

IRS JOB AID DISCOUNT FOR LACK OF MARKETABILITY

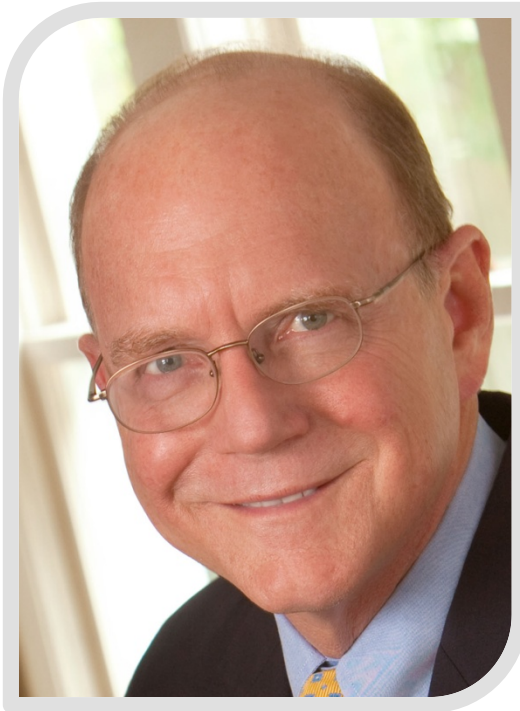
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Chris began his valuation career in the late 1970s. He has prepared, overseen, or contributed to more than a thousand valuations for purposes related to M&A, litigation, and tax, among others.

He is a prolific author on valuation-related topics and a frequent speaker on business valuation issues for national professional associations and other business and professional groups.

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Travis frequently speaks on fair value accounting topics across the U.S. He is a member of The Appraisal Foundation's working group to address best practices for control premiums, and recently co-authored the book *Business Valuation: An Integrated Theory, Second Edition*, with Z. Christopher Mercer, ASA, CFA, ABAR published in 2008 by John Wiley and Sons, Inc.

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Brian is the founder and President of Valuation Advisors, LLC and has over 25 years experience in providing business valuation consulting. He is the creator of the Valuation Advisors Lack of Marketability database.

He is the current Chairman of the AICPA ABV exam task force and a member of the ABV Credential committee. He is the AICPA ABV champion for New York State. He is also a past Chairman of the NYSSCPA Business Valuation and consulting task force committees and a current member of the Ethics committee.

TODAY'S PROGRAM

MERCER

**MARKETABILITY
DISCOUNTS IN
PERSPECTIVE**

PEARSON

**THE VALUATION
ADVISORS
DATABASE &
PRE-IPO STUDIES**

HARMS

**A REVIEW OF THE
TABLE OF
CONTENTS**

MERCER/HARMS

**FACTORS
INFLUENCING
MARKETABILITY**

MERCER/HARMS

**MORE DETAILED
DISCUSSION**

MERCER/HARMS

**QUESTIONS AND
ANSWERS**

DISCOUNT FOR LACK OF MARKETABILITY

- » “An amount or percentage deducted from the value of an ownership interest to reflect the relative absence of marketability.” (International Glossary)
- » DLOM (or Marketability Discount) reflects what?
 - Percentage difference between two prices, one “as if” or actually public, and the other having restrictions (legal or factual) on marketability
- » Key question: What causes the difference in prices?

RELEVANT APPROACHES TO VALUATION

Income (Income-Based) Approach. A general way of determining a value indication of a business, business ownership interest, security, or intangible asset using one or more methods that **convert anticipated economic benefits into a present single amount**

Market (Market-Based) Approach. A general way of determining a value indication of a business, business ownership interest, security, or intangible asset by using one or more methods that **compare the subject to similar businesses, business ownership interests, securities or intangible assets that have been sold**

CONCEPTUAL FRAMEWORK

- A. Market transactions in the securities of publicly traded companies can provide objective, empirical data for **developing valuation ratios for use in business valuation**
- B. The development of valuation ratios from guideline public companies **should be considered** in the valuation of businesses, business ownership interests, securities and intangible assets **to the extent that adequate and relevant information is available**
- C. Guideline public companies are companies with shares traded in the public securities markets that **provide a reasonable basis for comparison to the investment characteristics of the company (or other interest) being valued**. Ideal guideline companies are in the same industry as the subject company; however, if there is insufficient market evidence available in that industry, it may be necessary to select other companies having an underlying similarity to the subject company in terms of relevant investment characteristics such as markets, products, growth, cyclical variability, and other relevant factors

ASA Business Valuation Standards, SBVS-1, Guideline Public Company Method

VALUATION RATIO

Valuation Ratio. A fraction in which **a value or price serves as the numerator and financial, operating, or physical data serves as the denominator.**

- MVIC/EBITDA
- MVE/Earnings

But remember what a DLOM is...

“An amount or percentage deducted from the value of an ownership interest to reflect the relative absence of marketability.” (*International Glossary*)

So where do DLOMs come from?

USPAP SR 9-4(D) [BEGINNING WITH 2006 EDITION]

d) An appraiser must, when necessary for credible assignment results, **analyze the effect on value**, if any, of the extent to which the interest appraised contains elements of ownership control and is marketable and/or liquid

Comment: An appraiser must **analyze factors such as holding period, interim benefits, and the difficulty and cost of marketing the subject interest**. Equity interests in a business enterprise are not necessarily worth the pro rata share of the business enterprise interest value as a whole. Also, the value of the business enterprise is not necessarily a direct mathematical extension of the value of the fractional interests. **The degree of control, marketability and/or liquidity or lack thereof depends on a broad variety of facts and circumstances that must be analyzed when applicable.**

THE CONCEPTS OF DISCOUNTS AND PREMIUMS

- A. A discount has no meaning until the conceptual basis underlying the base value to which it is applied is defined
- B. A premium has no meaning until the conceptual basis underlying the base value to which it is applied is defined
- C. A discount or premium is warranted **when characteristics affecting the value of the subject interest differ sufficiently** from those inherent in the base value to which the discount or premium is applied
- D. A discount or premium **quantifies an adjustment to account for differences in characteristics affecting the value** of the subject interest relative to the base value to which it is compared

BVS VII, Valuation Premiums and Discounts, ASA Business Valuation Standards (2009) (first published January 1996)

STAGE SET IN DLOM JOB GUIDE (P. 5)

“Given two identical business interests, a higher price will be paid [so **DLOM reflects the difference between two prices**] by investors in the market for the business interest that can be converted to cash most rapidly, without risk of loss of value. An example is publicly-traded stock on the New York Stock Exchange, where the owner can order the sale and the proceeds are deposited in a bank account in three days

In the alternative, a lesser price is expected for the business that cannot be quickly sold and converted to cash. [Why?] A primary concern driving this price reduction is that over the uncertain time frame required to complete the sale [the expected holding period - HP], the final sale price [expected future cash flow - CF] becomes less certain and with it a decline in value is quite possible [risk regarding receipt of the cash flow - R]. Accordingly, a prudent buyer would want a discount for acquiring such an interest to protect against value loss in a future sale scenario.”

Value of Illiquid Interest = f(Risk, Expected Cash Flow (and Growth), and Time (HP))

The Valuation Advisors Database

▶ Features

- Over 8,000 Pre-IPO transactions
- Fully searchable by:
 - Revenues
 - Operating Income
 - Total Assets
 - SIC or NAICS Code
 - Company Name
 - Time period to liquidity
 - Type of Transaction

▶ Database Advantages

- Provides the user the most applicable data when determining a Marketability Discount
- Provides targeted evidence to support your Marketability Discount
- Based on actual market transactions
- Updated monthly

▶ Users

- CPA Firms
- Law Firms
- M&A Advisory Firms
- Consulting Firms
- IRS
- Investment Banks

FAQ's

Q: Where is the source of the information contained in the database?

A: Before a company has an Initial Public Offering (i.e. IPO, or they "go public"), they file a prospectus with the SEC. These prospectuses are available through the SEC's EDGAR database, and also from the investment bankers underwriting the offering. VAL receives a copy of each prospectus and reviews it. We then record any transactions involving the company's stock, stock options or convertible preferred stock prior to going public (i.e. when it was still a private company).

Q: Why is the database useful to me?

A: Because it will provide an objective basis for making your valuation reports' Discounts for Lack of Marketability more defensible to third parties. Specifically, it gives you a documented resource for your work paper files.

Valuation Advisors, LLC IPO Discount Study Median Data

IPO Year	0-3 Months	Count	1-2 Years	Count
2003 - 2011	16.30%	220	53.70%	713

Discounts for Lack of Marketability - Beyond 2 Years

- What are the “new” discounts?
 - The new discounts consist of pre-IPO transactions that are more than 2 years before an initial public offering. These discounts were determined using the same sources which provided the original data included in the VAL database.

- In what situations would a timeframe for a Pre-IPO discount greater than 2 years be useful?
 - Lack of profitability
 - Low margins
 - High levels of competition
 - Low industry barriers to entry
 - Low capital requirements for new entries
 - Little knowledge required to compete
 - No intellectual property or proprietary products
 - High year to year financial variability
 - Poor industry conditions
 - Significant legal risks
 - Potential political regulation
 - Lack of quality management
 - Lack of pricing power
 - Rapidly evolving industry conditions
 - High capital expenditure requirements
 - Rapid product obsolescence
 - No business succession plans

- How does this data compare to the previously available Lack of Marketability Discount data?

The recently added discounts follow the trend established from the original data. Essentially, the further the transaction is from a liquidity event (i.e. the IPO), the higher the discount for lack of marketability.

Period	5-8 Years
Median	86.8%
Average	76.8%
Count	266

The Pre-IPO Criticisms and a Rebuttal

1. Are these transactions biased towards successful outcomes?
 - The issue in question is “Marketability.” Stated differently, as a shareholder, the key issue is - when will you get cash for your shares. For every IPO, there are literally millions of privately owned companies that cannot obtain publicly traded market liquidity or instant “marketability.” Therefore, to use an IPO to calculate lack of marketability discounts may actually understate the discounts for some companies, since an unsuccessful outcome (i.e. your shares cannot be publicly traded) means there is zero immediate liquidity and a likely longer timetable to any liquidity than a company that was eventually able to go public.

2. Transactions represent cheap stock.
 - For some transactions we adjust the price of the transaction based on the compensation expense recorded by the Company. This is to ensure that the transaction prices recorded in the database represent the fair market value and are SEC approved.

3. Discounts aren't reliable if they are greater than 50%.
 - The values used to obtain the discounts for lack of marketability are based on arm's length transactions or SEC adjusted prices and represent fair market value at that point in time.

4. Underwriters intentionally underprice the IPO
 - REALLY?

5. Insider Transactions
 - The VAL Database uses SEC Adjusted compensation expense to normalize the price paid in insider transactions.
 - CPS – Very arms length

JOB AID TABLE OF CONTENTS

EXECUTIVE SUMMARY

INTRODUCTION

GENERAL MARKETABILITY DISCOUNT
INFORMATION

SUMMARY OF APPROACHES TO DLOM

EVALUATION AND RECOMMENDATIONS

SUMMARY AND CONCLUSIONS

BIBLIOGRAPHY

TABLES AND EXHIBITS

JOB AID TABLE OF CONTENTS

EXECUTIVE SUMMARY

INTRODUCTION

GENERAL MARKETABILITY DISCOUNT
INFORMATION

SUMMARY OF APPROACHES TO DLOM

EVALUATION AND RECOMMENDATIONS

SUMMARY AND CONCLUSIONS

BIBLIOGRAPHY

TABLES AND EXHIBITS

JOB AID TABLE OF CONTENTS

EXECUTIVE SUMMARY

INTRODUCTION

**GENERAL MARKETABILITY DISCOUNT
INFORMATION**

SUMMARY OF APPROACHES TO DLOM

EVALUATION AND RECOMMENDATIONS

SUMMARY AND CONCLUSIONS

BIBLIOGRAPHY

TABLES AND EXHIBITS

1. **MARKETABILITY DEFINED**
2. **FACTORS INFLUENCING MARKETABILITY IDENTIFIED**
3. **WILLING SELLER CONSIDERATION**
4. **MARKETABILITY OF MINORITY VS. CONTROLLING INTERESTS**
5. **SAMPLE INITIAL IDR ITEMS ON MARKETABILITY**

JOB AID TABLE OF CONTENTS

EXECUTIVE SUMMARY

INTRODUCTION

GENERAL MARKETABILITY DISCOUNT
INFORMATION

SUMMARY OF APPROACHES TO DLOM

EVALUATION AND RECOMMENDATIONS

SUMMARY AND CONCLUSIONS

BIBLIOGRAPHY

TABLES AND EXHIBITS

1. BENCHMARK APPROACHES

- a) Restricted Stock Studies
- b) Pre-Initial Public Offering (Pre-IPO) Studies
- c) Restricted Stock Equivalent Analysis
- d) Cost of Flotation
- e) *Mandelbaum* Factors, Judge Laro, 1995

2. SECURITIES-BASED APPROACHES

- a) Long-Term Equity Anticipation Securities (“LEAPS”) – R. Trout, 2003, and R. Seaman, 2005
- b) The Longstaff Study, *Journal of Finance*, Dec. 95
- c) The Chaffee Study
- d) Bid-Ask Spread Method to Determine DLOM

JOB AID TABLE OF CONTENTS

EXECUTIVE SUMMARY

INTRODUCTION

GENERAL MARKETABILITY DISCOUNT
INFORMATION

SUMMARY OF APPROACHES TO DLOM

EVALUATION AND RECOMMENDATIONS

SUMMARY AND CONCLUSIONS

BIBLIOGRAPHY

TABLES AND EXHIBITS

3. ANALYTICAL APPROACHES

- a) Karen Hopper Wruck
- b) Hertz and Smith
- c) Bajaj, Denis, Ferris and Sarin
- d) Ashok B. Abbott

4. OTHER APPROACHES

- a) QMDM (Christopher Mercer)
- b) NICE (William Frazier)
- c) NERA (David Tabak)
- d) Partnership Profiles (Partnership Spectrum)
- e) Public vs. Private P/E Ratios in Acquisitions (MergerStat)

JOB AID TABLE OF CONTENTS

EXECUTIVE SUMMARY

INTRODUCTION

GENERAL MARKETABILITY DISCOUNT
INFORMATION

SUMMARY OF APPROACHES TO DLOM

EVALUATION AND RECOMMENDATIONS

SUMMARY AND CONCLUSIONS

BIBLIOGRAPHY

TABLES AND EXHIBITS

- 1. APPROACHING MARKETABILITY DISC. AS REVIEWER**
- 2. APPROACH MARKETABILITY DISC. AS VALUATOR**
- 3. DEALING WITH MARKETABILITY DISC. IN A REPORT REVIEW UNDER CERTAIN SPECIFIC SITUATIONS – TYPICAL REPORT LANGUAGE FOR GETTING STARTED**
 - a) Use of Pre-IPO studies to support DLOM
 - b) Use of simple average or median from Restricted Stock Studies
 - c) Use of analytical study results without getting behind data
 - d) Use of study results not supported by market data
 - e) Reliance solely on court decisions
- 4. SOURCES AVAILABLE TO IRS VALUATION ANALYSTS**

JOB AID TABLE OF CONTENTS

EXECUTIVE SUMMARY

INTRODUCTION

GENERAL MARKETABILITY DISCOUNT
INFORMATION

SUMMARY OF APPROACHES TO DLOM

EVALUATION AND RECOMMENDATIONS

SUMMARY AND CONCLUSIONS

BIBLIOGRAPHY

TABLES AND EXHIBITS

JOB AID TABLE OF CONTENTS

EXECUTIVE SUMMARY

INTRODUCTION

GENERAL MARKETABILITY DISCOUNT
INFORMATION

SUMMARY OF APPROACHES TO DLOM

EVALUATION AND RECOMMENDATIONS

SUMMARY AND CONCLUSIONS

BIBLIOGRAPHY

TABLES AND EXHIBITS

JOB AID TABLE OF CONTENTS

EXECUTIVE SUMMARY

INTRODUCTION

GENERAL MARKETABILITY DISCOUNT
INFORMATION

SUMMARY OF APPROACHES TO DLOM

EVALUATION AND RECOMMENDATIONS

SUMMARY AND CONCLUSIONS

BIBLIOGRAPHY

TABLES AND EXHIBITS

**TABLE 1 — ANALYSIS OF SEC INSTITUTIONAL
INVESTORS RESTRICTED STOCK STUDY**

TABLE 2 — ANALYSIS OF MPI RESTRICTED STOCK STUDY

EXHIBIT A — REVIEW FMV RESTRICTED STOCK MODEL

EXHIBIT B — PRE-IPO STUDIES

EXHIBIT C — ANALYTICAL APPROACH REVISITED

EXHIBIT D — DLOM FILES ON SHARED FOLDER

SUBJECT COMPANY VS. SUBJECT INTEREST

Q

The Job Aid identifies a set of factors influencing marketability. Significantly, it divides the factors into those relating to the subject company and those relating to the subject interest.

Is this a worthwhile distinction for appraisers to make?

Would you classify any of the factors any differently?

A

Let's look at the subject company (enterprise) factors

FACTORS INFLUENCING MARKETABILITY

Subject Company (Enterprise) Factors

Restricted Stock Pricing vs. Active Public Pricing

Dividend-paying ability and history

Dividend yield

Business attractiveness

Industry attractiveness

Prospects for sale

Prospects for IPO

Breadth of market (no. of buyers)

Attributes of controlling shareholder

Information access and reliability

Management

Earnings levels

Revenue levels

Price/Book value multiples (book/market)

Information requirements

Ownership concentration effects

Financial condition (of the business)

Insider ownership %

Institutional ownership %

Independent directors %

Exchange listing

Active vs. passive investors

Registration costs

Availability of hedging opportunities

Market capitalization rank

Business risk

Highlighted items pertain to the enterprise and to shareholders and need to be considered in DLOM determinations as they relate to shareholders. Items not highlighted are enterprise issues for consideration in the appraisal of the enterprise at marketable minority level.

SUBJECT INTEREST FACTORS

Restrictive transfer provisions

Restriction period

Expected holding period

Block size
(as % of total shares outstanding)

Registered vs. unregistered

General economic conditions

Prevailing stock market conditions

Volatility of stock

SUMMARY OF SHAREHOLDER-LEVEL FACTORS

R HP CF

- Expected distribution/dividend yield
- Growth of expected distributions**
- Lack of expected interim distributions
- Restrictions on dist. in loan agmt.
- Exp. re duration of holding period for inv.**
- Exp. terminal CF when liquidity achieved**
- Uncertainties of exp. holding period
- Potential for IPO
- Attractiveness for sale
- Consolidating market in industry
- Unlikely candidate for merger/sale/acq.
- Ages of major shareholders/owners
- Exp. holding period monitoring costs
- Adverse CF potential in tax pass-thru ent.

R HP CF

- Concentrations of assets (asset holding entities)
- Restrictions on use as loan collateral
- Information access cost and reliability
- Large size of interest restricts market
- Ownership composition (active/passive/private equity)
- Uncertainties related to buy-sell agreements
- Uncertainties re future investment strategies
- Unattractive asset mix
- Lack of diversification of assets
- Breadth of market (no. of buyers)
- Likely candidate for merger/sale/acquisition
- Ownership concentration risks
- Restrictions on transfer - general (e.g., ROFRs)
- Restrictions on transfer - onerous
- Small shareholder base

THREEFOLD MANDATE

Q

The disclaimer says that “The Valuation Analyst must have

1. a clear understanding of the facts and circumstances of each interest to be valued,
2. use professional judgment in choosing a DLOM just as is done for all other parts of a valuation, and
3. apply a reasonableness test.”

How can we as appraisers meet this threefold mandate in our marketability discount analyses?

A

1. What are the “facts and circumstances” applicable to each interest being valued? What relationship do they bear to the “factors influencing marketability?” How should the appraiser express this “clear understanding?”
2. Is a mere opinion an “expression of professional judgment?” What constitutes support for an opinion that reflects “professional judgment?”
3. With respect to a concluded marketability discount, what might constitute a “reasonableness test?”

INPUT OR OUTPUT?

Q Is the marketability discount a valuation input or an output of the valuation?

A Two ways to determine the value of an illiquid minority interest in relationship to a marketable minority base level of value

1. Indirectly using market approach methods. Determine MMV and then apply MD. There are no economics in the MD
2. Directly using income approach methods. Determine MMV, determine NMV, and MD is the result

INPUT OR OUTPUT?

Q Is the marketability discount a valuation input or an output of the valuation?

A The marketability discount reflects the difference between two prices – one nonmarketable and the other marketable. There is no economic content in a marketability discount. Therefore, it is a result of the valuation and not a driver

Valuation Ratio. A fraction in which a value or price serves as the numerator and financial, operating, or physical data serves as the denominator

Question: Is the marketability discount we just looked at a valuation ratio?

INPUT OR OUTPUT?

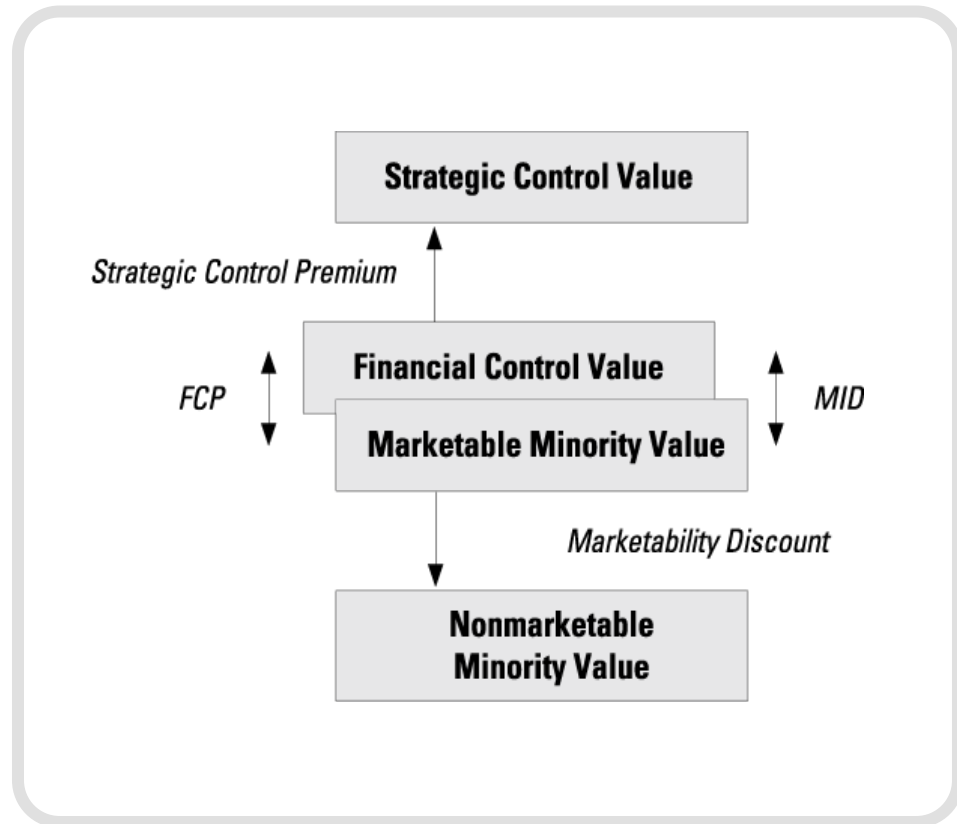
Q Is the marketability discount a valuation input or an output of the valuation?

A “An amount or percentage deducted from the value of an ownership interest to reflect the relative absence of marketability”

International Glossary

PITFALLS WITH LEVELS OF VALUE

The Job Aid emphasizes that proper application of a marketability discount requires that the base value be clearly specified. What are some common pitfalls you see with respect to incorporating the Levels of Value in appraisals?



BUY-SELL AGREEMENTS

Q The Job Aid says that valuation analysts should be sure to review the buy-sell agreement, if one exists. Chris, you've been speaking and writing about buy-sell agreements a lot over the past few years, what effect does a buy-sell agreement have on marketability discount analysis?

If an appraiser thinks a buy-sell agreement does affect marketability, how can that be considered?

A USPAP SR 9-4(d)

d) An appraiser must, when necessary for credible assignment results, **analyze the effect on value**, if any, of the extent to which the interest appraised contains elements of ownership control and is marketable and/or liquid

Comment: An appraiser must **analyze factors such as holding period, interim benefits, and the difficulty and cost of marketing the subject interest**. Equity interests in a business enterprise are not necessarily worth the pro rata share of the business enterprise interest value as a whole. Also, the value of the business enterprise is not necessarily a direct mathematical extension of the value of the fractional interests. **The degree of control, marketability and/or liquidity or lack thereof depends on a broad variety of facts and circumstances that must be analyzed when applicable.**

ABUSE OR MISUSE OF MODELS

Q In the executive summary, the Job Aid cautions that “[a]ny model or estimating technique can be misused and abused.”

When you are using a model, how do you ensure that you are not misusing or abusing it?

A INCOME METHODS

- » Understand the model that you are using
- » Specify and justify the assumptions
- » Compare with history and reasonable outlook
- » Test the reasonableness of the conclusion in any way that you can

MARKET METHODS

- » Are the companies and/or transactions you are looking at comparable?
- » Is pricing contemporaneous with valuation date?
- » Are the transactions considered comparable to the interest that you are valuing?
- » Test the reasonableness of the conclusion in any way that you can

THE SELLER'S PERSPECTIVE

Q The Job Aid emphasizes the importance of the hypothetical willing seller. What is a hypothetical willing seller? How does he/she compare or relate to a hypothetical willing buyer?

In what ways can appraisers inadvertently overlook the seller's perspective in fair market value determinations?

A Fair Market Value

The price, expressed in terms of cash equivalents, at which property would change hands between a hypothetical willing and able buyer and a hypothetical willing and able seller, acting at arm's length in an open and unrestricted market, when neither is under compulsion to buy or sell and when both have reasonable knowledge of the relevant facts

- » There's no party (and no transaction) if both aren't present
- » Buyers seek to minimize price, sellers to maximize proceeds. The result of the dance determines fair market value
- » "Nobody would buy this thing, therefore it's worthless"

MARKETABILITY AND LIQUIDITY

As described in the Job Aid, some appraisers attempt to distinguish between marketability and liquidity.

How do you think of those terms?

Is it just a matter of semantics, or an economic reality that appraisers need to think about?

The distinction between “marketability” and “liquidity” is academic, at best

Liquidity

- » The ability to **quickly convert property** to cash or pay a liability
- » The ability to readily convert an asset, business, business ownership interest, security or intangible asset into cash **without significant loss of principal**

Marketability

- » The ability to **quickly convert property** to cash **at minimal cost**
- » The capability and ease of transfer or salability of an asset, business, business ownership interest, security or intangible asset

MOST IMPORTANT FACTORS

Q From the list of factors influencing marketability that were discussed earlier, which have you found to be most important when thinking about marketability discounts for specific subject interests?

A The value of the subject illiquid interest is a function of the expected cash flows to be derived from the interest (including expected growth) and the risks associated with achieving those cash flows. In the case of a subject illiquid interest, those risks included the risks of the underlying enterprise as well as any incremental risks associated with the subject interest

SUMMARY OF SHAREHOLDER-LEVEL FACTORS

R HP CF

<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Expected distribution/dividend yield
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Growth of expected distributions
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<hr/>			
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Uncertainties of exp. holding period
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Potential for IPO
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Attractiveness for sale
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Consolidating market in industry
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Unlikely candidate for merger/sale/acq.
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Ages of major shareholders/owners
<hr/>			
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Exp. holding period monitoring costs
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Adverse CF potential in tax pass-thru ent.

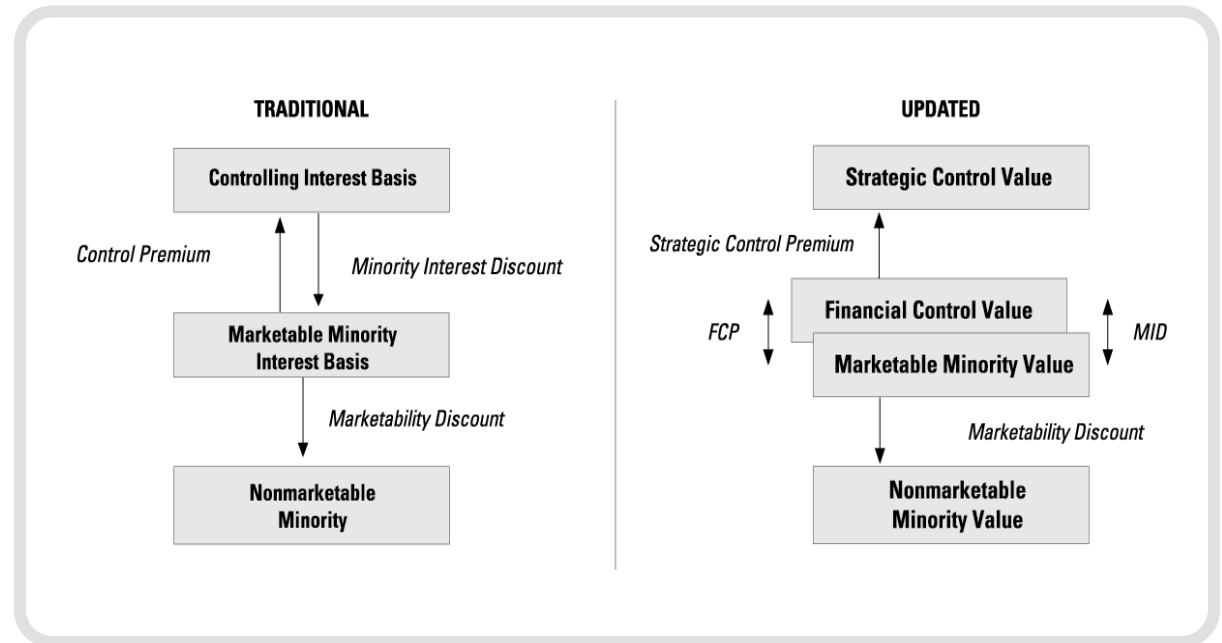
R HP CF

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<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Unattractive asset mix
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<hr/>			
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Breadth of market (no. of buyers)
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Likely candidate for merger/sale/acquisition
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Ownership concentration risks
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Restrictions on transfer - general (e.g., ROFRs)
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Restrictions on transfer - onerous
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Small shareholder base

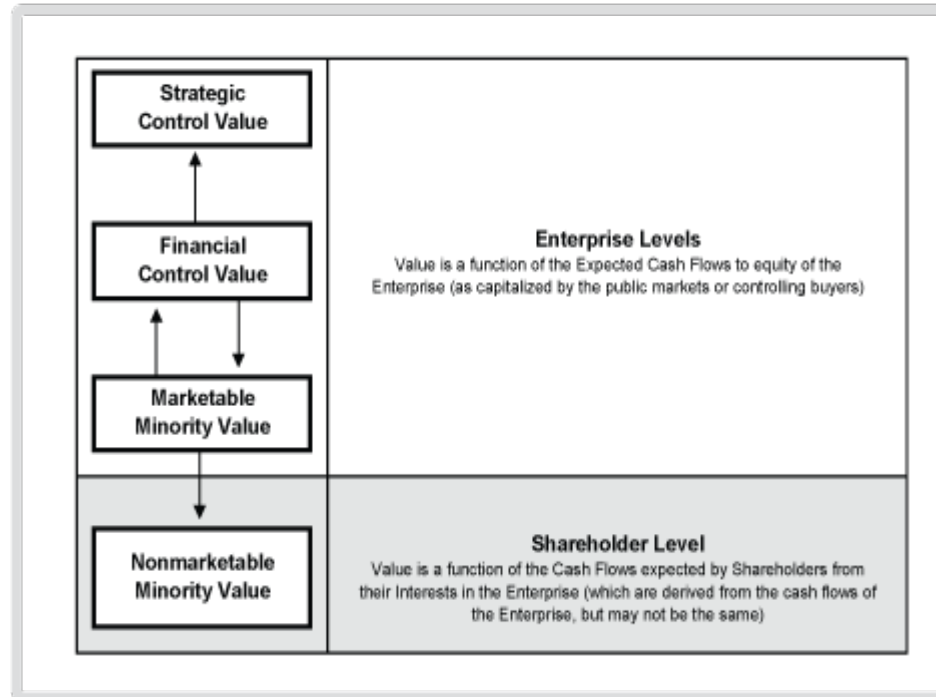
ENTERPRISE VALUE VS. SHAREHOLDER VALUE

You often refer to “enterprise value” and “shareholder value.”

Please elaborate on that distinction and why it is valuable.



ENTERPRISE VALUE VS. SHAREHOLDER VALUE



ENTERPRISE VALUE VS. SHAREHOLDER VALUE

Enterprise
Cash Flows

Shareholder
Cash Flows

	Conceptual Math	Relationships	Value Implications
Strategic Control Value	$\frac{CF_{e(c,s)}}{R_s - [G_{mm} + G_s]}$	$CF_{e(c,s)} \geq CF_{e(c,f)}$ $G_s \geq 0$ $R_s \leq R_{mm}$	$V_{e(c,s)} \geq V_{e(c,f)}$
Financial Control Value	$\frac{CF_{e(c,f)}}{R_f - [G_{mm} + G_f]}$	$CF_{e(c,f)} \geq CF_{e(mm)}$ $G_f \geq 0$ $R_f = R_{mm}$ (+/- a little)	$V_{e(c,f)} \geq V_{mm}$
Marketable Minority Value	$\frac{CF_{e(mm)}}{R_{mm} - G_{mm}}$	$G_v = R_{mm} - \text{Div Yld}$	V_{mm} is the benchmark for the other levels
Nonmarketable Minority Value	$\frac{CF_{sh}}{R_{sp} - G_v}$	$CF_{sh} \leq CF_{e(mm)}$ $G_v \leq R_{mm} - \text{Div Yld}$ $R_{sp} \geq R_{mm}$	$V_{sh} \leq V_{mm}$

RESTRICTED STOCK STUDIES

Q The Job Aid says that restricted stock studies “imply an unusually high return on investment in small company restricted stock.” By our calculations, those implied returns have been on the order of 20% to 30%, maybe a bit more. How do you interpret these implied returns? Do they strike you as “unusually high”?

A » The best answer to this question begins with a practical question: “How do we calculate the rate of return on an investment in a small company restricted stock?”

» Potential misunderstanding from the IRS (shared by many) regarding what rates of return are actually embedded within restricted stock transactions

RESTRICTED STOCK STUDIES

Growth rate = 15%

2-Year Dribble Out Period

2-yr rule
144 restriction

	0	1	2	3	4
Public Price	1.00	1.15	1.32	1.52	1.75
Restricted Price	.75				
Implied return			32.8%	26.5%	23.5%

PRE-IPO MODELS

Q The Job Aid says that pre-IPO discounts are generally higher than restricted stock discounts.

To what do you attribute this difference?

A There's a whole lotta shakin' going on

Hypothetical IPO Candidate Analysis

IPO Candidate Background		Pre-Split Basis	Assumed IPO Multiple Range (Split-Adjusted Basis)				
			14.0	16.0	18.0	20.0	
1	Net Income (after taxes)	\$3,000,000	Given	\$3,000,000	\$3,000,000	\$3,000,000	\$3,000,000
2	Shares Outstanding	400,000	Given	4,000,000	4,000,000	4,000,000	4,000,000
3	Earnings Per Share	\$7.50	Line 1 / Line 2	\$0.75	\$0.75	\$0.75	\$0.75
4	As If Freely Tradable P/E	12.0	Assumption	12.0	12.0	12.0	12.0
5	Implied Marketable Minority Value	\$90.00	Line 3 x Line 4	\$9.00	\$9.00	\$9.00	\$9.00
6	Assumed Marketability Discount	(\$31.50)	35.0%	(\$3.15)	(\$3.15)	(\$3.15)	(\$3.15)
7	Nonmarketable Minority Value/Share	\$58.50		\$5.85	\$5.85	\$5.85	\$5.85
8	Market Cap of Equity (Freely Tradable)	\$36,000,000	Line 1 x Line 4	\$36,000,000	\$36,000,000	\$36,000,000	\$36,000,000
Stock Split Prior to IPO							
9	Stock Split Prior to IPO (Assumption)	9.0	New Shares Per Old Share				
10	New Shares to Existing Shareholders	3,600,000	Line 9 x Line 2				
11	Shares Outstanding (before IPO)	4,000,000	Line 2 + Line 10				
Adjusted Pre-IPO Valuation Factors							
12	Adjusted Pre-IPO Valuation (Freely Tradable)	\$9.00	Line 8 / Line 11				
13	Adjusted Pre-IPO Valuation (Nonmarketable)	\$5.85	Line 12 x (1 - 35%)				
14	Adjusted Earnings Per Share	\$0.75	Line 1 / Line 11				
Assumed IPO Parameters							
15	New Money to be Raised	\$8,180,000	Assumption	\$9,750,000	\$11,400,000	\$13,200,000	\$15,000,000
16	New Earnings on New Money	5.0%	Assumption	\$487,500	\$570,000	\$660,000	\$750,000
17	Pro Forma Earnings if Public	\$3,409,000	Lines 1 + 15	\$3,487,500	\$3,570,000	\$3,660,000	\$3,750,000
18	Assumed IPO Multiples	12.0	Assumptions	14.0	16.0	18.0	20.0
19	Approximate Pro Forma Capitalization	\$40,908,000		\$48,825,000	\$57,120,000	\$65,880,000	\$75,000,000
20	Old Money/Insider Sales %	80.00%	100% - Line 22 %	80.03%	80.04%	79.96%	80.00%
21	Shares Outstanding (before IPO)	4,000,000	Line 11	4,000,000	4,000,000	4,000,000	4,000,000
22	New Money as % of Capitalization	20.00%	Line 15 / Line 19 (Rounded)	19.97%	19.96%	20.04%	20.00%
23	New Shares to be Issued	1,000,000	(Line 21 / Line 20) - Line 2	998,126	997,501	1,002,501	1,000,000
24	Pro Forma Shares Outstanding	5,000,000	Line 21 + Line 23	4,998,126	4,997,501	5,002,501	5,000,000
25	Pro Forma EPS (rounded)	\$0.68	Line 17 / Line 24	\$0.70	\$0.71	\$0.73	\$0.75
26	Dilutive (-) Impact of New Shares on EPS	-9.3%	1 - (Line 25 / Line 14)	-6.7%	-5.3%	-2.7%	0.0%
27	Approximate IPO Price Per Share	\$8.16	Line 25 x Line 18	\$9.80	\$11.36	\$13.14	\$15.00
28	Implied IPO Discount	28.3%	1 - (Line 13 / Line 27)	40.3%	48.5%	55.5%	61.0%
Calculations Giving Effect for All Assumptions of the IPO							
Bolded Items are Assumptions. Bold Italics are key calculations.							

MANDLEBAUM ANALYSIS

Q Regarding the Mandelbaum factors, the Job Aid warns that how the factors are applied and the identifying the effect on the discount is problematic. What guidance would you offer appraisers seeking to use a Mandelbaum analysis in support of DLOM?

A See following slides

Exhibit 4-1

Mandelbaum v. Commissioner

A Summary of the Court's Marketability Discount Analysis

Factors Considered in Case	Estimated Discounts Relative to the Court's "Benchmark Range"				Court's Qualitative Assessment Relative to Benchmark	Comments
	Estimate	35%	40%	45%		
1 Financial Statement Analysis	10.0%				Below	<i>Relates to Stipulated Enterprise Valuation</i>
2 Company's Dividend Policy	20.0%				Below	Shareholder-Level Consideration
3 Nature of the Company, etc.	20.0%				Below	<i>Relates to Stipulated Enterprise Valuation</i>
4 Company's Management	20.0%				Below	<i>Relates to Stipulated Enterprise Valuation</i>
5 Amount of Control in Shares			40.0%		Average	Shareholder-Level Considerations
6 Restrictions on Transferability				50.0%	Average to Above-Average	Shareholder-Level Considerations
7 Holding Period for Stock			40.0%		Neutral	Shareholder-Level Considerations
8 Company's Redemption Policy	20.0%				Below	Shareholder-Level Considerations
9 Costs of Public Offering				50.0%	Average to Above-Average	Shareholder-Level Considerations
<hr/>						
Implied Marketability Discount (Average of #1 - #9)		30.0%				Assumptions match the Court's conclusion <i>(In other words, assumptions like these are required to validate a 30% marketability discount)</i>
Implied Marketability Discount (Average of #2 and #5 to #9)		36.7%				Includes only Shareholder-Level Considerations <i>(Same considerations would call for 35%-40% discount)</i>

Exhibit 4-2

Mandelbaum v. Commissioner

Mercer's Alternative Shareholder-Level Analysis

Based Upon Review of the Case

Factors Considered in Case	Revised Estimated Discounts Relative to the Court's "Benchmark Range"				Alternative Qualitative Assessment Relative to Benchmark	Comments
	Estimate	35%	40%	45%		
1 Financial Statement Analysis		na		na	Below- to Above- (but na)	Company is profitable, well-capitalized, and sizeable (although performance is sharply deteriorating over time)
2 Company's Dividend Policy	20.0%				Below-Average	Some dividend, but low and unpredictable (better in 1990)
3 Nature of the Company, etc.			na		Average (but na)	
4 Company's Management				na	Below-Average (but na)	
5 Amount of Control in Shares			40.0%		Average	Dealing with a small minority interest
6 Restrictions on Transferability				80.0%	Substantially Above-Average	Right of First Refusal has "chilling effect" relative to no restrictions. Other features are scary. If buyer has to exit, dependent upon other shareholders for "fair" treatment. This is a real concern. A different concern than the fact of buy-sell
7 Holding Period for Stock				80.0%	Substantially Above-Average	High probability of maintaining family control. Likely long holding period deepens buyer's concerns Stated intent not to go public or sell and to keep in family <i>Uncertainty</i> over holding period length is considerable
8 Company's Redemption Policy			40.0%		Average	A 1974 redemption for a "partner" provides little comfort for a non-family willing buyer. However, most private companies lack formal policies
9 Costs of Public Offering	na				na	For reasons noted above
Implied Marketability Discount (Average of #1 - #8)			52.0%			versus 30% per <i>Mandelbaum</i> <i>Includes all the Court's considerations with an alternative, judgmental assessment of impact of the facts of the case</i>

SECURITIES-BASED APPROACHES

Q Discussing securities-based approaches, the Job Aid notes that traditional put option techniques protect investors from downside risk, but leave the upside potential.

In your view, does this invalidate use of such approaches?

A See following slides

$$C = SN(d_1) - Ke^{-rT}N(d_2)$$

Where:

- C = Call option price
- S = the price of the underlying asset
- K = the strike price of the call option
- r = the risk-free interest rate
- T = the time to expiration
- $N(d)$ = the cumulative standard normal distribution function
- $d_1 = \frac{\ln(S/K) + (r + \sigma^2/2)T}{\sigma T^{0.5}}$ (a measure of volatility)
- $d_2 = d_1 - \sigma T^{0.5}$ (a second measure of volatility)
- σ = the standard deviation of the underlying asset's return
- $\ln(S/K)$ = the natural logarithm of S/K
- e^{-rT} = the exponential function of $-rT$. e^{-rT} is the present value factor when r is continuously compounded for T periods and Ke^{-rT} is the present value of K .

**BLACK-SCHOLES OPTION PRICING MODEL
PREDICTED DISCOUNTS FOR ILLIQUIDITY (MARKETABILITY DISCOUNTS)
ON NON-DIVIDEND PAYING STOCKS**

Stock Price = \$100

Strike Price = \$100 + Time Value of Money

Risk Free Rate = 6%

Volatility Factor	Term in Months							
	3	6	9	12	18	24	30	36
	Predicted Marketability Discounts							
10%	2.0%	2.8%	3.5%	4.0%	4.9%	5.6%	6.3%	6.9%
20%	4.0%	5.6%	6.9%	8.0%	9.8%	11.3%	12.6%	13.8%
30%	6.0%	8.5%	10.3%	11.9%	14.6%	16.8%	18.8%	20.5%
40%	8.0%	11.3%	13.8%	15.9%	19.4%	22.3%	24.8%	27.1%
50%	10.0%	14.0%	17.1%	19.7%	24.1%	27.6%	30.7%	33.5%
60%	11.9%	16.8%	20.5%	23.6%	28.7%	32.9%	36.5%	39.7%
70%	13.9%	19.6%	23.8%	27.4%	33.2%	37.9%	42.0%	45.6%
80%	15.9%	22.3%	27.1%	31.1%	37.6%	42.8%	47.3%	51.2%

ACADEMIC STUDIES

Q What do you make of the various academic studies (Wruck, Hertzell & Smith, etc.)?

Are they of any use to appraisers in practice?

A » Wruck, Hertzell, and Smith likely had no idea that business appraisers would read their articles. They were not written to that audience, nor had any intention to opine on DLoms for illiquid interests in closely held enterprises

» Abbott has also done additional academic work to attempt to inform appraisers more specifically. This work is helpful in understanding the nature of illiquidity and beginning to analyze its causes

» None have provided a framework or methodology for assessing DLom in specific cases. The Job Aid comes to the same conclusions

LONG INVESTING HORIZONS

Q The Job Aid also notes that some investors may naturally have long investing horizons.

What implications does this observation have for marketability discount analysis?

A » For investments with long or very long expected holding periods, market approach methods are of little use

» Income approach methods are the only realistic way to assess the interrelated impact of cash flows with a long duration, and the risks associated with those cash flows

» That's why the QMDM was developed beginning in the early 1990s

THE QMDM AND “CLAIRVOYANCE”

Regarding the QMDM, the Job Aid suggests that its use may leave appraisers “over-extended on their clairvoyance.”

Are you comfortable with that?

CLAIRVOYANCE

1. the supernatural power of seeing objects or actions removed in space or time from natural viewing
2. quick, intuitive knowledge of things and people; sagacity

THE QMDM AND “CLAIRVOYANCE”

Q Regarding the QMDM, the Job Aid suggests that its use may leave appraisers “over-extended on their clairvoyance.”

Are you comfortable with that?

A PROPHECY

- » the foretelling or prediction of what is to come
- » something that is declared by a prophet, especially a divinely inspired prediction, instruction, or exhortation

“Valuation of securities is, in essence, a prophecy as to the future and must be based on facts available at the required date of appraisal.”

(RR 59-60, SEC.3.03)

THE QMDM AND “CLAIRVOYANCE”

Q Regarding the QMDM, the Job Aid suggests that its use may leave appraisers “over-extended on their clairvoyance.”

Are you comfortable with that?

A “Valuation of securities is, in essence, a **prophecy** as to the future and must be based on facts available at the required date of appraisal, As a generalization, the prices of stocks which are traded in volume in a free and active market **by informed persons best reflect the consensus of the investing public as to what the future holds** for the corporations and industries represented. When a stock is closely held, is traded infrequently, or is traded in an erratic market, some other measure of value must be used. In many instances, the next best measure may be found in the prices at which the stocks of companies engaged in the same or a similar line of business are selling in a free and open market.”

(RR 59-60 Sec. 3.03)

PUBLIC VS. PRIVATE MULTIPLES

Q The Job Aid references differences in acquisition multiples of public and private targets.

Do you consider that difference to be illustrative of marketability or some other factor?

A The Job Aid dismisses this so-called method, and so do I

COMPELLING MARKET EVIDENCE

Q

From the Job Aid:

“[W]ithout a verifiable basis in the market, the valuator is asking the audience to take his result on faith based on what sounds reasonable rather than on what has been empirically demonstrated.”

In your opinion, what would constitute compelling market evidence for nonmarketable interests?

A

“Without an empirical basis in the market, the valuator is asking the audience...

...to take his result on faith based on what sounds reasonable...

...rather than on what has been empirically demonstrated”

- » Implicit assumption here - there is or should be market evidence for everything. In most appraisals, there is little or no market evidence to support their conclusions
- » Appraisers who are grounded in both the market and income approach provide balance in their appraisals consider the facts and circumstances of a subject investment at the valuation date, justify critical assumptions, employ “common sense, informed judgment, and reasonableness,” test the reasonableness of their conclusions in appropriate ways, **and then ask their audiences to take their results on faith**

PUBLISHED JUDICIAL OPINIONS

Q The Job Aid observes that courts can be a very questionable source when valuation guidance is desired.

How should appraisers interact with published judicial opinions?

A Courts look to appraisers for valuation guidance, not the other way around. If appraisers always followed the courts:

- » The taking of embedded gains tax liabilities in C corporations asset holding entities would still not be allowed. (*Davis* and subsequent cases now recognize this real liability)
- » Following the *Gross* case, appraisers would not tax-affect S corporation (tax pass-through) earnings
- » There are many other anomalies in statutory fair value in a number of states that still need to be corrected by good valuation evidence

PUBLISHED JUDICIAL OPINIONS

Q The Job Aid observes that courts can be a very questionable source when valuation guidance is desired.

How should appraisers interact with published judicial opinions?

- A**
1. Recognize that every judicial opinion is rendered in the context of unique facts and circumstances that are seldom (or never) precisely replicated
 2. Acknowledge if there is case guidance contrary to a position being taken, and provide the economic reasons for taking an alternate position
 3. Stick to your economic guns
 4. But never forget who is the judge!

THE FUTURE OF THE DLOM DEBATE

Q

You've said that the Job Aid is an important document that every appraiser and user of appraisal reports should read.

With respect to DLOMs, where should the profession go from here?

A

COMPARISON OF MEDIAN OBSERVATIONS
FMV RESTRICTED STOCK STUDY
TWO YEAR PORTION VS. ONE YEAR PORTION

	Two Year Overall	One Year Overall	Differences
	Medians	Medians	
Restricted Stock Discounts	22.2%	23.0%	0.8%
<i>Number of Transactions</i>	248	182	
Transaction Pricing			
Per Share Price	\$6.00	\$7.45	\$1.45
Offer Amount (\$mm)	\$4.7	\$5.1	\$0.4
% of Company Placed	10.8%	7.2%	-3.6%
Pre-Transaction Co. Stats (\$mm)			
Market Capitalization	\$51.6	\$104.3	\$52.7
Book Value	\$7.0	\$9.1	\$2.1
Price/Book Multiple	5.76	7.6	1.84
Total Assets	\$15.6	\$18.5	\$2.9
Revenues	\$12.8	\$4.4	-\$8.4
EBITDA	(\$0.4)	na	nm
Net Income	(\$0.9)	(\$6.8)	(\$6.9)
Operating Margin	-2.8%	-97.3%	-94.5%
Volatility	0.69	1.02	0.33
Z-Score	7.89	47.8	39.91
Dividend Yield	0.0%	0.0%	0.0%
Implied Market Cap/Revenues	4.0	23.7	19.7

Example #3
Guideline Company Analysis

Screens to FMV Study Two Year Portion of Data Base	
All Companies in Two year Data Base	248
Revenues \$25-\$100 Million	-194
Net Margins 5% to 12%	-36
Dividend Paying Stocks Eliminated	-5
Remaining in Guideline Group	13

Company	SICCode General	TransMonth	Years Before Val. Date	Total Revenues (\$ 000's)	Net ProfitMargin	Effective Holding Period (Yrs)*
Pharmakinetics Laboratories, Inc.	87	4/1/1990	14.2	\$26,758	10.4%	2.5
Presstek, Inc.	35	2/1/1996	8.3	\$27,611	10.4%	2.0
Ryan's Family Steak Houses, Inc.	58	3/1/1985	19.3	\$32,874	10.2%	2.8
Ryan's Family Steak Houses, Inc.	58	11/1/1985	18.6	\$32,874	10.2%	2.2
Mechanical Technology Incorporated	38	6/1/1996	8.0	\$29,748	9.8%	6.7
Telepictures Corporation	78	8/1/1984	19.8	\$74,186	8.2%	2.9
GENDEX Corporation	38	3/1/1991	13.3	\$29,385	8.1%	3.4
North American Holding Corporation	62	5/1/1987	17.1	\$36,677	8.0%	2.7
ICN Pharmaceuticals Inc.	28	8/1/1983	20.8	\$38,744	7.7%	2.8
Genus, Inc.	35	2/1/1995	9.3	\$63,616	6.6%	2.4
Concord Camera Corp.	38	1/1/1992	12.4	\$48,459	5.9%	2.2
Carrington Laboratories, Inc.	38	4/1/1995	9.2	\$25,430	5.6%	2.5
Electro-Nucleonics, Inc.	38	10/1/1981	22.7	\$34,959	5.0%	2.2
Medians			14.2	\$32,874	8.1%	2.5
Averages			14.8	\$38,563	8.1%	2.9
Lows			8.0	\$25,430	5.0%	2.0
Highs			22.7	\$74,186	10.4%	6.7

	Valuation Date					
Subject Company Example #3	73	5/31/2004	0.0	\$50,000	10.0%	9.0

Source: Analysis prepared by Mercer Capital using FMV Opinions Restricted Stock Study™

* Effective holding period estimated based on estimated period required to dribble shares under Rule 144 after a two year period of restriction on sales

Example #3a
Guideline Company Analysis

Screens to FMV Study Two Year Portion of Data Base	
All Companies in Two year Data Base	248
Revenues \$25-\$100 Million	-194
Net Margins 5% to 12%	-36
Dividend Paying Stocks Eliminated	-5
Remaining in Guideline Group	13

Shaded areas below represent possible questions re changes in discounts that the appraiser would be unable to answer

Company	SIC Code	Effective Holding Period (Yrs)*	FMV Restricted Stock Discounts			Assumed R for Public Companies		
			Implied Required Returns*			Implied Required Returns*		
			PriorMonth	TransMonth	SubMonth	PriorMonth	TransMonth	SubMonth
Pharmakinetics Laboratories, Inc.	87	2.5	0.0%	6.9%	8.5%	15.0%	18.3%	19.1%
Presstek, Inc.	35	2.0	16.3%	31.2%	32.1%	25.5%	38.2%	39.1%
Ryan's Family Steak Houses, Inc.	58	2.8	-15.7%	10.5%	6.4%	9.1%	19.7%	17.8%
Ryan's Family Steak Houses, Inc.	58	2.2	26.5%	8.5%	3.1%	32.7%	19.8%	16.7%
Mechanical Technology Incorporated	38	6.7	25.0%	33.3%	25.0%	20.1%	22.2%	20.1%
Telepictures Corporation	78	2.9	-4.7%	7.6%	9.0%	13.2%	18.1%	18.7%
GENDEX Corporation	38	3.4	10.7%	14.5%	26.5%	18.9%	20.5%	26.0%
North American Holding Corporation	62	2.7	24.7%	36.0%	36.0%	27.9%	35.9%	35.9%
ICN Pharmaceuticals Inc.	28	2.8	27.7%	14.1%	0.4%	29.0%	21.3%	15.2%
Genus, Inc.	35	2.4	18.3%	20.1%	30.2%	25.2%	26.4%	33.8%
Concord Camera Corp.	38	2.2	16.8%	15.5%	32.0%	25.1%	24.1%	37.1%
Carrington Laboratories, Inc.	38	2.5	12.6%	33.1%	50.6%	21.3%	34.9%	52.3%
Electro-Nucleonics, Inc.	38	2.2	-2.7%	-3.4%	25.1%	13.6%	13.3%	30.9%
Medians		2.5	16.3%	14.5%	25.1%	21.3%	21.3%	26.0%
Averages		2.9	12.0%	17.5%	21.9%	21.3%	24.1%	27.9%
Lows		2.0	-15.7%	-3.4%	0.4%	9.1%	13.3%	15.2%
Highs		6.7	27.7%	36.0%	50.6%	32.7%	38.2%	52.3%

Subject Company Example #3	73	9.0
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??

Concluded Marketability Discount

21.0%

Indications for Implied Holding Period Return for QMDM

Source: Analysis prepared by Mercer Capital using FMV Opinions Restricted Stock Study™
 *Implied returns calculated based on assumed R = 15% and the calculated effective holding period

GORDON MODEL “VALUATION”

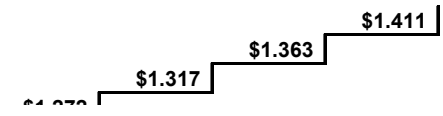
Enterprise-Level Assumptions

Expected Cash Flow	\$0.10
Long-Term Growth Rate	3.5%
Discount Rate	13.5%

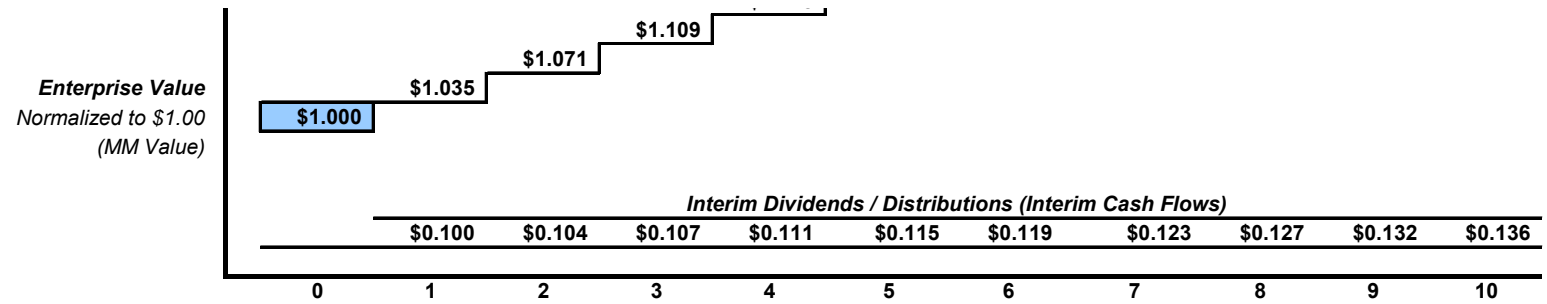
$$\text{Value} = \frac{\$0.10}{13.5\% - 3.5\%} = \boxed{\$1.00}$$

There is no “Black Box”

Enterprise Level Discounted Cash Flow Model	
1. Years of the Finite Forecast	10 years
2a. Dividend Payout = 100% / Dividend Yield	10.0%
2b. Expected Long-Term Growth in Cash Flows	3.5%
2c. Timing (Mid-Year or End of Year)	End
3a. Growth in Value of Enterprise	3.5%
4. Required Return (Enterprise Discount Rate)	13.5%



Value = f (Expected Cash Flow, Risk and Growth)



Discount Periods (Interim Cash Flows)	1.00	2.00	3.00	4.00	5.00	6.00	7.00	8.00	9.00	10.00
PV Factors (Interim Cash Flows)	0.8811	0.7763	0.6839	0.6026	0.5309	0.4678	0.4121	0.3631	0.3199	0.2819
PV Factor (Terminal Value)										0.2819

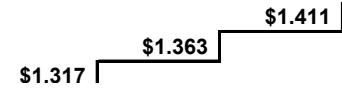
Nonmarketable Minority Value		Present Value of Interim Cash Flows and Terminal Value										
PVICF	\$0.602	60.2%	\$0.088	\$0.080	\$0.073	\$0.067	\$0.061	\$0.056	\$0.051	\$0.046	\$0.042	\$0.038
PVTV	\$0.398	39.8%										\$0.398
Ent. Value	\$1.000	100.0%										

$$\text{Value} = \frac{\$10}{13.5\% - 3.5\%} = \$1.00$$

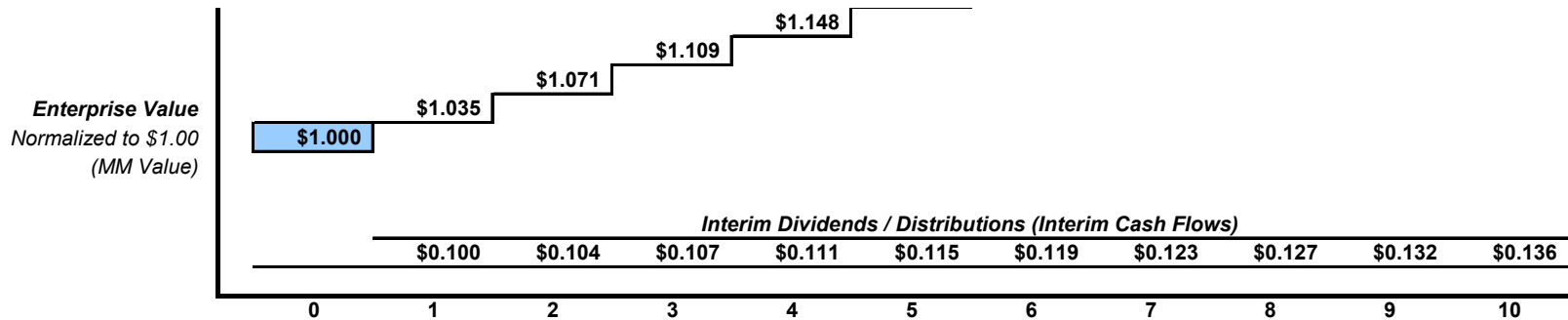
Shareholder Level DCF (QMDM) Inputs	
1. Expected Holding Period	10 years
2a. Expected Distribution / Dividend Yield	10.0%
2b. Expected Growth in Distributions / Dividends	3.5%
2c. Timing (Mid-Year or End of Year)	Mid
3a. Growth in Value over Holding Period	3.5%
3b. Premium/Discount to Projected Enterprise Value	0.0%
4. Required Holding Period Return	17.0%

Two Changes for Shareholder Level

- Mid-Year Distributions (to reflect reality)
- Add 3.5% for Shareholder-Level Risk



Value = f (Expected Cash Flow, Risk and Growth)



Discount Periods (Interim Cash Flows)	0.50	1.50	2.50	3.50	4.50	5.50	6.50	7.50	8.50	9.50
PV Factors (Interim Cash Flows)	0.9245	0.7902	0.6754	0.5772	0.4934	0.4217	0.3604	0.3080	0.2633	0.2250
PV Factor (Terminal Value)										0.2080

Nonmarketable Minority Value		Present Value of Interim Cash Flows and Terminal Value										
PVICF	\$0.566	65.9%	\$0.092	\$0.082	\$0.072	\$0.064	\$0.057	\$0.050	\$0.044	\$0.039	\$0.035	\$0.031
PVTV	\$0.293	34.1%										\$0.293
NMM Value	\$0.860	100.0%										

Derivation of Marketability Discount	
Marketable Minority Value (Enterprise Value)	\$1.000
Less: Nonmarketable Value (Shareholder Value)	\$0.860
Marketability Discount (\$)	\$0.140
Marketability Discount (%)	14.0%

QUANTITATIVE MARKETABILITY DISCOUNT MODEL (QMDM)

Conclusion of the Analysis

DCF Assumptions	Corresponding QMDM Assumptions	Model Inputs	
Forecast Period	Range of Expected Holding Periods (Years)	Low	10
		High	10
Projected Interim Cash Flows (during forecast period)	Expected Distribution / Dividend Yield	Yield	10.0%
	Expected Growth in Distribution / Dividend	Growth	3.5%
	Timing (Mid-Year or End of Year)	Timing	M
Projected Terminal Value (at end of forecast period)	Growth in Value over Holding Period	G _v	3.5%
	Premium or Discount to Marketable Value	Prem/Disc.	0.0%
Discount Rate	Range of Required Holding Period Returns	Low	16.0%
		High	18.0%
Base Value (Marketable Minority Interest)			\$1.00

Average Indicated Discounts for Selected Holding Periods (Mid-Point Return +/- 1%)			
Average of 2-4 Year HP	6%	Average of 5-10 Year HP	12%
Average of 5-7 Year HP	10%	Average of 10-15 Year HP	15%
Average of 8-10 Year HP	13%	Average of 15-20 Year HP	17%
Average of 10-20 Year HP	16%		

Concluded Marketability Discount	14.0%
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Concluded Marketability Discount **14.0%**

Required Holding Period	Assumed Holding Periods in Years														
	1	2	3	4	5	6	7	8	9	10	15	20	25	30	
	Implied Marketability Discounts														
13.0%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
14.0%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
15.0%	1%	1%	2%	2%	3%	3%	4%	4%	4%	4%	5%	6%	6%	6%	
16.0%	1%	3%	4%	5%	6%	7%	8%	8%	9%	9.4%	11%	12%	13%	13%	
17.0%	2%	4%	6%	8%	9%	10%	11%	12%	13%	14.0%	17%	18%	19%	19%	
18.0%	3%	6%	8%	10%	12%	14%	15%	16%	17%	18.3%	22%	23%	24%	25%	
19.0%	4%	7%	10%	13%	15%	17%	18%	20%	21%	22%	26%	28%	29%	29%	
20.0%	5%	9%	12%	15%	18%	20%	22%	23%	25%	26%	30%	32%	33%	33%	
21.0%	5%	10%	14%	17%	20%	23%	25%	26%	28%	29%	34%	36%	36%	37%	

PV=100%

RETURNS EXPECTED TO BE REALIZED OVER VARIOUS HOLDING PERIODS GIVEN MARKETABILITY DISCOUNT SELECTED

Discount Applied	1.00%	Subsequent Holding Period in Years														
	<i>Selected Discount Increment</i>	1	2	3	4	5	6	7	8	9	10	15	20	25	30	
	10.0%	28%	21%	19%	18%	17%	17%	17%	16%	16%	16%	16%	16%	16%	16%	15%
11.0%	29%	22%	19%	18%	18%	17%	17%	17%	16%	16%	16%	16%	16%	16%	16%	
12.0%	31%	23%	20%	19%	18%	18%	17%	17%	17%	17%	17%	16%	16%	16%	16%	
13.0%	32%	23%	21%	19%	18%	18%	17%	17%	17%	17%	17%	16%	16%	16%	16%	
14.0%	34%	24%	21%	20%	19%	18%	18%	17%	17%	17%	17%	16%	16%	16%	16%	
15.0%	36%	25%	22%	20%	19%	18%	18%	18%	17%	17%	17%	17%	16%	16%	16%	
16.0%	37%	26%	22%	20%	19%	19%	18%	18%	18%	18%	17%	17%	17%	16%	16%	
17.0%	39%	27%	23%	21%	20%	19%	19%	18%	18%	18%	18%	17%	17%	17%	17%	
18.0%	41%	27%	23%	21%	20%	19%	19%	18%	18%	18%	18%	17%	17%	17%	17%	

QUESTIONS?

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