

Pluris DLOM Database Discussion

Prepared for

NACVA

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Pluris

Valuation Advisors LLC

– Learning Goals –

Review the main **Valuation Methods** that are used today for determining the Discount for Lack of Marketability (DLOM)

Discuss the history of **Restricted Stock Studies** as applied to the DLOM, their main strengths and shortcomings, and how they compare with alternative methods

See how the **Pluris DLOM Database™** differs from other restricted stock studies

Review the “levels of value” chart, the Restricted Stock Equivalent Discount and the **Private Equity Discount Increment**

Show how the magnitude of the DLOM is determined by **Risk & Liquidity** factors

Demonstrate how to use the Pluris DLOM Database in a **Business Valuation Case** for determining the discount

– DLOM Methods –

Benchmark Discount Analysis

An analysis of quantitative or qualitative reasons for diverging from a set average “benchmark” discount. In practice, tends to revert close to the average 30-35% DLOM from the “classic” restricted stock papers.

- Example: “Mandelbaum” analysis

Discounted Cash Flow Analysis

The discount is estimated through analyzing the subject company and applying varying assumptions regarding discount rates, growth rates, dividend payout rates, and holding periods.

- Quantitative Marketability Discount Model

Theoretical DLOM Models

Derived from option-pricing theory, these models tend to estimate the discount more or less solely through assumptions regarding volatility and holding period.

- Examples: Finnerty, Longstaff, Tabak

Pre-IPO Data Analysis

An analysis of the differences between the price paid in the initial public offering for a company and the prices paid for unregistered sales of shares of the same company prior to the IPO. The length of time between private sale and IPO can be lengthy.

- Examples: Willamette, Emory, Valuation Advisors

LiquiStat Analysis

Traditional restricted stock databases rely on discounts taken in private placements of restricted shares. There are theoretical problems with this approach. The **LiquiStat™** database provides discounts taken for restricted shares sold in trades among investors.

- Proprietary database to Pluris*

Pluris DLOM Database Method

The largest restricted stock DLOM study – more than 10x the data of other studies for the periods covered. Available at www.ValuSourceSoftware.com.

* A thorough discussion of the LiquiStat database is beyond the scope of this presentation. Refer to more data and analysis at www.Pluris.com/LiquiStat.

– What Is Restricted Stock? –

Restricted shares are unregistered shares of common stock. Such shares are restricted from resale for a certain period and thus illiquid. When restricted shares issued by a publicly traded company are sold, the difference between the two prices provides an estimate of the DLOM.

Long History of Use for the DLOM Analysis

SEC and Gelman studies were published in 1971-2. Numerous follow-up studies, containing more detail, have shown similar results.

- Analysis captures the main factors that drive the discount – factors relevant from a business valuation perspective
- Hard evidence – judges like it when appraisers refer to specific transactions
- Comparison of contemporaneous prices – not prices measured months apart

Valuation Community/Stakeholder Acceptance

The restricted stock DLOM analysis is almost certainly the most widely-accepted method. Today, it is unusual to see a valuation report – where the DLOM is determined – without restricted stock discounts used as at least part of the evidence for the discount.

- Valuation textbooks
- Valuation journal articles
- Valuation conferences
- Tax Court decisions
- IRS use and acceptance
- Acceptance in GAAP financials by SEC

– About the Pluris DLOM Database –

Until the creation of the Pluris DLOM Database, Pluris had been a user of existing restricted stock private placement databases. Applying the data in valuations, we found large gaps – even when we knew of large numbers of transactions not included in the studies.

PrivateRaise (www.PrivateRaise.com) is the most well-respected database for PIPE market participants. It forms the basis for league tables, presented at conferences, and is used to aid deal structuring. The Pluris DLOM Database was created through a search of PrivateRaise – with additional analysis to generate discount estimates and relevant independent variables. The Pluris DLOM Database includes 1,953 transactions just for 2004-09. This will increase significantly going forward.

Problem solved!

PROBLEM. The traditional restricted stock studies rely on only a **small fraction** of the eligible restricted stock transactions.

SOLUTION. Deal-maker database covers **all transactions**. Analyze and adapt this data to make it relevant to business valuation professionals.

AVOID bias – and ensure completeness – applying transparent inclusion criteria.

– Lack of Marketability: Levels –

The traditional business valuation “Levels of Value” chart included three levels: Control, Marketable Minority, and Non-Marketable Minority. Restricted stock values represent a fourth level between the last two.

Restricted Stock NOT Non-Marketable

Restricted shares of public companies are marketable, and always have been. They can be sold in private transactions, at a discount, and may be traded into the public markets, after a holding period and according to volume limit provisions.

- The Restricted Stock Equivalent level of value is significantly below marketable
- The difference is the Restricted Stock Equivalent Discount (**RSED**)
- The Non-Marketable Minority level of value is the relevant level in business valuation cases (can also be called the Private Equity level of value)
- Four-level “Levels of Value” chart is becoming widely accepted
- New “Levels of Value” chart has been adopted by major valuation textbooks

Getting From the Restricted Stock Equivalent Level to Non-Marketable

Most issuances of restricted stock are smaller blocks that are easily tradable after the end of the holding period. These are sold at the RSED. However, some very large blocks are extremely illiquid, on par with private company shares. These are sold at much higher discounts.

- The Private Equity Equivalent blocks are sold at the Non-Marketable Minority level of value
- The incremental discount over the average restricted stock discount that large blocks sell at is the Private Equity Discount Increment (**PEDI**).
- $RSED + PEDI = DLOM$ for business valuations, i.e., for private equity or equity of closely held companies.

– Database Overview –

- Largest DLDM database of its kind – 1,953 transactions
- Covers entire time-period from 2004 to the present and is updated quarterly
- Covers 284 four-digit SICs and 65 two-digit SICs
- Median discount 21.1 percent
- Average discount 22.7 percent
- Median market capitalization \$60 million
- Average block size 14.1 percent of shares outstanding
- Average gross proceeds \$21 million

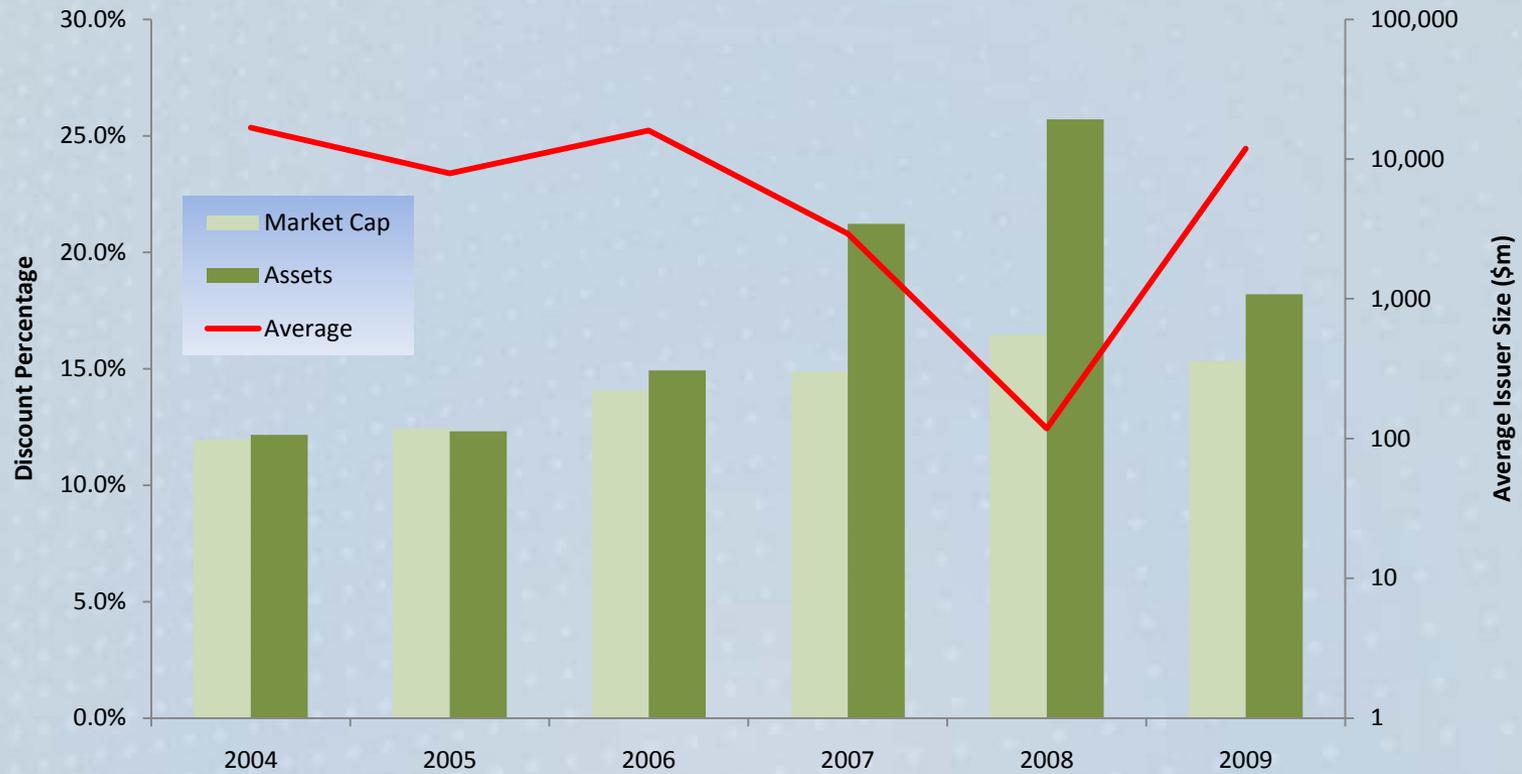
– Year-by-Year Comparisons –

Private Placement Market Resilient in the Crisis

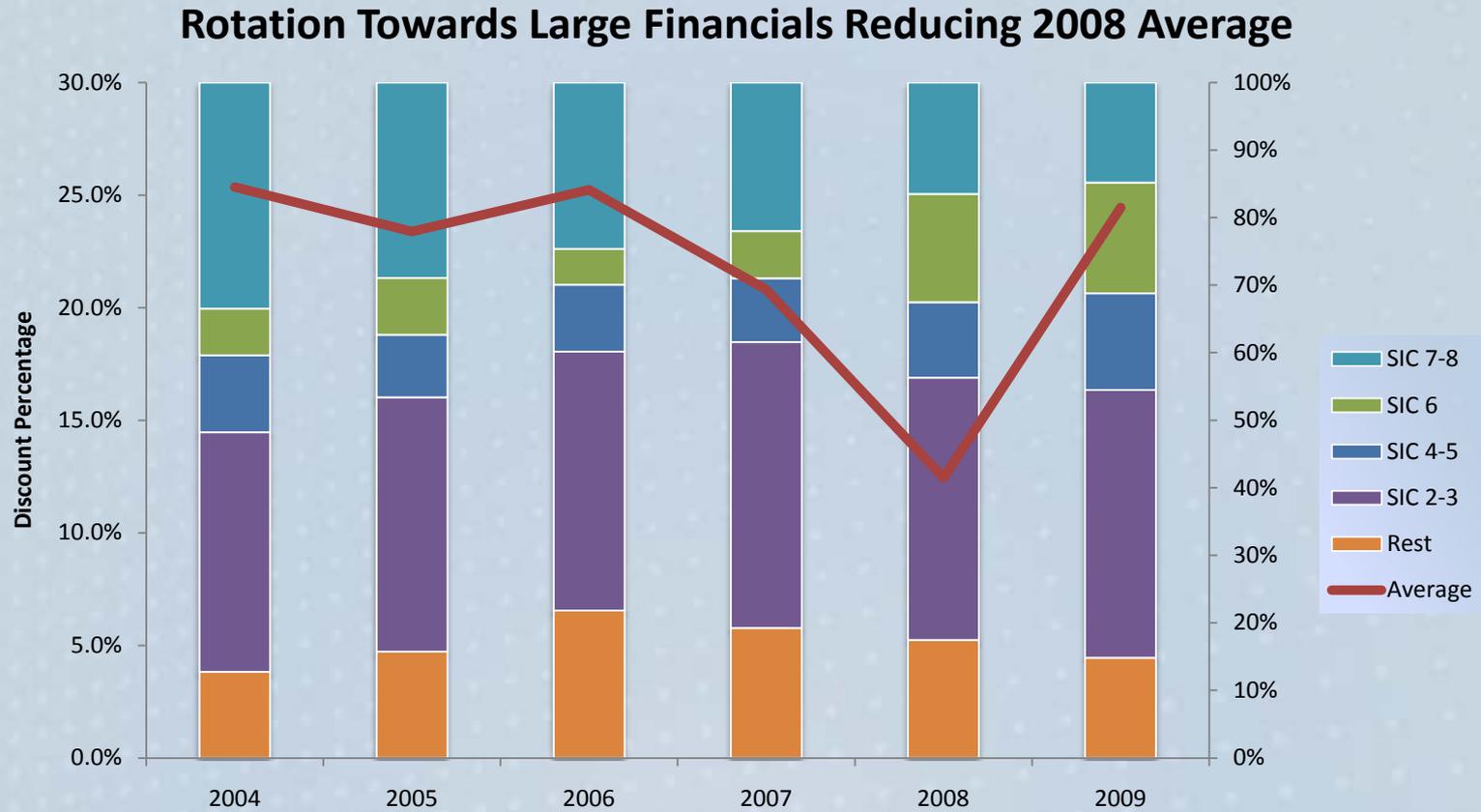


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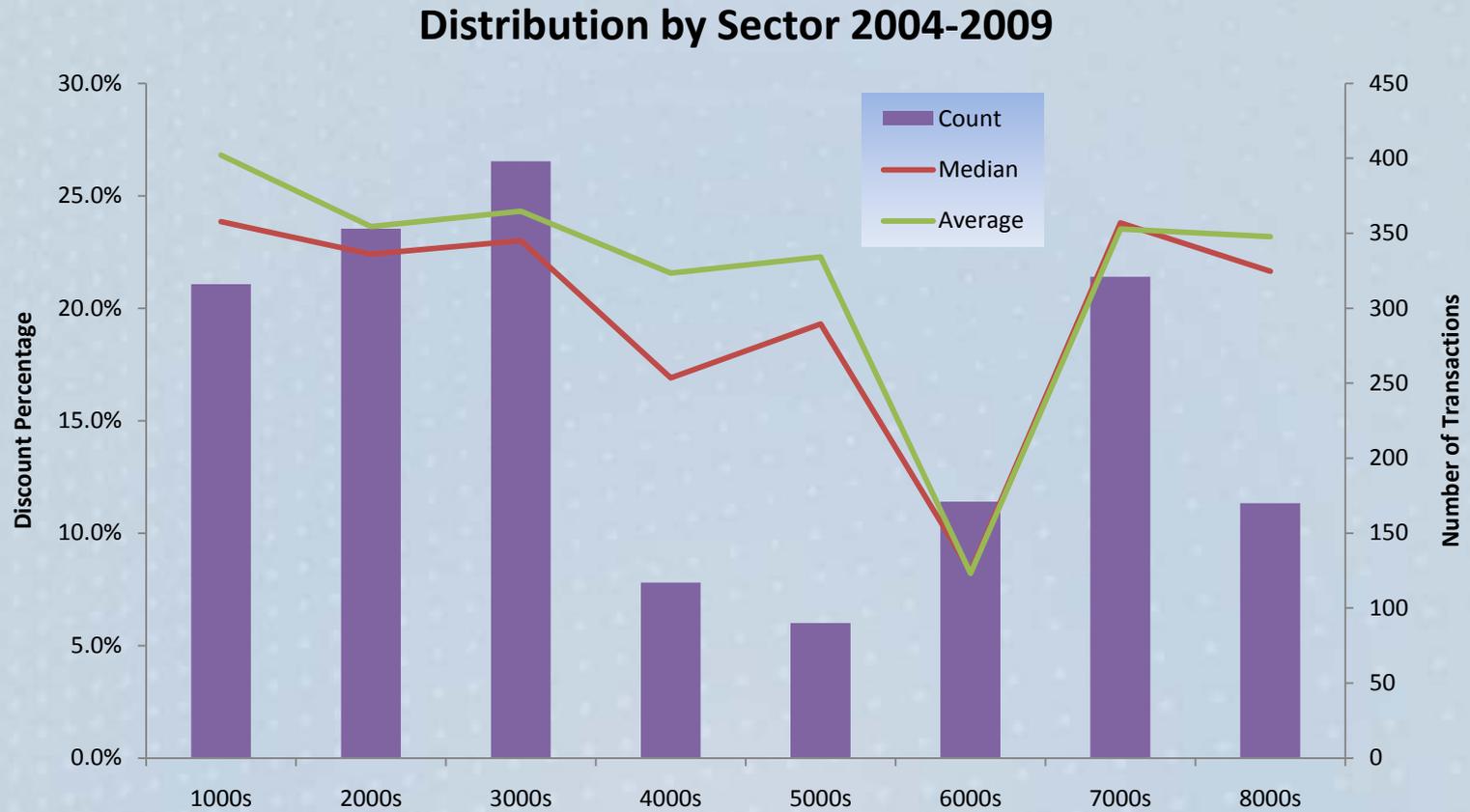
But Substituting for Public Market?



– Sector Distribution by Year –

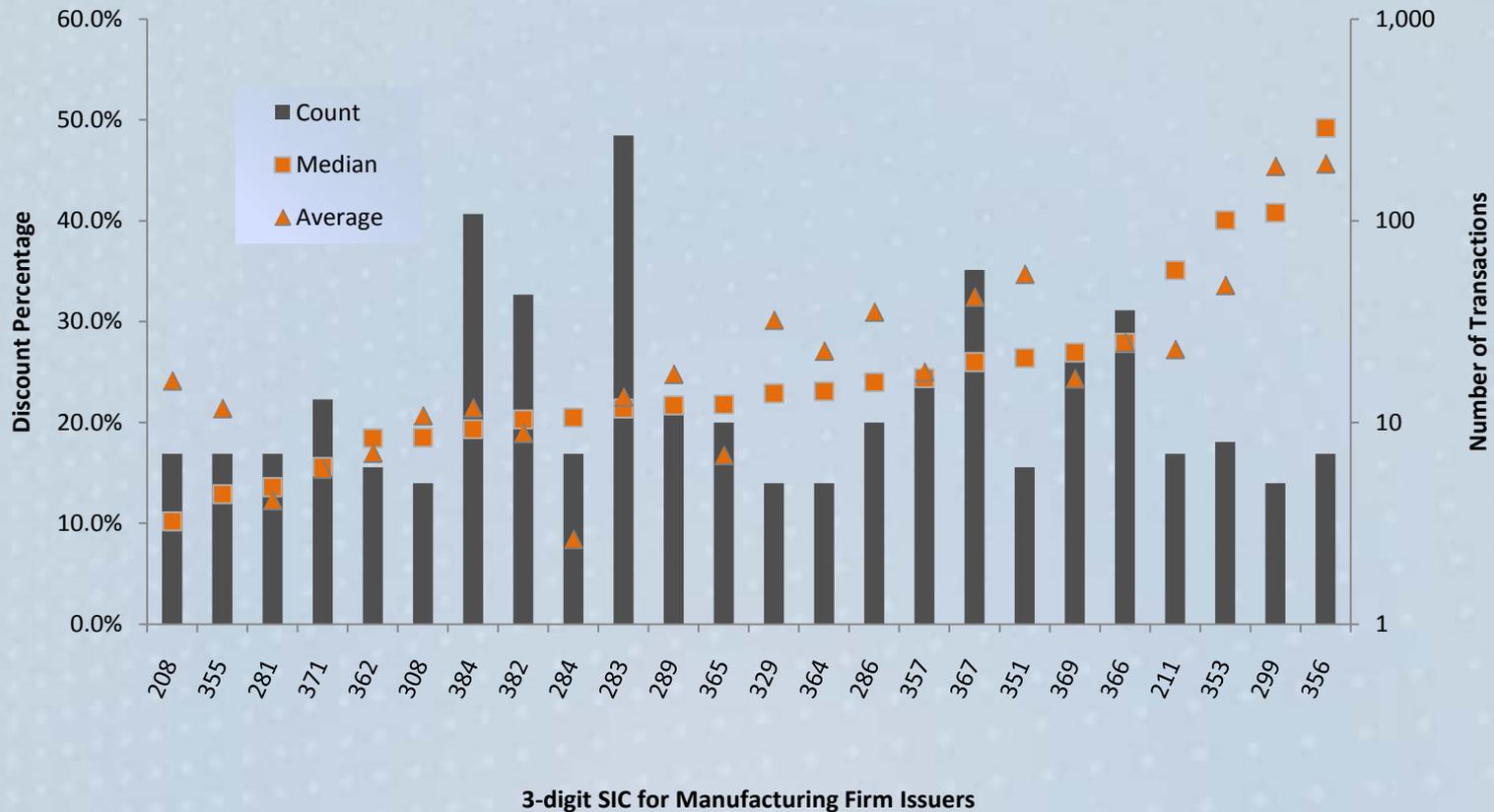


– Issuer Sector Matters –



– Discounts by Industry –

A Closer Look At Manufacturing Sector



– Discounts by Quintile –

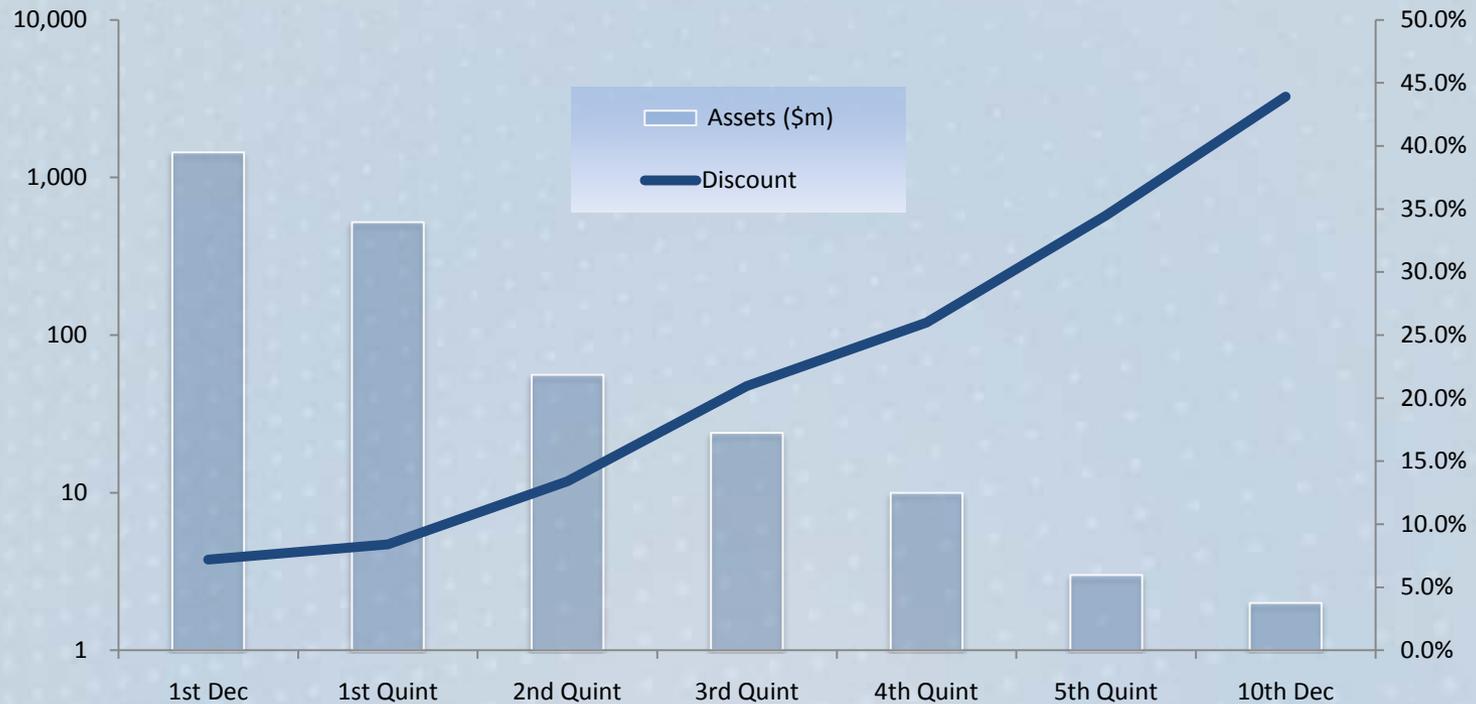
The table below provides the data in the Pluris DLOM Database, broken down by quintile (by the discount) and providing median measures of various risk indicators for comparison.

	VWAP	Assets (\$m)	Growth	Equity (\$m)	P/BV	Z-score	Market Cap (\$m)	MTB Ratio	Volatility	Block Size	Discount
Top Decile	\$2.46	4.0	-23.50%	1.0	16.45	(2.24)	70.1	16.45x	132%	16.8x	61.7%
Top Quintile	2.47	6.0	0.00%	2.0	11.90	(1.76)	67.0	11.90x	128%	13.3x	50.1%
2nd Quintile	2.95	16.0	6.00%	7.0	7.90	(3.22)	72.6	7.90x	88%	11.4x	29.6%
3rd Quintile	3.63	27.0	5.00%	14.0	4.90	0.24	82.8	4.90x	74%	9.2x	19.0%
4th Quintile	5.58	43.0	7.50%	24.0	3.60	0.06	105.3	3.60x	64%	9.1x	10.4%
Bottom Quintile	6.18	72.5	9.00%	33.5	3.20	0.48	118.4	3.20x	61%	5.8x	1.5%
Bottom Decile	4.36	55.0	7.00%	23.0	3.45	0.04	101.9	3.45x	71%	5.0x	-3.0%

The preceding measures indicate a direct relationship between the Restricted Stock Equivalent Discount and the size, balance sheet strength, and overall riskiness of the issuing firm. Assets, market capitalization, volatility, and others, also demonstrate a strong correlation with the discount.

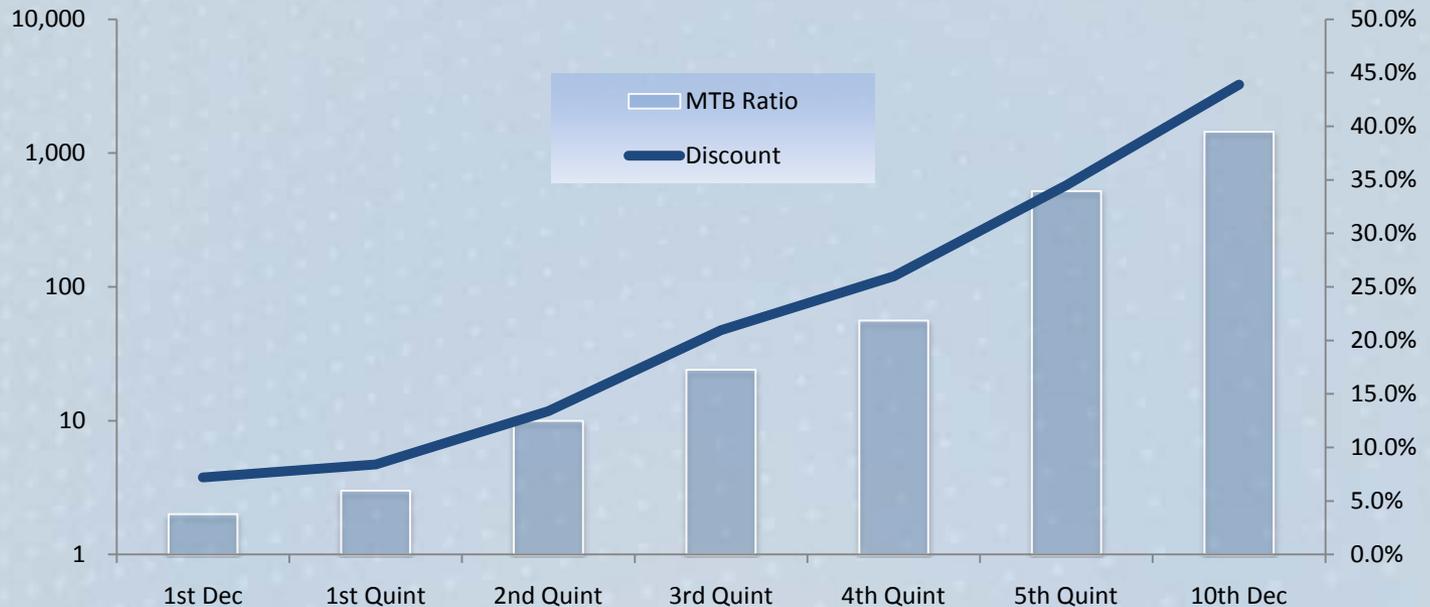
– Size Comparisons –

The table below provides the data in the Pluris DLOM Database, broken down by the total assets of the issuer. Size is a clear indicator of riskiness and investment attractiveness. Smaller companies require significantly deeper discounts as a result.



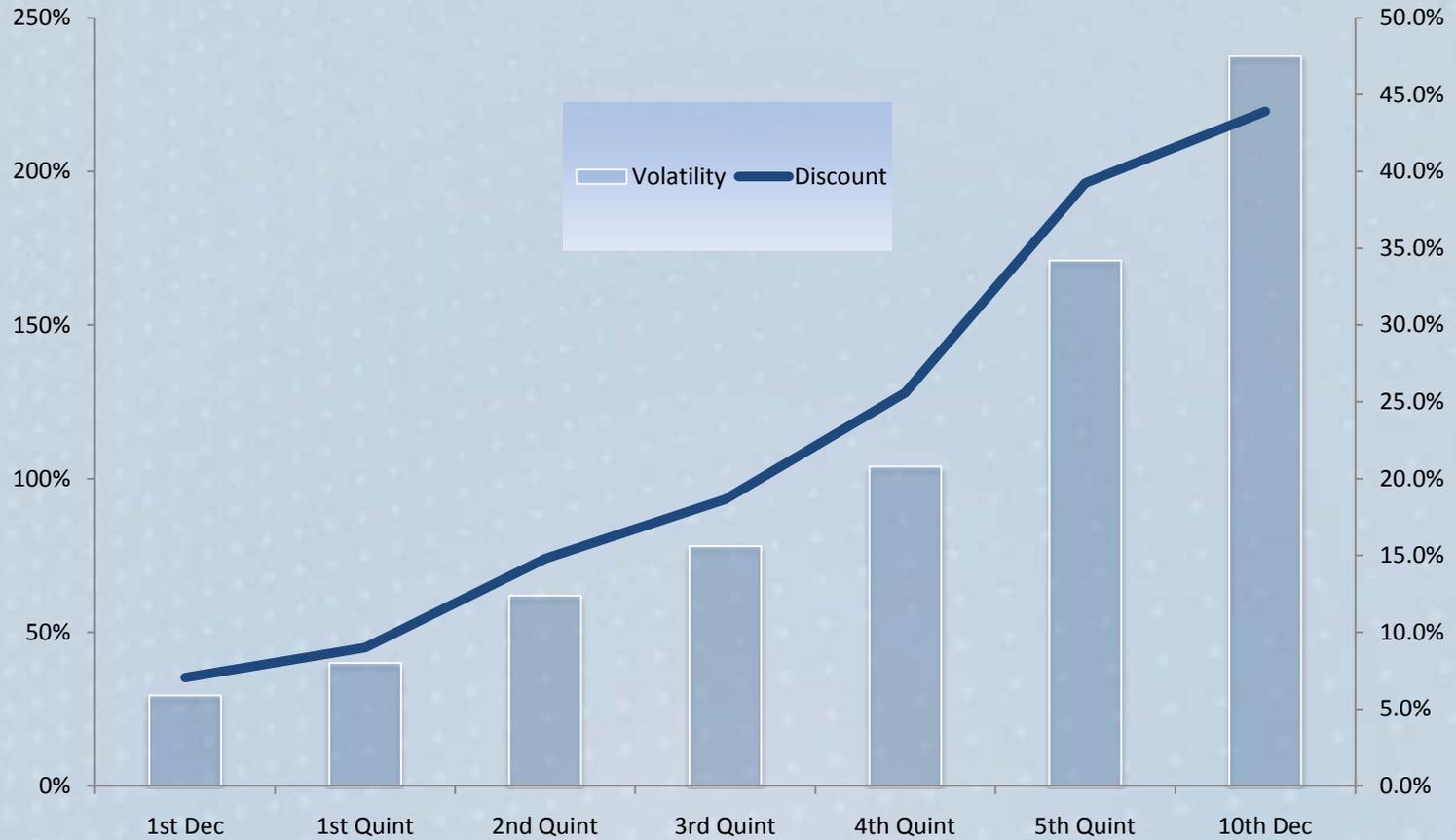
– Balance Sheet Strength –

Balance sheet strength is a clear indicator of riskiness and investment attractiveness. Issuers with weaker balance sheets require significantly deeper discounts.



The data analyzed and summarized in this figure exclude financial institutions and other issuers in the finance industry. Such firms are substantially different from the rest of the sample and may often be most appropriately analyzed separately.

– Volatility –



– No Impact on the DLOM? –

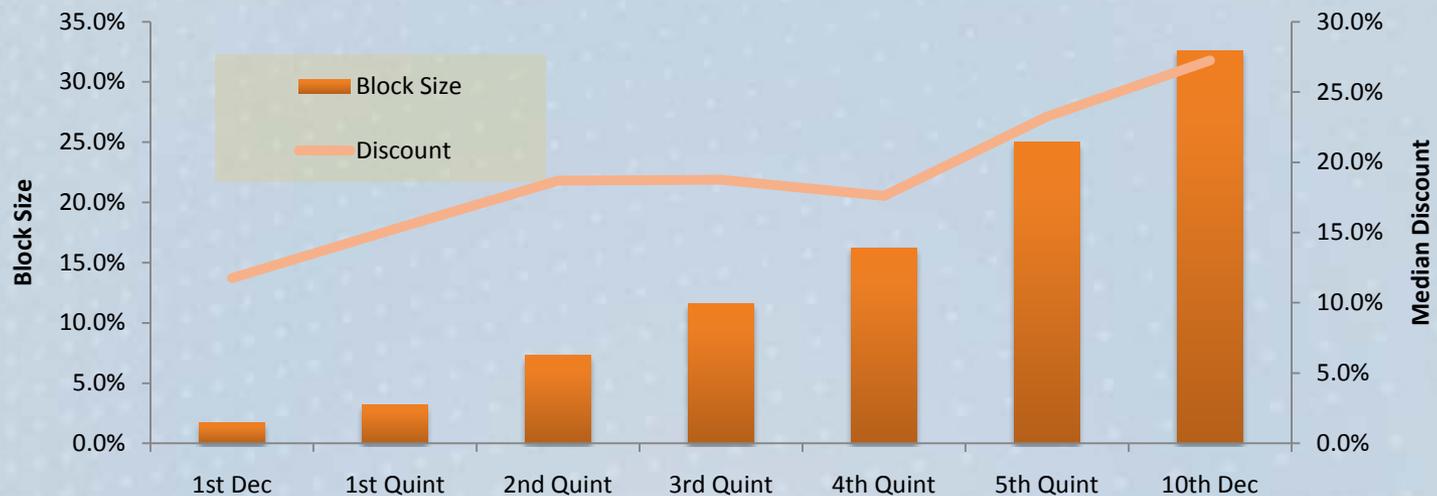
The following variables do not appear to have a significant impact on the discount across the cross-section of transactions analyzed. However, some of these variables may be significant in subsamples. These and other should be analyzed separately to see, for example, if they have an impact on the discount in particular industry sectors or for issuers traded on certain markets.

- VIX Index Level at Time of Placement
- Beta – this is MicroCap Stock!
- Leverage
- Other Financial Indicators
- Reducing the Rule 144 “Holding Period” in 2008

– Discounts and the Block Size –

*Block size is an indicator of the illiquidity of the shares sold in the private placement. The **largest blocks are very hard to trade out of** after the placement and would tend to be viewed by most buyers as more akin to private equity than public equity that's temporarily restricted.*

Block Size as Percent of Shares Outstanding

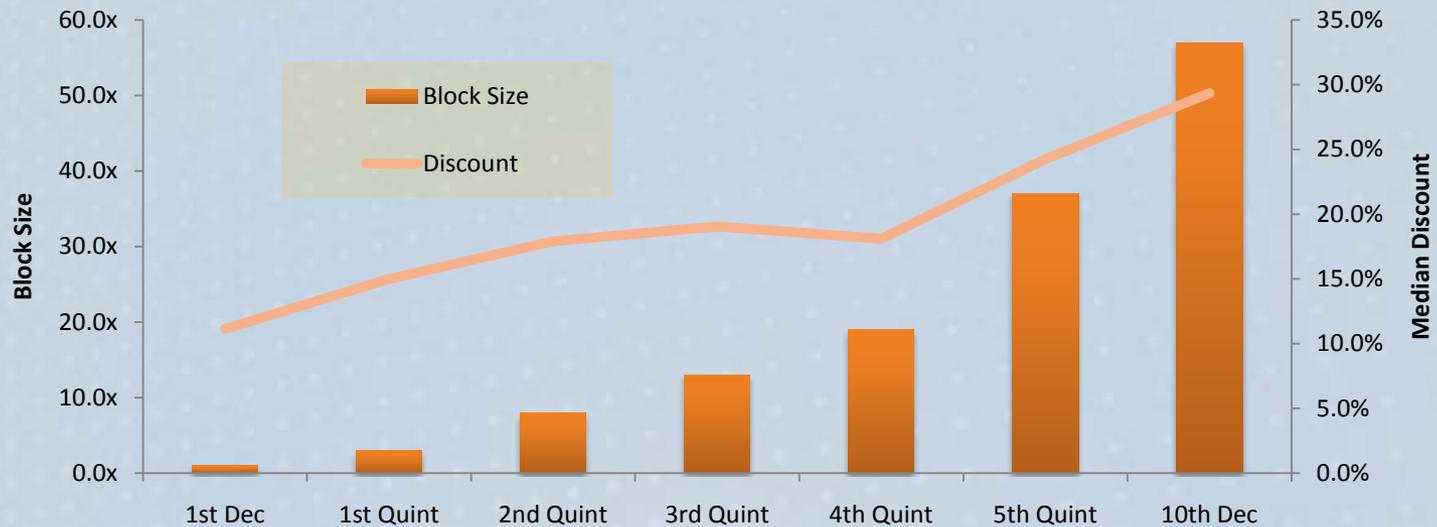


Given the similarities between large blocks of restricted stock and investments in private companies, the large-block data has particular applications in business valuations.

– Discounts and the Block Size –

Block size is an indicator of the illiquidity of the shares sold in the private placement. The largest block sizes are very hard to trade out of after the placement and would tend to be viewed by most buyers as more akin to private equity than public equity that's temporarily restricted.

Block Size - Quarters to Sell (est)



Given the similarities between large blocks of restricted stock and investments in private companies, the large-block data has particular applications in business valuations.

– Discount Increment: Private Shares –

*Restricted shares of a public company have very different liquidity characteristics from the shares business valuation professionals usually value. The question, then, is: **how much greater should the DLOM be for a private company?** Our analysis of the very largest blocks sold in the Pluris DLOM Database can shed light on that question.*

	Block Size (Quarters to Sell)			All	Discount Increments	
	> 60x	> 50x	> 40x		Multiplicative	Additive
Median	35.7%	32.4%	28.3%	19.0%	0.5x - 0.9x	9% - 13%
Average	36.0%	32.2%	30.3%	22.3%	0.4x - 0.6x	8% - 14%

	Block Size (Shares Outstanding)			All	Discount Increments	
	> 40%	> 35%	> 30%		Multiplicative	Additive
Median	33.1%	31.1%	30.1%	19.0%	0.6x - 0.7x	11% - 14%
Average	30.7%	29.2%	30.3%	22.3%	0.3x - 0.4x	7% - 8%

These discount increments provide a reasonable range of increments to apply in most business valuation situations. The sum of the **Restricted Stock Equivalent Discount** and the **Private Equity Discount Increment** equals the DLOM for shares in a privately held business.

– Simple, Two-Step Analysis –

TWO QUESTIONS to answer: If this was a public company, at what discount could it issue a (small) block of restricted stock? And: since this is a private company, how much does that fact add to the DLOM?

$$\text{RSED} + \text{PEDI} = \text{DLOM}$$



The sum of the **Restricted Stock Equivalent Discount** and the **Private Equity Discount Increment** equals the DLOM for shares in a privately held business.

– Demonstration –

Demo: Restricted Stock Equivalent Discount

www.ValuSourceSoftware.com

– Demonstration –

Demo: Private Equity Discount Increment

www.ValuSourceSoftware.com

– Conclusion –

Questions?

– Contact Information –



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– About Pluris –

Pluris Valuation Advisors LLC is a leading valuation services firm specializing in valuations for portfolio reporting, financial reporting, tax, and litigation support. Our proprietary research on illiquid and distressed securities in inactive markets places us in a unique position to estimate fair value for hard-to-value and complex financial instruments.

Unlike many firms, Pluris has technical accounting resources to monitor accounting developments and ensure our financial reporting valuations are in compliance with U.S. GAAP or IFRS. Our services include valuations for business combinations, restricted securities, auction rate securities, securitized financial instruments, distressed debt, bankruptcy claims, limited partnerships, and any other security lacking liquidity.

Pluris has **exclusive** access to secondary market trading data.

As the secondary market continues to develop, secondary market data is becoming increasingly **critical** in pricing.

At Pluris, we have the technical accounting resources to liaise with audit and management teams and other users to ensure valuation methods and conclusions are **reasonable** and supportable.

– Why Pluris? –

Established Reputation

Our research is published in *the Wall Street Journal*, *Financial Times*, *New York Times*, *Forbes*, *CFO Magazine*, *Bloomberg*, *Absolute Return*, *American Banker*, *The Deal*, *Compliance Week*, *Inside Market Data*, *Opalesque*, *Accredited Investor*, *Hedge Fund Manager Week*, *Wealth Strategies Journal* and more.

Specialized Expertise in Portfolio Valuation

Our team of professionals know and understand the positions of the SEC and your clients. Our valuation reports are consistently approved by auditors, and have been relied upon by all of the top accounting firms.

Valuation-Only Focus

At Pluris, valuation is our only business. Valuation is not an adjunct to investment banking, accounting or tax services. As a result, our valuation clients receive our undiluted, unbiased attention.

Data, Data, Data

At Pluris, we constantly uncover relevant empirical transaction data which we include in our analyses.

Liquistat™

Our **Liquistat™** database provides us with real-world data on transactions from SecondMarket™. This gives us the capability to provide insights not easily gleaned from theoretical models alone.

Conferences and Publications

Pluris professionals have spoken on PIPE securities, illiquidity discounts, bankruptcy, distressed securities, and other topics at numerous hedge fund, corporate finance and fair value seminars.

Controversy Support

Valuation is inherently a subjective effort, which is why valuation opinions are often a source of controversy. With Pluris, clients can be certain that our professionals are experienced with audits and litigation. We know how to resolve controversies before they arise.