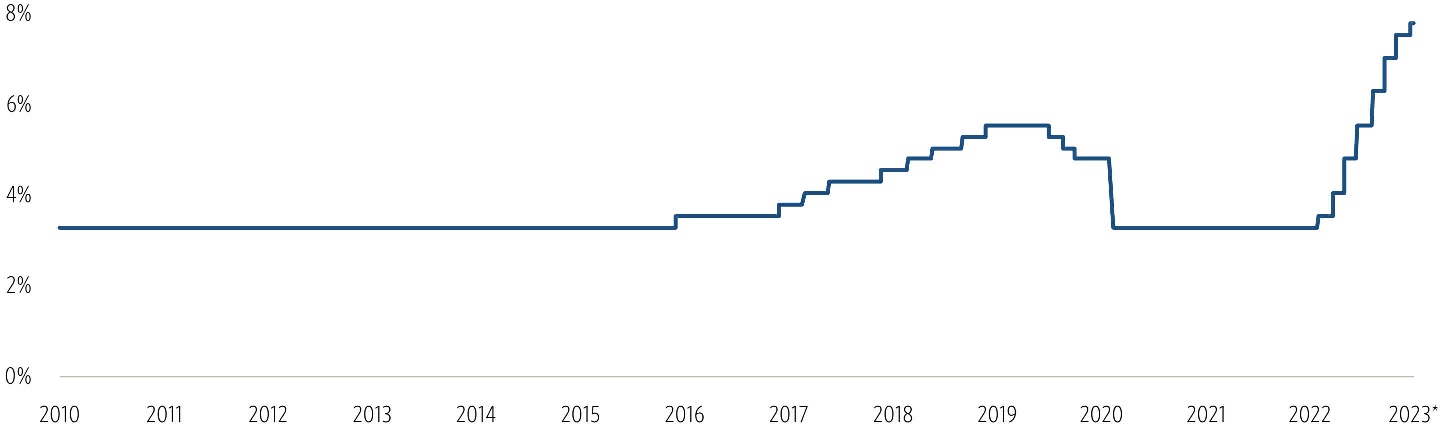
Historically low interest rates from the past decade have fueled fast growth in the US. The low-rate environment benefited the venture debt market for several reasons. One, it made it relatively cheaper for companies to take on venture debt. Lenders add a spread on top of a reference rate, such as the Wall Street Journal Prime Rate, the SOFR, and the LIBOR. And with those rates sitting low, the spread passed on to companies brought venture debt rates down, making them as cheap as the market had ever seen. Another benefit was the returns of other markets.

1: As seen in our analyst notes Venture Debt Overview, Venture Debt Set to Increase Role During Crisis, and Venture Debt a Maturing Market in VC.

Corporate bond yields had slowed alongside economic growth. Venture debt, for all the risks associated with lending to unproven companies, had continued to generate strong returns because of its low loss rate and the spread passed on to borrowers. The free-flowing equity capital into the venture market offered a future payback lever, and the IPO market was bountiful, even for unprofitable companies. Adding a nondilutive source of capital that was inherently cheaper than equity was an attractive way to boost growth.

In December 2022, the Wall Street Journal Prime Rate hit 7.5%, the highest it had been since 2007. The 12-month LIBOR rate reached 5.4%, also its highest since 2007. On a historical basis, these rates are not the highest by any means, but the quick regime change in the market has had an immediate impact on the rates charged by lenders. With these loans typically being floating-rate products, the increased cost is passed on, instantly making venture debt more expensive.

Bank prime loan rate



Source: Federal Reserve Bank of St. Louis | Geography: US
*As of February 16, 2023

Visualizing the risks associated with finance can at times rely on indirect correlation between variables. Alongside interest rate hikes, the public market's strength, or weakness, can have an inadvertent effect on the deployment and performance of debt within a market. For VC-backed companies, a strong IPO market is a release valve of returns, but it also acts as a catalyst for increased private investment. Capital comes into the venture market and is recycled through at, theoretically, an increased rate after returns are provided. The IPO market in 2022 was dismal, keeping a large number of companies private. The lack of an IPO market may be the most influential shift the market has seen in the past decade.

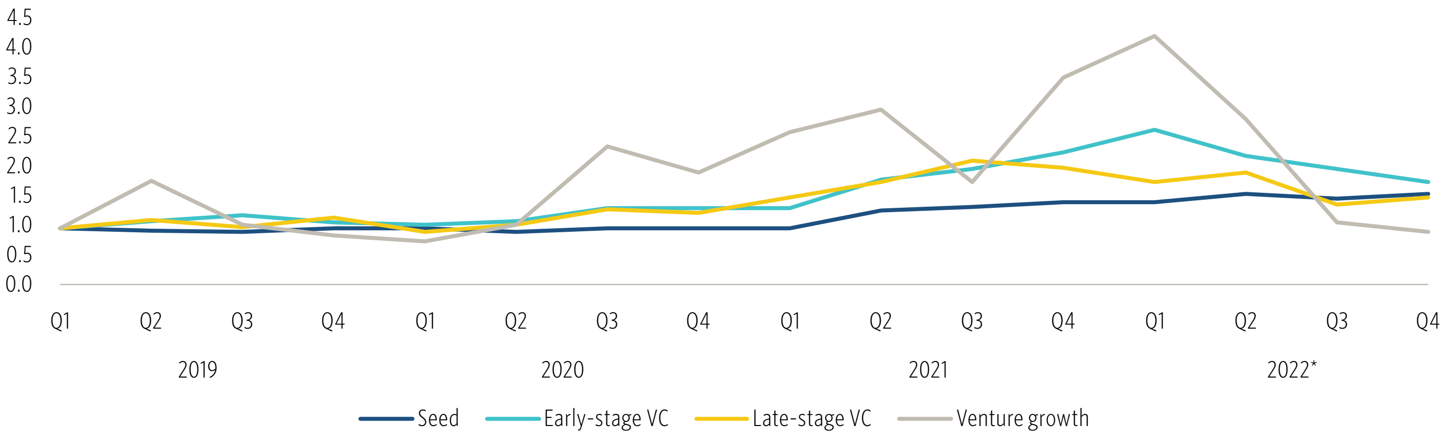
The uncertainty created by inflation, war, increasing interest rates—and the economic slowdown these precede—increased risks to company growth. From January 1 through December 31, 2022, our VC-backed IPO index was down more than 60%, much lower than the S&P 500 and other indexes with more developed companies. The lack of a release valve from VC has been palpable over the past 12 months. From a venture debt perspective, lending to the VC market should be riskier than we have become accustomed to over the past decade.

Venture market shifts

Macro market shifts impact the venture market, of course, but the immediate effects are not always visible. The private market scene in 2022 was not nearly as founder friendly as the previous couple of years when record-breaking capital availability and strong investor confidence led to inflating deal sizes and valuations. VC deal activity slowed significantly in 2022—quarterly deal count declined nearly 25% from Q1 to Q4—and valuation multiples dropped from the highs seen in 2021. There is more nuance to these annual figures, but the swift decline leaves many companies in a difficult spot should the need for capital push them back into a much less forgiving market than the one they last raised in.

Several VC market changes will play a pivotal role in the use and need for debt. Many of these startups likely find themselves unable to command the lofty valuations they did in previous transactions but also not wanting to raise a flat or down round, as it potentially tarnishes reputations and dilutes ownership shares for management and existing investors.

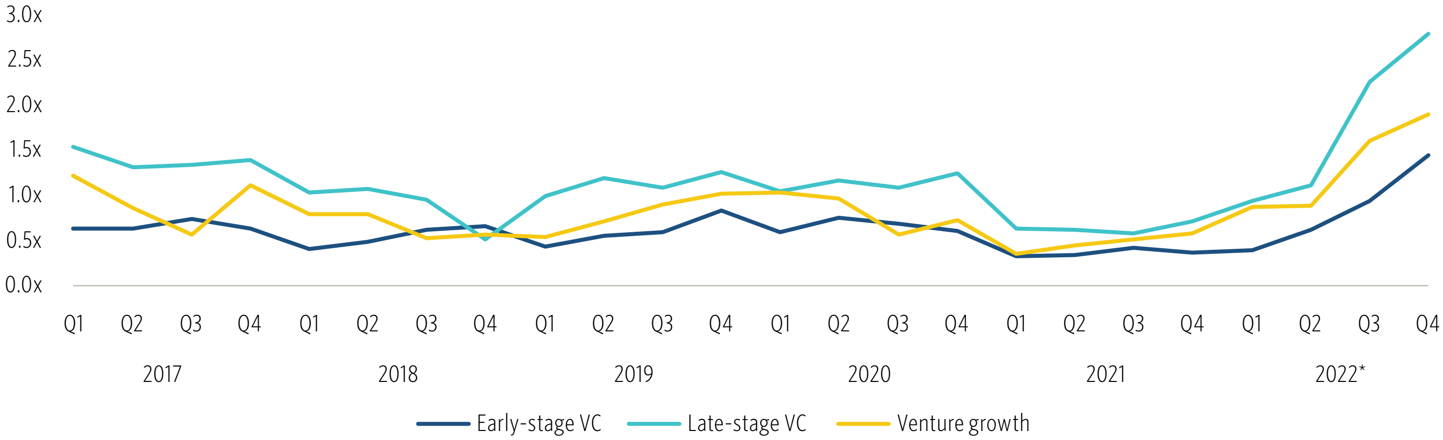
Quarterly median VC pre-money valuation growth by stage indexed to Q1 2019



Source: PitchBook | Geography: US
*As of December 31, 2022

Currently, the US venture market is dealing with a staggering lack of capital as nontraditional investors pull back from VC and record amounts of dry powder stay on the sidelines. Our research posits that 2.1x the amount of capital is being demanded by VC-backed companies than is actually being supplied at the moment. Much of this gap can be attributed to the swift retreat of nontraditional investors, especially large institutions that have played a role in the extension of the late stage over the past few years.

Capital demand-supply ratio in the VC marketplace by stage



Source: PitchBook | Geography: US
*As of December 31, 2022

In our methodology, crossover investors are defined as a group including hedge funds, mutual funds, sovereign wealth funds, and asset manager investor types and are a subset of the nontraditional investor group.

Crossover investors participated in 61.4% fewer deals in Q4 2022 than they did in Q1. The capital these institutions bring to the market is essential for late-stage and venture-growth companies, which our models show will be in the most difficult position to raise in the next year. This quick shift in strategy has left many companies looking for new financing options. Currently, the public markets are not interested in the high-growth, high-loss companies that developed in the venture market.

In 2022, the US market's investment-to-exit ratio skyrocketed to 15.3x, nearly 43% higher than the ratio of any year in the past decade. The stunning lack of exits has created a much more investor-friendly market. While debt is more expensive due to higher interest rates, equity is also an increasing cost to companies as structure returns to term sheets and investors look to pay much lower multiples on the revenues being generated.

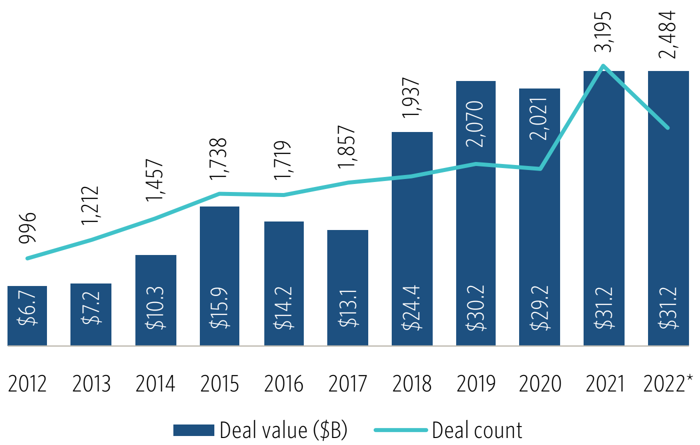
While the venture market has deflated over the past four quarters, there may still be a ways to go. Deal count remains higher on a quarterly basis than at any time before 2021 in our dataset. Valuations, while much lower than the highs notched at the end of 2021, also remain elevated on a historical basis. Crossover capital is not likely to return until public markets have stabilized and IPOs begin to show resurgence.

For a venture market that has feasted on cheap capital, further slowing will leave a large number of companies desperate for capital at a time when equity capital is pulling out of the market. The risks associated with venture debt have undoubtedly increased. The rising valuations and the amount of capital pushing into VC in 2021 made a future round of funding much more attainable, and along with that funding, a route to pay off, or refinance, a venture loan.

Venture debt market changes

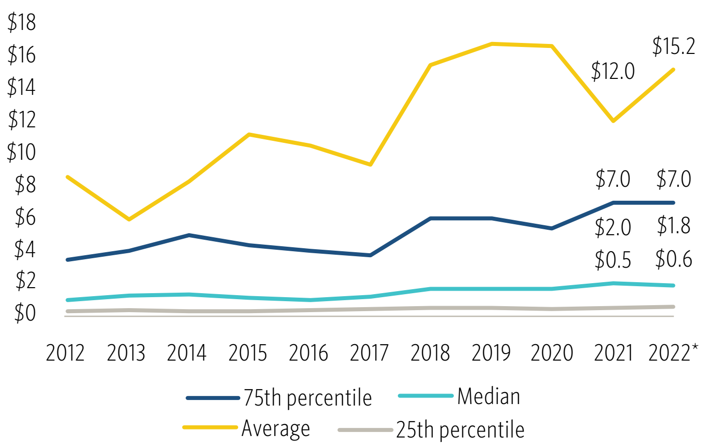
Our US venture debt dataset has surfaced an upward trend for both deal count and size across all stages of the venture lifecycle in the past 10 years, despite occasional fluctuations. In 2012, a total of 996 venture debt deals closed. That number more than doubled in 2019, notching 2,070, and rose further to 3,195 in 2021, representing a 58.1% increase from 2020 to 2021. We expect this robustness to continue expanding, as the private credit asset class keeps evolving and more VC-backed startups have started to explore debt financing options during a time when equity capital has become more costly and elusive for founders.

Venture debt deal activity



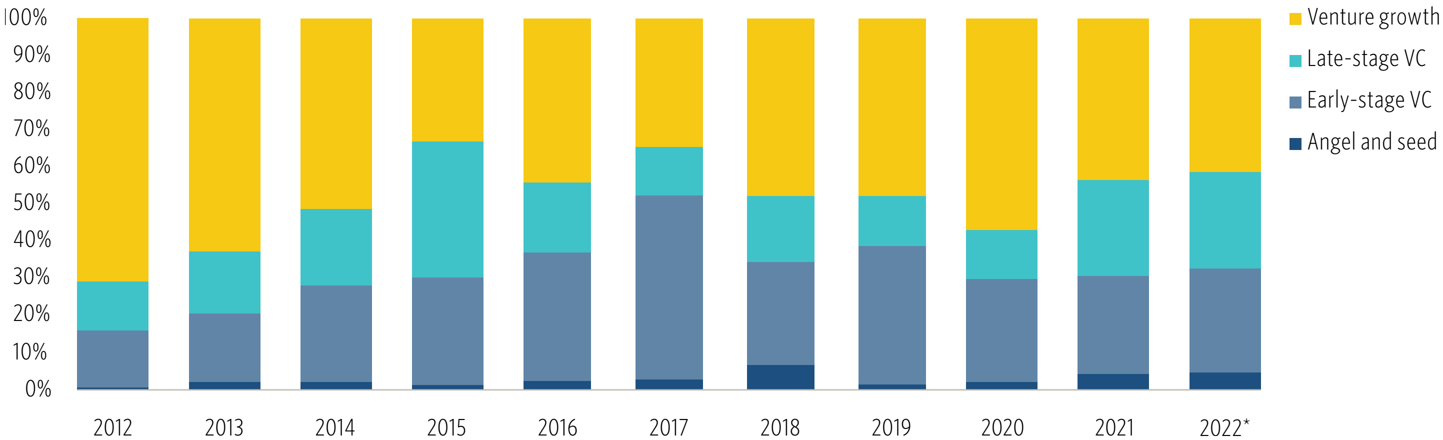
Source: PitchBook | Geography: US
*As of December 31, 2022

Range of venture debt deal values ($M) for all debt rounds



Source: PitchBook | Geography: US
*As of December 31, 2022

Share of venture debt deal value by stage



Source: PitchBook | Geography: US
*As of December 31, 2022

It is worth noting that the 2022 debt deal count across all VC stages fell below figures from the previous year, with the caveat of a natural lag in reporting for private debt deals. There are multiple underlying factors that could have contributed to this visible dip. To start with, quarterly deal counts in 2022 reveal a QoQ decline. While Q1 and Q2 saw great momentum with a total of 1,419 debt rounds, Q4 was a lethargic period with only 475 deals completed, 34.0% lower than the Q1 figure. The QoQ drop likely resulted from the private market grappling with strong headwinds during the second half of the year. Companies, investors, and lenders all took a step back to reposition themselves and re-evaluate their next steps amid prolonged market volatility. In addition, some lenders may have exhausted fund commitments or overextended themselves during the first half of 2021, leading to a more challenging debt-raising environment for startups. Lenders tried to adjust to an uptick in activity alongside a tumbling equity market by managing their capital-deployment pace to ensure their ability to fund commitments that had already been made. Many are said to have returned to the market to raise a subsequent fund. We anticipate debt dealmaking to regain strength in 2023 and expect to see a boost in deal count starting with Q1, when debt deals from the past year are announced.

During the past 10 years, venture debt continuously built momentum throughout the VC lifecycle, but the angel, seed, and early stages stood out, with their deal sizes nearly tripling between 2017 and 2022. Despite a decline in venture debt deal count across all venture stages from 2021 to 2022, deal size remained strong and saw a minor uptick for the angel, seed, early, and late stages. The pair of seemingly contradictory trajectories resulted from growing debt deal sizes. The venture debt market observed an upward trend in the size of loan packages amid the evolving private credit landscape, particularly as venture debt products have changed over the past couple of years to cater to the different needs of company borrowers. In addition, we expect companies to continue to ask for larger loans to further extend runway and tide themselves over to profitability or a successful exit. From 2021 to 2022, early-stage startups saw a $710.0 million increase in debt deal value, while the number of closed deals slid from 865 to 638, representing a 26.2% drop. Fewer deals conducted with a slightly larger total value attests to the expanding loan package size.

A glance into public lender filings for the Securities and Exchange Commission could also shine a light on the expansionary track of venture debt. Lenders are broadly divided into two categories: banks and nonbank entities. Regulatory filings and earnings reports from a major player in each category—Silicon Valley Bank (SVB) and Hercules Capital—show trends in loan originations.

Data from SVB's 10-K filings surface an upward trend in the size of its venture loan portfolio. As of Q4 2022, SVB oversees $212 billion in assets and $342 billion in total client funds[2] and banked for almost 50% of US VC-backed tech and life science companies in 2022.[3] Its global commercial banking division includes banking services and debt solutions for venture-backed startups. Venture debt provided by SVB is categorized as part of its "Investor Dependent (ID)" loans, defined as credit issued to private companies that are primarily within the technology, life sciences, and healthcare industries. Borrowing entities are typically pre-profit and have institutional backing, such as VC. These loans are closely tied to the borrower company's financial performance as well as future funding rounds. In recent years, the aggregate amount of SVB's ID loan portfolio witnessed a leap in volume, from an initial $3.1 billion in 2016 to $5.5 billion in 2021, reflecting a 77.4% increase.[4, 5] The outsize growth illustrates that the amount of loans originated to venture-backed startups consistently expanded.

Hercules Capital, one of the largest publicly listed business development companies, followed a similar path of increased volume of its originated debt. The firm sits on $3.0 billion in AUM as of Q4 2022 and focuses on venture lending in life sciences and technology.[6] Its core investment revolves around structured debt with warrants, and the firm also participates in senior debt and equity investments. In 2022, Hercules and its subsidiary fund originated more than $3.1 billion of gross debt and equity commitments,[7] representing a 19% increase from the 2021 figure of $2.6 billion and more than double the recorded $1.2 billion in 2020.[8] With major lenders taking the lead, we expect debt issued to various sectors across the venture ecosystem to continue its upward trajectory and loan count to further increase.

With an increased volume of loan applications in the current market, lenders can choose the highest-quality borrowers from a large pool of candidates. During its Q4 2022 earnings call, Hercules stated that all its portfolio companies are "current with respect to contractual payments of principal and interest,"[9] which further validates the conservative approach lenders take to mitigate default risks. Venture debt typically operates on enterprise-value lending, where lenders look at multiple elements that together constitute an underwriting anchor. The underwriting process can vary depending on whether lenders are examining a business still in a nascent stage or a more mature company with stable revenue. For example, analysis of an early-stage company places an emphasis on participants of the equity syndicate, the last round's valuation, and the value of the intellectual property that company holds, if applicable. For later-stage startups, lenders tend to focus on factors such as annual recurring revenue, margin, product quality, and retention rate while looking to ensure a healthy, longstanding growth trajectory.

2: "Facts at a Glance," Silicon Valley Bank, December 31, 2022.
3: "Q4 2022 Financial Highlights," Silicon Valley Bank, January 19, 2023.
4: "Form 10-K," SVB Financial Group, December 31, 2020.
5: "Form 10-K," SVB Financial Group, December 31, 2022.
6: "Hercules Capital," Hercules Capital, December 31, 2022.
7: "Hercules Capital Reports Fourth Quarter and Full-Year 2022 Financial Results," Hercules Capital, February 16, 2023.
8: "Form 10-K," Hercules Capital, December 31, 2021.
9: "Hercules Capital Q4 2022 Earnings Conference Call," Hercules Capital, February 16, 2023.

Challenges and opportunities for venture debt in the current climate

As an alternative financing option, venture debt presents benefits but also brings costs for both companies and lenders. Companies contemplating raising venture loans should fully evaluate the pros and cons of taking on debt, and lenders, while enjoying tailwinds of the evolving private credit market, need to be heedful of potentially growing default and startup mortality rates.

Challenges and opportunities for companies

Arguably, **the most attractive aspect of venture debt is minimal dilution**. Raising debt allows a startup's management team to maintain ownership and control in decision-making. The private market scene in 2022 was not as founder friendly as the previous year, where record capital availability and fierce competition among investors inflated deal sizes and pushed up valuations. Given that an equity financing round should sustain a company for anywhere between 18 and 24 months, many startups that raised capital at peaked valuations are likely finding themselves at risk of a flat or down round. Venture debt provides a solution that helps startups avoid massive dilution for existing shareholders as well as the employee option pool, the latter of which could negatively impact talent sourcing and retention. The market has seen more highly liquid startups with strong performance metrics consider taking on venture debt to further extend runway and sail through turbulent waters without risking significant dilution from raising a flat or down round.

Debt issuance is not contingent on a valuation reset. Startups that raised funding at sky-high valuations in 2021, a time when investors were more open to placing a high premium on a pre-profit company, face challenges to keep up with their latest valuation. Going the debt route allows a company to avoid resetting its valuation while continuing to scale growth and reach profitability. The push to delay a valuation reset aligns founders with their equity syndicate, as GPs are not excited to see write-downs of their portfolio companies' valuations in a chilling fundraising environment.

Venture debt also provides startups with a high degree of flexibility, particularly when loans are originated by nonbank lenders such as venture debt funds. From both a financial and reputational standpoint, lenders are motivated to work with portfolio companies to get through tough times. For one, foreclosing prematurely on a startup might not generate enough return to recuperate for all losses. Secondly, lenders do not want to be known for being vicious and deter more companies from going to them in the future. With that being said, the market has tilted toward being lender friendly. When they have a large pool of loan-seeking companies to choose from, some debt providers may no longer be willing to offer high flexibility when companies run into performance or financial issues.

Along with strengths, venture debt also has its own deficiencies. To start with, just as the name suggests, **venture debt is loans that eventually need to be paid back**. Debt does not belong to the permanent capital structure, which means a company should be prepared to either repay or refinance the loan upon maturity by working with its equity syndicate and the lender. The finite amount of time puts a ticking clock on the borrower’s road map and could potentially wreak havoc when things do not pan out as planned. This is particularly true for startups taking out loans from banks, which could foreclose on a business if there is a covenant breach, such as when a material adverse change clause is triggered. In addition, debt financing has become increasingly costly over the past year. While companies with healthy financials can use venture loans to preserve runway, if the ongoing interest rate hikes continue for an extended period, startups are likely to be negatively impacted by the increasing cost of borrowing capital and find it more challenging to refinance, and they may even face growing prospects of default.

Challenges and opportunities for lenders

With increased competition from high-quality companies contemplating venture debt, **the selection bar has naturally been raised**. Lenders now get to be pickier when building a weatherproof portfolio consisting of companies with the strongest financial metrics. The investment thesis from a lender’s perspective is to use administrative controls to protect the cash it hands out to startups while minimizing risks and generating reliable returns.

The cash runway requirement is another important factor to consider. Contrary to the popular misconception that venture debt serves to replace an equity round, this form of debt financing is meant to be complementary to equity financing, thus enabling an already highly liquid startup to further load up their balance sheet. For companies with only a few months of runway, the option of venture debt is practically ruled out. As equity capital availability has been shrinking, lenders have become increasingly cautious, knowing that the next equity round may not happen as planned and that it is getting more difficult for companies to refinance. As a de-risk measure, lenders place a hard runway preservation requirement, typically with 12 to 18 months as the minimum, and filter out companies running out of cash.

Certain changes with debt terms help lenders, which now enjoy an upper hand at the negotiation table, to allocate capital more efficiently and boost revenue from interests charged on the capital that is drawn down. For example, terms on the draw period (the period of time during which a company can draw down a loan upon closing) shifted toward stipulating borrowers to put capital to work more efficiently. Previously, many companies raised debt as “insurance capital” to have access to capital set aside by the lenders and may have ended up drawing only a low percentage of the total loan amount. Over the past year, lenders started requiring a significant portion of the borrowed capital to be drawn down within a defined time window, ensuring that capital will be put to work shortly upon closing a loan.

In the past year and a half, warrants found their way back to debt term sheets, whereas previously many venture debt funds opted out of warrants and negotiated a higher coupon rate. The current market is also seeing the advent of success fees, which typically involve a company paying its lenders a certain sum if it successfully exits within a specific time window.

Most venture loans carry a floating rate, which means risks with added costs are passed on from lenders to the borrowing entities, thereby protecting lender returns. In the face of persistent inflation and the ongoing interest rate hikes battling against it, borrowing has become costly, and it will likely continue to be in the foreseeable future should the Federal Reserve continue to raise the federal funds rate and hold it at an elevated point until inflation cools down.[10] Despite certain market measures and indexes having started to show signs of easing inflationary trends, fluctuations in monthly reported numbers speak to persistent volatility. By charging a floating rate with a spread on top, along with additional fees such as an extra coupon rate, warrants, or success fees, lenders are able to leverage the negotiation power they now command to minimize risks while maximizing potential upside returns.

Looking forward

The market shifts over the past year have made the market for raising capital incredibly more difficult. While venture debt is not meant to be last-resort money for a company, the allure of nondilutive capital is undeniable in a market where falling valuations are squeezing companies' options. These term loans can help businesses with healthy balance sheets further extend runway, scale operations, and progress toward profitability, all while pushing out the next priced equity round.

From the lender's side, the market changes add some complexity, but venture lending has been structured in a way that increased risks can be mitigated through several levers. Should interest rates keep climbing and economic headwinds persist, venture-backed companies with loans on their balance sheets may find themselves feeling greater pressure as they are squeezed by thinner profit margins and escalating interest and principal payments.

We expect to see a further expansion of the venture debt market during the current liquidity stress and capital supply crunch. Indeed, nearly all lenders we have recently spoken with have noted the increased exploration of venture debt by VC-backed companies as an alternative financing option. Even Blackstone announced its plan to invest more than $2 billion in debt deals for tech companies back in August 2022, likely motivated to use these floating-rate products as a hedge against rising inflation and to gain access to high-growth, private tech companies at the same time.[11]

10: Our analyst note How Macro Risks Are Shaping the Outlook for US Private Markets looks at key risks and opportunities for the US private markets amid persistent inflation and rising discount rates.
11: "Blackstone Plans to Back Tech Startups in $2 Billion-Plus Lending Push," The Information, Maria Heeter, August 11, 2022.