Chapter 3. Venture Capital and Angel Investing

Questions and Problems

1. Early venture capital funds were organized as closed-end funds. More recently, most venture capital funds are organized as limited partnerships. What do you see as the key differences between the two forms that help explain the shift?
2. Refer to Figure 3.1. What factors led to the dramatic increase in commitments to VC funds in 1978? Explain the difference between Panel A and Panel B.
3. How do the reputations of fund managers, investors, and entrepreneurs bear on the efficient operation of a venture capital fund? How do you think venture capital contracts might be different when a manager, investor, or entrepreneur does not have an established reputation?
4. Venture capital firms normally try to solicit investment capital at the same time they are looking for deals. They also can extend the life of a fund for several years beyond its planned liquidation date. How might these practices enhance the value of the fund? How might they affect the kinds of investors the fund seeks and the kinds of ventures in which it invests?
5. You are planning to start a $30 million VC fund. You have two other partners (three GPs in total) and plan to impose a 2% management fee on total committed capital and a 20% carried interest. The fund will have an 8 year life, with the first four years being for finding and making investments ($7.5 million per year, less the annual management fee) and the second four years for managing and harvesting. On average, your investments will return 30% annually and run for four years, i.e., investments made at Time 1 will be harvested at Time 5.
   a. What is the annual management fee per GP?
   b. How much carried interest will each GP receive in each of the years 5-8?
   c. What is the LPs' IRR assuming their full $30 million is put up at Time 1?
   d. What is the LPs' IRR assuming their investments of $7.5 million are made each year?
6. Suppose a fund invests $1 million in each of three portfolio firms. The first investment is held for the entire fund life and finally proves to be a total bust, returning nothing. The second investment is harvested quickly for $5 million and there is a distribution at that point with the usual terms. The third investment is the final one and turns out to also be a bust. If a clawback provision had been included in the agreement, would a clawback payment to the LPs be in order? (Ignore fees). Explain why or why not. If so, how much would be clawed back?
7. Figure 2.3 shows that VC investments tend to cluster geographically. Based on your reading in Chapter 3, what are some of the reasons for this phenomenon?
8. Explain why LP investors in a VC fund might want to contractually limit the following:
   a. The addition of new GPs to the VC firm
   b. Fundraising by the GP for another VC fund
   c. Investment of the GP's personal funds into a portfolio company

9. Consider the following two investment opportunities for a venture capital firm: Opportunity Y has a success probability of 10%. If it is successful, it will be worth $10M; otherwise it is worth $0. Opportunity Z has a success probability of 50%. If it is successful, it will be worth $2M; otherwise it is worth $0. (The expected payoff to each of the two opportunities is the same--$1M). The Limited Partner's investment is $0.8 M (the General Partner does not put in any money). The contract calls for the GP to make 20% in carried interest with no fee. Assume risk neutrality and no discounting:
   a. Which opportunity would the GP prefer? Why?
   b. Which opportunity would the LP prefer? Why?
   c. Why (under what conditions) might the LPs like this carried interest compensation contract in spite of the apparent conflict in incentives?
10. Internet exercise: Find updated data using source information in Figures 3.3 and 3.4. What changes do you see? When you express country investment in venture capital as a percentage of GDP are there countries that have significantly increased their ranking? Have there been changes in the primary industries in which capital is invested?
11. Internet exercise: Use the Internet to locate an angel group in your community. Based on the information on their website, what differences and similarities do you see relative to some of the averages discussed in the text, in terms of typical investment amount, number of deals done per year, number of angel group members, industry focus? Etc. Do the statistics you uncover seem to reflect the general level and nature of entrepreneurial activity in your community? Why or why not?
12. Internet exercise: Locate AngelList (or a similar site) for an angel syndicate. Locate several startups in which you are interested and for which the syndicate is actively pursuing investment. Find the lead investor(s) in each. What is the background of the lead or leads? Find the minimum amount you would need to invest in each deal? Based on the site details, explain how you would harvest your investment assuming there is a harvesting event such as an acquisition or IPO? How does your investment differ from the kind of investment you would make if you were an LP in a VC fund?
13. A venture capitalist who has had two prior successful funds argues that her track record of success is proof that her firm is adding value to the ventures in which it invests. A skeptical potential investor argues that persistent good performance does not prove that successful VCs are adding value. The VC firm could just have been lucky on its first fund, and have done well on the second because its prior success has given it better access to good projects. Based on the literature we have been discussing, how might you test the hypothesis that VCs with track records of success are adding value to the ventures in which they invest?
14. A VC fund has invested $10M in each of 2 projects. The first project has been harvested for a value of $40M. The VC is entitled to a 20% carried interest on the gain. How much does the VC receive from the successful exit from the first investment? One year later, the second investment has not worked out well and is harvested for $5M. The VC fund has a clawback provision. How much, if any, should be clawed back from the carried interest on the first deal and what is the total carried interest dollar return to the VC?
15. From Chapter 1, we know there are important differences between corporate finance and entrepreneurial finance. In a meeting between a venture capitalist and an entrepreneur, the entrepreneur proposes that the VC should be willing to accept a 20% interest in exchange for investing $1 million, implying a post-money valuation of $5 million. The venture capitalist argues that because the entrepreneur is not well diversified, the entrepreneur should be willing to agree to a lower valuation and proposes to exchange a $1 million investment for a 40% interest, an implied

post-money valuation of $2.5 million. Would you advise the entrepreneur to accept the VC's argument? Explain.