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# Ac.F302: Corporate Finance

## Week 15 – Workshop: Raising Equity

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# Roadmap for the rest of the term

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- Long term financing: long term projects or investments (more than a year)
  - Equity (chapter 23)
  - Debt (chapter 24)
  - Leasing (chapter 25)
- Short term financing: financing options within a year.
  - Working capital management (Chapter 26)
  - Short term financing planning (Chapter 27)
- Advanced topics in Corporate Finance
  - Mergers and Acquisitions (Chapter 28)
  - Corporate Governance (Chapter 29 + additional material)

Term test in week 20  
includes  
All the material  
from weeks 1 to 8

## Advice for the test and the exam

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1. Read the **lecture** material! Do not rely only on the workshops.
2. Attempt book exercises within the chapter as well (they are solved in the book, so I'm not necessarily covering them in the Workshop unless there's some novelty on them).
3. Final exam WILL include both numerical and non-numerical exercises.

## Outline: Raising Equity Capital (Berk and DeMarzo Chapter 23)

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1. Equity Financing for private companies (Exercises 1, 2, 3, and 4)
2. Initial Public Offerings (IPOs) (Exercises 5 and 6)
3. Seasoned Equity Offerings (SEOs) (Exercises (7 and 8)

## Exercise 1)

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Which of the following statements is NOT true regarding venture capitalists?

- A) They can provide substantial capital for young companies.
- B) They offer limited partners a number of advantages over investing directly in start-ups themselves as angel investors.
- C) They use their control to protect their investments, so they may therefore perform a key nurturing and monitoring role for the firm.
- D) They might invest for strategic objectives in addition to the desire for investment returns.

## Quick refresher

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- Pre-seed capital:
  - FFF (Family, friends, and fools).
  - Angel investors.
  - Accelerators (Incubators):
- Seed Capital:
  - Angel investors.
  - Angel investor syndicates.
  - Crowdfunders.
  - Early-stage Venture Capital firms.
- Series A and B funding:
  - Venture Capital firms

## Exercise 1)

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- C) They use their control to protect their investments, so they may therefore perform a key nurturing and monitoring role for the firm.
- D) They might invest for strategic objectives in addition to the desire for investment returns.

Answer: D. **Corporate investors** might invest for strategic objectives in addition to the desire for investment returns.

## Exercise 2)

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A(n) \_\_\_\_\_ invests in the equity of existing privately held firms.

- A) venture capital firm
- B) private debt firm
- C) vulture fund
- D) private equity firm

- Answer: D



## Exercise 3)

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- Assume you founded your own firm two years ago. You initially contributed \$50,000 of your money and in return received 1,000,000 shares of stock. Since then, you have sold an additional 750,000 shares to angel investors. You are now considering raising even more capital from a venture capitalist. The venture capitalist would invest \$4 million and would receive 2,000,000 newly issued shares.
  - a) What is the post-money valuation?
  - b) What is the pre-money valuation?
  - c) Assuming that this is the venture capitalist's first investment in your company, what percentage of the firm will he end up owning?
  - d) What percentage will you own?
  - e) What is the value of your shares?
  - f) What is the return on your investment?

## Exercise 3

Your shares	1,000,000
Angel Investor	750,000
VC	2,000,000
Total shares outstanding	3,750,000



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a) What is the post-money valuation?

Total shares outstanding = 1M (yours) + 0.750M (Angel) + 2M (VC) = 3,750,000 shares

VC is paying  $\$4,000,000 / 2,000,000 \text{ shares} = \$2 \text{ per share}$

Valuation of the firm =  $\$2 \times 3.75\text{M} = \$7.5\text{M}$

b) What is the pre money valuation?

Pre-money valuation =  $\$2 \times (1\text{M} + 750,000 \text{ shares}) = \$3.5 \text{ M}$

c) Assuming that this is the venture capitalist's first investment in your company, what percentage of the firm will he end up owning?

VC ownership =  $2\text{M} / 3.75\text{M} = 53.33\%$

## Exercise 3

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<b>Your shares</b>	<b>1,000,000</b>
Angel Investor	750,000
VC	2,000,000
Total shares outstanding	3,750,000



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d) What percentage will you own?

You own =  $1\text{M} / 3.75 = 26.67\%$

e) What is the value of your shares?

You own 1M shares at \$2 per share = \$2,000,000

f) What is the return on your investment?

Return on your investment =  $(\$2,000,000 / \$50,000) - 1 = 3900\%$

## Exercise 4)

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- In addition to common shares, your firm raised \$10 million in Series A financing with a 2x **liquidation preference**, no participation rights, and a \$25 million post-money valuation.
  - a) What is the minimum sale price such that the Series A investors will convert their shares?

## Quick revision: VC Capital financing terms

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- Liquidation Preference
- Seniority
- Participation Rights
- Anti-Dilution Protection
- Board Membership

## Exercise 4) solution

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- Series A investors have a liquidation preference of  $2 \times \$10 \text{ million} = \$20 \text{ million}$
- Series A investors own  $10/25 = 40\%$  of the firm.
- Because the Series A investors will receive up to  $2 \times$  their investment from their liquidation preference, they will not be willing to convert their shares to common unless the value of the firm has at least doubled from \$25 million to \$50 million.
- $40\% \text{ of } \$50\text{M} = \$20\text{M}$  (40% of any valuation below \$50M is worth less than what they'd obtain through their liquidation preference).

## Exercise 5)

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- Which of the following statements is FALSE?
- A) After deciding to go public, managers of the company work with an underwriter, an investment banking firm that manages the offering and designs its structure.
- B) The shares that are sold in the IPO may either be new shares that raise new capital, known as a secondary offering, or existing shares that are sold by current shareholders (as part of their exit strategy), known as a primary offering.
- C) Many IPOs, especially the larger offerings, are managed by a group of underwriters.
- D) At an IPO, a firm offers a large block of shares for sale to the public for the first time.
- Answer: B
- Explanation: The shares that are sold in the IPO may either be new shares that raise new capital, known as a primary offering, or existing shares that are sold by current shareholders (as part of their exit strategy), known as a secondary offering.

## Exercise 6)

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- RAX House is a private company considering going public. RAX House has assets of \$585 million and liabilities of \$415 million. The firm's cash flow from operations was \$137 million for the previous year. After the IPO, RAX House will have 118 million shares outstanding.
- The industry average cash flow per share multiple is 3.0, and the average book value per share is 2.3.
- Based on these multiples, estimate the IPO price for RAX House.



## Quick revision: IPO valuation

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- There are two ways to value a company:
  - Compute the present value of the estimated future cash flows.
  - Estimate the value by examining comparables (recent IPOs).

## Exercise 6) solution

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- Remember that  $V = E + D \rightarrow E = V - D$
- RAX House's book value of equity is the difference between the value of the assets (\$585 million) and the value of the liabilities (\$415 million), or \$170 million.
- With 118 million shares outstanding, book value per share is \$170 million/118 million shares = \$1.44 per share.
- Given the industry average of 2.3, the estimated IPO price would be  $\$1.44 \times 2.3 = \$3.31$  per share.
- The firm's cash flow from operations was \$137 million, thus cash flow per share is
$$\frac{\$137 \text{ million}}{118 \text{ million shares}} = \$1.16 \text{ per share.}$$
- Given the industry average multiple of 3.0, the estimated IPO price would be  $\$1.16 \times 3.0 = \$3.48$ .

## Exercise 7)

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- Which of the following statements is FALSE?
- A) More often than not, firms return to the equity markets and offer new shares for sale, a type of offering called a seasoned equity offering (SEO).
- B) Usually, profitable growth opportunities occur throughout the life of the firm, and in some cases, it is not feasible to finance these opportunities out of retained earnings.
- C) When a firm issues stock using an SEO, it follows many of the same steps as for an IPO. The main difference is that a market price for the stock already exists, so the price-setting process is not necessary.
- D) A firm's need for outside capital usually ends at the IPO.
- Answer: D
- Explanation: A firm's need for outside capital rarely ends at the IPO.

## Exercise 8)

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- You are the CFO of a company that is currently worth \$1 billion.
- The firm has 100 million shares outstanding, so the shares are trading at \$10 per share.
- You need to raise \$200 million and have announced a rights issue.
- Each existing shareholder is sent one right for every share he or she owns.
- You have not decided how many rights you will require to purchase a share of new stock.
  - *Option 1) You will require four rights to purchase one share at a price of \$8 per share,*
  - *Option 2) You will require **five** rights to purchase **two** new shares at a price of \$5 per share.*
- Which approach will raise more money?

## Quick revision SEO

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- There are two types of seasoned equity offerings.
  - Cash Offer
    - A type of SEO in which a firm offers the new shares to investors at large
  - Rights Offer
    - A type of SEO in which a firm offers the new shares only to existing shareholders
      - Rights offers protect existing shareholders from underpricing

## Exercise 8) solution

- **If all shareholders exercise their rights**
  - Option A) requiring 4 rights to purchase ONE new share at \$8 per share
    - 1 right per share → there will be 100 million rights.
    - $100 \text{ million rights} / 4 = 25 \text{ million new shares}$  will be purchased at a price of \$8 per share.
    - Total money raised \$200 million ( $= 25 \times 8$ ).
    - Total shares outstanding =  $100\text{M} + 25\text{M} = 125\text{M}$  shares
  - Option B) requiring 5 rights to purchase TWO new shares at \$5 per share.
    - $(100 \text{ million rights} / 5) \times 2 = 40 \text{ million new shares}$
    - New shares will be purchased at a price of \$5 per share.
    - Total money raised =  $40 \text{ million} \times \$5 = \$200 \text{ million}$ .
    - Total shares outstanding =  $100\text{M} + 40\text{M} = 140\text{M}$  shares
  - If all shareholders exercise their rights, both approaches will raise the same amount of money.

## Exercise 8) solution

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- **Would all shareholders exercise their rights in both options? Yes!**
- In both cases, the value of the firm after the issue is \$1.2 billion (\$1 billion + £200M raised in the rights offering).
- In the first case, there are 125 million shares outstanding, so the price per share after the issue is \$9.60. This price exceeds the issue price of \$8, so the shareholders will exercise their rights.
- In the second case, the number of shares outstanding will grow to 140 million, resulting in a post-issue stock price of \$1.2 billion for 140 million shares = \$8.57 per share (also higher than the issue price). Again, the shareholders will exercise their rights.
- In both cases, the same amount of money is raised.