
Emerging Issues in Finance for Business Valuations

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Business Valuation Conference
January 31, 2007, Minneapolis, MN

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Business Valuation LLC

Market Efficiency

- Information
- Transaction

Liquidity

Requirements

- Large number of traders (width)
- Large volume of trading (depth)
- Low price impact (Resilience)

Liquidity and Pricing

- Developing an understanding of the Role of Liquidity in asset pricing

Landscape for DLOM/DLOL

- Over the last three years, the Tax Court has rejected discounts for lack of marketability based on the average discount found in restricted stock studies.
- In McCord, the entire Tax Court rejected the Pre-IPO approach, without any dissent, as a means to determine a discount for lack of marketability.
- The latest rejection of the QMDM was, in the Estate of Temple (March 10, 2006).

Whither Goes the Discount?

- Subjective discounts not acceptable
- Courts have clearly indicated that they are looking for firm specific measures supported by clear relevant empirical analysis.
- Scientific method required to identify and substantiate discounts

Elements of the Scientific Method

- Logical- Results should be explainable by valid theory
- Observable- The analysis process should be transparent (no black box)
- Replicable- Independent analyses should lead to same results

Concepts Central to Discounts

- Marketability
- Liquidity
- Holding Period vs. Liquidation Period
- Price Risk -Volatility

Marketability v. Liquidity. – Aligned but distinct concepts

- Marketability -The capability and ease of transfer or salability of an asset, business, business ownership interest or security.
- Liquidity-The ability to readily convert an asset, business, business ownership interest or security into cash without significant loss of principal.

Marketability

- Registered stock in an Exchange Listed Publicly Traded firm
- Registered stock in an Exchange Listed Publicly Traded firm subject to Reg 144 restrictions
- Unregistered stock in an Exchange Listed Publicly Traded firm
- Unregistered stock in a closely held unlisted large firm (potential to go public)
- Unregistered stock in a closely held unlisted small firm

Liquidity Differences within Marketability Classes

- Liquidity can differ significantly within each marketability class, based on the attributes of the asset.
- A significant block of DJIA can be liquidated relatively easily while stock of a small OTC firm may find few buyers in the short run without offering significant discounts.

Large Stocks- Market Profile (Largest Decile)

■ Variable	Mean	Std Dev	t	Pr > t
■ No Trade days	0.000919	0.030297	48.5	<.0001
■ Bid ask spread	0.032439	0.038206	1357	<.0001
■ Cost to trade*	0.004879	1.42357	5.48	<.0001

- * calculated as the difference between round trip return and buy and hold return

Small Stocks- Market Profile (Smallest Decile)

■ Variable	Mean	Std Dev	t	Pr > t
■ No Trade days	0.238777	0.426336	848.32	<.0001
■ Bid ask spread	0.137752	0.143995	1449	<.0001
■ Cost to trade*	0.104506	0.13469	1174.67	<.0001

- * calculated as the difference between round trip return and buy and hold return
- Almost all of the incremental spread can be explained by the trading costs

Security Markets Liquidity –

Differences between Small and Large Stocks .

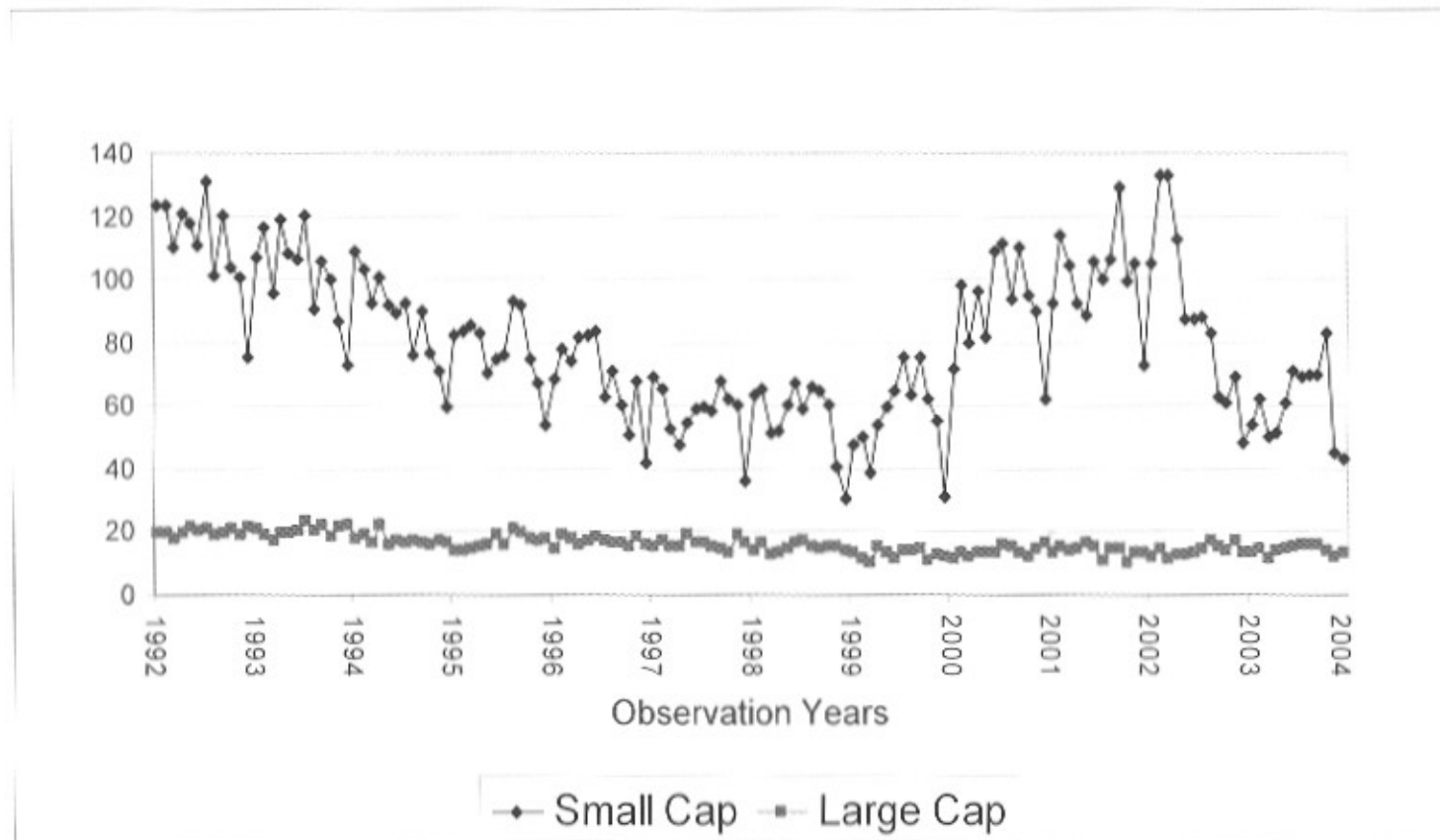
- There are significant differences between publicly traded firms of different sizes.
- Among the smaller stocks 24% do not trade at all on a given day.
- The observed bid ask spread is around 14%.
- The measured cost of trading for small lots for smaller firms is around 10 %.
- Largest firms are much more liquid, have lower spreads and are less costly to trade

Market Liquidity Estimation

Liquidity is Dynamic



Half Life Liquidation Periods in Months for Small and Large Market Capitalization Stocks



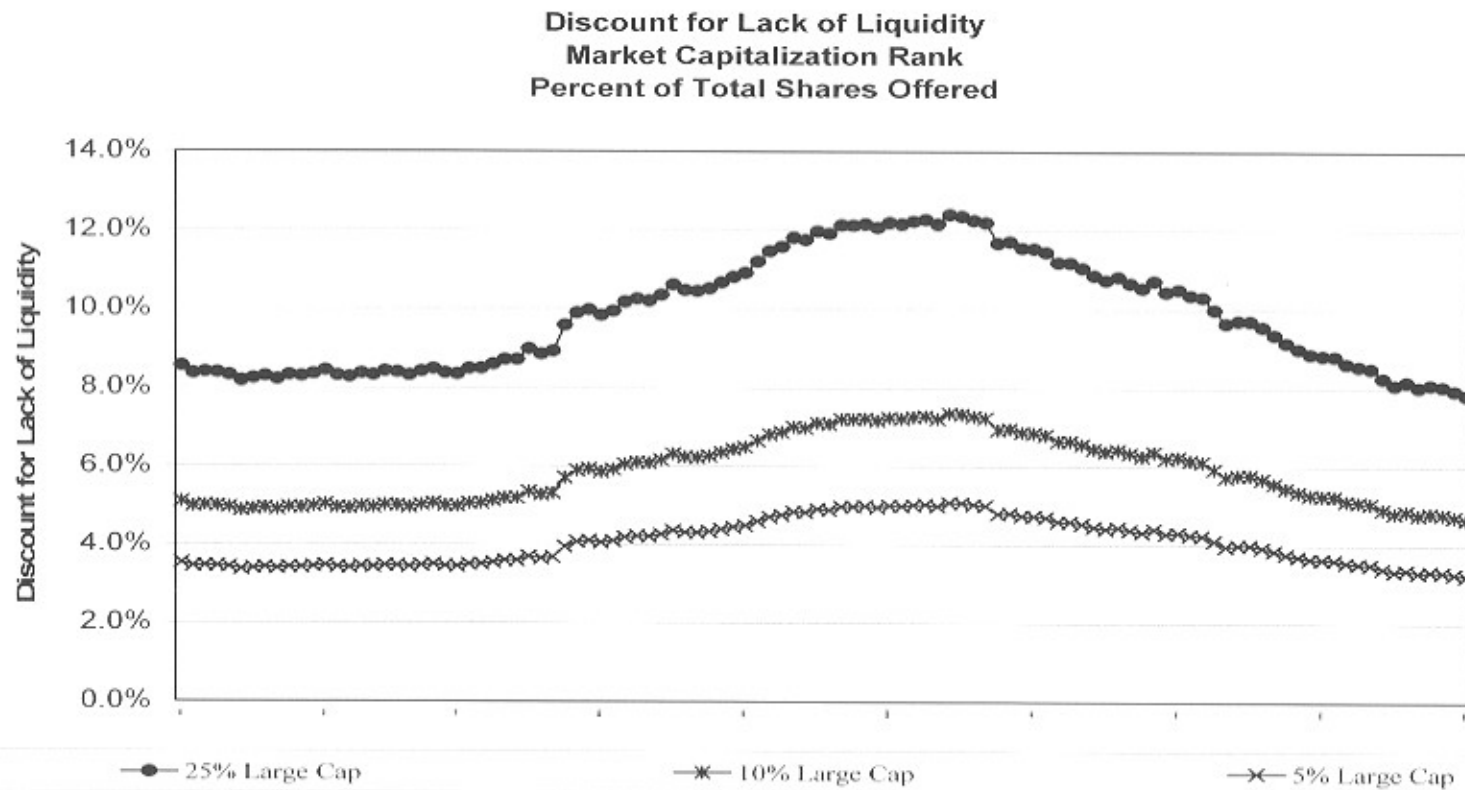
Estimating DLOL - Longstaff Look Back Put Model

$$F(V, T) = V \left(2 + \frac{\sigma^2 T}{2} \right) N \left(\frac{\sqrt{\sigma^2 T}}{2} \right) + V \sqrt{\frac{\sigma^2 T}{2\pi}} \exp \left(-\frac{\sigma^2 T}{8} \right) - V,$$

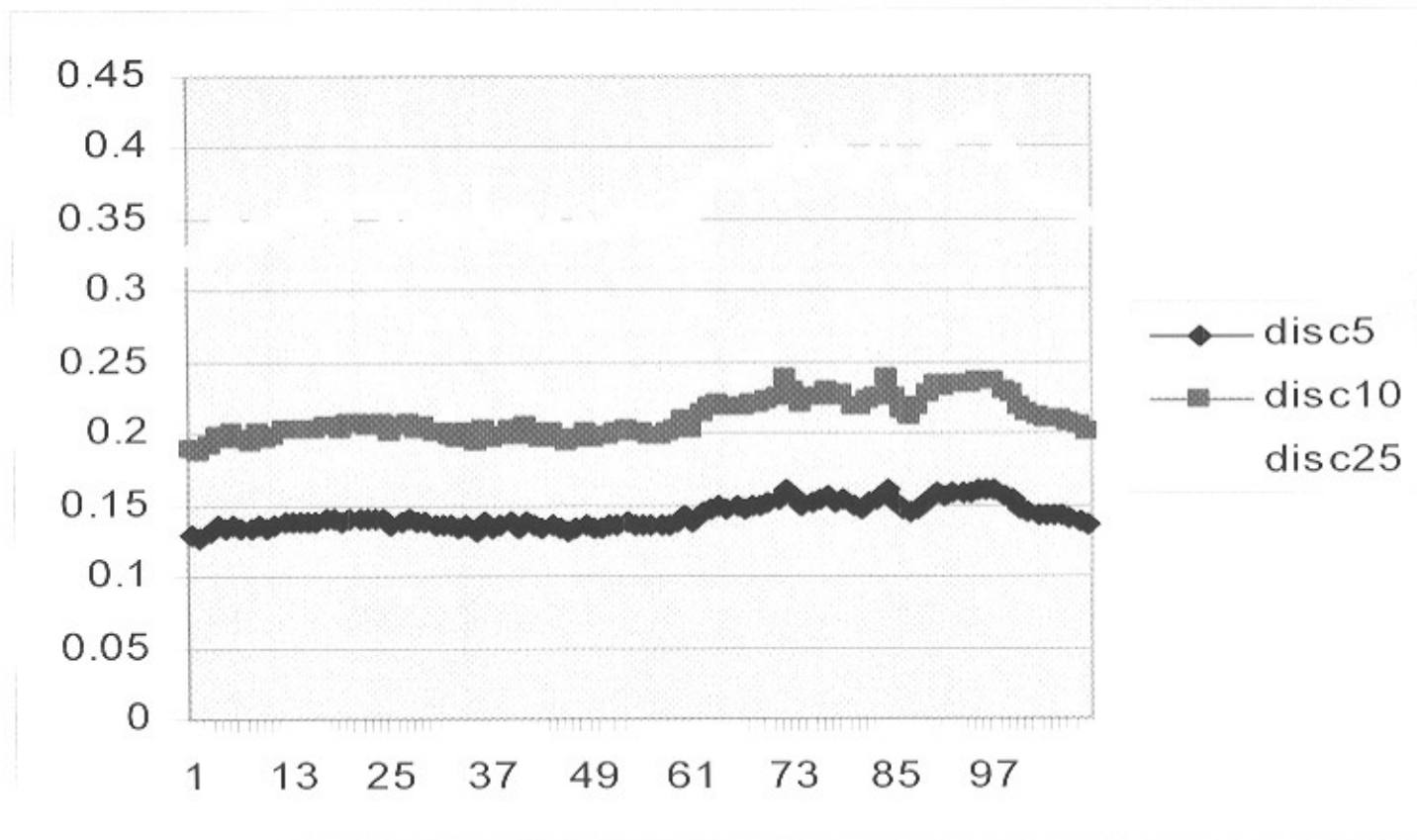
Relies on two inputs only- Volatility of Returns and the Liquidation Period

Look back put is the ultimate no regret put option.

Calculated DLLOL Large Firms



Calculated DLOL for Small Firms



Recap of Issues

- Two Components of the discount
- DLOM- the cost of Going Public (e.g. Bajaj)
- DLOL- the cost of illiquidity (Blockage)
- Liquidation Period
- Price Risk

Thanks

Questions?
