

Equity Compensation

Rules of thumb, guidelines, conventional wisdom & other considerations

Frank Demmler

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- **Professional**

- Managing Director, Riverfront Ventures (2013-present)
- Vice President, Entrepreneurial Services, Innovation Works (2005-present)
- President & CEO, Future Fund Inc. (1999-2003)
- Co-founder & Investment Advisor, Western PA Adventure Capital Fund, (1996-1998)
- General Partner, Pittsburgh Seed Fund (1985-1998)
- Start up consultant, The Enterprise Corporation of Pittsburgh (1984-1998)
- Fortune 200 job, right-sized out of job (pre-1984)

- **Academic**

- Adjunct Professor of Entrepreneurship, CMU (2006 - present)
- Associate Teaching Professor of Entrepreneurship, CMU (2003-2005)
- Adjunct Professor of Entrepreneurship, CMU (1986-2003)

- **Education**

- Princeton, UCLA & Harvard Business School

- **Awards & Recognition**

- Lifetime Achievement Award from the Pittsburgh Venture Capital Association
- Finalist, Ernst & Young Entrepreneur of the Year, Supporter of Entrepreneurship
- Gerald E. McGinnis Adjunct Professor of Entrepreneurship at CMU

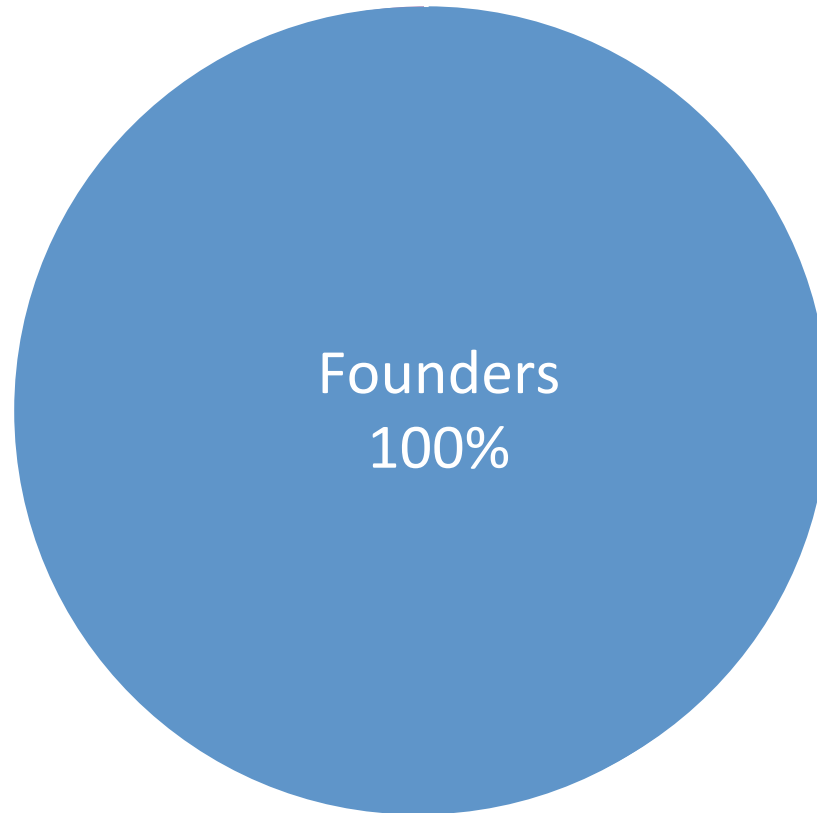
Why do I care about equity compensation?

- If you are a founder, you have to decide how to share the “Founders’ Pie”
- If you are recruiting someone, you have to decide how many stock options to offer a prospective hire
- If you are a prospective hire, you have to evaluate the number of stock options you’ve been offered

Founders' Pie

Getting started correctly is critical!

When you start a company, you have to decide who owns what



Founders' Pie

Conventional Wisdom

- Count the number of founders
- Divide the number of founders into 100
- That's the “fair” percentage for each founder

Founders	Percent
2	50.0%
3	33.3%
4	25.0%

Founders' Pie

Conventional wisdom is
wrong, and could be
fatal

Think about 2 founders, what if?

- One jumps into the company & the other keeps his job, “helping” at night & on weekends
- Company is doing well. One founder happy with current income, the other wants to change the world.
- Company needs money. One founder puts it in, the other doesn't.

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Just imagine 3 or more founders!

Slicing the Founders' Pie

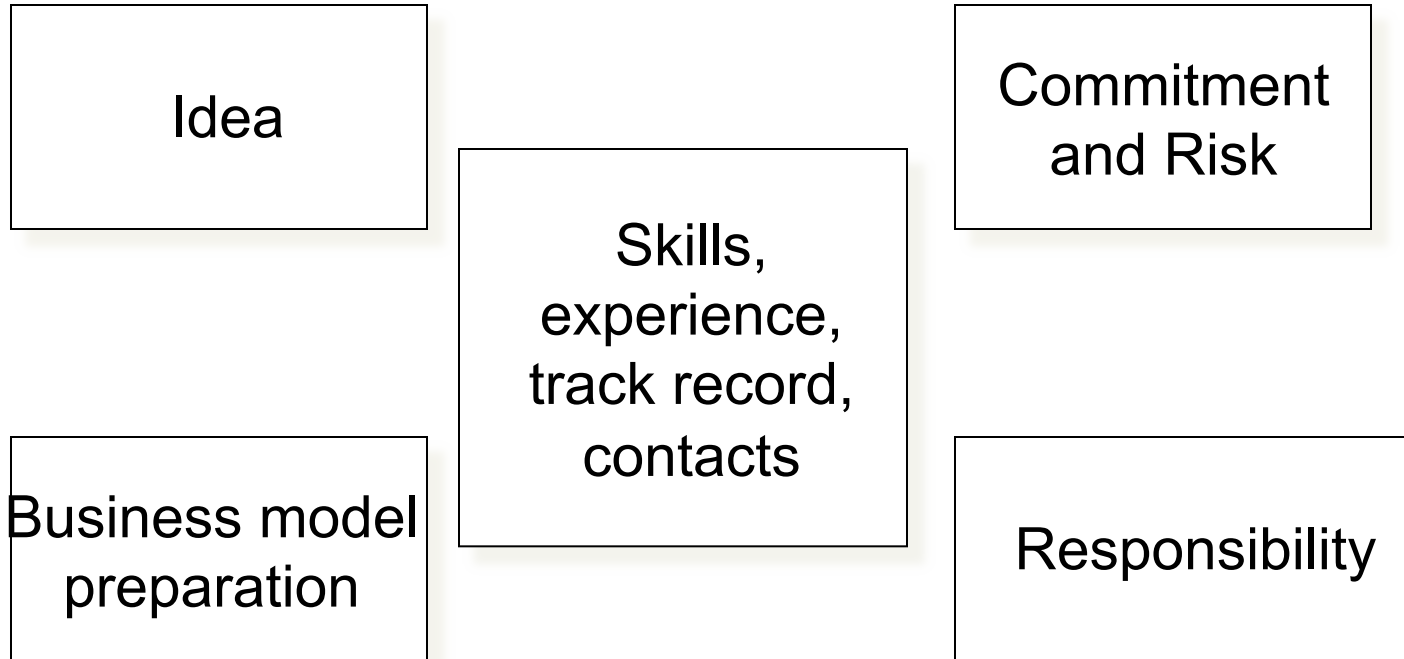
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Slicing the Founders' Pie

- How much stock ownership should go to whom?
 - Share the wealth with those who help to create the value and thus the wealth
 - Realize a harvest of at least 5 to 10 times the original investment
 - Make sure the company prospers and grows thus creating a huge, shared pie

Considerations of Value

Contributions in certain areas are of particular value to a venture.



Suppose: University Spinout – 4 founders

- Inventor – senior faculty, won't leave the university, created university-patented IP
- Business guy (MBA?) – jumps in and responsible for getting things done
- Post-doc – knows how to make the technology work, joins the company when funded
- Lab tech – happened to be in the right place at the right time

Founder Relative Contribution

Absolute Scores (1-10)

Idea					
Business Model					
Domain Expertise					
Commitment & Risk					
Responsibilities					

Founder Relative Contribution Importance of Each Component *Absolute Scores (1-10)*

	<i>Weight</i>				
Idea	7				
Business Model	2				
Domain Expertise	5				
Commitment & Risk	7				
Responsibilities	6				

Founder Relative Contribution

Founder Contribution to Each

Absolute Scores (1-10)

		Founder 1	Founder 2	Founder 3	Founder 4
Idea		10	3	3	0
Business Model		3	8	1	0
Domain Expertise		6	4	6	4
Commitment & Risk		0	7	0	0
Responsibilities		0	6	0	0

Founder Relative Contribution

Compiled Assessments

Absolute Scores (1-10)

	<i>Weight</i>	<i>Founder 1</i>	<i>Founder 2</i>	<i>Founder 3</i>	<i>Founder 4</i>
Idea	7	10	3	3	0
Business Model	2	3	8	1	0
Domain Expertise	5	6	4	6	4
Commitment & Risk	7	0	7	0	0
Responsibilities	6	0	6	0	0

Founder Relative Contribution

Founder Score per Component

Weighted Scores (1-10)

		Founder 1	Founder 2	Founder 3	Founder 4
Idea		70	21	21	0
Business Model		21	56	7	0
Domain Expertise		42	28	42	28
Commitment & Risk		0	49	0	0
Responsibilities		0	42	0	0

Founder Relative Contribution

Founders' Weighted Contributions

Weighted Scores (1-10)

	Founder	Founder	Founder	Founder
Idea	70	21	21	0
Business Model	6	16	2	0
Domain Expertise	30	20	30	20
Commitment & Risk	0	49	0	0
Responsibilities	0	36	0	0
Total Points	106	142	53	20
% of Total	33.0%	44.2%	16.5%	6.2%

Only use for guidance. Do not use the calculated values.

What if you got it wrong?

- Vesting of founders' shares can be a partial solution
- Can you get founders to consider a “do-over”?
 - Use the Founders' Shares Calculator
- If not, can you barter a trade of equity for something else, i.e., accelerated vesting; consulting agreement; ...?
- Facilitate a new round of investment and let the new investors “fix” things
- Threaten to leave
- Leave

Rules of Thumb

Frameworks for thinking about
equity compensation

From 30,000 feet

- At the end of the day, founders and management will own 20% - 33% of the company (at the time of an exit)
- During the early stages of the company, stock option pools are likely to be in the 10% - 25% range. Pools are often replenished with each round.

Stock Options

What's the big deal?

What a Stock Option Isn't

A Stock Option is not Stock

A Stock Option Is

- The right to buy a share of stock sometime in the future
- At a price established at the time of grant, i.e. the exercise price
- For a specific length of time (2 years, 5 years, 10 years?)

What's the Big Deal about Stock Options?

- An example:
 - 50,000 stock options with a \$1 exercise price
 - Company is acquired in 5 years for \$10 per share
 - Buy 50,000 shares of stock at \$1 per share
 - = \$50,000 is paid out
 - Immediately sell 50,000 shares at \$10 per share
 - = \$500,000 is received
 - Gain: \$450,000
 - Caution: it's ordinary income

How many options is enough?

- Depends on total number of company shares on a fully diluted basis
 - 100 options with total of 10,000 shares equals
 - 10,000 options on 1,000,000 shares equals
 - 100,000 options on 10,000,000 shares equals
 - 1% fully-diluted equity
- **They are all equal, but what number is most impressive?**

How many options is enough?

From another perspective:
You've been offered 5,000 options

Fully-diluted shares	% ownership
10,000	50.00%
100,000	5.00%
1,000,000	0.50%
10,000,000	0.05%

- You **MUST** know how many fully-diluted shares exist to evaluate an offer of options

Vesting

Now you see it, now you don't!

Vesting Schedule

- A grant of options **does not mean you own those options**
- You earn those options over time - vesting
- Purpose: to keep the employee motivated to stay with the company
- Typical schedule: 4-year vesting period
 - 25% of shares cliff vest on the first anniversary
 - $1/36^{\text{th}}$ of the balance per month over the next 3 years

Vesting Schedule Considerations

- Cliff vest means lump sum vests (a year's worth)
- One year cliff vest means, in essence, that you're on probation for the first year
- Monthly vesting thereafter tethers you to the company for an additional 3 years
- Similarly, if the company is acquired, unvested options tether you to the acquiring company

Small Piece of a Large Pie

What does that mean?

The Way It's Supposed to Work

	Start		Seed Round		Round 2		Round 3		IPO	
	Shares	%	Shares	%	Shares	%	Shares	%	Shares	%
Founders	100,000	100.00%	100,000	30.00%	100,000	11.25%	100,000	7.27%	100,000	5.81%
Option Pool 1			66,667	20.00%	66,667	7.50%	66,667	4.84%	66,667	3.88%
Option Pool 2					111,111	12.50%	111,111	8.07%	111,111	6.46%
Option Pool 3							28,674	2.08%	28,674	1.67%
Total Option Pool	-	0.00%	66,667	20.00%	177,778	20.00%	206,452	15.00%	206,452	12.00%
Investor 1			166,667	50.00%	166,667	18.75%	166,667	12.11%	166,667	9.69%
Investor 2					444,444	50.00%	444,444	32.29%	444,444	25.83%
Investor 3							458,781	33.33%	458,781	26.67%
IPO									344,086	20.00%
Total Investor	0	0.00%	166,667	50.00%	611,111	68.75%	1,069,892	77.73%	1,413,978	82.19%
Total	100,000	100.00%	333,333	100.00%	888,889	100.00%	1,376,344	100.00%	1,720,430	100.00%
Pre-financing value			\$1,000,000		\$5,000,000		\$20,000,000		\$150,000,002	
Post-financing value			\$2,000,000		\$10,000,000		\$30,000,000		\$187,500,002	
Investment Price per share			\$1,000,000 \$6.000		\$5,000,000 \$11.250		\$10,000,000 \$21.797		\$37,500,000 \$108.984	
Value of Founders' Shares			\$600,000		\$1,125,000		\$2,179,688		\$10,898,438	

Frank's Rules of Thumb

when considering a single employment offer

CEO	“rainmaker”	8.0%-12.0%
COO	“the business guy”	4.0%-8.0%
VPs	1-2 “key” players	2.0%-3.5%
VPs	Other	1.0%-2.5%
CFO	“supply & demand”	0.5%-1.0%

Per Brad Feld, askthevc blog, 1-16-08

Title	Title	% Co Equity	% Co. Median	Median
CEO - Founder				%
President / COO - Founder	CEO - Founder	5-20%	9.0%	%
CFO - Founder	President / COO - Founder	3-8%	5.0%	%
CTO - Founder	CFO - Founder	1-5%	2.5%	%
VP Engineering - Founder	CTO - Founder	2-10%	4.0%	%
VP Sales - Founder	VP Engineering - Founder	1.5-5%	2.5%	%
VP Business Dev - Founder	VP Sales - Founder	1.2-5%	3.5%	%
VP Marketing - Founder	VP Business Dev - Founder	1.5-5%	3.0%	%
	VP Marketing - Founder	1.3-7%	3.0%	%

Founders

Per Brad Feld, askthevc blog, 1-16-08

Title	Title	% Co Equity	% Co. Median	Co. Median
CEO - Non-Founder	CEO - Non-Founder	3-7%	5.0%	5.0%
President / COO - Non-Founder	President / COO - Non-Founder	1-3%	1.5%	1.5%
CFO - Non-Founder	CFO - Non-Founder	0.5-1.5%	1.0%	1.0%
CTO - Non-Founder	CTO - Non-Founder	0.5-2%	1.0%	1.0%
VP Engineering - Non-Founder	VP Engineering - Non-Founder	0.7-1.5%	1.0%	0.75%
VP Sales - Non-Founder	VP Sales - Non-Founder	0.7-1.3%	1.0%	0.8%
VP Business Development - Non-Founder	VP Business Development - Non-Founder	0.5-1.3%	0.75%	
VP Marketing - Non-Founder	VP Marketing - Non-Founder	0.5-1.2%	0.8%	

Non-Founders

Per Brad Feld, askthevc blog, 1-16-08

	Title	Cash Median	% Co. Median
CEO - Fou	CEO - Founder	200k	9.0%
CEO - Nor	CEO - Non-Founder	225k	5.0%
President /	President / COO - Founder	175k	5.0%
President /	President / COO - Non-Founder	200k	1.5%

Founders vs. Non-Founders

End-Game Arithmetic

Who owns what at liquidity event?

Per Don Dodge, The Next Big Thing Blog

Title	% Equity	Number	Total Equity
CEO	4.00%	1	4.00%
Vice President	1.00%	6	6.00%
Director	0.50%	5	2.50%
Manager	0.25%	10	2.50%
Others	0.05%	100	5.00%
			<hr/> 20.00%

Other Rules of Thumb

- Directors 0.50% – 1.00%
- Advisors 0.25% – 0.50%
- Founder vesting
 - 25% at closing + $\frac{1}{36}$ per month for 3 years
- Vesting acceleration at change of control
 - Management-friendly: double trigger
 - Investor-friendly: no acceleration (remember the earlier tethering comment?)

Considerations

- Founders vs. Non-Founders
 - When do you bring someone on board?
 - % equity may vary by a factor of 3
- Fairness: role of comparables
 - Within the company
 - Compared to other companies
- Stock options can come in many different “flavors”
 - Non-qualified options
 - Incentive stock options
- Each “flavor” may have very different tax consequences
- Stock options vs. restricted stock
- Pre-financing vs. post-financing – can be an enormous consideration

Exercise Price

serious tax & securities issues related to what follows

- Exercise price is tied to the company valuation
- Preferred stock is superior to common stock
- Preferred stock share price **could be considered** higher than common stock
- The difference between common stock and preferred stock diminishes over time & as commercial traction takes hold
- Common may be as low as 25% of preferred (at least at the last time I asked about this)

Clichés

with some elements of truth

- Focus on the share price. As long as it's going up, you're OK.
- Cosmetics matter. Option grants of tens-of-thousands of shares can be persuasive, even if the actual value is miniscule.
- It is the CEO's job to sell the vision. Candidates must be excited about opportunity and their role in realizing it. "Compensation is secondary."

Final thoughts

- Budget your equity distribution over a reasonable time frame
- Don't do anything without strong professional assistance
- Develop a network of mentors and advisors who can help you design something appropriate for you and your company
- **Don't do anything without strong professional assistance**