Directors&Boards

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After a lull during the financial crisis that started in 2008, initial public offerings (IPOs) have made a resurgence. While the pandemic slowed down most economic and financial activity, 2020 was the best year for IPOs in over a decade: 165 IPOs raised $61.9 billion in the U.S. Remarkably, we find about two-thirds of these IPOs have negative earnings (losses) in the last 12 months prior to the IPO, yet many of these IPOs are valued at more than a half billion dollars by investors.

Valuation of IPOs occupies an important place in finance and corporate governance, because an IPO provides public capital market participants their first opportunity to value a set of corporate assets. Valuation of IPOs is also quite relevant from an economic efficiency perspective: the IPO is the first opportunity that directors and managers of such (usually young) companies get to observe price signals from the public capital markets. Such signals can either affirm or repudiate directors' and management's beliefs regarding the firm's future growth opportunities, which have obvious implications for real economic activity — for example, employment and corporate investment.

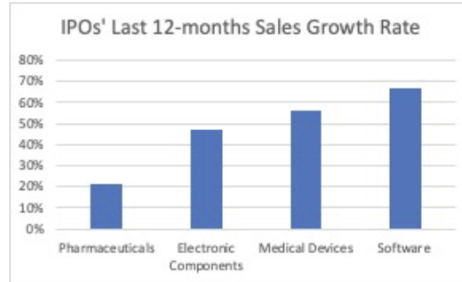
The valuation of an IPO, consistent with and similar to valuation of any asset, depends on the present value of its future cash flows. Most IPOs in the U.S. are of high-growth companies that have small (or even negative) current cash flows. However, their cash flows are expected to grow rapidly into large future cash flows. Most of the IPO value is in the discounted value of these large future cash flows. In addition to being high growth companies, IPO firms are perceived as facing considerable uncertainty about future cash flows — uncertainty about the technical and commercial viability of their technology, uncertainty about size and future growth of their market, and uncertainty about response of the competitors. It is in the interest of the directors, executives, key employees and large investors in the company contemplating an IPO to provide credible and costly signals to the market (analysts) about their confidence in these large future cash flows. The more credibly the market believes in these large future cash flows, the larger the IPO valuation on the offering day, and larger the value of stock ownership of the directors, executives, key employees and large investors in the IPO company.

What is a credible and costly signal that directors, executives, key employees and large investors in the IPO company can send to the market (analysts) regarding their confidence in these large future cash flows? Prior finance research has documented that the percentage of the IPO company's stock ownership retained by the directors, executives, key employees and large investors is a credible and costly signal and significantly positively related to the IPO valuation on the offering day. Costs of continuing to own a significant number of the IPO company shares: First, and most important, if the IPO company's business prospects sour, the share price will decline with the associated negative impact on the net worth of the insiders. That reason is followed by a lack of diversification and a loss of liquidity. Benefit of continuing to own a significant number of the IPO company shares: If the IPO company's business prospects are realized and get even stronger, the share price will increase with the associated positive impact on the net worth of the insiders.

We studied the valuation of over 2,000 U.S. IPOs during the past two decades. The main variables that prior literature on accounting and finance has shown to influence IPO valuation in the U.S. are growth opportunities, insider retention, earnings and book value. We consider three proxies for growth opportunities: capital expenditures, R&D expenditures and sales growth.

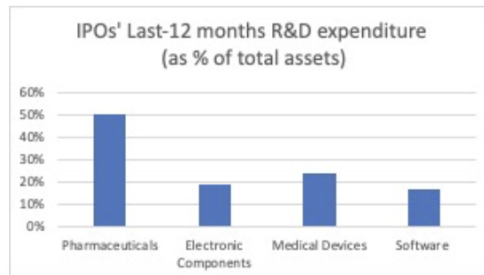
The median sales of these IPO companies in the year prior to the IPO is only $27.6 million, but the median sales growth rate is an impressive 44%, consistent with these being high growth companies. Software companies have the highest growth rate (67%), followed by medical device companies (56%).

About 65% of these IPO companies have negative earnings in each of the three years prior to the IPO. 89% of pharmaceuticals have earnings losses in the last 12-months prior to the IPO. However, 59% of electronic component companies have earnings losses in the last 12-months prior to the IPO.



The median R&D (as % of total assets) of the companies that do report R&D is 26% which is substantially above that of mature companies. Pharmaceutical companies spend the most on R&D (50% of total assets); other IPOs tend to spend about 20% of assets.

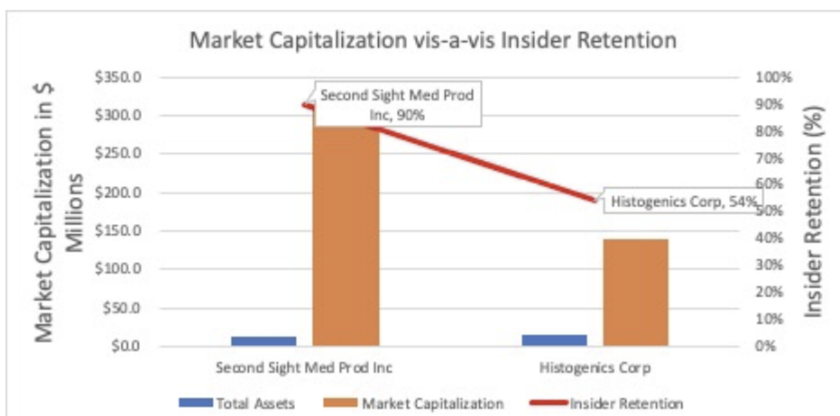
The median capital expenditure (as a % of assets) is 7%. These companies typically have much less debt than mature companies (median debt is about 7% of total assets). The median market capitalization at the offer price of the above IPOs was $312.8 million. The median offer proceeds at the offer price was $75 million. The median insider retention was 75%. We compute insider retention by subtracting secondary shares sold during the IPO from shares outstanding before the IPO and dividing that difference by post-IPO shares outstanding.



Drivers of IPO valuation

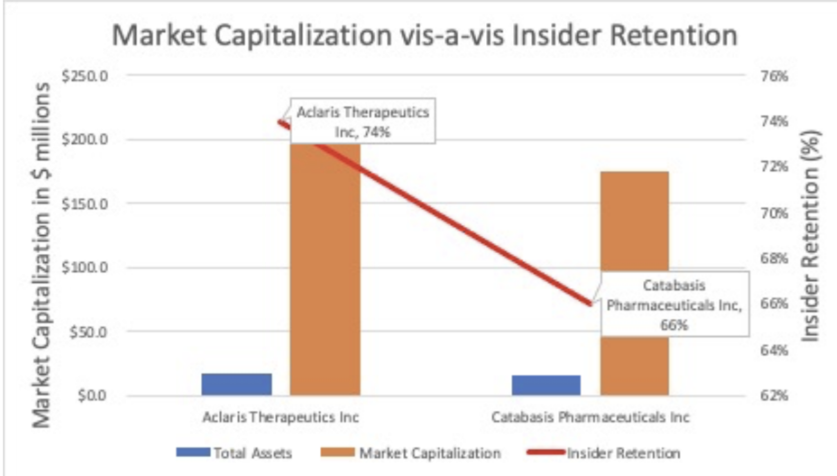
We find that insider retention is one of the most significant determinants of IPO valuation. We illustrate this with the following two figures where we compare the market capitalization of two companies in the same industry, of approximately the same total asset size, and where the IPO was done in the same year. In each of these two examples, the company where the insiders retained more stock were valued higher by the market.

Growth proxies, such as capital expenditures and sales growth are also significantly positively related to IPO valuation. When the IPO has positive income in the past 12 months, this income is significantly positively related to IPO valuation. Interestingly, even negative income in the past year is significantly, though less positively, related to IPO valuation; this is because most companies that have negative income tend to have large R&D expenditures. Under GAAP, R&D has to be expensed; it cannot be capitalized. While large R&D expenditures lead to negative income in the current year, these same large R&D expenditures (if they have been invested wisely) will lead to large positive future cash flows. These large positive future cash flows drive the positive relation between negative income and IPO valuation.



Implications for corporate board of directors

Given the value drivers of IPO valuation, there are three corporate policy implications for corporate board of directors of a company approaching its IPO.



- Corporate directors should discourage senior executives, key employees, other blockholders, and their fellow directors of the company from selling any shares in the IPO, since insider retention is a positive and the significant determinant of IPO valuation.
- Corporate directors should prioritize corporate investments (such as capital expenditures and R&D) on growth opportunities, since most of the value of U.S. IPOs is based on future growth opportunities.
- Large R&D expenditures can lead to negative income in the year just prior to the IPO. Corporate directors should not be alarmed about this negative income and should not try to cut back on R&D for this concern. Investors are focused on the positive cash flows the R&D will generate in the future, not on the current negative income.

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