

# Structuring Venture Capital Deals

Shikhir Singh

## ▶ To cite this version:

Shikhir Singh. Structuring Venture Capital Deals. Economics and Finance. Cass Business School, 2005. tel-00578728

# HAL Id: tel-00578728 https://theses.hal.science/tel-00578728

Submitted on 22 Mar 2011

**HAL** is a multi-disciplinary open access archive for the deposit and dissemination of scientific research documents, whether they are published or not. The documents may come from teaching and research institutions in France or abroad, or from public or private research centers.

L'archive ouverte pluridisciplinaire **HAL**, est destinée au dépôt et à la diffusion de documents scientifiques de niveau recherche, publiés ou non, émanant des établissements d'enseignement et de recherche français ou étrangers, des laboratoires publics ou privés.

# Cass Business School MSc Investment Management - 2005

# Structuring Venture Capital Deals

by

Shikhir Singh

Supervisor: Robert Cressy

This dissertation is submitted as part of the requirements for the award of the MSc in Investment Management

#### Abstract

Fundraising with venture capitalists can remain a largely mysterious process. In a world shrouded with non-disclosure agreements, the entrepreneurs are often unaware of the common practices of deal terms and are unable to benchmark their term sheets with respect to those given to others. Inherent conflicts of interest in the split of the financial returns, liquidation, and control of the company lead the venture capitalists to structure the deals which benefit their interests at cost to the interests of the entrepreneurs. This dissertation identifies and characterizes the term sheet structures used by venture capitalists today and establishes their frequency. This information can be used by entrepreneurs to benchmark their term sheets and by venture capitalists to evaluate their investment strategies.

# Acknowledgements

I am very grateful for guidance, comments, and massive assistance provided by Katherine who made this dissertation possible. My sincere thanks goes out to my dissertation advisor Dr Robert Cressy who made this dissertation very enjoyable.

# **Table of Contents**

1	Introduction	9
2	Expectations of Entrepreneurs When Structuring	
	a Deal with Venture Capitalists	14
3	Liquidation and Financial Split Provisions	17
	Redemption Provision	17
	Redeemable Preferred Stock	18
	Redeemable Preferred & Common Stocks	19
	Convertible Preference Shares	20
	Participating Convertible Preference Shares	21
	Multiple Rounds Standards	22
	Liquidation Multiple	23
	Industry Sector Liquidation Multiple	24
	Dilution Provisions in Venture Capital	25
	Anti-Dilution Clause	28
	Pay to Play Provision	32
	Employee Stock Options	33
4	Control Provisions	34
	Board Members	34
	Milestone Provision	35
	Voting Rights	36

Class Veto Rights	36
Dividend Provision	37
Fees	37
Lockup Provision	39
Founder Shares Vesting	40
Drag Along Provisions	40
Tag Along Provisions	41
5 Findings and Conclusion	42
6 Work Cited	44
Appendix	
A: Effects of VC Investment on Allocations of Equity	46
B: Online Ouestionnaire	48

# List of Figures

Figure 3.1: Payoff graph of the VC investor (in blue) and the entrepreneur (in green with respect to liquidation values if the investor holds preferred stock. Note that the
VC's upside potential is capped
Figure 3.2: Payoff graph of the VC investor (in blue) and the entrepreneur (in green with respect to liquidation values if the investor holds preferred & common stock
Note that the VC's upside is not capped as shown earlier
Figure 3.3: Payoff graph of the VC investor (in blue) and the entrepreneur (in green with respect to liquidation values if the investor holds convertible preference shares 22
Figure 3.4: Payoff graph of the VC investor (in blue) and the entrepreneur (in green with respect to liquidation values if the investor holds participating convertible preference shares. The investor gets free ordinary shares and maintains his preference shares if the liquidation event is an IPO, the shares if the liquidation event is an IPO, the shares if the liquidation event is an IPO, the shares if the liquidation event is an IPO, the shares if the liquidation event is an IPO, the shares is an interest of the liquidation event in the liquidation event is an interest of the liquidation event in the liquidation event is an interest of the liquidation event in the liquidation event is an interest of the liquidation event in the liquidation event even
investor will get either the ordinary shares or the preference shares' face value $22$

# **List of Tables**

Table 2.1: Difficulty in Raising Funds with VCs after 2002 for different stages $1$	5
Table 2.2: Difficulty in Raising Funds with VCs after 2002 for different locations $1$	5
Table 2.3: Difficulty in Raising Funds with VCs after 2002 for different sectors $10^{-10}$	6
Table 2.4: Number of VCs approached and the average number of term sheets received by each company (after 2002)	6
Table 2.5: Average Time taken to negotiate and close the deal (after 2002) 1	7
Table 3.1: Common penalty clauses required by VCs in Redemption clauses 19	9
Table 3.2: Study by Fenwich & West LLP (reprinted with permission) shows the significant percentages of companies can require more than 4 rounds of financing. 2	
Table 3.3: Answers to our USA survey when asked which type of shares were issue	ed
in this round of financing?24	4
Table 3.4: Questionnaire conducted shows stats of liquidation multiple after 2002 entire sample	-
Table 3.5: Questionnaire conducted shows stats of liquidation multiple after 2002         the Biotechnology sector.       2!	-
Table 3.6: Questionnaire conducted shows stats of liquidation multiple after 2002	
the Software sector	J

Table 3.7: Questionnaire conducted shows stats of liquidation multiple after 2002         the Life Science sector.       2	
Table 3.8: Questionnaire conducted shows stats of liquidation multiple after 2002         those companies offered only 1 term sheet.       2	
Table 3.9: Questionnaire conducted shows stats of liquidation multiple after 2002         those companies offered only 1 term sheet       2	
Table 3.10: Questionnaire conducted shows that the VC is more likely to of participating preferred shares if the entrepreneur has only 1 other term sheet 2	
Table 3.11: Questionnaire conducted shows breakdown of both types of anti-dilute clauses.	
Table 3.12: Above are the penalties which are common in pay to play claus         Generally, there is more than one penalty.	
Table 3.13: Our questionnaire asked, does your company offer employee sto         options? The results are categorized by sectors.	
Table 3.14: Employee stock option pool as a percentage of total equity (not includity founder shares).	_
Table 3.15: Shows that the employee stock option pool generally needs to be increased as more rounds of financing are required.	
Table 4.1: Common milestone targets set in milestone agreement	<b>3</b> 3
Table 4.2: Common penalties for not meeting milestones.    3	36
Table 4.3: Percentages of dividend types required by VCs according to a questionnaire	
Table 4.4: Payer of legal fees	39
Table 4.5: Payer of Due Diligence fees.   3	39

Table	4.6: Durati	ion of loci	kup provisio	ons fo	or entrepreneu	rs and	d VCs in U	SA and
Europe	e.							
					•••••			40
Table	4.7:	Vesting	time	by	location	at	Startup	Stage.
		• • • • • • • • • • • • • • • • • • • •						40
Table	4.8: Drag	g along	percentages	in	the startup	and	expansion	phases.
								. 41

#### I. Introduction

Venture capital financing is attractive due to many reasons. Venture capitalists (VCs) allow the entrepreneur to raise the money all from one place. Given that VCs are in the business of building businesses, they have plenty of experience with the challenges of startups. Also, VCs usually have been through the process growing the company to Initial Public Offering (IPO) and other desired liquidation events (Bagley, 2003). VCs usually have a large rolodex of contacts which can help the company become successful. VCs can also give assistance in hiring members of the management team if necessary. Furthermore, research shows "venture-backed firms also perform significantly better after they go public than similar non-venture-backed firms" (Bagley, 2003).

Although the reasons to seek venture capital are obvious, the entrepreneur and the venture capitalist must be aware of the conflicts of interest that exist between them. Deal terms structured by the venture capitalist should address these conflicts of interest by minimizing the risk and maximizing the returns for the VC. Structuring deal terms in the venture capital world can be a very complex process.

Before we begin analyzing why and how the deals are structured, certain terminology and assumptions need to be clarified.

Liquidation Event is any exit event for the VCs. This may include sale of the company, merger, closing down of the company, and an IPO. Creating a successful company, and then successfully liquidating it, is the primary objective of the VC. Usually the venture capitalist wants to invest his money for three to five years and expects returns in excess of 40%.

*Pre-Money* is the value of the company prior to receiving the outside (VC) financing.

*Post-Money* is equal to Pre-Money + external funding received.

Share price offered by the VC is equal to the pre-money divided by the sum of the number of shares outstanding (excluding the new VC shares) and options. The share price is often the point of contention in negotiation between an entrepreneur and a VC. This dissertation will show that deal terms are imposed on the entrepreneur by the VC which aims to minimize its risk and maximize its returns.

Share Price = 
$$\frac{premoney}{SO + Options}$$
 where SO = # of shares outstanding

Calculations of how VC investment causes equity to be divided up between the entrepreneur and the VC are shown in appendix A. An understanding of the calculations in appendix A will enrich one's comprehension of this dissertation.

Venture capitalists have the daunting task of taking huge risks by investing a very significant amount of money into sometimes nothing more than a business plan. They also have the luxury of rejecting 99% of all investment opportunities that come their way. Conflicts of interest occur between the VC and the entrepreneur because there is a difference between some of their goals and objectives. In an effort to minimize their risk and maximize their ROI (Return on Investment), the VC often asks for provisions that align their interests with the interests of the entrepreneur.

The goals of an entrepreneur of a company which is seeking funding are to (Schoar, 2002):

- 1. Create a successful company
- 2. Get the funding necessary to create a successful company

- 3. Maintain maximum value and control of the company
- 4. Share the risks with the investors
- 5. Obtain the expertise and contacts that help the growth of the company
- 6. Obtain a reward for creating a successful company

The goals of a VC which is seeking to provide funding are to:

- 1. Maximize return to justify the risks and effort in funding company
- 2. Ensure that the company makes best use of the capital provided
- 3. Ensure the ability to invest in later financing rounds if it so chooses
- 4. Ensure the ability to liquidate their assets to match their funding cycle
- 5. Develop a reputation that attracts other venture opportunities

Conflicts of interest arise due to differing objectives between VCs and entrepreneurs on:

- 1. Split of the Financial return of the company
- 2. Liquidation of the company
- 3. Control of the company

Conflict of interest (1) occurs due to the following: The VC wants to give the entrepreneur just enough percentage of the company to keep them motivated until the liquidation event, and the entrepreneur wants to give the VC just enough percentage of the company so that the VC will choose to invest. In this way, the VC and the entrepreneur have a conflict of interest in regards to their view of the appropriate way to split the financial return of the company.

Conflict of interest (2) occurs due to the following: VCs have very precise timetable expectations of when and how they want their shares liquidated. The VCs set these timetables for the companies which they have funded. These timetables must match the timetables which were dictated by investors of the venture capital fund. The VCs and their investors agree on a length of time (generally 5 years) that the VCs have to fund companies with the investor's money. The VCs must hold the funded companies to a precise timetable because they must return the money to their investors at that previously agreed upon time. To receive funds according to their timetable, VCs can set provisions which extract value to meet their objectives. In contrast to VCs, entrepreneurs are generally involved in management of the company

for a longer period. The VCs also want preference to any shareholders. In other words, VCs want their money in any liquidation event before any of the other common stockholders receive anything. The difference (between VCs and entrepreneurs) in timetables and the preferences for shareholders when there is a liquidation event of the company is a conflict of interest in regards to liquidation of the company.

Conflict of interest (3) occurs due to the following: After investing, the VC is now part owner of the company and needs to be consulted on how money is being spent. Furthermore, the VC wants rights which will ensure that management is performing well and maximizing returns. Conflict over control of the company thus naturally arises between the entrepreneur and the VC as a struggle for power over company decisions ensues.

From these conflicts of interest, an inherent power struggle is created where the VC wants to minimize risk and maximize returns but the entrepreneur wants to share risk and receive the VC investments.

Although the reason for deal structures is to control the conflicts of interest between VCs and entrepreneurs, the reasons for the variation in the value of deal structures includes, but is not limited to, the strength of the market, the sector of the company, the desperation of the CEO, the competition for the deal, and the stage of the company. These reasons are analyzed in depth in this dissertation. Other possible reasons for the variation in the value of deal structures which are discussed, but not analyzed, include the management team, the emotional climate of the investing community, the integrity of the VC firm, the philosophy of the fund, the stage of the fund, and the personal view of the investor.

Chapter three will discuss how deal terms are structured in a manner which addresses the conflicts over the split of the financial return and liquidation of the company. Chapter four will discuss how deal terms are structured in a manner which addresses the conflict over control of the company. Both chapters three and four will also analyze the reasons involved in the variation of the value of deal structures.

For this dissertation, we determined the common set of provisions asked by the VCs by completing a literature survey and interviewing VCs. After which, we sent a personalized email and questionnaire to approximately 5000 CEOs, founders, and CFOs asking them about their last venture capital round of financing. Of the 5000 emailed, 123 responded. This dissertation uses their answers to analyze the deal structures of term sheets and as such, is inherently limited by their knowledge of their own VC deal terms.

# II. Expectations of Entrepreneurs When Structuring a Deal with Venture Capitalists

The process of raising funds can be a difficult one, but our questionnaire shows that it may not be as difficult as anticipated if the entrepreneur has a solid company. Of the companies that got funding, the majority did not struggle much in accomplishing this feat. In the questionnaire, the level of difficulty for raising funds in the latest round of financing was asked on a scale from one to five. As high as 42% of startups said that it was not difficult (lowest on the scale) to raise funds. Only 8% of startups said it was extremely difficult (highest on the scale). Our questionnaire shows that the difficulty of raising VC funds also varied by location. It is more (not much) difficult on average to raise funds in Europe than in the USA. Our questionnaire also shows that difficulty raising funds varies by industry sectors. It easier to raise funds in the software sector, than it is in the Biotechnology, Life Sciences, and Pharmaceutical sectors. Tables 2.1 through 2.3 show the complete results.

Difficulty in Raising Funds By Stage							
	Not Difficult (1)	Somewhat Difficult (2)	Moderately Difficult (3)	Very Difficult (4)	Extremely Difficult (5)		
Startup	42%	15%	35%	0%	8%		
Expansion	39%	20%	29%	7%	5%		
All	34%	22%	33%	6%	5%		
Surveyed							

Table 2.1: Difficulty in Raising Funds with VCs after 2002 for different stages.

Difficulty in Raising Funds by Location							
	Not Difficult (1)	Somewhat Difficult (2)	Moderately Difficult (3)	Very Difficult (4)	Extremely Difficult (5)		
USA	42%	26%	17%	11%	4%		
Europe	24%	24%	38%	2%	11%		

Table 2.2: Difficulty in Raising Funds with VCs after 2002 for different locations.

The websites of many VCs state that only 1% of the business plans which they receive get funding. Our questionnaire asked entrepreneurs which received venture capital funding the number of term sheet offers that they received out of the number of different VC investors that the entrepreneurs approached.¹ Out of the entrepreneurs that received funding in the startup or seed phase, 24% of the venture capitalists that they approached gave them funding. In the expansion stage, the number is around 25%. Although surprisingly, entrepreneurs on average only approached 12 to 13 VCs and received about two term sheets each.

Difficulty in Raising Funds by Sector							
	Not Difficult (1)	Somewhat Difficult (2)	Moderately Difficult (3)	Very Difficult (4)	Extremely Difficult (5)		
Software	42%	26%	17%	11%	4%		
Life Science & Pharmaceutical	24%	24%	38%	2%	11%		
Biotechnology	21%	29%	33%	13%	4%		

Table 2.3: Difficulty in Raising Funds with VCs after 2002 for different sectors.

Phase	Approached VC #	Received Term Sheets from Different VCs		
Startup	12.1	1.78		
Expansion	12.8	2.0		

Table 2.4: Number of VCs approached and the average number of term sheets received by each company (after 2002).

Another question we asked companies was; how long did it take to negotiate and close the deal after the first contact with the VC? For both the startup and expansion stage, it took about 5.5 months to close the deal.

\_

<sup>&</sup>lt;sup>1</sup> The 24% and 25% calculations were done by dividing the number of term sheets received by the number of approached VCs for each entrepreneur individually and then averaging the percentages.

Phase	Time	Standard Deviation
Startup	5.5 months	3.2 months
Expansion	5.4 months	2.98 months

Table 2.5: Average Time taken to negotiate and close the deal (after 2002).

It is worth noting that the standard deviation for the negotiating time is relatively large. Our questionnaire asked the entrepreneurs in the "expansion stage," would their company have existed for one more year if they didn't receive the VC funding, and 50% responded no. After sending our questionnaire, we received many responses from entrepreneurs stating that the biggest factor in determining the variance in deal structures is the desperation of the CEO. The majority of CEOs don't give themselves enough time to go out and seek funds, thus they very often land themselves in trouble (i.e. CEOs put themselves in a situation where they may be forced into a set of deal terms because their need for funding is urgent). In the later chapters we measure how much not seeking more than one term sheet can cost an entrepreneur.

## III. Liquidation and Financial Split Provisions

A conflict of interest arises in liquidation events when VCs want preference or first rights to any cash available to any stockholders. To achieve this, VCs usually require an issue of a new class of stock which have preference to the common stock in case of a liquidation event. The conflict of interest occurs because the entrepreneur argues that both he and the VC are investing in a risky venture and thus they should both share the burden in case of a poor liquidation event. The VC argues that if it invests, for example, £2m into a company that has a premoney valuation of £2m resulting in £4m post-money, then in exchange for the £2m cash, the VC receives half the company where the entrepreneur receives the other half mainly for his idea and the time taken to put the business together. The entrepreneur the next day could sell the company for £2m and he would get to keep £1m resulting in a £1m dollar immediate loss for the VC. The above scenario is obviously not one that a VC can afford to get itself into, and as such it must make provisions which aim to protect against such exploitation. The following are deal terms which may be required by the VCs to ensure that the type of losses in the above example will not happen and that the VC will make money from the deal with the entrepreneur. These deal terms serve as protection for the VCs which is necessitated by the conflicts of interest concerning liquidation and financial split provisions.

#### Redemption Provision:

The VC and the entrepreneur's objective also differ in terms of the exit timetable. To motivate the company to exit quickly and to extract value if a company cannot, a clause that require some sort of payment back to the VC is constructed. It can be structured so that the company has to buy back the preferred shares at a multiple of the price paid. It can also be structured so that the VC does not lose his shares if the repayment occurs. Out of the total sample in our survey 21% of

the rounds of financing had a redemption clause. Redemption clauses usually are structured in stages. The first stage is to give management a wake-up call to find a liquidation opportunity, and the second stage is designed to extract value. The average time in our survey before some provision of the redemption clause to kick in was 5.83 years.

Unpaid dividends require payment	22%
Appoint Committee to look for exit opportunities	11%
Pay back initial value	39%
Pay back multiple of initial value	11%
VCs get more board seats	6%
VCs get more special rights	11%

Table 3.1: Common penalty clauses required by VCs in Redemption clauses

#### Redeemable Preferred Stock:

VCs often require a new class of stock which has preference to any cash available from a liquidation event; preferred stock. If the business is sold, the VCs will first get their share and the common stockholders will have to divide up what is left. Using the above example, if the entrepreneur sells his company the next day, then the VC will get back his £2m and the entrepreneur will be left with neither a company nor any money. Thus, this class of stock serves as a guarantee that the VC will recover a certain amount of its investment. This class of stock can also require a multiple of initial investment to be repaid before the common stock holders receive any money. Using the example above, if the multiple was set at 2x, the entrepreneur worked very hard, and the company was now sold for £6m, then the VC would get £4m and the entrepreneur would get £2m. Figure 3.1 shows that in a liquidation event, if the value of the liquidation is less than the investment multiple or face value required by the preferred stock, then the entrepreneur gets nothing (Schoar, 2002). If the value of the investment is greater than this amount, then the entrepreneur only then gets the remaining amount

after face value is paid off. It should be noted that the entrepreneur has unlimited upside potential but the VC's upside potential is capped.

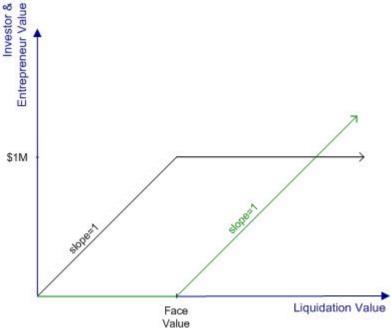


Figure 3.1: Payoff graph of the VC investor (in blue) and the entrepreneur (in green) with respect to liquidation values if the investor holds preferred stock. Note that the VC's upside potential is capped.

## Redeemable Preferred & Common Stocks

The VC could request common stocks in addition to preferred stocks. This enables the VC to get first rights to any cash available, thus making money from both the initial investment multiple and the common stock. The VC's upside is not capped when this combination of stocks is utilized. Figure 3.2 shows that the VC gets the upside as a percentage of the company common stock it owns (Schoar, 2002).

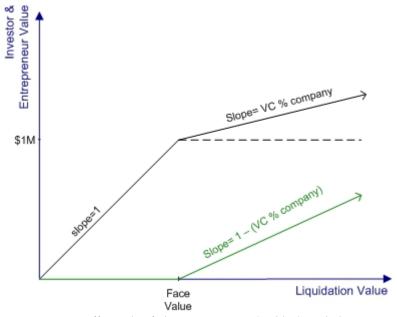


Figure 3.2: Payoff graph of the VC investor (in blue) and the entrepreneur (in green) with respect to liquidation values if the investor holds preferred & common stock. Note that the VC's upside is not capped as shown earlier.

## Convertible Preference Shares

Convertible preference shares carry the right to convert preference shares to ordinary shares at various points in the life of the company at pre-specified conversion price. Possible conversion periods include when new stock is issued or any exit. The investor will convert if the liquidation share price is greater than pre-specified conversion price (Campbell, 2003). "If the stock is thinly traded, the preferred investor is left with little ability to trade out the stock and analysts and market makers have little motivation to follow the stock" (Wilmerding, 2003). Figure 3.3 shows that the payoff functions of a convertible preferred stock.

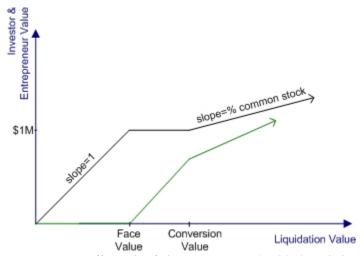


Figure 3.3: Payoff graph of the VC investor (in blue) and the entrepreneur (in green) with respect to liquidation values if the investor holds convertible preference shares.

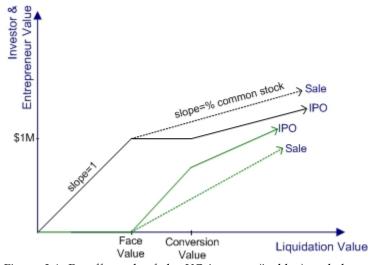


Figure 3.4: Payoff graph of the VC investor (in blue) and the entrepreneur (in green) with respect to liquidation values if the investor holds participating convertible preference shares. The investor gets free ordinary shares and maintains his preference shares if the liquidation event is a sale, and if the liquidation event is an IPO, the investor will get either the ordinary shares or the preference shares' face value.

# Participating Convertible Preference Shares

Participating convertible preference shares carry the right that in case of any liquidation event other than an IPO, the VC will get face value *plus* get free shares as though the VC had the convertibility option. In the case of an IPO, the

VC has just the liquidation preference *or* the convertibility option. So in a sale event, the VC makes more than when there is an IPO. Figure 3.4 shows an example of a payoff with this type of shares. Participating convertible preference shares were once thought "to be faintly unethical, but now (are) fairly common" (Campbell, 2003).

# Multiple Rounds Standards

When multiple rounds of financing occur, each new investor usually will ask for liquidation preference over the previous investors. It is convention for each new round of financing to be indexed by letters starting from A. Thus a Series C round is the third round of financing and will probably have liquidation preference over the second round of financing (Series B).

Rounds Financed by VCs(Percentages)			
	Range Between Q1 2005	Q1 2005	
	and Q2 2005		
Series A	16% - 24%	24%	
Series B	24% - 30%	29%	
Series C	16% - 30%	16%	
Series D	15% - 22%	22%	
Series E and Up	9% - 21%	9%	

Table 3.2: Study by Fenwich & West LLP (reprinted with permission) shows that significant percentages of companies can require more than 4 rounds of financing.

In Table 3.2, it can be seen that a significant round percentage of companies require up to 5 rounds or more of financing.

In our survey, a question asked "which type of shares were issued in this round of financing?." Although remarkably these numbers are drastically different from other studies performed at the same time as this one. Our answers from the USA are in table 3.3. In a study published Kramer and Patrick at a law firm Fenwick and West LLC in Silicon Valley, California, 70% of the stocks in Silicon Valley are "Preferred in Liquidation" (Kramer 2005). When we asked Kramer about reasons for the possible

variances between our data, he writes "In my own experience talking with CEOs, when you get beyond the basic financial terms they often don't know the more esoteric legal provisions, such as anti dilution, so that could account for the disparity". Furthermore he goes on to write "virtually every venture deal I see is for convertible preferred stock". The author is this dissertation believes that the data presented in the Fenwick study is more accurate given their unique position in working with term sheets and their logic in the reasons for the skew in our data. As result, the rest of this dissertation ignores the class of shares in its discussion.

Ordinary Stocks	3%
Preferred Shares	65%
Convertible Preferred Shares	13%
Participating Convertible Preferred Shares	14%

Table 3.3: Answers to our USA survey when asked which type of shares were issued in this round of financing?

# Liquidation Multiple

In the questionnaire of this study, the liquidation multiple was asked. The results are shown in Tables 3.4 through 3.10. In the entire sample, the majority of the liquidation multiple was 1x. The highest liquidation multiple recorded was 5x. High liquidation multiples are dangerous; for even a successful company, only a few rounds of financing need to take place with large liquidation multiples in order for the founder shares to quickly become worthless.

Liquidation Multiple(Entire Sample)	
Multiple	Term Sheets in Multiple Range
0	20 (19%)
1	59 (56%)
$1 < x \le 2$	16 (15%)
$2 < x \le 3$	7 (7%)
More than 3	3 (3%)
Average	1.17

Table 3.4: Questionnaire conducted shows stats of liquidation multiple after 2002 of entire sample.

# **Industry Sector Liquidation Multiple**

Liquidation Multiple(Biotechnology)	
Multiple	Term Sheets in Multiple Range
0	2 (10%)
1	16 (76%)
$1 < x \le 2$	1 (5%)
$2 < x \le 3$	1 (5%)
More than 3	1 (5%)
Average	1.05

Table 3.5: Questionnaire conducted shows stats of liquidation multiple after 2002 of the Biotechnology sector.

Liquidation Multiple(Software)	
Multiple	Term Sheets in Multiple Range
0	4 (15%)
1	15 (58%)
$1 \le x \le 2$	3 (12%)
$2 \le x \le 3$	2 (8%)
More than 3	2 (8%)
Average	1.37

Table 3.6: Questionnaire conducted shows stats of liquidation multiple after 2002 of the Software sector.

Liquidation Multiple(Life Science)	
Multiple	Term Sheets in Multiple Range
0	4 (25%)
1	8 (50%)
1 < x ≤ 2	3 (19%)
$2 < x \le 3$	1 (6%)
More than 3	0
Average	0.97

Table 3.7: Questionnaire conducted shows stats of liquidation multiple after 2002 of the Life Science sector.

Liquidation Multiple(One Term Sheet)	
Multiple	Term Sheets in Multiple Range
0	2 (6%)
1	17 (53%)
$1 \le x \le 2$	8 (25%)
$2 < x \le 3$	3 (9%)
More than 3	2 (6%)
Average	1.49

Table 3.8: Questionnaire conducted shows stats of liquidation multiple after 2002 of those companies offered only 1 term sheet.

Liquidation Multiple (2 or more term sheets)		
Multiple	Term Sheets in Multiple Range	
0	10 (21%)	
1	28 (60%)	
$1 < x \le 2$	6 (13%)	
2 < x ≤ 3	2 (4%)	
More than 3	1 (2%)	
Average	1.05	

Table 3.9: Questionnaire conducted shows stats of liquidation multiple after 2002 of those companies offered only 1 term sheet.

# of Term Sheets Obtained by Company	Participating Preference Shares All Types of Shares
1 Term Sheet	20%
More than 1 Term Sheet	14%

Table 3.10: Questionnaire conducted shows that the VC is more likely to offer participating preferred shares if the entrepreneur has only 1 other term sheet

Tables 3.4 through 3.6 shows that liquidation multiples vary based on share classes. The liquidation multiple of participating convertible preferred shares are much higher than the rest. Although due to the small data sample size, no clear conclusion should be drawn.

# **Dilution Provisions in Venture Capital**

Dilution provisions are possibly the most misunderstood areas in venture capital finance. Generally, a shareholder's shares are said to be diluted when the percentage of shares he holds in the company goes down after new shares are issued (Demmler, 2005). For example, if an entrepreneur holds 50% of the company before the round of financing, and holds 45% afterwards, this is defined as dilution. Although, this is not the kind of dilution which is referred to in anti-dilution provisions in the VC contracts. Let's explain by use of an example which depicts the kind of dilution VCs are referring to when they utilize anti-dilution provisions.

# Assumptions:

- VC 1 offers an entrepreneur £300,000 for 30% of his company, thus buying 300,000 shares for £1 each. This leaves the entrepreneur with 700,000 shares and 70% of the company.
- The pre-money value of the company is £700,000 and the post-money is £1m.

#### Scenario 1:

- The company is doing well a year later and seeks another round of financing from VC 2. VC 2 offers £3,000,000 for 50% of the company.
- Share Price =  $\frac{£3,000,000}{1,000,000 \text{ shares}} = £3.00$
- VC 1's shares are worth £0.9m and the entrepreneur's shares are worth £2.1m.
- This satisfies VC 1 because after a year, the money he has invested has gone up in value. Even if the percentage of ownership has gone down, VC 1 is satisfied.

#### Scenario 2:

- The company is not doing very well and a year later it needs another round of financing. VC 2 offers £400,000 for 50% of the company.
- This means that the company is now worth £0.8m
- VC 2 is buying 50% of the company so 1m shares.
- Share Price =  $\frac{£400,000}{1,000,000 \text{ shares}} = £0.40$
- VC 1 paid £1 per share and now the share is worth £0.40. VC 1 is not satisfied. If VC 1 had set an anti-dilution clause, it would kick in if the value of the share was less than £1 per share.

#### Anti-Dilution Clause

An anti-dilution clause protects the VC from dilution of share price which takes place when new investors are taken on at a lower share price than the one paid by the previous VC; this is known as a down-round. The right to anti-dilution clauses only applies to investors holding convertible preferred shares and participating convertible preferred shares. Anti-dilution clauses cause the "investors to get additional 'free' shares so that their effective price equals the new lower price" (Blaydon, 2002). Anti-dilution is most commonly achieved by retroactively adjusting the conversion ratio between the preferred stock and common stock. As a result, anti-dilution is done at the cost of non-protected shareholders including the common stock shareholders whose shares end up being diluted. Two of the most common structures for anti-dilution clauses are known as full ratchet and weighted average provisions.

With a full ratchet, when new shares are issued, the conversion ratios between the preferred shares and the ordinary shares are recomputed and adjusted as though the investor had invested at the lower price. To put it another way, when a conversion into common stock event takes place, enough new common stock shares are issued so that the investor holding the anti-dilution right is effectively investing in the new lower round price.

In scenario 2 of the example used above, the share price of the second round of investment is £0.40. With a full-ratchet the conversion ratio would now be adjusted such that VC 1 receives 450,000 shares for free.

Free Shares Received = 
$$\frac{300,000}{£0.40}$$
 - 300,000 = 450,000 free shares to VC 1.

The total of VC 1's shares would now be 750,000 shares. VC 1 is now holding the full-ratchet provision benefit from the down-round at the cost of the unprotected shareholders who get their shares diluted.

In a weighted average anti-dilution clause, "the formula re-prices an earlier round by issuing enough additional shares to that round to bring the effective price down to the (weighted) average price of both the new and the previous round" (Blaydon, 2002). The formula for the weighted average anti-dilution is given as follows:

$$CP_2 = CP_1 \bullet \frac{A+C}{A+D}$$

where CP<sub>1</sub>= old conversion price

A= number of shares before the transaction

C = shares to be issued if the old conversion price held

 $CP_2$  = new conversion price

D = number of shares issued

In scenario 2 in the example above, the new conversion price would be computed as follows (See also Example 3.1 below):

$$CP_2 = 1 \bullet \frac{1,000,000 \bullet 400,000}{1,000,000 + 1,000,000} = 0.7$$

Free Shares Received = 
$$\frac{300,000}{0.7}$$
 - 300,000 = 128,571 shares

The entrepreneur needs to be aware that, not only is full dilution the worst form of anti-dilution, but it also discourages potential future investors from investing.

From the eyes of a prospective investor, putting money into a company where the original investor has a full-ratchet looks like a bad deal. Instead of holding a majority interest in the company, which the changed market circumstances would dictate in the absence of ratchets, the new investor has half the ownership of the original investor. (Blaydon, 2002)

In what are tough market conditions now, the VCs are insisting on these provisions. After the tech-bubble burst, some VCs have even asked to setup a retroactive anti-dilution clause. Blaydon (2002) in his article "Bury the Ratchet" talks about his experience with a VC that demanded a retroactive anti-dilution clause when they became the lead investor in another round of financing. These types of problems were caused by the massively high valuations in the bubble era.

One reason, which we refer to as the "Legacy Capitalization Problem," exists when the aggregate liquidation preference of the existing preferred stock is too large to provide new investors with a sufficiently attractive incentive to make an investment in a company. Such large liquidation preference can also significantly diminish management incentives.

"Recent Developments in Venture Capital Terms" by Barry J. Kramer and Michael J. Patrick

In our questionnaire, 69% of companies after 2002 had some form of an antidilution clause. The breakdown of different criteria's is shown in Table 3.11.

# Example 3.1: Anti-Dilution Styles (Scenario 2)

## **Assumptions**

VC 1: Invests £300,000 for 30% of company and gets 300,000 shares for £1 a share.

Entrepreneur: owns 700,000 shares and 70% of company

VC 2: Invests £400,000 a year later for 50% of company

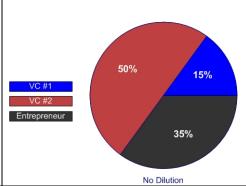
Share Price = 
$$\frac{£400,000}{1,000,000 \text{ shares}}$$
 = £0.40

## No Dilution

VC 1 % = 
$$\frac{300,000}{2,000,000}$$
 = 15%

$$VC 2 \% = \frac{1,000,000}{2,000,000} = 50\%$$

Entrepreneur = 
$$\frac{700,000}{2,000,000} = 35\%$$



# Weighted Anti-Dilution

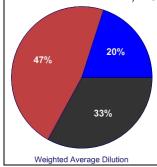
$$CP_2 = 1 \bullet \frac{1,000,000 \bullet 400,000}{1,000,000 + 1,000,000} = 0.7$$

VC 1 shares = 
$$\frac{300,000}{0.7}$$
 = 428751 shares

VC 1 % = 
$$\frac{428,751}{2.128,751}$$
 = 20%

VC 2 %= 
$$\frac{1,000,000}{2,128,751}$$
 = 47%

Entrepreneur % = 
$$\frac{700,000}{2,128,751}$$
 = 33%



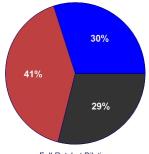
# Full-Ratchet Dilution

VC 1 shares = 
$$\frac{300,000}{£0.40} = 750,000$$

VC 1 % = 
$$\frac{750,000}{2,450,000}$$
 = 30%

VC 2 % = 
$$\frac{1,000,000}{2,450,000}$$
 = 41%

Entrepreneur % = 
$$\frac{700,000}{2,450,000}$$
 = 29%



Break Down	Weighted Average Anti- Dilution	Full Ratchet	No Dilution Clause
Startup	12 (43%)	4 (14%)	12 (43%)
Expansion	13 (38%)	7 (21%)	14 (41%)
USA	30 (58%)	8 (15%)	14 (27%)
Europe	12 (29%)	6 (15%)	23 (56%)
One Term Sheet	21	9	16
<b>Multiple Term Sheets</b>	18	9	16
Entire Data Sample	45 (44%)	19 (19%)	38 (37%)

Table 3.11: Questionnaire conducted shows breakdown of both types of anti-dilution clauses.

## Pay to Play Provision

The pay to play provision is one of the few that benefits the entrepreneur over the VC. Pay to play clauses require that VCs participate pro-rate in future financing rounds or they will lose some or all of their privileges. In what is known as a shadow series, the VC can lose its anti-dilution rights, liquidation preferences, voting rights, or a combination and then the VC's preferred stock is converted to another class of stock. The most severe case of a pay to play clause is when the preferred stock is converted to common stock. In our survey, 25% of those entrepreneurs that received venture capital funding set a pay to play clause. Out of those VCs that set an anti-dilution clause, 37% had a pay to play clause. The most common penalty is the loss of anti-dilution privileges. Table 3.12 shows other common penalties against the VCs of a pay to play clause.

Pay to Play Penalties		
Convert to Common Stock	32%	
Lose Rights to Participate in Future	27%	
rounds of financing	27 /0	
Lose Anti-Dilution Rights	68%	
Lose Board Seats	14%	
Others	8%	

Table 3.12: Above are the penalties which are common in pay to play clauses. Generally, there is more than one penalty.

# **Employee Stock Options**

Employee stock options are a way to recruit management when a startup cannot afford to pay market wages. It is important to remember that stock options are after all only options, and are worth money only if the company performs well. In our sample, the average pool size is 12.26%. Furthermore, the pool size is generally increased as stages of financing go up.

	Yes	No
<b>Entire Sample</b>	92 (81%)	22 (19%)
Software & Dot-Com	27 (82%)	6 (18%)
Biotechnology	17 (89%)	2 (11%)
Communications and	7 (70%)	3 (30%)
Electronics		
Life Science &	17 (89%)	2(11%)
Pharmaceuticals		
Others	15 (88%)	2 (12%)

Table 3.13: Our questionnaire asked, does your company offer employee stock options? The results are categorized by sectors.

	<b>Employee Stock Option Pool Percentage</b>
Entire Sample	12.26%
Software & Dot-Com	12.5%
Biotechnology	10.8%
Communications and Electronics	15.6%
Life Science & Pharmaceuticals	12.3%
Others	11.6%

Table 3.14: Employee stock option pool as a percentage of total equity (not including founder shares).

	Employee Stock Option Pool (Percentage of all equity)
Series I	10 %
Series III and up	13.7 %

Table 3.15: Shows that the employee stock option pool generally needs to be increased as more rounds of financing are required.

#### IV. Control Provisions

Conflicts of interest between the VC and the entrepreneur can arise because the VC wants some control provisions. For an entrepreneur, control is important for maintaining a fast growing company. For a VC, control is important as insurance for when the company is not performing well. The VC wants rights to eject management if they believe that the company is not performing as it should. There can be overlap to some extent between the best decisions for the entrepreneur and the best decisions for the company. In contrast, what is best for the company and entrepreneur may not always be what is best for the VC. For example, if a VC sets a high liquidation multiple and the company is doing poorly, it may make sense for the VC to try to dissolve the company while there are plenty of assets left to liquidate. This chapter concerns the provisions which give VCs control and the ability to extract value from the company they have funded if they are failing.

#### **Board Members**

"A corporation is legally required to have a board of directors to protect the interests of the corporation and the equity holders" (Bagley, 2003). As a condition of investing, the VCs usually request membership in the company board. By using the board, the VCs are able to provide constant guidance to management by monitoring and maintaining control over the company. "The most effective boards give independent, informed advice to management rather than act as a rubber stamp" (Bagley, 2003). VCs are in the business of building businesses and this unique job gives them knowledge of common problems that occur to young, growing businesses. The board (including its members from VCs) provides entrepreneurs with contacts, guidance, and acts as advisors. It is also the responsibility of the board to monitor the progress of the management team. The number of board seats is a point of negotiation between the VC and the entrepreneur. As each VC is added, the board is usually expanded further. The

VCs can gain significant control of the company by granting their board members special rights. Entrepreneurs should push to keep themselves in the majority, but if not possible they should always push for an independent industry expert board member who does not have any relations with either the VC or the company (Campbell, 2002). Independent industry experts can balance the board where the VCs may have a poor understanding of the industry. Usually the VCs will ask for observer rights. Observer rights allow the investors bring their lawyers and junior associates to meetings. Campbell (2003) quotes an entrepreneur who states that observers are not really observers, "how often does it come to a vote? If you start voting, you have a serious problem". In our questionnaire, the VCs controlled, on average, 47% of the board in startups and seed stages. The median was 50%. Furthermore, 71% of startups had an independent industry expert on the board.

#### Milestone Provision

The milestone provision is another common provision used by the VC to ensure success and extract value. In this type of provision, milestones are set and the VC usually will give or take something if the milestone is not met. In our questionnaire, 30% of the VCs set milestone provisions upon a company. Typical milestones include developing a prototype, getting a large customer, sales or profit targets, among others. Penalties for not meeting milestones are often structured. 53% in our questionnaire stated that the milestone had no penalties attached to them.

Another common practice is to give a company a bridge loan until they meet the milestones. In our study 23% of those that had milestone clauses were provided funding in the form of bridge loans at least until one milestone was met before the rest of the funding was given.

	Seed/Startup	Expansion
Develop Prototype	43%	30%
Get a Large Customer	21%	10%
Sales or Profit Targets	7%	30%
Additional Funding Target	14%	10%
Other Targets	79%	50%

Table 4.1: Common milestone targets set in milestone agreement.

Penalties	Percentages
VC gets more Board Seats	8%
VC gets money back	8%
VC get other rights	33%

Table 4.2: Common penalties for not meeting milestones.

### Voting Rights

Generally, the preferred classes vote as though they were converted into common stock. Antoinette Schoar, a MIT Entrepreneurial Finance professor writes, on average the "VCs control votes in 57% of deals, whereas entrepreneurs control votes in 23% of deals. Neither has control in 20% of the deals" (Schoar 2002).

#### Class Veto Rights

VCs almost always request some standard class veto rights to which they have veto powers. The objective is to ensure that the VC now part owner of the company is being consulted for major decisions. The right to veto generally includes mergers and acquisitions, restructuring, issuing of new shares, changes to the company charter, amendments which will alter the rights of preference shares which the VC owns, annual business plans, profit distribution and employee stock options, borrowing more than a certain amount, buying assets more than a certain amount, sale of major assets, and sale of copyrights,

trademarks, or intellectual property. These provisions are a constant reminder to the company that the venture capitalist is looking for an exit opportunity.

#### **Dividend Provision**

VCs can request a dividend provision where the company has to pay the VCs annual dividends. The dividends can be either cumulative or non-cumulative. Usually, the value to the dividends is predetermined. If the dividends are noncumulative, and if the company does not have the resources to pay the dividends, which is determined by the board or some members of the board, then nothing will be owed to the VC for that year (Campbell, 2003). On the other hand, cumulative dividends accrue even if the company does not have the resources to pay it. Preferred stock dividends usually have preference to common stock dividends (Wilmerding, 2003). In other words, no dividends can be paid out to common stock unless the preferred stock obligations are first paid. As a result, dividends add to the face value of the preferred stock. Although it does not make sense for a high growth startup to start paying large dividends, it does allow the VC to extract some of its money if growth is not quite what was expected. Another common non-cumulative dividend structure takes a percentage of the common stock dividends in addition to its entitled preference share dividends.

Table 4.3 shows that majority of term sheets do not yet require dividends. But of those that do, most require cumulative dividends.

#### Fees

Fees are another way to extract value in periods of low volatility in the market. In the research phase of this study, we have primarily seen four major kinds of fees. First is the *Deal Fee*. The logic behind a deal fee is that the entrepreneur is charged for time spent negotiating the deal. In our entire sample, this type was

almost exclusively seen in the UK. In our study, the average value for the deal fee when it was charged was £30,000.

	No Dividends	Cumulative	Non-Cumulative
<b>Entire Sample</b>	68 (59%)	30 (26%)	17 (15%)
Software &	25 (76%)	6 (18%)	2 (6%)
Dot-com	25 (70%)	0 (10 %)	2 (0 %)
Biotechnology	14 (58%)	6 (25%)	4 (17%)
Life Science &	13 (76%)	3 (18%)	1 (6%)
Pharmaceutical	13 (70%)	3 (10 %)	1 (070)
<b>Preferred Shares</b>	39 (58%)	17 (25%)	11 (16%)
Convertible	5 (56%)	3 (33%)	1 (11%)
<b>Preferred Shares</b>	3 (30%)	3 (33 %)	1 (11 /0)
Participating			
Convertible	6 (43%)	5 (36%)	3 (21%)
Preferred			

Table 4.3: Percentages of dividend types required by VCs according to our questionnaire.

Some VCs even charge an annual *Management Fee* for providing assistance to the entrepreneur in addition to reimbursement of his expenses. Usually these fees are structured so that they go up each year the company is in existence. In our study, the average first year management fee for those that had management fees was £32,500. Removing cash from a high growth company can seem counterintuitive but in periods of low volatility and weak markets, it can be a useful method for extracting value from a company. Used in combination with redemption fees, management fees are useful in minimizing the risk accrued by the VC. In our study, management fees were mostly found in the UK and mostly of a much greater amount in the UK than elsewhere. In our sample out of 11 deals in the United Kingdom, 6 had some form of annual fees.

During the negotiation process, *legal fees* are generated. The VC can make the entrepreneur pay for these fees. These fees are negotiated to decide whether the entrepreneur, the VC, or both will pay for them.

	Company Pays	Investor Pays	Split
Legal Fees	84 (74%)	5 (4%)	24 (21%)

Table 4.4: Payer of legal fees.

During the due diligence process, *due diligence fees* are generated. Due diligence fees are another set of fees which need to be negotiated. These fees can grow to a large sum and a wise entrepreneur would structure a cap on them.

	<b>Company Pays</b>	Investor Pays	Split
Entire Sample	40 (37%)	45 (41%)	24 (22%)
Startup	12 (38%)	10 (31%)	10 (31%)
Expansion	26 (47%)	19 (35%)	10 (18%)

Table 4.5: Payer of Due Diligence fees.

### Lockup Provision

Lockup provisions specify how long after IPO can the VCs and the founders sell their stocks. These points are negotiated with the Investment Banks who want to ensure that the market is confident that the owners of the company are not in a hurry to sell their stocks. Lockup provisions can be seen a good thing especially for large investors. "In practice, founders and management would normally be locked up for a year in Europe" (Campbell, 2003).

Lockup	Time
Entrepreneurs (USA)	7.2 months
Venture Capitalists (USA)	6.5 months
Entrepreneurs (Europe)	20.3 months
Venture Capitalists (Europe)	9.2 months

Table 4.6: Duration of lockup provisions for entrepreneurs and VCs in USA and Europe.

## Founder Shares Vesting

VCs will usually require the founder to vest their shares. This means that the founder has to give his shares to the company and the company will essentially give the founder's shares back to the founder over a period of time. This assures the VCs that the founders will not leave the company after the VCs invest. The structure of how the companies give their shares back varies quite a bit, so in our survey we asked how long would does it take for the founder to get back all their shares.

Criteria	Average Founder Vested Time	Median Founder Vested Time	Maximum Founder Vested Time in Data Sample
USA	2.44 years	4	5
Europe	2.55 years	3	5

Table 4.7: Vesting time by location at Startup Stage.

## **Drag Along Provisions**

Drag along provisions give the majority of the shareholders in a particular class the right to sell the company and force the rest of the investors to sell under the same conditions offered to them. They are designed to inhibit a situation where a minority of shareholders holds a company hostage by refusing to sell. Our survey indicates that the percentage of shareholders needed is increased in later stages probably to account for the greater number of investors now involved.

	Startup Phase	<b>Expansion Phase</b>
Drag Along Percentage	50.1%	60.3%
Needed		

Table 4.8: Drag along percentages in the startup and expansion phases.

## Tag Along Provisions

The tag along provision ensures that if the entrepreneur gets someone to buy his shares, all the shareholders holding those rights can sell their shares to the same shareholder under the same conditions offered to the entrepreneur in proportion to their holdings. This clause is rarely negotiated and assures the VCs that the entrepreneur is less likely to sell his shares and run off.

The provisions discussed above are concerned with control of the company. VCs utilize these provisions to have greater control over the inner workings of the company in which it has invested. VCs use their control to minimize the risk of their investment by protecting against the failure of the company. Of course it may not be in the best interest of the entrepreneur to relinquish control of the company to the VC because often the goals of each are distinct or even in contradiction to each other. Thus there is a conflict of interest between the VC and the entrepreneur over control of the company.

### V. Findings and Conclusion

Conflicts of interest between the venture capitalists (VCs) and entrepreneurs exist in the areas of financial split of returns, liquidation, and the control of the company. To address these conflicts of interest, the VC seeks provisions that align the interests of the entrepreneur with those of the VC. This dissertation finds that the variances in these provisions are in part due to the sector of the company, the desperation of the CEO, the competition for the deal, and the stage of the company.

This dissertation finds that the companies that received funding in the venture capital world did so with little difficulty. It also finds that VC funding is easier to find in the United States than in Europe probably due to the larger scale of the United States market. Those entrepreneurs that did find VC funding reported that funding was more easily found for the software sector than for other sectors.

This study suggests that different sectors have different average liquidation multiples, although this is not conclusive due to a small sample size. Furthermore, the average liquidation multiples for those companies with more than one term sheet from different VCs are much lower than those companies with only one term sheet. Companies which were offered only one term sheet were also more likely to have participating convertible preference shares than those with more than one term sheet.

The weighted anti-dilution clause is more than twice as popular as full ratchet. Although after the bubble burst, VCs are now more likely to ask for full ratchets. Of the contracts containing anti-dilution provisions, 37% had set a pay to play provision.

The average employee stock option pool is 12.26%. This number is slightly higher for higher rounds of financing. This validates the intuition that the employee stock option pool needs to be increased with later round of financing.

Cumulative dividends are more popular than non-cumulative dividends; although, 59% of all contracts did not have any dividend provision.

In our sample, deal and management annual fees are seen almost exclusively in the UK. The average value for a deal fee is about £30,000. Management annual fees are usually structured to go up in value as the company ages. The average value for the first year annual fee was £32,500. Legal fees are more often paid by the company. Due Diligence fees can be paid by the company (37%) 41% 22%

There are many areas for future research on this topic. For instance, there are other factors affecting variation in the value of deal structures besides those analyzed in this study. Among these factors are emotional climate of the investing community, the management team, the integrity of the VC firm, the philosophy of the fund, the stage of the fund, and the personal view of the investor. There are a multitude of factors which contribute to the variation in terms sheets, those discussed in this study were limited by the constraints of the dataset used; however, they do possess a strong influence over the structure of deal terms. Term sheet are greatly varied, though we believe that there are trends in their variation and that these trends are the result of the above named factors. Future research on this topic should aim at getting the term sheets themselves rather than interview management of the companies. Other research topics include the "option" ality of term sheets. The findings of this study are encouraging and future research on this topic is greatly needed as there is a dearth of knowledge on terms sheet structuring in the venture capital world.

#### **Work Cited**

"The Arithmetic Of Deals". Demmler, Frank. (reprint from Techvest). http://www.andrew.cmu.edu/user/fd0n/articles.htm

Bagley, Constance E & Dauchy, Craig E. <u>The Entrepreneur's guide to business</u> law (2<sup>nd</sup> Edition). 2003. Thompson South-Western West.

"Building Your Board: A corporate governance guide for entrepreneurs". Telecommunications Development Fund. 2002.

"Bury the Ratchet". Blaydon, Colin & Horvath, Michael. Venture Capital Journal. Jan 2002.

Campbell, Katharine. <u>Smarter Ventures: A survivor's guide to venture capital through the new cycle</u>. 2003. Prentice Hall.

"East vs. West: Observations for the trenches". Papier, David & Boyajian, Victor. New Jersey Tech News. March 2003. Volume 7. Issue 2.

Gladstone, David & Gladstone, Laura. <u>Venture Capital Handbook: an entrepreneur's guide to raising venture capital</u>. 2002. Prentice Hall.

Mullins, John W. The New Business Road Test. 2003. Prentice Hall

"Pay-to-play provisions - traps for the unwary". Kimball, Richard. Alternative Assets Network. <a href="http://www.altassets.com/casefor/countries/2002/nz2908.php">http://www.altassets.com/casefor/countries/2002/nz2908.php</a>. 2002

"Recent Developments in Venture Capital Terms, The Fenwick & West Survey". Kramer, Barry & Patrick, Michael. Venture Capital Review. Issue 12. Summer 2003.

Smith, Janet & Smith, Richard. <u>Entrepreneurial Finance (2<sup>nd</sup> Edition)</u>. 2004. Wiley & Sons.

"Trends in Deal Terms of Venture Financing". Fenwick and West. 2005. http://www.fenwick.com/vctrends.htm.

"Venture Capital on the Downside: Preferred Stock and Corporate Control". Bratton, William. Michigan Law Review. Volume 100, issue 5. March 2002.

Wilmerding, Alex. <u>Deal Terms</u>, <u>The finer Points of Venture Capital Deal Structures</u>, <u>Valuations</u>, <u>Term Sheets</u>, <u>Stock Options</u>, and <u>Getting Deals Done</u>. 2003. Aspatore Inc.

Wilmerding, Alex. <u>Term Sheets and Valuations</u>: A line by line look at the <u>intricacies of term sheets & valuations</u>. 2005. Aspatore Inc.

## Appendix A: Effects of VC Investment on Allocations of Equity

### Assumptions:

- 1) Pre-Money Valuation = £2M 2) Round 1 Venture Capital needed = £5M
- 3) Round 2 Venture Capital needed = £1.5M
- 4) Stock Price offered by Round 1 VC = £1.25
- 5) Stock Price offered by Round 2 VC = £3.00
- 6) Employee Stock Option Pool(ESOP) = 7.14% (% of Founder & VC shares)

#### ROUND 1:

Founding Team # of shares: (£2M/£1.25) = 1.6M shares

Value of Founder shares: (1.6M \* £1.25) = £2M

VC 1 # of shares: (£5M/£1.25) = 4M shares

Value of VC 1 shares: (4M\*£1.25) = 5M shares

Subtotal # of shares: (1.6M + 4M) = 5.6M shares ESOP # of shares: (7.14% \* 5.6M) = 0.4M shares

Post-Money # of shares: (5.6M + 0.4M) = 6M shares

Post-Money Value: (6M \*£1.25) = £7.5M

Founder Percentage of Equity(w/o options): (1.6M/5.6M) = 28.57% VCs 1 Percentage of Equity(w/o options): (4M/5.6M) = 71.43%

Founder Percentage of Equity (with options): (1.6M/6M) = 26.67% VCs 1 Percentage of Equity(with options): (4M/6M) = 66.67%

Employee Percentage of Equity: (0.4M/6M) = 6.67%

## **ROUND 2**:

Founding Team # of shares: (from round 1) = 1.6M shares

Value of Founder shares: (1.6M\*3.00) = £4.8M VC 1 # of shares: (from round 1) = 4M shares

Value of VC 1 shares: (4M\*£3.00) = £12M

VC 2 # of shares: (£1.5M/£3.00) = 0.5M shares

Value of VC 2 shares: (0.5\*3)= £1.5M

Subtotal # of shares: (1.6M + 4M) = 6.1M shares

ESOP # of shares: (from round 1) = 0.4M shares

Post-Money # of shares: (6.1M + 0.4M) = 6.5M shares

Value of Post-Money: (6.5M\*£3.00) = £19.5M

Founder Percentage of Equity(w/o options): (1.6M/6.1M) = 26.23%

VC 1 Percentage of Equity(w/o options): (4M/6.1M) = 65.57%

VC 2 Percentage of Equity(w/o options): (0.5M/6.1M) = 8.20%

Founder Percentage of Equity (with options): (1.6M/6.5M) = 24.62%

VC 1 Percentage of Equity(with options): (4M/6.5M) = 61.54%

VC 2 Percentage of Equity(with options): (0.5M/6.5M) = 7.69%

Employee Percentage of Equity: (0.4M/6.5M) = 6.15%

### EXIT:

Assume Market Capitalization in Year 5: £100M

IRR Calculations						
	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5
VC 1	-£5M	0	0	0	0	61.54%*£100= <u>£61.54M</u>
VC 2		-£1.5M	0	0	0	7.69%*£100= <u>£7.69M</u>

VC 1 Return Multiple: (£61.54M/£5M) = 12.308

IRR = 65%

VC 2 Return Multiple: (£7.69M/£1.5M) = 5.127

IRR = 50%

## Appendix B: Online Questionnaire

#### Section 1/3: Company Background

- 1) First Name:
- 2) Last Name:
- 3) Electronic Address:
- 4) Company Name:
- 5) Title/Position:
- 6) Contact Number:
- 7) Investment Location(\*):
- 8) Company Industry Sector(\*):
  - Dot-com
  - Electronics-Semiconductors
  - Software
  - Media
  - Nanotechnology
  - Pharmaceutical
  - Real Estate
  - Communications
  - Biotechnology
  - Energy
  - Chemical
  - Industrial Products
  - Automation
  - Financial Services
  - Transportation
  - Communication
  - Leisure
  - Life Science
  - Other Engineering
  - Other
- 9) Amount of years your company has been incorporated(\*):
- 10) Total Rounds of Venture Capital / Private Equity financing received so far(\*):
- 11) Stage of Investment in Most recent round of financing(\*):
  - Seed
  - Start up
  - Expansion
  - Bridge
  - Rescue or turnaround
  - Management Buy-Out (MBO)
  - Management But-In (MBI)
  - Mezzanine
  - Public to Private
  - IPO
  - Roll out

Section 2/3: ALL the questions in this survey are about the last round of financing with the VC.

1) When did your company get the financing for the most recent round? Please specify in (year/quartet) format (\*): year\_\_\_\_\_, quartet\_\_\_\_\_.

2) Type of investors(\*):

round(\*):

1 month 2 months

<ul> <li>Venture Capital</li> </ul>	
- Incubators	
<ul> <li>Corporate VC Invest</li> </ul>	ors
- Others	
- Do not know	
3) Last Round Series(*):	
- Series A	
- Series B	
- Series C	
- Series D	
- Series E	
- Series F	
- Series G	
- Series H	
- Series I	
<ul> <li>Even Later Financing</li> </ul>	g Round
- Do not know	
4) Difficulty in raising funds in	round(*):
- not difficult at all	
<ul> <li>somewhat difficult</li> </ul>	
- moderately difficult	
<ul> <li>very difficult</li> </ul>	
<ul> <li>extremely difficult</li> </ul>	
<ul> <li>do not know</li> </ul>	
- refused	
5) Time taken to negotiate and	close deal after first contact with financer in this last

- 6 months - 7 months - 8 months - 9 months - 10 months - 11 months - 1 year - 1.5 years - 2 years and over - Do not know  6) About how many potential investors did you approach for financing this last round? (*):  7) How many term sheets from different investors did you receive for this last round of financing? (*):  8) What was the exit strategy at this last round of financing? (*):  - IPO as market leader - IPO as number two in segment - Sale to a vale chain partner – acquisition - Acquisition by established player entering segment - Others - Do not know  9) How much money was raised in this last round of financing (Optional):		- 5 months
- 8 months - 9 months - 10 months - 11 months - 1 year - 1.5 years - 2 years and over - Do not know  6) About how many potential investors did you approach for financing this last round? (*):  7) How many term sheets from different investors did you receive for this last round of financing? (*):  8) What was the exit strategy at this last round of financing? (*):  - IPO as market leader - IPO as number two in segment - Sale to a vale chain partner – acquisition - Acquisition by established player entering segment - Others - Do not know  9) How much money was raised in this last round of financing (Optional):		- 6 months
- 9 months - 10 months - 11 months - 1 year - 1.5 years - 2 years and over - Do not know  6) About how many potential investors did you approach for financing this last round? (*):  7) How many term sheets from different investors did you receive for this last round of financing? (*):  8) What was the exit strategy at this last round of financing? (*):  - IPO as market leader - IPO as number two in segment - Sale to a vale chain partner – acquisition - Acquisition by established player entering segment - Others - Do not know  9) How much money was raised in this last round of financing (Optional):		- 7 months
- 10 months - 11 months - 1 year - 1.5 years - 2 years and over - Do not know  6) About how many potential investors did you approach for financing this last round? (*):  7) How many term sheets from different investors did you receive for this last round of financing? (*):  8) What was the exit strategy at this last round of financing? (*):  - IPO as market leader - IPO as number two in segment - Sale to a vale chain partner – acquisition - Acquisition by established player entering segment - Others - Do not know  9) How much money was raised in this last round of financing (Optional):		- 8 months
- 11 months - 1 year - 1.5 years - 2 years and over - Do not know  6) About how many potential investors did you approach for financing this last round? (*): 7) How many term sheets from different investors did you receive for this last round of financing? (*): 8) What was the exit strategy at this last round of financing? (*): - IPO as market leader - IPO as number two in segment - Sale to a vale chain partner − acquisition - Acquisition by established player entering segment - Others - Do not know  9) How much money was raised in this last round of financing (Optional):		- 9 months
- 1 year - 1.5 years - 2 years and over - Do not know  6) About how many potential investors did you approach for financing this last round? (*):  7) How many term sheets from different investors did you receive for this last round of financing? (*):  8) What was the exit strategy at this last round of financing? (*):  - IPO as market leader - IPO as number two in segment - Sale to a vale chain partner − acquisition - Acquisition by established player entering segment - Others - Do not know  9) How much money was raised in this last round of financing (Optional):(\$/€ Euro).  10) Pre-Money Valuation (Optional):(\$/€Euro).  11) Please state the type of shares issued(*):  - Ordinary Shares - Preferred Shares - Participating Convertible Preferred - Others - Do not know  Liquidation Preference  12) State the liquidation preference granted to preferred stock(*):  Please select one of the below options		- 10 months
- 1.5 years - 2 years and over - Do not know  6) About how many potential investors did you approach for financing this last round? (*):  7) How many term sheets from different investors did you receive for this last round of financing? (*):  8) What was the exit strategy at this last round of financing? (*):  - IPO as market leader - IPO as number two in segment - Sale to a vale chain partner − acquisition - Acquisition by established player entering segment - Others - Do not know  9) How much money was raised in this last round of financing (Optional):		- 11 months
- 1.5 years - 2 years and over - Do not know  6) About how many potential investors did you approach for financing this last round? (*):  7) How many term sheets from different investors did you receive for this last round of financing? (*):  8) What was the exit strategy at this last round of financing? (*):  - IPO as market leader - IPO as number two in segment - Sale to a vale chain partner − acquisition - Acquisition by established player entering segment - Others - Do not know  9) How much money was raised in this last round of financing (Optional):		- 1 year
- 2 years and over - Do not know  6) About how many potential investors did you approach for financing this last round? (*):  7) How many term sheets from different investors did you receive for this last round of financing? (*):  8) What was the exit strategy at this last round of financing? (*):  - IPO as market leader - IPO as number two in segment - Sale to a vale chain partner – acquisition - Acquisition by established player entering segment - Others - Do not know  9) How much money was raised in this last round of financing (Optional):		•
6) About how many potential investors did you approach for financing this last round? (*): 7) How many term sheets from different investors did you receive for this last round of financing? (*): 8) What was the exit strategy at this last round of financing? (*):  - IPO as market leader - IPO as number two in segment - Sale to a vale chain partner – acquisition - Acquisition by established player entering segment - Others - Do not know  9) How much money was raised in this last round of financing (Optional):		· · · · · · · · · · · · · · · · · · ·
round? (*):  7) How many term sheets from different investors did you receive for this last round of financing? (*):  8) What was the exit strategy at this last round of financing? (*):  - IPO as market leader - IPO as number two in segment - Sale to a vale chain partner – acquisition - Acquisition by established player entering segment - Others - Do not know  9) How much money was raised in this last round of financing (Optional):		- Do not know
of financing? (*):  Nhat was the exit strategy at this last round of financing? (*):  IPO as market leader  IPO as number two in segment  Sale to a vale chain partner – acquisition  Acquisition by established player entering segment  Others  Do not know  9) How much money was raised in this last round of financing (Optional):(\$/€ Euro).  10) Pre-Money Valuation (Optional):(\$/∉Euro).  11) Please state the type of shares issued(*):  Ordinary Shares  Preferred Shares  Others  Others  Do not know  Liquidation Preference  12) State the liquidation preference granted to preferred stock(*):  Please select one of the below options		7
- IPO as market leader - IPO as number two in segment - Sale to a vale chain partner – acquisition - Acquisition by established player entering segment - Others - Do not know  9) How much money was raised in this last round of financing (Optional):	7)	· · · · · · · · · · · · · · · · · · ·
- IPO as number two in segment - Sale to a vale chain partner – acquisition - Acquisition by established player entering segment - Others - Do not know  9) How much money was raised in this last round of financing (Optional):	8)	What was the exit strategy at this last round of financing? (*):
- IPO as number two in segment - Sale to a vale chain partner – acquisition - Acquisition by established player entering segment - Others - Do not know  9) How much money was raised in this last round of financing (Optional):		- IPO as market leader
- Sale to a vale chain partner – acquisition - Acquisition by established player entering segment - Others - Do not know  9) How much money was raised in this last round of financing (Optional):		
- Acquisition by established player entering segment - Others - Do not know  9) How much money was raised in this last round of financing (Optional):		
- Others - Do not know  9) How much money was raised in this last round of financing (Optional):		
- Do not know  9) How much money was raised in this last round of financing (Optional):(\$/€ Euro).  10) Pre-Money Valuation (Optional):(\$/€Euro).  11) Please state the type of shares issued(*):  - Ordinary Shares - Preferred Shares - Convertible Preferred Shares - Participating Convertible Preferred - Others - Do not know  Liquidation Preference  12) State the liquidation preference granted to preferred stock(*):  Please select one of the below options		
(\$/€ Euro).  10) Pre-Money Valuation (Optional):(\$/€Euro).  11) Please state the type of shares issued(*):  - Ordinary Shares - Preferred Shares - Convertible Preferred Shares - Participating Convertible Preferred - Others - Do not know  Liquidation Preference  12) State the liquidation preference granted to preferred stock(*):  Please select one of the below options		
11) Please state the type of shares issued(*):  - Ordinary Shares - Preferred Shares - Convertible Preferred Shares - Participating Convertible Preferred - Others - Do not know  Liquidation Preference  12) State the liquidation preference granted to preferred stock(*):  Please select one of the below options	9)	
11) Please state the type of shares issued(*):  - Ordinary Shares - Preferred Shares - Convertible Preferred Shares - Participating Convertible Preferred - Others - Do not know  Liquidation Preference  12) State the liquidation preference granted to preferred stock(*):  Please select one of the below options	10)	Pre-Money Valuation (Optional):(\$/€Euro).
<ul> <li>Preferred Shares</li> <li>Convertible Preferred Shares</li> <li>Participating Convertible Preferred</li> <li>Others</li> <li>Do not know</li> <li>Liquidation Preference</li> <li>12) State the liquidation preference granted to preferred stock(*):</li> <li>Please select one of the below options</li> </ul>	11)	Please state the type of shares issued(*):
<ul> <li>Convertible Preferred Shares</li> <li>Participating Convertible Preferred</li> <li>Others</li> <li>Do not know</li> <li>Liquidation Preference</li> </ul> 12) State the liquidation preference granted to preferred stock(*): Please select one of the below options		- Ordinary Shares
- Participating Convertible Preferred - Others - Do not know  Liquidation Preference  12) State the liquidation preference granted to preferred stock(*):  Please select one of the below options		
- Others - Do not know  Liquidation Preference  12) State the liquidation preference granted to preferred stock(*):  Please select one of the below options		- Convertible Preferred Shares
- Others - Do not know  Liquidation Preference  12) State the liquidation preference granted to preferred stock(*):  Please select one of the below options		- Participating Convertible Preferred
Liquidation Preference  12) State the liquidation preference granted to preferred stock(*):  Please select one of the below options		1 0
12) State the liquidation preference granted to preferred stock(*):  Please select one of the below options		- Do not know
Please select one of the below options		Liquidation Preference
·	12)	State the liquidation preference granted to preferred stock(*):
• [] Don't Know		Please select one of the below options
		• [] Don't Know

3 months 4 months

- [] No liquidation preference above common stock
- [] Return entire investment before anything is returned [] to common stock holder
- [] Return a multiple of entire investment before anything is returned to common stockholder

2a) if multiple, what was the multiple?
X original investment.

Warrants Clause

13) Were warrants required to be issue by the company to the Investor this last round(\*): (Yes/No/ Don't know)

13a) If warrants were issued, at what value?:

14) Dividends

Were there any dividends owed to the Preferred Stock? (\*):

- Yes Cumulative Dividends
- Yes Non Cumulative Dividends
- No Dividends
- Do not know

Section 3/3: The following questions are regarding the last round of financing round with the VC.

Milestone Clauses

14a) Were there any milestone clauses which upon completion granted more money? (\*): (Yes/No/ Don't know)

If yes, please select the objective of mile stone

- Develop prototype
- Find a large customer
- Sales target
- Profit target
- Get additional funding elsewhere
- Other milestones

- Do not know
- 14b) Were there any sort of bridge loans given to achieve the first milestone before the investor invested? (\*): (Yes/No/ Don't know)
- 14c) If the milestones were not met, were there any penalties?
  - No penalties
  - Investor gets more rights
  - Investor gets his money back
  - Investor gets more board seats
  - Investor gets some of his money back
  - Do not know

#### Redemption Provision

- 15) Was there any sort of redemption clause which required a return of investment to investor in X years if no exit opportunity was generated? (\*):
  - No
  - Yes, it required the return of entire investment
  - Yes, it required the return of a multiple of investment
  - -Yes, it required the return of some of investment
  - Do not know
  - 15a) If yes, after how much time did the redemption clause first start to kick in? \_\_\_\_\_\_ years
  - 15b) If yes, what penalties did the redemption clause have?
    - Pay unpaid dividends
    - Pay back initial investment
    - Pay back multiple of initial investment
    - Appoint committee to look for exit opportunities
    - Investors get more members on board
    - Preferred stock holder gets more rights

#### **Employee Stock Option**

16) Was there an employee stock option plan for the company in this round? (\*): (Yes/No/ Don't know)

16a) If yes, what percentage of the company's total shares were issued as employee stock options after this round of financing? (Not including founder shares)
%
16b) If yes, over what period will the shares be vested?
years.
17) Was there Anti-Dilution Clause? (*):
- Yes - Full Ratchet
- Yes -Weighted Average Anti-Dilution
- Yes- Others
- Yes - Do not know which kind
- No
- Do not know
18) Was there a Pay to Play clause which required the investor to invest in subsequent rounds to keep their Preferred Stock privileges? (*): (Yes/ No/ Don't know)
If yes, which privileges did they lose?
<ul> <li>All Preferred Stock converted to common</li> <li>Lose board seats</li> <li>Lose anti-dilution provision</li> <li>Lose future investment rights</li> <li>Lose other rights</li> <li>Do Not Know</li> </ul>
19) How long was it before your founder shares completely vested?
years.
20) Was there a Drag Along clause which let shareholders who have a certain percentage have a right to force a liquidation event? (*): (Yes/No/Don't know)
If yes, what was the percentage?
%.

# Buy Sell Agreement

21) Was there a Buy Sell Agreement between an investor and founders which let shareholder X force shareholder Y to sell their share at a price chosen by the party X but only by first giving the option to shareholder Y to buy the shares at the same price? (\*): (Yes/No/Don't know)

Lock-up Period

22) Was there a Lock-up provision where after IPO, you or the investor were not allowed to sell your shares for a certain amount of time (\*)? (Yes/No/Don't know)

Lock-up Period for Management / Entrepreneurs
months.
Lock-up Period for Investors
months.
23) Board Representation
Number of board members from investor's side  Number of observers on board from investor's side  Number of board members from management/entrepreneur's side  Number of observers from management/entrepreneur's side  Number of independent board members  Number of other board members  Average number of board meetings per year
Fees
24a) Who paid the due diligence fees? (*):
<ul><li>Investor</li><li>Company</li><li>Split Between Investor and Company</li><li>Do not know</li></ul>
24b) Who paid the legal fees? (*):

- Investor

- CompanySplit Between Investor and CompanyDo not know

24c) Was there any Deal Fee charged by investor for signing the deal? (*): (Yes/No/Don't know)
If yes, what was the amount?
·
24d) Was there an Annual Fee for the "services" provided by the investor? (*): (Yes/No/Don't know)
If yes, what was the average amount?
·
24e) Was there any Performance Fee charged which was a percentage of sales or profit? (*): (Yes/No/Don't know)
If yes, what was the maximum percentage amount?
%.
25) Survival
Would the company have existed in 1 year if funds had not been raised? (*): (Yes/No/ Don't know)
26) Syndicate of Investors
Was there more than one investor that invested this round? (*): (Yes/No/Don't know)