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Financing Entrepreneurial Ventures

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1 INTRODUCTION

> Many entrepreneurs complain that spending time on financing distracts them from their "real job"—building the business.
>
> —Jeff Bussgang, founding general partner, Flybridge Capital

In *Mastering the VC Game*, Jeff Bussgang notes that many entrepreneurs prefer to focus on business building rather than on financing. Assembling a team, solving customers' problems, creating a product, and closing sales are the kinds of activities that many entrepreneurs report give the most energy and enjoyment. Bussgang cautions, however, that raising capital—whether it's through a $250,000 seed round or a multimillion-dollar initial public offering (IPO)—is a core part of building a valuable business. Developing expertise in entrepreneurial finance should be thought of not as a necessary evil but as a competitive weapon.

Financing decisions depend on the type of venture and the amount of capital required to achieve positive cash flow. Entrepreneurs generally make financial forecasts when they are shaping the opportunity and crafting a business model. Yet experienced entrepreneurs know that they must continually revise those forecasts in response to what they learn through multiple experiments as they launch a venture. In the early stages of exploring and shaping an opportunity, new ventures are often financed by founders, friends, family members, banks, and individual angel investors. Recently, many entrepreneurs have also turned to crowdfunding, angel networks, and venture capital (VC) to finance early-stage businesses. During the experimentation and launch phases, additional financing may be provided by banks, VCs, angels, and strategic investors (corporations that invest in startups, generally to support a strategic goal). In many settings, governments provide funding to startups, especially in sectors seen to be strategically important.

We begin this reading by reviewing why businesses differ in their needs for external capital. We then explain various financing options, describing the requirements and expectations of different kinds of financiers. Finally, we provide tools entrepreneurs can use as they make decisions concerning financing and valuing their ventures.[1] Strategies for partnering with investors are covered in *Core Reading: Partnering with Venture Capitalists* (HBP No. 8240).

This reading takes as its central focus high-growth businesses; therefore, extra attention is given to issues related to VC and angel investors. The reasoning for this choice is twofold. First, and most important, the exploration of high-growth firms and their financing uncovers principles and tools of entrepreneurial finance that apply to all kinds of ventures. Second, the target audience of this reading, MBA and executive education students, generally contains a much larger share of entrepreneurs interested in growth-oriented firms than the economy as a whole, and these entrepreneurs can substantially improve their odds of success with a sharper understanding of financing choices. Some readers will decide that they do not want to pursue businesses requiring high-growth financing models, preferring instead to found businesses that are more amenable to bootstrapping and bank loans. Thus, the principles and tools presented here can be thought of not only as a road map but also as an initial fork in the road for entrepreneurs.

2 ESSENTIAL READING

2.1 The Critical Starting Point: Financial Implications of Business Models

Why is it that some entrepreneurs successfully ***bootstrap*** their businesses—that is, build them up through personal savings, small loans, credit cards, and the company's retained earnings—while others are critically dependent on external financing?

To address that question, it is helpful to think of a business as an engine that converts cash into assets in order to generate more cash. For example, to start a company, an entrepreneur may use cash to buy machines or raw materials and to hire employees. Those resources then produce offerings that are sold to customers to generate more cash. Three factors, all of which affect how much cash is generated in a given period, differentiate businesses and their financing needs: their underlying profitability, the ***asset intensity*** of their business models, and the speed at which they need to grow.

Underlying profitability. The profitability of a business depends on the value of the output relative to the value of the input. Commodities and products in very competitive industries generally cannot command a large profit because customers have many options and can seek the lowest prices. But businesses that operate in markets where demand is inelastic (that is, demand does not change in response to changes in price) or competition is low will tend to be very profitable. In addition, businesses that have high fixed costs relative to their variable costs often exhibit economies of scale and become increasingly profitable as they grow (because the fixed costs are spread across a larger revenue base).

Asset intensity. The profitability of a business is only one aspect that determines cash flow and hence how much financing a business will require. The second is its asset intensity: the amount of assets that must be tied up in the business (net working capital plus net fixed assets) in order to generate sales. In most businesses, there is a lag between the time that cash is initially converted into assets and the time that the assets generate more sales.

For an example of an asset-intensive business, think of a manufacturer that must buy expensive machinery to develop a product. A company may also purchase inventory to support an expected growth in orders. Moreover, some small businesses allow customers to buy on credit, and these sales accrue under accounts receivable. That is, although the sale may occur today, the cash for the sale will not hit the business's bank account until the end of the payment cycle. The longer the payment cycle, the more asset-intensive the business is, because a greater proportion of its assets are tied up (in this case, in accounts receivable) instead of generating cash.

Asset intensity thus creates a wedge between the profitability of a business and the cash flow it generates. In fact, businesses can be extremely profitable but *cash flow negative*. That is, although product sales generate significant profit on the business's P&L (profit and loss) statement, the business may not have sufficient cash to meet payroll or to buy the assets required to generate cash in the next cycle. This implies that a profitable company can in fact go bankrupt. On the other hand, some business models are extremely "asset light." They require very little investment in physical capital, and their cash conversion cycles can even be negative.

Take, for example, businesses that get favorable payment terms from their suppliers (e.g., a company accepts delivery of raw materials today but doesn't have to pay for them for 60 days). When a business is able to push payments out into the future (the liability for these payments

appears on the balance sheet as accounts payable), less cash is tied up in assets, lowering the asset intensity of the business. Other examples are the subscription model for magazines, Software as a Service (SaaS), and prepaid phone cards. In those business models, customers often pay for the service several months before the company delivers it. Consequently, the business can be temporarily unprofitable (as it has yet to reach sufficient scale to cover fixed costs or is offering large discounts to attract customers) but *cash flow positive*!

Thus, while profitability is clearly important, the asset intensity of a business (and hence of its business model) also plays a critical role in determining cash flows, because it determines how long it will take for the business to be cash flow positive. Particularly for small and young businesses, the timing of these cash flows is as important as raw long-term profitability.

Pace of growth. A final determinant of financing requirements is the speed at which a venture needs to grow. For many businesses, growth is an option that depends on the goals of the entrepreneur. In other cases, growth is essential. Consider, for example, a social networking site, which must rapidly build a large customer base in order to offer a compelling value proposition. The faster a business needs to grow, the more assets tend to be tied up in supporting its growth, and hence the more cash it will require. To the extent that a business does not have this cash, it will need to get it from external sources.

To summarize, businesses that are less profitable, have high asset intensity, and need to grow extremely fast will display the greatest dependency on external financing. To start a personal consulting firm, little is needed in the way of external financing, given that the asset intensity is low, growth is not demanded, and the model can be profitable from the start. By contrast, launching the next eBay may require substantial financing—to invest in assets and to achieve growth and scale—before the business becomes profitable. Young, high-growth businesses often share those business model characteristics and therefore are the kind of enterprises that generally have the most acute need for outside investment.

2.2 Bootstrapping

Before exploring investor types, it is important to note that many firms do not seek external capital. In fact, it is every entrepreneur's dream to bootstrap: to achieve early cash flow and become profitable by drawing on personal resources, without giving up any ***equity*** to investors. In this way, an entrepreneur retains full ownership and control of the venture. Some business models are more amenable to bootstrapping than others—in particular, businesses that do not require many assets or that have very attractive cash flow properties. Likewise, entrepreneurs willing to grow their businesses slowly will find it easier to finance growth out of the venture's retained earnings.

In addition to preventing dilution of the owners' equity, bootstrapping offers other benefits. First, it instills discipline. Tom Davis, founder of Modular Instruments, recounted his bootstrap strategy: "If we had money, we would have made more mistakes. This way, I wrote all the checks. I knew where the money was going."[2] Second, and related, bootstrapping can enforce a reasonable rate of growth. In a hot market, it can be too easy for entrepreneurs to raise outside money, often before a venture has been fully vetted and before an entrepreneur is ready for the heavy demands and expectations that wide exposure brings. Bootstrapping can pace development, ensuring that an entrepreneurial team and its product are ready for the pressure and scrutiny that come with rapid growth.

Consider Kate Spade, a luxury handbag and accessory brand that became globally renowned through bootstrapping.[3] The four founders of the company initially worked out of their small Manhattan apartments, took no salaries, and used side earnings to fund the

venture's development. They had no other options at the start. Even when investors came knocking, however, the founders maintained their chosen pace of development, concerned with the risks of overexposing the young brand. In time, Kate Spade's founders selected strategic investors such as Neiman Marcus, but always with a focus on their ultimate motivations (for instance, being able to pass the firm along to their children).

Bootstrapping is not for everyone, however. Without outside resources, many first-time entrepreneurs face limits on the size of their ventures, the sophistication and competitiveness of their products, and the rate of market penetration. Consequently, it may not be possible to bootstrap and compete. (Think again of a social networking company that needs to build a user base quickly.) Entrepreneurs who plan to rely on personal resources should take a hard look at the sources and amounts they have and when those resources will become available. They should realistically assess the time and resources that will be required to launch their venture and achieve positive cash flow, and then determine whether bootstrapping is a viable option.

2.3 Debt versus Equity

Entrepreneurs seeking external capital need to understand the difference between debt and equity and why some investors ask for a stake of their company. Raising money from a VC, after all, is not an end goal for an entrepreneur; it is, rather, a (potentially expensive) step toward realizing the success of his or her venture. As Fred Wilson, a co-founder of Union Square Ventures, notes, "Equity capital is expensive. Every time you do a raise, you dilute."[4]

Debt investors (such as traditional banks) lend a fixed sum of money for a specified period at a given interest rate. An inherent aspect of the debt contract is the fact that an investor's upside is limited—that is, even if an entrepreneur is extremely successful, the debt investor's return will be equal only to the principal of the loan plus the prespecified interest.

Not only is their upside limited, but debt investors can also lose the full value of their principal in the event of a default. As a result, they are concerned primarily about downside protection and lend only to ventures that have a proven technology or business model and that can collateralize assets (such as equipment or accounts receivable). In addition, they seek businesses with steady, predictable cash flows that can cover interest payments. Debt investors tend to press entrepreneurs to take on less risky strategies and business models, since the investors cannot benefit from the increased risk, but do face the prospects of higher losses from a failed strategy.

Supplemental Reading 3.1 provides additional details on the forms of debt financing available to entrepreneurs and the requirements that debt investors often stipulate in order to minimize the downside risk of their investments. In general, debt is most feasible and valuable for businesses with a record of stable and predictable cash flows and low levels of uncertainty. If entrepreneurs without proven cash flow attempt to raise money from debt investors, they often need a co-signer for the loan who has assets that can be used to guarantee it.

Equity investors, such as VC and angel investors, receive a long-term ownership stake in a venture in exchange for capital. Like debt investors, equity investors can lose the full value of their principal, but unlike debt investors, they enjoy tremendous upside potential. That is, their return is proportionate to the value that can be created by using the investment. If a firm becomes worth billions of dollars, their return is commensurately large. This upside participation allows them to take on much more risk and uncertainty than debt investors can.

Consider two projects as an illustration. One is a "safe" investment that is certain to return $15,000. The second is a "risky" investment that has a 10% probability of returning $500,000

and a 90% probability of failing completely, yielding a payoff of zero. The expected value (probability of success multiplied by value if successful) of the first project is $15,000 (100% · $15,000), and the expected value of the second project is $50,000 (10% · $500,000 + 90% · 0). How would a debt investor and an equity investor each considering an investment of $10,000 choose between these two projects?

Even though the expected value of the second project is more than three times larger than that of the first, a debt investor seeking a guaranteed 10% return on investment will lend only to the first project. This is because the most that a debt investor can realize from either project is $11,000 (the loan amount of $10,000 plus 10% interest). Hence, the debt investor will not benefit from the higher return the second project can generate if it is successful, while he still faces a 90% chance that the project will fail, in which case he will not receive a penny. On the other hand, an equity investor who is comfortable with risk will invest in the project with the higher expected value, because the investor benefits from the higher returns the project can generate if it is successful, even if there is a much greater chance of failure.

Companies that face substantial uncertainty therefore rely more heavily on equity investors for external financing. But entrepreneurs pay for those investors' willingness to bear more risk. The interest rate on debt investments tends to fall in the 10% to 15% range, while the hurdle rate of return that VCs and angel investors factor into their models when valuing a startup can be as high as 50% to 75% (discussed in greater detail below), and they take long-term ownership claims.

Equity investors not only charge a "price" for bearing risk but also try to manage risk by investing in sectors where they have expertise and by influencing management decisions through their roles on boards of directors. This personal investment of expertise and time increases the venture's probability of success and thus its expected value. Monitoring and governance are also more important for equity investors, given that they do not have secured assets as collateral to pay back the loan if the venture fails. Finally, equity investors often seek a portfolio of investments to diversify risk. As long as their investments face idiosyncratic and uncorrelated risks (e.g., the technology risk of one venture is unrelated to the technology risk in another portfolio company), equity investors can make significant returns even with very risky investments.

2.4 Types of Equity Investors

Ventures that need external financing frequently target ***angels***, ***VC investors***, and ***strategic investors***. Founders of these high-potential ventures often start with bootstrapping, but when their businesses need resources to expand, the founders approach venture equity investors to provide the capital they need to shift to high growth. Typical estimates suggest that angel and VC investing is a $20 billion to $30 billion market in the United States, although estimating the size of the angel market is very difficult given the private nature of the investments.[5]

Zipcar, a car-sharing service (discussed in *Core Reading: Recognizing and Shaping Opportunities* [HBP No. 8056]), followed this sequence. After originally bootstrapping the venture, the founders raised $375,000 from family, friends, and angels. This capital helped Zipcar's founders prove the business model in Boston. As the company grew, it raised funds in multiple VC rounds, ultimately securing over $50 million to support US growth and international expansion. After an April 2011 ***initial public offering*** **(*IPO*)**, the company was purchased by the Avis Budget Group, a strategic buyer and rental car company, for $500 million in cash.[6]

Angels

Angel investors are individuals, or groups of individuals, who invest their own money in startup ventures. They are distinguished from VC investors (described next) by their use of personal rather than professionally raised and managed funds. Under this broad definition, there is tremendous heterogeneity.

Many entrepreneurs obtain money for their ventures from friends and family. (Sometimes "fools" is added to the list to make it "FFF.") The advantage of this source of financing is that it may be easy to get—especially if there are high levels of personal trust. In addition, the deal terms (interest rates, ***equity dilution***, control) may be much more favorable than those offered by professional investors. The downside, of course, is that friends and family may have limited resources, expertise, or connections to industry and professional networks. Finally, founders should be wary of the very real potential for relationship damage if their ventures fail to meet expectations.[7]

Beyond friends and family, many entrepreneurs turn to angel investors in their communities. Typical examples are local business leaders, wealthy individuals, and former entrepreneurs. These investors are a good fit for ventures that require less than $1 million and so would not attract the typical VC. Angels may also have existing professional relationships with the entrepreneurs and thus do not need to go through a long due-diligence process. One study estimates that the average deal size for an angel investment in 2012 was $341,000,[8] although smaller deals are inherently difficult to track, and investments in the $25,000 to $50,000 range are not uncommon.

Under the best conditions, local angels offer expertise but provide less structure than a VC firm. They are often seen as helping startups bridge the gap between the generation of a raw idea and the achievement of sufficient maturity and momentum to attract VC investment. Usually, angels invest without a formal timetable or strong control rights over a venture's decisions (for example, they often do not require a board seat).

Angels have a wide variety of styles. Some have deep expertise in a particular domain and serve as active advisers; others devote less time to offering advice and guidance but offer connections to top recruits, advisers, and other experts; still others provide financing but are otherwise silent. Although many angels are motivated by economic returns, these investors are often past entrepreneurs with successful exits and wealth who want to work with budding entrepreneurs to repeat the experience and thrills. In a *Vanderbilt Law Review* article, Professor Daniel Ibrahim wrote that many angels invest out of an altruistic desire to give back by helping entrepreneurs start their own companies. One angel referred to angel investing as "for-profit philanthropy" and another as "cheaper and more fun than buying a yacht." Angels' "highly-localized, relationship-driven" approach often results in ties with entrepreneurs that are based more on trust than on contracts.[9]

Some companies that could obtain VC investment often choose angel investors instead. Consider Honest Tea, which entered the ready-to-drink beverage market with a vision of a product that sat between "pumped-up, sugar-saturated drinks and the tasteless waters."[10] The company generated tremendous media buzz, attracting many investors. The founders ultimately assembled substantial initial financing through personal investment, friends and family, and angels (including former entrepreneurs and very eager customers). The founders wanted to avoid VC investment, in part owing to their desire to maintain control of their brand. Over time, the company took on strategic investors such as Stonyfield Yogurt and Coca-Cola. Many social enterprises are funded in a similar way.

Whereas finding angel investors used to be a tedious and networking-based process, online sites like AngelList have made it much easier.[11] The site allows entrepreneurs to pitch to investors and request meetings, and it gives investors a more efficient way to meet and learn

about entrepreneurs and their ventures. It also allows investors to see what deals other investors are pursuing; if they're interested, they can try to jump in. AngelList is different from crowdfunding sites (which are discussed later in this reading) because it allows only accredited investors who can help a startup in tangible ways beyond providing capital.

In recent years, there has been a surge in angel investing. Whereas 32,000 companies received angel investment in 2002, more than 67,000 companies received a total of nearly $23 billion from 268,000 angel investors in 2012. These numbers are probably understated, given the small scale and private nature of many angel investments. Some of the most active angels in major cities have formed ***angel groups***, which allow collective screening and investing in startup ventures. Many groups, like the New York Angels, set a minimum annual investment amount for members.[12] There are now more than 330 angel groups in the United States and Canada. Prominent examples include Tech Coast Angels in Southern California, Band of Angels in Silicon Valley, and CommonAngels in New England.

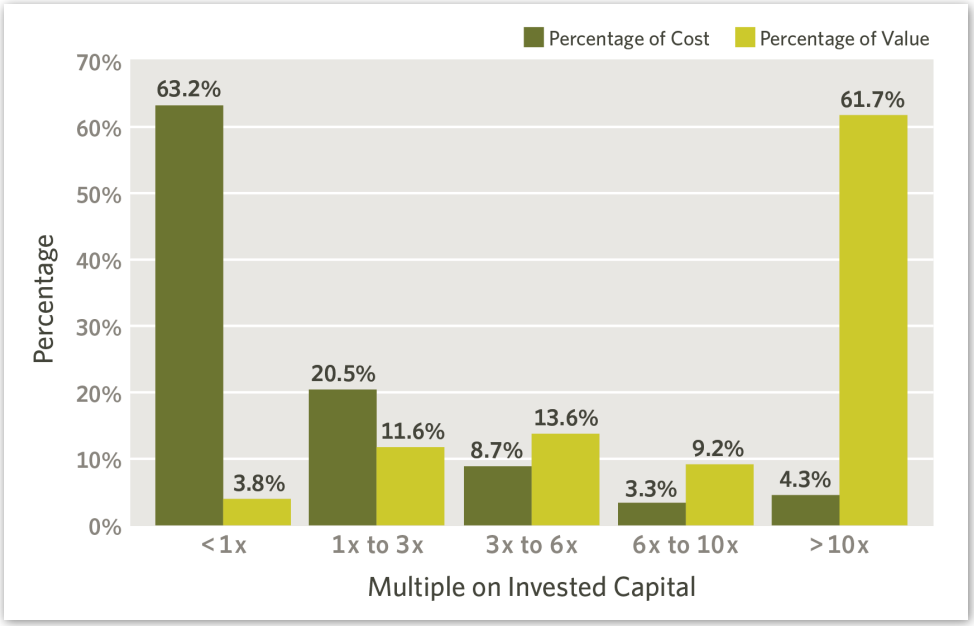
Founders who choose angels wisely can often access business expertise and connections that help accelerate the launch of a venture and improve its chances of success. In addition, an angel may be more flexible than a VC in terms of the time frame for achieving a return. But entrepreneurs who don't perform ***due diligence*** on an angel investor may end up with an inexperienced individual who may not have the right kind of expertise and connections and may be difficult to manage (e.g., the angel may constantly call the founder for updates). The challenges can become especially acute if an entrepreneur plans to raise additional capital from VC investors. And although individual angels may make an initial investment more quickly and on more favorable terms than a VC, they often are unable to support follow-up rounds of funding.

Venture Capital

A new venture may be able to attract VC investors if the investments it needs are larger than the founders can obtain through bootstrapping, bank loans, or angels; can be staged (often over three to five years); and provide a chance of very high returns. VC firms invest in new ventures using funds raised from ***limited partners*** such as pension funds, endowments, and wealthy individuals. These firms are run by professional investors, often referred to as venture capitalists. See the Supplemental Reading section for a description of the structure of VC funds and angel groups in greater detail.

To understand VC investors and their approach to entrepreneurs, it is helpful first to examine their internal economics. **Exhibit 1**, using data from a prominent VC's portfolio of investments, shows how even a very risky set of investments can lead to substantial returns.[13]

EXHIBIT 1 Breakdown of a Prominent Venture Capitalist's Portfolio



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As can be seen in the exhibit, more than 60% of the dollars this firm invested went to projects that ultimately failed and were liquidated at an amount less than the original investment level. Those projects contributed less than 4% of the money returned from the portfolio. On the other hand, just under 8% of the dollars invested by this VC firm accounted for more than 70% of the overall returns of the portfolio. It is important to note that at the time of the initial investment, all these investments had the potential to realize exceptional returns. Indeed, given the high chance of failure, VCs will not invest in projects that do not have the potential to be winners. But they cannot know which investments will end up as winners and which will fail. Put differently, the return distribution for VCs will end up looking like that in Exhibit 1.

An important aspect of the VC investment process therefore is making enough investments to increase the chances of funding a "***home run***"—an impressive success (e.g., a tenfold return on invested capital). Moreover, since more than half the investments in a portfolio won't yield any returns, VCs need to own a sufficient share of the successful firms at exit (i.e., at the sale or public offering of the venture) in order to generate their overall returns. As a consequence, any individual investment cannot be too capital-intensive in relation to the size of the overall portfolio, so that equity investors can both diversify across investments and have a sufficient fraction of the overall equity in the successful investments to cover the losses they incur in over half of their portfolio. **Exhibit 2** highlights this balancing act using an example of a pro forma statement that VCs show to their limited partners (the investors in their funds).[14]

EXHIBIT 2 Example of a Pro Forma Statement Shown by VCs to Their Investors

Category of Outcome	Projected Value at Exit	Dollar Invested per Company	Share Owned at Exit	Expected Number of Investments	Total Invested	Total Return
Early failure	—	$5M	n/a	5	$25M	0
Complete write-off	—	$8–15M	n/a	5	$55M	0
Money back	$50M	$8–15M	20%	5	$55M	$50M
Successful exit (low)	$200M	$8–15M	20%	5	$55M	$200M
Successful exit (medium)	$350M	$8–15M	20%	5	$55M	$350M
Successful exit (high)	$500M	$8–15M	20%	5	$55M	$500M
Total					**$300M**	**$1,100M**

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It is important to note that a VC firm does not necessarily earn higher returns by lowering the number of failures in its portfolio, although the less one invests in a failing company the better. The critical concern of a VC is to identify underperforming investments early on, close them, and shift the resources to higher-return opportunities in the portfolio, moving invested capital from left to right in Exhibit 1. Some of the VC firms with the industry's highest failure percentages are also among the most successful, because they are better at managing this process, thereby extracting higher returns from their portfolio. Better identification and management of failures in turn allow the VC to take on a higher-risk portfolio and still achieve high returns.[15]

How can entrepreneurs know whether they are a good match for these types of investors? VC investors are looking for opportunities that can deliver substantial returns—an often-cited benchmark for a venture is achieving revenue of $50 million to $100 million in five to seven years. Likewise, VC investors need to be able to deploy a sufficient level of capital in portfolio ventures to have an effect on their fund's performance (i.e., very small investments don't move the needle for a large fund). In 2012 initial VC financing (called a ***Series A round***) averaged $6.7 million[16] and ranged from $1 million to more than $10 million. By contrast, angel investors, who, unlike VC investors, deploy their own money and tend to have smaller portfolios, often seek lower investment amounts and projects that have less aggressive growth targets.

Entrepreneurs who want to "be their own bosses" are cautioned about the extensive control rights that VCs, as compared to angel investors, often take over their portfolio firms. These control rights can include seats on a venture's board, covenants that prevent major undertakings (such as sales of assets or merger agreements) without a VC's approval, and even the capacity to replace an entrepreneur as the CEO. If, for example, investors do not believe an entrepreneur is prepared to grow the company aggressively enough to hit certain benchmarks, the VCs will push to bring in someone else to lead the effort. Noam Wasserman has written that all entrepreneurs need to confront the "rich versus king" decision when considering external capital. VCs, he explains, may help founders get rich but perhaps not allow them to remain king.[17]

The concept of staging is also important for entrepreneurs to understand when working with VC investors. Staging enables investors initially to contribute smaller amounts of money and then invest more in a series of rounds as an entrepreneur reduces the uncertainty and risk involved in bringing a novel technology or business model to market. This approach allows better portfolio dynamics for a VC firm—investing less in the ventures that don't gain traction and more in those that do—and, as we will discuss, it can reduce an entrepreneur's equity

dilution. The key point here is that VC investors rarely fund a venture's full needs in the first financing round, instead providing only enough capital to get the venture to the next milestone (typically a clearly defined development that reduces the riskiness of the business).

Even as VCs seek to invest earlier in promising new technologies, many entrepreneurs who are launching high-growth ventures are choosing not to seek equity financing until they have proven the business model and have achieved early market acceptance. Many entrepreneurs recently have embraced the "lean startup" approach, launching their ventures with little capital, quickly developing a *minimal viable product* that they can test through inexpensive forays into the marketplace, and then refining their offering on the basis of feedback from early customers. This approach, which allows entrepreneurs to delay raising large amounts of capital until the business model is refined—and can help them negotiate more favorable terms with VC investors—is discussed in more detail in *Core Reading: Experimenting in the Entrepreneurial Venture* (HBP No. 8077).

Finally, in considering VC, entrepreneurs must think about whether it is available to them. VC investment is unevenly distributed across countries. In 2012 VC investment totaled $30 billion in the United States, $6 billion in Europe, $4 billion in China, and $1 billion in Israel.[18] As we note again later, those differences determine in part the types of businesses that can be started in different locations. Moreover, even when VC investment is available, local traits influence its forms and functions. Comparative studies find that investors in nations with weaker rule of law tend to rely more on debt than on equity and employ stricter control provisions (investors might require 50.1% of a venture's shares, for example).[19] Likewise, local regulations can strongly influence the attractiveness of certain opportunities. Countries with rigid labor laws, for example, have lower investment levels in highly volatile or novel industries such as computer technology and energy.[20]

Strategic Investors

Corporations also invest in startups. In some cases, these investments are organized into a corporate venture capital group, similar to the VC investors discussed above. Such groups can have professional investors as their managers and seek to build a portfolio just as VC firms do. In most cases, strategic investments are direct investments by larger firms in external ventures. These investments may be made by operational managers on a one-off basis. The investing firms are often called strategic investors because their motivations tend to be strategic (for instance, gaining exposure to a new technology or product area important to the firm's core operations) in addition to financial.

Strategic investments are common in industries where there are a small number of large industry leaders that have the capacity to invest extra cash, where product development and delivery require substantial assets that these large firms may control, where independent searches for new products can be protected from intellectual property (IP) theft, and so on. An example is the pharmaceutical and biotech industry, where the large companies have the size and capabilities to take drugs developed by smaller players through government approval processes and on to consumers. The biotech startups facilitate the discovery of new products that may one day become the blockbusters of the large companies. Other examples are the publishing and energy industries.

The investments of large corporations and those of VCs differ in some important ways. For example, the range of investment size is greater. Some strategic investments are small and exploratory in nature, while others are massive. Indeed, large corporations with deep pockets can fund some opportunities that are beyond the reach of typical VCs in terms of investment size and duration. Related to this is the fact that many strategic investments serve as partial liquidity events for entrepreneurs, providing some immediate personal financial return. Founders often require some return and liquidity from strategic investors because linking up

with a large corporation can close the door on other opportunities (e.g., a public offering), making the startup very dependent on its new partner. This was the case for Kate Spade, Honest Tea, and Zipcar.

Entrepreneurs working with strategic investors need to understand their internal dynamics. For example, executives in charge of internal business development may look warily at a potential investment that executives in charge of product sales find attractive. Likewise, internal practices can shape entrepreneurs' incentives and returns. Caps on the returns to entrepreneurs (in the form of buy-out clauses, for example, which specify the maximum price the investor will pay) are included in some deals, in part because there are internal limits to how much the company can compensate an individual employee—that is, the company cannot pay the founder of a venture in which the company has invested more than it pays its CEO.

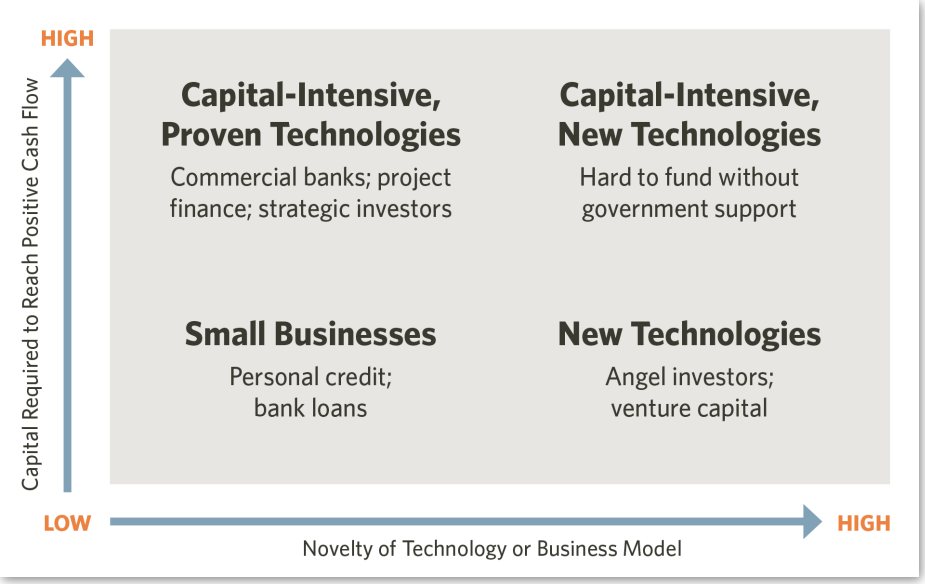
Strategic investors are common in many countries, but they perhaps play a more important role in developing and emerging economies. In those settings, professional investment firms are often nonexistent or underdeveloped. And a country's wealth may be concentrated in a small number of families, making the firms of those families a key source of financial capital. For example, 40 families in the Philippines effectively controlled 76% of the country's GDP (gross domestic product) in 2011, strongly influencing the local markets for entrepreneurial finance.[21] As described in greater detail in the discussion of TA Energy in the section headed "The Financing Implications of Business Decisions," entrepreneurs in these settings must often navigate competing interests in family-controlled conglomerates. But these firms can offer scarce resources quickly to entrepreneurs who reach the right decision makers.

2.5 A Broad Mapping of Investor Types

Our earlier discussion on debt versus equity highlights the reality that different types of investors seek very different types of startup firms as investment opportunities. Debt investors avoid risky and uncertain projects; equity investors invest in promising ventures that may be highly risky, and they may even avoid less risky projects owing to their lower returns. These differences in incentives are evident in the ways investors influence a startup's strategy. Debt investors often advocate strategies that yield modest yet stable returns, whereas equity investors may push for strategies that increase the likelihood of greater returns but also greater losses. Investors can have a profound influence on a startup's trajectory, so understanding their interests and incentives is a key aspect of a successful financing strategy for any entrepreneur.

The mapping in **Exhibit 3** focuses on two key dimensions to consider when raising money from investors: how much capital the venture needs to reach positive cash flow and the novelty of the venture's technology or business model. New businesses fall into different areas in this two-dimensional space, and each quadrant lends itself to different financing strategies. Later in this reading, we also discuss a venture's movement from one quadrant to another.

EXHIBIT 3 Entrepreneurial Finance Framework



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Startups in the left quadrants are less risky and so can often be financed through debt investments, which, as we've discussed, tend to be a less expensive source of external finance for entrepreneurs. Contrary to what some might expect, the vast majority of new firms fall in the bottom left quadrant. These startups generally have modest capital requirements and proven business models (restaurants and auto parts dealerships, for example). To give a sense of the size of this quadrant, 20 million of the 26 million firms in the United States are owned by self-employed individuals and have no paid employees. Of the remaining 6 million businesses, 80% have 20 employees or fewer. Most businesses are not looking to fund growth. Even high-growth firms such as those in the Inc. 500 have business models that are often quite similar to those of the businesses the founders worked in before becoming entrepreneurs.[22] These proven business models can often be funded through bootstrapping and credit card debt, bank debt (either in a business or personal loan), and internally generated earnings.

More capital-intensive projects may rely on commercial banks for debt finance. Debt finance is also the major source of capital for entrepreneurs looking to buy and turn around an existing business. It is very common for projects within existing businesses as well. Still more capital-intensive projects, such as coal power plants, infrastructure developments, and utility-scale solar or wind farms with well-developed technologies, fall in the upper left quadrant. Though these ventures may need to raise hundreds of millions of dollars, the minimal uncertainty of the technology and the stable, predictable future cash flows are a good fit for debt instruments. These projects regularly receive project finance and structured finance investments from large commercial banks, investment banks, or strategic investors.

The right-hand side of the chart represents businesses with higher levels of innovation and uncertainty. The more novel and unverifiable the technology proposed by the entrepreneur, the more difficult it is for traditional financial institutions to evaluate its creditworthiness. Many startups in this quadrant have fewer tangible assets to offer as collateral for a bank loan. Moreover, as we've discussed, some of these ventures must grow aggressively in order to be successful, so they cannot rely only on internally generated cash flows. These projects tend to be too risky to attract debt finance and hence require equity investors.

Businesses in the bottom right quadrant combine relatively modest capital requirements and high uncertainty (software and medical device startups are two examples). These opportunities tend to attract angel and VC investors because their relatively modest capital requirements allow investors to make significant investments while preserving diversification across a portfolio. Although these types of startups can be high profile (think of Google and Facebook), they constitute less than 1% of the firms founded each year in the United States.

As we saw in Exhibits 1 and 2, the dynamics of a portfolio allow VC investors to make returns even when they take on some risky deals. This portfolio logic also highlights an important limitation to how much they can invest in any one venture. As we've seen, the typical VC investor avoids investing too much in a single project in order to maintain diversification in the portfolio and a sufficient share of the successful firms at exit. Angel investors are even more constrained. Thus, there exists an upper limit on how capital-intensive their investment projects can be.

Companies in the upper right quadrant are both extremely capital-intensive and based on novel technologies—think of supply-side clean-energy startups such as thin-film solar or advanced biofuels. Some describe this zone as the "valley of death" because of the difficulty of attracting capital. On the one hand, these projects are too capital-intensive for traditional VC investors—the capital and coordination costs involved in funding a $250 million demonstration biorefinery may be too great for a VC investor with a $300 million fund, even if the project has a positive net present value (NPV). On the other hand, this quadrant is too risky for project finance. Though project finance firms are very comfortable funding highways, dams, coal power plants, and other well-proven technologies that are equally, if not more, capital-intensive, they are reluctant to fund projects with unproven technologies. As a result, the businesses in this quadrant often require government funding; strategic financing from large corporations is also possible in some industries.[a]

2.6 The Financing Implications of Business Decisions

What implications does this basic mapping have for how entrepreneurs run their businesses? While describing all potential connections between business models and financing options is beyond the scope of this reading, we highlight here several broad connections. The key point is that a new venture's business model and many kinds of business decisions will both shape and be shaped by financing options.

First, differences in financing options influence location decisions for startups. In most advanced economies, startups can obtain debt financing as long as they have the collateral. Sophisticated forms of equity financing, however, have varying degrees of penetration across advanced economies. Moreover, equity investors tend to look for opportunities that are relatively local (a short drive or plane flight away) owing to the extensive time required to evaluate, assist, and monitor a startup. These spatial patterns in funding types influence and reflect the kinds of entrepreneurship and industries that emerge in various regions. An entrepreneur envisioning a novel business model in a location where equity financiers exist in low numbers or are not present at all may be stacking the deck against the venture.[23]

Second, some ventures can be cleverly designed to reduce their financing requirements. This can be particularly valuable if the venture needs to avoid the difficulties of the upper right

[a] It is worth noting in this exhibit that the points separating the zones should not be thought of as strictly the same (e.g., the relevant capital needs separating the left-hand zones can differ from the needs on the right-hand side). While labeled somewhat differently, the four zones in Exhibit 3 have close parallels to the types of entrepreneurial ventures introduced in Exhibit 5, *Core Reading: Becoming an Entrepreneurial Leader* (HBS No. 8051).

quadrant and instead seek financing from traditional sources. Take, for example, Skyhook Wireless, a company that provided location awareness to portable electronic devices by observing the Wi-Fi signals that surround the device and their relative strengths.[24] An essential ingredient of Skyhook's product was a mapping of the locations of all Wi-Fi-enabled access points in a region. The founders could have concluded that they needed to raise $100 million or more to map the United States, which would have pushed Skyhook beyond the reach of most financiers.

Skyhook, however, was able to develop its network with less than $17 million from investors. First, the founders experimented with and proved the concept sufficiently to raise early financing from angels and VC investors. They next developed inexpensive equipment and algorithms for mapping Wi-Fi beacons from a moving car. Finally, they hired drivers from Craigslist.org at $15 per hour and no mileage allowance. Very quickly, Skyhook developed a network that allowed the company to launch early operations, using subsequent data flow from its devices and retained earnings to enhance the quality of the offering. The ultimate cost of creating the network was far less than its competitors suspected. (See *Core Reading: Attracting Talent and Building Ecosystems*, HBP No. 8068, for more about Skyhook.)

Another approach to reducing financing needs is to focus on business model choices. 1366 Technologies, a startup with a new solar photovoltaic technology, had the option either to manufacture solar panels (become a solar cell manufacturer) or to develop equipment for solar panel manufacturers. The latter business model was far less capital-intensive and was particularly attractive at a time when investors had shied away from clean-technology investments.

Third, changes in the risk and uncertainty profile of a project can jeopardize its financing. Entrepreneurs often fail to see this connection when contemplating business model changes, simply assuming that financiers will go along with whatever they do. Instead, they may balk at changes, as did the international banks that had offered $30 million in financing to TA Energy, a power-generation facility in Turkey.[25] The project almost unraveled at the last minute when the anchor tenant of the facility wanted to replace the international contractor that had been selected (which had extensive experience building these types of plants) with its own construction arm (which had never built a power-generation facility). From the banks' standpoint, this late substitution increased the uncertainty of the project, thus overturning their expectations about the deal. The project ultimately went forward, because the international contractor remained in place and other ways were found to satisfy the anchor tenant. It is important to emphasize in this example that whether the local construction firm would in fact have done a good job was less important for financing purposes than investors' expectations for the project.

Fourth, past financing decisions, especially those involving equity investors, can have implications for subsequent business decisions. Sirtris Pharmaceuticals learned this as a young biotech company doing promising research into age-related diseases.[26] Sirtris had established a link between resveratrol, a compound found in the grapes used to produce red wine, and sirtuins, a family of enzymes with links to improved longevity and health. The core of Sirtris focused on developing sirtuin-activating drugs for the treatment of diabetes and similar conditions, and these drugs had the potential to become blockbusters. Because gaining approval from the Food and Drug Administration is a lengthy and difficult process, however, the company debated also selling its offerings through the mostly unregulated nutraceutical market. But Sirtris's long-term investors—which included professional VCs—had substantial concerns that this would interfere with the company's pursuit of a blockbuster opportunity. Given the balance of risk and reward the investors were trying to achieve, they wanted Sirtris to "swing for the fences"—that is, to pursue a plan that, while risky, offered the possibility of the best possible outcome.

A related phenomenon occurs when a startup has different types of investors. E Ink provides an extreme example.[27] The company was founded in 1997 to commercialize an electronic paper technology developed at MIT; a later version of the technology was incorporated into products ranging from low-cost cellular phones to the Amazon Kindle. Owing to the great interest in the technology and the many paths it could take, E Ink's early investors included VC firms, diversified newspaper and media companies, a large wireless-equipment maker, and others. This diversity of investor backgrounds, goals, and time frames created competing interests over E Ink's direction once it became clear that the company would not be able to conquer as many markets as quickly as some had initially thought.

Fifth, partnerships can shape a startup's financing requirements. Consider Cherrypicks, a Hong Kong–based communications startup that noticed attractive opportunities for deploying new telecommunications technologies throughout the Asia-Pacific region.[28] Economic conditions made it difficult for Cherrypicks to raise external financing, and building the technologies from scratch would have taken too long. Consequently, Cherrypicks approached South Korean firm SK Telecom about a partnership. The arrangement took SK Telecom's key technologies to countries where Cherrypicks had professional networks and experience that could benefit SK Telecom, and where SK Telecom did not have expansion plans. The partnership dramatically reduced the cost of entry for Cherrypicks, which enabled the startup to achieve fast growth. Cherrypicks eventually transitioned into developing its own innovative products.

Finally, business decisions that reduce the uncertainty of a venture unlock financing options for entrepreneurs. Whereas some ventures remain in a single quadrant in Exhibit 3 for their entire life cycles, other ventures move across quadrants (usually right to left) as their technology matures. Understanding this transition, and how financing options change with it, is important; in many cases, investors will require exit opportunities (such as IPOs or acquisitions) as the venture moves out of their optimal financing environment and comfort zone.

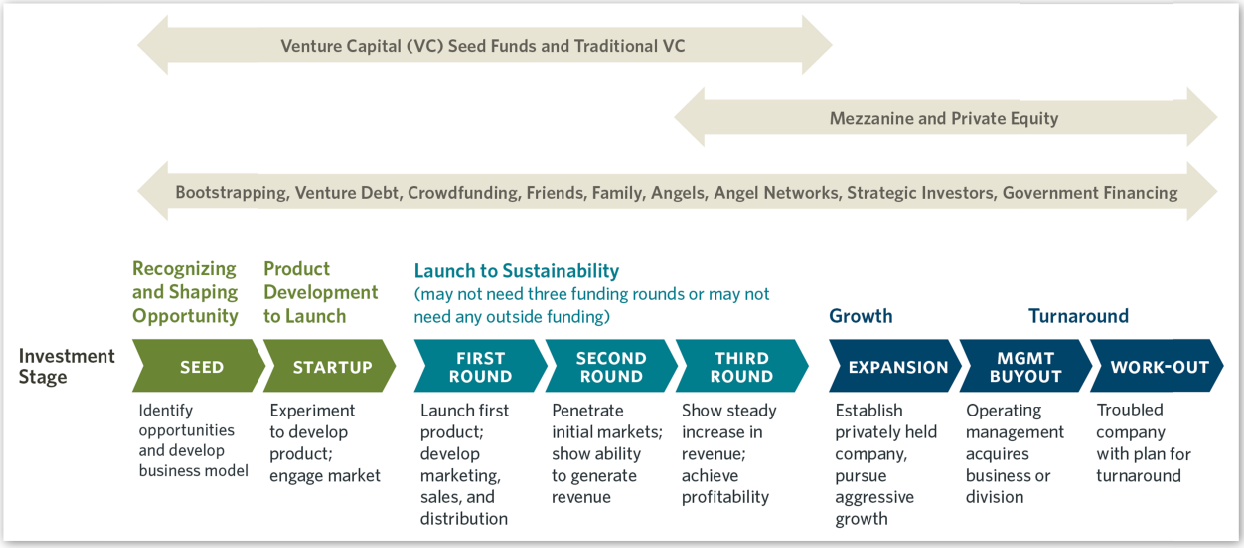
2.7 An Entrepreneurial Venture's Path through the Financing Landscape

Understanding the landscape in Exhibit 3 can help entrepreneurs seek the right type of external financing. But it's also important to think about how a venture might move through this landscape. Decisions about the best source of funding for a venture and how much money to raise depend to a substantial degree on the stage of a business.

A new venture can begin in any of the quadrants in Exhibit 3. As we've said, most ventures will always be in the "Small Businesses" category, and therefore their financing choices, most often bank loans and personal capital, are well defined. In contrast, many high-growth entrepreneurs will find themselves in early stages in the "New Technologies" quadrant, raising money from equity investors. Their goal will often be to prove their ideas so they can transition into financing options that do not involve substantial equity dilution.

Exhibit 4 provides a summary of financing options throughout the life cycle of a new high-growth venture. It's important to note that few ventures would move through every stage of this diagram.[29]

EXHIBIT 4 Financing Options and the High-Growth Venture Life Cycle



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The basic stages that high-growth ventures follow up to the point of sustainability include:

- *Seed and startup*. In the earliest stages, an entrepreneur and founding team identify an idea and develop a business model. The team may seek feedback from customers, advisers, and industry experts, but the majority of the thinking and planning happens internally. The venture is pre-revenue and often developing a prototype. Debt is rarely an option at this stage, except in the form of credit cards and personally guaranteed bank loans (e.g., using homes as collateral). Entrepreneurs instead rely on equity investments, either in convertible notes or priced equity, as described below. Bootstrapping, angel investing, and seed investment funds are also common funding options at this stage.
- *First and second round*. During the first round of financing (often called Series A), the entrepreneur expands the team, develops a minimal viable product, and acquires early customers. During the second round, the enterprise becomes fully operational, with a full team in place and a product launch. The team clarifies its product-market positioning and begins generating revenue. For VC-backed firms, revenue is typically in the $1 million to $10 million range. Even at this point, debt options remain limited, though asset-based lending may be feasible for some ventures. Equity financing is concentrated in formal investment rounds that are tied to milestones (specified events or levels of achievement) the new venture must reach.
- *Third round and beyond*. The business has an experienced team, a product that is selling well in the market, and a well-defined and successful product-market positioning. Additional capital is being raised to scale the model, revenue may be greater than $10 million, and the venture is profitable or nearly profitable. These ventures have many financing options: debt financing based on assets and cash flows, or equity financing. Because the venture's model has been substantially proven and its prospects are much more certain, additional equity infusions now come with much less dilution.

Well-established companies may also seek mezzanine (a hybrid of debt and equity) and private equity financing. "Additional Forms of Entrepreneurial Financing" in the Supplemental Reading section introduces these investors and discusses further the challenge of financing breakthrough discoveries, highlighted in Exhibit 3.

2.8 Financial Tools for Entrepreneurs

When assembling the financial resources needed to build a valuable company, entrepreneurs have several tools at their disposal.

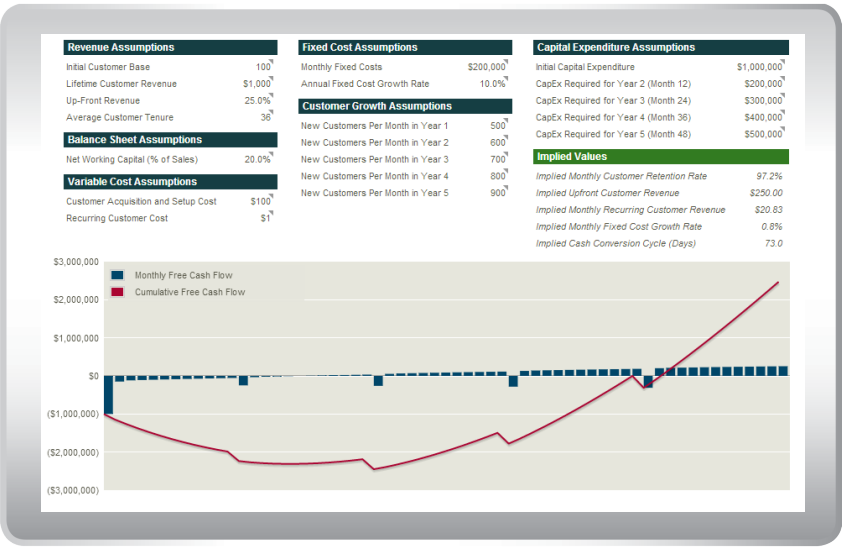
Financing Needs and Cumulative Cash Flows

Before beginning to raise money, entrepreneurs must understand their capital requirements. These capital needs will depend on estimates of machinery investment, the number of personnel required at different stages of the business, wages and benefits per employee, the rate of customer uptake, revenue per customer, and similar factors. The asset intensity of a venture's growth path is critical for calculating cash flow needs. Entrepreneurs will need to consider these cash dynamics annually or even monthly and should conduct multiple scenario analyses (e.g., ± 50% of projections).

Building a ***cumulative cash flow analysis*** for a new venture is essential business planning. **Interactive Illustration 1** provides a simple starting template for any venture. Adjustments to the various assumptions in the model change the cash flows and maximum financing needs of the venture (i.e., the cumulative cash flow trough). For example, increasing the expected monthly fixed costs or working capital requirements will raise the needs, while higher customer profitability or longer tenure will lower the needs. (Note: adjusting some margins like customer tenure in isolation can give counterintuitive results as the exercise otherwise holds fixed values like lifetime customer revenue). Entrepreneurs need to evaluate for their ventures both the depth of the cash flow trough and the total time required before the venture's cumulative cash flows turn positive. This tool is a first step for any kind of venture and should be refined and extended for the specific business model an entrepreneur is contemplating.

INTERACTIVE ILLUSTRATION 1 Calculating a Cumulative Cash Flow Curve

Scan this QR code, click the image, or use this link to access the interactive illustration: bit.ly/hbsp2IWyJdJ



Interactive Illustration 2 similarly provides a general tool for entrepreneurs contemplating business models. This illustration focuses on the three drivers of external financing noted earlier: profitability, asset intensity, and pace of growth. As a starting point, set the profit mar-

gin to zero on the left-hand scale and the growth rate to 30%. Here we calculate free cash flows as a percentage of sales like so:

$$\text{free cash flows} = \text{assumed profit} - \text{asset intensity ratio} \cdot \frac{\text{growth rate}}{1 + \text{growth rate}}$$

This illustrates how businesses with high asset intensity ratios have negative cash flows. On the other hand, businesses with negative asset intensity, such as the SaaS models mentioned earlier, will generate cash (left part of the graph). These relationships become steeper as the pace of growth increases. As one adjusts profitability up or down, the overall curves shift accordingly, but note that a venture can still generate cash while unprofitable if it has negative asset intensity. Making the growth rate negative flips the slope of the relationship. In the right-hand figure, you can adjust asset intensity and profit margins to see the effect of growth on cash flows. Even with a 40% profit margin, a high asset intensity ratio (e.g., 100%) can lead to negative cash flows for growth rates above 60%.

INTERACTIVE ILLUSTRATION 2 Asset Intensity Ratio

Scan this QR code, click the image, or use this link to access the interactive illustration: bit.ly/hbsp2pHeV5I

After conducting a cash flow analysis, entrepreneurs need to consider how much financing to seek. The amount will obviously be specific to each venture, but it's important to note that in many cases the amount is different from the maximum needs observed in the cumulative cash flow spreadsheet. The reason, as we have noted, is that equity financing is very costly for young ventures—entrepreneurs need to give up a lot of their young companies to obtain it. Additional capital for ventures becomes much cheaper as the venture is proven. Entrepreneurs may be able to take a smaller amount of money than their maximum financing needs, prove a critical element of the business proposition, and then raise additional capital at a cheaper rate. The key to staging financing in this way is to raise enough to achieve important milestones that future investors will value (such as building a prototype and acquiring initial customers and revenue).

Equity Division and Cap Tables

Equity division and cap tables are also important initial tools for high-growth entrepreneurial financing. The first step is to understand the mechanics of ***pre-*** and ***post-money valuations***. Later we will discuss how these valuations are derived; here we focus on the basic equation:

$$\text{pre-money valuation} + \text{investment amount} = \text{post-money valuation}$$

This equation says that the value of a venture immediately after a financing event (post-money valuation) is equal to the amount of money invested in the financing round (investment amount) plus the implied valuation of the company beforehand (pre-money valuation). This provides a foundation for assigning ownership to the venture, using the formula:

$$\text{current investors' ownership} = \frac{\text{investment amount}}{\text{post-money valuation}}$$

$$\text{previous investors' ownership} = \frac{\text{pre-money amount}}{\text{post-money valuation}}$$

As we outline below, the previous owners can include the entrepreneur and the venture's management team and earlier investors in the venture. For example, consider a $250,000 seed-stage investment made by an angel investor in a new venture. The angel and the entrepreneur determine that the pre-money valuation of the venture is $1 million. As a consequence, the post-money valuation is $1,250,000. Likewise, the ownership shares are 80% entrepreneur and 20% angel.

It's critical to note that the valuations are implied—that is, they do not have a strict scientific foundation but instead are the outcome of the negotiation between the entrepreneur and the investor. Determination of any two pieces of the equation specifies the third element. For instance, the angel and the entrepreneur may have agreed that the angel will invest $250,000 for a 20% stake in the company. This also would result in the scenario outlined above, because the two parties would be implicitly agreeing on a $1 million pre-money valuation.

As we've noted, high-growth ventures often raise money in several investment rounds. Thus, building on our example, we can next contemplate a Series A financing event that raises an additional $1 million from a VC firm on a pre-money valuation of $4 million. The formulas depicted above again apply; the previous owners now include both the entrepreneur and the angel investor. The post-money valuation is $5 million, and the VC's stake as the current investor is 20%. As a consequence, the entrepreneur's and the angel's stakes are diluted:

$$\text{entrepreneur's stake} = 80\% \cdot \frac{\$4 \text{ million}}{\$5 \text{ million}} = 64\%$$

$$\text{angel's stake} = 20\% \cdot \frac{\$4 \text{ million}}{\$5 \text{ million}} = 16\%$$

Is the angel upset that his or her stake is now only 16%? Probably not, because the venture's value has increased since the seed investment round. After that round, the angel's share was worth $250,000 (20% of $1.25 million). After the Series A round, that stake is valued

at $800,000 (16% of $5 million). Thus, while the equity shares of the entrepreneur and angel are smaller in percentage terms, they are now part of a much larger pie.

This, in fact, is what is often termed an ***up round***, in which the value of a venture increases between financing events. One approach to determining an up round is to compare the post-money valuation of the previous financing round to the pre-money valuation of the current round. If the latter is larger, it implies that a venture's value has increased between the financing events. A rising share price between two financing rounds is also indicative of an up round. In a ***flat round***, the value of a venture is the same as it was in the previous financing event, and in a ***down round***, its value has decreased.

Financing rounds are generally depicted in a ***capitalization table***, or cap table, as shown in **Exhibit 5**. This cap table includes a third financing event, Series B, in which a second VC invests $4 million on a post-money valuation of $20 million. Before looking at the table, try to determine the corresponding pre-money valuation and the ownership shares that result.

EXHIBIT 5 Sample Cap Table

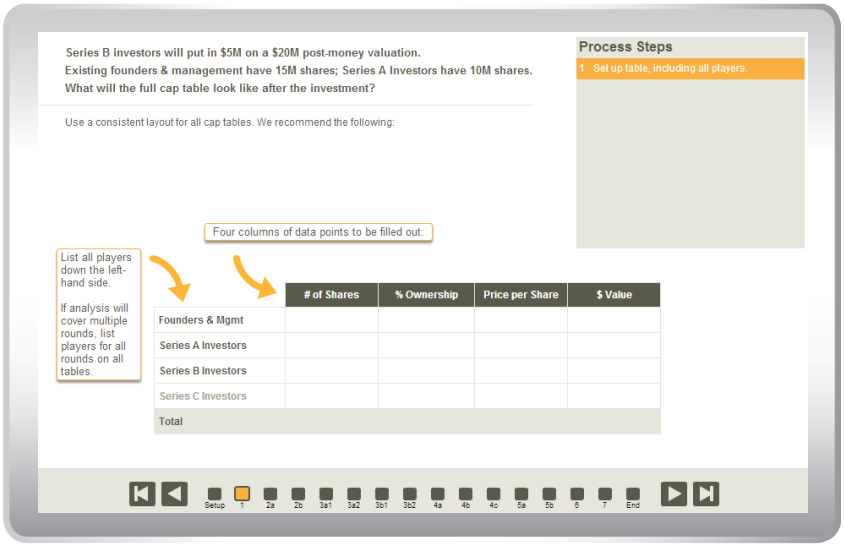
Stage	Pre-Money / Post-Money Valuation			Distribution of Equity Ownership			
	Pre-money	Investment	Post-money	Team	Angel	VC1	VC2
Seed	$1M	$250K (angel)	$1.25M	80%	20%	—	—
Series A	$4M	$1M (VC1)	$5.00M	64%	16%	20%	—
Series B	$16M	$4M (VC2)	$20.00M	51%	13%	16%	20%

In the Series B round, one again sees the continual dilution in percentage terms of the entrepreneurial team's ownership stake. Yet while the entrepreneur's stake after this latest round is 51%, its implied value is more than $10 million. Successful entrepreneurs are able to increase the value of their ventures in a way that increases the value of their personal stakes. Note as well the power of successful staging. In the seed round, the entrepreneur gave up 20% of the company for $250,000. In Series B, 20% of the company was worth $4 million. By proving the new venture step by step, the entrepreneur was able to achieve equity infusion in Series B that was much cheaper than it was in earlier rounds.

Interactive Illustration 3 walks you through the development of a cap table. This Excel-based approach can be used in a variety of settings. This interactive illustration also outlines the calculation of shares and share prices used for financing contracts. The share elements are *nominal* in the sense that you could issue one-tenth of the shares and increase the share price ten times and achieve the same initial ownership division. Once established, however, these shares and share prices serve as a foundation for subsequent financing rounds.

INTERACTIVE ILLUSTRATION 3 Building a Cap Table

Scan this QR code, click the image, or use this link to access the interactive illustration: bit.ly/hbsp2pIhwg0



These basic formulas cover most cases, but the algebra gets a little more complicated when you include stock options, which are added to the total shares outstanding even when there is no financing event. Options provide a form of equity-based compensation for employees, allowing them to buy stock in the future at a preset price; if the stock price soars, then the options become quite valuable. It is critical for founders to understand how options work and the implications of creating them. As a simple example, consider first a deal in which an investor and a founder agree to an investment of $5 million for 50% of the company. This gives a post-money valuation of $10 million, and the investor owns 50% of the venture. The founder's share has an implicit value of $5 million as well.

Now, suppose the investor instead wants to invest $5 million for 50% of the company and wants there to be a 15% ***option pool*** going forward, used to create future compensation packages for new employees. Often the investor will request that this option pool be created before the investment, such that only the founder is diluted by its creation. In this case, the division of equity just before the financing is 70% founder and 30% option pool, so that after the financing event it is 50% investor, 35% founder, and 15% option pool on a fully diluted basis (i.e., taking into account all issued stock and unissued stock options and warrants). The post-money valuation is still $10 million, and the founder's share now has an implicit value of $3.5 million because the founder effectively "paid" for the entire option pool. Had the pool been created *after* the financing event, the stakes of both the founder and the investor would have been diluted. Understanding the timing of option pool creation is thus very important for founders, but it is just one of several complex issues concerning option pools (others are tax basis, strike price, and size), and it is important for founders to seek expert counsel on these matters.[b]

[b] A typical option pool of 10% might set aside ratios such as 2% for the CEO, 1% each for the next four senior managers, and 0.5% each for the next eight managers. See CompStudy (https://compstudy.com/) for more information about entrepreneurial compensation structures. CompStudy's surveys, conducted annually since 2000, cover the top three levels of executives within startups, founding teams, and boards of directors. Approximately 800 startups participate in the survey each year.

Early-Stage Valuations

We next turn to the assignment of valuations. Given that startups have neither a long history of operational performance nor a predictable growth trajectory from which to develop forecasts, valuation tools based on discounted cash flow (DCF) tend to be less helpful in developing a sense of a startup's valuation than they are in their typical application to large companies. Instead, one can calculate the implied value of a startup by seeing how much money an investor put into it in return for a given share of equity.[30]

Recall that pre- and post-money valuations are calculated only as a result of a financing event. They are the result of real dollars being exchanged for real shares, rather than a value calculated in a spreadsheet. Thus, they are implied valuations, because they are not the result of bottom-up estimates of the firm's value using projections, but are instead the imputed price derived from the last financing event. This fact highlights the lack of "true value" of a startup that has an uncertain outcome. Two similar firms may get very different valuations depending on the strength of the market or the experience of the entrepreneur. A startup with top-tier investors in the seed round may get a second-round valuation that is very different from that of a similar startup with less prestigious investors, even if the business plans and experience levels of the entrepreneurs are quite similar.

How do VC and angel investors arrive at an estimate of the underlying valuation before they make an investment? Though they have experience that may give them an understanding of the valuation range for a startup based on the market opportunity, the quality of the team, and the stage of the venture, such investors often "back into" the valuation, using their targeted rate of return on successful investments as a starting point.

For example, suppose an investor is considering a $4 million investment and targets a 50% compounded annual return on the investment over five years. This implies that to achieve the expected return, the $4 million investment must be worth $30 million ($4M · 1.5^5) at the end of Year 5. In addition, suppose that by using historical data on price/revenue multiples for comparable companies, in combination with a projection of the firm's revenue in five years, the investor estimates that the firm will be worth $150 million when it exits in five years through an IPO or an acquisition, should the venture be a success. To make the required $30 million from that investment, the investor must own $30 million/$150 million, or 20% of the company, at exit.

If the investor goes ahead and makes the $4 million investment in return for a 20% share of the company's equity, then the full value of the company's equity at the time of the investment is worth $20 million ($\$4M/20\%$). This means that the implied post-money valuation of the startup is $20 million. The pre-money valuation is simply the post-money value minus the investment—that is, $20 million – $4 million = $16 million.

This example highlights the fact that the pre- and post-money valuations are directly linked to the investor's target return (which can also be seen as the discount rate) and view of potential exit values. If the investor raised his target rate of return to 75%, then he would need $66 million ($4M · 1.75^5) at the end of year 5 to justify the investment. Given the projected value of the firm in Year 5, this would imply that the investor would need to take 44% ($\$66M/\$150M$) of the firm in return for the $4 million investment. In this instance, the implied post-money value of the firm falls to just $9 million ($\$4M/44\%$). On the other hand, if the investor had a target rate of return of 25%, then he would need $12 million ($4M · 1.25^5) at the end of Year 5 to justify the investment. This would require him to take only an 8% share of the startup and hence value the firm at $49 million.

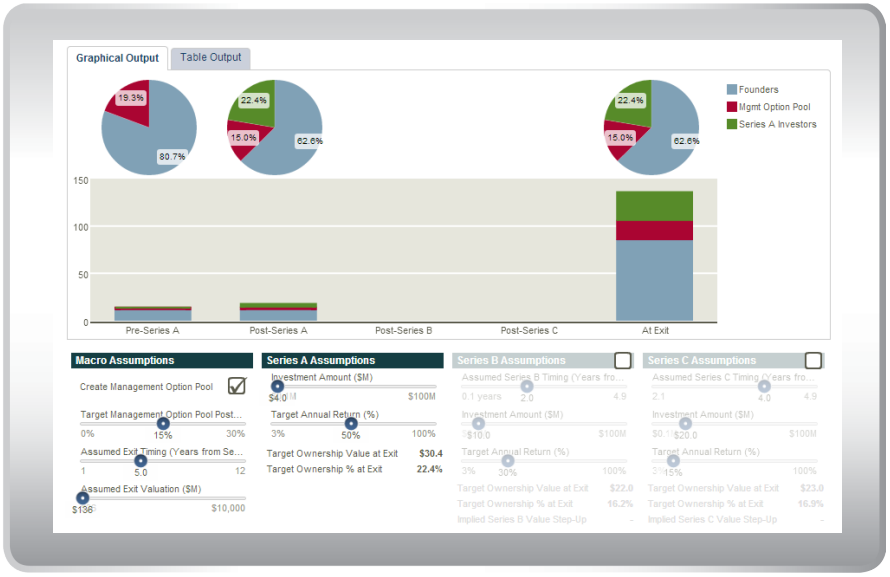
In part, the negotiation over valuation is a negotiation about an investor's hurdle rate of return combined with an estimate of a firm's value at exit. If investors believe a firm is risky because its technology, business model, or team is unproven, then they are likely to use a higher discount rate or hurdle rate of return to justify the investment. Similarly, if they

forecast the markets to be hot at the time of exit, or a company to be a "home run" or blockbuster, then they expect the exit multiples to be higher and hence will require a lower share of a firm in order to generate the same dollar return from their initial investment. Finally, if there is a lot of interest in a company, investors will bid up its valuation by offering to take less equity from its founders in return for the same amount of investment.

Interactive Illustration 4 extends this discussion of valuation to situations involving multiple financing rounds. In such instances, the first-round investor must consider the dilution caused by subsequent investors, which increases the stake the first investor needs to seek. This extension builds on the same logic as our simple example above, while allowing for more realistic scenarios. If an entrepreneur's venture is expected to have multiple financing rounds, it is important to understand how expectations of future dilution influence initial valuation. To follow the scenario through multiple rounds, check the boxes for Series B Assumptions and Series C Assumptions.

INTERACTIVE ILLUSTRATION 4
How Investor Expectations and Target Returns Drive Company Ownership

Scan this QR code, click the image, or use this link to access the interactive illustration: bit.ly/hbsp2DYwP8l



Convertible Financing Structures

Our discussion so far has treated VC and angel investors purely as equity investors. In reality, financing instruments often have equity-debt conversion features. For example, take the case of ***convertible preferred stock,*** which is the most common class of equity that VC investors take in a company.[c] When a company reaches a *liquidity event* (that is, has an IPO, is acquired, or is liquidated in a bankruptcy), holders of convertible preferred stock have the option either to redeem their stock at the face value of their investment (plus any accumulated dividends) or to convert their stock into common stock to get a pre-negotiated share of the company. Thus, if a venture exits at a low valuation (the face value of the investment is greater than the value

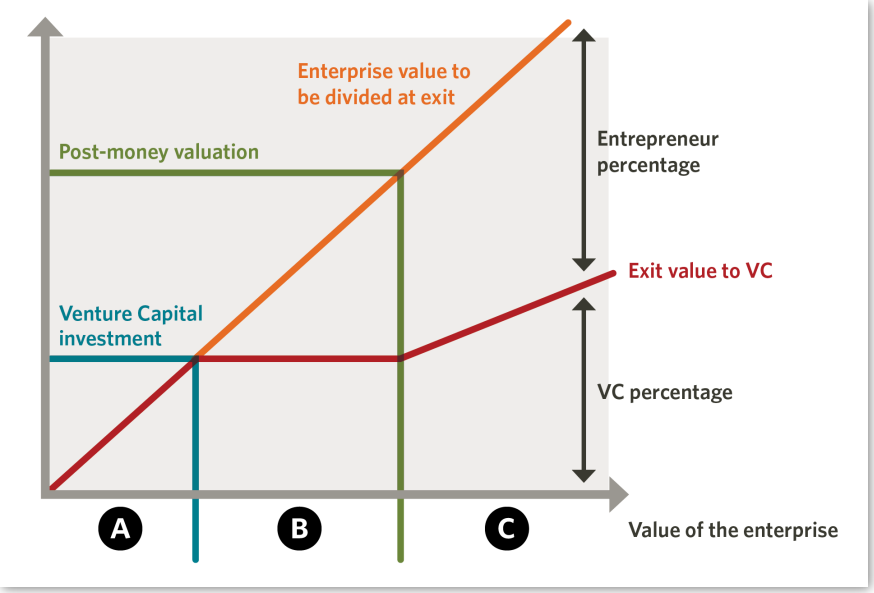
[c] Note: Almost all preferred stock in new venture financings is convertible (unlike the preferred stock in larger, public companies), so VCs and others often refer to this security simply as "preferred" and leave out the word "convertible," although it is implied.

of the shareholder's share in the company), the shareholder will redeem the debt investment. On the other hand, if a venture exits at a high valuation, the shareholder converts to equity and obtains his or her portion of the venture's value, which will be greater than the face value of the investment.[d]

To understand how this works, consider a scenario in which a VC invests $4 million in a venture for a 40% stake of convertible preferred stock. After the financing event, the implied post-money valuation of the deal is $10 million ($4M/40%). This implies that the pre-money valuation of the venture was $6 million. Put another way, the entrepreneur owns 60% of the company after the financing event, and the VC owns 40%.

The ownership shares come with a big caveat. If the venture successfully exits for $100 million soon after the financing event, the VC will convert its investment to common stock and obtain $40 million; the entrepreneur will obtain $60 million. However, at a low exit valuation, the VC will have the option to redeem its investment (in effect, treating its investment as debt), and thus the entrepreneur's share will be less than 60% of the final value. At a very low valuation, the VC's share will be 100%. **Exhibit 6** provides a payout diagram (also called a payoff curve) to illustrate these features.

EXHIBIT 6 Convertible Preferred Stock Payout Diagram



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The horizontal axis in this exhibit represents the value of the enterprise. The 45-degree line is the total enterprise value to be divided between the entrepreneur and the VC at exit. The red line is the exit value to the VC. In Zone A, the enterprise value at exit is less than the amount invested by the VC at the last financing round. If the firm's value is only $2 million, the VC

[d] It can be seen, therefore, that the act of redeeming the investment plus any accumulated dividends looks very much like the payoff of debt plus any accumulated dividends. In fact, although VCs' investments take the form of equity, the contractual features associated with convertible preferred stock give it many features, such as negative covenants and downside protection, that are typically associated with a debt contract. From a conceptual standpoint, therefore, it is equivalent to an investment in which the investor has the option to choose whether the investment acts as subordinated debt or common stock, not at the time of making the investment but at the point of redemption—when the firm's outcome is known.

will not convert its $4 million investment to common stock and will receive all $2 million in value. In this zone, the VC's final share is 100% of the total enterprise value.

In Zone B, the venture's exit value is greater than the VC's investment but less than the post-money valuation from the previous financing round. In this range, it is still not worthwhile for the VC to convert its investment to common stock. Even at a $9 million exit valuation, the value of a 40% equity share ($3.6 million) is less than the face value of $4 million. Throughout Zone B, the entrepreneur is catching up in terms of exit value and realized share of the exiting venture. It is only when the exit valuation exceeds the post-money valuation of $10 million that the VC converts to common stock. At any higher exit valuation, the entrepreneur and VC split ownership of the equity shares as implied in the pre- and post-money formulas.

These dynamics are often poorly understood by entrepreneurs, who are generally focused on achieving successful outcomes. The reality is that most ventures do not attain extremely high exit valuations, and so the division of the valuation at lower outcomes is very important. More complex instruments such as participating preferred stock or multiple liquidation preferences secure additional value for the VC in moderate exit outcomes. Entrepreneurs need to carefully review and evaluate how these payoffs are structured when negotiating the term sheets provided by VCs.[31]

Interactive Illustration 5 shows an example of payout diagrams for situations in which an investor takes (1) pure equity investment, (2) convertible nonparticipating preferred stock, or (3) convertible participating preferred stock. With participating preferred stock, investors are entitled in a liquidation event first to receive their funds and associated interest and then to receive a share of the remaining exit value of the venture based on their equity share. It's particularly important to observe the differences across various outcome levels. At very high exit valuations—the home runs of the VC landscape—there are no material differences. The differences at low exit levels can be extreme.

INTERACTIVE ILLUSTRATION 5
Payouts from Simple Equity and Convertible Investments

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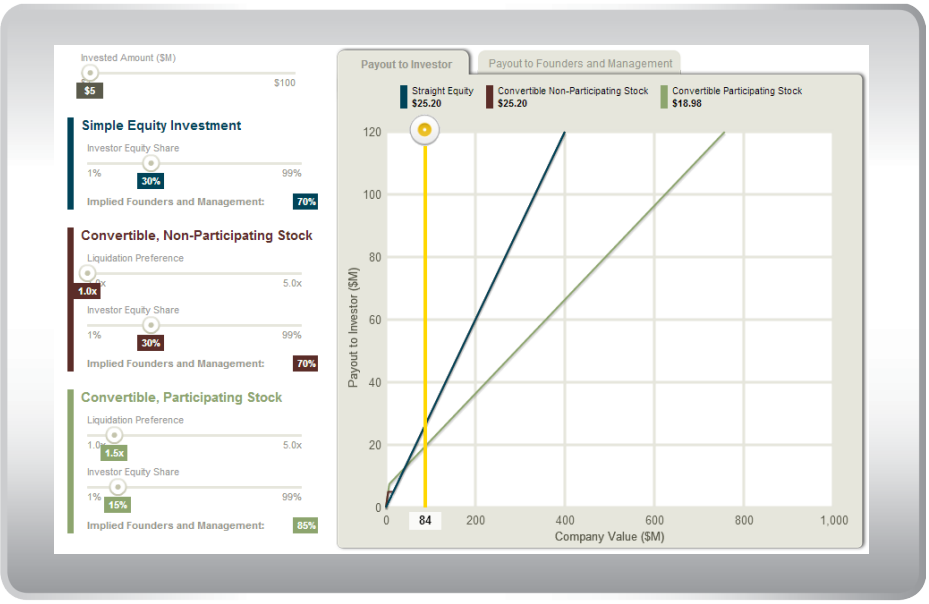


Convertible Notes, Nonpriced Rounds, and Conversion Caps

Having introduced convertible preferred stock, we turn to convertible notes (also called convertible debt). These notes are very popular among angel investors in their seed- and early-stage investments. Convertible notes are ***nonpriced rounds*** of financing, meaning that there is no valuation assigned to the startup.[32]

In a typical venture capital financing round, $\$X$ will buy $Y\%$ of the startup, implying that the startup's post-money valuation is $\$X/Y\%$. A convertible note provides the startup with $\$X$ immediately, without requiring a specific fraction of the venture in return; valuation and pricing are delayed until the next round of financing. In this sense, the convertible note is not strictly "priced," since it gives money to the startup without establishing an exact valuation at the time the money is invested. Instead, the $\$X$ invested converts into equity at a discount to the next round's price (a typical discount is 20% to 25%).

Two factors can make convertible notes attractive to investors, particularly those who participate in seed-stage financing. First, startups at the seed stage are rife with issues related to asymmetric information. The investor has some idea about the capabilities of the founders but has probably not thought as carefully about the market, the opportunity, or execution. Spending the time and the money to conduct due diligence might not make sense for a small seed-stage investment. Second, the extremely high failure rates of early-stage startups mean that there is a significant chance the firm will not reach a Series A financing round (or that, if it does, the investor may choose not to participate). These factors increase the benefit to the investor of delaying pricing.

Convertible notes also have advantages for entrepreneurs. First, they allow an entrepreneur to raise money faster and at a lower cost than traditional financing. A convertible note can cost as little as a few thousand dollars in legal fees. Second, by delaying pricing, the entrepreneur has the option to increase the venture's valuation relative to a ***priced round***. If the venture makes substantial progress between the seed round and the next financing event, the entrepreneur can retain a greater share of the venture. Third, the use of discounts and caps allows the entrepreneur to partially tailor the subsequent pricing of the round to the investor in question (for example, a value-added investor can be given a greater discount than friends and family members). Finally, the conversion into preferred stock at a qualified round in the future is preferable to seed financing in which investors are given common stock; the latter is more likely to give rise to adverse tax consequences for the entrepreneur and can establish a strike price for the common stock that is higher than it would be if investors were given preferred stock.

While both parties may find convertible notes attractive, one issue is that the entrepreneur and seed-round investor have divergent interests before the Series A investment. Since a seed investor with a convertible note will get a discount on the next round's price, the entrepreneur has an incentive to use the money from the seed round to raise the startup's valuation to more than compensate for this difference. Any increase in value greater than 20% (or whatever the discount may be) leads to less dilution for the entrepreneur, at the expense of the investor. Ironically, this also means that any advice or help the seed investor provides to the startup may dilute the investor's stake if the advice leads to a higher valuation.

This conflict of interest, particularly in entrepreneur-friendly markets, creates a problem for seed investors: If the Series A round gets a very high valuation, the 20% discount they get from the convertible note does not adequately compensate them for the risk they took in the seed round (the risk that the firm would fail without a Series A investment).

For that reason, seed investors have begun to use convertible notes with caps. That is, their investment converts at a discount to the lower of (1) the next round's valuation or (2) a valuation cap. The cap therefore works to set a lower limit for the seed investor's ownership,

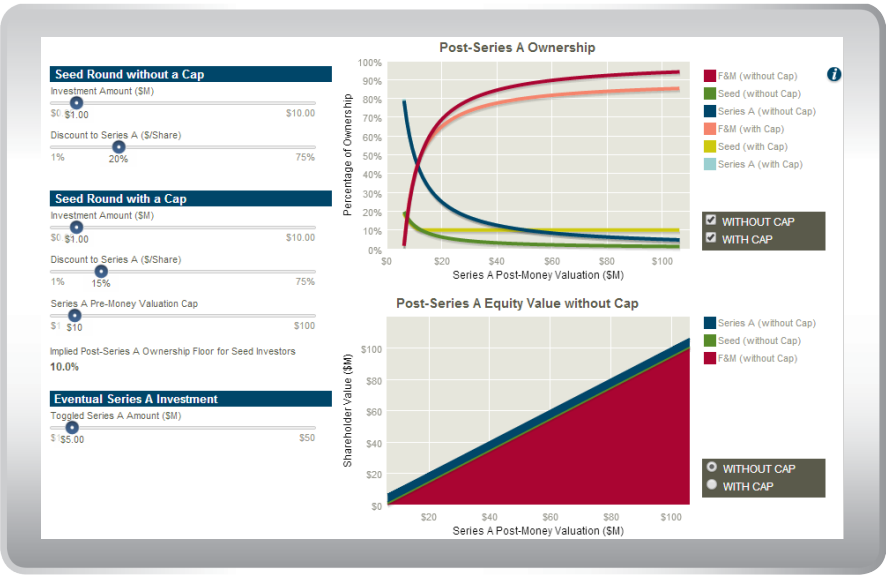
in the process aligning the interests of the investor and those of the entrepreneur to increase the firm's valuation above the cap.

Angel investors, who typically invest only in the early stages of a firm and hence find their stakes more and more diluted over future rounds, are the most sensitive to the cap. VC investors with several hundred million dollars under management care much less about the cap at the seed round because the seed investment is tiny relative to the investments they are likely to make in the firm. This is important to bear in mind as the entrepreneur approaches different kinds of investors. As PunchTab's founder, Ranjith Kumaran, reflected on the use of convertible notes for seed-round financing: "I want to use a convertible note because it is faster, costs less and angels are comfortable with them. . . . VCs don't really care about the cap, but some of the angels wonder how they will make money with such a high cap and think it is too rich for an early-stage company."[33]

Interactive Illustration 6 shows the returns to a seed-round investor for a convertible note with a discount to a Series A valuation and valuation cap. When adjusting the cap level, you can see particular implications for the seed investor in very high Series A step-ups in valuation. The cap is protecting the initial investor from receiving very low equity shares should the company become a runaway success before the Series A event.

INTERACTIVE ILLUSTRATION 6 Seed Note Ownership and Value

Scan this QR code, click the image, or use this link to access the interactive illustration: bit.ly/hbsp2IVa3SF



Term Sheets

Division of ownership is only one part of the negotiation in entrepreneurial financing deals. Many other provisions of term sheets enable the investor and the entrepreneur to allocate risk and reward within three broad categories: valuation, control, and risk. It is beyond the scope of this reading to introduce every term that could be encountered in a term sheet. Entrepreneurs should seek legal counsel when navigating these sophisticated contracts. The National Venture Capital Association provides extensive resources on term definitions and common practices, including a structured term sheet with various common specifications for each term noted and explained.[34] Other organizations around the world (such as the European

Venture Capital Association) provide similar resources. Law firms also regularly report on trends in contract terms.[35]

Entrepreneurs should keep in mind four key points as they negotiate term sheets: (1) the terms in an entrepreneurial finance deal are negotiated, just as the deal valuation is; (2) these terms, in fact, allow the separation of valuation from venture control; (3) asking for more in terms of deal valuation often requires sacrificing on other terms; and (4) it's not wise to sign an agreement you don't understand. A more in-depth discussion of term sheet negotiations is available in *Core Reading: Partnering with Venture Capitalists* (HBP No. 8240).

2.9 Emerging Funding Models

The cost of launching new businesses has generally been lower over the past decade owing to technological innovation, the relative ease of starting Web-based businesses, the use of lean startup methodologies, and changes in the regulatory environment. Lower capital needs allow for greater use of bootstrapping, and they make alternative forms of financing like crowdfunding more accessible and more attractive for many entrepreneurs. As Ram Shriram, a successful startup investor and one of the founding board members of Google, said: "The world of venture investing has changed tremendously recently. The cost of starting companies is going down. It now costs a fraction of what it used to [to] start an Internet-enabled business. At the same time, the number of angel investors is going up. There's a whole new ecosystem growing up [in Silicon] Valley with lots of nontraditional VCs entering."[36]

Crowdfunding

Crowdfunding is the pooling of resources by many individuals to contribute to or invest in private companies and projects. Beneath this umbrella definition are multiple variants.[37] The model allows a large number of individuals (who are generally not investment professionals) to invest small amounts of their personal capital in businesses, thereby distributing and limiting their personal financial risk. Not only do businesses benefit from the capital they receive, but they also build a community through the process. By providing a way for early-stage companies to access small amounts of initial capital—amounts that would be too small for many angels or VCs to consider—crowdfunding fills a gap in the financing ecosystem.

Although it lacks the structure of traditional debt and equity investing, crowdfunding has a strong emotional appeal. The model has proven particularly effective in settings where a well-defined base of prospective customers or interested parties can be identified and persuaded to support a cause, including, for example, the arts. The emotional appeal of crowdfunding is different from that of angel investing, because it targets the customers of the product, rather than active investors. Because funding is derived from end users, the proposed venture receives direct, pre-purchase feedback about the product's market support.

Crowdfunding has developed into a fund-raising avenue for some early-stage companies and small businesses since 2008, primarily because it is not hampered by many of the restrictions faced by VCs and banks.[38] The JOBS Act of 2012 was a major turning point for crowdfunding in the United States, enabling entrepreneurs to use crowdfunding platforms to offer equity to non-accredited investors (investors who do not meet the SEC's net-worth requirements for accredited investors). There are, however, salary-based caps that limit the amount a non-accredited investor can contribute each year,[39] and a company cannot sell more than $1 million of securities annually to an unrestricted number of investors. Additionally, if the sought-after amount of financing is not reached, investors receive their money back in

full.[40] There are three main categories of crowdfunding, which are regulated by the JOBS Act of 2012 (as of 2014, some pieces of this legislation had still not been implemented):

- *Token crowdfunding.* Entrepreneurs promise a non-equity token in exchange for funding. The tokens can range from product samples to early access to product launches to recognition in marketing materials. Kickstarter is an example of this form of crowdfunding. As of July 2013, Kickstarter had attracted more than 4.5 million funders who had pledged more than $700 million to 45,000 projects ranging from movie production to comic books to premium jeans.
- *Crowdfund investing.* Non-accredited investors can invest in a startup or small business in exchange for equity when they use an SEC-registered crowdfunding platform. Regulatory thresholds on the maximum number of investors in a private company do not apply to these investors. This exemption was created by the JOBS Act. Several firms have entered this market to act as intermediaries between entrepreneurs and investors. For example, MicroVentures vets potential investments and provides an online platform to connect investors to these opportunities. Other recent entries into this space are AngelList and Wefunder in the United States. Sites are also being developed in other countries, including Germany and the United Kingdom.
- *Regulation D crowdfunding.* Accredited investors can use the Internet and its platforms to invest equity or debt capital in private companies. (Rule 506 of Regulation D of the US Securities Act was amended by the JOBS Act to allow for this.) These investors, however, count toward the 2,000 investor registration threshold.[41]

Accelerators

A ***business accelerator*** is a program, generally run by a for-profit organization, that provides office space, proximity to other startup entrepreneurs, mentoring, access to investors, and some seed funding for cohorts of entrepreneurs.[42] Sometimes known as boot camps or microseed funds, these programs have become popular in recent years and serve a valuable role in the entrepreneurial ecosystem. In the typical model, entrepreneurs apply for a limited number of spots in an accelerator, giving up a small amount of equity—in the range of 6% to 10%—to participate.[43] At the end of the program, entrepreneurs pitch their ventures at the accelerator's demo day.

The best accelerators are linked with extensive networks of people and entrepreneurial catalysts (e.g., financing, mentors, advisers, board members, talent) in the entrepreneurship community. "Classmates," alumni, friends, and supporters of the accelerator become part of an entrepreneur's professional support system. And once an entrepreneur has participated in an accelerator, the accelerator's brand can enhance the new venture's brand and the entrepreneur's personal brand.

Accelerators are a relatively new phenomenon. Although Y Combinator launched in 2005 and Techstars debuted soon after, it was not until 2009 that accelerators started to take off.[44] In 2012 there were more than 200 accelerators worldwide, and applications to them increased by more than 200% from 2010 to 2012.[45] Accelerators can be a good choice for the following types of entrepreneurs:

- *An outsider to the entrepreneurial community*. Entrepreneurs early in their careers can use an accelerator to build a network. Accelerators offer a speedy way to get connected to a wide range of experts and advisers as well as other entrepreneurs.
- *An outsider to a particular city or region*. Nearly every major innovation hub in the world has an accelerator now, and most have more than one. If an entrepreneur has just moved to a particular region, an accelerator offers a great way to build a network in a

rich and active startup ecosystem. Accelerators are magnets for local leaders, and events are often a "who's who" of the community—people who are difficult to access without the connections afforded by the accelerator. The quality of the mentors at the many events and one-on-one sessions over the course of the program is usually high.

- *New to fund-raising.* Accelerators pride themselves, and often measure themselves, on their ability to help their graduates raise capital. For example, across 19 classes in the four-year history of Techstars, over 70% of graduates have raised capital.[46]

Not all accelerators are created equal, and, because an entrepreneur's personal and professional brand will always be associated with a particular accelerator, it is important to choose wisely. In fact, a study of 29 accelerators in North America found that 45% of accelerators lacked a single graduate who had secured institutional financing.[47]

Some accelerators specialize in certain domains while others have stronger reputations for fund-raising or product development. To get a sense of the quality of a particular accelerator, an entrepreneur can glean information from graduates, senior entrepreneurs, VCs, startup lawyers, bankers, and accounting firms that work in a region's entrepreneurial ecosystem.

Ultimately, an entrepreneur's choice of how to finance a venture will depend on the characteristics of the venture, his or her personal resources, the venture's strategy for growth, and the entrepreneur's approach to engaging an ecosystem of investors and advisers. All entrepreneurs must think through how their approach to financing supports and inhibits their goals for the venture—and for themselves.

2.10 Tactical Advice for Entrepreneurs

Having surveyed the broad range of financing options, the characteristics of various financiers, and how they influence the entrepreneur's business model, we close with some tactical advice for entrepreneurs who are thinking about financing:[48]

- *Pitch right for your type.* Pitching is a vital part of raising external financing. This reading highlights the need for an entrepreneur's pitch to reflect the interests of the financier. If an entrepreneur is attempting to raise VC financing, it is most important to establish the tremendous upside potential of his or her business opportunity. VCs generally look for deals that can generate $50 million or more in revenue within five to seven years. Describing how the entrepreneur's proposed business can also make low-risk, modest-return side projects does not aid the presentation and perhaps even detracts from it. The opposite is true for bank lenders. Entrepreneurs can scare banks away by pitching extremely high-return, low-probability opportunities rather than the stability of their business model and its potential to generate steady returns for interest and loan payments. For an overview of pitching business opportunities to equity investors, see *Core Reading: Developing Business Plans and Pitching Opportunities* (HBP No. 8062) and "Pitching Business Opportunities" (HBS No. 811-086).
- *Understand that valuation is in the context of a financing negotiation.* When developing a financing strategy and pitching to investors, entrepreneurs must recognize that there is no "true" value to their ventures. A variety of tools have been developed to help think about valuation, including pre- and post-money valuation using the VC valuation method, discounted cash flow analysis, adjusted present value (APV) analysis, and market transaction comparables. Ultimately, however, valuation is a negotiated outcome—the result of the relative bargaining power of the parties involved. Valuation

is set in the context of a market that matches entrepreneurial ideas with entrepreneurial finance. That market can be hot or cold, and that affects the ultimate terms of the deal.[49]

- *Deal terms have value, and it is easier to negotiate these than the value itself.* Deal terms affect both incentives and implicit valuation. Sometimes it is easier to negotiate on certain deal terms than directly on valuation. Many of the deal terms are important only in certain scenarios (such as a low-valuation exit or a down round of financing). Entrepreneurs often focus on the upside valuation of their ventures and neglect terms that have a reasonably good chance of being relevant. Sophisticated financiers will often gladly trade a higher initial valuation for more advantageous terms with respect to control, down round protections, and the like.
- *Choose equity investors with care.* Equity investors come in all shapes and sizes. Some can add great value to the company in nonfinancial terms, whereas others provide just cash. While it is true that investors at the very top tier charge a higher price (i.e., they take a larger equity share for a given capital infusion), the performance boost is also evident. For example, almost all the success the VC industry enjoys is associated with the top quartile of VC funds. Entrepreneurs need to consider the nonfinancial assistance that different kinds of investors provide. Entrepreneurs should also remember that whom they raise money from today and the terms of the initial deal have a large bearing on their future financing options.
- *Raise appropriate amounts of money to reach the next milestones.* Entrepreneurs often raise money in multiple rounds. This can allow the financier to collect more information about the venture's prospects before investing deep amounts of capital. It can also be beneficial for the entrepreneur—raising money in increments after successful milestones are reached helps the entrepreneur negotiate advantageous terms in subsequent rounds. One way to think about raising money is to see it as a way to gain time to run experiments.

  Thus, entrepreneurs need to raise sufficient money to reach the next milestone (and it always takes much more time and money than anticipated!), so they should be careful not to slice the financing too thin. It is very painful to run out of money just before a venture reaches the next milestone. And larger cash reserves provide negotiation power for follow-up financing rounds. But entrepreneurs also need to make sure that they don't suffer unnecessary dilution by raising too much money. This trade-off has been called "the horse race between fear and greed."

  Entrepreneurs are sometimes surprised to learn that an extremely high initial valuation may not be desirable. Clearly, a stronger initial valuation lowers the amount of equity that entrepreneurs give up in the initial round. The challenge, however, comes with respect to achieving milestones. Down rounds—that is, financing rounds in which the value of the company is lower than it was in the previous round—are very painful. Investors impose expectations on a company when they decide to invest, and the magnitude of those expectations is closely linked to the amount of funding and valuations a company receives. Very lofty expectations about revenue, user adoption, and so on make it difficult for a company to keep pace with milestones.

  Part of the art of entrepreneurial finance is having a progression of up rounds that generate lots of desire to be a part of a venture. If entrepreneurs do not leave sufficient room for this valuation growth, good opportunities can be severely damaged, because unrealistic early expectations make access to later financing rounds difficult.

- *Build feelings of desire and urgency in investors.* Entrepreneurs are often disappointed when investors express lots of interest in their ventures but are then slow to move forward. Investors are often evaluating multiple opportunities and may delay funding a promising venture while they wait for additional information. To the extent that entrepreneurs can instill a sense of desire and urgency in an investor, the venture may get a shorter funding clock.

  Two great ways to create urgency are to have alternative financing offers available or to have media buzz. These techniques are not always possible and can present a chicken-and-egg problem, but other tactical options are also possible. For example, VC investors often ask entrepreneurs which other financiers they are pitching. It's best, however, for entrepreneurs not to name every firm they're talking to, because the investors all know one another and can use this information to collude against an entrepreneur. A safer route is to develop strong investment presentations to create desire. The more investors feel that this deal might happen without them, the better for the entrepreneur.

- *Do not run out of cash.* It seems this should go with saying, but it is a cardinal rule that entrepreneurs too often violate. Entrepreneurial finance is negotiation, and entrepreneurs and investors are not on the same team until the deal is finalized. It's easy to lose sight of this as the parties establish a great rapport during their interactions. Entrepreneurs should be thinking about the position of their counterparties—where the financiers are in their funding cycles, whether they have many other investment options, and so on. Nothing can put an entrepreneur in a worse bargaining position than running out of cash!

- *Start early and build a relationship.* Entrepreneurs often delay meeting with investors until they are actively fund-raising, believing that earlier contacts are a waste of time and resources. Earlier and more regular interactions, however, can build relationships and networks in advance of funding needs. Investors think carefully about each investment and put great emphasis on the entrepreneur and his or her management team. This confidence can take weeks or months to develop, and earlier interactions can build this confidence and foster personal connections. This can be particularly valuable for new entrepreneurs. These early meetings are also a way for entrepreneurs to perform due diligence on potential investors.

  Entrepreneurs can show investors in advance that they are making great progress, hitting their milestones, and executing their strategies. Brief update meetings with VCs that convey this information allow investors to evaluate how a product is evolving and how the market is receiving it and to learn more about the entrepreneur as an individual. Thus, when the entrepreneur is ready to raise money, it becomes a much easier calculation and a faster decision for the VCs, who have already completed a lot of due diligence; moreover, the entrepreneur will have fostered the VC's desire to be a part of the deal.

- *Demonstrate the "Mo."* Each investor uses different criteria to calculate whether to make a bet on an entrepreneur. But one factor that almost all investors consider is whether the entrepreneur has what it takes to attract, recruit, hire, and inspire a high-performing team. Persuading people with awesome track records in other companies to jump ship and join a startup is probably most difficult for first-time entrepreneurs, but it's not easy for anyone. Demonstrating this kind of leadership is invaluable. It shows investors that an entrepreneur has what it takes—the momentum, or "Mo"—to inspire others to his or her cause.

Do your homework! This again seems obvious, but entrepreneurs too often jump into raising financing without doing sufficient homework or building an appropriate team. A fundamental asymmetry exists for many entrepreneurs, who are much less experienced at entrepreneurial finance than the investors with whom they are negotiating. Entrepreneurs can level the playing field by learning about typical deal terms for their types of venture, researching investors and past entrepreneurs' experiences with them (e.g., www.TheFunded.com), and assembling the support of knowledgeable counsels. A good lawyer with experience in entrepreneurial finance deals can be particularly valuable, providing advice and contacts and often working on a contingency fee basis (i.e., legal fees are paid only after a financing event is completed). Entrepreneurs should, of course, always be aware of broader incentives when working with outside parties (e.g., a lawyer may want to close the deal under any terms in order to collect the contingency fee).

Many ventures, especially high-growth opportunities, require external financing. Mapping financing options according to levels of capital investments, business and technology uncertainty, and other factors can help entrepreneurs sort through the broad spectrum of possibilities. Entrepreneurs should understand how their business opportunities fit into the desired profiles of potential financiers. This is important for deciding which types of financing to pursue, how to pitch successfully to those investors, and, ultimately, how to manage and lead a venture.

3 SUPPLEMENTAL READING

3.1 Forms of Debt Financing

Traditional Lending: Cash Flow and Asset-Based

Some lenders allow firms to borrow against their expected ability to generate the cash to repay the loan. This so-called *cash flow financing* is most commonly available from commercial banks but can also be obtained from savings and loan institutions, finance companies, and other institutional lenders (e.g., insurance companies and pension funds). Cash flow financing is generally riskier than asset-based financing and, as a result, banks frequently attempt to reduce their risk through the use of covenants on the loan, such as minimum cash balances and limits on the company's debt-to-equity ratio. These covenants place certain restrictions on a business if it wishes to maintain its credit with the bank and attempt to protect the lender from actions that would decrease the likelihood of the bank's getting its money back. Obviously, a healthy business with little debt and high cash flow will have an easier time borrowing money than a new venture.

Because cash flow financing usually requires an earnings history, the most viable option for most new ventures is *asset-based financing*, which requires a company to pledge or give the lender a first lien on specific assets that have market value. In the event of a default on payments, the lender can repossess the asset. Asset-based financing is available from commercial banks and other financial institutions. Insurance companies, pension funds, and commercial finance companies provide mortgages and other forms of asset-based financing. The following types of asset-based financing are generally available:

- *Accounts receivable*. Up to 85% or 95% of the accounts receivable from creditworthy customers can usually be financed. A bank will conduct a thorough investigation to determine which accounts are eligible for this kind of financing. In some industries, such as fashion, accounts receivable are often "factored." A factor buys approved receivables for a discount from their face value but collects from the accounts.
- *Inventory*. Inventory is often financed if it consists of merchandise that could easily be sold. Typically, 50% or so of finished goods inventory can be financed.
- *Equipment*. Equipment can usually be financed for a period of three to ten years. Typically, 50% to 80% of the value of the equipment can be financed, depending on the salability or liquidity of the assets. Leasing is also a form of equipment financing, in which a company rents rather than takes ownership of equipment.
- *Real estate*. Mortgage financing is usually readily available to finance a company's plant or buildings; 75% to 85% of a building can generally be financed.
- *Personally secured loans*. A business can obtain large amounts of financing if someone (e.g., one of its principals) is willing to pledge a sufficient amount of assets to guarantee the loan.
- *Letter-of-credit financing*. A letter of credit is a bank guarantee that a company can obtain to enable it to purchase goods. A letter of credit functions almost like a credit card, allowing a business to make commitments and purchases in parts of the world where it does not have relationships with local banks.
- *Government-secured loans*. Certain government agencies will guarantee loans to small businesses to obtain financing where they could not obtain it on their own. The Small Business Administration and other government agencies will guarantee bank loans in the United States, and the practice is just as common in many other countries.

Asset-based financing builds only on assets that a bank expects to be able to sell in the event that a business loan fails. This salability is linked to the size and robustness of markets for the assets and the dependency of the assets' value on how well the business loan performs. One can borrow a higher share against real estate than inventory owing to these features. There are certain assets that banks rarely lend against, such as intellectual property. Many entrepreneurs are surprised that banks are very reluctant to lend against their patents. The challenge with assets like patents is that the value of the patent is probably very closely tied to the performance of the firm. A business may fail because its technology did not work out, in which case its patents have very limited value. Precisely because the value of the patent is tightly linked to the success of the firm, banks find that patents have low salability when that business fails and cannot pay back the loan.

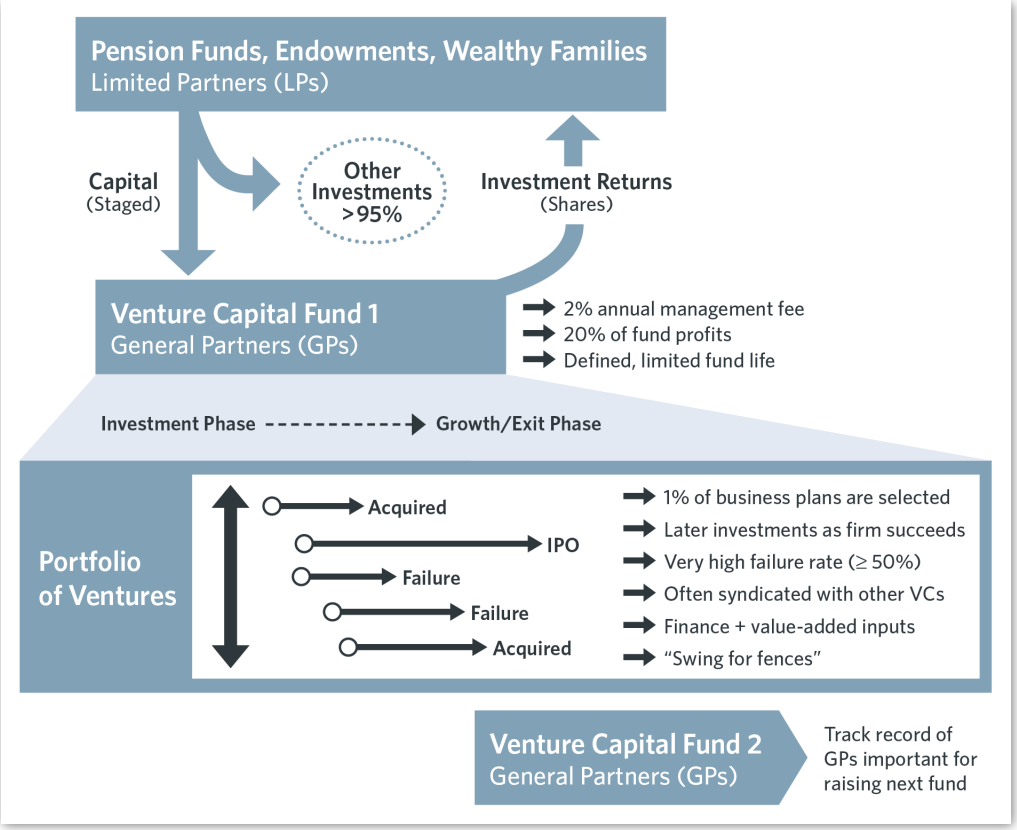
Venture Debt

One popular type of loan that does not directly involve tangible assets is so-called ***venture debt***, offered by firms that specialize in lending to VC-backed startups. These firms depend on VC firms to help them select and undertake due diligence on the most promising startups. They require some equity, often in the form of warrants, in exchange for making risky loans. Where available, this structure gives a young company—which otherwise would not be able to raise traditional debt financing—additional capital at a lower cost. This kind of financing, however, is relatively rare. One industry analyst estimated that only 350 companies received venture debt financing in 2012.[51]

3.2 Structure of VC Firms and Angel Groups

It is well beyond our scope to describe VC firms and angel groups in detail, but a short introduction will highlight some structural features that are important for entrepreneurs to understand when raising financing from these investors.[52] **Exhibit 7** provides a diagram of a typical VC organization.

EXHIBIT 7 Structure of a Venture Capital Fund



Starting from the top of the diagram, VCs raise their financial capital from limited partners (LPs), which include pension funds, endowments, high-net-worth individuals, and the like. For the typical LP, VC-oriented investments represent a small share of an overall portfolio (5% or less—and there are some legal restrictions in certain cases, such as pension funds); their other investments are in public equity markets, government bonds, and so on. Capital commitments from LPs are staged as a venture fund progresses, and the LPs receive returns from the VC portfolio as they are realized. These returns are often distributed in the form of shares.

The VC fund is managed by general partners (GPs). GPs screen and select ventures, monitor and aid portfolio companies, manage the liquidity events for successful companies, and so on. In return, the GPs typically receive an annual management fee and a predefined share of the fund's profits. A typical arrangement is a 2% management fee and a 20% share of fund profits.

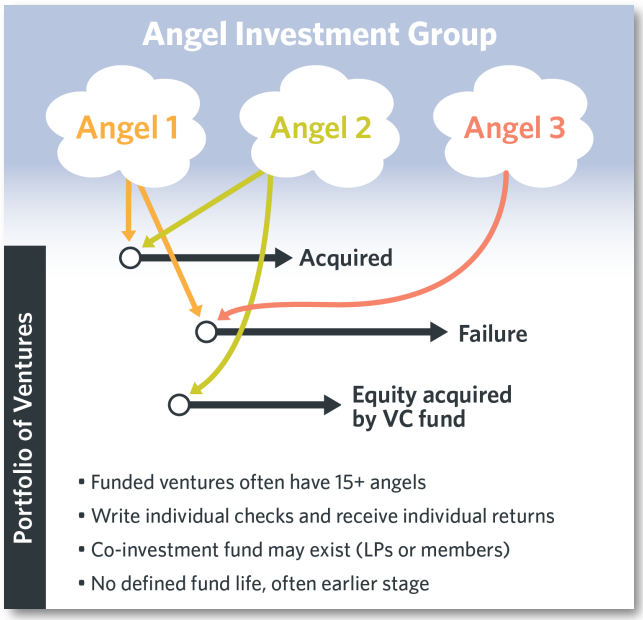
Securities law requires that VC funds have a defined, limited life (often ten years, with the possibility for short extensions). Consequently, VCs raise a series of funds that overlap. Within each fund, the first phase of three to five years involves making investments in companies. The second phase focuses on growth and harvesting the ventures; investments are not made late in a fund's life. One feature of this structure is that VCs typically invest in companies that they think can create value in five to seven years.

Finally, there is the portfolio of the fund's investments. This reading has highlighted several features of this portfolio. Perhaps the most important is that VCs are seeking home-run opportunities. The VCs know that many of their ventures will fail, but one or two tremendous successes make the economics work. The more that entrepreneurial ventures match the optimal traits for the portfolio (reasonable capital requirements, moderate time requirements until an exit event is possible, exceptional return potential), the more likely it is that the VCs will select them. The success rate in one fund influences how well the VCs can raise financial capital for the next fund.

Although VCs and angel groups increasingly overlap in the entrepreneurial finance landscape, the structure of an angel investment group is quite different, as we can see in **Exhibit 8**. Angel groups are networks of individual angels who meet to evaluate and potentially jointly invest in startup opportunities (as shown in the exhibit, they may not all invest in all the opportunities they explore together). These investment groups provide a variety of advantages to individual angels: shared due diligence, a higher profile among entrepreneurs, the ability to take on projects requiring larger investments, and more extensive networks and backgrounds for portfolio companies.[53]

Though all members of an angel group may meet to evaluate opportunities, each angel ultimately makes an individual decision to invest his or her own money. If enough angels are interested—15 or 20 are often sufficient—then investments proceed. In some cases, the angel group may have an extra fund with LPs that invest alongside the angels.

EXHIBIT 8 Structure of an Angel Investment Group



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While angel groups and VCs often are interested in similar deals, the differences in their structures and profiles influence the investments they make. First, because angel groups do not have a defined fund life, they may be more interested in earlier stage investment opportunities that take longer to mature. Second, angels invest their own money, in smaller amounts, and perhaps with less diversification. These factors may lead angel groups to invest in opportunities that require less capital or are less likely to have an enormous exit valuation yet still offer high growth and returns. Bigger VC funds need bigger investments and exit values for their economics to work, and angel

groups often have more flexibility toward smaller investments. These factors may also lead angel groups to focus on management strategies for funded companies that offer moderate returns rather than taking a shot at a risky strategy that may have a very high payoff. These features can limit the degree to which angel groups and VCs co-invest.

3.3 Additional Forms of Entrepreneurial Financing

By Lynda M. Applegate, Jeffrey Bussgang, and William R. Kerr

Mezzanine and Private Equity

Mezzanine financing is a hybrid of debt and equity financing that is typically used to finance the expansion of existing companies. Like convertible debt, mezzanine financing is basically a form of debt capital that gives a lender the rights to convert to an ownership or equity investment if a loan is not paid back in full when due. Since mezzanine financing is usually provided to a borrower very quickly, with little due diligence on the part of the lender and little or no collateral on the part of the borrower, this type of financing is aggressively priced; lenders seek a 20% to 30% return. Mezzanine financing can be advantageous for an entrepreneur because it is treated as equity on a company's balance sheet and may make it easier to obtain standard bank financing. To attract mezzanine financing, a company usually must have an established reputation, revenue and profit growth, and a viable expansion plan, often with a planned IPO or acquisition. Private equity (PE) financing is another form of later-stage capital that typically supports a mature company's growth and restructuring. Investments often exceed $100 million and typically include debt as well as equity.

Financing Breakthrough Discoveries

Examples of new ventures that require "patient" capital (capital that is not expected to generate returns within a specified time frame), such as those in the upper right quadrant of Exhibit 3 in the main reading, include biotech firms that are pursuing high-risk, high-reward drug discovery and clean-tech ventures that are exploring new sources of renewable energy. Health-care discoveries and sustainable- and renewable-energy technologies can be considered a "public good," and, as a result, government financing may also be an important source of financing for these ventures. Strategic corporate investors who will be in a position to acquire these technologies and participate in the high returns from potentially disruptive new technologies may also participate. Many successful large companies have venture groups that fund new ideas and technologies, providing entrepreneurs with both funding and a valuable ecosystem within the industry.

Some VCs have attempted to invest in breakthrough ventures, but many find that the length of time to get the new technology to market and to achieve positive cash flow does not fit with the investment return horizons of their limited partners. Breakthrough ventures carry significant risks that investors must be ready to assume over long periods, often more than a decade.

As a result, these types of ventures typically struggle to find investors. Consider the example of the clean-tech startup Ze-gen.[54] Bill Davis, a serial entrepreneur, founded the company in 2004 and struggled in early attempts to raise angel financing. In 2006 Davis finally raised $2.5 million from the Massachusetts Renewable Energy Trust and the Massachusetts Technology Development Corporation, government-sponsored investment funds. But as Davis subsequently looked for resources to buy out his early investors, he found it difficult to raise capital: "This is not the kind of business you can build on short money; there are too

many capital expenditures. We couldn't really be financed with angel funding either. We needed longer-term capital backing. But, in 2005, you could count on one hand the number of VCs with experience in clean tech."[55]

Ze-gen was challenged by a chicken-and-egg problem that plagues many companies in this category. Feedback from investors suggested that the company needed to prove that the technology worked in order to secure investors. But the capital required to buy out early investors, to develop and test the technology, and to build a test plant was hard to secure. Davis eventually leveraged government loans to raise $7.9 million of Series A financing. And with positive results from the test facility, Ze-gen was able to raise another $25 million in Series B funding from VC and strategic investors. The next step was an attempt to raise $300 million to finance the construction of Ze-gen's first commercial facility and initial site costs for identifying and opening a second facility. But environmental objections from a residents' group stalled the approval of the commercial facility site and made raising additional funds impossible. Unable to recover from this setback, the venture stalled.

The case of Sirtris Pharmaceuticals is an exception that highlights the norm. The company was able to raise $5 million in seed financing in 2004, closely followed by another $13 million in Series A financing, followed by an additional $85 million in three subsequent rounds from 2005 to 2007.[56] But its co-founder Christoph Westphal recounted that Sirtris was an outlier: "We were very early in terms of the science. We raised $18 million without mammalian data, something that is almost unheard of in today's biotechnology."[57] Sirtris was purchased in 2007 by the pharmaceuticals giant GlaxoSmithKline for $720 million.

4 KEY TERMS

angels Individuals, or groups of individuals, who invest their own money in startup ventures.

angel groups Associations of angel investors who collectively screen and invest in startup ventures.

asset intensity The amount of assets that must be tied up in a business to generate cash.

bootstrap To draw only on personal resources to achieve cash flow and become profitable.

business accelerator A program that provides office space, proximity to other startup entrepreneurs, mentoring, access to investors, and some seed funding.

capitalization ("cap") table A table that shows ownership stakes in a company and the value of equity in each round of investment.

convertible preferred stock A form of stock that can be redeemed at the face value of the investment (plus any accumulated dividends) or converted into common stock to get a pre-negotiated share of a company.

crowdfunding The pooling of resources by many individuals to invest in private companies or projects.

cumulative cash flow analysis An analysis of total cash flows from the beginning of a venture.

debt investors Individuals or organizations that lend a fixed sum of money for a specified period at a given interest rate.

down round A round of financing in which the value of a venture has dropped since the previous round.

due diligence An investigation of a business (or individual) before entering into an agreement.

equity An ownership interest in a venture in the form of stock.

equity dilution A reduction in ownership percentage caused by the issuing of additional rounds of stock.

equity investors Investors that receive a long-term ownership stake in a company in exchange for their financial contributions.

flat round A round of financing in which the value of a venture has remained the same since the previous round.

home run A baseball term used to indicate the most successful outcome possible. Entrepreneurs "swing for the fences" to "knock the ball out of the park" and score a home run.

initial public offering (IPO) The first sale of stock to the general public.

limited partner A member of a partnership whose liability is limited to the partner's share of ownership.

nonpriced round A round of financing in which no valuation has been assigned to a startup.

option pool Shares of stock reserved for present and future employees.

post-money valuation The value of a venture immediately after a financing event.

pre-money valuation The implied valuation of a company before a financing event.

priced round A round of financing in which a value has been assigned to a startup.

Series A round The initial financing received from venture capitalists.

strategic investors Corporations that invest in startups for strategic rather than purely financial reasons.

up round A round of financing in which the value of a venture has increased since the previous round.

VC (venture capital) investors Professional investors who use funds raised from limited partners to invest in new ventures.

venture debt Loan to a VC-backed startup.

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