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The Venture Capital Method - Valuation Problem Set

Question 1.

Roger Harkel, CEO of Bestafer Inc., sought to raise $5 million in a private placement of equity in his early stage dairy products company. Harkel conservatively projected net income of $5 million in year five, and knew that comparable companies traded at a price earnings ratio of 20X.

a. What share of the company would a venture capitalist require today if her required rate of return was 50%? What if her required rate of return was only 30%?

b. If the company had 1,000,000 shares outstanding before the private placement, how many shares should the venture capitalist purchase? What price per share should she agree to pay if her required rate of return was 50%? 30%? (Note: Assume investment is in standard preferred stock with no dividends and a conversion rate to common of 1:1)

c. Roger feels that he may need as much as $12 million in total outside financing to launch his new product. If he sought to raise the full amount in this round, how much of his company would he have to give up? What price per share would the venture capitalist be willing to pay if her required rate of return was 50%? 30%?

Question 2.

Benedicta Jones of Gorsam Capital liked Harkel's plan, but thought it naive in one respect: to recruit a senior management team, she felt Harkel would have to grant generous stock options in addition to the salaries projected in his business plan. From past experience, she felt management should have the ability to own at least a 15% share of the company by the end of year 5. Given her beliefs, what share of the company should Benedicta insist on today if her required rate of return is 50%? 30%?

Research Associate Andrew S. Janower prepared this problem set under the supervision of Professor William A. Sahlman as the basis for class discussion rather than to illustrate either effective or ineffective handling of an administrative situation.

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Question 3.

On further analysis and discussion, Benedicta and Roger agree that the company will probably need another round of financing in addition to the current $5 million. Benedicta believes that Bestafer will need an additional $3 million in equity at the beginning of year 3. While the first round investors (including herself) will require a 50% return, Benedicta feels that round 2 investors, in recognition of the progress made between now and then, will probably have a hurdle rate of only 30%. As before, management should have the ability to own a 15% share of the company by the end of year 5.

a. Based on this new information, what share of the company should Benedicta seek today? What price per share should she be willing to pay?

b. What share of the company will the Round 2 investors seek? What price per share will they be willing to pay?

c. Suppose it was apparent in the beginning of year 3 that Bestafer would meet it's financial targets, but not until the end of year 7. How would your answers to parts 3a and 3b change? If Benedicta took her pro-rata share of the round (e.g. to keep her percentage ownership of the company the same after the offering as it was before), what overall internal rate of return could she expect?

Question 4.

In her term sheet, Benedicta has proposed using a hybrid security called participating preferred stock. Participating preferred acts in part like standard preferred, in that at conversion common stock is issued at a previously agreed upon conversion rate, and in part like debt, in that at conversion the entire original principal amount is also repaid to the holder of the security. As far as Roger can tell, Benedicta has also priced the deal assuming only one round of financing would be required and as if standard preferred stock with a 50% required rate of return were used (as described in Question 1a).

a. What effect does using the security Benedicta proposed have on her effective rate of return? Defacto, how much of the company does Benedicta own?

b. If Roger agrees to use the participating preferred security, what terms (e.g. price per share and number of shares) should he propose in his counter-offer? What percentage of the company should he be prepared to give up in order to still meet Benedicta's 50% required rate of return?

c. How does utilizing participating versus standard preferred change Roger and Benedicta's perceptions of the risk and reward profile of this deal?

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Question 5.

After further negotiation, Roger and Benedicta agreed to use standard preferred stock after all. In her counter-offer, however, Benedicta has proposed that her shares pay cumulative non-cash dividends of 10% of the original cost per share. At conversion, the accrued dividends would convert into common at the original cost per share paid by Benedicta. Again, as far as Roger can tell, Benedicta has priced the deal assuming only one round of financing would be required and as if non-dividend bearing standard preferred stock with a 50% required rate of return were used (as described in Question 1a).

a. What effect does using the security Benedicta proposed have on her effective rate of return? Defacto, how much of the company does Benedicta own?

Question 6.

Roger's brother, Henry has also been working on a new venture. He has invested $20,000 and six months of sweat equity to date in developing the concept. While he believes the idea has the same growth and profit potential as Roger's company, he knows that outside investors will require more detailed research and proof of his business model before putting up the $800,000 - 900,000 required to launch the company.

To take the company to an appropriate stage for serious outside financing, he seeks to raise $100,000 from outside investors. If he is right, the company will then have a prototype product, contacts with key customers and a well thought out business plan. If he is wrong, while it is possible that the business idea could be reformulated and salvaged, it is likely that the money will be lost and he will move on to a new project.

a. How should Henry approach the fund raising process for this seed stage project? What type of investors should he try to recruit? What problems will he have in raising money?

b. How should Henry value the company at this point? Should he seek to raise debt or equity? What deal terms are reasonable?