

Venture Capital Contracts: Part I



What Do Entrepreneurs Care About ?

- Build a successful business
- Raise enough money to fund the venture
- Maintain as much value and control of the company as possible
- Get expertise and contacts to grow the company
- Share some of the risks with investors
- Financial rewards if the venture turns out to be a good one



What Do VCs Care About?

- Maximize financial returns to justify the risk and effort involved in funding a company.
- Ensure that the firm is using capital in the best possible way
- Participation in later financing rounds if the venture is a success
- Eventually achieving “liquidity,” i.e. being able to sell the company in an IPO or merger
- Building their own reputation

Both Care About:

- The success of the new venture
- The split of financial returns
- The allocation of control rights
- Eventually liquidating some or all of their stake in the company

Potential conflicts of interest?



Logic behind the Contracts

- **Financial returns** divided to:
 - Reward investors for their investments in the firm
 - Provide high-powered incentives to entrepreneurs to maximize value and stay with the firm
 - Provide VCs with incentives to add value
 - Contrast with incentives in firms
- **Dynamic allocation of control:**
 - Gives more control to entrepreneur if things turn out well
 - Gives more control to VC if things do not turn out well
- **Provides incentives to achieve a liquidity event**

Do Simple Financial Instruments Meet the Needs of VCs and Entrepreneurs ?

- Common stock
 - Returns?
 - Control?
 - Liquidity?
- Debt
 - Returns?
 - Control?
 - Liquidity?

Key Terms of VC Contracts

- Preferred Stock
 - Redeemable (or straight) preferred
 - Redeemable preferred packaged with common stock
 - Convertible preferred
 - Participating convertible preferred
- Anti-Dilution Provisions
 - Full Ratchet
 - Weighted Average Anti-Dilution
- Covenants/ Control Terms
- Employee Terms



Two Key Feature of all Preferred Stock Used in Venture Capital

- Liquidation Preference over Common Stock
- Redemption



Liquidation Preference over Common

- Prevents the “Take-the-Money-and-Run” Problem
 - Prevents founders from being able to pull out money before they create any real value
- Tax Deferral
 - Redemption of preferred is just return of capital, thus no capital gains tax
- Favorable Pricing of Common Stock
 - IRS will accept low common-stock valuations and thus will not put heavy tax burden on employees/founder with common stock.



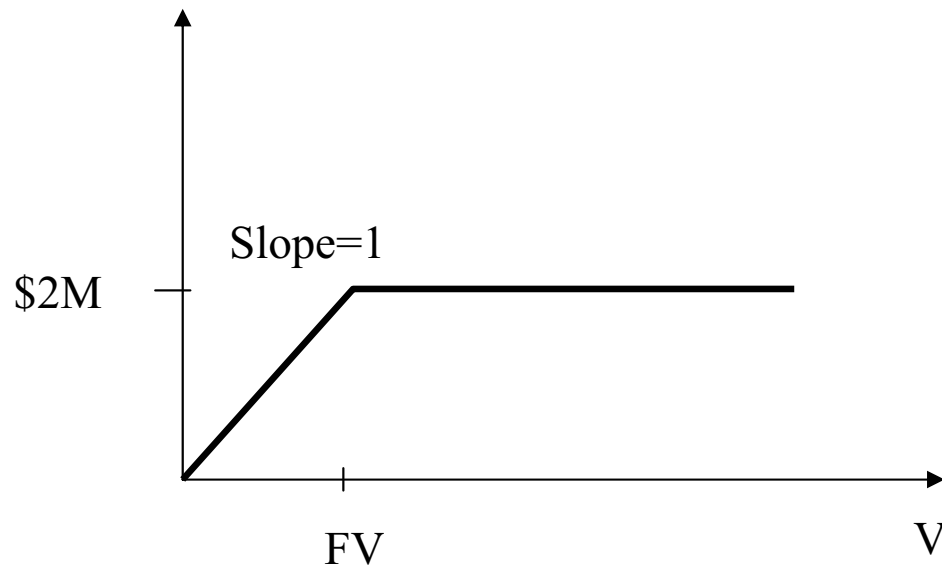
Redemption

- Mandatory redemption right allows VC to “put” the preferred stock back to the company
 - Force liquidity event
 - Prevent “life-style company”
 - Specified in 84% of VC deals
- Redeemable preferred stock always specifies when it must be redeemed by company
 - Typically the sooner of IPO or 5 to 8 years: company has to pay cash to redeem preferred at original price or “fair market value”
- If company does not redeem, then penalties can kick in:
 - Reduction in conversion price
 - Increased board seats for VC



Redeemable Preferred/ Straight Preferred

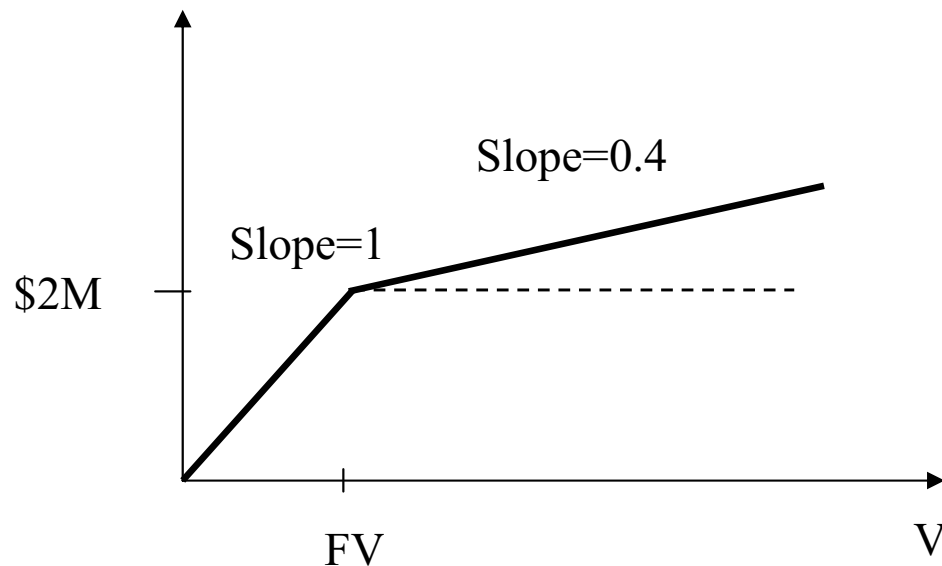
- No convertibility into common stock
- Dividends accrue (i.e. are added to the face value) but aren't typically paid prior to redemption
- Example: Preferred of \$2M



V: Liquidation Value
FV: Face Value of
Preferred

Preferred Packaged with Common Stock

- Downside protection and upside potential
- Example: Preferred of \$2M + common stock for 40% of the company



V: Liquidation Value
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Preferred

Convertible Preferred

- Can be converted at the shareholders' option into common stock at a pre-specified conversion price
- Convert if total value at IPO/sale/liquidation is greater than the liquidation preference (with accrued dividends).
- Most contracts include automatic/mandatory conversion at IPO provided the IPO price and proceeds are high enough

Convertible Terms

- **Conversion option:**

- If initial investment is \$2,000,000 and conversion price is \$5/sh, then can convert into 400,000 shares. If there are initially 600,000 common shares outstanding, then own 40% of the common stock on conversion.

- In this case, will convert if $.4 * V > \$2M$ or $V > \$5M$ (ignoring accrued dividends).

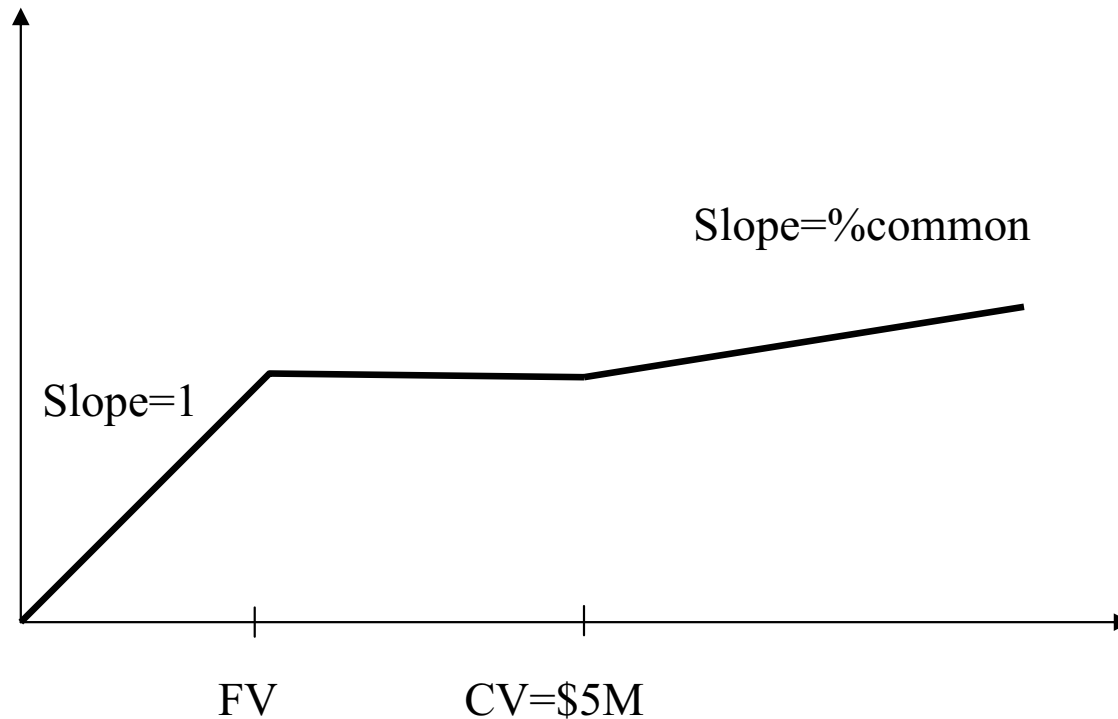
- **Automatic Conversion**

- VC must convert at an IPO provided the IPO price is greater than some multiple of the initial conversion price.

- The median multiple is 3.0; it is higher for early stage deals (4.0); lower for later stage deals (2.7)



Payoffs from Convertible Preferred

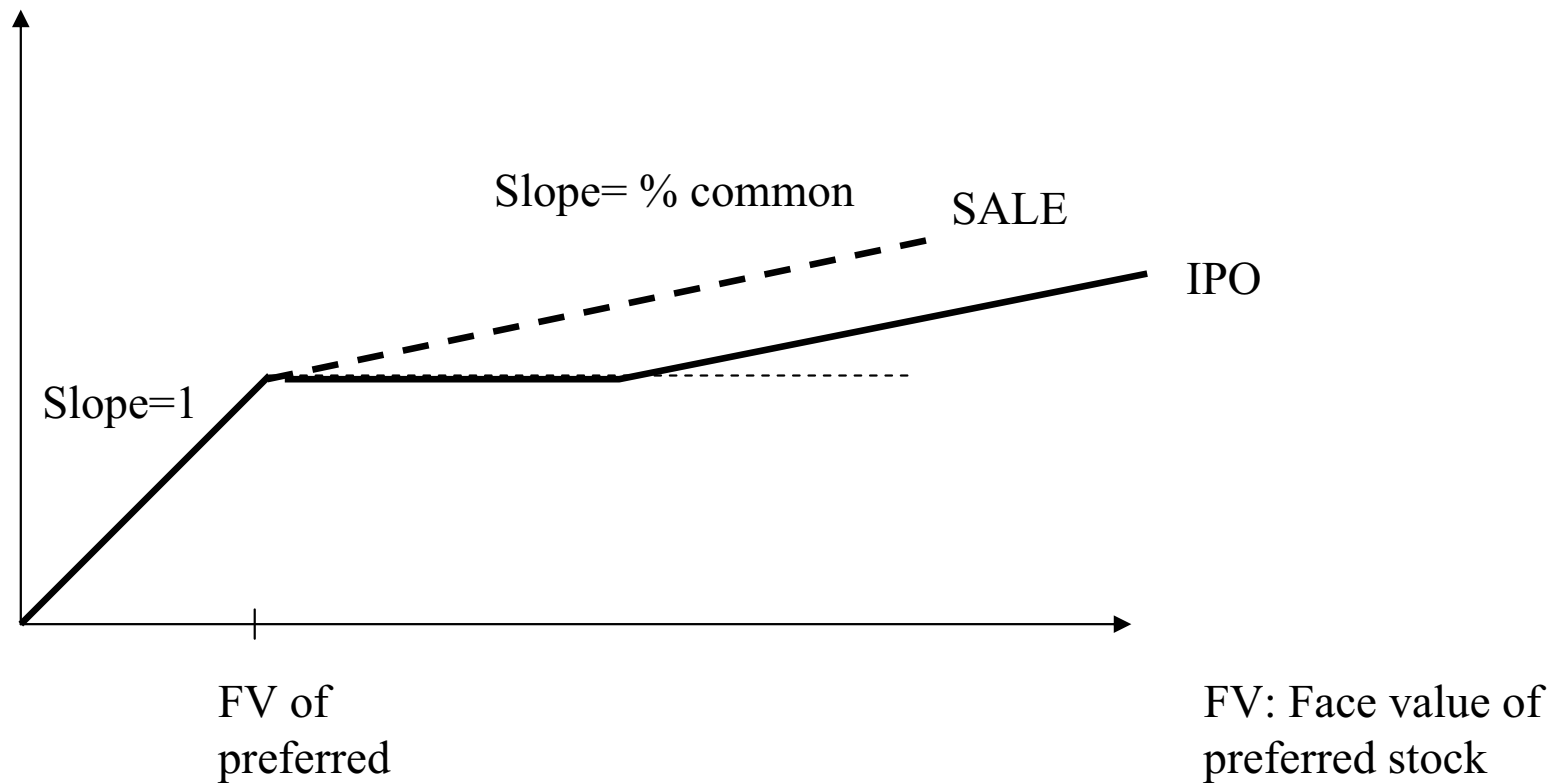


FV: Face value of preferred stock
CV: Min. enterprise value at conversion

Participating Convertible Preferred

- Convertible preferred with extra feature that “in the event of liquidation or sale” the holder get face value plus equity participation.
 - Redeemable preferred + common stock if the company is liquidated (including private sale but not IPO). In our example, would get \$2M *and* 40% of the company.
 - Convertible preferred if company goes public. In our example, would get \$2M *or* 40% of the company.
 - In this case, convert if $.4 * V_{\text{IPO}} > \$2\text{M} + .4 * (V_{\text{SALE}} - \$2\text{M})$ (ignoring accrued dividends).

Payoffs from Participating Preferred



Payoffs from Participating Preferred



Evolution of Preferred Stock Over Time

- **1970s:** Security of choice - Redeemable preferred
 - Often in combination with common stock
 - Not many IPOs
- **1980s:** Security of choice - Convertible preferred
 - Active IPO market
 - Large increase of funds flowing into VC industry
- **1990s:** Security of choice - Participating convertible preferred
 - Many later stage investors paid very high prices



Do These Pay-off Structures Matter?

- No, in the world of Modigliani-Miller!
 - Just alternative ways of slicing up the pay
- Yes, in the real world
 - High-powered incentives for VCs to add value
 - High-powered incentives for entrepreneurs to create long-term value



The Role of Preferred Stock

- Preferred feature aligns incentives of entrepreneur with VC to strive for large payoffs
 - Limits returns to the founder for modest outcomes - incentives to reach high payoffs
- The extent to which the VC wants to encourage the entrepreneur to go for the big payoffs can be controlled by specific choice of security. Redeemable Preferred + Common Stock > Participating Convertible Preferred > Convertible Preferred > Common Stock > Minimum wage



Convertible Preferred and its Relation to the Implied Firm Value

- VCs typically derive the “post-money” (“pre-money”) value of a firm based on the terms of the convertible preferred contract.
 - If, for example, the VC invests \$2M in the above convertible preferred contract (which converts into 40% of the firm’s common stock), then VC will say that the pre-money value is $\$2M / .4 = \$5M$ and the post-money value is $\$3M$ ($\$5M - \$2M$)
 - Alternatively, if the VC method comes up with a value of \$5M post-money, and the investment is \$2M, then the VC method chooses a % ownership, s , such that $s * \$5M = \$2M$. Here s is 40%.

Problem with this Approach

- The approach assumes ignores the value of the downside protection provided by the preferred feature of the security.
- This affects the implied value that the VC offers:

	Number of	Cost	Value	Avg. %
	Investments			Value/Cost
Write-Offs	172	395	40	10.1%
Below Cost	221	596	225	37.8%
At Cost	70	187	187	100.0%
1-5x	382	1164	3059	262.8%
5-10x	83	242	1713	709.5%
Over 10x	76	206	3703	1797.6%
Total	1004	2790	8927	320.0%

- If firm is liquidated below cost, average recovery is 26.8% of cost; if liquidated at or below cost average recovery is 38.4%.

Why the Approach is Problematic

- Ignoring the liquidation value has two implications:
 - Because investors get 100% of the firm in liquidation, if the firm has value in liquidation, they need less equity upon conversion to compensate them for their initial investment.
 - Because investors get 100% of the firm in liquidation, the implied pre- and post-money valuation is overstated!



Two Examples to Make the Point

- *Example 1:* If firm value is V with probability 0.5 and zero with probability 0.5, can we figure out V --- the pre-money value used by the VC --- based on the deal terms?
- If investing \$2M for 40% of the company, then in order to earn a market return on her investment, it must be that implied value, V^* , used by the VC is:

$$\$2M = 0.5 * 40\% * V^* + 0.5 * 100\% * 0.$$

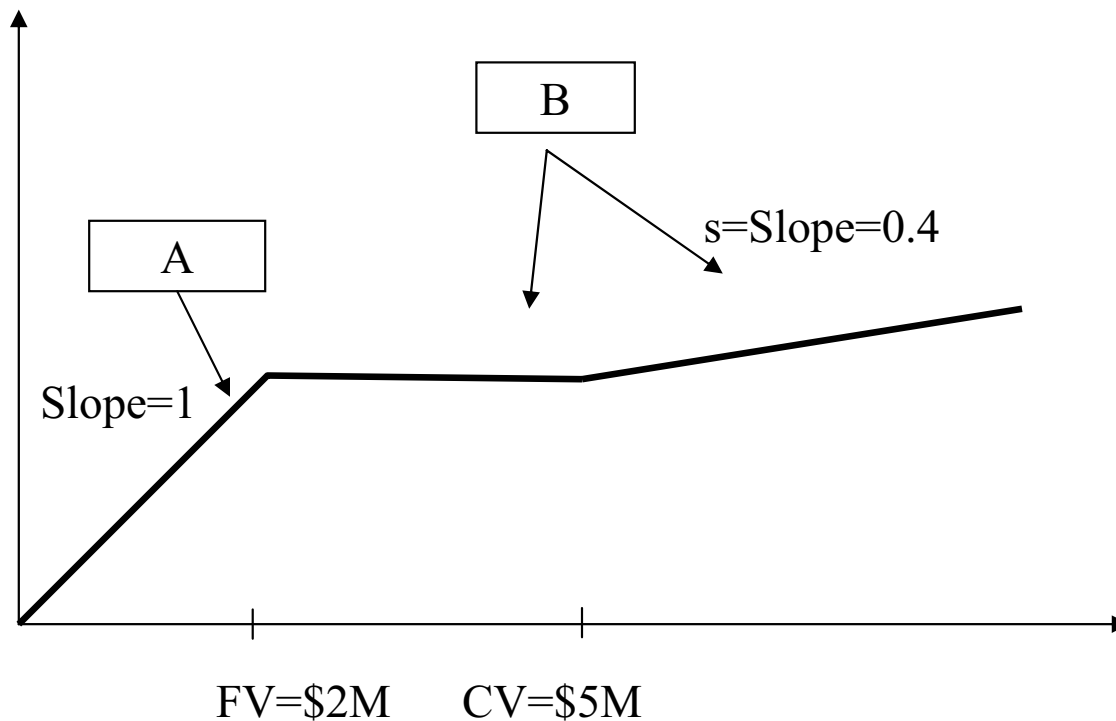
- Thus, $V^* = \$10M$.



The Other Example

- *Example 2:* Firm value is $V^* > \$2M$ with probability 0.5 and $V = \$1M$ with probability 0.5. What is the implied value V^* the VC is offering based on the deal terms of the contract?
- In order for the VC to earn a market return on her investment:
$$\$2M = 0.5 * 40\% * V + 0.5 * \$1M,$$
- Thus it follows that the implied value V^* is **\$7.5M**, 25% less than the \$10M value we derived in Example 1.

A More Systematic Approach to Backing out the Implied Value, V^*



FV: Face value of preferred stock
CV: Min. enterprise value at conversion

Anti-Dilution Provisions

- If the firm raises additional funding at a price *below* the prior round VC's price, the VC's conversion price is lowered to protect against dilution.
- Anti- Dilution protection comes out of founders shares
 - Prevents company from strategically raising later rounds to expropriate initial investors (avoid “wash out” financing)
 - Helps to maintain constant fraction of equity -- control rights
 - Company and founders bear most of the risk: Why is downside risk not shared among founders and investors?
 - Incentive for founders to create value
 - Golden rule: “Those that have the gold make the rules.”



Anti-Dilution Provisions (cont.)

Full Ratchet anti-dilution: The conversion price is lowered to the price of the new financing

Weighted Average anti-dilution: The new conversion price takes into account the number of new shares issued

→ New conversion price = $[(A+C)/(A+D)] * \text{old conversion price}$

– A: # of common shares outstanding before transaction

– C: # of shares to be issued if old conversion price had held

– D: # of shares that are actually issued under new conversion price

→ New shares to initial investors = $(\text{old price/new price}) * \text{initial shares owned}$

→ The more shares are issued (D) at a dilutive price the more the weighted ratchet bites



Anti-Dilution Provisions: Example

Example:

- Company has 2 M shares outstanding
 - 1M common stock to founders
 - 1M convertible preferred to investors, conversion price \$1
- New issue of 50,000 shares at \$0.50

Full ratchet:

- New conversion price: **\$0.50**
- Convertible preferred holders get 2M shares or **65.6%** of equity

Weighted average ratchet:

- New conversion price = $(2M + 25,000)/(2M + 50,000) * \$1 = \mathbf{0.988}$
- Preferred stock holders get 1,012,145 shares or **49.08%** of equity



Anti-Dilution Provisions (cont.)

Pay to Play

- Only those investors who are willing to participate in the dilutive financing are entitled to the benefits of the anti-dilution formula in place
- Best approach is to require each investor to purchase a percentage equal to its pro rata ownership among the investor group of that portion of the financing allocated to the old investors (by the board of directors). The balance of the financing (if any) will be allocated to new investors.