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Capital Structure Design

How to design the capital structure for a startup from the top down

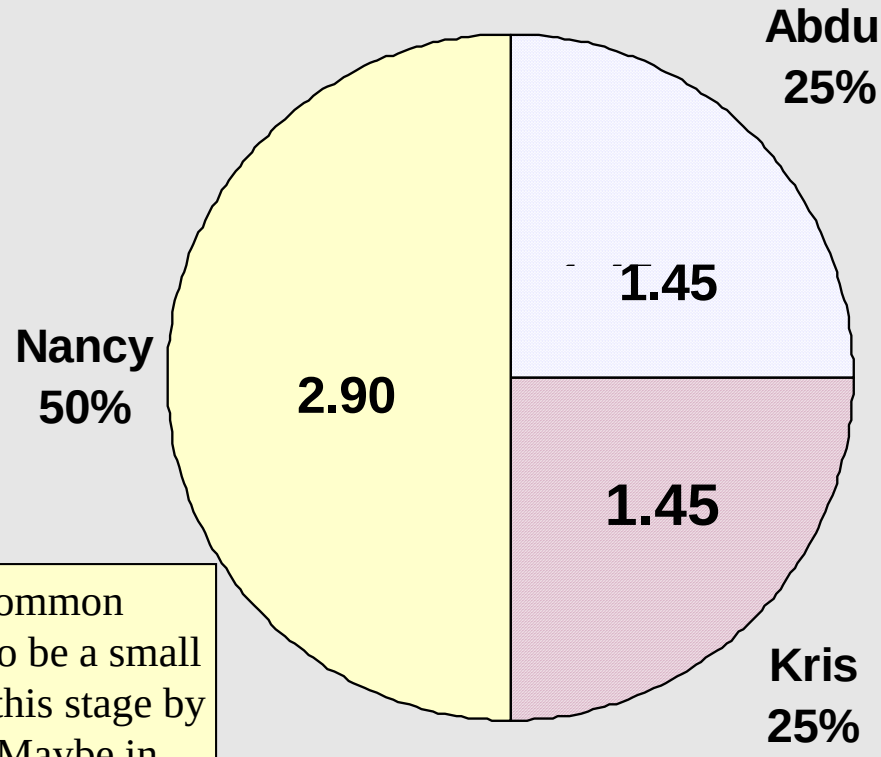
The famous par 3 third hole at Mauna Kea, 180 yards over the Pacific Ocean from tee to green. If you design a convincing cap structure, you can afford to play this hole after your exit. If you don't, it's the local muni for you.

This slide show ...

- requires an Excel workbook labeled Corporate Structure design (or something similar) and is designed to be used with a homework set that asks you to design a startup's capital structure;
- discusses the concept of dilution and why it is necessary when funding and describes "typical" degrees of dilution in multiple funding steps (although nothing is really typical);
- introduces a discussion of valuation and pricing of funding rounds;
- but is mostly intended to introduce startup corporate capital structure design.

Create the Corporation

Step 4

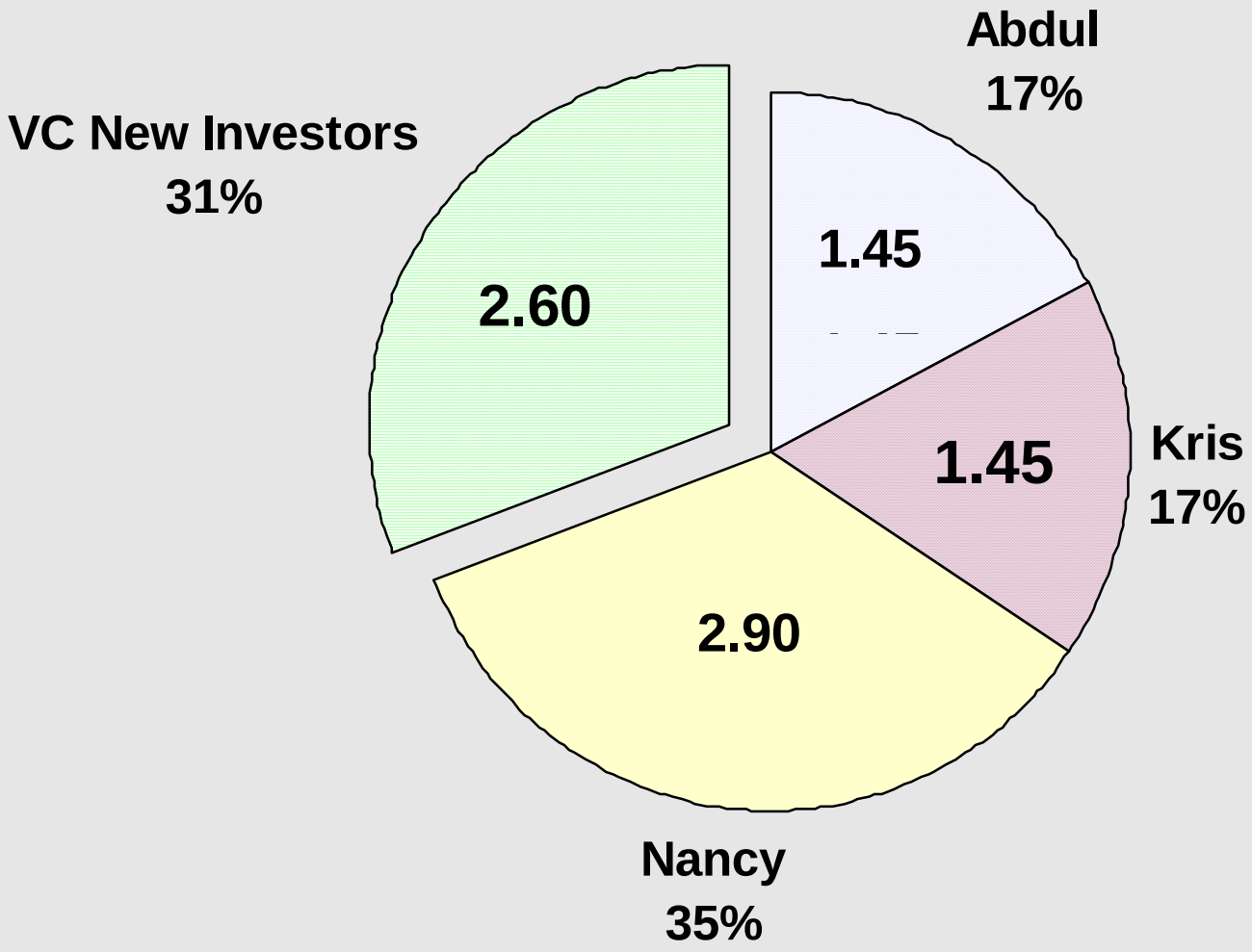


Millions of shares, common stock. There may also be a small cash contribution at this stage by one of the founders. Maybe in this case it was Nancy, which justifies her large share.

Referred to as step 4 because this is actually the final step you will take in the Structure Design software program.

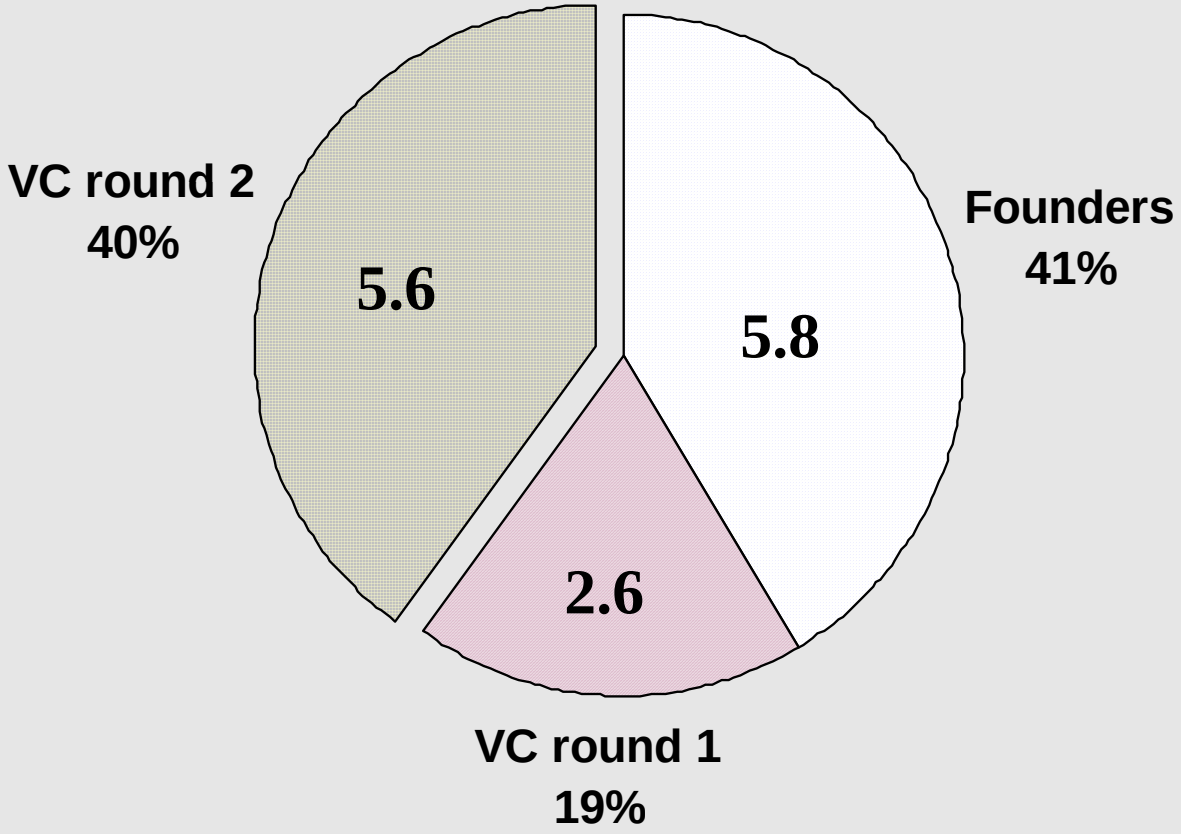
First Tier Financing

Step 3



Second tier financing

Step 2



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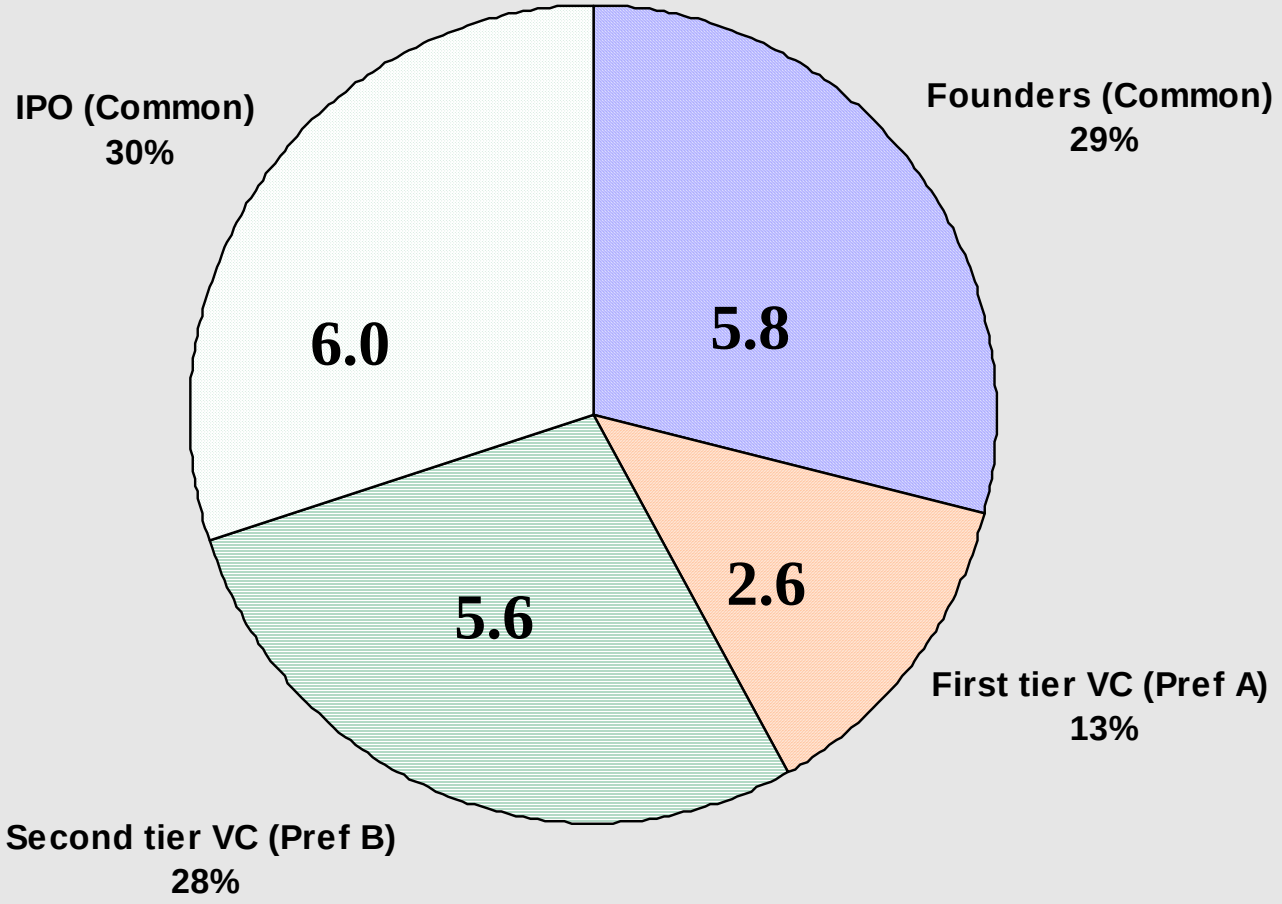
IPO financing

Step 1



Guidelines on proportions

2-tier financing with IPO target

- ✓ At first tier offer new investors about 30% of total, Pref A
- ✓ At second tier, offer new investors about 40% of new total, Pref B
- ✓ At IPO the IPO will claim about 30% of new total, all stock converted to common
- ✓ ISOP stock options may equal 10% or less and dilute company over time.

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Valuation Jargon

A publicly-traded company's valuation, referred to as its "market cap" (capitalization), is equal to the current price of its stock times the number of shares outstanding. A privately-held firm's valuation is normally regarded as the share price of its most recent funding round times the *total* number of shares outstanding. If a company has not funded in a long time and there has been an obvious improvement in the company's "material conditions of business," the company might be valued at a higher rate.

When attempting a funding round, given the proposed price per share of the new stock on the term sheet, "*pre-money valuation*" is calculated by multiplying the amount of stock already outstanding times the new price, and "*post-money valuation*" is calculated by multiplying the amount of stock that will exist assuming the funding is successful and all new preferred stock is issued times the new price.

For example, if the company already has 2 million shares outstanding and is trying to sell another 1 million shares at $2 per share, the pre-money valuation is $4 million and the post-money valuation is $6 million.

Preferred Stock?

- The convention these days is to issue common stock at inception, then a higher class of preferred stock at each funding round.
- Typically at exit each share of preferred is converted to common share for share.
- Each class of preferred stock may have stated privileges, such as voting privileges, a director's seat (or similar), or certain liquidation privileges.
- Often funding rounds are financed with convertible debentures (debt) convertible under stipulated conditions into preferred stock
  - because debentures will typically have first liquidation privileges

So how do you *price* each round?

... meaning what is the price per share at each round of financing? First, the final price, which is reflected in the "term sheet," is going to be the result of hard negotiations between you and the funding team. You are going to want a high valuation, they are more interested in a lower valuation. Here are some starting assumptions:

1. Given your business plan or other estimates of future cash needs, you want to raise enough cash to cover your operation up until your next anticipated funding round.
2. You also want to minimize the dilution to your existing shareholders (which includes yourselves).
3. Your funders on the other hand, if they believe the scenario projected in your business plan, including the exit strategy, will want a multiple return on their investment ... the earlier the funding round the greater the multiple.
    - ... targeting 10X is not unusual, although late stage funders may not be able to ask for this much (but they might)

One approach: working backwards

Let's say that your business plan anticipates that, at your time of exit, you will have realized a certain level of profit in your "best quarter" prior to the exit (acquisition or IPO, and in this example we will assume IPO). You can then use this formula to give the company a capitalization value:

Cap value	**=**	**$ annual earnings**	**X**	**acceptable PE**
$ 200 million	**=**	**$8 million**	**X**	**25**

You convert your "best quarter" into projected annual earnings (in this example the "best quarter" earned $2 million) and then multiply that times an acceptable PE ratio that is in the threshold of what has recently been used in valuing deals (start with a conservative 25X, although often higher PEs have been used). This product gives you a good proxy for anticipated capitalization value. Assuming that all classes of preferred stock are convertible into common one for one at exit, then dividing this by the number of shares outstanding at exit gives you a per-share value.

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Working with the Capital Structure Design Program

Setting Targets
for Best Quarter Net Earnings, Capitalization Value, and Number of Shares Issued
(thousands of $, where appropriate)

Best quarter net earnings target:	2,500.00	
Annualized equivalent:		10,000.00
Acceptable capitalization PE ratio:	20	
Capitalization value:		200,000.00
Desired IPO price per share:	10.00	
Number of shares recommended, 2-tier top down:		**20,000.00**

Note: This sheet does not have to be completed in order to use the design sheet.

The first page of this program assumes that you are going to use the valuation approach suggested on the previous page. The default example assumes that your anticipated best quarter (say four years in the future) is $2,500,000 in earnings. Assuming a conservative PE ratio of 20 to 1, this gives the company a $200 million cap value. Then you have to identify a desired price per share at exit. For IPO, this might be somewhere between $10 and $20 per share. Therefore, after you have completed all funding rounds and issued your IPO shares (which is assumed here) you will want to have 20 million shares outstanding.

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Page 2, pricing and allocation

From previous page

Corporate Structure Design: Two-Tier Top Down
(thousands of shares)

	[Note: Enter data only in white cells].	(A) Shares driven by percentages: Percentages	(A) Shares driven by percentages: Number of Shares	(B) Percentages driven by shares: Percentages	(B) Percentages driven by shares: Number of Shares
1	Total shares issued, excluding stock options		20,000.00		20,000.00
2	Percentage set aside for IPO	30.00		30.00	
3	Amount set aside for IPO		6,000.00		6,000.00
4	Residual shares after IPO		14,000.00		14,000.00
5	Percentage of residual dedicated to 2nd tier financing	40.00		39.29	
6	Amount purchased by Private Placement at 2nd tier		5,600.00		5,500.00
7	Residual shares after 2nd tier financing		8,400.00		8,500.00
8	Percentage of residual dedicated to 1st tier financing	30.00		29.41	
9	Amount purchased by New Investors at 1st tier		2,520.00		2,500.00
10					
	Shares remaining for founders		5,880.00		6,000.00
11	Memo: Stock options as add-on percent of Total shares	15.00		15.00	
12	Memo: Total stock options		3,000.00		3,000.00
13	Memo: Total shares including stock options		23,000.00		23,000.00

Only the top of page 2 is shown here. This page assumes that you are doing two tiers of private funding plus an IPO. It assumes the dilution percentages at each stage discussed earlier in the slide show. The percentage of residual dedicated to 2nd tier financing means that second tier financiers will own 40% of the company *at that stage* (and less when all is said and done). Column A is used to get initial estimates, Column B is used to round those off.

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Page 3, pricing and valuation

Capitalization
(thousands)

	Number of shares	Price per share	Amount Raised	Percent of Total
First tier financing:	2,500.00	1.00	2,500.00	3.4%
Second tier financing:	5,500.00	2.00	11,000.00	15.0%
IPO financing:	6,000.00	10.00	60,000.00	81.6%
Founder financing:	6,000.00	0.00	0.00	0.0%
Other financing:	0.00	0.00	0.00	0.0%
Total:	20,000.00		$73,500.00	100.0%

Now you have to price out each level of funding at a price that satisfies two sometimes conflicting objectives. **First**, you have to offer a rate of return to investors that will satisfy them. In the default example, assuming an IPO price of $10 per share, the first round investors are going to earn a 10X rate of return and the second round investors (who are investing after the company has a bit of a history and interim success) are going to earn a 5X rate of return. Is this adequate? It's hard to say. **Second**, you have to raise enough money at these pricing levels to meet the cashflow needs of your company at these rounds. You are projecting $2.5 million in the first round and $11,000 in the second round. This has to more or less agree with your company's projected cashflow needs in your business plan.

Will these conveniently match up? Typically no. You end up either underpaying your investors or raising too little cash. If that is the case you have to go back and tinker with the cap plan until it roughly works out. To do this, you can change your initial earnings estimate (which has to be justified), your PE assumption (which has to be credible), your IPO price (raise it some), your percentage allocations (but you can't change those much), your prices per share in earlier rounds (but without diluting earnings projections too much), or your estimated cash needs (but those have to be within reason).