THE FIVE
REALLY BIG
VALUATION ISSUES

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S: Lucy/Schroeder

2014 AICPA/AAML National Conference on Divorce

Context for Discussing Big Issues

BVS-VII Valuation Discounts and Premiums

II. 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.

Source: American Society of Appraisers, *2009 ASA Business Valuation Standards*

N: The Biggest Issue

The Biggest Issue

Understanding what drives valuation of an asset (always expected cash flow, expected growth of the cash flows, and the expected risk of achieving them)

from the viewpoint of the relevant (hypothetical or real) **buyers and sellers** in **the market(s) for the asset** (i.e., relevant market participants)

and **in the context of the relevant standard of value** (fair market value, fair value, investment value,other)

N: Gordon Model

The Gordon Growth Model

$$V_0 = \frac{CF_1}{r - g}$$

Expected Cash Flow, Risk, and Growth

General Valuation Model

$$\text{Value} = \text{Earnings} \times \text{Multiple}$$

- Value = CF * 1/(r – g)
- Value = CF * M

N: DCF

Expected Cash Flow, Risk, and Growth

Definition of Enterprise Value / DCF

$$\text{Value} = V_0 = \left(\frac{CF_1}{(1+r)^1} + \frac{CF_2}{(1+r)^2} + \frac{CF_3}{(1+r)^3} + \frac{CF_4}{(1+r)^4} + \ldots + \frac{CF_n}{(1+r)^n} \right)$$

Expected Cash Flow, Risk, and Growth

General Valuation Model (Enterprise)

$$\text{Value} \ = \ V_0 \ = \ \frac{CF_1}{(1+r)^1} + \frac{CF_2}{(1+r)^2} + ... + \frac{CF_n}{(1+r)^n} \ = \ V_0 = \frac{CF_1}{(r-g)}$$

- If all cash flows are reinvested in the business at "r" (or all cash flows are distributed)

- and if CF grows at a constant rate of "g"

N: Two-Stage DCF

Expected Cash Flow, Risk, and Growth

Two Stage DCF Model (Enterprise)

Finite Forecast Period

Terminal Value

$$V_0 = \frac{CF_1}{(1+r)^1} + \frac{CF_2}{(1+r)^2} + ... + \frac{CF_f}{(1+r)^f} + \frac{CF_{f+1}/r-g}{(1+r)^f}$$

- Present value of expected cash flows for a finite number of years (i.e., for a discrete forecast period)

- Plus: Present value of all remaining cash flows at the end of the discrete forecast period

N: Shareholder Level DCF

Expected Cash Flow, Risk, and Growth

Shareholder Level DCF

DCF	Shareholder-Level DCF
Probable Future Economic Benefits	1. G_V
	2. $D_\%$
	3. $G_{D\%}$
	4. Holding Period
Discount Rate	5. R_{HP}

Perpetuity Concept   Finite Expected Holding Period

Enterprise Concept   Portion of Enterprise

Expected Cash Flow, Risk, and Growth

Nonmarketable Minority Level of Value

$$V_{SH} = \frac{CF_{SH}}{R_{HP} - G_V}$$

- $CF_{SH} \leq CF_E$
- $R_{HP} > R_E$

N: Valuation funnel

Expected Cash Flow, Risk, and Growth

Relevant Buyers

Strategic buyers
Public companies
Private companies
P/E groups

Financial buyers
Public companies
Private companies
P/E groups

Minority interest buyers
Institutions
P/E groups
Companies
Individuals

N: FMV

Fair Market Value Defined
Glossary *ASA Business Valuation Standards*

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.

Use this definition to help you in making key valuation decisions

Relevant Standard of Value

Fair Market Value

Hypothetical

WB

WS

2 x Informed

2 x No Compulsion

2 x Capacity

Hypothetical Transaction

Relevant Standard of Value

Fair Market Value

- Arms' length standard of value

- Represents hypothetical negotiations between hypothetical parties

- Reflective of rational thinking

- Responsive to market information

- Valuations should be defined in terms descriptive of behavior of market participants

- Estate of Verna Mae Crosby
  - Tax matter involving fair market value of promissory note
  - Use of definition and implications of fair market value won the day for the taxpayer

N: Integrated theory

Relevant Standard of Value

Expected Cash Flow, Risk, and Growth Determine the Level of Value

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

Exhibit 4.1: *Business Valuation: An Integrated Theory, 2nd Edition*

N: Context again

Context for Discussing Big Issues

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Source: American Society of Appraisers, *2009 ASA Business Valuation Standards*

N: Levels of value

Levels of Value
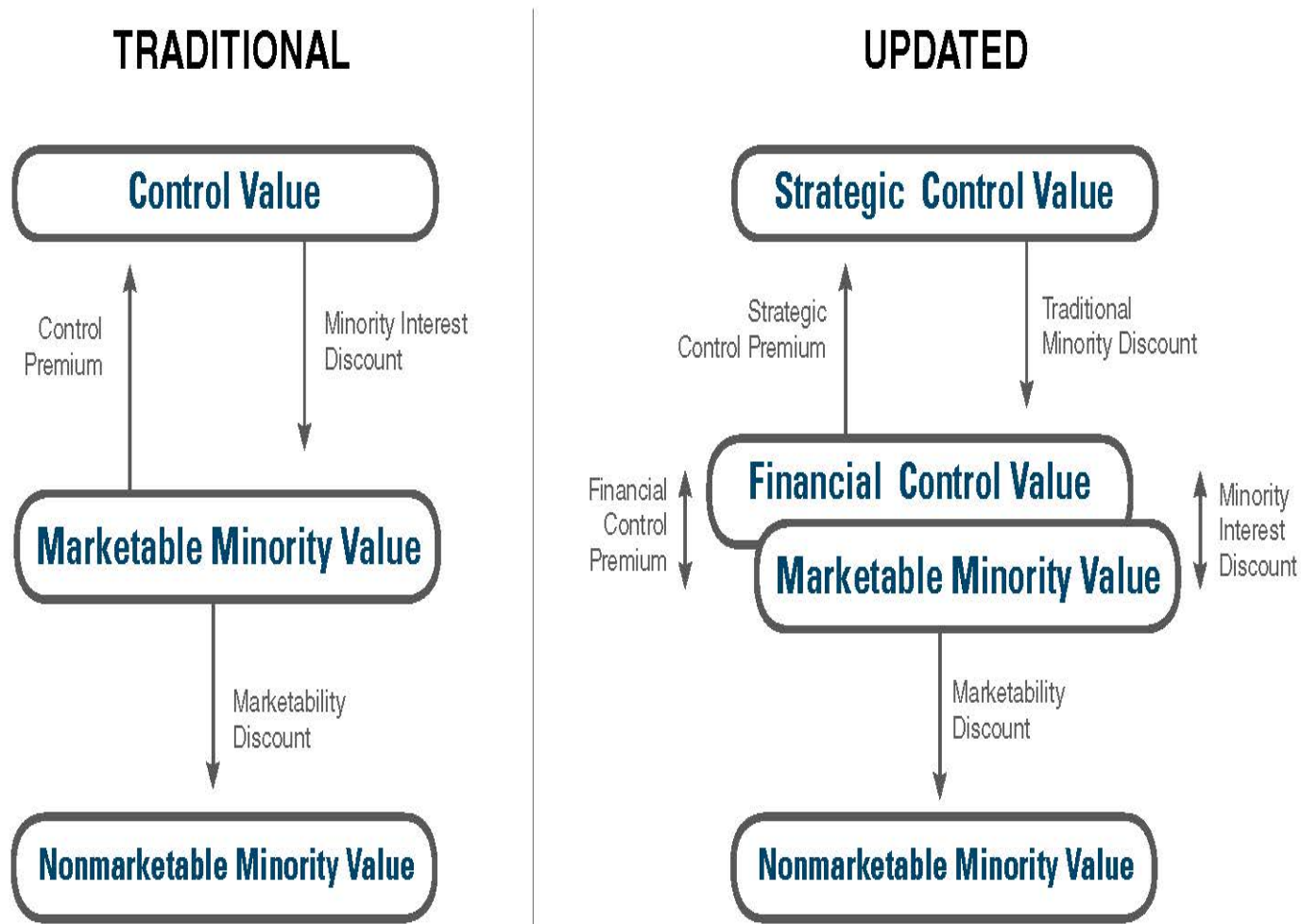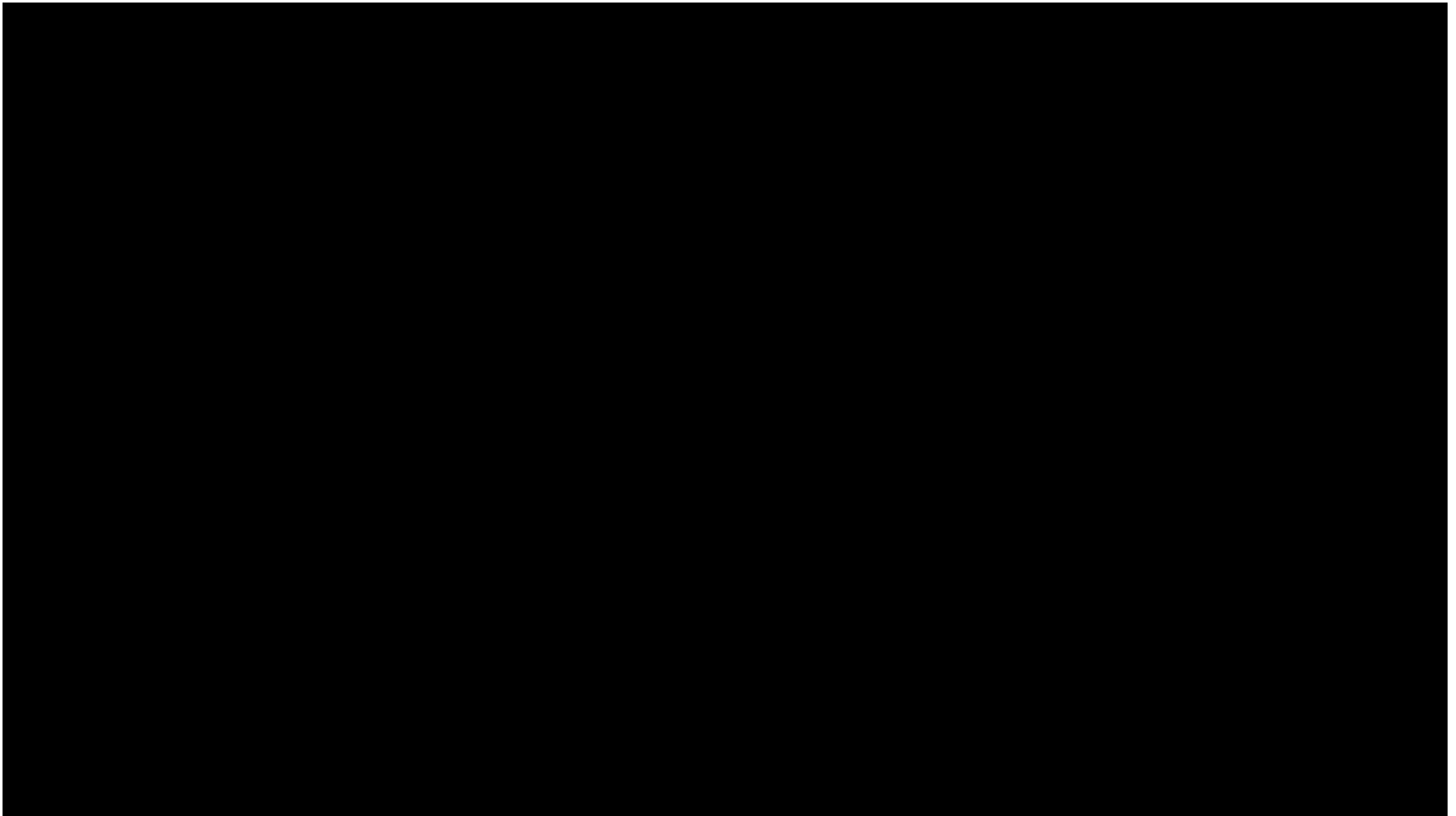
The Five Really Big Issues

1. Discount Rates (Risk)

2. Control Premiums and Minority Interest Discounts (Cash Flow)

3. Adjustments to the Income Statement (Cash Flow)

4. Guideline Public Company Method and the Guideline Transactions Method

5. Fundamental Adjustments (Cash Flow, Risk, Growth)

– Marketability Discounts

Issue One
Discount Rates

Discount Rates

Models

- CAPM
- Modified CAPM (MCAPM)
- Adjusted CAPM (ACAPM)
- Build-Up
- Duff & Phelps
- Butler Pinkerton – Total Beta
- Implied Private Company Pricing Model (IPCPM)
- Others

Components

- Treasuries
  - Nominal
  - Normalized
- ERP
- Beta
- Size premium
- Specific company risk
- Volatility of earnings, etc.
- Total beta
- Industry risk premiums

Relevant Buyers in the Market / Expected Cash Flows, Risk, and Growth

Discount Rates

The Big Problem with discount rates is that appraisers get focused on their models and model components to the exclusion of recognizing that *any subject asset discount rate must make sense in the context of the relevant market for the subject asset*

N: Sensitivity

Relevant Buyers in the Market / Expected Cash Flows, Risk, and Growth

Discount Rate Sensitivity

Discount Rate Sensitivity

Discount Rate Components		Appraiser 1	Appraiser 2	Appraiser 3
Risk-Free Rate	RFR	5.0%	5.0%	5.0%
Large Stock Premium	LSP	4.0%	5.0%	6.0%
Beta	β	0.9	1.0	1.1
Beta-Adjusted Large Stock Premium		3.6%	5.0%	6.6%
Small Stock Premium	SSP	2.0%	3.5%	5.0%
Specific Company Risk	SCR	2.0%	3.0%	4.0%
Estimated Discount Rate	**R**	**12.6%**	**16.5%**	**20.6%**
less: Estimated Core Earnings Growth	G_e	4.0%	4.0%	4.0%
Estimated Capitalization Rate		8.6%	12.5%	16.6%
Implied Earnings Multiple	**P/E**	**11.6**	**8.0**	**6.0**

Exhibit 6.2 from *Business Valuation: An Integrated Theory, 2nd Edition*

Which appraiser has the most reasonable discount rate?

Relevant Buyers in the Market / Expected Cash Flows, Risk, and Growth

Discount Rates
Terminal Value Using Gordon Model

WACC (r)	11.0%	
Long-term g	- 5.0%	

	6.0%	
1 / (r - g)	16.7x	applicable to NCF

- Reasonable or not?

- Terminal growth too high? Nothing grows at 5% forever?

- Implied EBITDA multiple is 9.0x when the current public company median multiple is 9.5x and transaction multiples are double digit. Reasonable or not?

- Gordon Model or Market Multiples for Terminal Value?

N: Discount rate relationships

Discount Rate Relationships

$R_{\text{Strategic Buyers}}$	$<$	$R_{\text{Financial Buyers}}$
$R_{\text{Financial Buyers}}$	$\leq$	$R_{\text{Public Co}}$
$R_{\text{Public Co}}$	$<$	$R_{\text{Illiquid Minority Investor}}$

Relevant Buyers

Strategic buyers
Public companies
Private companies
P/E groups

Financial buyers
Public companies
Private companies
P/E groups

Minority interest buyers
Institutions
P/E groups
Companies
Individuals

N: Issue 2, CP and MID

Relevant Buyers in the Market / Expected Cash Flows, Risk, and Growth

Issue Two
## **Control Premiums and Minority Interest Discounts**

Control Premiums & Minority Interest Discounts

1. If a strategic control level of value is appropriate, the use of CP added to a marketable minority value is inaccurate, unartful, inadequate, and almost certainly irrelevant

2. If a nonmarketable minority level of value is appropriate, the use of $(1 - 1/(1+CP) = MID)$ is inaccurate, inadequate, and almost certainly overstates any applicable MID

2a. No one pays for the so-called "prerogatives of control"

N: Levels of value

Relevant Buyers in the Market / Expected Cash Flows, Risk, and Growth

Levels of Value
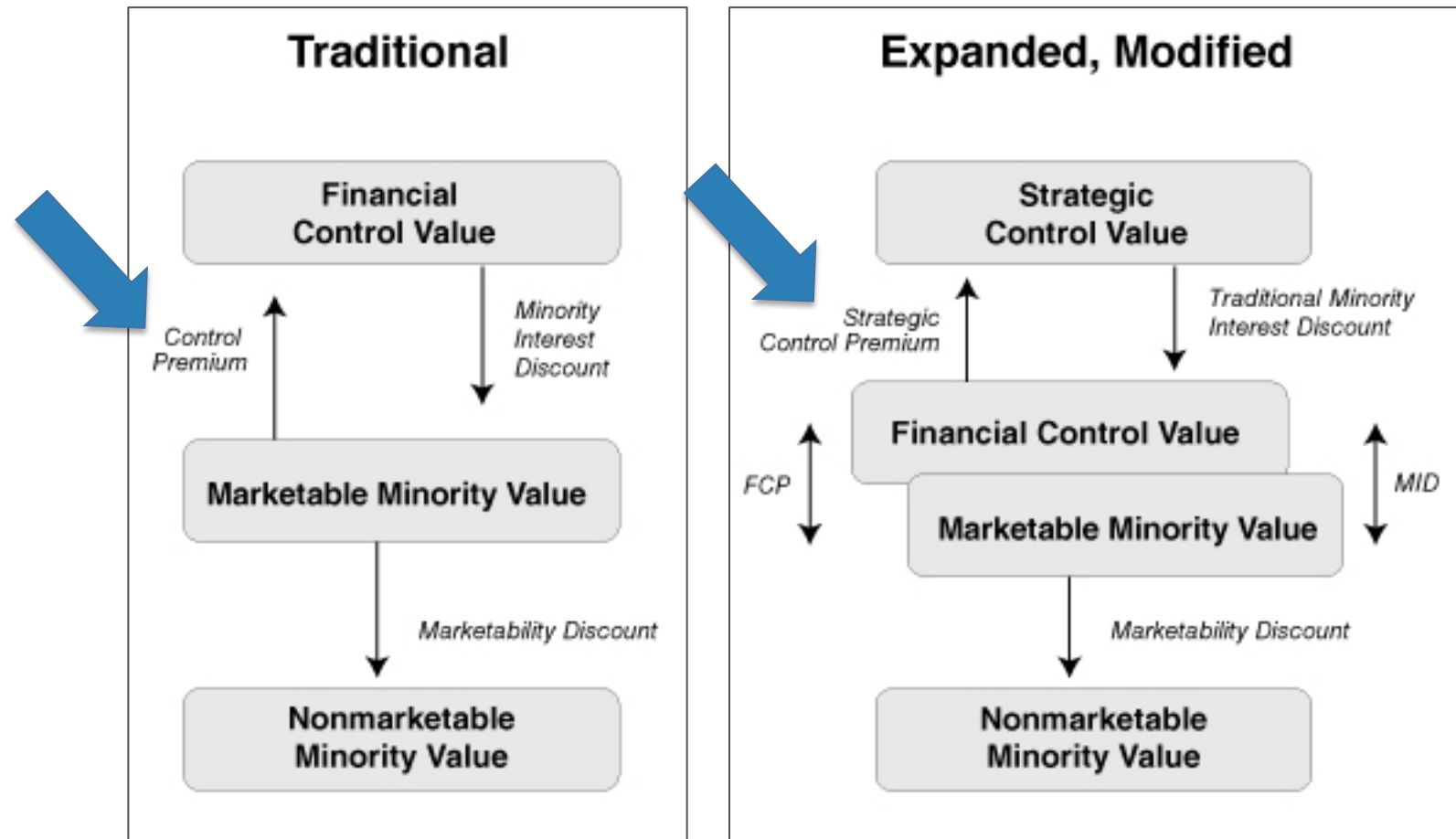
N: Results, not drivers

Control Premiums
Reflect Valuation Results - Not Valuation Drivers

- A control premium (CP) is observed when a public company is acquired at a price in excess of its pre-announcement, freely traded price – *it only measures a relationship between two prices*

- The announced acquisition price of a public enterprise, or control value (CV) can be shown as a function of its marketable minority, or pre-announcement value (MMV) as:

$$CP = (CV \: / \: \mathbf{MMV}) - 1$$

$$CV = \mathbf{MMV} * (1 + CP)$$

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

Control Premiums
Valuation Results, Not Drivers

- Prior to the announcement, marketable minority value reflected a given multiple of stand-alone, normalized earnings (or Earnings$_n$)

$$CV = (\textbf{Earnings}_\textbf{n} * \textbf{M}) * (1 + CP)$$

MMV

M = f(Cash flow, Risk)

Earnings = Expected Cash Flow, Growth

Expected Cash Flow, Risk, and Growth

Control Premiums
Valuation Results, Not Drivers

- The control value can also be expressed in terms of the control buyer's earnings expectation. Control values are based on expected *earning power from the viewpoint of prospective acquirers,* where the earning power is the level of earnings expected post-acquisition based on economies or synergies available to that purchaser (Earnings$_c$)

- The announced control value can also be expressed, from the viewpoint of the acquirer, as:

$$CV = \textbf{Earnings}_c \; * \; M_c$$

Inclusive of expected synergies

Control Premiums
Valuation Results, Not Drivers

- Combining these two expressions yields the following:

$$(\mathbf{Earnings_n} * M) \ * \ (1 + CP) = \mathbf{Earnings_c} * M$$

MMV
No synergies; stand-alone

Inclusive of expected synergies

- This expression clarifies that the control premium relates two expressions of value, the public market price on the left side of the equation and the announced acquisition price on the right. **Observed control premiums are not value drivers – rather they reflect the valuation result of underlying economic and financial factors.** Appraisers should be very careful in applying control premiums, particularly larges ones, in valuations

Expected Cash Flow, Risk, and Growth

Control Premiums
Valuation Results, Not Drivers

■ Finally, if we assume that the acquirer's discount rate and growth expectations (embedded in M) are the same as the market discount rate for the public company, the relationship can be simplified to the following:

$$\textbf{Earnings}_n * (1 + CP) = \textbf{Earnings}_c$$

Economics   Price Relationship   Economics
                 No Economics

Control Premiums
Valuation Results, Not Drivers

- Control Premiums or Valuation Multiples?

- Observed control premiums represent the net expected synergies/strategic benefits for winning bidder extracted by sellers
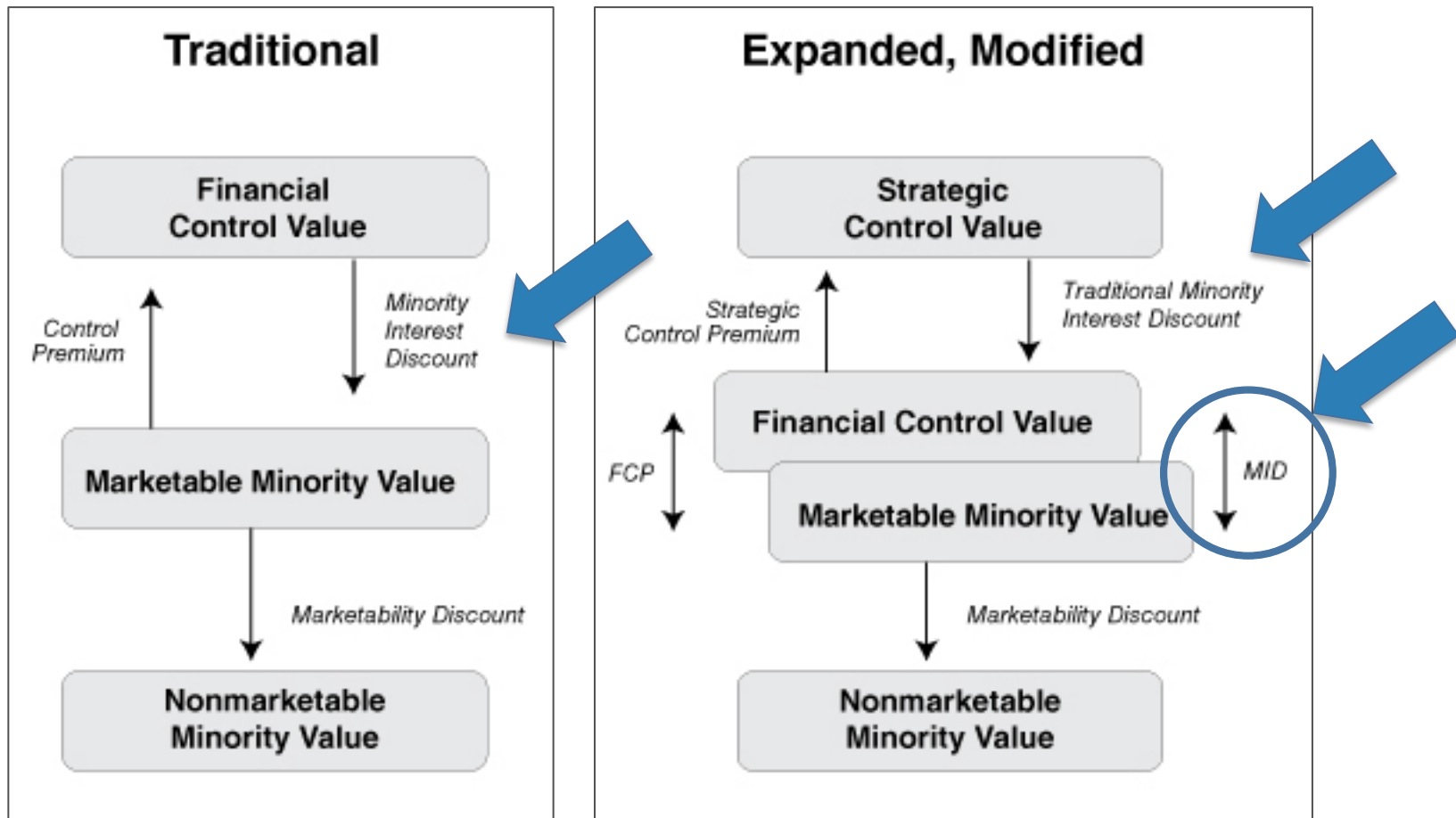
N: Prerogatives of control

So-Called "Prerogatives of Control"

- Appoint or change operational management
- Appoint or change members of the board of directors
- Determine management compensation and perquisites
- Set operational and strategic policy and change the course of the business
- Acquire, lease, or liquidate business assets, including plant, property, and equipment
- Select suppliers, vendors, and subcontractors with whom to do business and award contracts
- Negotiate and consummate mergers and acquisitions
- Liquidate, dissolve, sell out, or recapitalize the company
- Sell or acquire treasury shares
- Register the company's equity securities for an initial or secondary public offering
- Register the company's debt securities for an initial or secondary public offering

- Declare and pay cash and/or stock dividends
- Change the articles of incorporation or bylaws
- Set one's own compensation (and perquisites) and the compensation (and perquisites) of related-party employees
- Select joint venturers and enter into joint venture and partnership agreements
- Decide what products and/or services to offer and how to price those products or services
- Decide what markets and locations to serve, to enter into, and to discontinue serving
- Decide which customer categories to market to and which not to market to
- Enter into inbound and outbound license or sharing agreements regarding intellectual properties
- Block any or all of the above actions

S: Nath hypothesis

Levels of Value

N: MID

Minority Interest Discount

- Traditionally thought of as

$$MID = 1 - \frac{MM\ Value}{Control\ Value}$$

$$= 1 - \frac{1}{(1 + CP)}$$

If CP includes synergies, MID overstated maybe hugely

Synergies have nothing to do with prerogatives of control

Minority Interest Discounts Using Control Premium Data

- Just Don't Do It!

- Overstates

- Not theoretically or practically realistic

- Most market evidence suggests that MID is small or quite small or nonexistent

Control Premiums to Develop Strategic Control Values

- Recommend not using

- $V = f$ (Expected Cash Flow, Risk, and Growth)
  - Develop value directly

- CP embodies none of these economic metrics

- Small, judgmental CP to achieve Financial Control Level of Value? Maybe

N: Adj. to Inc. Statements

Issue Three
Adjustments to the Income Statement

Adjustments to the Earnings Stream

1. Minority interest valuations

   Failure to normalize the income statement "because the minority shareholder lacks the power to force the adjustment"

2. Understanding the difference between normalizing adjustments and "true" control adjustments

Relevant Buyers in the Market / Expected Cash Flows, Risk, and Growth

First Step
Adjustments to the Earnings Stream

- ## Normalizing Adjustments

  - To adjust privateco earnings to well-run publicco equivalent
  - Not "control" adjustments
  - Not a "facts and circumstances" judgment call

- ## Repeat after me

  - "Normalizing adjustments are not _____ _____

- ## Repeat after me

S: LLP interest function of value of underlying assets

Normalizing Adjustments

- Adjust the income statement to show the prospective purchaser the return from "normal" operations of the business

- Reveal "public equivalent" income stream

Normalizing Adjustments

- Two kinds of normalizing adjustments

Type 1	Eliminate one-time gains or losses, other unusual items, non-recurring business elements, adjust for expenses of non-operating assets, and the like
Type 2	Normalize officer/owner compensation to levels of comparable companies and adjust for other discretionary expenses that likely would not exist in a well-run publico

Levels of Value
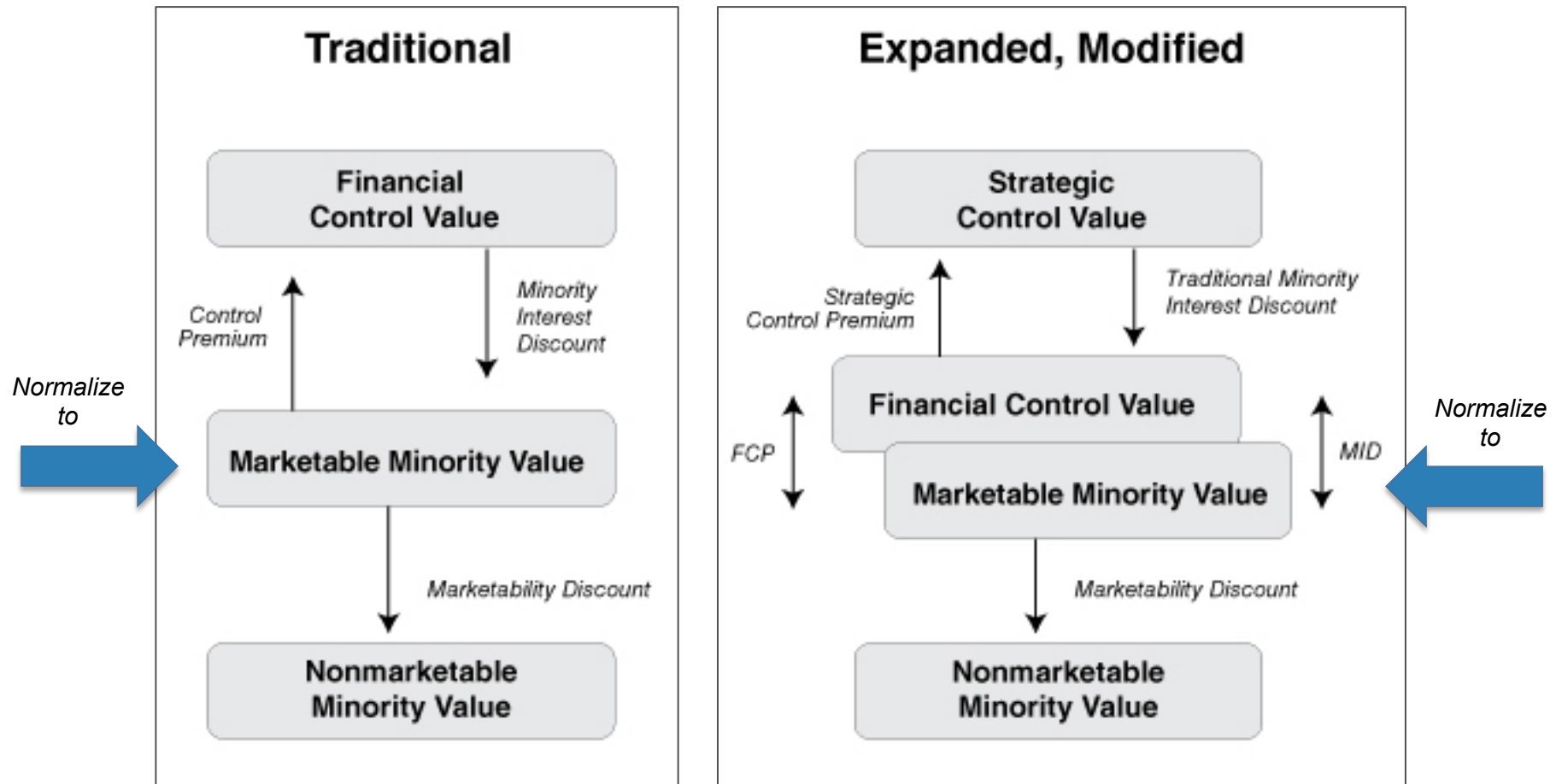
Normalizing Adjustments

- Reveal income stream that is source of POTENTIAL VALUE for buyer of minority interests (who must make investment decisions regarding if, when and how future value will be realized)

- Compensation adjustments to normalize owner salaries are not, not, control adjustments

- Repeat after me

- What is the resulting base value if normalizing adjustments are <u>not applied?</u>

- Explain what level of value it is – it is not marketable minority!

- Beginning mantra: "No valuation premium or discount…"

Normalizing Adjustments

- Reveal income stream that would be capitalized if there were an active public market

- Reveal income stream available to controlling interest buyer (who will gain control over income stream) and who may be able to adjust further with own control adjustments

Normalizing Adjustments

- Some appraisers believe Type 2 normalizing adjustments should not be made in minority interest valuations where interest conveys no control

  - Don't be confused by fact that minority shareholders of privatecos lack control to make normalizing adjustments. Minority shareholders of publicos lack control as well. They EXPECT "normalized" operations or else they walk away

  - Public shareholders have the "power" of marketability

  - Minority shareholders do not have this "power," and therefore offer lower prices if expected cash flows are less than enterprise cash flows and if expected holding period risks are greater than enterprise risks

    - **They still need to understand enterprise value before investing!**

Normalizing Adjustments

- If an appraiser fails to make Type 2 normalizing adjustments, earnings potential (& value potential) of subject company are not revealed

- Gift/estate tax example illustrates problems with failure to make Type 2 adjustments in minority interest appraisal

  - Gifting shareholder [Divorcing Owner] has current benefit of non-normalized compensation
  - AND benefit of lower taxes on gift [Value for Divorce Purposes]
  - Too good to be true?

- Divorce example

  - [See above]

Levels of Value
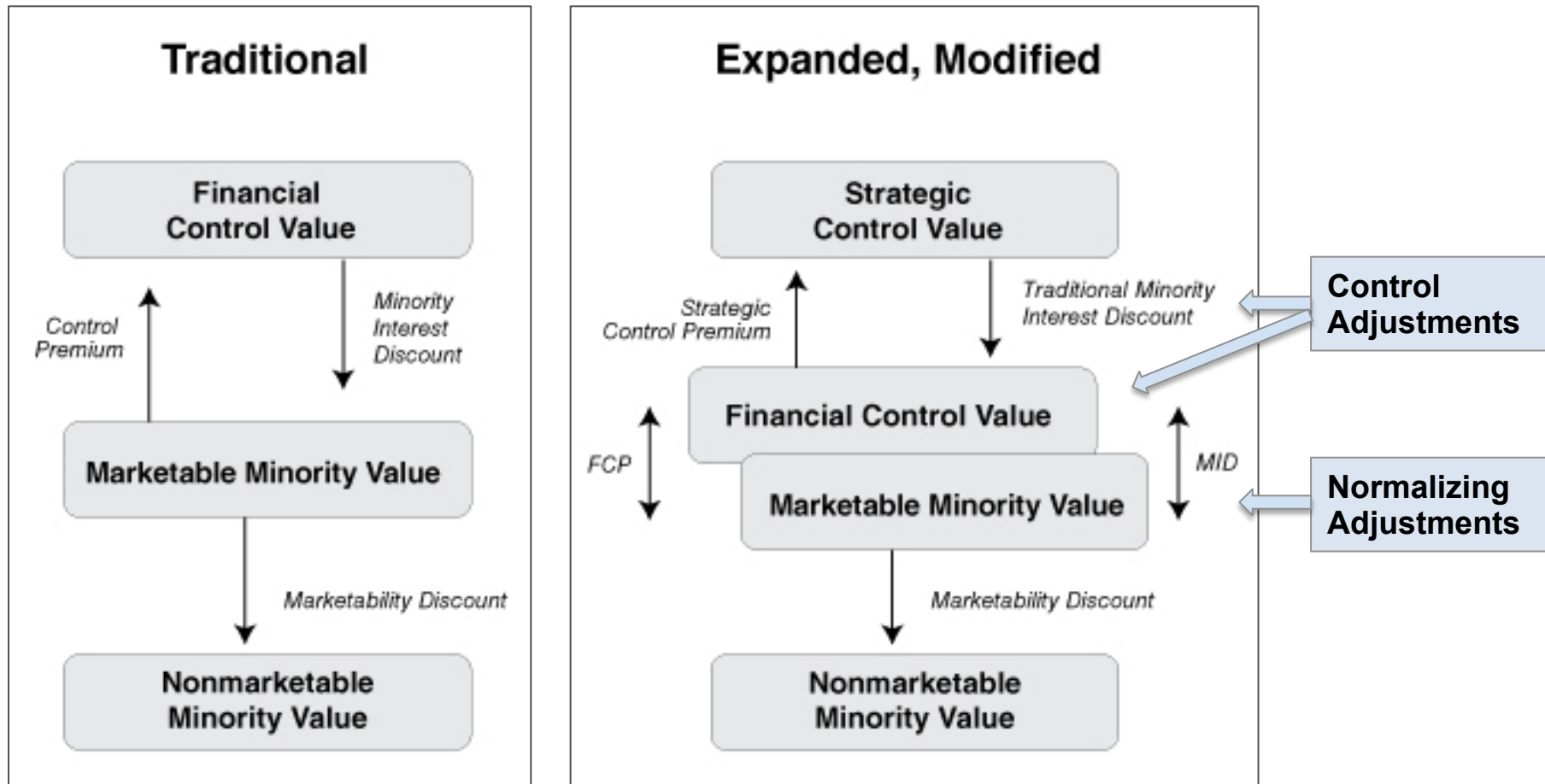
Expected Cash Flows, Risk, and Growth

Control Adjustments

- **Financial Control Adjustments**
  - Run the company better

- **Strategic Control Adjustments**
  - Run the company differently

Issue Four
Guideline Public Company Method and Guideline Transactions Method

Guideline Public Company Method

1. Information issues

2. Selecting the appropriate multiples in relationship to medians / averages

Guideline Transactions Method

1. Information issues create difficulties

2. Selecting the appropriate multiple

Expected Cash Flows, Risk, and Growth

Guideline Public Companies are Companies

SBVS-1 Guideline Public Company Method

II. 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**

Source: American Society of Appraisers, *2009 ASA Business Valuation Standards*

Guideline Public Group

MARKET PRICING ANALYSIS

Summary Financial Data

	Ticker	Exchange	Sales ($Mil)	Equity ($Mil)	Interest Bearing Debt/ Equity	Pre-Tax Profit Margin	ROE (common)	Equity Market Cap ($Mil)	1 year ago Equity Market Cap ($Mil)	1 year Change Market Cap (%)	Beta	Interest Bearing Debt $(Mil)	Market Value of Total Cap $(Mil)
Advisory Board Co/The	ABCO	NASDAQ GS	351.84	194.66	0.0%	10.2%	11.4%	1,214.90	761.36	60%	0.69	0.00	1,215.59
Corporate Executive Board Co/The	EXBD	New York	488.88	79.56	0.0%	19.1%	66.2%	1,268.52	1,324.49	-4%	1.02	0.00	1,269.54
CRA International Inc	CRAI	NASDAQ GS	306.12	266.99	0.8%	8.0%	5.3%	207.51	251.39	-17%	0.82	2.26	210.58
Duff & Phelps Corp	DUF	New York	396.95	278.81	0.0%	11.0%	6.7%	610.94	690.41	-12%	1.13	0.00	610.94
Huron Consulting Group Inc	HURN	NASDAQ GS	661.57	387.12	60.4%	3.6%	2.6%	897.09	589.17	52%	0.89	233.75	1,130.84
Korn/Ferry International	KFY	New York	824.46	609.13	0.0%	12.0%	10.6%	814.72	1,103.11	-26%	1.31	0.00	816.03
MAXIMUS Inc	MMS	New York	955.12	391.92	0.4%	13.2%	20.8%	1,395.02	1,149.16	21%	0.85	1.72	1,397.59
National Research Corp	NRCI	NASDAQ GM	75.77	55.55	3.3%	24.0%	20.8%	260.95	232.73	12%	0.90	1.86	262.81
Navigant Consulting Inc	NCI	New York	784.68	513.68	25.7%	9.0%	8.0%	596.51	478.31	25%	0.67	131.79	728.97
AVERAGE			538.38	308.60	10.1%	12.2%	16.9%	807.35	731.13	12.3%	0.92		849.21
MEDIAN			488.88	278.81	0.4%	11.0%	10.6%	814.72	690.41	12.1%	0.89		816.03
CLIENT, INC.			303.23	71.15	66.3%	16.9%	47.8%	$460.56	$383.30	20%		47.17	$507.73

Guideline Public Transactions are Transactions

SBVS-2 Guideline Transactions Method

II. c.   Guideline transactions are transactions involving companies (or interests) that provide a reasonable basis for ***comparison to the investment characteristics of the company*** (or interest) being valued. Ideal guideline transactions are in the same industry as the subject company. However, if there is insufficient transactional information available in that industry, it may be necessary to select transactions involving 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***. Prior transactions in the company being valued may also be considered to be guideline transactions

Source: American Society of Appraisers, *2009 ASA Business Valuation Standards*

Guideline Transactions Group

EXHIBIT T
ANALYSIS OF MARKET TRANSACTIONS

Buyer / Seller	Target Financial Data				Deal Valuation			
	Assets under Mgmt. ($000s)	Revenue ($000s)	EBITDA ($000s)	Net Income ($000s)	Announce Price /			
					AUM	Revenue	EBITDA	Net Income
Apollo Global Management, LLC/ Stone Tower Capital	18,700,000	NA	NA	NA	1.42	NA	NA	NA
Affiliated Managers Group, Inc./ Yacktman Asset Management Co.	16,800,000	NA	NA	NA	2.24	NA	NA	NA
Affiliated Managers Group, Inc./ Veritable, LP	11,100,000	NA	NA	NA	1.05	NA	NA	NA
Ashmore Group Plc/ Emerging Markets Management, L.L.C.	9,700,000	NA	NA	NA	3.74	NA	NA	NA
Wintrust Financial Corporation/ Great Lakes Advisors, Inc.	2,400,000	NA	NA	NA	0.84	NA	NA	NA
				Median	1.42			

Overview Conclusions re Guideline Transactions and Guideline Public Company Methods

- **Guideline Public Company Method**
  - Sufficient relevant information often not available
  - Not every private company should be valued at the median of its guideline public company group
  - Use with care

- **Guideline Transactions Method**
  - Sufficient relevant information often not available
  - Consider using as a corroborating method or give relatively low weighting if other more robust methods (DCF) are available
  - Use with caution or as a test of reasonableness

N: Issue #5, Fundamental Adjustments

Issue Five
Fundamental Adjustments
(Guideline Public Company: Part II)

Fundamental Adjustments

- Adjustments to guideline public company multiples (or guideline transactions) to account for known differences in expected cash flow (and growth) and expected risk

  - Qualitative adjustments are sometimes used
  - Quantitative adjustments are sometimes used

- Any time an appraiser selects a multiple for a private company other than the median (or average) of the guideline transaction or public company group, a fundamental adjustment has been applied

Introducing Fundamental Adjustments

Compare Publico with Privateco
  Derive Publico Discount Rate and Adjust for Privateco

Line	Capitalization Rate Components	Publico	Privateco	
1	Base Discount Rate (R)	15.5%	15.5%	Derived for Publico
2	Specific Company Risk (SCR)	0.0%	2.0%	Greater risks
3	Equity Discount Rate (R)	15.5%	17.5%	
4	Expected Growth (G_e)	-9.6%	-7.0%	Slower growth expectations
5	Capitalization Rate (R - G_e)	5.9%	10.5%	
6	P/E Multiple 1 / (R - G_e)	17.0	9.5	Lower implied P/E for Privateco

Observed Multiple

7	**Effective Fundamental Adjustment**	-44.0%

Fundamental Adjustments

Estimate Long-Term Growth Rate of Public Guideline Group
Publico Represents the Median of a Guideline Company Group

Line	Guideline (Public) Company Growth Analysis				Sources/Comments
1	Long-Term Government Bond Yield-to-Maturity			4.9%	As of March 2003
2	Equity Risk Premium		6.2%		Per Mercer Capital analysis
3	x Industry Beta		1.2		
4	Beta-Adjusted Common Stock Premium		7.4%		
5	+ Ibbotson Small Stock (Size) Premium		3.2%		Per Mercer Capital analysis
6	= Total Equity Premium			10.6%	
7	Industry Discount Rate (required rate of return)			15.5%	
8	- Industry P/E and Resulting Cap Rate (1 / P/E)	17.0		5.9%	Based on median guideline p/e
9	= Implied Long-Term Growth Rate for Public Companies			9.6%	

Expected Cash Flows, Risk, and Growth

Fundamental Adjustments

Determine a Fundamental Adjustment
  Use the ACAPM to Narrow the Range of Judgment
  Privateco in Relationship to Guideline Company Group

Line	Subject Company Analysis	Medians for Public Group	Privateco ACAPM Build-up	Step 1 Set Risk = Privateco GROWTH = Public	Step 2 Set G = Privateco RISK = Public	Step 3 GROWTH = Privateco RISK = Privateco
1	Long-Term Government Bond Yield-to-Maturity	4.9%	4.9%	4.9%	4.9%	4.9%
2	+ Total Equity Risk Premium (Line 6 from Exhibit 5.2)	10.6%	10.6%	10.6%	10.6%	10.6%
3	+ Specific Company Risk (Size) Premium	0.0%	2.0%	2.0%	0.0%	2.0%
4	= Discount Rate (required rate of return)	15.5%	17.5%	17.5%	15.5%	17.5%
5	- Growth Rate Estimates	-9.6%	-7.0%	-9.6%	-7.0%	-7.0%
6	= Implied Capitalization Rates	5.9%	10.5%	7.9%	8.5%	10.5%
7	Implied P/E Multiples	17.0	9.5	12.7	11.8	9.5
8	*Implied Adjustment from Guideline Median P/E*	na		-25.4%	-30.8%	-44.0%

9	Step 4: Selected Fundamental Adjustment	-35.0%

Fundamental Adjustments

Application of Fundamental Adjustments to Total Capital and Equity Value Indications

	Derivation of Value		Market Value of Total Capital to			Price to Net Income (Market Value of Equity/NI)	
			Sales	EBITDA	EBIT	Ongoing/Tr 12	Current FY
1	Appropriate Earnings or Performance Measure		$100,000,000	$15,000,000	$10,500,000	$6,500,000	$8,200,000
2	x Guideline Company Capitalization Factor		1.25	8.10	11.15	16.00	13.50
3	= Capitalized Value: Total Capital		$125,000,000	$121,500,000	$117,075,000	$104,000,000	$110,700,000
4	- Interest Bearing Debt (Operational)		(18,000,000)	(18,000,000)	(18,000,000)		
5	= Capitalized Value: Total Common Equity		$107,000,000	$103,500,000	$99,075,000	$104,000,000	$110,700,000
6	- Fundamental Adjustment	-35.0%	(37,450,000)	(36,225,000)	(34,676,250)	(36,400,000)	(38,745,000)
7	= Adjusted Guideline Company Capitalized Value		$69,550,000	$67,275,000	$64,398,750	$67,600,000	$71,955,000
	INDICATED VALUES:	Rounded to:					
8	GUIDELINE COMPANY METHOD	$10,000	$69,550,000	$67,280,000	$64,400,000	$67,600,000	$71,960,000
9	Concluded Multiples Based on Derived Equity Value		0.876	5.685	7.848	10.400	8.776
10	Effective Fundamental Adjustment to the Guideline Median		-30.0%	-29.8%	-29.6%	-35.0%	-35.0%
11	Adjustment Factor (Equity to Total Capital)		-14.4%	-14.8%	-15.4%		

- (Market Value of Equity Before Fundamental Adjustment /
  Market Value of Total Capital) (Line 5 / Line 3)

Fundamental Adjustments

Guideline Companies	Sample Company Guideline Multiples	
	Revenues	EBITDA
	0.53	14.69
Multiples from Six Selected Guideline	0.53	10.21
Companies Arranged in Descending	0.52	9.67
Order for Ease of Visual Inspection	0.34	7.72
	0.26	7.44
	0.13	5.40
Median Multiples	**0.43**	**8.69**
Average Multiples	**0.39**	**9.19**

1. First Quartile Analysis		
Calculate First Quartiles	**0.28**	**7.51**
Implied Adjustment from Overall Medians	*-35%*	*-14%*
Implied Adjustment from Overall Averages	*-27%*	*-18%*

2. Lower Half Average Analysis		
	0.53	*14.69*
Upper Half for Perspective	*0.53*	*10.21*
	0.52	*9.67*
Averages (for Top of Lower Half Range)	**0.39**	**9.19**
	0.34	7.72
Lower Half of Multiples (Including Average)	0.26	7.44
	0.13	5.40
Averages of Lower Half	**0.28**	**7.44**
Implied Adjustment from Overall Medians	*-35%*	*-14%*
Implied Adjustment from Overall Averages	*-28%*	*-19%*

Expected Cash Flows, Risk, and Growth

Fundamental Adjustments to Total Capital Multiples

$$FATC = FAE \text{ x } AF$$

$$AF = (MVE / MVTC)$$

Fundamental Adjustments

$$V_{mm} = \frac{CF_{mm}}{R_{mm} - G_{mm}}$$

We look at public companies ...

$$V_{private} = \frac{CF_{private,\ normalized}}{R_{private} - G_{private}}$$

… to value private companies

Expected Cash Flows, Risk, and Growth

Fundamental Adjustments

$$R_{private} \lesseqgtr R_{mm}$$

- Often, private company is riskier than public guidelines

- Elements of Comparative Risk

  - Size (size premiums)

  - Company specific risk
    - Concentrations of many kinds
    - Key persons
    - Other

Fundamental Adjustments

$$G_{private} \lessgtr G_{mm}$$

- Often, the realistic expectations for growth of subject are less than expected growth rate imbedded in public company pricing

- Must be careful to compare *expectations*, which in public arena sometimes bear little resemblance to the recent past

Issue Five and a Half
Fundamental Adjustments in Relationship to Guideline Transactions and Guideline Public Company Groups

- Use of the fundamental adjustment can enhance credibility of guideline methods

- Consider that if the fundamental adjustment developed is too large (50%-60%-70%), the comparability of the selected guideline group is likely called into question

- Simply "picking a multiple" within a range of multiples or above or below the median of a group, without justification, lacks credibility

  - Consider modest adjustments within the range of appraiser judgment

N: The Biggest Issue

The Biggest Issue

Understanding what drives valuation of an asset (always expected risk, expected cash flow, and the expected risk of achieving cash flows)

from the viewpoint of the relevant (hypothetical or real) **buyers and sellers** in **the market(s)** for the asset (i.e., relevant market participants)

and **in the context of the relevant standard of value**

N: Wrap-up slide

The Five Really Big Issues

1. Discount Rates (Risk)

2. Control Premiums and Minority Interest Discounts (Cash Flow)

3. Adjustments to the Income Statement (Cash Flow)

4. Guideline Public Company Method and the Guideline Transactions Method (Cash Flow, Risk, Growth)

5. Fundamental Adjustments (Cash Flow, Risk, Growth)

– Marketability Discounts (Cash Flow, Risk, Growth)

Contact

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