Chapter 1

THE VC INDUSTRY

A. Introduction to Venture Capital
B. VC Compensation

Chapter 1 provides an overview of the venture capital industry and investment process, and a discussion of how VC compensation is structured.

A. Introduction to Venture Capital

Metrick and Yasuda, Venture Capital and the Finance of Innovation (2nd Ed. 2011), Chapter 1[1]

WHAT IS VENTURE CAPITAL?

A VC has five main characteristics:

1. A VC is a financial intermediary, meaning that it takes the investors' capital and invests it directly in portfolio companies.

2. A VC invests only in private companies. This means that once the investments are made, the companies cannot be immediately traded on a public exchange.

3. A VC takes an active role in monitoring and helping the companies in its portfolio.

4. A VC's primary goal is to maximize its financial return by exiting investments through a sale or an initial public offering (IPO).

5. A VC invests to fund the internal growth of companies.

Characteristic (1) defines VCs as financial intermediaries. This is similar to a bank, because just as a bank takes money from depositors and then loans it to businesses and individuals, a VC fund takes money from its investors and makes equity investments in portfolio companies. Typically, a VC fund is organized as a limited partnership, with the venture capitalist acting as the general partner (GP) of the fund and the investors acting as the limited partners (LP). If all goes well, the VC eventually sells its stake in the portfolio company, returns the money to its limited partners, and then starts the process all over again with a different company.

VCs are often compared to—and confused with—angel investors. Angel investors, often just called angels, are similar to VCs in some ways but differ because angels use their own capital and, thus, do not satisfy characteristic (1). There are many types of angels. At one extreme are the wealthy individuals with no business background who are investing in the business of a friend or relative. At the other end are groups of angels with relevant business or technical backgrounds

[1] Available at http://papers.ssrn.com/sol3/papers.cfm?abstract_id=929145.

who have banded together to provide capital and advice to companies in a specific industry. In the latter case, the angel groups look very much like VCs, but the fact that they use their own capital changes the economics of their decisions: Since they can keep all the returns to on their labor, they have a correspondingly lower cost of capital and can invest in deals that would not work for a VC. Although it is difficult to get reliable figures on angel investing, the best available survey evidence for recent years suggests that total angel investments are approximately the same magnitude as total VC investments. Although the total flow of capital is similar, angels tend to focus on younger companies than do VCs and make a larger number of smaller investments.

Characteristic (2) defines VC as a type of private equity. Although the definitions of "private company" and "public company" have some nuances, the key distinction is that a public company's securities can be traded in a formal market, like the NYSE or the NASDAQ, whereas a private company's securities cannot. Any company that is publicly traded in the United States must also file regular reports with the Securities and Exchange Commission (SEC) detailing its financial position and material changes to its business. When combined with the activities of professional traders in public markets, this requirement to file creates significant amounts of information about public companies. In comparison, information about private companies is practically nonexistent. Private equity is considered to be a category of alternative investing, where "alternative" stands in contrast to "traditional" investing in stocks and bonds.

Characteristic (3) is central on our list—and central to the success of any VC. Without (3), a VC would only be providing capital, and his success (or failure) would be entirely due to his ability to choose investments. Although success can, of course, be entirely built on these choices, the comparative advantage of the VC would be greatly improved if the investor could also help the company directly. This help takes many forms. Most notably, VCs typically take at least one position on the board of directors of their portfolio firms. Having board representation allows them to provide advice and support at the highest level of the company. (More than one VC has remarked that his job could be described as being "a professional board member".) In addition to board service, VCs often act as unofficial recruiters and matchmakers for their portfolio firms. Young companies often have a difficult time attracting high-quality talent to a fledgling operation, and VCs can significantly mitigate this problem by drawing on their reputation and industry contacts. A VC who performs these value-added services well has a sustainable form of competitive advantage over other investors. Because VCs are financial intermediaries, they need some mechanism to give money back to their investors. Thus, a savvy VC will only make an investment if he can foresee a path to exit, with proceeds of this exit returning to the VC and his investors. Exits can occur through an IPO, with a subsequent sale of the VC stake in the open market, through a sale of the company to another investor, or through the sale of the company to a larger company. Because of the need to exit, VCs avoid investments in "lifestyle" businesses (companies that might provide a good income to the entrepreneurs, but have little opportunity for a sale or IPO).

Characteristic (4), the requirement to exit and the focus on financial return, is a key distinction between venture capital and strategic investing done by large corporations. As a perpetual entity, a corporation can afford to take stakes in other businesses with the intention of earning income, forming long-term alliances, and providing access to new capabilities. It is possible for the corporation to maintain this stake indefinitely. A strategic investor may satisfy all the other characteristics, but without the need to exit, the strategic investor will choose and evaluate investments very differently from a VC. In some cases, a corporation may set up an internal venture capital division. In the industry, this is referred to as corporate venture capital. This label can be confusing, as only sometimes do such divisions satisfy characteristic (4). These corporate VC efforts will often have strategic objectives other than financial returns and will have

neither dedicated supplies of capital nor an expectation that capital will be returned within a set time period. When (4) is not satisfied, the investment activity can take on a very different flavor than the type studied in this book. The requirement to exit provides a clear focus for VC investing activities. There are over 20 million businesses in the United States; more than 99 percent of these businesses would meet the government definition of a "small business." In general, small businesses are difficult to exit, and only "large businesses"—those in the top 1 percent of all businesses—have a realistic chance to go public or be sold in a liquid acquisition market. It is therefore typical for VCs to invest in small businesses—but they only do so when these small companies have a realistic chance to grow enough to become a large company within five to seven years after the initial investment. Such rapid growth is difficult to attain in most industries; therefore, VCs tend to focus on high-technology industries, where new products can potentially penetrate (or even create) large markets.

Characteristic (5) refers to "internal growth", by which we mean that the investment proceeds are used to build new businesses, not to acquire existing businesses. Although the legendary VC investments tend to be those adventurous VCs who backed "three guys in a garage", the reality of VC investing is much more varied. As a simple classification, we divide portfolio companies into three stages: early-stage, mid-stage (also called expansion-stage), and late-stage. At one extreme, early-stage companies include everything through the initial commercialization of a product. At the other extreme, late-stage companies are businesses with a proven product and either profits or a clear path toward profitability. A late-stage VC portfolio company should be able to see a plausible exit on the horizon. This leaves mid-stage (expansion) companies, who represent the vast landscape between early-stage and late-stage. With all this territory to cover, it is not surprising that mid-stage investments make up the majority of VC investment....

WHAT DO VENTURE CAPITALISTS DO?

VC activities can be broken into three main groups: **investing**, **monitoring**, and **exiting**. In later chapters, we will describe these activities in more detail. .....

Investing begins with VCs prospecting for new opportunities and does not end until a contract has been signed. For every investment made, a VC may screen hundreds of possibilities. Out of these hundreds, perhaps a few dozen will be worthy of detailed attention, and fewer still will merit a preliminary offer. Preliminary offers are made with a term sheet, which outlines the proposed valuation, type of security, and proposed control rights for the investors. If this **term sheet** is accepted by the company, then the VC performs extensive **due diligence** by analyzing every aspect of the company. If the VC is satisfied, then all parties negotiate the final set of terms to be included in the formal set of contracts to be signed in the final **closing**....

Once an investment is made, the VC begins working with the company through board meetings, recruiting, and regular advice. Together, these activities comprise the monitoring group. Many VCs argue that these activities provide the best opportunity to add value and are the main source of comparative advantage for a successful VC...

The final group of activities is exiting. As discussed earlier, VCs are financial intermediaries with a contractual obligation to return capital to their investors. However, the exit process itself requires knowledge and skills that are somewhat distinct from the earlier investment and monitoring activities. VCs plan their exit strategies carefully, usually in consultation with investment bankers. A typical IPO underwritten by a top investment bank will sell at least $50

million of new stock and have a total equity value of at least $200 million. Historically, the IPO has been the source of the most lucrative exits. The main alternative to the IPO is a sale to a strategic buyer, usually a large corporation. Sometimes these sales can be very profitable for the VC, but only if there is significant competition for the deal, which often includes the possibility of an IPO.

THE HISTORY OF VENTURE CAPITAL

Equity investments in risky new ventures are as old as commerce itself. The modern organizational form of venture capital, however, dates back only to 1946. Bank lending rules then (and now) looked for evidence that borrowers had collateral and could make timely payments of interest and principal. Most entrepreneurial firms, however, didn't meet these standards, so they required risk capital in the form of equity. There was usually no regular source of such capital, meaning that entrepreneurs without wealthy friends or family had little opportunity to fund their ventures. Along came George Doriot to solve this problem. General Doriot, so called for his rank in the U.S. Army quartermaster's office during World War II, recognized the need for risk capital and created a firm to supply it. His firm, American Research and Development Corporation (ARD), began operations in 1946 as the first true VC firm. Unlike modern funds, it was organized as a corporation and was publicly traded. In its 25-year existence as a public company, ARD earned annualized returns for its investors of 15.8 percent. ARD also set a standard for generating these returns that has persisted to the present day. Excluding the $70,000 investment in their biggest "home run", the Digital Equipment Corporation, ARD's 25-year annualized performance drops to 7.4 percent.

Many modern venture capitalists spend their days searching for their own home runs, now with more fanciful names like Yahoo!, eBay, and Google—all firms that started as venture capital investments and made legendary reputations for their investors. Today, venture capital is a well-established business throughout the developed world, but remains quite geographically concentrated both across and within countries, with the United States still comprising nearly half the VC activity in the world....

General Doriot's innovation in 1946 did not change the world overnight, and even ten years later the VC landscape remained barren. In recognition of this problem faced by small-growth businesses, the U.S. government began its own VC efforts as part of the Small Business Act of 1958, which was legislation that created the Small Business Administration and allowed the creation of Small Business Investment Companies (SBICs). Perhaps the greatest success of the SBIC program was to provide a vehicle to train a pool of professional VCs for the later decades. SBICs still exist today and share many characteristics of modern VC firms; however, regulatory restrictions affiliated with SBICs keep it from becoming the dominant institutional form. An important milestone for the VC industry came in the 1960s with the development of the limited partnerships for VC investments. In this arrangement, limited partners put up the capital, with a few percentage points of this capital paid every year for the management fees of the fund. The remaining capital is then invested by the general partner in private companies. Successful investments are exited, either through a private sale or a public offering, before the ten-year life of the partnership expires. The most common profit-sharing arrangement is an 80/20 split: after returning all the original investment to the limited partners, the general partner keeps 20 percent of everything else. This profit sharing, known as carried interest, is the incentive that makes private equity investing so enticing for investment professionals. In recent years, the most successful general partners have demanded—and received—as much as 30 percent carried interest on new partnerships.

Despite inroads made by SBICs and the new limited partnerships, total VC fundraising in the United States was still less than $1 billion a year throughout the 1970s. The next big change for VC came in 1979, when the relaxation of investment rules for U.S. pension funds led to historically large inflows from these investors to the asset class. To this day, pension funds continue to supply nearly half of all the money for VC in the United States. The participation by pension funds hastened the participation by other institutional investors, and the modern era of venture capital began....After a slight drop in 1990 and 1991, VC investment began a steady climb; from $2.2B in 1991, it rose gradually to $4.1B in 1994. We refer to these first 15 years of the modern VC industry as the preboom period. ... it was in 1995 that investment really began to grow quickly...nearly doubling to $7.9B in 1995 (from $4.1B in 1994) at the beginning of an incredible growth period. This was the dawn of the Internet era, and some of the VC investments made in 1995 and 1996 had spectacular returns. This caused institutional investors to rush for a piece of the asset class, and investments rose to $11.0B in 1996, $14.7B in 1997, and $20.9B in 1998—before exploding to the previously unimaginable levels of $53.4B in 1999 and $104.0B in 2000. For obvious reasons, we refer to 1995 to 2000 as the boom period. As the euphoria faded in the early 21st century, VCs still had large commitments from their investors, and many portfolio companies—funded in the late 1990s and 2000—were hungry for follow-on investments. Still, spending fell to $40.3B in 2001 before leveling off at between $20B and $30B in the subsequent years. We refer to the years after 2000 as the postboom period. Indeed, the boom period ended abruptly at the end of 2000, as investment fell by nearly half from the fourth quarter of 2000 to the first quarter of 2001. Although the postboom numbers are well below the peak of 2000, they still represent a considerable increase on investment prior to 1995. This can be seen by looking at VC investment as a fraction of GDP, where VC investment hit a new peak of 0.084 percent in 1983 and fell steadily to its modern all-time low of 0.036 percent in 1991 before rising to 0.058 percent at the end of the preboom period in 1994. The percentage jumped to 0.106 percent to mark the beginning of the boom period in 1995, then rose steadily to hit 0.571 percent in 1999 and its maximum of 1.045 percent in 2000. In the postboom period, the percentage has leveled off to about 0.2 percent in 2002-2008, well above the levels of the 1980s and approximately the same as the percentages in 1997 and 1998.

It is difficult to put these investment levels in perspective without some model of VC's place in the economy. How can we tell if the new levels of investment ($20 or 30B, or 0.2 percent of GDP) is too low, too high, or just right? One way to approach this question is to start with the definition of VC at the beginning of this chapter. There, we discussed how VCs invest in small companies that have the potential to become large quickly through internal growth. To qualify, a company usually needs some sort of product innovation, usually a novel item that can penetrate a large market. Sometimes the proposed innovation is high tech, such as a new drug or a new type of software. Alternatively, the innovation might be in a business process, where an early mover could erect barriers to entry by competitors. Many of the Internet startups took this route, although most of them unfortunately ignored the requirement that there be a barrier to entry. With this framework, we can see that it is not just an innovation that is necessary, but rather an innovation that should be made by a small company. Tremendous innovation goes on all the time in large companies, and large companies are the optimal place for the majority of high-tech innovations. With large research staffs, a stockpile of trade secrets, and decades of organizational learning, companies like IBM, Microsoft, Intel, Pfizer, and Merck are factories of innovation. If a small company proposed to develop, build, and sell a new microprocessor for personal computers, it would face almost certain failure in the face of the industry giants. If, however, a small company proposed to develop a small piece of the technology for such microprocessors—a piece that could be patented and potentially licensed across a wide range of products—then this might be (and has been) accomplished. So how much innovation should occur in small

companies? In general, this will depend on the factors that drive the optimal scale of an innovative enterprise.

In the 1990s, communications technology changed radically, with development of the Internet occurring alongside large price decreases for telecommunications. This communications revolution was real, even if some potential profits from the revolution proved to be illusory. Lower costs of communication opened up new opportunities for market transactions, with lower transaction costs than traditional methods. According to the theory of the firm first introduced by Ronald Coase in 1937, a universal reduction in transaction costs should reduce the optimal scale of firms and allow for greater levels of innovation by small companies. By this reasoning, the higher levels of VC investment that we see today— as compared to the 1980s—may indeed represent an optimal reaction to structural changes in the economy. Even the massive investments of 1999 and 2000, although clearly excessive in some respects, also appear to be at least in part a response to rapid changes in transaction costs. Prior to the Internet era, national retail brands required massive infrastructure and logistics support. With the Internet, retailers could operate from a single location, and consumers could find them from anywhere in the world. The organizational constraints of large enterprises seemed to prevent the rapid competitive reactions that could have stifled some of these innovations. For example, large booksellers such as Barnes and Noble already possessed the brand name, the infrastructure, and the inventory to compete effectively as online booksellers. Nevertheless, Amazon.com, a venture-backed startup, managed to out-innovate and out-compete them, to the point that Amazon's business became far more valuable than that of its older competitor. Amazon, although among the most successful, is one of many examples of successful entrants that relied on the new communications technology.

PATTERNS OF VC INVESTMENT IN THE UNITED STATES

Investments by Stage

There are many steps, or stages, to building a new VC-backed business.

Seed/Startup Stage Financing

This stage is a relatively small amount of capital provided to an inventor or entrepreneur to prove a concept. If the initial steps are successful, this may involve product development, market research, building a management team, and developing a business plan. This is a pre-marketing stage.

Early Stage Financing

This stage provides financing to companies completing development where products are mostly in testing or pilot production. In some cases, products may have just been made commercially available. Companies may be in the process of organizing, or they may already be in business for three years or less. Usually such firms will have made market studies, assembled the key management, developed a business plan, and are ready to or have already started conducting business. This involves the first round of financing following startup, which includes an institutional venture capital fund. Seed and startup financing tend to involve angel investors more than institutional investors. The networking capabilities of the venture capitalists are used more here than in more advanced stages.

Expansion (Mid) Stage Financing

This stage involves applying working capital to the initial expansion of a company. The company is now producing and shipping and has growing accounts receivable and inventories. It may or may not be showing a profit. Some of the uses of capital may include further plant expansion, marketing, or development of an improved product. More institutional investors are likely to be included along with initial investors from previous rounds. The VC's role in this stage involves a switch from a support role to a more strategic role.

Later Stage

Capital in this stage is provided for companies that have reached a fairly stable growth rate—that is, companies that are not growing as fast as the rates attained in the expansion stages. Again, these companies may or may not be profitable, but are more likely to be profitable than in previous stages of development. Other financial characteristics of these companies include positive cash flow. This also includes companies considering IPOs.

The definition of the company stage should not be confused with the definition of the financing round. The negotiation of a VC investment is a time-consuming and economically costly process for all parties. Because of these costs, neither the VCs nor the portfolio firms want to repeat the process very often. Typically, a VC will try to provide sufficient financing for a company to reach some natural milestone, such as the development of a prototype product, the acquisition of a major customer, or a cash-flow breakeven point. Each financing event is known as a round, so the first time a company receives financing is known as the first round (or Series A), the next time is the second round (or Series B), and so on. With each well-defined milestone, the parties can return to the negotiating table with some new information. These milestones differ across industries and depend on market conditions; a company might receive several rounds of investment at any stage, or it might receive sufficient investment in one round to bypass multiple stages.

Investments by Industry

Traditionally, VC investments have been concentrated in two broad sectors: health care and information technology (IT), where the latter sector is defined to include the communications, semiconductor, software, and hardware industries. This concentration is no accident: because VCs invest in small companies with the potential to quickly grow large, they need to look for businesses with large, addressable markets. To make headway in such markets, a business usually needs a technological advantage of some kind—hence the VC focus on the high-tech industries of health care and IT. Of course, other industries can also provide these opportunities, particularly during times of disruptive economic change. The communications revolution of the late 1990s provided such an opportunity for Internet-based retail businesses, and periodic oil shocks have provided the impetus for energy investments.

The data show the dominance of IT (including communications, software, hardware, and semi-conductors/electronics) and health care (including biotech and medical devices) for VC investment; together, these two sectors comprise about 75 and 80 percent of all investments in the preboom and postboom period, respectively. During the boom, media/retail investment had a brief (and expensive) rise, but even then the main story was the enormous increase in IT relative to health care. Within the broad IT sector, the two most important industries in the boom and post-boom periods were communications and software, followed by semiconductors/electronics

and hardware. Within health care, the story has been a gradual emergence of biotechnology as the dominant industry, receiving almost 60 percent of total health care investment in recent years.

Investments by U.S. Region

With all the evidence of globalization in manufacturing and IT services, the U.S. regional concentration of VC investment is particularly striking. Since the beginnings of the industry, the Silicon Valley area of northern California has remained the epicenter of VC activity, with a consistent share of about one-third of total U.S. VC investments per year. The area surrounding Boston has remained a secondary center for most of this time, with between 10 and 15 percent share of the total. The dominance of Silicon Valley and New England (mainly Boston) hides some important globalizing forces. Although companies headquartered in these two regions receive almost half of all VC dollars, much of these funds are then reinvested in foreign operations, particularly in India, by IT companies. This is a 21st-century phenomenon that has taken the industry by storm. Although it is difficult to find hard numbers to document this trend, such outsourcing is a common topic of conversation among VCs.

B. VC Compensation

Andrew Metrick and Ayako Yasuda, "The Economics of Private Equity Funds" (The Review of Financial Studies 2010)

.... Virtually all private equity funds are organized as limited partnerships, with private equity firms serving as general partners (GPs) of the funds, and large institutional investors and wealthy individuals providing the bulk of the capital as limited partners (LPs). These limited partnerships typically last for ten years, and partnership agreements signed at the funds' inceptions clearly define the expected payments to GPs. These payments consist of both fixed and variable components. While the fixed component resembles pricing terms of mutual fund and hedge-fund services, the variable component has no analogue among most mutual funds and is quite different from the variable incentive fees of hedge funds.

Successful private equity firms stay in business by raising a new fund every three to five years. If the current fund performs well, and LPs interpret that performance as "skill" rather than "luck," investors' demand curve for the new fund will shift out, with the equilibrium conditions requiring that LPs earn their cost-of-capital after payments to the GPs. In response to this demand shift, GPs may alter the terms of the new fund so as to earn higher expected revenue for each dollar under management. Alternatively, they may increase the size of their next fund. They may also do both. Raising the size of the fund may entail additional costs, depending on the production function for the underlying private equity activities.

GPs earn the bulk of fixed revenue—which is not based on the performance of the fund—through management fees. To see how management fees are calculated, we need to define several terms. Over the lifetime of the fund, some of the **committed capital [JF: amount LPs have committed to give GPs]** is used for these fees, with the remainder used to make investments. We refer to these components of committed capital as **lifetime fees** and **investment capital**, respectively. At any point in time, we define the **invested capital** of the fund as the portion of investment capital that has already been invested into portfolio companies. **Net invested capital** is defined as invested capital minus the cost basis of any exited investments. Similarly, **contributed capital** is defined as invested capital plus the portion of lifetime fees that has already been paid to the fund, and **net contributed capital** is equal to contributed capital minus the cost basis of any exited investments. The typical fund has a lifetime of ten years, with GPs allowed to

make investments in new companies only during the first five years (the investment period), with the final five years reserved for follow-on investments and the exiting of existing portfolio companies.

Most funds use one of four methods for the assessment of management fees. Historically, the most common method was to assess fees as constant percentage of committed capital. For example, if a fund charges 2% annual management fees on committed capital for ten years, then the lifetime fees of the ten-year fund would be 20% of committed capital, with investment capital comprising the other 80%. In recent years, many funds have adopted a decreasing fee schedule, with the percentage falling after the investment period. For example, a fund might have a 2% fee during a five-year investment period, with this annual fee falling by 25 basis points per year for the next five years. The third type of fee schedule uses a constant rate but changes the basis for this rate from committed capital (first five years) to net invested capital (last five years). Finally, the fourth type of fee schedule uses both a decreasing percentage and a change from committed capital to net invested capital after the investment period. For any fee schedule that uses net invested capital, the estimation of lifetime fees requires additional assumptions about the investment and exit rates. The most common initial fee level is 2%, though the majority of funds give some concessions to LPs after the investment period is over, for example, switching to invested capital basis..., lowering the fee level..., or both. Based on these facts, we should expect lifetime fees to be less than 20% of committed capital for most funds.

All GPs can earn variable (performance based) revenue from carried interest.
In our discussion of carried interest, it is helpful to distinguish among four different concepts: **carry level, carry basis, carry hurdle,** and **carry timing**. The carry level refers to the percentage of "profits" claimed by the GP. The carry basis refers to the standard by which profits are measured. The carry hurdle refers to whether a GP must provide a preset return to LPs before collecting any carried interest and, if so, the rules about this preset return. Finally, carry timing, not surprisingly, refers to the set of rules that govern the timing of carried interest distributions. To see how these terms work in practice, consider a simple case with a carry level of 20%, a carry basis of committed capital, no hurdle rate, and carry timing that requires the repayment of the full basis before GPs receive any carry. Under these terms, LPs would receive every dollar of exit proceeds until they had received back their entire committed capital, and then the GPs would receive 20 cents of every dollar after that.

The overwhelming majority of funds....use 20% as their carry level. The exact origin of the 20% focal point is unknown, but previous authors have pointed to Venetian merchants in the Middle Ages, speculative sea voyages in the age of exploration, and even the book of Genesis as sources.

There are two main alternatives for the carry basis. The first alternative—carry basis equal to committed capital—is used by [the overwhelming majority of] VC funds... The second alternative [is] carry basis equal to investment capital. The use of investment capital as the carry basis can have a large effect on the amount of carried interest earned by the fund. As a first approximation, for a successful fund that earns positive profits—ignoring the effect of risk and discounting—a change in basis from committed capital to investment capital would be worth the carry level multiplied by lifetime fees.

The effect of a hurdle return on expected revenue is greatly affected by the existence of a catch-up clause. Consider a $100 M fund with a carry level of 20%, a carry basis of committed capital, a hurdle return of 8%, and a 100% catch-up. We keep things simple and imagine that all committed capital is drawn down on the first day of the fund and that there are total exit proceeds

of $120 M, with $108 M of these proceeds coming exactly one year after the first investment, $2 M coming one year later, and $10 M coming the year after that. Under these rules, all $108 M of the original proceeds would go to the LPs. This distribution satisfies the 8% hurdle rate requirement for the $100 M in committed capital. One year later, the catch-up provision implies that the whole $2M would go to the GPs; after that distribution, they would have received 20% ($2 M) out of the total $10 M in profits. For the final distribution, the $10 M would be split $8 M for the LPs and $2 M for the GPs.

Beyond this simple example, the calculations quickly become unwieldy to handle without a spreadsheet. The key idea is that, even with a hurdle return, the GPs with a catch-up still receive the same fraction of the profits as long as the fund is sufficiently profitable. In this example, the fund made $20 M in profits ($120 M in proceeds on $100 M of committed capital), and the GPs received 20% ($4 M) of these profits. A fund with a catch-up percentage below 100% would still (eventually) receive 20% of the profits, albeit at a slower pace than the fund in the above example. If, however, the fund had only earned $8 M or less in profits over this time period, then all these profits would have gone to the LPs.

The final element of carried interest to be discussed is carry timing. In the discussion so far, we have proceeded under the assumption that GPs must return the entire carry basis to LPs before collecting any carried interest. The reality can be quite different, with funds using a variety of rules to allow for an early collection of carried interest upon a profitable exit. For example, one common timing rule allows carried interest to be collected as a fixed (say 20%) percentage of the fund profits, where the profit at any given point in time is defined as cumulative exit values minus the contributed capital. Once the fund is fully invested and completed, contributed capital reaches committed capital, and the fund profit definition reverts to cumulative exit values in excess of carry basis. However, for a fund that is still alive and incomplete, this timing rule gives GPs a potentially early opportunity to collect carried interest that would not be available otherwise.

When such early carry is taken, the LPs typically have the ability to "clawback" all or some of these distributions if later performance is insufficient to return the full carry basis or the LPs' share of the finalized fund profit (if any). For example, consider a $250 M fund with management fees of 2% of committed capital each year, a carry level of 25%, a carry basis of committed capital, no carry hurdle, a carry timing rule of "contributed capital back first," and a clawback provision. Suppose the fund made investments totaling $100 M in the first three years and had no exits. In year 4, it made no new investments and had its first exit totaling $150 M. In year 5, it made new investments totaling $100 M and no exits. Thereafter, assume it made no more exits, and all remaining investments were written off for a 100% loss at the end of year 10.

Since the contributed capital as of year 4 = 100 + 2%*250*4 = 120, GPs could earn an (early) carry of 25%*(150 – 120) = $7.5 M in year 4. At the end of year 10, contributed capital = 100 + 100 + 2%*250*10 = 250 = committed capital. However, only $142.5 M ($150 M – $7.5 M) has been returned to LPs. Thus, the clawback provision requires that GPs return $7.5 M to LPs.

Questions on VC Compensation

1. ABC Ventures has raised its $100M fund, ABC Ventures I, with management fees computed based on committed capital. These fees are 2 percent per year in the first five years of the fund, then fall by 25 basis points (25/100 of %) per year in each of the subsequent five years. The fees

will be paid quarterly, with equal installments within each year. What are the lifetime fees and investment capital for this fund?

2. A VC firm is considering two different structures for its new $100M fund. Both structures would have management fees of 2.0 percent per year (on committed capital) for all ten years. Under Structure I, the fund would receive a 25 percent carry with a basis of all committed capital. Under Structure II, the fund would receive a 20 percent carry with a basis of all investment capital.

a) Suppose that total exit proceeds from all investments are $160M over the entire life of the fund. How much carried interest would be earned under each of these two structures?

b) For what amount of exit proceeds would these two structures yield the same amount of carried interest?

3. ABC Ventures has raised its $100M fund, ABC Ventures I. The carry percentage is 20%, with committed capital serving as carried-interest basis (CIB). There is a priority return of 10%, with 100% catch-up. All CIB must be returned before carry is paid. How much does ABC Ventures get if at the end of ABC Ventures I's life $100M is available for distribution? If $111M is available? $120M?

4. ABC Ventures has raised its $100M fund, ABC Ventures I. The carry percentage is 25%, with committed capital serving as carried-interest basis. Carry can be paid after the return of contributed capital (the amount transferred to ABC Ventures for investment and fees), with interim profits calculated as distributions less contributed capital. After 3 years, contributed capital is $50M, and $70M in exit proceeds has been distributed. How much can ABC Ventures get in carry on this $70M distribution? What is the risk to the limited partners of ABC Ventures I?