Entrepreneurial Finance and Venture Capital

In class Test 2

March 13th, 2018

Name

Number

WRITE YOUR NAME AND NUMBER IN ALL PAGES

This test consists of 3 questions.

You have 80 minutes to solve this test.

This is a closed book test. Calculators are allowed.

Good luck!

Name: Number:

Group 1: Multiple choice (30 points)

(no explanation needed)

A. Which of the following tools do VCs rely on to screen deals and minimize adverse selection? (6 points)

  i. Due diligence
  ii. Pre-emption rights
  iii. Information rights
  iv. Staging investments

B. Which of the following are disadvantages of having a VC as a seed investor, instead of an angel? (6 points)

  i. If the round is done using a convertible note, VC will demand a lower cap
  ii. If the VC does not invest in a future round, other investors will interpret that negatively
  iii. The risk of failing to raise a future round even if things are going well will be higher

C. Weighted average anti-dilution protection is more favorable to founders than full ratchet anti-dilution protection because (6 points)

  i. The new conversion price takes into account the relative stakes of founders and protected investors
  ii. The new conversion price takes into account the relative size of the new round

D. A VC wants to exit an investment against the wishes of the remaining investors and founders. Which of the following provisions may enable the VC to do that? (6 points)

  i. Preemption rights
  ii. Co-sale rights
  iii. Drag-along rights
  iv. Redemption rights

E. Which of the following deals would you prefer as an investor, holding everything else constant? (6 points)

  i. Convertible preferred stock with a 2X liquidation preference
  ii. Participating convertible preferred stock with a 1X liquidation preference and a participation cap of 2X the investment amount

ANSWER:

A ______ D _______

B _______ E ________

C _______

Group 2 (49 points)

A new venture wants to raise 5 million euros from a VC. The VC expects the company to be sold for 80 million euros in 4 years, and is targeting an IRR of 40%. There are 1 million shares outstanding before the deal. Unless otherwise stated, assume all deals are done in convertible preferred stock with a liquidation preference of 1X.

A. What equity stake will the VC demand? (7 points)

B. How many shares does the VC get? What is the implied share price? (7 points)

C. Draw the VC's payoff diagram. Make sure you label any points at which the slope of the payoff line changes. (7 points)

D. If the deal was instead done in participating convertible preferred stock, and assuming the company would be sold as planned, what equity stake would the VC actually need in order to achieve an IRR of 40%? (7 points) **Draw** the corresponding payoff diagram, again labeling any points at which the slope of the payoff line changes (7 points).

E. Suppose that the first VC invests under the terms you calculated in A), but the company performs poorly after the deal. When the time comes to raise the next round, the second VC insists on a pre-money valuation of 5 million in exchange for an investment of 4 million, and the deal is agreed on these terms. Calculate what the first VC's equity stake after this round will be if the first VC has:

   i. No anti-dilution protection (7 points)

   ii. Full-ratchet anti-dilution protection (Hint: note that the deal with the second round VC determines a valuation for the round, not a share price. The share price is itself affected by the anti-dilution protection.) (7 points)

Group 3 (21 points)

A seed investor puts 500,000 euros into a convertible note, to be converted when a series A round takes place. The series A investor then takes a 30% stake in return for 5 million euros. Calculate the stake that the seed investor gets at the time of the series A, under the following scenarios:

A. The convertible note has no discount and no cap (7 points)

B. The convertible note has a 30% discount and no cap (7 points)

C. The convertible note has a 30% discount and a 6 million cap (7 points)

Draft paper