

A new online calculator estimates the true value of stock at venture-backed startups

May 7 2020, by Katia Savchuk



Credit: CC0 Public Domain

Several years ago, a student walked into Ilya A. Strebulaev's office to share a sad tale. Before attending Stanford Graduate School of Business, she'd worked for a successful venture-backed startup. She owned

thousands of stock options that, she'd been led to assume, were worth \$50,000. Instead, when the company went public, she got nothing.

Strebulaev, a finance professor, saw other students in his venture capital courses make the same mistake when sizing up offers from prospective employers. They often used reported but unconfirmed valuations for startups to estimate the value of non-cash compensation, such as restricted stock and options. Many of these companies are so-called unicorns, with reported values exceeding \$1 billion.

"I knew early on that they were not making decisions based on actual fair value, but it wasn't sufficient just to say, "You can't use those numbers."" Strebulaev recalls. "I had to come up with something they could use."

In February, Strebulaev did just that. Along with Will Gornall, an assistant professor of finance at the University of British Columbia, he released a free [online calculator](#) to help employees estimate how much their holdings are really worth.

Inflated Valuations

Job hunters, investors, journalists, and others can also use the tool to gauge the true value of around 130 startups. At least one venture capitalist is employing it to help set compensation, Strebulaev says. In some cases, the startups' reported value and actual value are off by hundreds of millions of dollars.

For instance, Postmates, the on-demand delivery service, was worth \$1.7 billion as of its last financing round in January 2019, not the \$1.9 billion reported, according to Strebulaev's [calculator](#). Airbnb had a fair value of \$27.6 billion during its last funding round in 2017, rather than the reported \$30 billion.

And of course, any shareholder who wonders how their holdings have been affected by the COVID-19 pandemic can use the calculator to assess the current worth of their equity.

Strebulaev says using reported valuations can mislead employees, because those figures are based on the preferred stock that more recent investors get, not the common shares issued to employees. Preferred shares are typically worth more, since they often come with perks, such as guaranteed returns when companies go public and priority over other investors in the case of liquidation. In many cases, workers at secretive startups don't have even basic information about their employers' finances or ownership structure, Strebulaev says.

Winning Ticket or Worthless Paper?

That can leave them guessing about how much their compensation is worth. "If you ask the startup CEO, she tells you they are winning lottery tickets. If you ask your grandmother, she tells you they are worthless," the calculator website notes.

"A non-trivial fraction of these employees' wealth is in their options and stock, and a lot of financial decisions, like saving for retirement or buying a house, are based on their estimates of how valuable they are," Strebulaev says. "They typically think they're worth more, and thus they make a lot of costly mistakes."

To build the calculator, Strebulaev and Gornall used a valuation model they developed several years ago to appraise 135 venture-backed billion-dollar unicorns. Their research, recently published in the *Journal of Financial Economics*, found that the companies' reported valuations were 48% higher, on average, than their true worth. Sixty-five of the unicorns—nearly half of them—were actually worth less than \$1 billion, they concluded.

The calculator, a side project for the professors, applies the valuation model to data from startups' corporate charters. Those are the [legal documents](#) filed with secretaries of state and are typically amended during financing rounds. The researchers' framework assumes that the companies are "typical" venture-backed startups. Those that have concrete plans to go public in the next year or have seen their valuations drop during a recent financing round may not fit the bill.

"Our data is not perfect, but it's better than most outsiders or even insiders have," Strebulaev says.

Daily Updates

The calculator website points out that, while the tool gives a fair estimate, the value of stock is partly subjective. Shares and options may be worth less to those who are uncomfortable with risk, need the money soon, or are likely to leave the startup early.

After getting several requests, Strebulaev and Gornall also added a tool, updated daily, for valuing options and restricted stock units at public companies. While short-term options are traded at clear prices, employees had no reliable way to appraise the longer-term securities they own. "In an unprecedented situation like we have now, where stock prices go up and down dramatically every day, people are increasingly interested in what their options are worth," Strebulaev says.

Employees and investors who know details about financing for private companies not listed in the tool can use the calculator to value those shares (Strebulaev says no data is recorded or tracked). Users can also request to add other companies to the database—eventually, Strebulaev hopes to include several hundred.

"My biggest hope is that people will become more savvy and better

informed when they make financial and life decisions," he says.

More information: Will Gornall et al. Squaring venture capital valuations with reality, *Journal of Financial Economics* (2019). [DOI: 10.1016/j.jfineco.2018.04.015](https://doi.org/10.1016/j.jfineco.2018.04.015)

Provided by Stanford University

Citation: A new online calculator estimates the true value of stock at venture-backed startups (2020, May 7) retrieved 6 May 2024 from <https://phys.org/news/2020-05-online-true-stock-venture-backed-startups.html>

This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.